

**Board of Selectpersons
Tuesday, August 16, 2022
7:00 PM – IN PERSON HYBRID ZOOM**

CALL TO ORDER & PLEDGE

APPOINTMENT

David McKenney – Library Trustee application (p.2)

RECOGNITION OF VISITORS - ITEMS NOT ON THE AGENDA

REPORTS

Manager Reports (p.3)

Financial Reports (p.4)

Department Reports (p.30)

COMMUNICATIONS

OLD BUSINESS

NEW BUSINESS

Mobile Vendor License – Alex Duff (p.45)

HVAC RFP (p.46)

Tax Commitment – TY 2023 (p.60)

PAYABLES (p.64)

ANY OTHER BUSINESS

CALENDAR

Marijuana Lottery will be held Thursday, August 18th at 1 PM, Town Office Conference Room

Poland Senior Tax Assistance application due Tuesday, August 30th at 4 PM

State Property Tax Stabilization Program application due Thursday, December 1st at 4 PM

ADJOURNMENT

SELECTPERSONS ACTIVE LIST

Solar Project – ReVision Energy

Charter Amendments

OPEN COMMITTEE/BOARD SEATS

Board of Appeals – 2 vacancies, 2 alternate vacancies

Planning Board – 2 alternate vacancies

CEDC – 2 alternate vacancies

Scholarship Committee – 1 vacancy

Library Trustees – 1 vacancy

**Remember if you have not yet been sworn in and taken your oath you cannot be part of the voting body.*



Town of
POLAND MAINE

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[Home](#) > Board / Committee Volunteer Form

Board / Committee Volunteer Form

Choose from the following:

- Board of Appeals
- Budget Committee
- Community & Economic Development Committee
- Comprehensive Planning Committee
- Conservation Commission
- Historical Society
- Planning Board
- Scholarship Committee
- County Budget Committee

Library Trustee

Fill unexpired term

Please provide the following information:

Name * DAVID MCKENNEY

Email * dhmckenney@icloud.com

Phone 207 5746599

Do you have any relevant experience, training or credentials that you would like us to consider?

Subaru Fire Department	35 1/2 YR
Central Ambulance	33 YR
Vietnam Combat Vet.	

Have you ever served on any boards / committees before? If so, when and where?

once on the board for Subaru Public Library

Town Managers Report 16 August

- Annual audit. Conducted first week of August.
- Community Resilience Partnership. Applying for Community Action Grant to support the Town Office HVAC project.
- Library expansion. Have applied for three grants:
 - Libra Foundation. \$25K.
 - Stephen and Tabitha King Foundation. \$50K.
 - Margaret E. Burnham Charitable Trust. \$15K.

**TOWN OF POLAND,
MAINE**

Memo

To: Matt Garside, Town Manager
From: Derek D. Theborge, Finance Director
Date: August 11, 2022
Re: Financial Statements for FY 2023

With 6 weeks behind us in fiscal 2023, revenues and expenditures should be 11.54% collected or spent, respectively.

Selected Financial Data:

Fire Rescue Total Wages – Percent Expended – **10.90%** Per Diem staffing constraints continue to plague the department, pushing overtime wages higher, total wages are below the YTD percentage.

Taxes	Commitment, Plus Supplemental Bills	Collected YTD	% Collected YTD
Real Estate	\$9,935,352.24	\$9,657,251.49	97.20%
Personal Property	\$1,262,455.13	\$1,258,068.58	99.65%
Total	\$11,197,807.37	\$10,915,320.07	97.47%

The Town of Poland received a \$5,471.00 dividend check from the Maine Municipal Association because of its good performance and loss prevention programs.

BI-WEEKLY REVENUE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Uncollected Balance	Percent Collected
100 - GENERAL GOVERNMENT	15,813,371.00	48,913.25	443,255.59	15,370,115.41	2.80
4020 - CASH REPORTING SHORT-OVER	0.00	0.00	-19.99	19.99	----
4060 - CABLE TV FRANCHISE DISTRI	65,000.00	0.00	0.00	65,000.00	0.00
4070 - URBAN RURAL INITIATIVE (LRAP)	72,700.00	0.00	0.00	72,700.00	0.00
4100 - STATE PARK DISTRIBUTIONS	14,000.00	0.00	0.00	14,000.00	0.00
4110 - STATE REVENUE DISTRIBUTIO	562,870.00	0.00	86,787.66	476,082.34	15.42
4120 - STATE TREE GROWTH FEE DIS	10,300.00	0.00	0.00	10,300.00	0.00
4130 - BOAT EXCISE	15,000.00	180.80	1,631.60	13,368.40	10.88
4140 - MOTOR VEHICLE EXCISE	1,475,000.00	31,551.77	166,797.32	1,308,202.68	11.31
4150 - AMBULANCE SERVICE FEES	216,308.00	0.00	4,546.75	211,761.25	2.10
4151 - AMBULANCE MECHANIC FALLS	68,692.00	0.00	32,947.62	35,744.38	47.96
4160 - ANIMAL LICENSE FEES & FIN	1,675.00	0.00	47.00	1,628.00	2.81
4170 - BUSINESS REGISTRATION FEE	900.00	10.00	30.00	870.00	3.33
4175 - FEES CLERK	600.00	45.00	1,760.00	-1,160.00	293.33
4180 - CODE ENFORCEMENT FEES	45,000.00	1,516.06	6,077.81	38,922.19	13.51
4182 - CODE ENFORCEMENT VIOLATIONS	0.00	0.00	200.00	-200.00	----
4183 - MARIJUANA LICENSING FEES	5,000.00	0.00	4,000.00	1,000.00	80.00
4190 - CUSTOMER SERVICE FEES	750.00	28.81	99.52	650.48	13.27
4200 - ELECTRICAL PERMIT FEES	6,500.00	90.70	1,148.59	5,351.41	17.67
4210 - INLAND FISHERIES AGENT FE	1,975.00	36.00	223.00	1,752.00	11.29
4220 - LIEN FEES	8,000.00	929.70	1,571.51	6,428.49	19.64
4230 - MOTOR VEHICLE FEES	28,000.00	830.00	3,889.00	24,111.00	13.89
4240 - PLUMBING PERMIT FEES	9,875.00	490.00	1,787.50	8,087.50	18.10
4260 - SNOWMOBILE REGISTRATION F	2,600.00	0.00	0.00	2,600.00	0.00
4270 - SOLID WASTE SERVICE FEES	19,500.00	779.50	6,079.00	13,421.00	31.17
4280 - TOWN BUILDINGS RENTAL FEES	500.00	400.00	400.00	100.00	80.00
4285 - NON RESIDENT RECREATION FEES	500.00	0.00	0.00	500.00	0.00
4290 - VITAL STATISTICS	4,250.00	199.80	682.20	3,567.80	16.05
4295 - NON RESIDENT BEACH PERMITS	200.00	60.00	425.00	-225.00	212.50
4300 - RSU16 Garage Bay Maintenance	5,467.00	0.00	3,812.51	1,654.49	69.74
4310 - GENERAL ASSIST REIMBURSEM	2,500.00	0.00	0.00	2,500.00	0.00
4320 - HOMESTEAD REIMBURSEMENT	390,753.00	0.00	94,705.00	296,048.00	24.24
4330 - VETERANS EXEMPT REIMBURSE	3,750.00	3,681.00	3,681.00	69.00	98.16
4340 - SOLID WASTE REVENUES	7,000.00	171.56	585.80	6,414.20	8.37
4370 - TAX COMMITMENT REVENUE	11,200,185.00	0.00	0.00	11,200,185.00	0.00
4390 - TAX PENALTY INTEREST	26,500.00	2,400.17	5,986.07	20,513.93	22.59
4460 - USE OF UNDESIGNATED FB	675,000.00	0.00	0.00	675,000.00	0.00
4500 - MISCELLANEOUS REVENUES	0.00	5,512.38	5,522.38	-5,522.38	----
4510 - INVESTMENT INTEREST	30,000.00	0.00	7,851.74	22,148.26	26.17
4540 - BETE REIMBURSEMENT	822,521.00	0.00	0.00	822,521.00	0.00
5001 - CAMP CONNOR PAYBACK FROM REC	14,000.00	0.00	0.00	14,000.00	0.00
Final Totals	15,813,371.00	48,913.25	443,255.59	15,370,115.41	2.80

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
100 - GENERAL	2,495,550.00	42,678.37	1,160,240.41	1,335,309.59	46.49
10 - GENERAL	2,419,791.00	40,446.06	1,154,220.96	1,265,570.04	47.70
20 - BLD & GROUND	61,762.00	1,982.31	4,969.25	56,792.75	8.05
30 - CABLE TV	13,997.00	250.00	1,050.20	12,946.80	7.50
120 - COMM SERVCS	541,460.00	16,713.52	211,264.53	330,195.47	39.02
01 - PLANNING&DEV	180,892.00	5,179.08	25,555.47	155,336.53	14.13
02 - RECREATION	165,776.00	5,324.17	19,549.21	146,226.79	11.79
03 - HEALTH OFFCR	1,658.00	0.00	110.42	1,547.58	6.66
04 - BEACH MAINT	6,190.00	1,007.60	2,108.01	4,081.99	34.06
05 - CONSERVATION	10,000.00	5,000.00	5,000.00	5,000.00	50.00
06 - GENL ASSIST	5,000.00	0.00	0.00	5,000.00	0.00
08 - SOC SERVC AG	7,844.00	0.00	0.00	7,844.00	0.00
09 - TOWN LIBRARY	156,600.00	0.00	156,600.00	0.00	100.00
10 - BALL FIELD M	7,500.00	202.67	2,341.42	5,158.58	31.22
130 - PUB WORKS	1,128,339.00	35,741.01	96,564.80	1,031,774.20	8.56
01 - PUBLIC WORKS	783,438.00	25,731.19	65,286.24	718,151.76	8.33
02 - SOLID WASTE	344,901.00	10,009.82	31,278.56	313,622.44	9.07
140 - PUB SAFETY	1,797,359.00	153,634.81	247,700.52	1,549,658.48	13.78
01 - FIRE RESCUE	1,248,839.00	38,134.36	119,328.67	1,129,510.33	9.56
02 - LAW ENFORCEM	463,122.00	112,935.62	112,980.55	350,141.45	24.40
03 - DISPATCHING	47,704.00	0.00	11,039.35	36,664.65	23.14
04 - ANIMAL CTRL	12,000.00	150.00	450.00	11,550.00	3.75
05 - ST LIGHT	19,694.00	1,008.58	2,079.03	17,614.97	10.56
06 - HYDRANTS	0.00	1,406.25	1,406.25	-1,406.25	----
07 - EMER MANGMT	6,000.00	0.00	416.67	5,583.33	6.94
150 - FINAN SERVCS	9,850,663.00	625,294.84	2,535,677.18	7,314,985.82	25.74
01 - XFER TIF 1	561,262.00	0.00	140,315.50	420,946.50	25.00
02 - XFER TIF 2	705,985.00	0.00	176,496.25	529,488.75	25.00
05 - XFER DTV	148,803.00	0.00	37,200.75	111,602.25	25.00
07 - RSU 16	7,503,538.00	625,294.84	1,250,589.68	6,252,948.32	16.67
08 - XFER CIP	931,075.00	0.00	931,075.00	0.00	100.00
Final Totals	15,813,371.00	874,062.55	4,251,447.44	11,561,923.56	26.89

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
100 - GENERAL	2,495,550.00	42,678.37	1,160,240.41	1,335,309.59	46.49
10 - GENERAL	2,419,791.00	40,446.06	1,154,220.96	1,265,570.04	47.70
1000 - GENERAL	1,385,196.00	1,685.18	1,049,510.31	335,685.69	75.77
02 - DEBT SERVICE	200,802.00	0.00	0.00	200,802.00	0.00
03 - OFFICE SUPPL	56,144.00	1,516.18	3,472.09	52,671.91	6.18
07 - DUES/SUBS	19,328.00	0.00	101.78	19,226.22	0.53
08 - BANK FEES	200.00	0.00	391.44	-191.44	195.72
10 - ELECTION SUP	4,275.00	0.00	0.00	4,275.00	0.00
11 - POSTAGE	10,480.00	0.00	0.00	10,480.00	0.00
14 - REGISTRY	7,500.00	169.00	307.00	7,193.00	4.09
15 - PRINTING	5,045.00	0.00	0.00	5,045.00	0.00
16 - ADVERTISE	1,000.00	0.00	0.00	1,000.00	0.00
17 - SPECIAL EVEN	3,735.00	0.00	0.00	3,735.00	0.00
25 - COUNTY TAX	1,018,941.00	0.00	1,018,941.00	0.00	100.00
60 - MUNIC INS	57,746.00	0.00	26,297.00	31,449.00	45.54
1500 - UTILITIES	76,224.00	273.74	3,677.56	72,546.44	4.82
10 - ELECTRICITY	17,960.00	0.00	944.98	17,015.02	5.26
15 - PHONE	5,375.00	0.00	400.60	4,974.40	7.45
30 - HEAT	31,369.00	0.00	518.23	30,850.77	1.65
60 - INTERNET	1,800.00	139.98	139.98	1,660.02	7.78
65 - WATER	530.00	30.08	60.16	469.84	11.35
66 - SPRINKLERS	1,470.00	103.68	207.36	1,262.64	14.11
75 - HYDRANTS	17,720.00	0.00	1,406.25	16,313.75	7.94
2000 - FIN SERVICES	895,721.00	27,353.81	81,975.33	813,745.67	9.15
10 - FT WAGES	384,033.00	16,720.83	35,873.80	348,159.20	9.34
20 - OT WAGES	1,000.00	0.00	0.00	1,000.00	0.00
30 - PT & OTH WAG	13,816.00	50.00	525.00	13,291.00	3.80
40 - ALLOWANCES	4,015.00	139.13	369.89	3,645.11	9.21
41 - CELL PHONE	1,080.00	0.00	90.00	990.00	8.33
42 - CELL 65	480.00	0.00	40.00	440.00	8.33
50 - TRAINING	1,625.00	0.00	0.00	1,625.00	0.00
65 - EDUC INCENT	300.00	0.00	0.00	300.00	0.00
68 - HRA	33,331.00	0.00	4,521.26	28,809.74	13.56
69 - HEALTH PAYOUT	4,800.00	92.30	276.90	4,523.10	5.77
70 - HEALTH INS	146,169.00	0.00	16,468.05	129,700.95	11.27
72 - LIFE NO MED	0.00	0.00	78.00	-78.00	----
75 - ICMA/MPRS	59,217.00	3,223.98	3,927.94	55,289.06	6.63
76 - SS FICA	124,923.00	6,141.57	18,818.49	106,104.51	15.06
80 - WORKERS COMP	112,987.00	0.00	0.00	112,987.00	0.00
85 - SICK PAYOUT	6,445.00	0.00	0.00	6,445.00	0.00
95 - VOLUNT INS	1,500.00	986.00	986.00	514.00	65.73
3000 - PRO SERVICES	62,650.00	11,133.33	19,057.76	43,592.24	30.42
10 - AUDIT	14,750.00	8,550.00	11,250.00	3,500.00	76.27
20 - LEGAL	10,500.00	0.00	2,641.10	7,858.90	25.15
50 - PROFESSIONAL	1,400.00	0.00	0.00	1,400.00	0.00
70 - ASSESS AGENT	36,000.00	2,583.33	5,166.66	30,833.34	14.35
20 - BLD & GROUND	61,762.00	1,982.31	4,969.25	56,792.75	8.05
1000 - GENERAL	8,785.00	31.98	39.97	8,745.03	0.45
04 - GROUND SUPP	7,010.00	31.98	39.97	6,970.03	0.57
05 - EQUIPMENT	1,775.00	0.00	0.00	1,775.00	0.00
1500 - UTILITIES	0.00	0.00	117.30	-117.30	----
10 - ELECTRICITY	0.00	0.00	117.30	-117.30	----
2000 - FIN SERVICES	38,917.00	1,515.33	4,376.98	34,540.02	11.25
10 - FT WAGES	36,067.00	1,387.20	4,126.00	31,941.00	11.44

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
100 - GENERAL CONT'D					
20 - OT WAGES	1,500.00	0.00	0.00	1,500.00	0.00
40 - ALLOWANCES	1,350.00	128.13	250.98	1,099.02	18.59
3000 - PRO SERVICES	3,020.00	435.00	435.00	2,585.00	14.40
50 - PROFESSIONAL	3,020.00	435.00	435.00	2,585.00	14.40
3500 - MAINT & REP	11,040.00	0.00	0.00	11,040.00	0.00
15 - MAIN/REPAIR	11,040.00	0.00	0.00	11,040.00	0.00
30 - CABLE TV	13,997.00	250.00	1,050.20	12,946.80	7.50
1000 - GENERAL	1,185.00	0.00	0.00	1,185.00	0.00
03 - OFFICE SUPPL	1,185.00	0.00	0.00	1,185.00	0.00
2000 - FIN SERVICES	9,512.00	0.00	550.20	8,961.80	5.78
37 - STIPEND	9,512.00	0.00	550.20	8,961.80	5.78
3000 - PRO SERVICES	3,300.00	250.00	500.00	2,800.00	15.15
50 - PROFESSIONAL	3,300.00	250.00	500.00	2,800.00	15.15
120 - COMM SERVCS	541,460.00	16,713.52	211,264.53	330,195.47	39.02
01 - PLANNING&DEV	180,892.00	5,179.08	25,555.47	155,336.53	14.13
1000 - GENERAL	11,645.00	0.00	6,139.77	5,505.23	52.72
03 - OFFICE SUPPL	8,145.00	0.00	6,139.77	2,005.23	75.38
07 - DUES/SUBS	1,300.00	0.00	0.00	1,300.00	0.00
11 - POSTAGE	2,200.00	0.00	0.00	2,200.00	0.00
1500 - UTILITIES	200.00	10.27	10.27	189.73	5.14
15 - PHONE	200.00	10.27	10.27	189.73	5.14
2000 - FIN SERVICES	162,547.00	5,168.81	18,760.17	143,786.83	11.54
10 - FT WAGES	112,008.00	4,308.00	12,593.20	99,414.80	11.24
20 - OT WAGES	3,000.00	15.72	15.72	2,984.28	0.52
40 - ALLOWANCES	500.00	0.00	0.00	500.00	0.00
50 - TRAINING	1,000.00	0.00	0.00	1,000.00	0.00
70 - HEALTH INS	33,429.00	0.00	5,306.16	28,122.84	15.87
75 - ICMA/MPRS	12,610.00	845.09	845.09	11,764.91	6.70
3000 - PRO SERVICES	6,500.00	0.00	645.26	5,854.74	9.93
75 - PLANN CONSUL	6,500.00	0.00	645.26	5,854.74	9.93
02 - RECREATION	165,776.00	5,324.17	19,549.21	146,226.79	11.79
2000 - FIN SERVICES	165,776.00	5,324.17	19,549.21	146,226.79	11.79
10 - FT WAGES	116,126.00	4,466.40	12,875.91	103,250.09	11.09
70 - HEALTH INS	36,638.00	0.00	5,815.53	30,822.47	15.87
75 - ICMA/MPRS	13,012.00	857.77	857.77	12,154.23	6.59
03 - HEALTH OFFCR	1,658.00	0.00	110.42	1,547.58	6.66
2000 - FIN SERVICES	1,658.00	0.00	110.42	1,547.58	6.66
37 - STIPEND	1,658.00	0.00	110.42	1,547.58	6.66
04 - BEACH MAINT	6,190.00	1,007.60	2,108.01	4,081.99	34.06
2000 - FIN SERVICES	4,890.00	686.00	1,786.41	3,103.59	36.53
30 - PT & OTH WAG	4,890.00	686.00	1,786.41	3,103.59	36.53
3500 - MAINT & REP	1,300.00	321.60	321.60	978.40	24.74
11 - BEACH MAINT	1,300.00	321.60	321.60	978.40	24.74
05 - CONSERVATION	10,000.00	5,000.00	5,000.00	5,000.00	50.00
1400 - MISC EXPENSE	10,000.00	5,000.00	5,000.00	5,000.00	50.00
15 - PCC	5,000.00	0.00	0.00	5,000.00	0.00
16 - DAM REPAIR	5,000.00	5,000.00	5,000.00	0.00	100.00
06 - GENL ASSIST	5,000.00	0.00	0.00	5,000.00	0.00
1000 - GENERAL	5,000.00	0.00	0.00	5,000.00	0.00
40 - GEN ASSIST	5,000.00	0.00	0.00	5,000.00	0.00

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
120 - COMM SERVCS CONT'D					
08 - SOC SERVC AG	7,844.00	0.00	0.00	7,844.00	0.00
3000 - PRO SERVICES	7,844.00	0.00	0.00	7,844.00	0.00
50 - PROFESSIONAL	7,844.00	0.00	0.00	7,844.00	0.00
09 - TOWN LIBRARY	156,600.00	0.00	156,600.00	0.00	100.00
1300 - LIBRARY	156,600.00	0.00	156,600.00	0.00	100.00
45 - TOWN PORTION	156,600.00	0.00	156,600.00	0.00	100.00
10 - BALL FIELD M	7,500.00	202.67	2,341.42	5,158.58	31.22
3500 - MAINT & REP	7,500.00	202.67	2,341.42	5,158.58	31.22
15 - MAIN/REPAIR	7,500.00	202.67	2,341.42	5,158.58	31.22
130 - PUB WORKS					
01 - PUBLIC WORKS	1,128,339.00	35,741.01	96,564.80	1,031,774.20	8.56
01 - PUBLIC WORKS	783,438.00	25,731.19	65,286.24	718,151.76	8.33
1000 - GENERAL	4,200.00	142.98	230.66	3,969.34	5.49
05 - EQUIPMENT	4,200.00	142.98	230.66	3,969.34	5.49
1400 - MISC EXPENSE	145,610.00	65.00	171.75	145,438.25	0.12
01 - CATCHBASIN	4,950.00	0.00	0.00	4,950.00	0.00
02 - TREE CUTTING	2,500.00	0.00	0.00	2,500.00	0.00
03 - CULVERTS	8,000.00	0.00	26.76	7,973.24	0.33
04 - EROSION MAT	6,600.00	0.00	0.00	6,600.00	0.00
05 - ROAD STRIPIN	10,100.00	0.00	0.00	10,100.00	0.00
06 - GRAVEL	16,800.00	0.00	0.00	16,800.00	0.00
07 - SURFACE PATC	10,000.00	0.00	0.00	10,000.00	0.00
08 - SALT	72,500.00	0.00	0.00	72,500.00	0.00
10 - SIGNS	4,160.00	65.00	65.00	4,095.00	1.56
11 - CUTTING EDGE	10,000.00	0.00	79.99	9,920.01	0.80
1500 - UTILITIES	72,178.00	6,587.87	7,183.51	64,994.49	9.95
10 - ELECTRICITY	9,300.00	0.00	489.76	8,810.24	5.27
15 - PHONE	600.00	0.00	43.00	557.00	7.17
30 - HEAT	7,325.00	0.00	24.19	7,300.81	0.33
50 - FUEL	53,168.00	6,459.23	6,459.23	46,708.77	12.15
60 - INTERNET	1,200.00	89.95	89.95	1,110.05	7.50
65 - WATER	585.00	38.69	77.38	507.62	13.23
2000 - FIN SERVICES	492,000.00	15,135.38	54,108.73	437,891.27	11.00
10 - FT WAGES	309,504.00	11,872.01	35,022.58	274,481.42	11.32
20 - OT WAGES	1,610.00	7.41	59.39	1,550.61	3.69
30 - PT & OTH WAG	18,128.00	628.00	1,180.00	16,948.00	6.51
32 - SNOW OT	25,749.00	0.00	0.00	25,749.00	0.00
40 - ALLOWANCES	475.00	0.00	0.00	475.00	0.00
41 - CELL PHONE	480.00	0.00	40.00	440.00	8.33
50 - TRAINING	500.00	0.00	0.00	500.00	0.00
67 - PROT CLOTHIN	2,250.00	0.00	0.00	2,250.00	0.00
69 - HEALTH PAYOUT	2,400.00	92.30	276.90	2,123.10	11.54
70 - HEALTH INS	94,293.00	0.00	14,967.20	79,325.80	15.87
71 - PYSICAL/DRUG	565.00	169.00	169.00	396.00	29.91
72 - LIFE NO MED	0.00	0.00	27.00	-27.00	----
75 - ICMA/MPRS	36,046.00	2,366.66	2,366.66	33,679.34	6.57
3000 - PRO SERVICES	750.00	0.00	0.00	750.00	0.00
50 - PROFESSIONAL	750.00	0.00	0.00	750.00	0.00
3500 - MAINT & REP	68,700.00	3,799.96	3,591.59	65,108.41	5.23
10 - VEHICLE MAIN	46,000.00	309.52	1,363.95	44,636.05	2.97
15 - MAIN/REPAIR	10,000.00	39.44	-8.86	10,008.86	-0.09
16 - RENTAL EQUIP	12,700.00	3,451.00	2,236.50	10,463.50	17.61

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
130 - PUB WORKS CONT'D					
02 - SOLID WASTE	344,901.00	10,009.82	31,278.56	313,622.44	9.07
1000 - GENERAL	2,813.00	0.00	37.80	2,775.20	1.34
04 - GROUND SUPP	1,365.00	0.00	0.00	1,365.00	0.00
05 - EQUIPMENT	905.00	0.00	37.80	867.20	4.18
07 - DUES/SUBS	543.00	0.00	0.00	543.00	0.00
1500 - UTILITIES	181,424.00	4,100.71	11,503.26	169,920.74	6.34
10 - ELECTRICITY	8,750.00	0.00	296.59	8,453.41	3.39
15 - PHONE	635.00	0.00	48.66	586.34	7.66
30 - HEAT	1,296.00	0.00	0.00	1,296.00	0.00
50 - FUEL	4,388.00	354.36	354.36	4,033.64	8.08
80 - MSW DISPOSAL	115,473.00	3,746.35	9,897.54	105,575.46	8.57
81 - SW DISPOSAL	19,801.00	0.00	0.00	19,801.00	0.00
82 - HHW DISPOSAL	3,906.00	0.00	0.00	3,906.00	0.00
85 - RECY & PULLS	27,175.00	0.00	906.11	26,268.89	3.33
2000 - FIN SERVICES	154,164.00	5,909.11	19,737.50	134,426.50	12.80
10 - FT WAGES	84,989.00	3,268.80	9,585.60	75,403.40	11.28
20 - OT WAGES	239.00	0.00	0.00	239.00	0.00
30 - PT & OTH WAG	38,716.00	1,996.00	6,374.93	32,341.07	16.47
40 - ALLOWANCES	1,140.00	0.00	0.00	1,140.00	0.00
41 - CELL PHONE	480.00	0.00	40.00	440.00	8.33
50 - TRAINING	150.00	0.00	0.00	150.00	0.00
70 - HEALTH INS	18,910.00	0.00	3,001.66	15,908.34	15.87
71 - PYSICAL/DRUG	591.00	0.00	91.00	500.00	15.40
75 - ICMA/MPRS	8,949.00	644.31	644.31	8,304.69	7.20
3500 - MAINT & REP	6,500.00	0.00	0.00	6,500.00	0.00
10 - VEHICLE MAIN	4,000.00	0.00	0.00	4,000.00	0.00
15 - MAIN/REPAIR	2,500.00	0.00	0.00	2,500.00	0.00
140 - PUB SAFETY	1,797,359.00	153,634.81	247,700.52	1,549,658.48	13.78
01 - FIRE RESCUE	1,248,839.00	38,134.36	119,328.67	1,129,510.33	9.56
1000 - GENERAL	73,328.00	644.86	5,299.08	68,028.92	7.23
03 - OFFICE SUPPL	21,006.00	507.87	4,624.30	16,381.70	22.01
04 - GROUND SUPP	21,330.00	136.99	674.78	20,655.22	3.16
05 - EQUIPMENT	24,242.00	0.00	0.00	24,242.00	0.00
07 - DUES/SUBS	6,750.00	0.00	0.00	6,750.00	0.00
1400 - MISC EXPENSE	24,500.00	345.40	3,366.38	21,133.62	13.74
12 - OSHA REQUIRE	2,000.00	0.00	0.00	2,000.00	0.00
13 - MEDICAL SUPP	22,500.00	345.40	3,366.38	19,133.62	14.96
1500 - UTILITIES	85,490.00	2,135.78	3,788.47	81,701.53	4.43
10 - ELECTRICITY	37,499.00	0.00	1,230.28	36,268.72	3.28
15 - PHONE	5,540.00	237.45	432.51	5,107.49	7.81
30 - HEAT	24,090.00	0.00	0.00	24,090.00	0.00
50 - FUEL	14,469.00	1,755.96	1,755.96	12,713.04	12.14
60 - INTERNET	1,020.00	0.00	84.98	935.02	8.33
65 - WATER	552.00	38.69	77.38	474.62	14.02
66 - SPRINKLERS	1,320.00	103.68	207.36	1,112.64	15.71
82 - HHW DISPOSAL	1,000.00	0.00	0.00	1,000.00	0.00
2000 - FIN SERVICES	1,009,246.00	30,396.18	100,609.57	908,636.43	9.97
01 - OSHA	0.00	0.00	-523.40	523.40	----
10 - FT WAGES	504,755.00	16,355.66	48,948.06	455,806.94	9.70
20 - OT WAGES	85,719.00	5,927.85	17,449.27	68,269.73	20.36
30 - PT & OTH WAG	181,267.00	4,115.20	17,163.10	164,103.90	9.47
40 - ALLOWANCES	8,872.00	0.00	40.00	8,832.00	0.45

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
140 - PUB SAFETY CONT'D					
41 - CELL PHONE	480.00	0.00	40.00	440.00	8.33
50 - TRAINING	20,000.00	44.00	52.00	19,948.00	0.26
67 - PROT CLOTHIN	9,000.00	0.00	0.00	9,000.00	0.00
68 - HRA	0.00	-2,750.00	0.00	0.00	----
69 - HEALTH PAYOUT	7,200.00	276.90	1,030.70	6,169.30	14.32
70 - HEALTH INS	103,749.00	0.00	9,734.84	94,014.16	9.38
71 - PYSICAL/DRUG	2,500.00	260.00	260.00	2,240.00	10.40
72 - LIFE NO MED	0.00	0.00	128.70	-128.70	----
75 - ICMA/MPRS	85,704.00	6,166.57	6,286.30	79,417.70	7.33
3000 - PRO SERVICES	43,275.00	4,612.14	4,878.42	38,396.58	11.27
50 - PROFESSIONAL	43,275.00	4,612.14	4,878.42	38,396.58	11.27
3500 - MAINT & REP	13,000.00	0.00	1,386.75	11,613.25	10.67
10 - VEHICLE MAIN	13,000.00	0.00	1,386.75	11,613.25	10.67
02 - LAW ENFORCEM	463,122.00	112,935.62	112,980.55	350,141.45	24.40
1500 - UTILITIES	24,375.00	3,346.35	3,391.28	20,983.72	13.91
15 - PHONE	600.00	0.00	44.93	555.07	7.49
50 - FUEL	23,775.00	3,346.35	3,346.35	20,428.65	14.08
3000 - PRO SERVICES	438,357.00	109,589.27	109,589.27	328,767.73	25.00
50 - PROFESSIONAL	438,357.00	109,589.27	109,589.27	328,767.73	25.00
3500 - MAINT & REP	390.00	0.00	0.00	390.00	0.00
15 - MAIN/REPAIR	390.00	0.00	0.00	390.00	0.00
03 - DISPATCHING	47,704.00	0.00	11,039.35	36,664.65	23.14
1500 - UTILITIES	1,690.00	0.00	128.10	1,561.90	7.58
15 - PHONE	1,690.00	0.00	128.10	1,561.90	7.58
3000 - PRO SERVICES	46,014.00	0.00	10,911.25	35,102.75	23.71
50 - PROFESSIONAL	46,014.00	0.00	10,911.25	35,102.75	23.71
04 - ANIMAL CTRL	12,000.00	150.00	450.00	11,550.00	3.75
2000 - FIN SERVICES	3,900.00	150.00	450.00	3,450.00	11.54
37 - STIPEND	3,900.00	150.00	450.00	3,450.00	11.54
3000 - PRO SERVICES	8,100.00	0.00	0.00	8,100.00	0.00
50 - PROFESSIONAL	8,100.00	0.00	0.00	8,100.00	0.00
05 - ST LIGHT	19,694.00	1,008.58	2,079.03	17,614.97	10.56
1500 - UTILITIES	19,694.00	1,008.58	2,079.03	17,614.97	10.56
10 - ELECTRICITY	19,694.00	1,008.58	2,079.03	17,614.97	10.56
06 - HYDRANTS	0.00	1,406.25	1,406.25	-1,406.25	----
1500 - UTILITIES	0.00	1,406.25	1,406.25	-1,406.25	----
75 - HYDRANTS	0.00	1,406.25	1,406.25	-1,406.25	----
07 - EMER MANGMT	6,000.00	0.00	416.67	5,583.33	6.94
2000 - FIN SERVICES	6,000.00	0.00	416.67	5,583.33	6.94
37 - STIPEND	6,000.00	0.00	416.67	5,583.33	6.94
150 - FINAN SERVCS	9,850,663.00	625,294.84	2,535,677.18	7,314,985.82	25.74
01 - XFER TIF 1	561,262.00	0.00	140,315.50	420,946.50	25.00
1000 - GENERAL	561,262.00	0.00	140,315.50	420,946.50	25.00
95 - XFER FROM GF	561,262.00	0.00	140,315.50	420,946.50	25.00
02 - XFER TIF 2	705,985.00	0.00	176,496.25	529,488.75	25.00
1000 - GENERAL	705,985.00	0.00	176,496.25	529,488.75	25.00
95 - XFER FROM GF	705,985.00	0.00	176,496.25	529,488.75	25.00
05 - XFER DTV	148,803.00	0.00	37,200.75	111,602.25	25.00
1000 - GENERAL	148,803.00	0.00	37,200.75	111,602.25	25.00
95 - XFER FROM GF	148,803.00	0.00	37,200.75	111,602.25	25.00

BI-WEEKLY EXPENSE REPORT

Fund: 10
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
150 - FINAN SERVCS CONT'D					
07 - RSU 16	7,503,538.00	625,294.84	1,250,589.68	6,252,948.32	16.67
5000 - SCHOOL	7,503,538.00	625,294.84	1,250,589.68	6,252,948.32	16.67
20 - RSU 16	7,503,538.00	625,294.84	1,250,589.68	6,252,948.32	16.67
08 - XFER CIP	931,075.00	0.00	931,075.00	0.00	100.00
9100 - MUNI CIP	5,000.00	0.00	5,000.00	0.00	100.00
01 - FACILITIES	5,000.00	0.00	5,000.00	0.00	100.00
9110 - TECH CIP	16,000.00	0.00	16,000.00	0.00	100.00
01 - TECHNOLOGY	15,000.00	0.00	15,000.00	0.00	100.00
02 - CATV EQUIP	1,000.00	0.00	1,000.00	0.00	100.00
9120 - ROAD CIP	484,075.00	0.00	484,075.00	0.00	100.00
01 - CRACK SEAL	7,825.00	0.00	7,825.00	0.00	100.00
02 - TRAFFIC LTS	2,000.00	0.00	2,000.00	0.00	100.00
03 - INFRASTR	474,250.00	0.00	474,250.00	0.00	100.00
9130 - PW CIP	150,000.00	0.00	150,000.00	0.00	100.00
01 - 2014 P/U	2,100.00	0.00	2,100.00	0.00	100.00
02 - 2020 DUMP TR	10,290.00	0.00	10,290.00	0.00	100.00
03 - 2005 DUMP TR	12,585.00	0.00	12,585.00	0.00	100.00
04 - 2018 DUMP TR	11,130.00	0.00	11,130.00	0.00	100.00
05 - 2007 BACKHOE	12,375.00	0.00	12,375.00	0.00	100.00
06 - 2008 LOADER	27,345.00	0.00	27,345.00	0.00	100.00
07 - 2008 DUMP TR	37,980.00	0.00	37,980.00	0.00	100.00
08 - 2010 DUMP TR	21,045.00	0.00	21,045.00	0.00	100.00
09 - 2007 1T TR	8,910.00	0.00	8,910.00	0.00	100.00
10 - 2009 1T TR	3,960.00	0.00	3,960.00	0.00	100.00
12 - MINI TRACTOR	2,280.00	0.00	2,280.00	0.00	100.00
9140 - FR CIP	240,000.00	0.00	240,000.00	0.00	100.00
01 - ENGINE #2	42,432.00	0.00	42,432.00	0.00	100.00
02 - ENGINE #3	49,368.00	0.00	49,368.00	0.00	100.00
03 - TANK 6	45,807.00	0.00	45,807.00	0.00	100.00
04 - UTILITY #1	675.00	0.00	675.00	0.00	100.00
05 - SQUAD #1	43,037.00	0.00	43,037.00	0.00	100.00
06 - SQUAD #2	31,003.00	0.00	31,003.00	0.00	100.00
07 - CHIEFS VEH	3,817.00	0.00	3,817.00	0.00	100.00
08 - AIR BOTTLES	9,822.00	0.00	9,822.00	0.00	100.00
09 - LIFE PK MON.	6,331.00	0.00	6,331.00	0.00	100.00
10 - RADIOS & ETC	233.00	0.00	233.00	0.00	100.00
11 - TURN OUT	7,242.00	0.00	7,242.00	0.00	100.00
12 - DRY HYDRANTS	233.00	0.00	233.00	0.00	100.00
9160 - CONTINGENCY	20,000.00	0.00	20,000.00	0.00	100.00
01 - UNFORESEEN	20,000.00	0.00	20,000.00	0.00	100.00
9170 - REVAL CIP	15,000.00	0.00	15,000.00	0.00	100.00
01 - REVALUATION	15,000.00	0.00	15,000.00	0.00	100.00
9200 - CONSERV CIP	1,000.00	0.00	1,000.00	0.00	100.00
02 - DAM	1,000.00	0.00	1,000.00	0.00	100.00
Final Totals	15,813,371.00	874,062.55	4,251,447.44	11,561,923.56	26.89

BI-WEEKLY EXPENSE REPORT

Fund: 40
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
400 - TIFS	1,304,560.00	1,679.99	25,852.49	1,278,707.51	1.98
01 - TIF I	588,126.00	679.99	16,186.51	571,939.49	2.75
1000 - GENERAL	503,694.00	679.99	679.99	503,014.01	0.14
02 - DEBT SERVICE	478,294.00	0.00	0.00	478,294.00	0.00
05 - EQUIPMENT	25,400.00	679.99	679.99	24,720.01	2.68
1500 - UTILITIES	39,397.00	0.00	9,144.52	30,252.48	23.21
75 - HYDRANTS	39,397.00	0.00	9,144.52	30,252.48	23.21
2000 - FIN SERVICES	25,448.00	0.00	6,362.00	19,086.00	25.00
10 - FT WAGES	25,448.00	0.00	6,362.00	19,086.00	25.00
3000 - PRO SERVICES	2,500.00	0.00	0.00	2,500.00	0.00
50 - PROFESSIONAL	2,500.00	0.00	0.00	2,500.00	0.00
6000 - TIFS	17,087.00	0.00	0.00	17,087.00	0.00
20 - BLEEDERS	17,087.00	0.00	0.00	17,087.00	0.00
03 - DTV TIF	105,212.00	0.00	1,060.25	104,151.75	1.01
1000 - GENERAL	96,471.00	0.00	0.00	96,471.00	0.00
02 - DEBT SERVICE	96,471.00	0.00	0.00	96,471.00	0.00
2000 - FIN SERVICES	4,241.00	0.00	1,060.25	3,180.75	25.00
10 - FT WAGES	4,241.00	0.00	1,060.25	3,180.75	25.00
3000 - PRO SERVICES	2,000.00	0.00	0.00	2,000.00	0.00
50 - PROFESSIONAL	2,000.00	0.00	0.00	2,000.00	0.00
3500 - MAINT & REP	2,500.00	0.00	0.00	2,500.00	0.00
10 - VEHICLE MAIN	2,500.00	0.00	0.00	2,500.00	0.00
07 - TIF 2	611,222.00	1,000.00	8,605.73	602,616.27	1.41
1000 - GENERAL	528,894.00	0.00	0.00	528,894.00	0.00
02 - DEBT SERVICE	528,894.00	0.00	0.00	528,894.00	0.00
2000 - FIN SERVICES	23,328.00	0.00	5,832.00	17,496.00	25.00
10 - FT WAGES	23,328.00	0.00	5,832.00	17,496.00	25.00
3000 - PRO SERVICES	2,500.00	0.00	78.96	2,421.04	3.16
50 - PROFESSIONAL	2,500.00	0.00	78.96	2,421.04	3.16
6000 - TIFS	56,500.00	1,000.00	2,694.77	53,805.23	4.77
60 - CEDC	56,500.00	1,000.00	2,694.77	53,805.23	4.77
Final Totals	1,304,560.00	1,679.99	25,852.49	1,278,707.51	1.98

RECREATION PROGRAM BALANCES

ALL
Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
OPERATING					
E 500-01-1200-02	-9,191.32	691.60	0.00	691.60	-8,499.72
R 500-4505	0.00	0.00	-282.00	-282.00	-282.00
OPERATING TOTAL	-9,191.32	691.60	-282.00	409.60	-8,781.72
ART CLASS					
E 500-01-1200-19	-190.00	0.00	0.00	0.00	-190.00
R 500-6000	0.00	0.00	0.00	0.00	0.00
ART CLASS TOTAL	-190.00	0.00	0.00	0.00	-190.00
BASEBALL					
E 500-01-1200-04	-2,507.46	528.43	0.00	528.43	-1,979.03
R 500-6010	0.00	0.00	-739.00	-739.00	-739.00
BASEBALL TOTAL	-2,507.46	528.43	-739.00	-210.57	-2,718.03
BASKETBALL					
E 500-01-1200-05	-3,536.84	204.76	0.00	204.76	-3,332.08
R 500-6020	0.00	0.00	-20.00	-20.00	-20.00
BASKETBALL TOTAL	-3,536.84	204.76	-20.00	184.76	-3,352.08
BEFORE/AFTER CARE					
E 500-01-1200-03	-29,027.05	0.00	0.00	0.00	-29,027.05
R 500-6022	0.00	0.00	-180.00	-180.00	-180.00
BEFORE/AFTER CARE TOTAL	-29,027.05	0.00	-180.00	-180.00	-29,207.05
FOOTBALL					
E 500-01-1200-06	-2,998.75	70.03	0.00	70.03	-2,928.72
R 500-6080	0.00	0.00	-4,612.00	-4,612.00	-4,612.00
FOOTBALL TOTAL	-2,998.75	70.03	-4,612.00	-4,541.97	-7,540.72
CAMPERSHIP					
E 500-01-1200-21	0.00	0.00	0.00	0.00	0.00
R 500-4531	0.00	0.00	0.00	0.00	0.00
CAMPERSHIP TOTAL	0.00	0.00	0.00	0.00	0.00
CHEERING					
E 500-01-1200-13	-3,688.24	240.00	0.00	240.00	-3,448.24
R 500-6030	0.00	0.00	-375.00	-375.00	-375.00
CHEERING TOTAL	-3,688.24	240.00	-375.00	-135.00	-3,823.24

+ = Debit - = Credit

RECREATION PROGRAM BALANCES

ALL
Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
SCHOLARSHIP					
E 500-01-1200-22	-843.50	600.00	0.00	600.00	-243.50
R 500-6119	0.00	0.00	-160.00	-160.00	-160.00
SCHOLARSHIP TOTAL	-843.50	600.00	-160.00	440.00	-403.50
CROSS COUNTRY					
E 500-01-1200-11	-418.53	0.00	0.00	0.00	-418.53
R 500-6048	0.00	0.00	-1,607.03	-1,607.03	-1,607.03
CROSS COUNTRY TOTAL	-418.53	0.00	-1,607.03	-1,607.03	-2,025.56
ODYSSEY MIND					
E 500-01-1200-25	-553.95	0.00	0.00	0.00	-553.95
R 500-6050	0.00	0.00	0.00	0.00	0.00
ODYSSEY MIND TOTAL	-553.95	0.00	0.00	0.00	-553.95
DISCOUNT TICKETS					
E 500-01-1200-24	-2,889.00	5,770.00	0.00	5,770.00	2,881.00
R 500-6060	0.00	0.00	-9,305.00	-9,305.00	-9,305.00
DISCOUNT TICKETS TOTAL	-2,889.00	5,770.00	-9,305.00	-3,535.00	-6,424.00
FIELD HOCKEY					
E 500-01-1200-10	-1,475.53	0.00	0.00	0.00	-1,475.53
R 500-6075	0.00	0.00	-847.00	-847.00	-847.00
FIELD HOCKEY TOTAL	-1,475.53	0.00	-847.00	-847.00	-2,322.53
LEGO LEAGUE					
E 500-01-1200-34	-886.97	0.00	0.00	0.00	-886.97
R 500-6108	0.00	0.00	0.00	0.00	0.00
LEGO LEAGUE TOTAL	-886.97	0.00	0.00	0.00	-886.97
PICKLEBALL					
E 500-01-1200-08	-129.90	0.00	0.00	0.00	-129.90
R 500-6115	0.00	0.00	0.00	0.00	0.00
PICKLEBALL TOTAL	-129.90	0.00	0.00	0.00	-129.90
SENIOR CLUB					
E 500-01-1200-33	-1,675.39	0.00	0.00	0.00	-1,675.39
R 500-6120	0.00	0.00	0.00	0.00	0.00
SENIOR CLUB TOTAL	-1,675.39	0.00	0.00	0.00	-1,675.39

+ = Debit - = Credit

RECREATION PROGRAM BALANCES

ALL
Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
SOCCER					
E 500-01-1200-07	-6,750.34	1,739.98	0.00	1,739.98	-5,010.36
R 500-6130	0.00	0.00	-5,419.00	-5,419.00	-5,419.00
SOCCER TOTAL	-6,750.34	1,739.98	-5,419.00	-3,679.02	-10,429.36
SUMMER REC					
E 500-01-1200-27	-108,558.83	79,340.87	-456.41	78,884.46	-29,674.37
R 500-6140	0.00	0.00	-41,992.00	-41,992.00	-41,992.00
SUMMER REC TOTAL	-108,558.83	79,340.87	-42,448.41	36,892.46	-71,666.37
TABLE/CHAIR RENTALS					
E 500-01-1200-32	-1,412.62	0.00	0.00	0.00	-1,412.62
R 500-6150	0.00	0.00	-60.00	-60.00	-60.00
TABLE/CHAIR RENTALS TOTAL	-1,412.62	0.00	-60.00	-60.00	-1,472.62
TRAILS					
E 500-01-1200-31	-62.93	0.00	0.00	0.00	-62.93
R 500-6170	0.00	0.00	0.00	0.00	0.00
TRAILS TOTAL	-62.93	0.00	0.00	0.00	-62.93
TUMBLING					
E 500-01-1200-15	-713.03	0.00	0.00	0.00	-713.03
R 500-6180	0.00	0.00	-60.00	-60.00	-60.00
TUMBLING TOTAL	-713.03	0.00	-60.00	-60.00	-773.03
WINTER RENT					
E 500-01-1200-29	-241.61	0.00	0.00	0.00	-241.61
R 500-6195	0.00	0.00	0.00	0.00	0.00
WINTER RENT TOTAL	-241.61	0.00	0.00	0.00	-241.61
RECREATION DEPARTMENT TOTALS	-177,751.79	89,185.67	-66,114.44	23,071.23	-154,680.56

+ = Debit - = Credit

BI-WEEKLY REVENUE REPORT

Fund: 70
August

Account	Budget Net	Curr Mnth Net	YTD Net	Uncollected Balance	Percent Collected
700 - LIBRARY	244,723.00	116.80	178,357.96	66,365.04	72.88
4500 - MISCELLENEOUS REVENUES	150.00	10.00	10.00	140.00	6.67
4515 - AB RICKER TRUST DISTRIBUTION	18,438.00	0.00	4,609.50	13,828.50	25.00
4516 - JANE RICKER TRUST DISTRIBUTION	65,435.00	0.00	16,358.75	49,076.25	25.00
4530 - DONATIONS	500.00	27.90	339.66	160.34	67.93
4550 - FROM GF	156,600.00	0.00	156,600.00	0.00	100.00
5005 - NON RESIDENT REGISTRATION	300.00	30.00	105.00	195.00	35.00
5010 - DONATIONS DEDICATED	750.00	0.00	20.00	730.00	2.67
5015 - OVERDUES	950.00	9.50	65.20	884.80	6.86
5020 - PHOTOCOPIES	325.00	8.00	36.05	288.95	11.09
5025 - BOOK SALES	325.00	13.00	64.25	260.75	19.77
5030 - PRINTER	350.00	6.40	50.55	299.45	14.44
5035 - FAX	300.00	0.00	50.00	250.00	16.67
5040 - INTER LIBRARY LOAN	300.00	12.00	49.00	251.00	16.33
Final Totals	244,723.00	116.80	178,357.96	66,365.04	72.88

BI-WEEKLY EXPENSE REPORT

Fund: 70
August

Account	Budget Net	Curr Mnth Net	YTD Net	Unexpended Balance	Percent Spent
700 - LIBRARY	244,723.00	7,407.17	27,376.46	217,346.54	11.19
10 - RICKER LIBRA	244,723.00	7,407.17	27,376.46	217,346.54	11.19
1000 - GENERAL	10,945.00	434.50	621.50	10,323.50	5.68
03 - OFFICE SUPPL	7,246.00	434.50	621.50	6,624.50	8.58
07 - DUES/SUBS	2,095.00	0.00	0.00	2,095.00	0.00
08 - BANK FEES	35.00	0.00	0.00	35.00	0.00
11 - POSTAGE	1,319.00	0.00	0.00	1,319.00	0.00
17 - SPECIAL EVEN	250.00	0.00	0.00	250.00	0.00
1300 - LIBRARY	25,230.00	851.55	3,573.45	21,656.55	14.16
10 - MISC LIBRARY	750.00	9.99	9.99	740.01	1.33
15 - BOOKS	12,000.00	317.83	1,183.48	10,816.52	9.86
20 - NEWSPAPERS	980.00	252.36	252.36	727.64	25.75
21 - MAGAZINES	1,575.00	0.00	1,432.12	142.88	90.93
25 - AUDIO BOOKS	3,225.00	0.00	349.13	2,875.87	10.83
26 - EBOOKS	700.00	0.00	0.00	700.00	0.00
30 - CHILD PGMS	2,000.00	124.90	124.90	1,875.10	6.25
35 - TEEN PGMS	2,000.00	0.00	75.00	1,925.00	3.75
40 - ADULT PGMS	2,000.00	146.47	146.47	1,853.53	7.32
1500 - UTILITIES	19,953.00	173.66	1,659.63	18,293.37	8.32
10 - ELECTRICITY	8,300.00	0.00	527.51	7,772.49	6.36
15 - PHONE	1,764.00	40.43	183.47	1,580.53	10.40
30 - HEAT	8,170.00	0.00	682.19	7,487.81	8.35
60 - INTERNET	183.00	14.51	29.02	153.98	15.86
65 - WATER	1,536.00	15.04	30.08	1,505.92	1.96
66 - SPRINKLERS	0.00	103.68	207.36	-207.36	----
2000 - FIN SERVICES	183,515.00	5,947.46	20,981.88	162,533.12	11.43
10 - FT WAGES	88,665.00	3,427.39	9,780.87	78,884.13	11.03
30 - PT & OTH WAG	43,671.00	1,872.01	5,645.53	38,025.47	12.93
40 - ALLOWANCES	200.00	0.00	0.00	200.00	0.00
41 - CELL PHONE	480.00	0.00	40.00	440.00	8.33
50 - TRAINING	400.00	0.00	0.00	400.00	0.00
70 - HEALTH INS	30,665.00	0.00	4,867.42	25,797.58	15.87
75 - ICMA/MPRS	9,310.00	648.06	648.06	8,661.94	6.96
76 - SS FICA	10,124.00	0.00	0.00	10,124.00	0.00
3500 - MAINT & REP	5,080.00	0.00	540.00	4,540.00	10.63
15 - MAIN/REPAIR	5,080.00	0.00	540.00	4,540.00	10.63
Final Totals	244,723.00	7,407.17	27,376.46	217,346.54	11.19

CODE ENFORCEMENT CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
ARCHIVING SOFTWARE					
E 200-01-9190-01	-3.00	0.00	0.00	0.00	-3.00
R 200-4540	0.00	0.00	0.00	0.00	0.00
ARCHIVING SOFTWARE TOTAL	-3.00	0.00	0.00	0.00	-3.00
COMPREHENSIVE PLANNING					
E 200-01-9190-02	-3,732.45	0.00	0.00	0.00	-3,732.45
R 200-4541	0.00	0.00	0.00	0.00	0.00
COMPREHENSIVE PLANNING TOTAL	-3,732.45	0.00	0.00	0.00	-3,732.45
GEO LIBRARY					
E 200-01-9190-03	0.00	0.00	0.00	0.00	0.00
R 200-4542	0.00	0.00	0.00	0.00	0.00
GEO LIBRARY TOTAL	0.00	0.00	0.00	0.00	0.00
PERMITTING SOFTWARE					
E 200-01-9190-04	-400.00	0.00	0.00	0.00	-400.00
R 200-4543	0.00	0.00	0.00	0.00	0.00
PERMITTING SOFTWARE TOTAL	-400.00	0.00	0.00	0.00	-400.00
CODE ENFORCEMENT CIP TOTAL	-4,135.45	0.00	0.00	0.00	-4,135.45

+ = Debit - = Credit

CONSERVATION CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
LAND PURCHASE					
E 200-01-9200-01	-5,122.73	0.00	0.00	0.00	-5,122.73
R 200-4544	0.00	0.00	0.00	0.00	0.00
LAND PURCHASE TOTAL	-5,122.73	0.00	0.00	0.00	-5,122.73
DAM RESERVES					
E 200-01-9200-02	-4,000.00	0.00	0.00	0.00	-4,000.00
R 200-4545	0.00	0.00	-1,000.00	-1,000.00	-1,000.00
DAM RESERVES TOTAL	-4,000.00	0.00	-1,000.00	-1,000.00	-5,000.00
CONSERVATION CIP TOTAL	-9,122.73	0.00	-1,000.00	-1,000.00	-10,122.73

+ = Debit - = Credit

FIRE RESCUE CIP
ALL
Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
ENGINE #2					
E 200-01-9140-01	-102,443.00	0.00	0.00	0.00	-102,443.00
R 200-4522	0.00	0.00	-42,432.00	-42,432.00	-42,432.00
ENGINE #2 TOTAL	-102,443.00	0.00	-42,432.00	-42,432.00	-144,875.00
ENGINE #3					
E 200-01-9140-02	-89,417.00	0.00	0.00	0.00	-89,417.00
R 200-4523	0.00	0.00	-49,368.00	-49,368.00	-49,368.00
ENGINE #3 TOTAL	-89,417.00	0.00	-49,368.00	-49,368.00	-138,785.00
TANK 6					
E 200-01-9140-03	-159,465.00	0.00	0.00	0.00	-159,465.00
R 200-4524	0.00	0.00	-45,807.00	-45,807.00	-45,807.00
TANK 6 TOTAL	-159,465.00	0.00	-45,807.00	-45,807.00	-205,272.00
UTILITY #1					
E 200-01-9140-04	-66,539.00	0.00	0.00	0.00	-66,539.00
R 200-4525	0.00	0.00	-675.00	-675.00	-675.00
UTILITY #1 TOTAL	-66,539.00	0.00	-675.00	-675.00	-67,214.00
SQUAD #1					
E 200-01-9140-05	-57,318.00	0.00	0.00	0.00	-57,318.00
R 200-4526	0.00	0.00	-43,037.00	-43,037.00	-43,037.00
SQUAD #1 TOTAL	-57,318.00	0.00	-43,037.00	-43,037.00	-100,355.00
SQUAD #2					
E 200-01-9140-06	-76,914.00	0.00	0.00	0.00	-76,914.00
R 200-4527	0.00	0.00	-31,003.00	-31,003.00	-31,003.00
SQUAD #2 TOTAL	-76,914.00	0.00	-31,003.00	-31,003.00	-107,917.00
CHIEFS VEHICLE					
E 200-01-9140-07	-6,418.43	0.00	0.00	0.00	-6,418.43
R 200-4528	0.00	0.00	-3,817.00	-3,817.00	-3,817.00
CHIEFS VEHICLE TOTAL	-6,418.43	0.00	-3,817.00	-3,817.00	-10,235.43
AIR BOTTLES/SYSTEM COMPRESSOR					
E 200-01-9140-08	-36,955.00	0.00	0.00	0.00	-36,955.00
R 200-4529	0.00	0.00	-9,822.00	-9,822.00	-9,822.00
AIR BOTTLES/SYSTEM COMPRESSOR TOTAL	-36,955.00	0.00	-9,822.00	-9,822.00	-46,777.00

+ = Debit - = Credit

FIRE RESCUE CIP
ALL
Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
LIFE PACK MONITORS					
E 200-01-9140-09	-37,078.00	0.00	0.00	0.00	-37,078.00
R 200-4530	0.00	0.00	-6,331.00	-6,331.00	-6,331.00
LIFE PACK MONITORS TOTAL	-37,078.00	0.00	-6,331.00	-6,331.00	-43,409.00
RADIOS ETC					
E 200-01-9140-10	-34,792.00	0.00	0.00	0.00	-34,792.00
R 200-4531	0.00	0.00	-233.00	-233.00	-233.00
RADIOS ETC TOTAL	-34,792.00	0.00	-233.00	-233.00	-35,025.00
TURN OUT					
E 200-01-9140-11	-30,097.00	0.00	0.00	0.00	-30,097.00
R 200-4532	0.00	0.00	-7,242.00	-7,242.00	-7,242.00
TURN OUT TOTAL	-30,097.00	0.00	-7,242.00	-7,242.00	-37,339.00
DRY HYDRANTS					
E 200-01-9140-12	-7,959.00	0.00	0.00	0.00	-7,959.00
R 200-4533	0.00	0.00	-233.00	-233.00	-233.00
DRY HYDRANTS TOTAL	-7,959.00	0.00	-233.00	-233.00	-8,192.00
MISC EQUIP					
E 200-01-9140-13	-1,648.00	0.00	0.00	0.00	-1,648.00
R 200-4534	0.00	0.00	0.00	0.00	0.00
MISC EQUIP TOTAL	-1,648.00	0.00	0.00	0.00	-1,648.00
FIRE RESCUE CIP TOTAL	-707,043.43	0.00	-240,000.00	-240,000.00	-947,043.43

+ = Debit - = Credit

MUNICIPAL FACILITIES CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
FACILITIES					
E 200-01-9100-01	-6,775.00	0.00	0.00	0.00	-6,775.00
R 200-4501	0.00	0.00	-5,000.00	-5,000.00	-5,000.00
FACILITIES TOTAL	-6,775.00	0.00	-5,000.00	-5,000.00	-11,775.00
TOWN HALL ELEVATOR					
E 200-01-9100-02	-10,000.00	0.00	0.00	0.00	-10,000.00
R 200-4502	0.00	0.00	0.00	0.00	0.00
TOWN HALL ELEVATOR TOTAL	-10,000.00	0.00	0.00	0.00	-10,000.00
FURNACE REPLACEMENT					
E 200-01-9100-03	-9,156.00	0.00	0.00	0.00	-9,156.00
R 200-4503	0.00	0.00	0.00	0.00	0.00
FURNACE REPLACEMENT TOTAL	-9,156.00	0.00	0.00	0.00	-9,156.00
BLDG & PROP IMPROVEMENTS (TIMBER SALES)					
E 200-01-9100-04	-25,800.00	0.00	0.00	0.00	-25,800.00
R 200-4504	0.00	0.00	0.00	0.00	0.00
BLDG & PROP IMPROVEMENTS TOTAL	-25,800.00	0.00	0.00	0.00	-25,800.00
MUNICIPAL FACILITIES CIP TOTAL	-51,731.00	0.00	-5,000.00	-5,000.00	-56,731.00

+ = Debit - = Credit

PUBLIC WORKS CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
2014 P/U TRUCK W/PLOW					
E 200-01-9130-01	-24,430.00	0.00	0.00	0.00	-24,430.00
R 200-4510	0.00	0.00	-2,100.00	-2,100.00	-2,100.00
2014 P/U TRUCK W/PLOW TOTAL	-24,430.00	0.00	-2,100.00	-2,100.00	-26,530.00
2020 DUMP TRUCK					
E 200-01-9130-02	-34,741.00	0.00	0.00	0.00	-34,741.00
R 200-4510	0.00	0.00	-2,100.00	-2,100.00	-2,100.00
2020 DUMP TRUCK TOTAL	-34,741.00	0.00	-2,100.00	-2,100.00	-36,841.00
2005 DUMP TRUCK					
E 200-01-9130-03	-225,538.34	0.00	0.00	0.00	-225,538.34
R 200-4512	0.00	0.00	-12,585.00	-12,585.00	-12,585.00
2005 DUMP TRUCK TOTAL	-225,538.34	0.00	-12,585.00	-12,585.00	-238,123.34
2018 DUMP TRUCK					
E 200-01-9130-04	-34,685.00	0.00	0.00	0.00	-34,685.00
R 200-4512	0.00	0.00	-12,585.00	-12,585.00	-12,585.00
2018 DUMP TRUCK TOTAL	-34,685.00	0.00	-12,585.00	-12,585.00	-47,270.00
2007 BACKHOE					
E 200-01-9130-05	-61,503.00	0.00	0.00	0.00	-61,503.00
R 200-4514	0.00	0.00	-12,375.00	-12,375.00	-12,375.00
2007 BACKHOE TOTAL	-61,503.00	0.00	-12,375.00	-12,375.00	-73,878.00
2008 LOADER					
E 200-01-9130-06	-154,635.00	0.00	0.00	0.00	-154,635.00
R 200-4515	0.00	0.00	-27,345.00	-27,345.00	-27,345.00
2008 LOADER TOTAL	-154,635.00	0.00	-27,345.00	-27,345.00	-181,980.00
2008 10W DUMP TRUCK					
E 200-01-9130-07	-166,000.00	0.00	0.00	0.00	-166,000.00
R 200-4516	0.00	0.00	-37,980.00	-37,980.00	-37,980.00
2008 10W DUMP TRUCK TOTAL	-166,000.00	0.00	-37,980.00	-37,980.00	-203,980.00
2010 10W DUMP TRUCK					
E 200-01-9130-08	-150,184.00	0.00	0.00	0.00	-150,184.00
R 200-4517	0.00	0.00	-21,045.00	-21,045.00	-21,045.00
2010 10W DUMP TRUCK TOTAL	-150,184.00	0.00	-21,045.00	-21,045.00	-171,229.00

+ = Debit - = Credit

PUBLIC WORKS CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
2007 ONE TON TRUCK					
E 200-01-9130-09	-155,360.00	0.00	0.00	0.00	-155,360.00
R 200-4518	0.00	0.00	-8,910.00	-8,910.00	-8,910.00
2007 ONE TON TRUCK TOTAL	-155,360.00	0.00	-8,910.00	-8,910.00	-164,270.00
2009 ONE TON TRUCK					
E 200-01-9130-10	-50,585.00	0.00	0.00	0.00	-50,585.00
R 200-4519	0.00	0.00	-3,960.00	-3,960.00	-3,960.00
2009 ONE TON TRUCK TOTAL	-50,585.00	0.00	-3,960.00	-3,960.00	-54,545.00
EXCAVATOR					
E 200-01-9130-11	0.00	0.00	0.00	0.00	0.00
R 200-4520	0.00	0.00	0.00	0.00	0.00
EXCAVATOR TOTAL	0.00	0.00	0.00	0.00	0.00
MULTI USE MINI TRACTOR					
E 200-01-9130-12	-8,447.00	0.00	0.00	0.00	-8,447.00
R 200-4521	0.00	0.00	-2,280.00	-2,280.00	-2,280.00
MULTI USE MINI TRACTOR TOTAL	-8,447.00	0.00	-2,280.00	-2,280.00	-10,727.00
PUBLIC WORKS CIP TOTAL	-1,066,108.34	0.00	-143,265.00	-143,265.00	-1,209,373.34

+ = Debit - = Credit

REVALUATION CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
REAL ESTATE REVALUATION					
E 200-01-9170-01	-105,000.00	0.00	0.00	0.00	-105,000.00
R 200-4538	0.00	0.00	-15,000.00	-15,000.00	-15,000.00
REAL ESTATE REVALUATION TOTAL	-105,000.00	0.00	-15,000.00	-15,000.00	-120,000.00
REVALUATION CIP TOTAL	-105,000.00	0.00	-15,000.00	-15,000.00	-120,000.00

+ = Debit - = Credit

ROAD CIP
ALL
Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
CRACK SEALING					
E 200-01-9120-01	-22,632.00	0.00	0.00	0.00	-22,632.00
R 200-4507	0.00	0.00	-7,825.00	-7,825.00	-7,825.00
CRACK SEALING TOTAL	-22,632.00	0.00	-7,825.00	-7,825.00	-30,457.00
TRAFFIC LIGHTS					
E 200-01-9120-02	-3,220.00	0.00	0.00	0.00	-3,220.00
R 200-4508	0.00	0.00	-2,000.00	-2,000.00	-2,000.00
TRAFFIC LIGHTS TOTAL	-3,220.00	0.00	-2,000.00	-2,000.00	-5,220.00
INFRASTRUCTURE					
E 200-01-9120-03	-89,920.69	248,155.81	0.00	248,155.81	158,235.12
R 200-4509	0.00	0.00	-524,250.00	-524,250.00	-524,250.00
INFRASTRUCTURE TOTAL	-89,920.69	248,155.81	-524,250.00	-276,094.19	-366,014.88
ROAD CIP TOTAL	-115,772.69	248,155.81	-534,075.00	-285,919.19	-401,691.88

+ = Debit - = Credit

SOLID WASTE CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
COMPACTOR REPLACEMENT					
E 200-01-9150-01	-3,118.96	0.00	0.00	0.00	-3,118.96
R 200-4535	0.00	0.00	0.00	0.00	0.00
COMPACTOR REPLACEMENT TOTAL	-3,118.96	0.00	0.00	0.00	-3,118.96
ROLL OFF CONTAINERS					
E 200-01-9150-02	-28,235.00	0.00	0.00	0.00	-28,235.00
R 200-4536	0.00	0.00	0.00	0.00	0.00
ROLL OFF CONTAINERS TOTAL	-28,235.00	0.00	0.00	0.00	-28,235.00
SOLID WASTE CIP TOTAL	-31,353.96	0.00	0.00	0.00	-31,353.96

+ = Debit - = Credit

TECHNOLOGY CIP

ALL

Pending Activity Included

	Bud / Beg Bal	YTD Debits	YTD Credits	YTD Activity	Balance
TECHNOLOGY CIP					
TECHNOLOGY					
CIP RES FNDS / CIP - TECH CIP / TECHNOLOGY	-8,909.81	443.25	0.00	443.25	-8,466.56
CIP RES FNDS - TECHNOLOGY	0.00	0.00	-15,000.00	-15,000.00	-15,000.00
TECHNOLOGY TOTAL	-8,909.81	443.25	-15,000.00	-14,556.75	-23,466.56
CABLE ACCESS EQUIPMENT					
CIP RES FNDS / CIP - TECH CIP / CATV EQUIP	-4,670.00	0.00	0.00	0.00	-4,670.00
CIP RES FNDS - CATV EQUIP	0.00	0.00	-1,000.00	-1,000.00	-1,000.00
CABLE ACCESS EQUIPMENT	-4,670.00	0.00	-1,000.00	-1,000.00	-5,670.00
TECHNOLOGY CIP TOTAL	-13,579.81	443.25	-16,000.00	-15,556.75	-29,136.56

+ = Debit - = Credit



Poland Fire Rescue Monthly Statistics 2022



	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Alarm Activations	5	3	1	4	4	4	7						28
Chimney Fires	2												2
Citizen Complaints		1											1
Electrical Problems				1		1	2						4
Good Intent	1		2		2	1							6
Hazardous Materials Spill				1	2		1						4
Lock In/Lock Out					2	1	1						4
Lost Person Search							1						1
MVC with Extrication	2				3								5
MVC without Extrication	4	2	7	3	11	4	5						36
McFalls Medical Calls	27	17	17	18	23	18	16						136
Medical Calls	31	32	28	44	60	43	56						294
Mutual Aid Given	12	12	13	14	21	9	8						89
Odor Investigations	2	1	1		1	1							6
Over-pressure, Rupture, Explosion													0
Power Line Down		2			1	1	3						7
Propane Leak				2									2
Public Assists	1		2	3	3	4	5						18
Smoke in the Building		1											1
Smoke Investigation-Outside					3	1							4
Structure Fires					1	1							2
System Malfunctions	1		1										2
Tree Down in Roadway				1		1							2
Tree on Wires	1		1		2	1							5
Unauthorized Burning				1		1							2
Woods/Brush Fire					1		1						2
Water Rescue						1							1
Patient Evaluations	54	43	49	61	95	66	74						442
Patient Transports	37	31	35	50	70	44	56						323
Mutual Aid Received	2	2	1	4	6	5	5						25
Total Man Hours	299	245	286	384	589	310	513						2626
Total Incidents	89	71	73	92	140	93	106						664

Mutual Aid Received:

Mechanic Falls E3 (1) Vegetation/Brush/Grass Fire
 New Gloucester A1 (2) Medical Calls
 Oxford C1 & R1 (1) Medical Call

Mutual Aid Given:

Auburn (1) Medical Call
 Minot (1) Traumatic Injury
 Naples (1) Brush Fire
 New Gloucester (1) Structure Fire
 Oxford (1) ATV/Woods Fire, (1) Brush Fire, (1) RIT
 Paris (1) Structure Fire

Medical Calls to Mechanic Falls during contracted hours of 6am to 6pm

Number of Medical Calls

July	FY to Date
16	16

These numbers reflect the fiscal year from July 1, 2022 to June 30, 2023.

Continuing Education/Training

EMS

Fire

Driver Training - Engine 2

Some of the activities in and around the station include:

Crews cleaned and back flushed all dry hydrants

Crews cleaned all pressurized hydrants

We continue to struggle to fill open shifts with per diem employees. When the July schedule was created, there were 61 open shifts.

Thomas Printup

Thomas Printup, Chief

Poland Fire Rescue



Department of Planning and Community Development

Monthly Activity Report July 2022

During the month of July 2022, this office continually answered phone calls pertaining to permit information, realtor requests, zoning information and other various Planning and Community Development issues. There were **9** scheduled office appointments regarding various building permit and shoreland permit projects in the month of July. Scott Neal is performing all building (residential and commercial), plumbing, and complaint inspections. Electrical inspections are being performed by Raymond Cloutier. Scott Neal performed **42** inspections, and Ray Cloutier performed **29** inspections for the month of July.

There were a total of **21** building and shoreland zoning permits, **0** road entrance, **22** electrical permits, and **7** plumbing permits issued with a total cost of work of **\$2,010,756.00** for the month of July. I have attached the permit breakdown for the month.

The Planning Board had meetings on July 12th and July 26th. There are openings for two alternate members for the Planning Board, and one full time member and two alternate members for the Board of Appeals.

There were **4** Certificates of Occupancy issued for the month of July.

Sarah and I attended **2** Planning Board and **0** Board of Appeals meetings.

Respectfully submitted,

Scott Neal

Permit Detail Report

07/01/2022 - 07/31/2022

Permit Type	Permit #	Applicant Name	Total Fees	Owner Name	Parcel #	Project Cost	Parcel Address
Building	20220299	Rhonda Denny	\$60.00	DENNY, RHONDA	0003-0025A	0	221 DUNN RD.
Building	20220318	Eugene L Keene III	\$229.25	KEENE, EUGENE L., III	0042-0002	40,000	912 EMPIRE RD.
Building	20220322	Martin and Cynthia Mailhot	\$96.75	MAILHOT, CINDY	0004-0019-0401	13,500	3 WILLIAMS WAY
Building	20220323	JoAnne Morrisette	\$76.25	MORRISSETTE, JO ANNE	0010-0031	10,000	8 COBB RD.
Building	20220324	Sheila Foley	\$443.50	FOLEY, SHEILA MARIE	0040-0015	42,300	1220 MAINE ST.
Building	20220326	Raymond Anderson	\$76.25	ANDERSON, RAYMOND	0007-0032-0012A	4,000	45 FRONT AVE.
Building	20220327	Mary Gabriele	\$76.25	GABRIELE, MARY L	0009-0015B-0001	10,000	365 NORTH RAYMOND RD.
Building	20220328	Jessica and Jason Pelletier		PELLETIER, JACOB L	0017-0052D	0	229 TIGER HILL RD.
Building	20220330	Donald Beaulieu	\$43.25	BEAULIEU, DONALD R	0049-0008	2,500	12 BLUEBIRD DR.
Building	20220336	Charles Mitchell	\$75.50	MITCHELL, CHARLES HOPKINS	0014-0026B	10,000	245 MEGQUIER HILL RD.
Building	20220338	Christopher Bither	\$20.00	BITHER, CHRISTOPHER N	0011-0074-0014	2,500	51 SANDERSON RD.
Building	20220340	William Gagne	\$249.81	GAGNE, WILLIAM D	0012-0063-0003	45,761	31 HOTHAM LANE
Building	20220345	Jon Gilson	\$20.00	GILSON, JONATHAN S	0009-0002	9,000	267 NORTH RAYMOND RD.
Demolition	20220335	Michael S Pomerleau	\$34.00	POMERLEAU, MICHAEL S	0028-0011	2,000	677 BAKERSTOWN RD.
Electrical	20220301	William and Jeanette Almy	\$35.00	ALMY, JEANETTE R	0034-0016	0	23 NASH LANE
Electrical	20220302	Prime Time Property Management LLC/Don LaPlante	\$62.00	PRIME TYME PROPERTY MANAGEMENT, LLC	0040-0007	0	1247 MAINE ST.
Electrical	20220303	Image Inc.	\$364.00	IMAGE INC.	0006-0040	0	22 ROBBINS WAY
Electrical	20220304	Tom Learned	\$187.00	LEARNED, CORIE-LYN	0039-0018	0	1161 MAINE ST.

Electrical	20220305	Kim Pelky	\$51.00	PELKEY, KIM L	0043-0002	0	2 BIRCH DR.
Electrical	20220306	Brandon Leclerc	\$255.00	LECLERC, MISHAYLA	0010-0094	0	22 BUZZY'S WAY
Electrical	20220308	David Ford	\$70.00	FORD, DAVID D	0001-0012-A008	0	52 BIRCHWOOD LANE
Electrical	20220309	Kevin Dubreuil	\$105.00	CROP DUSTING, LLC	0004-0021B	0	234 HARDSCRABBLE RD.
Electrical	20220310	Conrad Picard	\$115.00	CROP DUSTING, LLC	0004-0021B	0	234 HARDSCRABBLE RD.
Electrical	20220311	Little River - Jason McKay	\$105.00	JONSSON, PER-JOHAN	0011-0074-0024	0	40 SAWYER RD.
Electrical	20220313	Keston Geistwalker	\$65.00	CHAMBERS, RHONDA	0010-0048-0003	0	981 MAINE ST.
Electrical	20220315	Ramon Metcalf/ Chuck Johnson	\$306.50	AUTUMN INC.	0009-0002C	0	237 NORTH RAYMOND RD.
Electrical	20220316	Susan Henderson	\$70.00	LOWE, ARTHUR W	0017-0017	0	366 HERRICK VALLEY RD.
Electrical	20220317	James Colman, Dave's World	\$70.00	PLOURDE, ERIC JAMES	0006-0042A	0	34 COBBLE KNOLL RD.
Electrical	20220319	Greg Frost	\$169.40	FROST, GREGORY ALAN	0011-0039A	0	150 POLAND CORNER RD.
Electrical	20220321	Jacob Bradley	\$70.00	SAMSON, CHRISTINA L.	0012-0051E	0	12 ALEXANDER LANE
Electrical	20220325	Larry Roakes	\$196.40	ROAKES, LAWRENCE - TRUSTEE	0013-0035	0	36 KNOLL RD.
Electrical	20220329	Timothy McAlister	\$75.00	MCALISTER, TIMOTHY P.	0010-0082-0005E	0	KINNEY WOODS LANE
Electrical	20220334	William Bouchard, integrity Services of Maine	\$70.00	RODRIGUE, ROBBIE J	0013-0029B	0	90 JOHNSON HILL ROAD
Electrical	20220341	ESM, Electrical Systems of Maine, Inc	\$70.00	MORRISON, RICHARD E	0010-0076	0	175 JACKSON RD.
Electrical	20220343	ESM, Electrical Systems of Maine, Inc	\$70.00	ANDERSON, SHEILA	0007-0032-0011	0	60 FRONT AVE.
Electrical	20220344	ESM, Electrical Systems of Maine, Inc	\$70.00	FIFIELD, RICHARD F	0036-0001	0	85 ECHO COVE LANE
Planning	20220348	Jack and	\$167.25	PARSHALL,	0003-0020F-	0	0 LEWISTON

Board Meeting		Taylor Parshall		JACK P.	1		JUNCTION RD.
Planning Board Meeting	20220349	Stuart Davis, Davis Land Surveying	\$185.25	CLIFTON F. HAMMOND LIVING TRUST	0008-0070	0	91 LANE RD.
Plumbing	20220297	Sheila Foley	\$270.00	FOLEY, SHEILA MARIE	0040-0015	0	1220 MAINE ST.
Plumbing	20220298	Denny, Rhonda	\$60.00	DENNY, RHONDA	0003-0025A	0	221 DUNN RD.
Plumbing	20220312	David Beaulieu	\$180.00	HAYES, SARA B	0013-0051	0	488 JOHNSON HILL RD.
Plumbing	20220314	Scott Davis, Scott Davis Plumbing and Heating	\$60.00	MOEN, DONALD	0004-0019-0211	0	72 DAVIS BROOK DR.
Plumbing	20220320	Benjamin Leonard	\$120.00	POLAND BTS RETAIL, LLC	0015-0018B-2	0	1478 MAINE ST.
Plumbing	20220339	Dan Wilson, Dan N Dad's Plumbing	\$180.00	ROAKES, LAWRENCE - TRUSTEE	0013-0035	0	36 KNOLL RD.
Street Opening	20220346	Brandon Bichrest	\$100.00	BICHREST, BRANDON	0012-0008	10,000	153 HACKETT MILLS RD.
Subsurface Plumbing	20220342	Brandon Bichrest	\$265.00	BICHREST, BRANDON	0012-0008	0	153 HACKETT MILLS RD.
Zoning	20220300	Siddharth Chinai		CHINAI, SIDDHARTH D	0019-0005	0	23 WILLOW LANE

Permit Type	Permit #	Applicant Name	Total Fees	Owner Name	Parcel #	Project Cost	Parcel Address
Zoning	20220307	Matt and Karen Monaghan	\$25.00	MONAGHAN, MATTHEW J	0046-0013	9,000	46 WEST SHORE DR.
Zoning	20220331	Roberta Leirer	\$25.00	LEIRER, ROBERTA	0032-0014A	9,500	25 GARLAND SWAMP RD.
Zoning	20220332	Paul Lamb	\$25.00	LAMB, PAUL S	0043-0011-0015	4,000	23 BIRCH DR.
Zoning	20220333	Brian and Yvonne Jumper	\$25.00	JUMPER, BRIAN M	0049-0027	0	71 MOUNTAIN VIEW DR.
Zoning	20220337	Kieran O'Shaughnessy	\$25.00	O'SHAUGHNESSY, KIERAN K	0020-0017	0	19 POTASH LANE
Zoning	20220347	Susan Gambardella	\$25.00	GAMBARDELLA, SUSAN C (TRUSTEE)	0044-0071	0	137 BIRCH DR.
			\$5,889.61			224,061	

Total Records: 53

8/10/2022

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Permit Inspection Detail Report

07/01/2022 - 07/31/2022

Permit Date	Applicant Name	Scheduled Date	Inspection Type	Owner Name	Parcel Address	Parcel #
7/19/2022	Sheila Foley	7/28/2022	Foundation/Rebar	FOLEY, SHEILA MARIE	1220 MAINE ST.	0040-0015
1/24/2022	Rebecca Platz	7/28/2022	Framing Only	PLATZ, REBECCA S	147 LEWISTON JUNCTION RD.	0003-0011-0001
10/5/2021	Joey and Sarah Bissonette	7/28/2022	Framing Only	BISSONNETTE, JOEY PATRICK	456 MEGQUIER HILL RD.	0017-0020B
1/21/2022	Autumn Inc.	7/28/2022	Septic Field/Tank Installation	AUTUMN INC.	237 NORTH RAYMOND RD.	0009-0002C
1/24/2022	Rebecca Platz	7/28/2022	Insulation Inspection	PLATZ, REBECCA S	147 LEWISTON JUNCTION RD.	0003-0011-0001
10/25/2021	Gary Conway, MJM Architects	7/28/2022	Insulation Inspection	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B-2
1/21/2022	Autumn Inc.	7/28/2022	Insulation Inspection	AUTUMN INC.	237 NORTH RAYMOND RD.	0009-0002C
10/5/2021	Joey and Sarah Bissonette	7/28/2022	Electrical Rough	BISSONNETTE, JOEY PATRICK	456 MEGQUIER HILL RD.	0017-0020B
1/24/2022	Rebecca Platz	7/28/2022	Electrical Rough	PLATZ, REBECCA S	147 LEWISTON JUNCTION RD.	0003-0011-0001
1/12/2022	Mary Gresik and Ronald Leeman	7/27/2022	Tree Inspection	GRESIK, MARY A	265 JORDAN SHORE DR.	0029-0007
7/27/2022	Susan Gambardella	7/27/2022	Tree Inspection	GAMBARDELLA, SUSAN C (TRUSTEE)	137 BIRCH DR.	0044-0071
7/19/2022	Sheila Foley	7/27/2022	Footings/Setbacks	FOLEY, SHEILA MARIE	1220 MAINE ST.	0040-0015
6/13/2022	Fairlawn Golf Course	7/27/2022	Electrical - Commercial	FAIRLAWN GOLF COURSE	388 EMPIRE RD.	0007-0030
1/21/2022	Autumn Inc.	7/26/2022	Framing Only	AUTUMN INC.	237 NORTH RAYMOND RD.	0009-0002C
7/21/2022	William Bouchard, integrity Services of Maine	7/26/2022	Electrical - Heat Pump	RODRIGUE, ROBBIE J	90 JOHNSON HILL ROAD	0013-0029B
1/21/2022	Autumn Inc.	7/26/2022	Septic Scarification	AUTUMN INC.	237 NORTH RAYMOND RD.	0009-0002C
6/9/2022	Sanborn Plumbing	7/26/2022	Plumbing Rough	AUTUMN INC.	237 NORTH RAYMOND RD.	0009-0002C
7/22/2022	Dan Wilson, Dan N Dad's	7/26/2022	Plumbing Rough	ROAKES, LAWRENCE -	36 KNOLL RD.	0013-0035

	Plumbing			TRUSTEE		
7/20/2022	Larry Roakes	7/25/2022	Electrical Service	ROAKES, LAWRENCE - TRUSTEE	36 KNOLL RD.	0013-0035
7/19/2022	Sheila Foley	7/25/2022	Footings/Setbacks	FOLEY, SHEILA MARIE	1220 MAINE ST.	0040-0015
4/28/2022	Matthew Tucker	7/22/2022	Electrical Only	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B- 2
6/9/2022	Jo Anne Morrissette	7/22/2022	Electrical Service	MORRISSETTE, JO ANNE	8 COBB RD.	0010-0031
7/7/2022	Tom Learned	7/22/2022	Electrical Service	LEARNED, CORIE-LYN	1161 MAINE ST.	0039-0018
7/8/2022	Brandon Leclerc	7/22/2022	Electrical Service	LECLERC, MISHAYLA	22 BUZZY'S WAY	0010-0094
2/25/2022	Greg and Rose Frost	7/22/2022	Septic Field/Tank Installation	FROST, GREGORY ALAN	150 POLAND CORNER RD.	0011-0039A
5/18/2022	Larry J. Hilt	7/22/2022	Electrical Rough	HILT, LARRY J	17 HILT HOLLOW RD.	0015-0001- 0001
7/14/2022	Ramon Metcalf/ Chuck Johnson	7/21/2022	Electrical Rough	AUTUMN INC.	237 NORTH RAYMOND RD.	0009-0002C
7/12/2022	David Beaulieu	7/21/2022	Plumbing Rough	HAYES, SARA B	488 JOHNSON HILL RD.	0013-0051
7/21/2022	Brian and Yvonne Jumper	7/21/2022	Tree Inspection	JUMPER, BRIAN M	71 MOUNTAIN VIEW DR.	0049-0027
7/21/2022	Paul Lamb	7/21/2022	Tree Inspection	LAMB, PAUL S	23 BIRCH DR.	0043-0011- 0015
4/28/2022	Matthew Tucker	7/21/2022	Electrical Service	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B- 2
9/30/2021	Sara Hayes	7/21/2022	Framing Only	HAYES, SARA B.	488 JOHNSON HILL RD.	0013-0051
5/18/2022	Larry J. Hilt	7/21/2022	Framing Only	HILT, LARRY J	17 HILT HOLLOW RD.	0015-0001- 0001
3/21/2022	Doug Chipman	7/20/2022	Certificate of Occupancy/Final	COFFIN, AUBREY L HEIRS	128 RANGE HILL RD.	0001-0021
2/4/2021	Sean Carnathan	7/19/2022	Certificate of Occupancy/Final	CARNATHAN, SEAN T.	149 LOON POINT LANE	0047-0008
6/22/2022	James Morra	7/19/2022	Footings/Setbacks	MORRA, JAMES J	16 COVE VIEW PLACE	0017-0002L
5/20/2022	Scott Ferland	7/19/2022	Electrical Service	CROP DUSTING, LLC	HARDSCRABBLE RD.	0004-0021B
7/18/2022	Benjamin Leonard	7/19/2022	Plumbing Rough	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B- 2
7/18/2022	Greg Frost	7/18/2022	Site Meeting	FROST, GREGORY ALAN	150 POLAND CORNER RD.	0011-0039A
6/16/2021	Caleb	7/18/2022	Septic Field/Tank	BOYD, DANIEL	194 HACKETT	0008-0089A

	Sayward		Installation	B.	MILLS RD.	
5/18/2022	Larry J. Hilt	7/18/2022	Framing Only	HILT, LARRY J	17 HILT HOLLOW RD.	0015-0001-0001
7/13/2022	Keston Geistwalker	7/18/2022	Electrical Only	CHAMBERS, RHONDA	981 MAINE ST.	0010-0048-0003
7/15/2021	L. M. ELECTRICAL, INC.	7/15/2022	After Fire Inspection	SAYWARD, REBECCA A.	194 HACKETT MILLS RD.	0008-0089A
6/13/2022	Nicholas Rinchich	7/14/2022	Electrical Service	BURNHAM, ROBERT C	87 HEATH RD.	0018-0001A
10/5/2021	Joey and Sarah Bissonette	7/14/2022	Electrical Rough	BISSONNETTE, JOEY PATRICK	456 MEGQUIER HILL RD.	0017-0020B
7/7/2022	Image Inc.	7/13/2022	Electrical Service	IMAGE INC.	22 ROBBINS WAY	0006-0040
6/3/2022	ESM, Electrical Systems of Maine, Inc.	7/12/2022	Electrical - Generator	FIFIELD, CRAIG	94 WEST SHORE DR.	0046-0025

Permit Date	Applicant Name	Scheduled Date	Inspection Type	Owner Name	Parcel Address	Parcel #
5/3/2022	Eric Plourde	7/8/2022	Foundation/Rebar	PLOURDE, ERIC JAMES	34 COBBLE KNOLL RD.	0006-0042A
6/29/2022	Rhonda Chambers	7/8/2022	Foundation/Rebar	CHAMBERS, RHONDA	981 MAINE ST.	0010-0048-0003
7/7/2022	Image Inc.	7/8/2022	Electrical Service	IMAGE INC.	22 ROBBINS WAY	0006-0040
6/30/2022	Pike Industries, Inc	7/7/2022	Inspection	PIKE INDUSTRIES INC.	164 SPRING WATER RD.	0001-0012
6/21/2022	Mary Booth	7/7/2022	Inspection	BOOTH, MARY E.	64 WEST SHORE DR.	0046-0017
10/25/2021	Gary Conway, MJM Architects	7/7/2022	Foundation/Rebar	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B-2
7/6/2022	Prime Time Property Management LLC/Don LaPlante	7/7/2022	Electrical Service	PRIME TYME PROPERTY MANAGEMENT, LLC	1247 MAINE ST.	0040-0007
4/6/2022	Anthony Reyes	7/7/2022	Electrical Service	REYES, ANTHONY	222 RANGE HILL RD.	0005-0044C
6/29/2022	Rhonda Chambers	7/7/2022	Footings/Setbacks	CHAMBERS, RHONDA	981 MAINE ST.	0010-0048-0003
5/4/2022	Brian and Chelsea Monzel	7/7/2022	Septic Field/Tank Installation	MONZEL, BRIAN C	43 MCCANN RD.	0010-0007A-03
10/25/2021	Gary Conway, MJM Architects	7/6/2022	Foundation/Rebar	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B-2
5/18/2022	Kenneth and Jacqueline Bard	7/6/2022	Foundation/Backfill	BARD, KENNETH A	125 LOON POINT LANE	0047-0015
7/11/2022	Conrad Picard	7/6/2022	Electrical Service	CROP DUSTING, LLC	234 HARDSCRABBLE RD.	0004-0021B
5/20/2022	Scott Ferland	7/6/2022	Electrical Service	CROP DUSTING, LLC	HARDSCRABBLE RD.	0004-0021B
6/6/2022	Jason Cloutier, JNC Electric, Inc	7/5/2022	Electrical Service	MONZEL, BRIAN C	43 MCCANN RD.	0010-0007A-03
4/28/2022	Patrick and Rhonda Denny	7/5/2022	Certificate of Occupancy/Final	DENNY, RHONDA	221 DUNN RD.	0003-0025A
10/25/2021	Gary Conway, MJM Architects	7/5/2022	Footings/Setbacks	POLAND BTS RETAIL, LLC	1478 MAINE ST.	0015-0018B-2
7/5/2022	Siddharth Chinai	7/5/2022	Tree Inspection	CHINAI, SIDDHARTH D	23 WILLOW LANE	0019-0005

4/20/2021	Richard Milbury	7/1/2022	Certificate of Occupancy/Final	RAYNES, JAMES D.	55 GARLAND SWAMP RD.	0032-0005
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Total Records: 66

8/10/2022

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Alvan Bolster Ricker Memorial Library

1211 Maine Street
Poland, Maine 04274
207-998-4390

June 1, 2022

Programs at Ricker Memorial Library

June 13, 2022

Mystery Book Group: *The Personal Librarian* by Marie Benedict: **11 people** attended.

June 16, 2022

Sewing: **05 people** attended.

June 23, 2022

Sewing: **07 people** attended.

June 30, 2022

Sewing: **08 people** attended.

July 08, 2022

Cribbage: **03 people** attended.

July 11, 2022

Mystery Book Group: *An Elderly Lady is up to no good* by Helene Tursten: **12 people** attended.

July 12, 2022

Summer Reading Program: **31 children and 19 adults** attended.

July 13, 2022

Needlers: **04 people** attended.

July 14, 2022

Sewing: **05 people** attended.

July 18, 2022

Let's Talk Book Group: *The Ride of her life* by Elizabeth Letts: **07 people** attended.

July 19, 2022

Summer Reading Program: **37 children and 13 adults** attended.

Library Director
Joanne Messer

Ricker Memorial Library

Library Statistics Report

July 2022

1. The library was open for 25 days July.
2. Staff was paid for 554 hours during the month.
July 3, 2022-July 30, 2022
3. Volunteers worked for approximately 16 hours.
4. Circulation figures for July were as follows:

	Month	Year
E Books	121	846
Total circulation for the month of July, 2022:		1,875
Total circulation year-to-date for the year 2022:		10,904
Total circulation year-to-date in July 2021		11,022

Circulation for the month compared:

	Jun-21	Jun-22	Jul-21	Jul-22
	1,720	1,622	2,040	1,875
Percent Increase (Decrease):		(6%)		(8%)

Interlibrary loans requested by:	State-wide	Ricker
	149	58

5. A total of 72 new items were added to the collection:

Adult Fic: 25	Adult N/F: 3	BIO: 1	DVD: 6
Audio Cass.: 10	Juv. Fic: 15	Juv. N/F: 4	Video: 0
Juv. Bio: 0	YA: 1	MC: 1	CD: 0
Ref.: 0	LP: 4	PB: 2	

6. The Community Room was used for 16 separate meetings.
Compare to 17 separate meetings during same month last year.

7. Program participation was as follows:

Book Discussion: 19
 Day Care Visits: 0
 School Visits: 0
 Pre-School Storytime: 90

8. Library card registrations for July:

	Month	Year-to-Date
Adult	15	48
Juvenile	1	6
Non-Resident	4	9
Total	20	63
Total circulation year	24	55

9. Public Access Computers were used 39 times.

Public Works Monthly Report for July 2022

Item	Month	YTD	Notes
After Hour Incidents	3	3	COM CENTER CALLS , SNOW +ICE, ROAD CLOSED ETC.
Trees Down/Removed/pruning	4	4	Chainsaw crew.loader,trucks,signs,BRUSH CUTTING
Road/Shoulder washouts	1	1	SIGNIFICANT RAIN EVENT AND/OR SPRING MELT
ROAD WORK			
Culvert/Drain Cleaning	15	15	Water tanker,High Pressure Pump,Repair/STEAM
Culvert Replacement	10	10	Dig Safe Notify,Road Closure,crew 3
Ditching	4512'	4512'	Flaggers,Backhoe(Excavator) 2 Dump Trucks 1 full Crew
Street Sign Install, Replace or Repair			Truck 12,1 Crew
Potholes or Sinkholes Repaired	33	33	Truck 11, 1 Crew
Road Grading	4	4	Flaggers,Grader 1 Crew/cobb rd ,old plains etc.12 total
Road Sweeping	2	2	Truck 11, 1 Crew/after shouldering/sring cleanup etc.
Clearing Carcasses	2	2	Truck 1 , 1 Crew,DEER,racoons ,beavers etc.
SNOW/ICE EVENT/SANDING			Full Crew
ADMINISTRATIVE			
Citizen Requests	8	8	PW Director
Department Head Meeting			PW Director
Manager Meeting	3	3	PW Director/ manager meetings
Safety Meetings	1	1	PW Director,All Crew.
Training	1	1	PW Director,All Crew.
MAINTENANCE			
Middle Range Pond Dam Monitoring	1	1	PW Director/OPEN GATES/CLEAN GRATES FOR WINTER
Estes Bog Damm Maint/Repair/Monitor	1	1	PW Director/BEAVER PATROL/TO BE TRAPPED
Lane CEM (on Empire RD)	1	1	1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Empire CEM (on Dunn RD)	1	1	1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Locus Grove CEM (Maine ST behind Church)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Tripp Lake CEM (Tripp Lake Camp RD)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Old Mequier CEM (Meguire Hill RD)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Johnson Hill Cem (Heath Rd in woods)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Black Cat CEM (Cleve Tripp RD)	1	1	1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Range Hill CEM (Range Hill RD)	1	1	1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Jordan CEM (RT 26 & Schellinger)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Verril CEM (RT 122 near Bishop RD)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
White Oak Hill CEM (Summit Spring RD Golf CRS)	1	1	1 crew ,One Ton /Trailer/2 Mowers/Trimmers
Lower Field (below PCS, behind PPW)	1	1	1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Nadeau Field (Hardscrable RD)			1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Pine Grove Field (Brown RD)	1	1	1 Crew ,One Ton /Trailer/2 Mowers/Trimmers
Public Works Facility/PLOWING/MOW	1	1	Full Crew
ASSITANCE TO OTHER DEPT.			
Assist Transfer Station Dept	1	1	MECHANICAL
Assist Recreation Dept			Moving-transporting equipment etc.
Assist Library Dept			SNOW
Assist Fire Rescue Dept	4	4	PLOWING,MAINTENANCE,REPAIRS,FIRE/RESUE VEH.
Assist Town Office	1	1	PLOWING,MAINTENANCE,REPAIRS,CONSTRUCTION
Mutual Service requested by McFalls			TRADE EQUIPMENT USAGE/SERVICES
Mutual Service requested by Poland	1	1	TRADE EQUIPMENT USAGE/SERVICES
Man Hours Worked	891	891	
Local/State DOT Services Request			Road Hazzards/General Help/ SIGN REPLACEMENT
Diesel Gals.	1,240	1240	
Gasoline Gals.	120	120	



Mobile Vendor License Application

Applicant's Information	Business Information
Name: <u>Alex Duff</u>	Name of Business: <u>All the things</u>
Address: <u>Po Box 68</u> <u>Poland Me</u>	Owner of Business: <u>Alex Duff - Amber Marin</u>
Phone: <u>207 440 0177</u>	Product(s) that will be sold: <u>Food</u>
Email: <u>Iwantthejobs@yahoo.com</u>	

Vehicle Information and Operators	Hours of Operation
Make: <u>Cherokee</u> Year: <u>2012</u>	Sunday: <u>10</u> to <u>10</u>
Model: <u>Food cart</u> Color: <u>White</u>	Monday: <u>10</u> to <u>10</u>
Locations That the Vehicle Will Park/Frequent: <u>Burton Page well drilling</u> <u>owned by Chris Garcia</u>	Tuesday: <u>10</u> to <u>10</u>
Dates License Shall Be Used: <u>Any day available</u>	Wednesday: <u>10</u> to <u>10</u>
Name of person(s), DOB & Driver's License number of those who will be operation vehicle: <u>Alex Duff</u>	Thursday: <u>10</u> to <u>10</u>
<u>8-13-80 8623261 Amber Marin</u>	Friday: <u>10</u> to <u>10</u>
<u>10-01-81 1329302</u>	Saturday: <u>10</u> to <u>10</u>
State Operating License Number: <u>029609627</u>	
Other Pertinent Information: <u>I'll sell food</u>	

Fees/Penalties

Please include Mobile Vendor License Fee in the amount of \$500 (per year) with submission of license application. Operating as a Mobile Vendor without an approved and current license will result in a fine of \$100.00 for a first offense, and \$200.00 for subsequent offenses.

Application Review

The Selectmen will review this application at their next regularly scheduled meeting, and will notify you of the status of the license. Date of Meeting: 8 / 2 / 2022 7PM

FOR OFFICE USE ONLY

<p>BOARD OF SELECTPERSONS</p> <p>Approval Dates: FROM _____ TO _____</p> <p>Signature: _____ Chairman of the Board</p>	<p>BOARD OF SELECTPERSONS</p> <p>Reason Denied: _____</p> <p>Signature: _____ Chairman of the Board</p>
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License Issued: _____ / _____ / _____ Signature Town Clerk or Deputy Clerk _____

Town of Poland



Request for Proposals Town Office HVAC

The Town of Poland is requesting bid proposals for replacing the Town Office HVAC system. Companies submitting bids must submit them in sealed envelopes with **“Town Office HVAC”** clearly printed on the exterior. Proposals must include vendor’s name, address, phone(s), contact person, and total cost. The enclosed bid form must be used, and bidders must observe all required state and federal laws and policies.

All inquiries regarding bids should be directed to the Town Manager at (207) 998-4601; email mgarside@polandtownoffice.org. Proposals must be delivered and clearly marked **“Town Office HVAC”** to Town Manager, Town of Poland, 1231 Maine Street, Poland, ME, 04274 or by email at mgarside@polandtownoffice.org no later than **11:00 AM, Thursday, September 1, 2022**, at which time they will be opened and read publicly in the Town Office conference room. The Board of Selectpersons will consider proposals on **Tuesday, September 6, 2022 at 7:00 PM** in the Town Office conference room. The Town of Poland reserves the right to reject any or all bids.

Companies submitting bids must be registered with Efficiency Maine. Companies must also use the equipment detailed in the specification sheet. The Town intends to apply for Efficiency Maine rebates for the project and these two items are a requirement to apply for those rebates. The contractor shall coordinate with the Town prior to the purchase of equipment to ensure any rebates are realized.

The project will consist of several phases – all outlined in the attached documents.

Removal of the existing system and ducting.

Installation of the new system.

Repair of the roof over the Town Office Conference Room where the roof unit was removed.

The project should be completed before the start of the 2022 heating season.

LIABILITY INSURANCE – Successful Bidder must agree to procure and maintain at its expense, Commercial General Liability insurance for protection from claims under workers’ compensation acts, claims for damages because of bodily injury including personal injury, sickness or disease or death of any and all employees or of any other such employees, and from claims for damages because of injury to or destruction of property including loss of use resulting therefrom, which may arise from the performance of services hereunder. The minimum amounts of coverage are:

Type of Insurance	Each Occurrence	Aggregate
General Liability – Combined Bodily Injury and Property Damage	\$1,000,000	\$2,000,000
Automobile Liability – Combined Bodily Injury and Property Damage	\$1,000,000	
Umbrella/Excess Liability	\$1,000,000	\$1,000,000
Worker’s Compensation & Employer’s Liability	\$500,000 (Each Accident) \$500,000 (Disease Policy Limit) \$500,000 (Disease Each Employee)	

Each such certificate shall list the Town as an additional insured and contain a statement of the insurer’s obligation to notify the Town at least fifteen (15) days prior to cancellation of any policy covered there under. The Town shall be furnished with a Certificate of Insurance. In the event the Town is required to defend itself, the Successful Bidder shall reimburse the Town’s costs, including reasonable attorneys’ fees for defense of such liabilities which arise out of the Successful Bidder’s negligence. In any claim which may arise as a result of intentional or negligent acts or omissions of the Successful Bidder, the Comprehensive General liability insurance policy provided by successful Bidder shall be deemed primary protection against such claims and the Town shall not be called upon to contribute to a loss otherwise payable by the Successful Bidder’s insurer due to its insured’s act or omission.

INDEMNIFICATION – To the fullest extent permitted by law, Successful Bidder does agree to defend, indemnify and hold harmless the Town, its officers, agents and employees, from and against all claims, damages, losses or expenses, just or unjust, including but not limited to costs of defense, arising out of or resulting from the performance of services hereunder, provided that any such claim, damage, loss or expense is caused in whole or in part by any negligent act or omission of Successful Bidder, its officers, agents or employees, anyone directly employed by it, or anyone for whose act it may be liable, except to the extent that said claim, damage, loss or expense is caused by the Town, its officers, or employees.

Town Office HVAC Official Bid Form

COMPANY NAME: _____

ADDRESS: _____

PHONE NUMBER(S): _____

EMAIL: _____

CONTACT PERSON: _____

Include proof of standard liability insurance, which names the Town of Poland as an additional insured in an amount no less than \$1,000,000.

A. TOTAL NET PRICE: _____

B. Guaranteed Delivery Date: _____

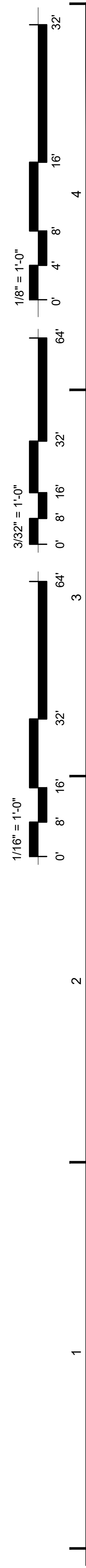
C. Confirm that your firm is on the Efficiency Maine list of certified contractors: Yes / No

The Town of Poland reserves the right to reject any or all bids in whole or in part as it is deemed in the best interest of the Town, renegotiate any contract and waive any informality which does not compromise the actual bid.

MECHANICAL LEGEND

DRAWING LIST - MECHANICAL

ABBREVIATION		APPARATUS		SHEET METAL		PIPING	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AAV	AUTOMATIC AIR VENT	(Z)	SMOKE DETECTOR		DOUBLE-LINE CONVENTION		ANGLE GLOBE VALVE
AC	AIR CONDITIONING	(P)	PRESSURE GAUGE - INSTALL WITH BALL VALVE		SUPPLY DUCT UP - SIZE IN INCHES (WxH)		AUTOMATIC AIR VENT
ACV	AUTOMATIC CONTROL VALVE	(H)	HUMIDISTAT		SUPPLY DUCT DOWN		BALANCING VALVE
AD	ACCESS DOOR	(T)	THERMOSTAT		EXHAUST OR RETURN DUCT UP		BALL VALVE
AFM	AIR FLOW MEASURING DEVICE	(TS)	TEMPERATURE SENSOR		EXHAUST OR RETURN DUCT DOWN		BALL VALVE WITH HOSE END
AF	ABOVE FINISHED FLOOR	(M)	MOTOR		FLEXIBLE DUCTWORK		BUCKET TRAP
AHU	AIR HANDLING UNIT	(C)	CARBON DIOXIDE SENSOR		CHANGE OF ELEVATION R = RISE D = DROP		BUTTERFLY VALVE
ALD	ACOUSTICALLY LINED DUCT	(P)	PRESSURE SENSOR		TURNING VANES (TYP FOR MITERED ELBOWS)		CAPPED PIPE
ASJ	ALL SERVICE JACKET	(T)	TEMPERATURE SENSOR		DUCT SILENCER		CHEMICAL TREATMENT
BDD	BACKDRAFT DAMPER	(F)	FLOW SENSOR		ACCESS DOOR		CHILLED WATER SUPPLY
BOD	BOTTOM OF DUCT	(H)	HUMIDITY SENSOR		CAP DUCT		CHILLED WATER RETURN
BTU	BRITISH THERMAL UNIT	(S)	SWITCH		LOUVER		COMBINATION BALANCING, FLOW MEASURING, AND SHUT OFF VALVE (CIRCUIT SETTER)
BTUH	BRITISH THERMAL UNIT PER HOUR	(M)///	PARALLEL BLADE MOTORIZED DAMPER		CEILING SUPPLY DIFFUSER		CONDENSATE DRAIN
BD	DRY BULB TEMPERATURE, °F	(M)\\	OPPOSED BLADE MOTORIZED DAMPER		CEILING RETURN OR EXHAUST GRILLE		CONNECTION ON BOTTOM OF PIPE
CL	CENTERLINE	(L)	LOUVER		EXHAUST OR RETURN DOWN		CONNECTION ON TOP OF PIPE
CFD	COUNTERBALANCED DAMPER	(XX)	EQUIPMENT TAGS		EXHAUST OR RETURN UP		DIRECTION OF FLOW
CHWS	CHILLED WATER SUPPLY	(AC)	AIR CONDITIONER		SUPPLY DUCT DOWN		DIRECTION OF PITCH
CO	CARBON MONOXIDE	(AHU)	AIR HANDLING UNIT		SUPPLY DUCT UP		DOMESTIC WATER
CO2	CARBON DIOXIDE	(B)	BOILER		CAP DUCT		DRAIN LINE
CU	CONDENSING UNIT	(CP)	CONDENSATE PUMP		EXISTING ITEM TO REMAIN		ELECTRICAL LINE
CV	CONSTANT VOLUME	(CU)	CONDENSING UNIT		EXISTING ITEM TO BE REMOVED		EXPANSION JOINT
CFM	CUBIC FEET PER MINUTE	(DF)	DUCT FURNACE		NEW ITEM		FILL
CTE	CONNECT TO EXISTING	(EBB)	ELECTRIC BASEBOARD HEATER		HIDDEN ITEM		FLEXIBLE CONNECTION
CW	COLD WATER	(EF)	EXHAUST FAN		CONTROL WIRING		FLOAT & THERMOSTATIC TRAP
CWR	CONDENSATE WATER RETURN	(EH)	ELECTRIC HEATER		DIAMETER		FUEL OIL RETURN
CWS	CONDENSATE WATER SUPPLY	(ERV)	ENERGY RECOVERY VENTILATOR		RETURN/EXHAUST AIR FLOW DIRECTION		FUEL OIL SUPPLY
D	DAMPERS	(EUH)	ELECTRIC UNIT HEATER		SUPPLY AIR FLOW DIRECTION		FUSIBLE LINK VALVE
DB	DRY BULB TEMPERATURE, °F	(F)	FAN - CEILING PADDLE TYPE		UNDERCUT DOOR		GAS PIPING
Db	DEGREES	(FC)	FAN COIL UNIT		UNDERCUT DOOR		GATE OR BALL VALVE
DEG	DEGREES FAHRENHEIT	(FN)	FURNACE		UNDERCUT DOOR		GLOBE VALVE
DEG. F	DEGREES FAHRENHEIT	(GUAH)	GAS UNIT HEATER		UNDERCUT DOOR		CONDENSATE WATER RETURN
DF	DUCT FURNACE	(HP)	HEAT PUMP		UNDERCUT DOOR		CONDENSATE WATER SUPPLY
DIA	DIAMETER	(HRL)	HEAT RECOVERY UNIT		UNDERCUT DOOR		GLYCOL RETURN
DN	DOWN	(HRV)	HEAT RECOVERY VENTILATOR		UNDERCUT DOOR		GLYCOL SUPPLY
DP	DEW POINT TEMPERATURE, °F	(MUA)	MAKE UP AIR UNIT		UNDERCUT DOOR		HEATING WATER SUPPLY
DX	DIRECT EXPANSION	(P)	PUMP		UNDERCUT DOOR		HEATING WATER RETURN
E	EXISTING, EXHAUST	(RF)	RETURN FAN		UNDERCUT DOOR		LOW PRESSURE STEAM
EA	EXHAUST AIR	(RTU)	ROOF TOP UNIT		UNDERCUT DOOR		LOW PRESSURE CONDENSATE
EAT	ENTERING AIR TEMPERATURE	(UH)	UNIT HEATER		UNDERCUT DOOR		MANUAL AIR VENT
EBB	ELECTRIC BASEBOARD HEATER	(S-1)	UPPER VALUE - DEVICE TYPE / TAG #		UNDERCUT DOOR		NON-SLAM CHECK VALVE
EC	ELECTRIC COIL, EVAPORATOR COIL	(CFM)	LOWER VALUE - AIR FLOW QUANTITY IN CFM		UNDERCUT DOOR		OS&Y VALVE
EDB	ENTERING DRY BULB	(L-1)	LOUVER		UNDERCUT DOOR		PIPE ANCHOR
EF	EXHAUST FAN	(T-1)	TRANSFER GRILLE OR REGISTER		UNDERCUT DOOR		PIPE DROP
ERV	ENERGY RECOVERY VENTILATOR	(D-1)	DISPLACEMENT DIFFUSER		UNDERCUT DOOR		PIPE RISER
ESP	EXTERNAL STATIC PRESSURE (INCHES WATER GAUGE)	(S-1)	SUPPLY DIFFUSER		UNDERCUT DOOR		PIPE GUIDE
EH	ELECTRIC HEATER	(R-1)	RETURN GRILLE OR REGISTER		UNDERCUT DOOR		PNEUMATIC AIR LINE
EH	ELECTRIC HEATER	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		PRESSURE REDUCING VALVE
ET	EXPANSION TANK	(F-1)	FAN		UNDERCUT DOOR		PUMP
EUH	ELECTRIC UNIT HEATER	(RTU)	ROOF TOP UNIT		UNDERCUT DOOR		REFRIGERANT LIQUID
EWB	ENTERING WET BULB	(UH)	UNIT HEATER		UNDERCUT DOOR		REFRIGERANT SUCTION
EWT	ENTERING WATER TEMPERATURE	(L-1)	LOUVER		UNDERCUT DOOR		REDUCER - CONCENTRIC
EXH	EXHAUST	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		REDUCER - ECCENTRIC
EXIST	EXISTING	(S-1)	UPPER VALUE - DEVICE TYPE / TAG #		UNDERCUT DOOR		SAFETY VALVE OR PRESSURE RELIEF
(E)	EXISTING	(CFM)	LOWER VALUE - AIR FLOW QUANTITY IN CFM		UNDERCUT DOOR		SOLENOID VALVE
F	FAHRENHEIT	(L-1)	LOUVER		UNDERCUT DOOR		SPRING CHECK VALVE
FC	FLEXIBLE CONNECTOR	(T-1)	TRANSFER GRILLE OR REGISTER		UNDERCUT DOOR		STRAINER (WITH 3/4" BLOW-OFF VALVE)
FD	FIRE DAMPER	(D-1)	DISPLACEMENT DIFFUSER		UNDERCUT DOOR		SWING CHECK VALVE
FLA	FULL LOAD AMPS	(S-1)	SUPPLY DIFFUSER		UNDERCUT DOOR		THERMOSTATIC TRAP
FN	FURNACE	(R-1)	RETURN GRILLE OR REGISTER		UNDERCUT DOOR		THREE-WAY AUTOMATIC CONTROL VALVE (ACV) ELECTRIC OR ELECTRONIC
FPM	FEET PER MINUTE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		TRIPLE-DUTY VALVE (COMBINATION CHECK, FLOW MEASURING, BALANCING VALVE, AND SHUT OFF)
FSK	FOIL-SCRIM-KRAFT	(F-1)	FAN		UNDERCUT DOOR		TWO-WAY AUTOMATIC CONTROL VALVE (ACV) ELECTRIC OR ELECTRONIC
FT	FEET	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		UNION OR FLANGE
FT. WG	FEET WATER GAUGE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
F&T	FLOAT & THERMOSTAT	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
FTR	FIN TUBE RADIATION	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
GAL	GALLONS	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
GALV	GALVANIZED	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
GPH	GALLONS PER HOUR	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
GPM	GALLONS PER MINUTE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
GSR	GEOTHERMAL SOURCE RETURN	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
GSS	GEOTHERMAL SOURCE SUPPLY	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HG	HOT GAS PIPING	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HRU	HEAT RECOVERY UNIT	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HRV	HEAT RECOVERY VENTILATOR	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HWP	HOT WATER PUMP	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HWR	HEATING WATER RETURN	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HWS	HEATING WATER SUPPLY	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HP	HORSEPOWER; HEAT PUMP	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
HW	HOT WATER	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
IN.	INCHES	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
IN. WG	INCHES WATER GAUGE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
L	LOUVER	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
LAT	LEAVING AIR TEMPERATURE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
LBS	POUNDS	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
LDB	LEAVING DRY BULB	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
LWT	LEAVING WATER TEMPERATURE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MAX	MAXIMUM	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MBH	THOUSAND BTU PER HOUR	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MCA	MINIMUM CIRCUIT AMPACITY	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MD	MOTORIZED DAMPER	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MFR	MANUFACTURER	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MIN	MINIMUM	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MOC	MAXIMUM OVER CURRENT PROTECTION	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
MUA	MAKE-UP AIR	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
NC	NOISE CRITERIA	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
NC	NORMALLY CLOSED	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
NEC	NATIONAL ELECTRIC CODE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
NIC	NOT IN CONTRACT	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION
NO	NORMALLY OPEN, NITROGEN DIOXIDE	(E-1)	EXHAUST GRILLE OR REGISTER		UNDERCUT DOOR		FINNED TUBE RADIATION DESIGNATION

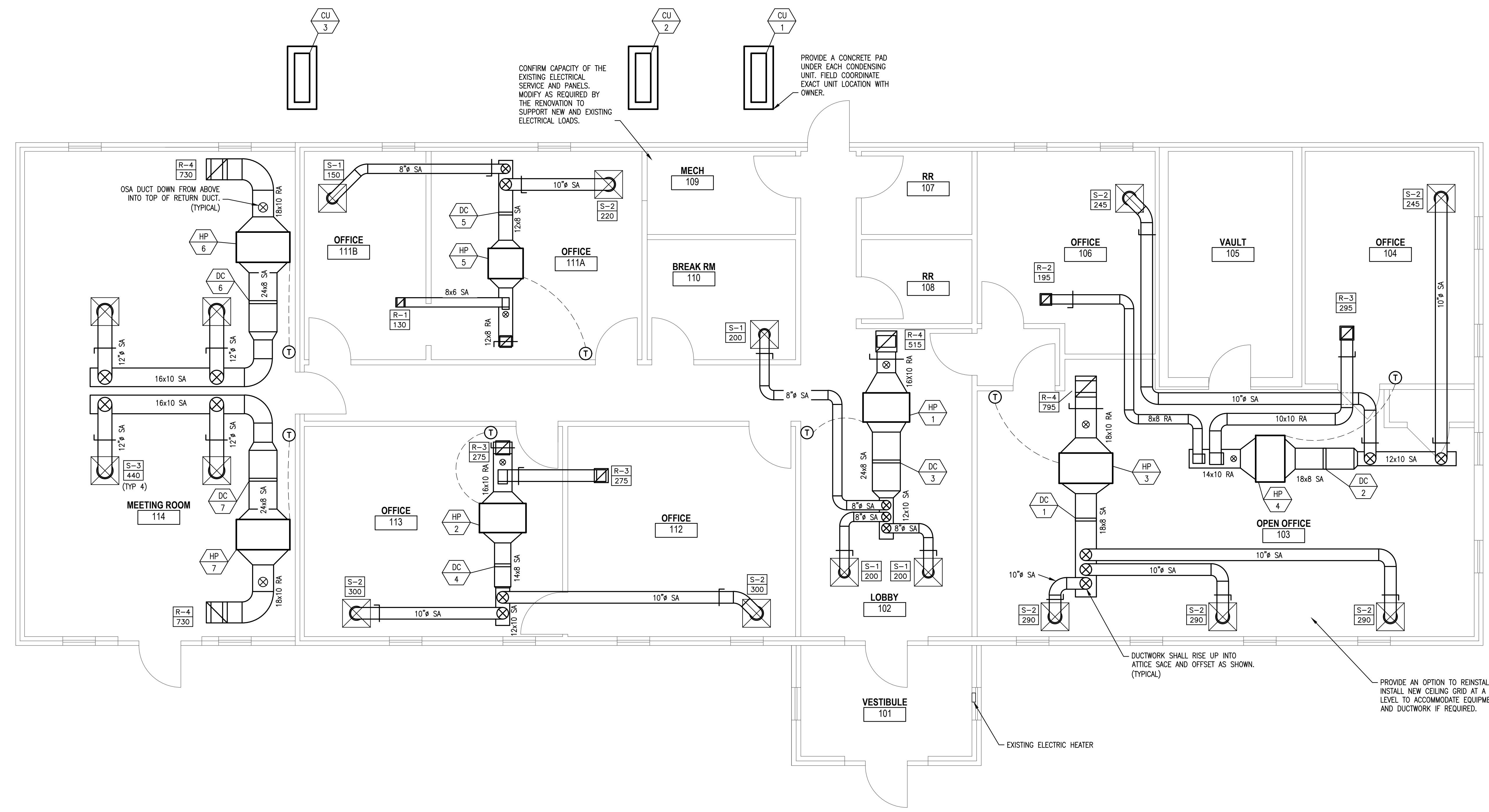


- GENERAL NOTES**
1. FIELD COORDINATE ALL DUCT ROUTING.
 2. ATTIC IS INSULATED AT THE ROOF LINE.
 3. CUT NEAT HOLES THROUGH GYPSUM CEILING LOCATED AT THE BOTTOM CORNER OF THE ROOF STRUCTURE. SEAL OPENINGS MADE BY THE DUCT PENETRATIONS.



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CONFIRM CAPACITY OF THE EXISTING ELECTRICAL SERVICE AND PANELS. MODIFY AS REQUIRED BY THE RENOVATION TO SUPPORT NEW AND EXISTING ELECTRICAL LOADS.

PROVIDE A CONCRETE PAD UNDER EACH CONDENSING UNIT. FIELD COORDINATE EXACT UNIT LOCATION WITH OWNER.

DUCTWORK SHALL RISE UP INTO ATTIC SPACE AND OFFSET AS SHOWN. (TYPICAL)

PROVIDE AN OPTION TO REINSTALL OR INSTALL NEW CEILING GRID AT A LOWER LEVEL TO ACCOMMODATE EQUIPMENT AND DUCTWORK IF REQUIRED.

EXISTING ELECTRIC HEATER

1 FLOOR PLAN - DUCTWORK
 M1.1 SCALE: 1/8"=1'-0"

KEY PLAN:
 PROJECT TITLE / ADDRESS:
TOWN OF POLAND, ME
POLAND TOWN OFFICE
HVAC MODIFICATIONS
 1231 Maine Street
 Poland, ME 04274

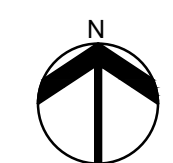
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SHEET TITLE:
FLOOR PLAN
DUCTWORK



M1.1



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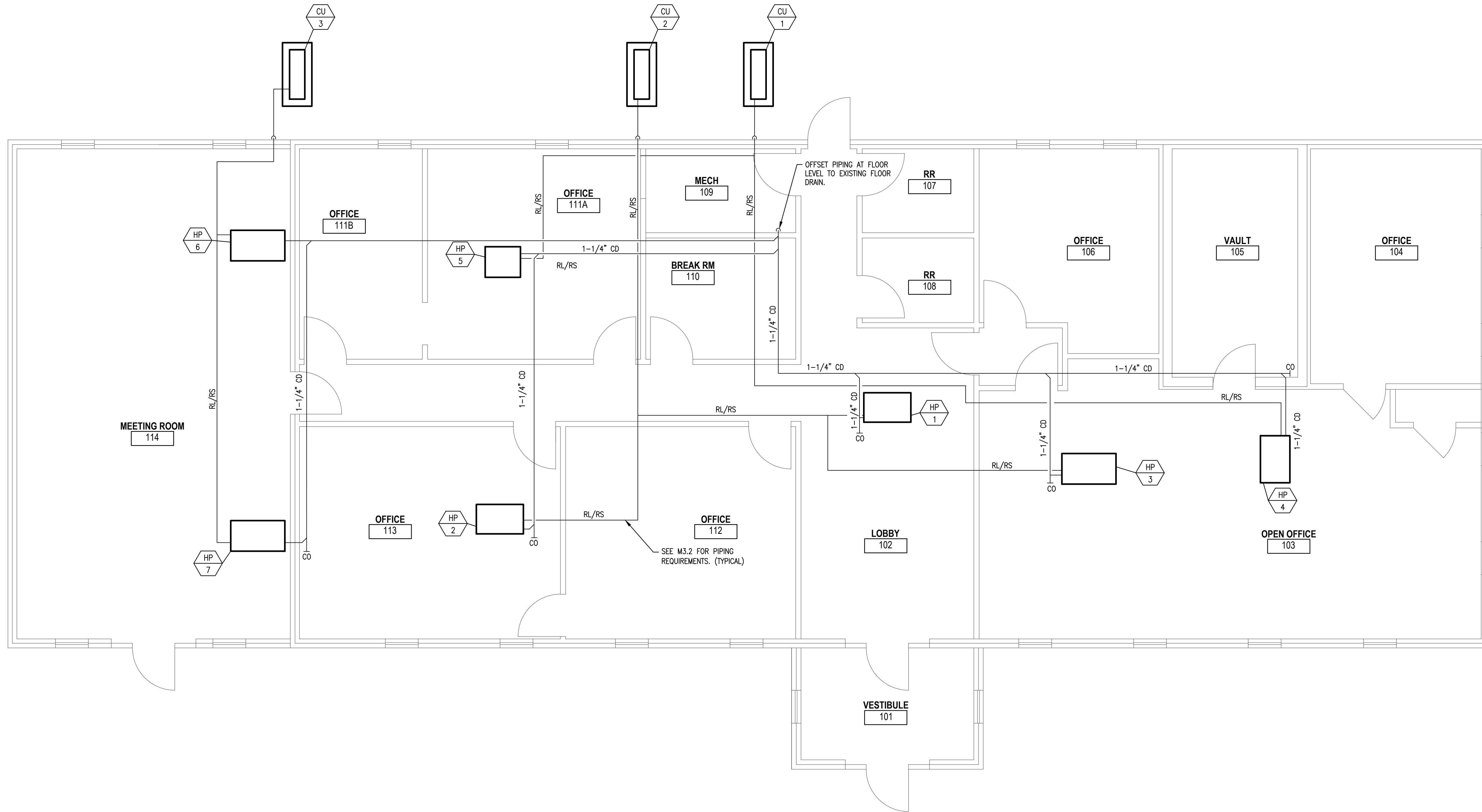
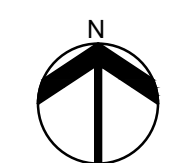
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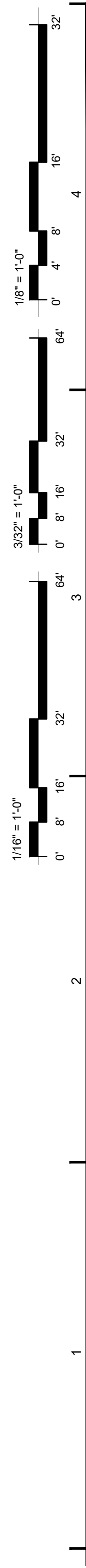
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SHEET TITLE:
FLOOR PLAN
REFRIGERANT &
CONDENSATE

M1.2



1
M1.2 FLOOR PLAN - REFRIGERANT & CONDENSATE
SCALE: 1/8"=1'-0"



A | B | C | D | E | F



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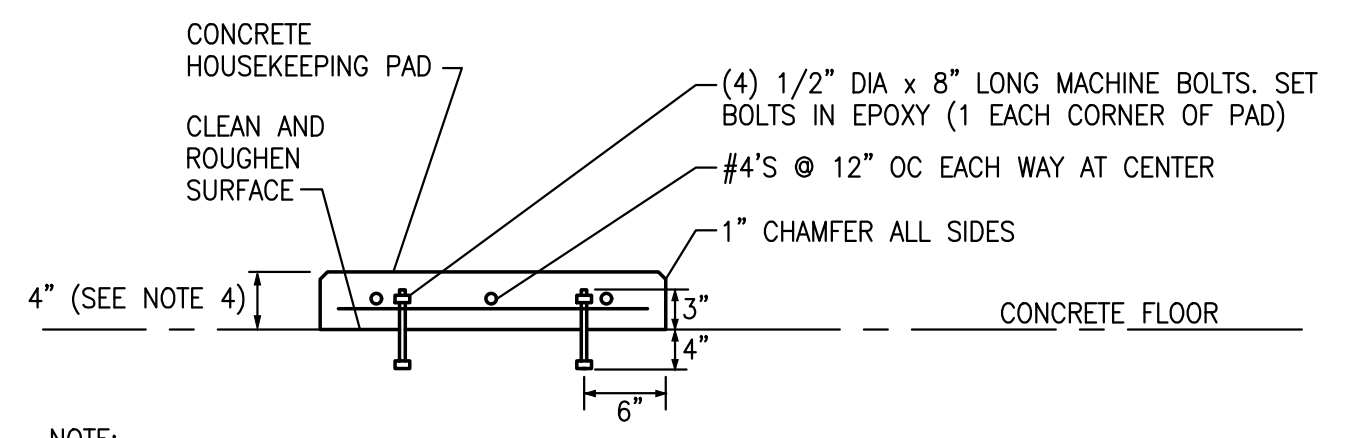
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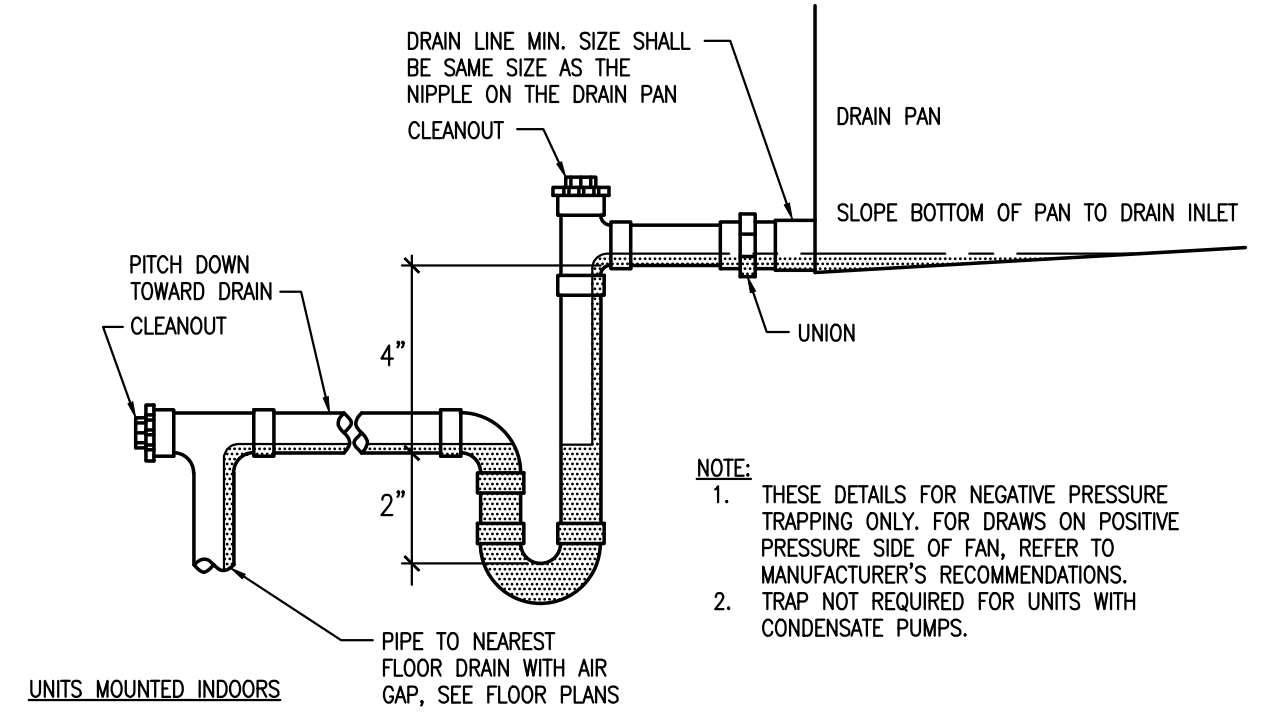
SHEET TITLE:
DETAILS
SHEET 1 OF 2

M3.1



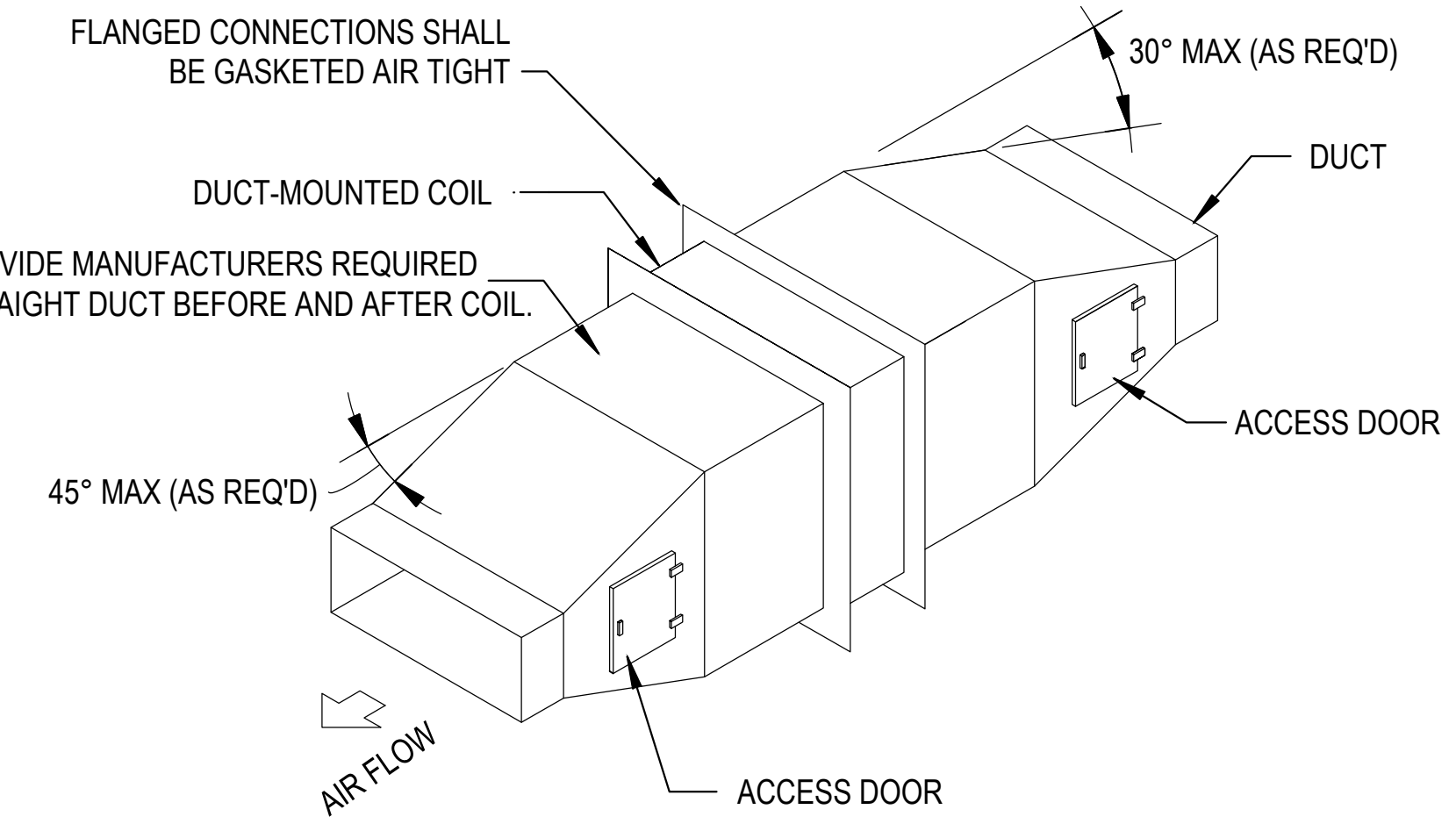
11 CONCRETE HOUSEKEEPING PAD
 M3.1 NOT TO SCALE

NOTE:
 1. HOUSEKEEPING PADS SHALL BE NORMAL WEIGHT PORTLAND CEMENT CONCRETE HAVING A MINIMUM COMPRESSIBLE STRENGTH OF 3000 PSI AT 28 DAYS MEETING ASTM C150 TYPE I OR II. MAXIMUM COURSE AGGREGATE SIZE SHALL BE 3/4". THE WATER-CEMENT RATIO SHALL NOT BE GREATER THAN 0.5; SLUMP SHALL NOT EXCEED 4 IN.
 2. ANCHOR BOLTS SHALL MEET ASTM DESIGNATION A307.
 3. REINFORCING SHALL BE ASTM A615 GRADE 60.
 4. HEIGHT AS DETAILED UNLESS OTHERWISE INDICATED.

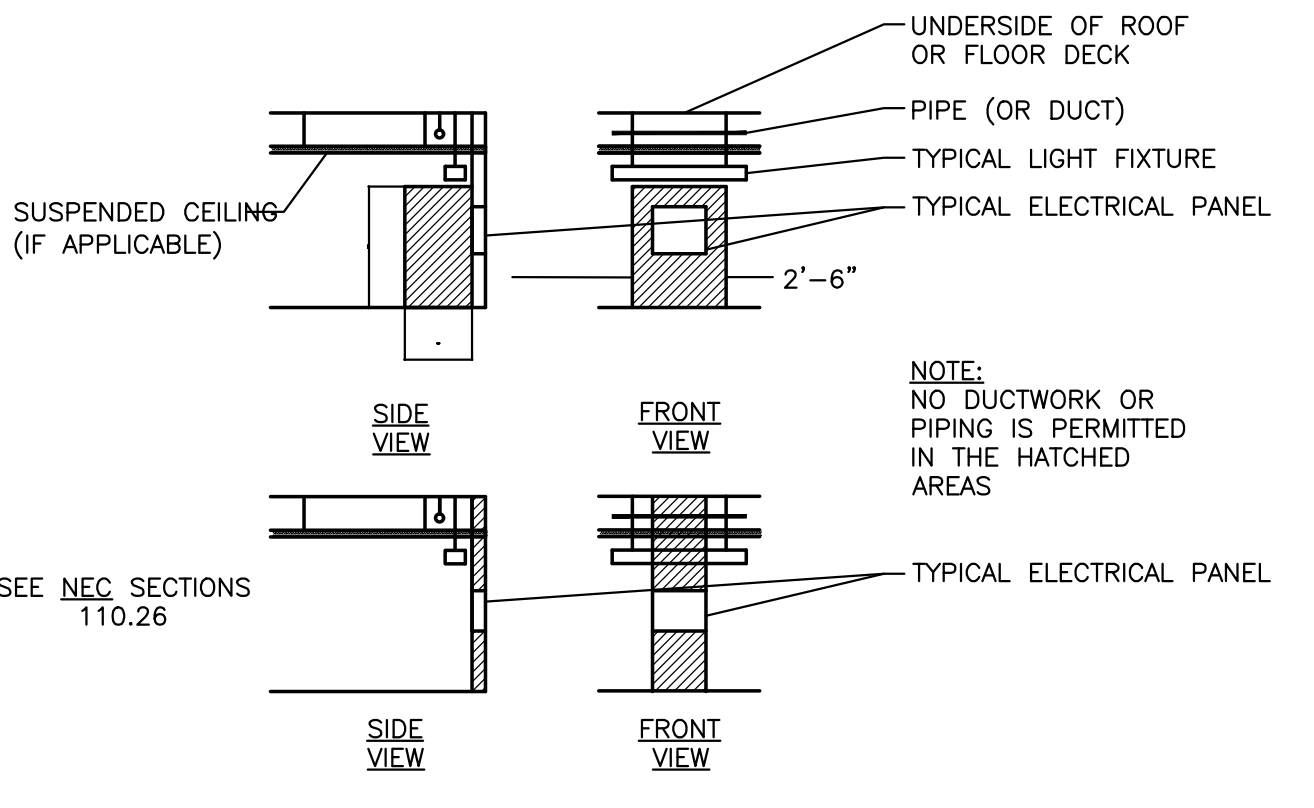


10 DETAIL - CONDENSATE DRAIN TRAPS
 M3.1 NOT TO SCALE

NOTE:
 1. THESE DETAILS FOR NEGATIVE PRESSURE TRAPPING ONLY. FOR DRAWS ON POSITIVE PRESSURE SIDE OF FAN, REFER TO MANUFACTURER'S RECOMMENDATIONS.
 2. TRAP NOT REQUIRED FOR UNITS WITH CONDENSATE PUMPS.

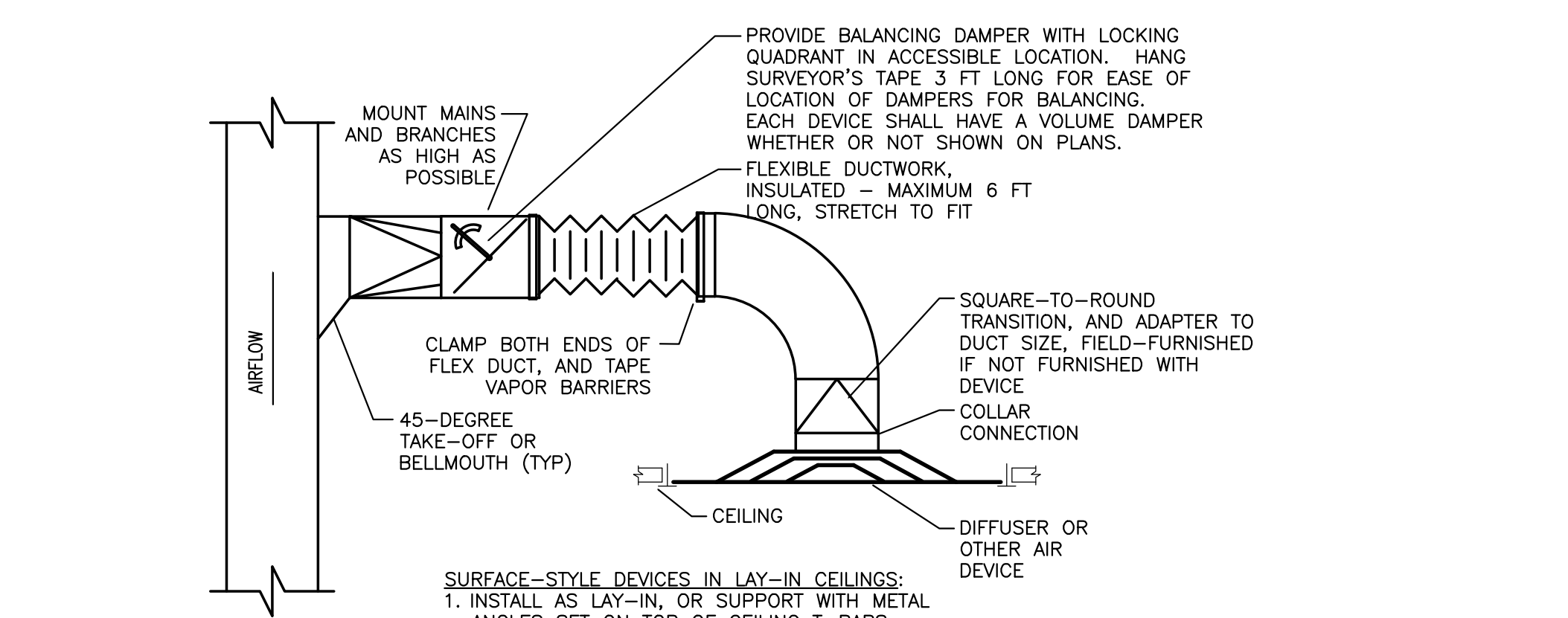


9 DUCT MOUNTED ELECTRIC REHEAT COIL
 M3.1 NOT TO SCALE

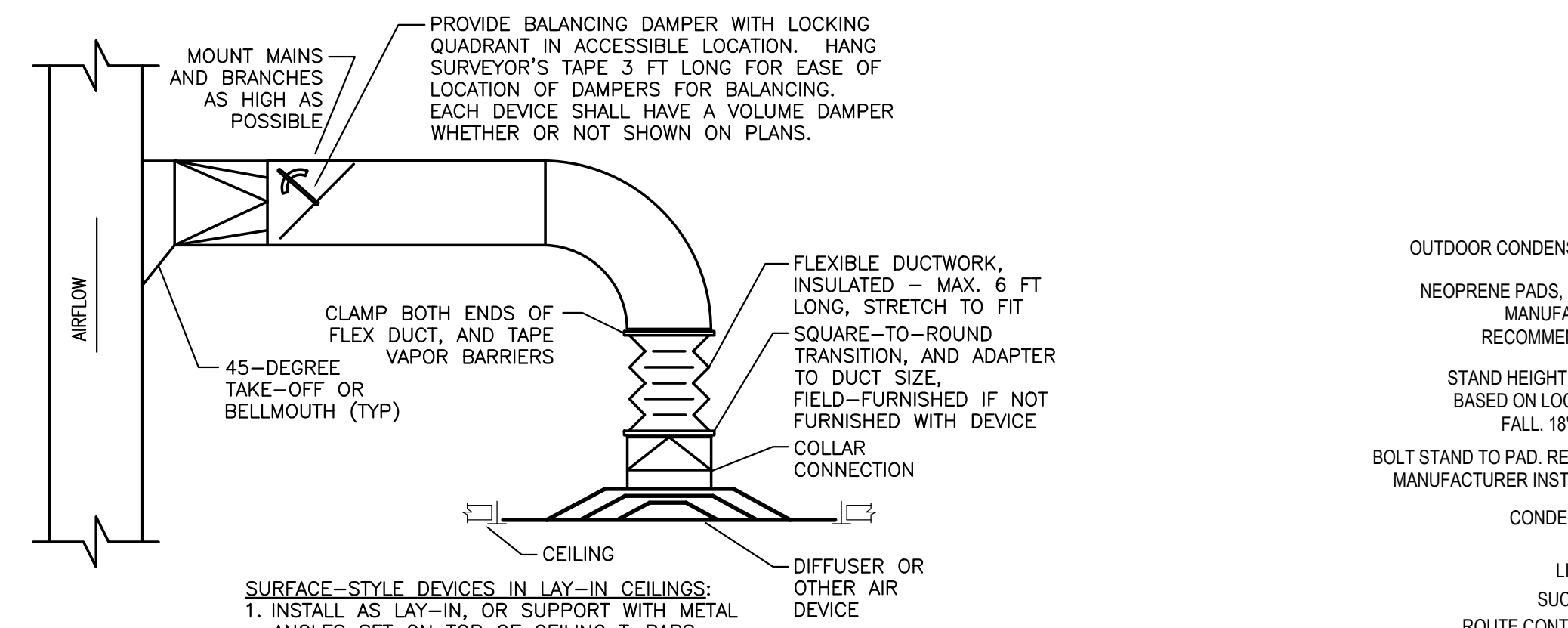


8 MIN. CLEARANCES AT ELECTRICAL PANELS
 M3.1 NOT TO SCALE

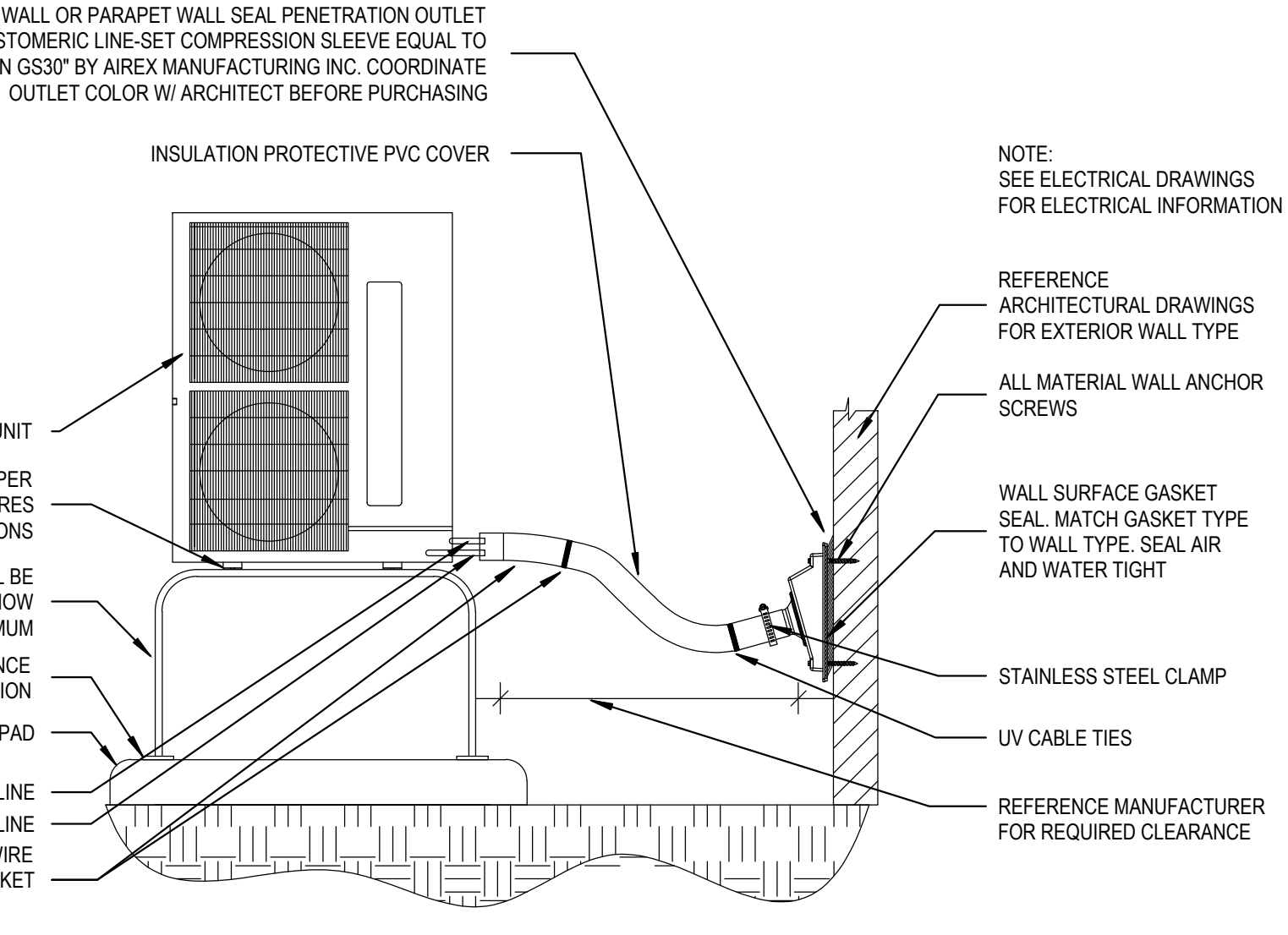
NOTE:
 NO DUCTWORK OR PIPING IS PERMITTED IN THE HATCHED AREAS



7 DUCTWORK RUNOUT TO CEILING AIR DEVICE
 M3.1 NOT TO SCALE

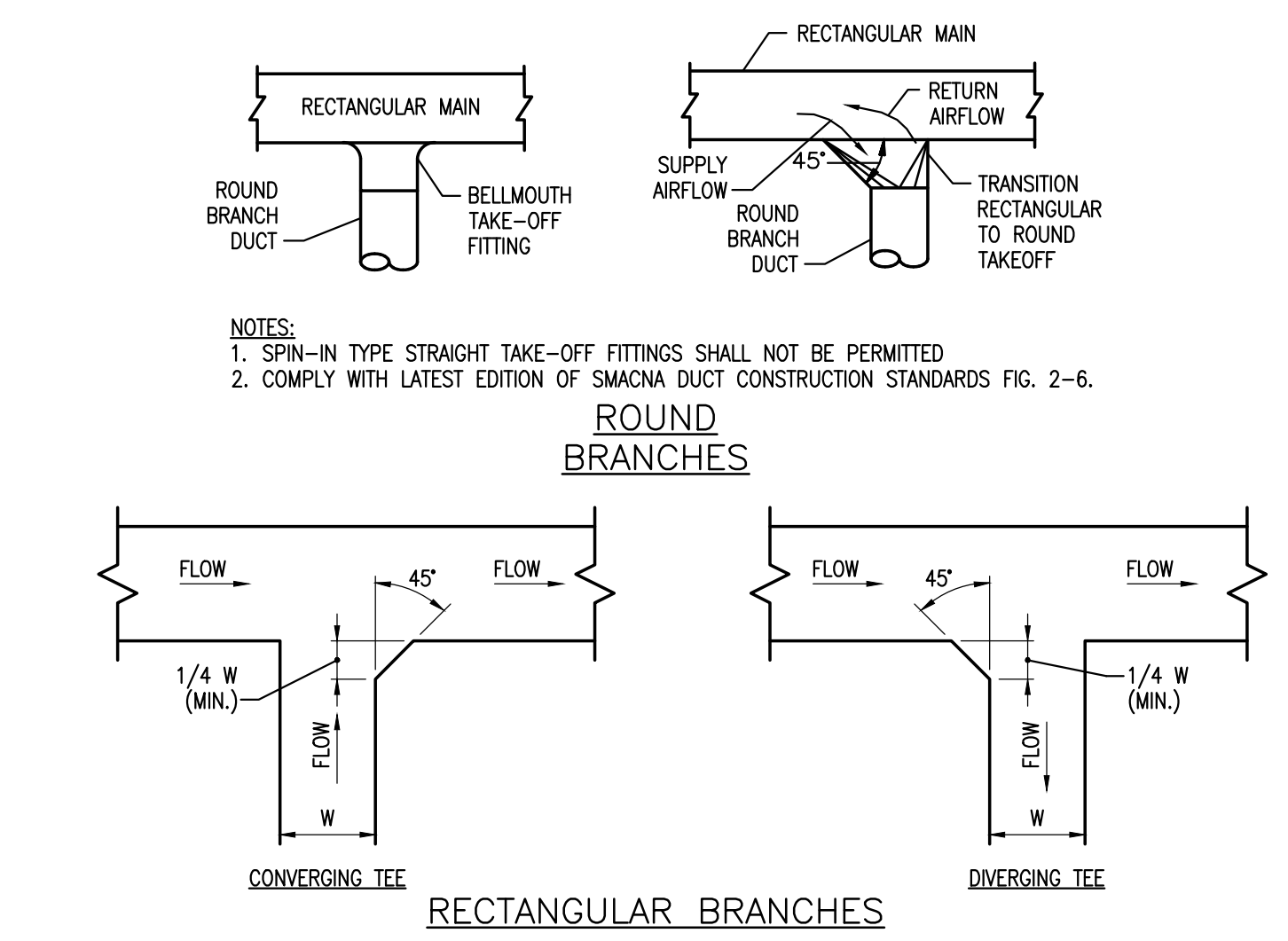


6 DUCTWORK RUNOUT TO CEILING AIR DEVICE
 M3.1 NOT TO SCALE

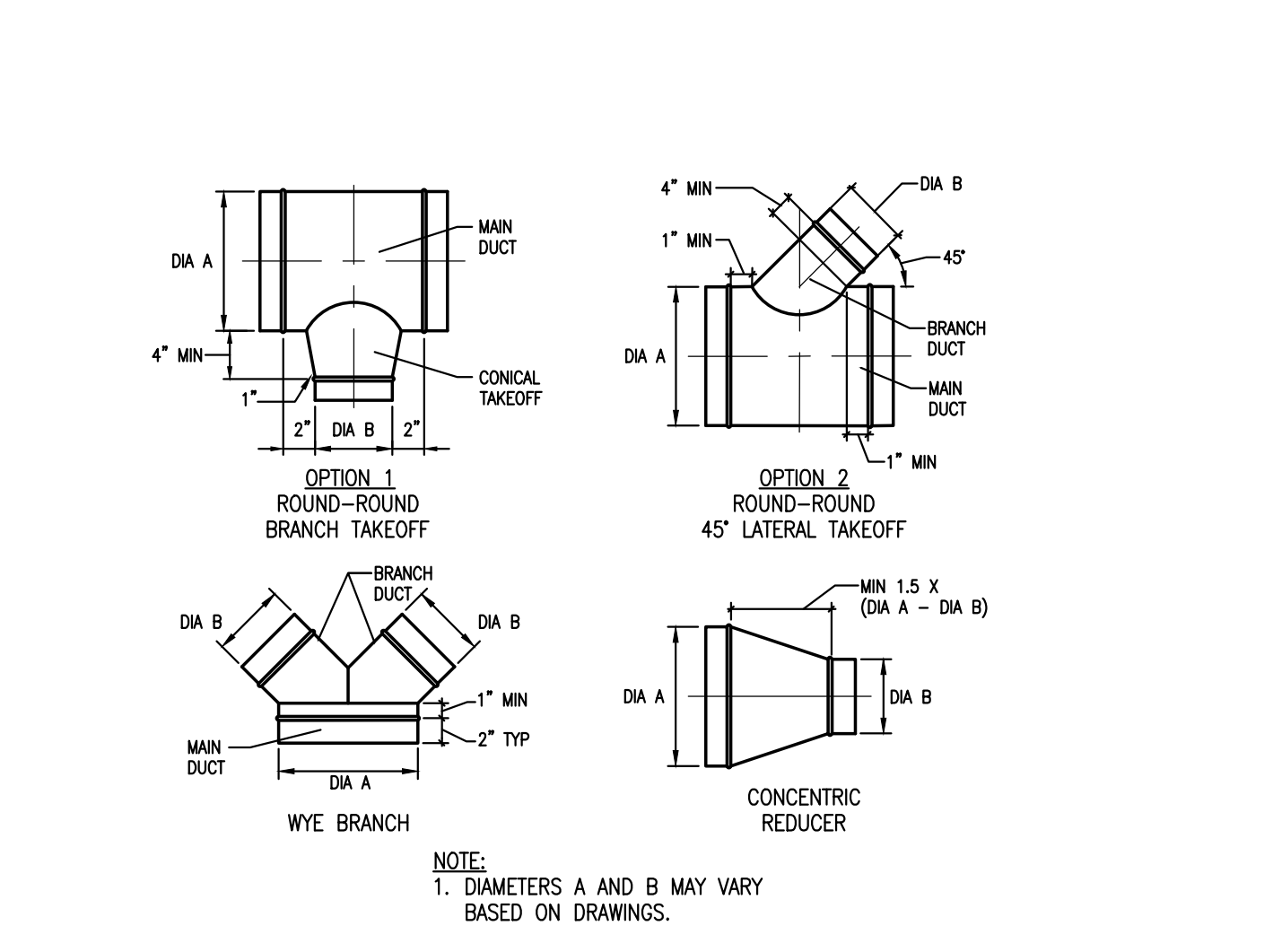


5 CONDENSING UNIT/REFRIGERANT PIPING DIAGRAM
 M3.1 NOT TO SCALE

NOTE:
 SEE ELECTRICAL DRAWINGS FOR ELECTRICAL INFORMATION
 REFERENCE ARCHITECTURAL DRAWINGS FOR EXTERIOR WALL TYPE
 ALL MATERIAL WALL ANCHOR SCREWS
 WALL SURFACE GASKET SEAL MATCH GASKET TYPE TO WALL TYPE. SEAL AIR AND WATER TIGHT
 STAINLESS STEEL CLAMP
 UV CABLE TIES
 REFERENCE MANUFACTURER FOR REQUIRED CLEARANCE

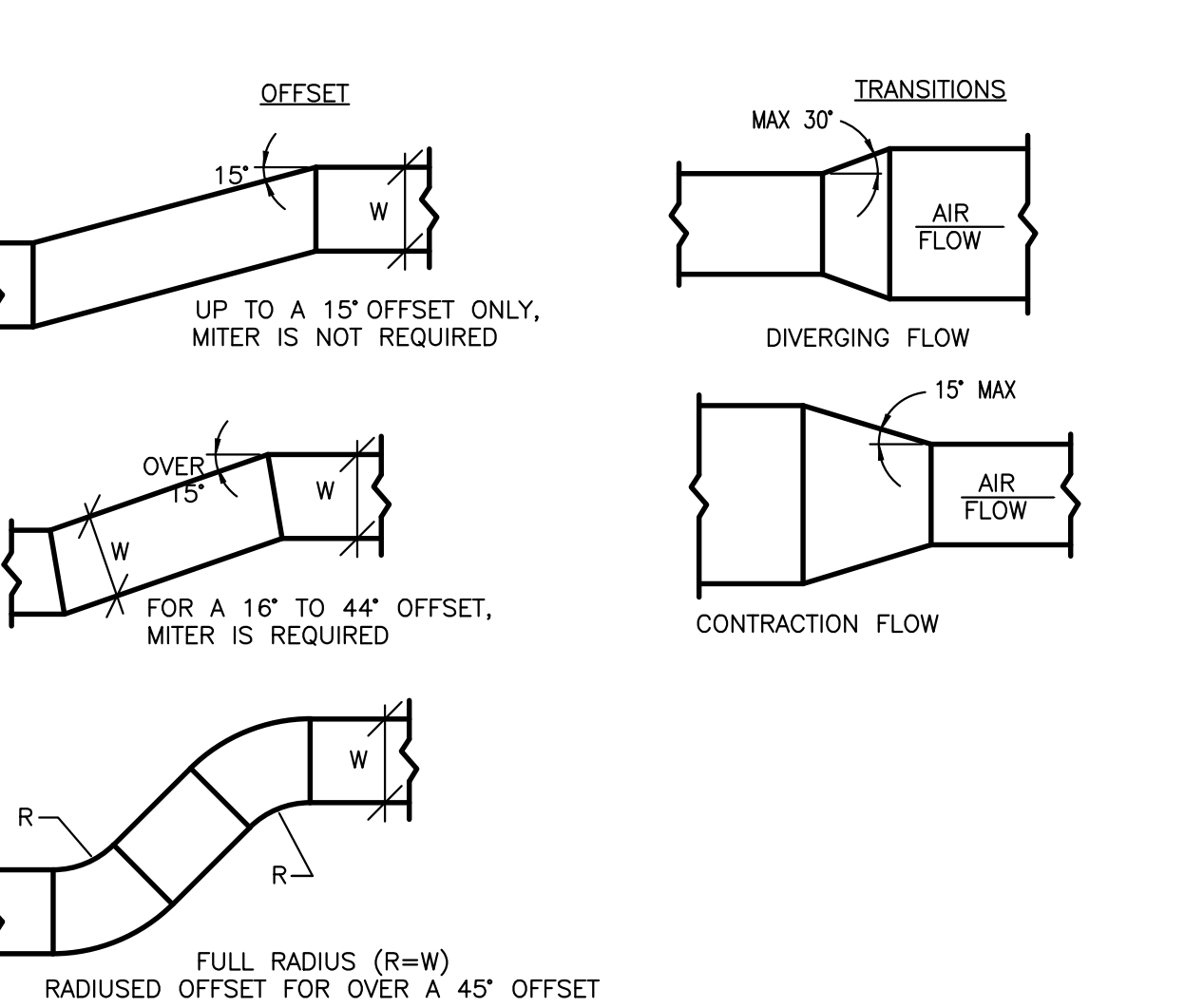


4 DUCT TEES TO RECTANGULAR MAINS
 M3.1 NOT TO SCALE



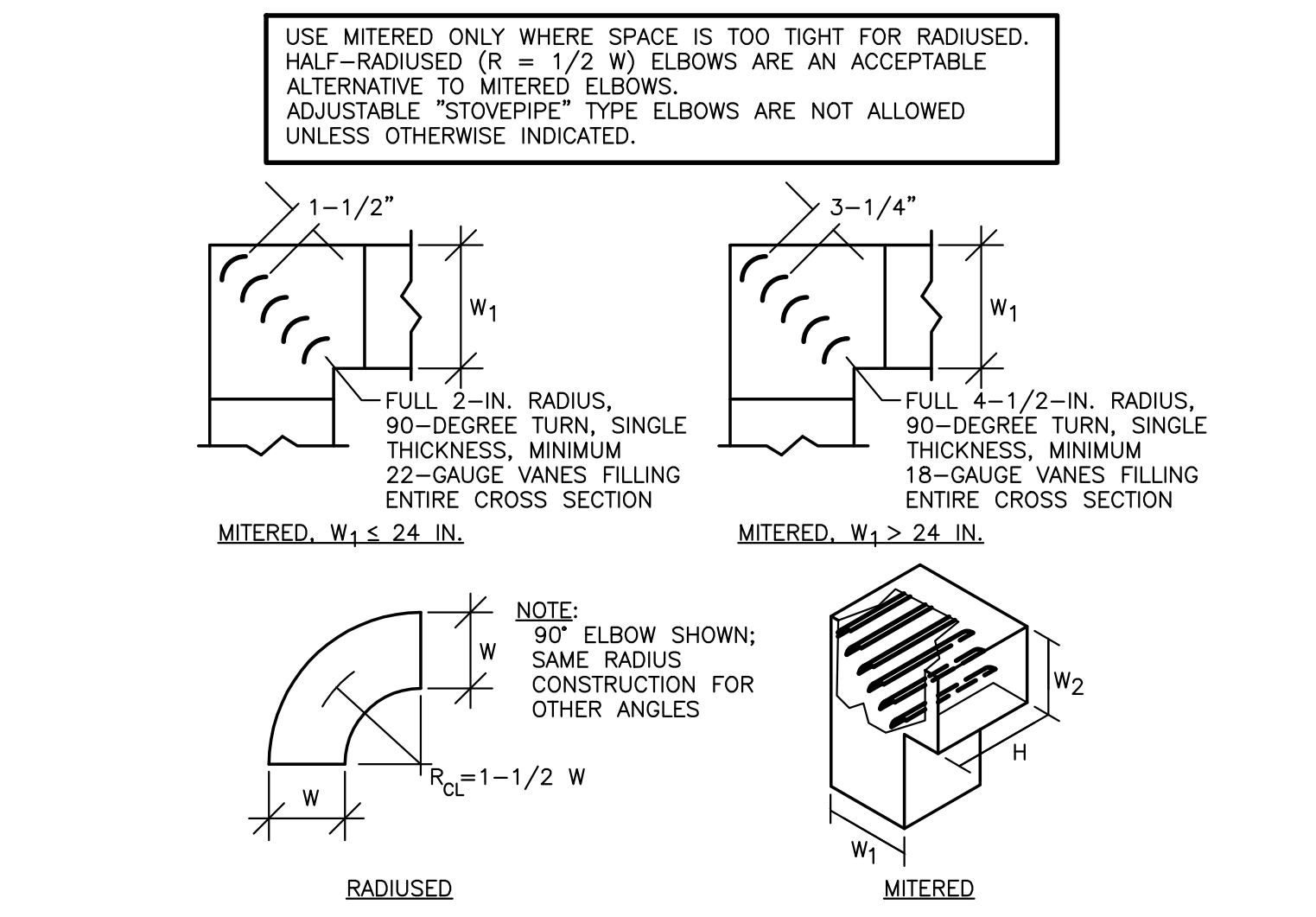
3 TYPICAL ROUND DUCT FITTINGS
 M3.1 NOT TO SCALE

NOTE:
 1. DIAMETERS A AND B MAY VARY BASED ON DRAWINGS.



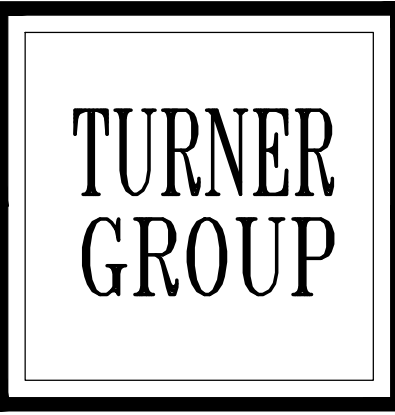
2 DUCTWORK TRANSITIONS
 M3.1 NOT TO SCALE

DUCTWORK SHALL CONFORM TO SMACNA STANDARDS AND AS SHOWN IN THIS DETAIL



1 DUCT ELBOWS
 M3.1 NOT TO SCALE

DUCTWORK SHALL CONFORM TO SMACNA STANDARDS AND AS INDICATED IN THIS DETAIL



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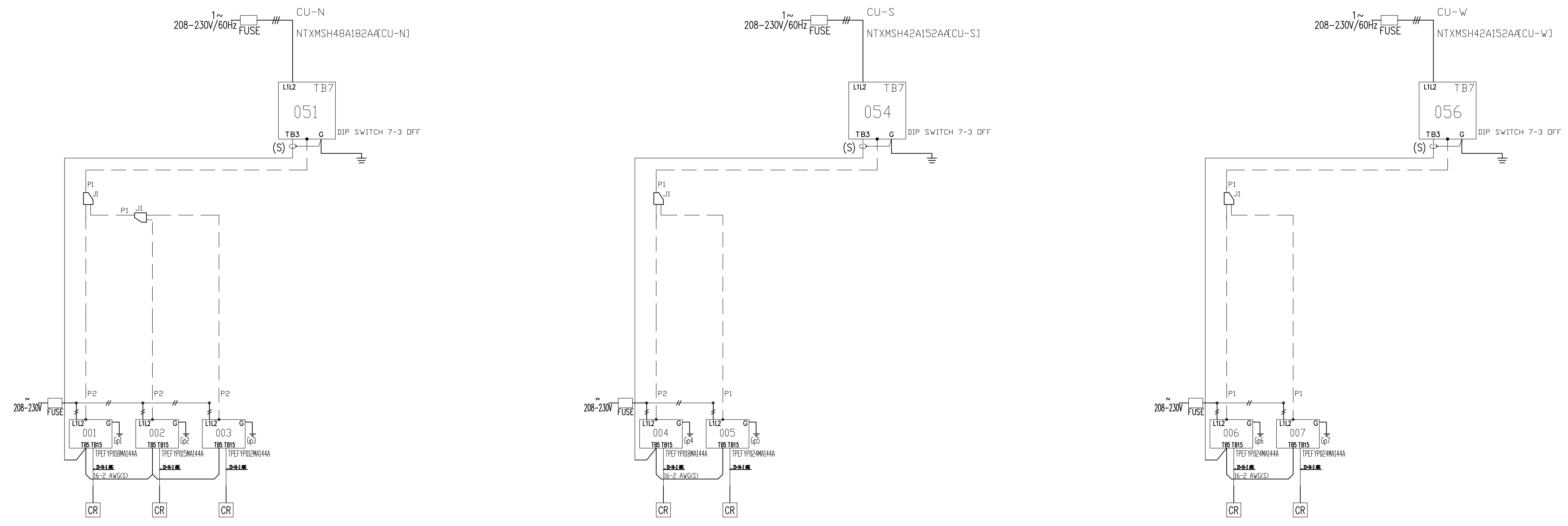
4
3
2
1

DIAGRAM	SYMBOL LEGEND	CONT.No	PAGE
DISPLAY	DESCRIPTION		
---	POWER WIRE		
---	CONTROL WIRE		
---	REF. PIPE		

CITY MULTI
SYSTEM SCHEMATIC DWG.

This drawing is schematic in nature. Final routing of piping & wiring shall be determined by the installing contractor and/or designer of record. Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm²(16 AWG) : 1.25mm²(16 AWG) or more. 0.75mm²(20 AWG) : between 0.5mm²(24 AWG) and 0.75mm²(20 AWG).

PIPING AND CONTROLS	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-Y62-G-F
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	3/8 / 5/8
P2	1/4 / 1/2
SYMBOL	MODEL NUMBER
CR	TAC-Y153CRAU-J



Diamond System Builder
sw: 4.4.2.17
olo: 4.4.2.5
7/29/2022
10:56 AM

AC-1, AC-4, AC-5

AC-2, AC-3

AC-6, AC-7

REMARKS
Comments:

KEY PLAN:
PROJECT TITLE / ADDRESS:
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POLAND TOWN OFFICE
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DETAILS
SHEET 2 OF 2

M3.2

A B C D E F



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VRF INDOOR UNIT SCHEDULE																							
TAG	SERVES	SYSTEM	UNIT TYPE	COOLING (BTUH)		HEATING (BTUH)	SUPPLY AIRFLOW (CFM)	FAN OUTSIDE AIRFLOW (CFM)	ESP (IN. WG)	DRAIN (IN.)	FILTERS		UNIT ELECTRICAL					DIMENSIONS (W x D x H) (IN.)	WEIGHT (LBS)	MANUFACTURER	MODEL	NOTES	
				TOTAL	SENSIBLE						MERV-A	THICK (IN.)	SOUND dB(A)	VOLTS	PH	HZ	MCA						MFS
HP-1	LOBBY & BREAKROOM	CU-1	DUCTED	15,835	13,090	17,981	600	85	0.6	1-1/4	13	2	37	208/230	1	60	2.94	15	40x25.57x9.875	60	DAIKIN	TPEFY018MA144A	1,2,3,4,5
HP-2	112 OFFICE & 113 OFFICE	CU-1	DUCTED	15,835	13,090	17,174	600	50	0.6	1-1/4	13	2	37	208/230	1	60	2.94	15	35.44x27.57x9.875	60	DAIKIN	TPEFY018MA144A	1,2,3,4,5
HP-3	OPEN OFFICE	CU-1	DUCTED	21,113	18,345	23,185	870	75	0.6	1-1/4	13	2	39	208/230	1	60	2.88	15	46.31x27.57x9.875	70	DAIKIN	TPEFY024MA144A	1,2,3,4,5
HP-4	104 OFFICE & 106 OFFICE	CU-2	DUCTED	13,196	10,845	15,284	490	50	0.6	1-1/4	13	2	34	208/230	1	60	2.88	15	35.44x27.57x9.875	60	DAIKIN	TPEFY015MA144A	1,2,3,4,5
HP-5	111A & 111B OFFICE	CU-2	DUCTED	10,556	7,970	12,137	370	40	0.6	1-1/4	13	2	34	208/230	1	60	2.13	15	27.56x27.57x9.875	50	DAIKIN	TPEFY012MA144A	1,2,3,4,5
HP-6	MEETING	CU-3	DUCTED	21,113	18,345	20,179	880	150	0.6	1-1/4	13	2	39	208/230	1	60	2.88	15	46.31x27.57x9.875	70	DAIKIN	TPEFY024MA144A	1,2,3,4,5
HP-7	MEETING	CU-3	DUCTED	21,113	18,345	20,179	880	150	0.6	1-1/4	13	2	39	208/230	1	60	2.88	15	46.31x27.57x9.875	70	DAIKIN	TPEFY024MA144A	1,2,3,4,5

NOTES:
 1. RATED TEMPERATURES: COOLING EAT, 80 DB / 67 WB INDOORS, 95 DB OUTDOORS. HEATING, 70 DB INDOORS, 43 DB OUTDOORS.
 2. CONDENSATE DRAIN: CEILING UNITS: PROVIDE CONDENSATE PUMP AS SPECIFIED, POWERED FROM UNIT POWER. DUCTED UNITS: INTERNAL RISER TO RAISED OUTLET FOR GRAVITY DRAIN. ALL UNITS: DRAIN HOSE AND CLAMPS TO RIGID PIPE.
 3. MITSUBISHI SIMPLE MA REMOTE WALL CONTROLLER. SINGLE CONTROLLER PER UNIT. PROVIDE RELAY KIT FOR EXTERNAL HEATER ADAPTER FOR ELECTRIC DUCT COIL.
 4. SEE OUTDOOR UNIT FOR ADDITIONAL NOTES.
 5. PROVIDE WITH FILTER BOX WITH MERV 13 FILTERS.

VRF SYSTEM OUTDOOR UNIT SCHEDULE																									
TAG	SERVES	UNIT TYPE	NOMINAL CAPACITY (TONS)	COOLING CAPACITY (BTUH)	HEATING CAPACITY (BTUH)	RATED TEMPS INDOORS		DESIGN OUTDOOR TEMPERATURE		EFFICIENCIES			REFRIGERANT		SOUND PRESSURE LEVEL dB(A)	UNIT ELECTRICAL					SIZE (W x D x H) (IN.)	WEIGHT (LBS)	MANUFACTURER	MODEL	NOTES
						COOLING (DEG. F DB)	HEATING (DEG. F DB)	COOLING (DEG. F DB)	HEATING (DEG. F WB)	EER	SEER	COP (47 DEG. F)	TYPE	FACTORY CHARGE (LB)		VOLTS	PH	HZ	MCA	MOC					
CU-1	HP-1,2,3	HYPER HEAT	4	47,614	45,404	75	70	87	-6.5	12.2	19.75	3.65	410A	5.6	54	208/230	1	60	36	40	42x13x53	300	MITSUBISHI	NTXMSH48A182AA	1,2,3,4,5,6,7,8,9,10,11
CU-2	HP-4,5,6	HYPER HEAT	3.5	42,382	40,359	75	70	87	-6.5	12.2	20	3.75	410A	5.6	54	208/230	1	60	36	40	42x13x53	300	MITSUBISHI	NTXMSH42A152AA	1,2,3,4,5,6,7,8,9,10,11
CU-3	HP-6,7	HYPER HEAT	3.5	42,382	40,359	75	70	87	-6.5	12.2	20	3.75	410A	5.6	54	208/230	1	60	36	40	42x13x53	300	MITSUBISHI	NTXMSH42A152AA	1,2,3,4,5,6,7,8,9,10,11

GENERAL NOTES:
 1. HEAT PUMP SYSTEM PROVIDES EITHER HEATING OR COOLING.
 2. INTEGRATE ERV'S INTO SYSTEM FOR OCCUPIED UNOCCUPIED CONTROL.
 3. EFFICIENCY VALUES ARE BASED ON AHRI 1230 TEST METHOD.
 4. PROVIDE INTERCONNECTING POWER AND CONTROL WIRING IN CONDUIT TO INDOOR UNITS AND CONTROLS.
 5. REFRIGERANT CHARGE SHALL BE FIELD-VERIFIED.
 6. SEE MANUFACTURER'S WRITTEN REQUIREMENTS AND GUIDELINES FOR INSTALLATION REQUIREMENTS
 7. PROVIDE GROUND MOUNTING STAND. HEIGHT AT LEAST 24 IN. ABOVE ADJACENT FINISHED GRADE, SHIMMED LEVEL.
 8. BOLT UNITS TO RAILS WITH LARGEST-POSSIBLE DIAMETER HEX-HEAD FASTENER AT EACH FACTORY MOUNTING HOLE.
 9. FACTORY REPRESENTATIVES SHALL STARTUP AND COMMISSION EQUIPMENT UPON COMPLETION OF EQUIPMENT INSTALLATIONS.
 10. FACTORY REPRESENTATIVES SHALL PROVIDE END-USER TRAINING ON THE EQUIPMENT UPON COMPLETION OF THE INSTALLATION OF EQUIPMENT.
 11. UNIT SHALL HAVE HYPER-HEATING PERFORMANCE PROVIDING 100% CAPACITY AT 5 DEG F. AND 75% HEATING CAPACITY AT -13 DEG. F.

ENERGY RECOVER VENTILATOR SCHEDULE																								
TAG	SERVES	TEMPERATURE EFFECTIVENESS, WINTER (SENSIBLE LOAD REDUCTION)	SYSTEM	AIRFLOW (CFM)	ESP (IN. WG)	FAN SPEED	FAN MOTOR(S)		WINTER PERFORMANCE				SUMMER PERFORMANCE				ELECTRICAL			MANUFACTURER	MODEL	BASE DIMENSIONS LxWxH (IN)	WEIGHT (LBS)	NOTES
							QTY.	KW	EAT DB	LAT DB/WB	EAT DB	LAT DB	EAT DB	LAT DB	VOLTS/PH/Hz	MCA (AMPS)	MOC (AMPS)							
ERV-1	OFFICES	75.00%	SUPPLY	300	0.4	MED-HIGH	1	0.176	0	49	95	88.7	230/1/60	3.1	15	TRANE-MITSUBISHI	TLGHF0470RVX	39.5 x 45 x 16	110	1,2,3,4,5,6				
			EXHAUST	300	0.4	MED-HIGH	1	0.176	70	21	74	80.3												
ERV-2	MEETING ROOM	75.00%	SUPPLY	300	0.4	MED-HIGH	1	0.176	0	49	95	88.7	230/1/60	3.1	15	TRANE-MITSUBISHI	TLGHF0470RVX	39.5 x 45 x 16	110	1,2,3,4,5,6				
			EXHAUST	300	0.4	MED-HIGH	1	0.176	70	21	74	80.3												

NOTES:
 1. PROVIDE WITH DISCONNECT SWITCH.
 2. PROVIDE MERV-8 FILTERS FOR SUPPLY AND MERV-8 FILTERS FOR EXHAUST.
 3. GALVANIZED STEEL CONSTRUCTION, WITH INSULATED CABINET
 4. PROVIDE SPRING ISOLATORS WITH 1-INCH INITIAL DEFLECTION
 5. PROVIDE WITH HIGH EFFICIENCY DC MOTORS
 6. PROVIDE WITH INTERLOCKS TO SIMPLE MA CONTROLLER FOR OCCUPIED UNOCCUPIED SCHEDULING.
 7. PROVIDE SENSIBLE AND LATENT CROSS-FLOW ENERGY RECOVERY CORE.

RETURN, EXHAUST & TRANSFER GRILLE SCHEDULE										
TAG	NECK SIZE (IN.)	FRAME SIZE (IN.)	AIRFLOW (CFM)	SP (IN. WG)	SOUND (NC)	TYPE	FRAME	MANUFACTURER	MODEL	NOTES
R-1	8x8	8x8	156	0.021	-	CEILING	LAY-IN	PRICE	80	1,2,3,4
R-2	10x10	10x10	240	0.021	-	CEILING	LAY-IN	PRICE	80	1,2,3,4
R-3	12x12	12x12	360	0.021	-	CEILING	LAY-IN	PRICE	80	1,2,3,4
R-4	18x18	18x18	832	0.021	-	CEILING	LAY-IN	PRICE	80	1,2,3,4

NOTES:
 1. INSTALL AS LAY-IN, OR SURFACE MOUNT WITH SUPPORT
 2. FOR INSTALLATION IN 24x24 EXPOSED TEE CEILING
 3. CONTRACTOR SHALL PROVIDE SQUARE-TO-ROUND TRANSITION
 4. INSTALL WITH FLEXIBLE CONNECTION
 GENERAL NOTES:
 1. PROVIDE WITH WHITE STANDARD FINISH
 2. SEE PLANS FOR MULTIPLE UNIT LOCATIONS.
 3. AIRFLOW SCHEDULED IS FOR RATED PERFORMANCE. BALANCING CFM IS INDICATED ON PLANS.
 4. CONTRACTOR SHALL PROVIDE ANY TRANSITIONS REQUIRED TO

SUPPLY DIFFUSER & GRILLE SCHEDULE													
TAG	NECK SIZE (IN.)	FRAME SIZE (IN.)	AIRFLOW (CFM)	THROW (FT)	SOUND (NC)	SP (IN. WG)	PATTERN	TYPE	FRAME	MANUFACTURER	MODEL	NOTES	
S-1	10	24"x24"	218	3	-	0.03	4-WAY	LAY-IN	CEILING	PRICE	SPD	1,2,3,4,5,6,7,8,9	
S-2	12	24"x24"	314	4	-	0.04	4-WAY	LAY-IN	CEILING	PRICE	SPD	1,2,3,4,5,6,7,8,9	
S-3	14	24"x24"	440	5	-	0.06	4-WAY	LAY-IN	CEILING	PRICE	SPD	1,2,3,4,5,6,7,8,9	

NOTES:
 1. FOR INSTALLATION IN 24x24 EXPOSED TEE CEILING
 2. INSTALL AS LAY-IN, OR SURFACE MOUNT WITH SUPPORT
 3. SQUARE-TO-ROUND ADAPTER TO AVAILABLE SIZE NEAREST TO DUCT SIZE
 4. THROWS RATED AT 75 FPM TERMINAL VELOCITY
 5. THROWS RATED AT 200-100 FPM TERMINAL VELOCITY
 6. THROWS RATED AT 100 FPM TERMINAL VELOCITY
 7. PLAQUE FACE. ADJUST THERMAL DIFFUSER SETPOINTS - 70°F HEATING, 75°F COOLING.
 8. INSTALL WITH FLEXIBLE CONNECTION
 9. DOUBLE-DEFLECTION, HORIZONTAL FRONT VANES
 GENERAL NOTES:
 1. PROVIDE WITH WHITE STANDARD FINISH
 2. SEE PLANS FOR MULTIPLE UNIT LOCATIONS
 3. AIRFLOW SCHEDULED IS FOR RATED PERFORMANCE. BALANCING CFM IS INDICATED ON PLANS.
 4. SQUARE-NECK CEILING DIFFUSERS: 4-WAY PATTERN SCHEDULED; PROVIDE CORE PATTERNS AS INDICATED ON PLANS.
 4. CONTRACTOR SHALL PROVIDE ANY TRANSITIONS REQUIRED TO DUCT SIZE
 5. BALANCING AGENT SHALL SET DISCHARGE VANES TO REQUIRED PATTERN FOR COMFORTABLE AIRFLOW
 6. CONTRACTOR SHALL PROVIDE ANY TRANSITIONS REQUIRED TO DUCT SIZE

DUCT HEATER SCHEDULE												
TAG	CFM	KW	MINIMUM VELOCITY (FPM)	MINIMUM STAGES	EAT (DEG. F.)	LAT (DEG. F.)	DIMENSIONS WxH (IN)	V/PH/Hz	AMPS	MANUFACTURER	MODEL	NOTES
DC-1	600	6.5	500	4	56	90	18 x 8	230/1/60	28.261	GREENHECK	IDHB	1
DC-2	600	6.5	500	4	56	90	18 x 8	230/1/60	28.261	GREENHECK	IDHB	1
DC-3	870	10	500	4	54	90	24 x 8	230/1/60	43.478	GREENHECK	IDHB	1
DC-4	490	5.5	500	4	55	90	14 x 8	230/1/60	23.913	GREENHECK	IDHB	1
DC-5	370	4.5	500	4	52	90	12 x 8	230/1/60	19.565	GREENHECK	IDHB	1
DC-6	880	12	600	4	47	90	24 x 8	230/1/60	52.174	GREENHECK	IDHB	1
DC-7	880	12	600	4	47	90	24 x 8	230/1/60	52.174	GREENHECK	IDHB	1

NOTES:
 1. PROVIDE WITH ADJUSTABLE AIRFLOW SWITCH, CONTROLS TRANSFORMER, DISCONNECT SWITCH AND FAN INTERLOCK.

KEY PLAN:

PROJECT TITLE / ADDRESS:
TOWN OF POLAND, ME

POLAND TOWN OFFICE HVAC MODIFICATIONS

1231 Maine Street
 Poland, ME 04274

ISSUE:

PRE-BID DOCUMENTS
 08/12/2022

NOT FOR CONSTRUCTION

PROJ. NO.:

51386

STAMP

SCALE:

AS NOTED

DESN. BY:

TWB/JDP

DRAWN BY:

JDP

CHKD BY:

TWB

ISSUE DATE:

08/04/2022

REVISIONS

SHEET TITLE:

SCHEDULES

M4.1

SECTION 23050 - COMMON WORK RESULTS FOR HVAC
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. PROVIDE LABOR, MATERIALS, ACCESSORIES, AND OTHER RELATED ITEMS AS REQUIRED TO COMPLETE ORIENTATION OF PIPING SYSTEM SECTIONS. INSTALLATION OF THE HVAC AND MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.

1.2 RELATED REQUIREMENTS

A. CONDITIONS OF THE CONTRACT APPLY TO THE WORK, INCLUDING THE WORK OF THIS DIVISION. EXAMINE CONTRACT DOCUMENTS FOR REQUIREMENTS AFFECTING THE WORK.

B. PROVIDE COOPERATION WITH, AND ASSISTANCE TO, THE TESTING AND BALANCING TRADE AGREED SPECIFIED IN DIVISION 23 SECTION TESTING, ADJUSTING, AND BALANCING FOR MECHANICAL SYSTEMS.

1.3 DRAWINGS

A. THE GENERAL LOCATION OF THE APPARATUS AND THE DETAILS OF THE WORK ARE INDICATED ON THE DRAWINGS. EXACT LOCATIONS NOT INDICATED SHALL BE DETERMINED AT THE SITE AS THE WORK PROGRESSES AND SHALL BE SUBJECT TO THE OWNER'S APPROVAL.

B. IT IS NOT INTENDED THAT THE DRAWINGS SHALL SHOW EVERY PIPE, PIPE RISE, PIPE DROP, DUCT RISE, DUCT DROP, PIPE FITTING, DUCT FITTING, OR APPLIANCE, BUT IT SHALL BE A REQUIREMENT TO FURNISH, WITHOUT ADDITIONAL EXPENSE, MATERIAL AND LABOR NECESSARY TO COMPLETE THE SYSTEMS IN ACCORDANCE WITH THE DESIGN INTENT AND WITH THE HIGHEST POSSIBLE QUALITY AVAILABLE.

1.4 ALTERNATIONS

A. EXECUTE ALTERNATIONS, ADDITIONS, REMOVALS, RELOCATIONS, NEW WORK, AND OTHER RELATED ITEMS AS INDICATED OR REQUIRED TO PROVIDE A COMPLETE INSTALLATION IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS, INCLUDING CHANGES REQUIRED BY BUILDING ALTERNATIONS.

1.5 REQUIREMENTS

A. INSTALLATION INSTRUCTIONS - OBTAIN MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS TO AID IN PROPERLY EXECUTING WORK ON MAJOR PIECES OF EQUIPMENT. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

B. OBJECTIONABLE NOISE, FUMES AND VIBRATION

1. MECHANICAL AND ELECTRICAL EQUIPMENT SHALL OPERATE WITHOUT CREATING OBJECTIONABLE NOISE, FUMES, OR VIBRATION, AS DETERMINED BY THE OWNER.

2. IF SUCH OBJECTIONABLE NOISE, FUMES, OR VIBRATION IS PRODUCED AND TRANSMITTED TO ADJACENT PORTIONS OF BUILDING BY APPLIANCE, PIPING, DUCTS, OR ANY OTHER PART OF MECHANICAL AND ELECTRICAL WORK, MAKE NECESSARY CHANGES AND ADDITIONS, AS APPROVED, WITHOUT EXTRA COST TO OWNER.

C. EQUIPMENT DESIGN AND INSTALLATION

1. UNIFORMITY - UNLESS OTHERWISE SPECIFIED, EQUIPMENT OR MATERIAL OF SAME TYPE OR CLASSIFICATION, USED FOR SAME PURPOSES, SHALL BE PRODUCT OF SAME MANUFACTURER.

2. DESIGN - EQUIPMENT AND ACCESSORIES NOT SPECIFICALLY DESCRIBED OR IDENTIFIED BY MANUFACTURER'S CATALOG NUMBER SHALL BE DESIGNED IN CONFORMANCE WITH ASME, IEEE, OR OTHER APPLICABLE TECHNICAL STANDARDS, SUITABLE FOR MAXIMUM WORKING PRESSURE, AND WITH NEAT AND FINISHED APPEARANCE.

3. INSTALLATION - ERECT EQUIPMENT ALIGNED, LEVEL AND ADJUSTED FOR SATISFACTORY OPERATION. INSTALL SO THAT CONNECTING AND DISCONNECTING OF PIPING AND ACCESSORIES CAN BE MADE READILY, AND SO THAT PARTS ARE EASILY ACCESSIBLE FOR INSPECTION, OPERATION, MAINTENANCE, AND REPAIR. MINOR DEVIATIONS FROM INDICATED ARRANGEMENTS MAY BE MADE, AS APPROVED.

D. PROTECTION OF EQUIPMENT AND MATERIALS - RESPONSIBILITY FOR CARE AND PROTECTION OF MATERIALS AND MECHANICAL WORK TESTS WITH THE CONTRACTOR. THE ENTIRE PROJECT HAS BEEN COMPLETED, TESTS AND THE PROJECT IS ACCEPTED BY THE OWNER.

E. FOUNDATIONS

1. WHERE GROUND MOUNTING IS INDICATED, LOCATE EQUIPMENT ON 4 INCH HIGH REINFORCED CONCRETE PAD OF ADEQUATE SIZE WITH ANCHORS AND BASE PLATES AS REQUIRED. ON PRESSURE-TREATED SLEEPERS, OR ON STRUCTURAL STEEL FRAME AS DETAILED. THE CORNERS OF PADS SHALL BE CHAMFERED 1/4 INCH. PAD AND STEEL SIZES AND LOCATION SHALL BE COORDINATED WITH THE APPROVED EQUIPMENT.

1.6 ACCESS PANELS

A. ACCESS PANELS REQUIRED FOR ITEMS FURNISHED UNDER DIVISION 23 SHALL BE PROVIDED UNDER THIS DIVISION.

B. MANUFACTURER AND MODEL OF STANDARD DOORS - J. L. INDUSTRIES, INC., MODEL VB; KARP ASSOCIATES, INC., MODEL KDW; OR THE WILLIAMS BROTHERS CORPORATION OF AMERICA, MODEL WP-DW.

C. ACCESS PANELS SHALL BE STANDARD PANELS, 12 INCH X 16 INCH (305 MM X 406 MM) MINIMUM UNLESS INDICATED OTHERWISE. PANELS INSTALLED IN AREAS OF HIGH MOISTURE CONCENTRATION, SUCH AS LOCKER ROOMS, NEAR PLUMBING FIXTURES, FOOD PREPARATION AREAS, OR OUTDOORS, SHALL BE FABRICATED OF PAINTABLE STAINLESS STEEL OR ALUMINUM FOR CORROSION RESISTANCE.

D. DOORS AND FRAMES SHALL BE FACTORY PRIMED. LATCHES SHALL BE OPERATED BY TURNER LOCK KEYS ALONE, FURNISH 2 KEYS TO THE OWNER.

E. PROVIDE ACCESS PANELS IN BUILDING CONSTRUCTION WHERE REQUIRED FOR ACCESS TO DUCT ACCESS DOORS OR OTHER COMPONENTS SUCH AS VALVES, AIR VENTS, ACTUATORS, VOLUME DAMPERS, MOTORIZED DAMPERS IN DUCTWORK, DUCT SMOKE DETECTORS, AND OTHER RELATED ITEMS.

1.7 ELECTRIC WORK

A. PROVIDE MOTORS, PILOT LIGHTS, CONTROLLERS, LIMIT SWITCHES, AND OTHER RELATED ITEMS FOR EQUIPMENT PROVIDED UNDER DIVISION 23.

B. THE ELECTRICAL CONTRACTOR SHALL WORK UNDER THE MECHANICAL CONTRACTORS CONTRACT AND SHALL BE THEIR SUBCONTRACTOR.

C. EXCEPT AS NOTED, REQUIRED LINE SWITCHES, FUSED SWITCHES, AND OTHER RELATED ITEMS AND NECESSARY WIRING TO PROPERLY CONNECT EQUIPMENT TO MOTORS AND SWITCHES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

D. WIRING SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

1.8 SUBMITTALS

A. AFTER AWARD OF CONTRACT AND BEFORE INSTALLATION, SUBMIT FOR APPROVAL SHOP DRAWINGS, BULLETINS, PRODUCT DATA, SAMPLES, AND OTHER RELATED ITEMS.

B. SUBMIT SHOP DRAWINGS AND PRODUCT DATA AS REQUIRED IN EACH SECTION. SUBMITTALS SHALL INCLUDE PERFORMANCE DATA REQUIRED TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS.

C. ENGINEER'S REVIEW WILL NOT INCLUDE THE REVIEW, COORDINATION, OR VERIFICATION OF DIMENSIONS OR QUANTITIES; THESE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.9 SUBSTITUTIONS

A. COMPLY WITH PROVISIONS OF THE INSTRUCTIONS TO BIDDERS AND GENERAL CONDITIONS.

B. THE FIRST ITEM LISTED UNDER "ACCEPTABLE MANUFACTURERS", "APPROVED MANUFACTURERS" OR "MANUFACTURERS" IS THE DESIGN BASIS.

1. OTHER MANUFACTURERS LISTED MAY BE USED IN THE BIDDING, BUT CONFORMANCE WITH DETAILS OF THE SPECIFICATIONS, AS WELL AS DIMENSIONAL AND ELECTRICAL DATA, SHALL BE VERIFIED BY THE CONTRACTOR. ARCHITECT/ENGINEER HAS NOT VERIFIED THAT EACH LISTED MANUFACTURER HAS THE ABILITY TO PROVIDE AN ACCEPTABLE SUBSTITUTION FOR THE BASIS-OF-DESIGN PRODUCT. CONTRACTOR MUST NOT ASSUME THAT SUBSTITUTIONS WILL BE APPROVED.

2. MODIFICATIONS REQUIRED AS A RESULT OF DIFFERENCES BETWEEN THE DESIGN BASIS ITEM AND THE SUBMITTED AND APPROVED ITEM MUST BE APPROVED BY THE ARCHITECT AND MADE AT THE CONTRACTOR'S EXPENSE. FOR EXAMPLE, IF A ROOFTOP HVAC UNIT IS SUBMITTED AND APPROVED AND IF THE UNIT'S DIMENSIONS AND WEIGHT ARE DIFFERENT FROM THOSE OF THE UNIT WHICH WAS USED AS THE DESIGN BASIS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR BUILDING STRUCTURAL MODIFICATIONS REQUIRED TO ACCOMMODATE THE SUBMITTED AND APPROVED UNIT, AT NO ADDITIONAL COST TO THE OWNER.

3. WHEN, IN THE ENGINEER'S OPINION, ARCHITECTURAL OR ENGINEERING SERVICES ARE NECESSARY FOR THE COORDINATION OF SUBSTITUTED ITEMS, THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR THE COST OF THESE SERVICES.

4. FOR ITEMS WHICH HAVE NO MANUFACTURERS LISTED, ANY ITEM CONFORMING WITH THE CONTRACT DOCUMENTS IS ACCEPTABLE.

C. SUBSTITUTIONS FROM MANUFACTURERS OR PROVIDERS WHICH ARE NOT LISTED MAY BE PROPOSED WITHIN THE TIME ALLOWED IN THE GENERAL CONDITIONS OF THE SPECIFICATIONS.

1. THE EXCEPTION TO THIS IS PRODUCTS FOR WHICH THE LIST OF MANUFACTURERS OR PROVIDERS IS LIMITED BY THE WORDING "OR SUBSTITUTIONS OF SIMILAR WORKING."

1.10 COORDINATION

A. COORDINATE SCHEDULING, SUBMITTALS, AND WORK OF THE VARIOUS SECTIONS OF SPECIFICATIONS TO ASSURE EFFICIENT AND ORDERLY SEQUENCE OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS, WITH PROVISIONS FOR ACCOMMODATING ITEMS INSTALLED LATER.

B. COORDINATE SPACE REQUIREMENTS AND INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WHICH ARE INDICATED DIAGRAMMATICALLY ON DRAWINGS. FOLLOW ROUTING SHOWN FOR PIPES, DUCTS, AND CONDUIT, AS CLOSELY AS PRACTICABLE. PLACE RUNS PARALLEL WITH LINE OF BUILDING. UTILIZE SPACES EFFICIENTLY TO MAXIMIZE ACCESSIBILITY FOR OTHER INSTALLATIONS, FOR MAINTENANCE, AND FOR REPAIRS.

C. IN FINISHED AREAS, CONCEAL PIPES, DUCTS, AND WIRING WITHIN THE CONSTRUCTION. COORDINATE LOCATIONS OF FIXTURES AND OUTLETS WITH FINISH ELEMENTS.

D. COORDINATE COMPLETION AND CLEAN UP OF WORK OF SEPARATE SECTIONS IN PREPARATION FOR SUBSTANTIAL COMPLETION.

E. AFTER OWNER OCCUPANCY OF PREMISES, COORDINATE ACCESS TO SITE FOR CORRECTION OF DEFECTIVE WORK AND WORK NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS, TO MINIMIZE DISRUPTION OF OWNER'S ACTIVITIES.

1.11 COORDINATION DRAWINGS

A. AS A REQUIREMENT OF THIS SPECIFICATION, THE CONTRACTOR SHALL PARTICIPATE IN THE DEVELOPMENT OF A SET OF COMMON COORDINATION DRAWINGS FOR THE PROJECT.

B. THE HVAC MECHANICAL SUBCONTRACTOR SHALL BE RESPONSIBLE TO MANAGE THE COORDINATION DRAWING EFFORT AND SUBMIT THE DRAWINGS AS SHOP DRAWINGS FOR REVIEW AND COMMENT. THE HVAC MECHANICAL SUBCONTRACTOR SHALL DEVELOP THE BASE FLOOR PLANS AND BUILDING SECTIONS AND PLACE HIS MECHANICAL EQUIPMENT DUCTWORK AND PIPING ON THEM. HE SHALL THEN COORDINATE AND MANAGE EACH TRADE'S EFFORT WHILE THEY PLACE THEIR INFORMATION ON THE SAME DRAWINGS.

C. THE COORDINATION DRAWINGS MAY BE CAD OR HAND DRAFTED AS SELECTED BY THE HVAC MECHANICAL SUBCONTRACTOR. FLOOR PLANS SHALL BE PREPARED AT A MINIMUM SCALE OF 1/4 INCH = 1 FT. SECTIONS THROUGH THE ENTIRE BUILDING SHALL BE PREPARED AT A MINIMUM SCALE OF 1/4 INCH = 1 FT. DETAIL SECTIONS ACROSS CORRIDORS OR OTHER SMALL AREAS SHALL BE PREPARED AT A MINIMUM SCALE OF 1 INCH = 1 FT.

D. PREPARE COORDINATION DRAWINGS FOR BOTH EXISTING AND NEW AREAS OF THE FACILITY. THE DRAWING DETAIL SHALL BE SUFFICIENT TO ENSURE COORDINATION BETWEEN THE TRADES AND ALSO WITH THE BUILDING STRUCTURE. AS A MINIMUM THE FOLLOWING SHALL BE SHOWN IN PLAN AND SECTION

1. BUILDING STRUCTURE.
2. MAJOR EQUIPMENT.
3. CEILING-MOUNTED EQUIPMENT IN CEILING GRID, SUCH AS LIGHTING FIXTURES, HVAC DIFFUSERS, AND SPRINKLERS.
4. CEILINGS IN ELEVATION
5. DUCT WORK
6. MAJOR DUCT, PIPE, CONDUIT AND TRAY RUNS
7. WORK IN CORRIDORS
8. SINGLE PIPE AND CONDUITS RUN OUTSIDE OF CORRIDOR AREAS WHEN GREATER THAN 1-1/2 INCH IN NOMINAL DIAMETER.

E. MECHANICAL HVAC, PLUMBING, AND ELECTRICAL CONSTRUCTION SHALL NOT COMMENCE UNTIL COORDINATION DRAWINGS HAVE BEEN REVIEWED. THE CONTRACTOR SHALL BRING ANY COORDINATION ISSUES TO THE ATTENTION OF THE ARCHITECT. REVIEW OF THE COORDINATION DRAWINGS BY THE ARCHITECT DOES NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO PROVIDE A PROPERLY COORDINATED CONSTRUCTION PROJECT.

1.12 REQUESTS FOR ARCHITECT'S CADD DRAWINGS

A. IN LIEU OF GENERATING THEIR OWN CADD DRAWINGS, THE CONTRACTOR MAY ELECT TO USE THE ARCHITECT'S ELECTRONIC COPIES OF CADD DRAWINGS FOR THE PURPOSE OF DEVELOPING COORDINATION DRAWINGS. DEVELOPING SYSTEM GRAPHICS OR FOR OTHER REASONS THAT PERTAIN TO THE REQUIREMENTS OF THIS CONTRACT. IF THE CONTRACTOR ELECTS TO UTILIZE THE ARCHITECT'S ELECTRONIC COPIES OF CADD DRAWINGS, THE ELECTRONIC FILES SHALL BE PURCHASED FROM THE ARCHITECT AT THE ARCHITECT'S CURRENT BILLING RATE PER DRAWING. THE CONTRACTOR SHALL PROVIDE PAYMENT AND SHALL SIGN A RELEASE-OF-LIABILITY FORM BEFORE ELECTRONIC CADD DRAWINGS ARE RELEASED.

1.13 CLEANING

A. REMOVE DEBRIS FROM SITE DAILY.

B. MATERIAL AND PIECES OF EQUIPMENT SHALL BE TURNED OVER TO THE OWNER FREE OF DUST AND DIRT, BOTH INSIDE AND OUT.

C. AT THE COMPLETION OF THE PROJECT, EQUIPMENT SHALL HAVE A CLEAN, NEAT APPEARANCE OF FACTORY FINISH BY CLEANING OR REPAINTING AS REQUIRED.

D. AT THE COMPLETION OF THE PROJECT, SURFACES EXPOSED TO VIEW SHALL HAVE A CLEAN, NEAT APPEARANCE OF FINISH FREE FROM SMUDGES AND SCRATCHES BY CLEANING OR REPAINTING AS REQUIRED.

1.14 STARTING SYSTEMS

A. COORDINATE SCHEDULE FOR START-UP OF VARIOUS EQUIPMENT AND SYSTEMS.

B. NOTIFY ENGINEER 7 DAYS PRIOR TO START-UP OF EACH ITEM.

C. VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE MOTATION, BELT TENSION, CONTROL SEQUENCE, OR OTHER CONDITIONS WHICH MAY BE UNUSUAL.

D. VERIFY THAT TESTS, METER READINGS, AND SPECIFIED ELECTRICAL CHARACTERISTICS AGREE WITH THOSE REQUIRED BY THE EQUIPMENT OR SYSTEM MANUFACTURER.

E. VERIFY THAT WIRING AND SUPPORT COMPONENTS FOR EQUIPMENT ARE COMPLETE AND TESTED.

F. EXECUTE START UP UNDER SUPERVISION OF RESPONSIBLE MANUFACTURER'S REPRESENTATIVE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

G. WHEN SPECIFIED IN INDIVIDUAL SPECIFICATION SECTIONS, REQUIRE MANUFACTURER TO PROVIDE AUTHORIZED REPRESENTATIVE TO BE PRESENT AT SITE TO INSPECT, CHECK, AND APPROVE EQUIPMENT OR SYSTEM INSTALLATION PRIOR TO START-UP, AND TO SUPERVISE PLACING EQUIPMENT OR SYSTEM IN OPERATION.

H. SUBMIT A WRITTEN REPORT THAT EQUIPMENT OR SYSTEM HAS BEEN PROPERLY INSTALLED AND IS FUNCTIONING CORRECTLY.

1.15 ADJUSTMENTS AND OWNER'S INSTRUCTIONS

A. AFTER COMPLETION OF THE INSTALLATION WORK CALLED FOR IN THE CONTRACT DOCUMENTS, FURNISH NECESSARY MECHANICS OR ENGINEERS FOR THE ADJUSTMENT AND OPERATION OF THE SYSTEMS, TO THE END THAT THE SYSTEMS ARE PERFECTLY ADJUSTED AND TURNED OVER TO THE OWNER IN PERFECT WORKING ORDER. FURTHER INSTRUCT THE OWNER'S AUTHORIZED REPRESENTATIVE IN THE CARE AND OPERATION OF THE INSTALLATION, PROVIDING FRAMED INSTRUCTION CHARTS, DIRECTIONS, AND OTHER RELATED ITEMS.

B. INSTRUCTORS PROVIDING OWNER TRAINING SHALL BE EXPERIENCED AND FAMILIAR WITH THE JOBSITE.

1.16 TESTING

A. AFTER THE ENTIRE INSTALLATION IS COMPLETED AND READY FOR OPERATION, TEST THE SYSTEMS AS OUTLINED IN DIVISION 23 SECTION TESTING, ADJUSTING AND BALANCING FOR MECHANICAL SYSTEMS. THESE TESTS ARE SUPPLEMENTARY TO THE TESTS SPECIFIED HEREIN OR DIRECTED. THE OWNER WILL PROVIDE WATER AND ELECTRIC CURRENT FOR THE TEST. PROVIDE NECESSARY LABOR, TEST PUMP, GAUGES, METERS, OTHER INSTRUMENTS, AND MATERIALS. PERFORM TESTS IN THE PRESENCE OF THE OWNER OR THEIR REPRESENTATIVE.

B. PERFORM OTHER TESTS SPECIFIED IN INDIVIDUAL SECTIONS OF THIS SPECIFICATION.

1.17 COMPLETION OF SYSTEMS

A. THE FOLLOWING MECHANICAL SYSTEMS SHALL NOT BE COMPLETE UNTIL THE FOLLOWING CONDITIONS ARE SATISFIED:

1. DUCTWORK SYSTEMS
 - a. DUCTWORK AND RELATED COMPONENTS AND ACCESSORIES SHALL BE COMPLETELY INSTALLED AND INSULATED AS SPECIFIED.
 - b. DUCTWORK SHALL BE BALANCED AND A BALANCING REPORT SHALL BE SUBMITTED AND APPROVED.
2. PIPING SYSTEMS
 - a. PIPING, VALVES AND ACCESSORIES SHALL BE COMPLETELY INSTALLED, INSULATED AND LABELED AS SPECIFIED.
 - b. PIPING PRESSURE TESTING BE COMPLETED AND PRESSURE TESTING REPORTS SHALL BE SUBMITTED AND APPROVED.
3. EQUIPMENT
 - a. EQUIPMENT, INCLUDING BUT NOT LIMITED TO, TERMINAL HEAT TRANSFER UNITS, AIR HANDLING UNITS, CONDENSING UNITS, SPLIT SYSTEM AIR CONDITIONING EQUIPMENT, AND EXHAUST FANS, SHALL BE COMPLETELY INSTALLED.
 - b. EQUIPMENT START-UP REPORTS SHALL BE COMPLETED, SUBMITTED AND APPROVED.
 - c. EQUIPMENT BALANCING SHALL BE COMPLETED AND THE BALANCING REPORT SHALL BE SUBMITTED AND APPROVED.

1.18 OPERATING AND MAINTENANCE MANUALS

A. FURNISH 2 BOUND OPERATING AND MAINTENANCE MANUALS AND FORWARD TO THE ENGINEER FOR REVIEW AND TRANSMITTAL TO THE OWNER.

B. FOR MAINTENANCE PURPOSES, PROVIDE APPROVED SUBMITTALS, PARTS LISTS, SPECIFICATIONS, AND MANUFACTURER'S APPROVED BULLETINS FOR EACH PIECE OF EQUIPMENT. FOR MATERIALS USED WHICH HAVE BEEN SUBMITTED TO THE ARCHITECT FOR APPROVAL, BUT DO NOT REQUIRE REGULAR MAINTENANCE, SUCH AS PIPING, DUCTWORK, AND INSULATION, PROVIDE ONE COPY OF APPROVED SUBMITTALS.

C. PROVIDE NAME, ADDRESS AND TELEPHONE NUMBER OF THE MANUFACTURER'S REPRESENTATIVE AND SERVICE COMPANY, FOR EACH PIECE OF EQUIPMENT OR MATERIAL, SO THAT SERVICE OR SPARE PARTS CAN BE READILY OBTAINED.

1.19 WARRANTY

A. PROVIDE WARRANTIES AND WARRANTIES FOR WORK UNDER THIS CONTRACT AS INDICATED IN THE GENERAL REQUIREMENTS OF THE CONTRACT.

B. PROVIDE MANUFACTURER'S STANDARD WARRANTIES AND WARRANTIES FOR WORK BY THE MECHANICAL TRADES. HOWEVER, SUCH WARRANTIES AND GUARANTEES SHALL BE IN ADDITION TO AND NOT IN LIEU OF OTHER LIABILITIES WHICH THE MANUFACTURER AND THE MECHANICAL CONTRACTOR MAY HAVE BY LAW OR BY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS.

C. GUARANTEE THAT ELEMENTS OF THE SYSTEMS PROVIDED UNDER THIS CONTRACT ARE OF SUFFICIENT CAPACITY TO MEET THE SPECIFIED DESIGN LOADS AND MEET THE REQUIREMENTS AS SET FORTH IN THESE SPECIFICATIONS OR AS INDICATED ON THE DRAWINGS.

D. UPON RECEIPT OF NOTICE FROM THE OWNER OF FAILURE OF ANY PART OF THE MECHANICAL SYSTEMS OR EQUIPMENT DURING THE WARRANTY PERIOD, THE MECHANICAL SUBCONTRACTOR SHALL REPLACE THE AFFECTED PART OR PARTS.

E. FURNISH A WRITTEN GUARANTEE COVERING THE ABOVE REQUIREMENTS BEFORE SUBMITTING THE APPLICATION FOR FINAL PAYMENT.

END OF SECTION 230500

SECTION 230517 - SLEEVES AND ESCUTCHEONS FOR HVAC PIPING
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. PIPE SLEEVES.
B. ESCUTCHEONS.
1.2 PERFORMANCE REQUIREMENTS
A. PROVIDE SLEEVES FOR PIPING PENETRATIONS OF BUILDING CONSTRUCTION SUCH AS EXTERIOR PARTITIONS, INTERIOR AND EXTERIOR WALLS, FLOORS, AND ROOFS.
B. PROVIDE ESCUTCHEONS AND FLOOR PLATES AT PIPING PENETRATIONS OF BUILDING CONSTRUCTION.
1.3 SUBMITTALS
A. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED.
B. MANUFACTURER'S INSTALLATION INSTRUCTIONS INDICATE SPECIAL PROCEDURES, AND EXTERNAL CONTROLS.
1.4 DELIVERY, STORAGE, AND HANDLING
A. DELIVER, STORE, PROTECT AND HANDLE PRODUCTS TO SITE UNDER PROVISIONS OF DIVISION 01.
B. PROTECT MATERIALS FROM EXPOSURE BY LEAVING FACTORY COVERINGS AND PACKAGING IN PLACE UNTIL INSTALLATION.

PART 2 - PRODUCTS
2.1 PIPE SLEEVES
A. GALVANIZED STEEL WALL PIPES: ASTM A53, SCHEDULE 40, WITH PLAIN ENDS AND WELDED STEEL COLLAR, ZINC COATED.
B. GALVANIZED-STEEL PIPE SLEEVES: ASTM A53, TYPE E, GRADE B, SCHEDULE 40, ZINC COATED, WITH PLAIN ENDS.
C. GALVANIZED-STEEL-SHEET SLEEVES: 00299-INCH 0.6-MM MINIMUM THICKNESS; ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT.
D. SLEEVES: PROVIDE SMOOTH CORE-DRILLED HOLE IN CONCRETE CONSTRUCTION, OR A METAL OR PLASTIC PIPE SLEEVE:
1. METAL SLEEVES - GALVANIZED STEEL SCHEDULE 40 PIPE WHEN INSTALLED IN NORMALLY-DRY LOCATIONS.
2. PLASTIC PIPE SLEEVES - SCHEDULE 40 PVC, ABS, OR AQUATHERM POLYPROPYLENE PIPE.
2.2 ESCUTCHEONS
A. MATERIAL - BRASS AT FLOORS AND IN POTENTIALLY DAMP OR WET LOCATIONS. BRASS OR STEEL IN OTHER LOCATIONS.
B. FINISH - EXCEPT AS INDICATED BELOW, POLISHED CHROME PLATED IN EXPOSED LOCATIONS, PRIME PAINTED STEEL OR ROUGH BRASS IN MECHANICAL ROOMS AND SIMILAR SPACES.
C. ONE-PIECE, CAST-BRASS TYPE WITH FINISH AND SETSCREW FASTENER.
D. ONE-PIECE, DEEP-PATTERN TYPE, DEEP-DRAWN, BOX-SHAPED BRASS WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.
E. ONE-PIECE, STAMPED-STEEL TYPE WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.
F. SPLIT-CASTING BRASS TYPE WITH CONCEALED HINGE AND SETSCREW.
G. SPLIT-PLATE, STAMPED-STEEL TYPE WITH CHROME-PLATED FINISH, HINGE, AND SPRING-CLIP FASTENERS.
PART 3 - EXECUTION
3.1 INSTALLATION
A. PROVIDE SLEEVES FOR PIPING PASSING THROUGH PENETRATIONS IN FLOORS, PARTITIONS, ROOFS, AND WALLS.
B. INSTALL SLEEVES IN CONCRETE FLOORS, CONCRETE ROOF SLABS, AND CONCRETE WALLS AS THE SLABS AND WALLS ARE CONSTRUCTED.
C. SIZE SLEEVES TO ALLOW FIRESTOPPING, IF REQUIRED.
D. SIZE HOLES AND SLEEVES TO ALLOW THE REQUIRED CLEAR ANNUAL SPACE FOR INSULATION, AND A MINIMUM OF 1/4 IN. (6.4 MM) CLEAR OUTSIDE THE PIPE AND INSULATION FOR MOVEMENT DUE TO THERMAL EXPANSION AND CONTRACTION.
E. CUT SLEEVES FLUSH WITH BOTH SURFACES, EXCEPT AT FLOORS.
F. FASTEN SLEEVES PERMANENTLY IN PLACE.
G. USING GROUT, SEAL THE SPACE OUTSIDE OF SLEEVES IN CONCRETE SLABS AND WALLS WHICH DO NOT HAVE WATERIGHT SLEEVE SYSTEM.
H. PROVIDE ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FINISHED FLOORS.
I. ESCUTCHEONS AND FLOOR PLATES ON BARE PIPING SHALL BE ONE-PIECE TYPE WHERE POSSIBLE. ESCUTCHEONS AND FLOOR PLATES ON INSULATED PIPING AND ON EXISTING PIPING SHALL BE SPLIT, HINGED TYPE.
J. SIZE ESCUTCHEONS AND FLOOR PLATES WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.
END OF SECTION 230517

SECTION 230529 - HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT
PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. METAL PIPE HANGERS AND SUPPORTS.
1.2 ACTION SUBMITTALS
A. PRODUCT DATA FOR EACH TYPE OF PRODUCT.
PART 2 - PRODUCTS
2.1 METAL PIPE HANGERS AND SUPPORTS
A. CARBON-STEEL PIPE HANGERS AND SUPPORTS
1. DESCRIPTION MSS SP-58, TYPES 1 THROUGH 58, FACTORY-FABRICATED WITH THE FOLLOWING COMPONENTS:
2. GALVANIZED METALLIC COATINGS: PRE-GALVANIZED, HOT-DIP GALVANIZED, OR ELECTRO-GALVANIZED.
3. NONMETALLIC COATINGS: PLASTIC COATED, OR EPOXY POWDER COATED.
4. PADDED HANGERS: HANGER WITH FIBERGLASS OR OTHER PIPE INSULATION PAD OR CUSHION TO SUPPORT BEARING SURFACE OF PIPING.
5. HANGER RODS: CONTINUOUS-THREAD ROD, NUTS, AND WASHER MADE OF CARBON STEEL.
2.2 THERMAL-HANGER SHIELD INSERTS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. BUCKBROS., INC.
2. CARBENTER & PATERSON, INC.
3. NATIONAL PIPE-HANGER CORPORATION
4. PIPE SHIELDS, INC.
B. INSULATION-INSERT MATERIAL FOR COLD PIPING: ASTM C 552, TYPE II CELLULAR GLASS WITH 100-PSI OR ASTM C 591, TYPE VI, GRADE I POLYISOCYANURATE WITH 125-PSI MINIMUM COMPRESSIVE STRENGTH AND VAPOR BARRIER.
C. INSULATION-INSERT MATERIAL FOR HOT PIPING: WATER-REPELLENT-TREATED, ASTM C 593, TYPE I CALCIUM SILICATE WITH 100-PSI ASTM C 552, TYPE II CELLULAR GLASS WITH 100-PSI OR ASTM C 591, TYPE VI, GRADE I POLYISOCYANURATE WITH 125-PSI MINIMUM COMPRESSIVE STRENGTH.
D. FOR TRAPEZE DR CLAMPED SYSTEMS: INSERT AND SHIELD SHALL COVER ENTIRE CIRCUMFERENCE OF PIPE.
E. FOR CLEVIS DR BAND HANGERS: INSERT AND SHIELD SHALL COVER LOWER 180 DEGREES OF PIPE.
F. INSERT LENGTH: EXTEND 2 INCHES BEYOND SHEET METAL SHIELD FOR PIPING OPERATING BELOW AMBIENT AIR TEMPERATURE.
2.3 MATERIALS
A. ALUMINUM ASTM B 221.
B. CARBON STEEL: ASTM A 1011/A 1011M.
C. STRUCTURAL STEEL: ASTM A 36/A 36M, CARBON-STEEL PLATES, SHAPES, AND BARS) GALVANIZED.
D. THREADS AND RODS: CONTINUOUSLY THREADED ZINC-PLATED OR GALVANIZED STEEL FOR INDOOR APPLICATIONS AND STAINLESS STEEL FOR OUTDOOR APPLICATIONS. MATING NUTS AND WASHERS OF SIMILAR MATERIALS AS RODS.
PART 3 - EXECUTION
3.1 APPLICATION
A. STRENGTH OF SUPPORT ASSEMBLIES WHERE NOT INDICATED, SELECT SIZES OF COMPONENTS SO STRENGTH WILL BE ADEQUATE TO CARRY PRESENT AND FUTURE STATIC LOADS WITHIN SPECIFIED LEADING LIMITS. MINIMUM STATIC DESIGN LOAD USED FOR STRENGTH DETERMINATION SHALL BE WEIGHT OF SUPPORTED COMPONENTS PLUS 200 LB.
3.2 HANGER AND SUPPORT INSTALLATION
A. METAL PIPE-HANGER INSTALLATION: COMPLY WITH MSS SP-58. INSTALL HANGERS, SUPPORTS, CLAMPS, AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM THE BUILDING STRUCTURE.
B. THERMAL-HANGER SHIELD INSTALLATION: INSTALL IN PIPE HANGER DR SHIELD FOR INSULATED PIPING.
C. INSTALL HANGERS AND SUPPORTS COMPLETE WITH NECESSARY ATTACHMENTS, INSERTS, BELTS, RODS, NUTS, WASHERS, AND OTHER ACCESSORIES.
D. INSTALL LATERAL BRACING WITH PIPE HANGERS AND SUPPORTS TO PREVENT SWAYING.
E. LOAD DISTRIBUTION: INSTALL HANGERS AND SUPPORTS SO THAT PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.
F. INSULATED PIPING:
1. ATTACH CLAMPS AND SPACERS TO PIPING.
a. PIPING OPERATING ABOVE AMBIENT AIR TEMPERATURE: CLAMP MAY PROJECT THROUGH INSULATION.
b. PIPING OPERATING BELOW AMBIENT AIR TEMPERATURE: USE THERMAL-HANGER SHIELD INSERT WITH CLAMP SIZED TO MATCH OD OF INSERT.
2. INSTALL MSS SP-58, TYPE 39, PROTECTION SADDLES IF INSULATION WITHOUT VAPOR BARRIER IS INDICATED. FIT ALL INTERIOR Voids WITH INSULATION THAT MATCHES ADJOINING INSULATION.
a. OPTION: THERMAL-HANGER SHIELD INSERTS MAY BE USED, INCLUDE STEEL WEIGHT-DISTRIBUTION PLATE FOR PIPE NPS 4 AND LARGER IF PIPE IS INSTALLED ON ROLLERS.
3. INSTALL MSS SP-58, TYPE 40, PROTECTIVE SHIELDS ON COLD PIPING WITH VAPOR BARRIER. SHIELDS SHALL SPAN AN ARC OF 180 DEGREES.
a. OPTION: THERMAL-HANGER SHIELD INSERTS MAY BE USED, INCLUDE STEEL WEIGHT-DISTRIBUTION PLATE FOR PIPE NPS 4 AND LARGER IF PIPE IS INSTALLED ON ROLLERS.
4. SHIELD DIMENSIONS FOR PIPE NOT LESS THAN THE FOLLOWING:
a. NPS 1/4 TO NPS 3-1/2: 12 INCHES LONG AND 0.048 INCH THICK.
5. THERMAL-HANGER SHIELDS: INSTALL WITH INSULATION SAME THICKNESS AS PIPING INSULATION.

3.3 HANGER AND SUPPORT SCHEDULE
A. SPECIFIC HANGER AND SUPPORT REQUIREMENTS ARE IN SECTIONS SPECIFYING PIPING SYSTEMS AND EQUIPMENT.
B. COMPLY WITH MSS SP-58 FOR PIPE-HANGER SELECTIONS AND APPLICATIONS THAT ARE NOT IN THE GALVANIZED-STEEL PIPE SLEEVES AND PIPING SYSTEM SECTIONS.
C. USE HANGERS AND SUPPORTS WITH GALVANIZED METALLIC COATINGS FOR PIPING AND EQUIPMENT THAT WILL NOT HAVE FIELD-APPLIED FINISH.
D. USE THERMAL-HANGER SHIELD INSERTS FOR INSULATED PIPING AND TUBING.
E. HORIZONTAL-PIPING HANGERS AND SUPPORTS UNLESS OTHERWISE INDICATED AND EXCEPT AS SPECIFIED IN PIPING SYSTEM SECTIONS, INSTALL THE FOLLOWING TYPES:
1. ADJUSTABLE, STEEL CLEVIS HANGERS (MSS TYPE 1) FOR SUSPENSION OF NONINSULATED OR INSULATED, STATIONARY PIPES NPS 1/2 TO NPS 30.
2. YOKE-TYPE PIPE CLAMPS (MSS TYPE 2) FOR SUSPENSION OF UP TO 1050 DEG F, PIPES NPS 4 TO NPS 24, REQUIRING UP TO 4 INCHES OF INSULATION.
END OF SECTION 230529

SECTION 230553 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT
PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. EQUIPMENT LABELS.
2. PIPE LABELS.
3. DUCT LABELS.
1.2 ACTION SUBMITTALS
A. PRODUCT DATA FOR EACH TYPE OF PRODUCT.
PART 2 - PRODUCTS
2.1 EQUIPMENT LABELS
A. METAL LABELS FOR EQUIPMENT:
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. CRAFTMARK PIPE MARKERS.
b. SETON IDENTIFICATION PRODUCTS, A BRADY CORPORATION COMPANY.
c. DR APPROVED EQUAL.
2. MATERIAL AND THICKNESS: BRASS, 0.032-INCH MINIMUM THICKNESS, AND HAVING PREDRILLED OR STAMPED HOLES FOR ATTACHMENT HARDWARE.
3. LETTER COLOR: BLACK.
4. BACKGROUND COLOR: WHITE.
5. MINIMUM LABEL SIZE: LENGTH AND WIDTH VARY FOR REQUIRED LABEL CONTENT, BUT NOT LESS THAN 2-1/2 BY 3/4 INCH.
6. MINIMUM LETTER SIZE: 1/4 INCH FOR NAME OF UNITS IF VIEWING DISTANCE IS LESS THAN 24 INCHES, 1/2 INCH FOR VIEWING DISTANCES UP TO 72 INCHES, AND PROPORTIONATELY LARGER LETTERING FOR GREATER VIEWING DISTANCES. INCLUDE SECONDARY LETTERING TWO-THIRDS TO THREE-QUARTERS THE SIZE OF PRIMARY LETTERING.
7. FASTENERS: STAINLESS-STEEL RIVETS OR SELF-TAPPING SCREWS.
8. ADHESIVE: CONTACT-TYPE PERMANENT ADHESIVE, COMPATIBLE WITH LABEL AND WITH SUBSTRATE.
2.2 PIPE LABELS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. CRAFTMARK PIPE MARKERS.
2. SETON IDENTIFICATION PRODUCTS, A BRADY CORPORATION COMPANY.
3. DR APPROVED EQUAL.
B. GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION ACCORDING TO ASME A13.1.
C. PREFINISHED PIPE LABELS: PRECISED, ATTACHED TO PLASTIC FORMED TO COVER FULL CIRCUMFERENCE OF PIPE AND TO SECURE PIPE WITHOUT FASTENERS OR ADHESIVE.
D. SELF-ADHESIVE PIPE LABELS: PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT ADHESIVE ON BACK.
E. PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS; ALSO INCLUDE PIPE SIZE AND AN ARROW INDICATING FLOW DIRECTION.
1. FLOW-DIRECTION ARROWS: INTEGRAL WITH PIPING SYSTEM SERVICE LETTERING TO ACCOMMODATE BOTH DIRECTIONS OR AS SEPARATE UNIT ON EACH PIPE LABEL TO INDICATE FLOW DIRECTION.
2. LETTERING SIZE: SIZE LETTERS ACCORDING TO ASME A13.1 FOR PIPING.
2.3 DUCT LABELS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. CRAFTMARK PIPE MARKERS.
2. SETON IDENTIFICATION PRODUCTS, A BRADY CORPORATION COMPANY.
3. DR APPROVED EQUAL.
B. MATERIAL AND THICKNESS: MULTILAYER, MULTICOLOR, PLASTIC LABELS FOR MECHANICAL ENGRAVING, 1/8 INCH THICK, AND HAVING PREDRILLED HOLES FOR ATTACHMENT HARDWARE.
C. LETTER COLOR: BLACK.
D. BACKGROUND COLOR: WHITE.
E. MAXIMUM TEMPERATURE: ABLE TO WITHSTAND TEMPERATURES UP TO 160 DEG F.
F. MINIMUM LABEL SIZE: LENGTH AND WIDTH VARY FOR REQUIRED LABEL CONTENT, BUT NOT LESS THAN 2-1/2 BY 3/4 INCH.
G. MINIMUM LETTER SIZE: 1/4 INCH FOR NAME OF UNITS IF VIEWING DISTANCE IS LESS THAN 24 INCHES, 1/2 INCH FOR VIEWING DISTANCES UP TO 72 INCHES, AND PROPORTIONATELY LARGER LETTERING FOR GREATER VIEWING DISTANCES. INCLUDE SECONDARY LETTERING TWO-THIRDS TO THREE-QUARTERS THE SIZE OF PRINCIPAL LETTERING.
H. FASTENERS: STAINLESS-STEEL RIVETS OR SELF-TAPPING SCREWS.
I. ADHESIVE: CONTACT-TYPE PERMANENT ADHESIVE, COMPATIBLE WITH LABEL AND WITH SUBSTRATE.
J. DUCT LABEL CONTENTS: INCLUDE IDENTIFICATION OF DUCT SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS; ALSO INCLUDE DUCT SIZE AND AN ARROW INDICATING FLOW DIRECTION.
1. FLOW-DIRECTION ARROWS: INTEGRAL WITH DUCT SYSTEM SERVICE LETTERING TO ACCOMMODATE BOTH DIRECTIONS OR AS SEPARATE UNIT ON EACH DUCT LABEL TO INDICATE FLOW DIRECTION.

PART 3 - EXECUTION
3.1 PREPARATION
A. CLEAN PIPING AND EQUIPMENT SURFACES OF SUBSTANCES THAT COULD IMPAIR BOND OF IDENTIFICATION DEVICES, INCLUDING DIRT, OIL, GREASE, RELEASE AGENTS, AND INCOMPATIBLE PRIMERS, PAINTS, AND ENCAPSULANTS.
3.2 EQUIPMENT LABEL INSTALLATION
A. INSTALL OR PERMANENTLY FASTEN LABELS ON EACH MAJOR ITEM OF MECHANICAL EQUIPMENT.
B. LOCATE EQUIPMENT LABELS WHERE ACCESSIBLE AND VISIBLE.
3.3 PIPE LABEL INSTALLATION
A. PIPE LABEL LOCATIONS: LOCATE PIPE LABELS WHERE PIPING IS EXPOSED OR ABOVE ACCESSIBLE CEILING IN FINISHED SPACES, MACHINERY ROOMS, ACCESSIBLE MAINTENANCE SPACES SUCH AS SHAFTS, TUNNELS, AND PLenums) AND EXTERIOR EXPOSED LOCATIONS AS FOLLOWS:
1. NEAR EACH VALVE AND CONTROL DEVICE.
2. NEAR EACH BRANCH CONNECTION, EXCLUDING SHORT TAKEOFFS FOR FIXTURES AND TERMINAL UNITS. WHERE FLOW PATTERN IS NOT OBVIOUS, MARK EACH PIPE AT BRANCH.
3. NEAR PENETRATIONS AND ON BOTH SIDES OF THROUGH WALLS, FLOORS, CEILINGS, AND INACCESSIBLE ENCLOSURES.
4. AT ACCESS DOORS, MANHOLES, AND SIMILAR ACCESS POINTS THAT PERMIT VIEW OF CONCEALED PIPING.
5. NEAR MAJOR EQUIPMENT ITEMS AND OTHER POINTS OF ORIGIN AND TERMINATION.
6. SPACED AT MAXIMUM INTERVALS OF 50 FEET ALONG EACH RUN. REDUCE INTERVALS TO 25 FEET IN AREAS OF CONGESTED PIPING AND EQUIPMENT.
7. ON PIPING ABOVE REMOVABLE ACoustical CEILINGs, OMIT INTERMEDIATELY SPACED LABELS.
B. DIRECTIONAL FLOW ARROWS: ARROWS SHALL BE USED TO INDICATE DIRECTION OF FLOW IN PIPES, INCLUDING PIPES WHERE FLOW IS ALLOWED IN BOTH DIRECTIONS.
C. PIPE LABEL COLOR SCHEDULE:
1. REFRIGERANT PIPING: BLACK LETTERS ON A SAFETY-DANGER BACKGROUND.
3.4 DUCT LABEL INSTALLATION
A. INSTALL PLASTIC-LAMINATED DR SELF-ADHESIVE DUCT LABELS WITH PERMANENT ADHESIVE ON INSIDE OF DUCTS IN THE SPECIFIED LABEL COLORS, TEXT, AND DIRECTIONAL FLOWS FOR EACH COMPONENT PART ARE DESCRIBED IN A SINGLE COMPREHENSIVE TABLE THAT IS CHAPTER 5, APPENDIX A, BUILDING SERVICES IDENTIFICATION LABELING. THIS LABELING SYSTEM MUST BE PART OF ANY CONSTRUCTION PROJECT, EVEN THOSE THAT ARE LIMITED TO A PORTION OF A BUILDING OR A SINGLE FLOOR OR LEVEL OF A BUILDING SYSTEM.
B. LOCATE LABELS NEAR POINTS WHERE DUCTS ENTER INTO AND EXIT FROM CONCEALED SPACES AND AT MAXIMUM INTERVALS OF 50 FEET IN EACH SPACE WHERE DUCTS ARE EXPOSED OR CONCEALED BY REMOVABLE CEILING SYSTEM.
END OF SECTION 230553



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KEY PLAN:
PROJECT TITLE/ADDRESS:
TOWN OF POLAND, ME
POLAND TOWN OFFICE
HVAC MODIFICATIONS

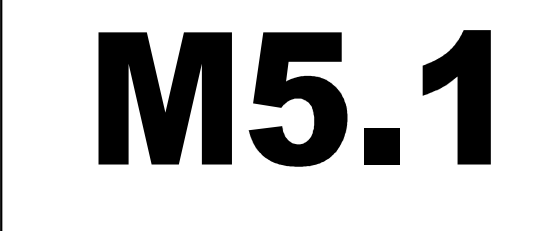
1231 Maine Street
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ISSUE:
PRE-BID DOCUMENTS
08/12/2022

NOT FOR CONSTRUCTION

PROJ. NO.:	S1386	STAMP
SCALE:	AS NOTED	
DES. BY:	TWB/JDP	
DRAWN BY:	JDP	
CHECKED BY:	TWB	
ISSUE DATE:	08/04/2022	
REVISIONS		

SHEET TITLE:
SPECIFICATIONS
SHEET 1 OF 3



SECTION 230993 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS
A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

- A. SECTION INCLUDES
1. BALANCING AIR SYSTEMS
2. TESTING, ADJUSTING, AND BALANCING EQUIPMENT:
a. HEAT EXCHANGERS.
b. MOTORS.
c. CONDENSING UNITS.
d. HEAT-TRANSFER COILS.

1.3 INFORMATIONAL SUBMITTALS

- A. QUALIFICATION DATA WITHIN 30 DAYS OF CONTRACTOR'S NOTICE TO PROCEED, SUBMIT DOCUMENTATION THAT THE TAB SPECIALIST AND THIS PROJECT'S TAB TEAM MEMBERS MEET THE QUALIFICATIONS SPECIFIED IN "QUALITY ASSURANCE" ARTICLE.

1.4 QUALITY ASSURANCE

- 1. TAB SPECIALISTS QUALIFICATIONS: CERTIFIED BY AABC OR NEBB.
2. TAB FAN SUPERVISOR EMPLOYEE OF THE TAB SPECIALIST AND CERTIFIED BY AABC OR NEBB.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. EXAMINE THE CONTRACT DOCUMENTS TO BECOME FAMILIAR WITH PROJECT REQUIREMENTS AND TO DISCOVER CONDITIONS IN SYSTEMS DESIGNS THAT MAY PRECLUDE PROPER TAB OF SYSTEMS AND EQUIPMENT.
B. EXAMINE INSTALLED SYSTEMS FOR BALANCING DEVICES, SUCH AS TEST PORTS, GAGE COCKS, THERMOMETER WELLS, FLOW-CONTROL DEVICES, BALANCING VALVES AND FITTINGS, AND MANUAL VOLUME DAMPERS. VERIFY THAT LOCATIONS OF THESE BALANCING DEVICES ARE APPLICABLE FOR INTENDED PURPOSE AND ARE ACCESSIBLE.
C. EXAMINE THE APPROVED SUBMITTALS FOR HVAC SYSTEMS AND EQUIPMENT.
D. EXAMINE DESIGN DATA INCLUDING HVAC SYSTEM DESCRIPTIONS, STATEMENTS OF DESIGN ASSUMPTIONS FOR ENVIRONMENTAL CONDITIONS AND SYSTEMS OUTPUT, AND STATEMENTS OF PHILOSOPHIES AND ASSUMPTIONS ABOUT HVAC SYSTEM AND EQUIPMENT CONTROLS.
E. EXAMINE SYSTEM AND EQUIPMENT INSTALLATIONS AND VERIFY THAT FIELD QUALITY-CONTROL TESTING, CLEANING, AND ADJUSTING SPECIFIED IN INDIVIDUAL SECTIONS HAVE BEEN PERFORMED.
F. EXAMINE HEAT-TRANSFER COILS FOR CORRECT PIPING CONNECTIONS AND FOR CLEAN AND STRAIGHT FINS.
G. VERIFY IDENTIFICATIONS DISCOVERED BEFORE AND DURING PERFORMANCE OF TAB PROCEDURES. OBSERVE AND RECORD SYSTEM REACTIONS TO CHANGES IN CONDITIONS. RECORD DEFAULT SET POINTS IF DIFFERENT FROM INDICATED VALUES.

3.2 PREPARATION

- A. PREPARE A TAB PLAN THAT INCLUDES THE FOLLOWING:
1. EQUIPMENT AND SYSTEMS TO BE TESTED.
2. STRATEGIES AND STEP-BY-STEP PROCEDURES FOR BALANCING THE SYSTEMS.
3. INSTRUMENTATION TO BE USED.
4. SAMPLE FORMS WITH SPECIFIC IDENTIFICATION FOR ALL EQUIPMENT.
B. PERFORM SYSTEM-READINESS CHECKS OF HVAC SYSTEMS AND EQUIPMENT TO VERIFY SYSTEM READINESS FOR TAB WORK. INCLUDE, AT A MINIMUM, THE FOLLOWING:
1. AIRSIDE:
a. DUCT SYSTEMS ARE COMPLETE WITH TERMINALS INSTALLED.
b. VOLUME, SMOKE, AND FIRE DAMPERS ARE OPEN AND FUNCTIONAL.
c. CLEAN FILTERS ARE INSTALLED.
d. FANS ARE OPERATING, FREE OF VIBRATION, AND ROTATING IN CORRECT DIRECTION.
e. CEILING ARE INSTALLED.
f. WINDOWS AND DOORS ARE INSTALLED.
g. SUITABLE ACCESS TO BALANCING DEVICES AND EQUIPMENT IS PROVIDED.

3.3 GENERAL PROCEDURES FOR TESTING AND BALANCING

- A. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN AABC'S "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE" (FORM E) OR NEBB'S "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS" (SMACNA'S "HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING" AND IN THIS SECTION.
B. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY FOR TAB PROCEDURES.
1. AFTER TESTING AND BALANCING, PATCH PROBE HOLES IN DUCTS WITH SAME MATERIAL AND THICKNESS AS USED TO CONSTRUCT DUCTS.
C. MARK EQUIPMENT AND BALANCING DEVICES INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND LABELS, WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS.
D. TAKE AND REPORT TESTING AND BALANCING MEASUREMENTS IN INCH-POUND (IP) UNITS.

3.4 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

- A. PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES. CROSS-CHECK THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED FAN VOLUMES.
B. LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.
C. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.
D. CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.
E. CHECK FOR AIRFLOW BLOCKAGES.
F. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.
G. CHECK FOR PROPER SEALING OF AIR-HANDLING-UNIT COMPONENTS.

3.5 PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

- A. ADJUST FANS TO DELIVER TOTAL INDICATED AIRFLOWS WITHIN THE MAXIMUM ALLOWABLE FAN SPEED LISTED BY FAN MANUFACTURER.
1. MEASURE TOTAL AIRFLOW.
a. SET OUTSIDE-AIR, RETURN-AIR, AND RELIEF-AIR DAMPERS FOR PROPER POSITION THAT SIMULATES MINIMUM OUTDOOR-AIR CONDITION.
b. WHERE DUCT CONDITIONS ALLOW, MEASURE AIRFLOW BY PITOT-TUBE TRAVERSE. IF NECESSARY, PERFORM MULTIPLE PITOT-TUBE TRAVERSES TO OBTAIN TOTAL AIRFLOW.
c. WHERE DUCT CONDITIONS ARE NOT SUITABLE FOR PITOT-TUBE TRAVERSE MEASUREMENTS, A COIL TRAVERSE MAY BE APPLICABLE.
d. IF A RELIABLE PITOT-TUBE TRAVERSE OR COIL TRAVERSE IS NOT POSSIBLE, MEASURE AIRFLOW AT TERMINALS AND CALCULATE THE TOTAL AIRFLOW.
2. MEASURE FAN STATIC PRESSURES AS FOLLOWS:
a. MEASURE STATIC PRESSURE DIRECTLY AT THE FAN OUTLET OR THROUGH THE FLEXIBLE CONNECTION.
b. MEASURE STATIC PRESSURE DIRECTLY AT THE FAN INLET OR THROUGH THE FLEXIBLE CONNECTION.
c. MEASURE STATIC PRESSURE ACROSS EACH COMPONENT THAT MAKES UP THE AIR-HANDLING SYSTEM.
d. REPORT ARTIFICIAL LOADING OF FILTERS AT THE TIME STATIC PRESSURES ARE MEASURED.
3. REVIEW RECORD DOCUMENTS TO DETERMINE VARIATIONS IN DESIGN STATIC PRESSURES VERSUS ACTUAL STATIC PRESSURES. CALCULATE ACTUAL SYSTEM-EFFECT FACTORS. RECOMMEND ADJUSTMENTS TO ACCOMMODATE ACTUAL CONDITIONS.
4. OBTAIN APPROVAL FROM CONSTRUCTION MANAGER FOR ADJUSTMENT OF FAN SPEED HIGHER OR LOWER THAN INDICATED SPEED. COMPLY WITH REQUIREMENTS IN HVAC SECTIONS FOR AIR-HANDLING UNITS FOR ADJUSTMENT OF FANS, BELTS, AND PULLEY SIZES TO ACHIEVE INDICATED AIR-HANDLING-UNIT PERFORMANCE.
5. DO NOT MAKE FAN-SPEED ADJUSTMENTS THAT RESULT IN MOTOR OVERLOAD. CONSULT EQUIPMENT MANUFACTURERS ABOUT FAN-SPEED SAFETY FACTORS. MODULATE DAMPERS AND MEASURE FAN-MOTOR AMPERAGE TO ENSURE THAT NO OVERLOAD OCCURS. MEASURE AMPERAGE FULL-COOLING, FULL-HEATING, ECONOMIZER, AND ANY OTHER OPERATING MODE TO DETERMINE THE MAXIMUM REFRIGERANT BRANCH DUCTS AND MAJOR BRANCH DUCTS TO INDICATED AIRFLOWS.
1. MEASURE AIRFLOW OF SUBMAIN AND BRANCH DUCTS.
2. ADJUST SUBMAIN AND BRANCH DUCT VOLUME DAMPERS FOR SPECIFIED AIRFLOW.
3. RE-MEASURE EACH SUBMAIN AND BRANCH DUCT AFTER ALL HAVE BEEN ADJUSTED.
4. ADJUST AIR INLETS AND OUTLETS FOR EACH SPACE TO INDICATED AIRFLOWS.
1. SET AIRFLOW PATTERNS OF ADJUSTABLE OUTLETS FOR PROPER DISTRIBUTION WITHOUT DRAFTS.
2. MEASURE INLETS AND OUTLETS AIRFLOW.
3. ADJUST EACH INLET AND OUTLET FOR SPECIFIED AIRFLOW.
4. RE-MEASURE EACH INLET AND OUTLET AFTER THEY HAVE BEEN ADJUSTED.
D. VERIFY FINAL SYSTEM CONDITIONS.
1. RE-MEASURE AND CONFIRM THAT MINIMUM OUTDOOR, RETURN, AND RELIEF AIRFLOWS ARE WITHIN DESIGN. RE-ADJUST TO DESIGN IF NECESSARY.
2. RE-MEASURE AND CONFIRM THAT TOTAL AIRFLOW IS WITHIN DESIGN.
3. RE-MEASURE ALL FINAL FAN OPERATING DATA, RPMs, VOLTS, AMPS, AND STATIC PROFILE.
4. MARK ALL FINAL SETTINGS.
5. TEST SYSTEM IN ECONOMIZER MODE. VERIFY PROPER OPERATION AND ADJUST IF NECESSARY.
6. MEASURE AND RECORD ALL OPERATING DATA.

7. RECORD FINAL FAN-PERFORMANCE DATA

3.6 PROCEDURES FOR CONDENSING UNITS

- A. VERIFY PROPER ROTATION OF FANS.
B. MEASURE ENTERING- AND LEAVING-AIR TEMPERATURES.
C. RECORD FAN AND MOTOR OPERATING DATA.

3.7 TOLERANCES

- A. SET FAN SYSTEM'S AIRFLOW RATES AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:
1. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS OR MINUS 10 PERCENT.
2. AIR OUTLETS AND INLETS: PLUS OR MINUS 10 PERCENT.
3. MAINTAINING PRESSURE RELATIONSHIPS AS DESIGNED SHALL HAVE PRIORITY OVER THE TOLERANCES SPECIFIED ABOVE.

3.8 FINAL REPORT

- A. GENERAL: PREPARE A CERTIFIED WRITTEN REPORT; TABULATE AND DIVIDE THE REPORT INTO SEPARATE SECTIONS FOR TESTED SYSTEMS AND BALANCED SYSTEMS.
1. INCLUDE A CERTIFICATION SHEET AT THE FRONT OF THE REPORT'S BINDER, SIGNED AND SEALED BY THE CERTIFIED TESTING AND BALANCING ENGINEER.
2. INCLUDE A LIST OF INSTRUMENTS USED FOR PROCEDURES, ALONG WITH PROOF OF CALIBRATION.
3. CERTIFY VALIDITY AND ACCURACY OF FIELD DATA.
B. FINAL REPORT CONTENTS: IN ADDITION TO CERTIFIED FIELD-REPORT DATA, INCLUDE THE FOLLOWING:
1. FAN CURVES.
2. MANUFACTURER'S TEST DATA.
3. FIELD TEST REPORTS PREPARED BY SYSTEM AND EQUIPMENT INSTALLERS.
4. OTHER INFORMATION RELATIVE TO EQUIPMENT PERFORMANCE; DO NOT INCLUDE SHOP DRAWINGS AND PRODUCT DATA.
C. GENERAL REPORT DATA: IN ADDITION TO FORM TITLES AND ENTRIES, INCLUDE THE FOLLOWING DATA:
1. TITLE PAGE.
2. NAME AND ADDRESS OF THE TAB SPECIALIST.
3. PROJECT NAME.
4. PROJECT LOCATION.
5. ENGINEER'S NAME AND ADDRESS.
6. CONTRACTOR'S NAME AND ADDRESS.
7. REPORT DATE.
8. SIGNATURE OF TAB SUPERVISOR WHO CERTIFIES THE REPORT.
9. TABLE OF CONTENTS WITH THE TOTAL NUMBER OF PAGES DEFINED FOR EACH SECTION OF THE REPORT, NUMBER EACH PAGE IN THE REPORT.
10. SUMMARY OF CONTENTS INCLUDING THE FOLLOWING:
a. INDICATED VERSUS FINAL PERFORMANCE.
b. NOTABLE CHARACTERISTICS OF SYSTEMS.
c. DESCRIPTION OF SYSTEM OPERATION SEQUENCE IF IT VARIES FROM THE CONTRACT DOCUMENTS.
11. NOMENCLATURE SHEETS FOR EACH ITEM OF EQUIPMENT.
12. DATA FOR TERMINAL UNITS, INCLUDING MANUFACTURER'S NAME, TYPE, SIZE, AND FITTINGS.
13. NOTES TO EXPLAIN WHY CERTAIN FINAL DATA IN THE BODY OF REPORTS VARY FROM INDICATED VALUES.
14. TEST CONDITIONS FOR FANS AND PUMP PERFORMANCE FORMS INCLUDING THE FOLLOWING:
a. SETTINGS FOR OUTDOOR-, RETURN-, AND EXHAUST-AIR DAMPERS.
b. CONDITIONS OF FILTERS.
c. COOLING COIL, VET- AND DRY-BULB CONDITIONS.
d. FACE AND BYPASS DAMPER SETTINGS AT COILS.
e. FAN DRIVE SETTINGS INCLUDING SETTINGS AND PERCENTAGE OF MAXIMUM PITCH DIAMETER.
f. INLET VANE SETTINGS FOR VARIABLE-AIR-VOLUME SYSTEMS.
g. SETTINGS FOR SUPPLY-AIR, STATIC-PRESSURE CONTROLLER.
h. OTHER SYSTEM OPERATING CONDITIONS THAT AFFECT PERFORMANCE.
D. SYSTEM DIAGRAMS: INCLUDE SCHEMATIC LAYOUTS OF AIR AND HYDRONIC DISTRIBUTION SYSTEMS, PRESENT EACH SYSTEM WITH SINGLE-LINE DIAGRAM AND INCLUDE THE FOLLOWING:
1. QUANTITIES OF OUTDOOR, SUPPLY, RETURN, AND EXHAUST AIRFLOWS.
2. WATER AND STEAM FLOW RATES.
3. DUCT, OUTLET, AND INLET SIZES.
4. PIPE AND VALVE SIZES AND LOCATIONS.
5. TERMINAL UNITS.
6. BALANCING STATIONS.
7. POSITION OF BALANCING DEVICES.
E. FAN TEST REPORTS: FOR SUPPLY, RETURN, AND EXHAUST FANS, INCLUDE THE FOLLOWING:
1. FAN DATA:
a. SYSTEM IDENTIFICATION.
b. LOCATION.
c. MAKE AND TYPE.
d. MODEL NUMBER AND SIZE.
e. MANUFACTURER'S SERIAL NUMBER.
f. ARRANGEMENT AND CLASS.
g. SHEAVE MAKE, SIZE IN INCHES, AND BORE.
h. CENTER-TO-CENTER DIMENSIONS OF SHEAVE AND AMOUNT OF ADJUSTMENTS IN INCHES.
2. MOTOR DATA:
a. MOTOR MAKE, AND FRAME TYPE AND SIZE.
b. HORSEPOWER AND RPM.
c. VOLTS, PHASE, AND HERTZ.
d. FULL-LOAD AMPERAGE AND SERVICE FACTOR.
e. SHEAVE MAKE, SIZE IN INCHES, AND BORE.
f. CENTER-TO-CENTER DIMENSIONS OF SHEAVE, AND AMOUNT OF ADJUSTMENTS IN INCHES.
g. NUMBER, MAKE, AND SIZE OF BELTS.
3. TEST DATA (INDICATED AND ACTUAL VALUES):
a. TOTAL AIRFLOW RATE IN CFM.
b. TOTAL SYSTEM STATIC PRESSURE IN INCHES VG.
c. FAN RPM.
d. DISCHARGE STATIC PRESSURE IN INCHES VG.
e. SUCTION STATIC PRESSURE IN INCHES VG.
F. ROUND FLAT-OVAL AND RECTANGULAR DUCT TRAVERSE REPORTS INCLUDE A DIAGRAM WITH GRID REPRESENTING THE DUCT CROSS-SECTION AND RECORD THE FOLLOWING:
1. REPORT DATA:
a. SYSTEM AND AIR-HANDLING-UNIT NUMBER.
b. LOCATION AND ZONE.
c. APPARATUS USED FOR TEST.
d. AREA SERVED.
e. MAKE.
f. NUMBER FROM SYSTEM DIAGRAM.
g. TYPE AND MODEL NUMBER.
h. SIZE.
i. EFFECTIVE AREA IN SQ. FT.
2. TEST DATA (INDICATED AND ACTUAL VALUES):
a. AIRFLOW RATE IN CFM.
b. AIR VELOCITY IN FPM.
c. PRELIMINARY AIRFLOW RATE AS NEEDED IN CFM.
d. PRELIMINARY VELOCITY AS NEEDED IN FPM.
e. FINAL AIRFLOW RATE IN CFM.
f. FINAL VELOCITY IN FPM.
g. SPACE TEMPERATURE IN DEG. F.
H. INSTRUMENT CALIBRATION REPORTS:
1. REPORT DATA:
a. INSTRUMENT TYPE AND MAKE.
b. SERIAL NUMBER.
c. APPLICATION.

4. DATES OF USE

e. DATES OF CALIBRATION.

3.9 VERIFICATION OF TAB REPORT

- A. THE TAB SPECIALIST'S TEST AND BALANCE ENGINEER SHALL CONDUCT THE INSPECTION IN THE PRESENCE OF OWNER OR ENGINEER.
B. OWNER OR ENGINEER SHALL RANDOMLY SELECT MEASUREMENTS, DOCUMENTED IN THE FINAL REPORT, TO BE RECHECKED. RECHECKING SHALL BE LIMITED TO EITHER 10 PERCENT OF THE TOTAL MEASUREMENTS RECORDED.
C. IF RECHECKS YIELD MEASUREMENTS THAT DIFFER FROM THE MEASUREMENTS DOCUMENTED IN THE FINAL REPORT BY MORE THAN THE TOLERANCES ALLOWED, THE MEASUREMENTS SHALL BE NOTED AS "FAILED".
D. IF THE NUMBER OF "FAILED" MEASUREMENTS IS GREATER THAN 10 PERCENT OF THE TOTAL MEASUREMENTS CHECKED DURING THE FINAL INSPECTION, THE TESTING AND BALANCING SHALL CONSIDERED INCOMPLETE AND SHALL BE REJECTED.
E. IF TAB WORK FAILS, PROCEED AS FOLLOWS:
1. TAB SPECIALISTS SHALL RECHECK ALL MEASUREMENTS AND MAKE ADJUSTMENTS. REVISE THE FINAL REPORT AND BALANCING DEVICE SETTINGS TO INCLUDE ALL CHANGES; RESUBMIT THE FINAL REPORT AND REQUEST A SECOND FINAL INSPECTION.
F. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION 230993

SECTION 230713 - DUCT INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES INSULATING THE FOLLOWING DUCT SERVICES:
1. INDOOR, CONCEALED SUPPLY, RETURN, EXHAUST, AND OUTDOOR AIR.
2. ACTION SUBMITTALS.
A. PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED, INCLUDE THERMAL CONDUCTIVITY, WATER-VAPOR PERMEANCE THICKNESS, AND JACKETS BOTH FACTORY- AND FIELD-APPLIED IF ANY.
3. QUALITY ASSURANCE.
A. INSTALLER QUALIFICATIONS: SKILLED MECHANICS WHO HAVE SUCCESSFULLY COMPLETED AN APPRENTICESHIP PROGRAM OR ANOTHER CRAFT TRAINING PROGRAM CERTIFIED BY THE DEPARTMENT OF LABOR, BUREAU OF APPRENTICESHIP AND TRAINING.
B. SURFACE-BURNING CHARACTERISTICS: FOR INSULATION AND RELATED MATERIALS, AS DETERMINED BY TESTING IDENTICAL PRODUCTS ACCORDING TO ASTM E 84, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. FACTORY LABEL INSULATION AND JACKET MATERIALS AND ADHESIVE, MASTIC, TAPES, AND CEMENT MATERIAL CONTAINERS, WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.
1. INSULATION INSTALLED: INDOORS: FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS.
2. INSULATION INSTALLED: OUTDOORS: FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

- A. COMPLY WITH REQUIREMENTS IN "DUCT INSULATION SCHEDULE, GENERAL," "INDOOR DUCT AND PLENUM INSULATION SCHEDULE," AND "ABOVEGROUND, OUTDOOR DUCT AND PLENUM INSULATION SCHEDULE" ARTICLES FOR WHERE INSULATING MATERIALS SHALL BE APPLIED.
B. PRODUCTS SHALL NOT CONTAIN ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.
C. FLEXIBLE ELASTOMERIC INSULATION: CLOSED-CELL, SPONGE- OR EXPANDED-RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE II, FOR FIBER INSULATION.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AEROFLEX USA
b. ARMACELL LLC
c. K-FLEX USA
D. MINERAL-FIBER BLANKET INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A CONTINUOUS RESIN. COMPLY WITH ASTM C 553, TYPE II, AND ASTM C 1290, TYPE I, WITH FACTORY-APPLIED FSK JACKET, FACTORY-APPLIED JACKET REQUIREMENTS ARE SPECIFIED IN "FACTORY-APPLIED JACKETS" ARTICLE.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. JOHNS MANVILLE, A BERKSHIRE HATHAWAY COMPANY
b. KNAUF INSULATION
c. MANSION INSULATION INC.
d. OWENS CORNING

2.2 ADHESIVES

- A. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES AND FOR BONDING INSULATION TO IT AND TO SURFACES TO BE INSULATED UNLESS OTHERWISE INDICATED.
B. FLEXIBLE ELASTOMERIC AND POLYOLEFIN ADHESIVE: COMPLY WITH MIL-A-24179A, TYPE II, CLASS 1.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AEROFLEX USA
b. ARMACELL LLC
c. COSTER BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
d. K-FLEX USA
C. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316, CLASS 2, GRADE A.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. CHILDERS BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
b. EAGLE BRIDGES - MARATHON INDUSTRIES
c. COSTER BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
d. MIN-EGG INDUSTRIES, INC.

2.3 SEALANTS

- A. FSK AND METAL JACKET FLASHING SEALANTS:
1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES.
2. FIRE- AND WATER-RESISTANT, FLEXIBLE, ELASTOMERIC SEALANT.
3. SERVICE TEMPERATURE RANGE: MINUS 40 TO PLUS 250 DEG F.
4. COLOR: ALUMINUM.
B. FACTORY-APPLIED JACKETS
A. INSULATION SYSTEM SCHEDULES INDICATE FACTORY-APPLIED JACKETS ON VARIOUS APPLICATIONS. WHEN FACTORY-APPLIED JACKETS ARE INDICATED, COMPLY WITH THE FOLLOWING:
1. FSK JACKET: ALUMINUM-FOLI, FIBERGLASS-REINFORCED SCRIM WITH KRAFT-PAPER BACKING; COMPLYING WITH ASTM C 1136, TYPE II.
2. TAPES
A. FSK TAPE: FOLI-FACE, VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AVERY DENISON CORPORATION, SPECIALTY TAPES DIVISION
b. IDEAL TAPE CO., INC., AN AMERICAN BILTITE COMPANY
c. KNAUF INSULATION
2. WIDTH: 3 INCHES.
3. THICKNESS: 6.5 MILS.
4. ADHESION: 90 OUNCES FORCE/INCH IN WIDTH.
5. ELONGATION: 2 PERCENT.
6. TENSILE STRENGTH: 40 LBF/INCH IN WIDTH.
7. FSK TAPE DISKS AND SQUARES: PRECUT DISKS OR SQUARES OF FSK TAPE.

2.4 SECUREMENTS

- A. BANDS:
1. STAINLESS STEEL: ASTM A 167 OR ASTM A 240/A 240M, TYPE 304; 0.015 INCH THICK, 1/2 INCH WIDE WITH WING SEAL OR CLOSED SEAL.
2. ALUMINUM: ASTM B 209, ALLOY 3003, 3005, 3105, OR 5005; TEMPER H-14, 0.020 INCH THICK, 1/2 INCH WIDE WITH WING SEAL OR CLOSED SEAL.
B. INSULATION PINS AND HANGERS:
1. CAPACITOR-DISCHARGE-WELD PINS: COPPER- OR ZINC-COATED STEEL PIN, FULLY ANNEALED FOR CAPACITOR-DISCHARGE WELDING, 0.106-INCH-DIAMETER SHANK, LENGTH TO SUIT DEPTH OF INSULATION INDICATED WITH INTEGRAL 1-1/2-INCH GALVANIZED CARBON-STEEL WASHER.
2. CUPPED-HEAD, CAPACITOR-DISCHARGE-WELD PINS: COPPER- OR ZINC-COATED STEEL PIN, FULLY ANNEALED FOR CAPACITOR-DISCHARGE WELDING, 0.106-INCH-DIAMETER SHANK, LENGTH TO SUIT DEPTH OF INSULATION INDICATED WITH INTEGRAL 1-1/2-INCH GALVANIZED CARBON-STEEL WASHER.

PART 3 - EXECUTION

3.1 PREPARATION

- A. SURFACE PREPARATION: CLEAN AND DRY SURFACES TO RECEIVE INSULATION. REMOVE MATERIALS THAT WILL ADVERSELY AFFECT INSULATION APPLICATION.
3.2 GENERAL INSTALLATION REQUIREMENTS
A. INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, STRAIGHT, AND EVEN SURFACES FREE OF VOIDS THROUGHOUT THE LENGTH OF DUCTS AND FITTINGS.
B. INSTALL INSULATION MATERIALS, VAPOR BARRIERS OR RETARDERS, JACKETS, AND THICKNESSES REQUIRED FOR EACH ITEM OF DUCT SYSTEM AS SPECIFIED IN INSULATION SYSTEM SCHEDULES.
C. IF THE NUMBER OF "FAILED" MEASUREMENTS IS GREATER THAN 10 PERCENT OF THE TOTAL MEASUREMENTS CHECKED DURING THE FINAL INSPECTION, THE TESTING AND BALANCING SHALL CONSIDERED INCOMPLETE AND SHALL BE REJECTED.
D. IF TAB WORK FAILS, PROCEED AS FOLLOWS:
1. TAB SPECIALISTS SHALL RECHECK ALL MEASUREMENTS AND MAKE ADJUSTMENTS. REVISE THE FINAL REPORT AND BALANCING DEVICE SETTINGS TO INCLUDE ALL CHANGES; RESUBMIT THE FINAL REPORT AND REQUEST A SECOND FINAL INSPECTION.
F. PREPARE TEST AND INSPECTION REPORTS.

END OF SECTION 230713

SECTION 230719 - HVAC PIPING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES INSULATING THE FOLLOWING HVAC PIPING SYSTEMS:
1. CONDENSATE DRAIN PIPING, INDOORS.
2. REFRIGERANT SUCTION AND HOT-GAS PIPING, INDOORS AND OUTDOORS.
3. QUALITY ASSURANCE.
A. INSTALLER QUALIFICATIONS: SKILLED MECHANICS WHO HAVE SUCCESSFULLY COMPLETED AN APPRENTICESHIP PROGRAM OR ANOTHER CRAFT TRAINING PROGRAM CERTIFIED BY THE DEPARTMENT OF LABOR, BUREAU OF APPRENTICESHIP AND TRAINING.
B. SURFACE-BURNING CHARACTERISTICS: FOR INSULATION AND RELATED MATERIALS, AS DETERMINED BY TESTING IDENTICAL PRODUCTS ACCORDING TO ASTM E 84, BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. FACTORY LABEL INSULATION AND JACKET MATERIALS AND ADHESIVE, MASTIC, TAPES, AND CEMENT MATERIAL CONTAINERS, WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.
1. INSULATION INSTALLED: INDOORS: FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS.
2. INSULATION INSTALLED: OUTDOORS: FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

- A. COMPLY WITH REQUIREMENTS IN "PIPPING INSULATION SCHEDULE, GENERAL," "INDOOR PIPING INSULATION SCHEDULE," "OUTDOOR, ABOVEGROUND PIPING INSULATION SCHEDULE," FOR WHERE INSULATING MATERIALS SHALL BE APPLIED.
B. PRODUCTS SHALL NOT CONTAIN ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.
C. FLEXIBLE ELASTOMERIC INSULATION: CLOSED-CELL, SPONGE- OR EXPANDED-RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE I, FOR TUBULAR MATERIALS.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AEROFLEX USA
b. ARMACELL LLC
c. K-FLEX USA
D. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316, CLASS 2, GRADE A.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. CHILDERS BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
b. EAGLE BRIDGES - MARATHON INDUSTRIES
c. COSTER BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
d. MIN-EGG INDUSTRIES, INC.

2.2 ADHESIVES

- A. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES AND FOR BONDING INSULATION TO IT AND TO SURFACES TO BE INSULATED UNLESS OTHERWISE INDICATED.
B. FLEXIBLE ELASTOMERIC AND POLYOLEFIN ADHESIVE: COMPLY WITH MIL-A-24179A, TYPE II, CLASS 1.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AEROFLEX USA
b. ARMACELL LLC
c. COSTER BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
d. K-FLEX USA
C. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316, CLASS 2, GRADE A.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. CHILDERS BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
b. EAGLE BRIDGES - MARATHON INDUSTRIES
c. COSTER BRAND, H. B. FULLER CONSTRUCTION PRODUCTS
d. MIN-EGG INDUSTRIES, INC.

2.3 SEALANTS

- A. FSK AND METAL JACKET FLASHING SEALANTS:
1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES.
2. FIRE- AND WATER-RESISTANT, FLEXIBLE, ELASTOMERIC SEALANT.
3. SERVICE TEMPERATURE RANGE: MINUS 40 TO PLUS 250 DEG F.
4. COLOR: ALUMINUM.
B. FACTORY-APPLIED JACKETS
A. INSULATION SYSTEM SCHEDULES INDICATE FACTORY-APPLIED JACKETS ON VARIOUS APPLICATIONS. WHEN FACTORY-APPLIED JACKETS ARE INDICATED, COMPLY WITH THE FOLLOWING:
1. FSK JACKET: ALUMINUM-FOLI, FIBERGLASS-REINFORCED SCRIM WITH KRAFT-PAPER BACKING; COMPLYING WITH ASTM C 1136, TYPE II.
2. TAPES
A. FSK TAPE: FOLI-FACE, VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136.
1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
a. AVERY DENISON CORPORATION, SPECIALTY TAPES DIVISION
b. IDEAL TAPE CO., INC., AN AMERICAN BILTITE COMPANY
c. KNAUF INSULATION
2. WIDTH: 3 INCHES.
3. THICKNESS: 6.5 MILS.
4. ADHESION: 90 OUNCES FORCE/INCH IN WIDTH.
5. ELONGATION: 2 PERCENT.
6. TENSILE STRENGTH: 40 LBF/INCH IN WIDTH.
7. FSK TAPE DISKS AND SQUARES: PRECUT DISKS OR SQUARES OF FSK TAPE.

2.4 SECUREMENTS

- A. BANDS:
1. STAINLESS STEEL: ASTM A 167 OR ASTM A 240/A 240M, TYPE 304; 0.015 INCH THICK, 1/2 INCH WIDE WITH WING SEAL OR CLOSED SEAL.
2. ALUMINUM: ASTM B 209, ALLOY 3003, 3005, 3105, OR 5005; TEMPER H-14, 0.020 INCH THICK, 1/2 INCH WIDE WITH WING SEAL OR CLOSED SEAL.
B. INSULATION PINS AND HANGERS:
1. CAPACITOR-DISCHARGE-WELD PINS: COPPER- OR ZINC-COATED STEEL PIN, FULLY ANNEALED FOR CAPACITOR-DISCHARGE WELDING, 0.106-INCH-DIAMETER SHANK, LENGTH TO SUIT DEPTH OF INSULATION INDICATED WITH INTEGRAL 1-1/2-INCH GALVANIZED CARBON-STEEL WASHER.
2. CUPPED-HEAD, CAPACITOR-DISCHARGE-WELD PINS: COPPER- OR ZINC-COATED STEEL PIN, FULLY ANNEALED FOR CAPACITOR-DISCHARGE WELDING, 0.106-INCH-DIAMETER SHANK, LENGTH TO SUIT DEPTH OF INSULATION INDICATED WITH INTEGRAL 1-1/2-INCH GALVANIZED CARBON-STEEL WASHER.

A. FLEXIBLE ELASTOMERIC ADHESIVE: COMPLY WITH MIL-A-24179A, TYPE II, CLASS 1

2.3 SEALANTS

- A. SURFACE PREPARATION: CLEAN AND DRY SURFACES TO RECEIVE INSULATION. REMOVE MATERIALS THAT WILL ADVERSELY AFFECT INSULATION APPLICATION.
3.2 GENERAL INSTALLATION REQUIREMENTS
A. INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, STRAIGHT, AND EVEN SURFACES FREE OF VOIDS THROUGHOUT THE LENGTH OF PIPING INCLUDING FITTINGS, VALVES, AND SPECIALTIES.
B. INSTALL INSULATION WITH LONGITUDINAL SEAMS AT TOP AND BOTTOM OF HORIZONTAL RUNS.
C. INSTALL MULTIPLE LAYERS OF INSULATION WITH LONGITUDINAL AND END SEAMS STAGGERED.
D. INSTALL INSULATION WITH TIGHT LONGITUDINAL SEAMS AND END JOINTS. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MATERIAL MANUFACTURER.
E. APPLY ADHESIVES, MASTICS, AND SEALANTS AT MANUFACTURER'S RECOMMENDED COVERAGE RATE AND VET AND DRY FILM THICKNESSES.
F. INSTALL INSULATION WITH FACTORY-APPLIED JACKETS AS FOLLOWS:
1. DRAW JACKET TIGHT AND SMOOTH.
2. COVER CIRCUMFERENTIAL JOINTS WITH 3-INCH-WIDE STRIPS, OF SAME MATERIAL AS INSULATION JACKET, SECURE STRIPS WITH ADHESIVE AND OUTWARD CLINCHING STAPLES ALONG BOTH EDGES OF STRIP, SPACED 4 INCHES O.C.
3. OVERLAP JACKET LONGITUDINAL SEAMS AT LEAST 1-1/2 INCHES. INSTALL INSULATION WITH LONGITUDINAL SEAMS AT BOTTOM OF PIPE. CLEAN AND DRY SURFACE TO RECEIVE SELF-SEALING LAP. STAPLE LAPS WITH OUTWARD CLINCHING STAPLES ALONG EDGE AT 2 INCHES O.C.
4. COVER JOINTS AND SEAMS WITH TAPE, ACCORDING TO INSULATION MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS, TO MAINTAIN VAPOR SEAL.
5. WHERE VAPOR BARRIERS ARE INDICATED, APPLY VAPOR-BARRIER MASTIC ON SEAMS AND JOINTS.

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION REQUIREMENTS

- A. INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, STRAIGHT, AND EVEN SURFACES FREE OF VOIDS THROUGHOUT THE LENGTH OF PIPING INCLUDING FITTINGS, VALVES, AND SPECIALTIES.
B. INSTALL INSULATION WITH LONGITUDINAL SEAMS AT TOP AND BOTTOM OF HORIZONTAL RUNS.
C. INSTALL MULTIPLE LAYERS OF INSULATION WITH LONGITUDINAL AND END SEAMS STAGGERED.
D. INSTALL INSULATION WITH TIGHT LONGITUDINAL SEAMS AND END JOINTS. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MATERIAL MANUFACTURER.
E. APPLY ADHESIVES, MASTICS, AND SEALANTS AT MANUFACTURER'S RECOMMENDED COVERAGE RATE AND VET AND DRY FILM THICKNESSES.
F. INSTALL INSULATION WITH FACTORY-APPLIED JACKETS AS FOLLOWS:
1. DRAW JACKET TIGHT AND SMOOTH.
2. COVER CIRCUMFERENTIAL JOINTS WITH 3-INCH-WIDE STRIPS, OF SAME MATERIAL AS INSULATION JACKET, SECURE STRIPS WITH ADHESIVE AND OUTWARD CLINCHING STAPLES ALONG BOTH EDGES OF STRIP, SPACED 4 INCHES O.C.
3. OVERLAP JACKET LONGITUDINAL SEAMS AT LEAST 1-1/2 INCHES. INSTALL INSULATION WITH LONGITUDINAL SEAMS AT BOTTOM OF PIPE. CLEAN AND DRY SURFACE TO RECEIVE SELF-SEALING LAP. STAPLE LAPS WITH OUTWARD CLINCHING STAPLES ALONG EDGE AT 2 INCHES O.C.
4. COVER JOINTS AND SEAMS WITH TAPE, ACCORDING TO INSULATION MATERIAL MANUFACTURER'S WRITTEN INSTRUCTIONS, TO MAINTAIN VAPOR SEAL.
5. WHERE VAPOR BARRIERS ARE INDICATED, APPLY VAPOR-BARRIER MASTIC ON SEAMS AND JOINTS.

3.2 PENETRATIONS

- A. INSULATION INSTALLATION AT ABOVEGROUND EXTERIOR WALL PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH WALL PENETRATIONS.
1. SEAL PENETRATIONS WITH FLASHING SEALANT.
2. FOR APPLICATIONS REQUIRING ONLY INDOOR INSULATION, TERMINATE INSULATION INSIDE WALL SURFACE AND SEAL WITH JOINT SEALANT. FOR APPLICATIONS REQUIRING EXTERIOR AND OUTDOOR INSULATION, INSTALL INSULATION FOR OUTDOOR APPLICATIONS TIGHTLY JOINED TO INDOOR INSULATION ENDS. SEAL JOINT WITH JOINT SEALANT.
3. EXTEND JACKET OF OUTDOOR INSULATION OUTSIDE WALL FLASHING AND OVERLAP WALL FLASHING AT LEAST 2 INCHES.
4. SEAL JACKET TO WALL FLASHING WITH FLASHING SEALANT.
B. INSULATION INSTALLATION AT INTERIOR WALL AND PARTITION PENETRATIONS (THAT ARE NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS.

3.3 GENERAL PIPE INSULATION INSTALLATION

- A. REQUIREMENTS IN THIS ARTICLE GENERALLY APPLY TO ALL INSULATION MATERIALS EXCEPT WHERE MORE SPECIFIC REQUIREMENTS ARE SPECIFIED IN VARIOUS PIPE INSULATION MATERIAL INSTALLATION ARTICLES.
B. INSULATION INSTALLATION ON FITTINGS, VALVES, STRAINERS, FLANGES, AND UNIONS:
1. INSTALL INSULATION OVER FITTINGS, VALVES, STRAINERS, FLANGES, UNIONS, AND OTHER SPECIALTIES WITH CONTINUOUS THERMAL AND VAPOR-RETARDER INTEGRITY UNLESS OTHERWISE INDICATED.
2. INSULATE PIPE ELBOWS USING PREFORMED FITTING INSULATION OR MITERED FITTINGS MADE FROM SAME MATERIAL AND DENSITY AS ADJACENT PIPE INSULATION. EACH PIECE SHALL BE BUTT JOINTED AGAINST ADJOINING PIECE AND BONDED WITH ADHESIVE. FILE JOINTS, SEAMS, VOIDS, AND IRREGULAR SURFACES WITH INSULATING CEMENT FINISHED TO A SMOOTH, HARD, AND UNIFORM CONTOUR THAT IS UNIFORM WITH ADJOINING PIPE INSULATION.
3. INSULATE TEE FITTINGS WITH PREFORMED FITTING INSULATION OR SECTIONAL PIPE INSULATION OF SAME MATERIAL AND THICKNESS AS USED FOR ADJACENT PIPE. CUT SECTIONAL PIPE INSULATION TO FIT, BUT EACH SECTION CLOSELY TO THE NEXT AND HOLD IN PLACE WITH THE WIRE. BOND PIECES WITH ADHESIVE.
4. INSULATE VALVES USING PREFORMED FITTING INSULATION OR SECTIONAL PIPE INSULATION OF SAME MATERIAL AND THICKNESS AS USED FOR ADJACENT PIPE. OVERLAP ADJOINING PIPE INSULATION BY NOT LESS THAN TWO TIMES THE THICKNESS OF PIPE INSULATION. OR ONE PIPE DIAMETER, WHICHEVER IS THICKER, FOR VALVES. INSULATE UP TO AND INCLUDING THE BONNETS, VALVE STUFFING-BOX STUDS, AND NUTS. FILL JOINTS, SEAMS, AND IRREGULAR SURFACES WITH INSULATING CEMENT.

5. COVER SEGMENTED INSULATED SURFACES WITH A LAYER OF FINISHING CEMENT AND COAT WITH A MASTIC. INSTALL VAPOR-BARRIER MASTIC FOR BELOW-AMBIENT SERVICES AND A BREATHABLE MASTIC FOR ABOVE-AMBIENT SERVICES. REINFORCE THE MASTIC WITH FABRIC-REINFORCING MESH. TROWEL THE MASTIC TO A SMOOTH AND WELL-SHAPED CONTOUR.

6. FOR SERVICES NOT SPECIFIED TO RECEIVE A FIELD-APPLIED JACKET EXCEPT FOR FLEXIBLE ELASTOMERIC AND POLYOLEFIN. INSTALL FITTED PVC COVER OVER ELBOWS, TEES, STRAINERS, VALVES, FLANGES, AND UNIONS. TERMINATE ENDS WITH PVC END CAPS. TAPE PVC COVERS TO ADJOINING INSULATION FINISHING PVC TAPE.

SECTION 232300 - REFRIGERANT PIPING

PART 1 - GENERAL

11. SUMMARY

- A. SECTION INCLUDES:
1. REFRIGERANT PIPES AND FITTINGS.
2. REFRIGERANT PIPING VALVES AND SPECIALTIES.
3. REFRIGERANTS.

1.2 ACTION SUBMITTALS

- A. PRODUCT DATA FOR EACH TYPE OF VALVE, REFRIGERANT PIPING, AND PIPING SPECIALTY.

1.3 PRODUCT STORAGE AND HANDLING

- A. STORE PIPING WITH END CAPS IN PLACE TO ENSURE THAT PIPING INTERIOR AND EXTERIOR ARE CLEAN WHEN INSTALLED.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. LINE TEST PRESSURE FOR REFRIGERANT R-410A:
1. SUCTION LINES FOR AIR-CONDITIONING APPLICATIONS 300 PSIG.
2. SUCTION LINES FOR HEAT-PUMP APPLICATIONS 535 PSIG.
3. HOT-GAS AND LIQUID LINES 535 PSIG.

2.2 COPPER TUBE AND FITTINGS

- A. COPPER TUBE: ASTM B 88, TYPE K OR L.
B. WROUGHT-COPPER FITTINGS: ASME B16.22.
C. WROUGHT-COPPER UNIONS: ASME B16.22.
D. SOLDER FILLER METALS: ASTM B 32, USE 95-5 TIN ANTIMONY OR ALLOY HB SOLDER TO JOIN COPPER SOCKET FITTINGS ON COPPER PIPE.
E. BRAZING FILLER METALS: AWS A5.8/A5.8M.

F. FLEXIBLE CONNECTORS

- 1. BODY: BRASS BELLGOWNS WITH WOVEN, FLEXIBLE, TINED-BRONZE-WIRE-REINFORCED PROTECTIVE JACKET.
2. END CONNECTIONS: SOCKET ENDS.
3. DEFLECT PERFORMANCE: CAPABLE OF MINIMUM 3/4-INCH MISALIGNMENT IN MINIMUM 7-INCH LONG ASSEMBLY.
4. WORKING PRESSURE RATING: FACTORY TEST AT MINIMUM 500 PSIG.
5. MAXIMUM OPERATING TEMPERATURE: 250 DEG F.

2.3 VALVES AND SPECIALTIES

- A. CHECK VALVES:
1. BODY AND BONNET: FORGED BRASS OR CAST BRONZE.
2. PACKING: MOLDED STEM, BACK SEATING, AND REPLACEABLE UNDER PRESSURE.
3. OPERATOR: RISING STEM.
4. SEAT: NONROTATING, SELF-ALIGNING POLYETYLENEFLUORIDEHYDRENE.
5. SEAL: CAP FORGED-BRASS OR VALDIX HEX CAP.
6. END CONNECTIONS: SOCKET, UNION, THREADED, OR FLANGED.
7. WORKING PRESSURE RATING: 500 PSIG.
8. MAXIMUM OPERATING TEMPERATURE: 275 DEG F.

B. CHECK VALVES:

- 1. BODY: DUCTILE IRON, FORGED BRASS, OR CAST BRONZE, GLOBE PATTERN.
2. BONNET: BOLTED DUCTILE IRON, FORGED BRASS, OR CAST BRONZE, DR BRASS HEX PLUG.
3. PISTON: REMOVABLE POLYTETRAFLUOROETHYLENE SEAT.
4. CLOSING SPRING: STAINLESS STEEL.
5. END CONNECTIONS: SOCKET, UNION, THREADED, OR FLANGED.
6. MAXIMUM OPERATING TEMPERATURE: 500 PSIG.
7. WORKING PRESSURE RATING: 500 PSIG.
8. MAXIMUM OPERATING TEMPERATURE: 275 DEG F.

C. SAFETY RELIEF VALVES

- 1. BODY AND BONNET: DUCTILE IRON AND STEEL, WITH NEOPRENE O-RING SEAL.
2. PISTON, CLOSING SPRING, AND SEAT INSERT: STAINLESS STEEL.
3. SEAT: POLYTETRAFLUOROETHYLENE.
4. END CONNECTIONS: THREADED.
5. WORKING PRESSURE RATING: 400 PSIG.
6. MAXIMUM OPERATING TEMPERATURE: 240 DEG F.

D. THERMOSTATIC EXPANSION VALVES

- 1. BODY, BONNET, AND SEAL: CAP FORGED BRASS OR STEEL.
2. DIAPHRAGM, PISTON, CLOSING SPRING, AND SEAT INSERT: STAINLESS STEEL.
3. PACKING AND GASKETS: NON-ASBESTOS.
4. CAPILLARY AND BUBBLE COPPER TUBING FILLED WITH REFRIGERANT CHARGE.
5. SUCTION TEMPERATURE: 40 DEG F.
6. SUPERHEAT: ADJUSTABLE.
7. REVERSE-FLOW OPTION (FOR HEAT-PUMP APPLICATIONS).
8. END CONNECTIONS: SOCKET, FLARE, DR THREADED UNION.
9. WORKING PRESSURE RATING: 700 PSIG.

E. STRAIGHT-TYPE STRAINERS

- 1. BODY: WELDED STEEL WITH CORROSION-RESISTANT COATING.
2. SCREEN: 100-MESH STAINLESS STEEL.
3. END CONNECTIONS: SOCKET OR FLARE.
4. WORKING PRESSURE RATING: 500 PSIG.
5. MAXIMUM OPERATING TEMPERATURE: 275 DEG F.

F. ANGLE-TYPE STRAINERS

- 1. BODY: FORGED BRASS OR CAST BRONZE.
2. DRAIN PLUG: BRASS HEX PLUG.
3. SCREEN: 100-MESH MENE.
4. END CONNECTIONS: SOCKET OR FLARE.
5. WORKING PRESSURE RATING: 500 PSIG.
6. MAXIMUM OPERATING TEMPERATURE: 275 DEG F.

G. MOISTURE/LIQUID INDICATORS

- 1. BODY: FORGED BRASS.
2. WINDOW: REMOVABLE, CLEAR, FUSED GLASS WINDOW WITH INDICATING ELEMENT PROTECTED BY FILTER SCREEN.
3. INDICATOR COLOR CODED TO SHOW MOISTURE CONTENT IN PARTS PER MILLION (PPM).
4. MINIMUM SENSITIVITY INDICATOR SENSITIVITY: INDICATE MOISTURE ABOVE 60 PPM.
5. END CONNECTIONS: SOCKET OR FLARE.
6. WORKING PRESSURE RATING: 500 PSIG.
7. MAXIMUM OPERATING TEMPERATURE: 240 DEG F.

H. REPLACEABLE-CORE FILTER DRYERS

- 1. BODY AND COVER: PAINTED-STEEL SHELL WITH DUCTILE-IRON COVER, STAINLESS-STEEL SCREWS, AND NEOPRENE GASKETS.
2. FILTER: MEDIA 10 MICRON, PLEATED WITH INTEGRAL END RINGS; STAINLESS-STEEL SUPPORT.
3. DESCICANT MEDIA: ACTIVATED ALUMINA.
4. DESIGNED FOR REVERSE FLOW (FOR HEAT-PUMP APPLICATIONS).
5. END CONNECTIONS: FLARE.
6. ACCESS PORTS: 1/4 CONNECTIONS AT ENTERING AND LEAVING SIDES FOR PRESSURE DIFFERENTIAL MEASUREMENT.
7. MAXIMUM PRESSURE LOSS: 2 PSIG.
8. WORKING PRESSURE RATING: 500 PSIG.
9. MAXIMUM OPERATING TEMPERATURE: 240 DEG F.

2.4 REFRIGERANTS

- A. ASHRAE 34, R-410A PENTAFLUORIDE/1,1-DIFLUOROMETHANE.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS FOR REFRIGERANT R-410A

- A. HOT-GAS AND LIQUID LINES, AND SUCTION LINES FOR HEAT-PUMP APPLICATIONS: COPPER, TYPE AC, TYPE K, TYPE L, DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH ALLOY HB BRAZED JOINTS.
B. SAFETY-RELIEF-VALVE DISCHARGE PIPING: COPPER, TYPE L, ANNEALED- DR DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH BRAZED JOINTS.

3.2 VALVE AND SPECIALTY APPLICATIONS

- A. INSTALL DIAPHRAGM PACKLESS VALVES IN SUCTION AND DISCHARGE LINES OF COMPRESSOR.
B. INSTALL SERVICE VALVES FOR GAGE TAPS AT INLET AND OUTLET OF HOT-GAS BYPASS VALVES AND STRAINERS IF THEY ARE NOT AN INTEGRAL PART OF VALVES AND STRAINERS.
C. INSTALL A CHECK VALVE AT THE COMPRESSOR DISCHARGE AND A LIQUID ACCUMULATOR AT THE COMPRESSOR SUCTION CONNECTION.
D. EXCEPT AS OTHERWISE INDICATED, INSTALL DIAPHRAGM PACKLESS VALVES ON INLET AND OUTLET SIDE OF FILTER DRYERS.
E. INSTALL SAFETY RELIEF VALVES WHERE REQUIRED BY 2010 ASME BOILER AND PRESSURE VESSEL CODE, PIPE SAFETY-RELIEF-VALVE DISCHARGE LINE TO OUTSIDE ACCORDING TO ASHRAE 15.

F. INSTALL MOISTURE/LIQUID INDICATORS IN LIQUID LINE AT THE INLET OF THE THERMOSTATIC EXPANSION VALVE OR AT THE INLET OF THE EVAPORATOR COIL, CAPILLARY TUBE.

G. INSTALL STRAINERS UPSTREAM FROM AND ADJACENT TO THE FOLLOWING UNLESS THEY ARE FURNISHED AS AN INTEGRAL ASSEMBLY FOR THE DEVICE BEING PROTECTED

H. INSTALL FLEXIBLE CONNECTORS AT COMPRESSORS.

3.3 PIPING INSTALLATION

- A. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS, INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE, AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED BY SHOP DRAWINGS.
B. INSTALL REFRIGERANT PIPING ACCORDING TO ASHRAE 15.
C. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.
D. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGRAM RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.
E. INSTALL PIPING ABOVE ACCESSIBLE CEILING TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
F. INSTALL PIPING ADJACENT TO MACHINES TO ALLOW SERVICE AND MAINTENANCE.

G. INSTALL PIPING FREE OF SAGS AND BENDS.

H. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

I. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.

J. INSTALL PIPING AS SHORT AND DIRECT AS POSSIBLE, WITH A MINIMUM NUMBER OF JOINTS, ELBOWS, AND FITTINGS.

- K. ARRANGE PIPING TO ALLOW INSPECTION AND SERVICE OF REFRIGERATION EQUIPMENT. INSTALL VALVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS TO ALLOW FOR SERVICE AND INSPECTION. INSTALL ACCESS DOORS OR PANELS AS SPECIFIED IN SECTION 08310 "ACCESS DOORS AND FRAMES" IF VALVES OR EQUIPMENT REQUIRING MAINTENANCE IS CONCEALED BEHIND FINISHED SURFACES.
L. INSTALL REFRIGERANT PIPING IN RIGID OR FLEXIBLE CONDUIT IN LOCATIONS WHERE EXPOSED TO MECHANICAL INJURY.

M. SLOPE REFRIGERANT PIPING AS FOLLOWS:

- 1. INSTALL HORIZONTAL HOT-GAS DISCHARGE PIPING WITH A UNIFORM SLOPE DOWNWARD AWAY FROM COMPRESSOR.
2. INSTALL HORIZONTAL SUCTION LINES WITH A UNIFORM SLOPE DOWNWARD TO COMPRESSOR.
3. INSTALL TRAPS AND DOUBLE RISERS TO ENTRAIN OIL IN VERTICAL RUNS.
4. LIQUID LINES MAY BE INSTALLED LEVEL.
N. WHEN BRAZING OR SOLDERING, REMOVE SOLENOID-VALVE COILS AND SIGHT GLASSES; ALSO REMOVE VALVE STEMS, SEATS, AND PACKING, AND ACCESSIBLE INTERNAL PARTS OF REFRIGERANT SPECIALTIES. DO NOT APPLY HEAT NEAR EXPANSION-VALVE BULB.

3.4 HANGERS AND SUPPORTS

- A. INSTALL THE FOLLOWING PIPE ATTACHMENTS:
1. ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL RUNS LESS THAN 60 FEET LONG.
2. SPRING HANGERS TO SUPPORT VERTICAL RUNS.
3. COPPER-CLAD HANGERS AND SUPPORTS FOR HANGERS AND SUPPORTS IN DIRECT CONTACT WITH COPPER PIPE.
B. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD DIAMETERS:
1. NPS 1/2 MAXIMUM SPAN, 60 INCHES; MINIMUM ROD, 1/4 INCH.
2. NPS 5/8 MAXIMUM SPAN, 60 INCHES; MINIMUM ROD, 1/4 INCH.
3. NPS 3/4 MAXIMUM SPAN, 72 INCHES; MINIMUM ROD, 1/4 INCH.
4. NPS 1-1/4 MAXIMUM SPAN, 96 INCHES; MINIMUM ROD, 3/8 INCH.
5. NPS 1-1/2 MAXIMUM SPAN, 96 INCHES; MINIMUM ROD, 3/8 INCH.
6. NPS 2 MAXIMUM SPAN, 96 INCHES; MINIMUM ROD, 3/8 INCH.

3.5 FIELD QUALITY CONTROL

- A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS:
1. TEST REFRIGERANT PIPING, SPECIALTIES, AND RECEIVERS. ISOLATE COMPRESSOR, CONDENSER, EVAPORATOR, AND SAFETY DEVICES FROM TEST PRESSURE IF THEY ARE NOT RATED ABOVE THE TEST PRESSURE.
2. TEST HIGH- AND LOW-PRESSURE SIDE PIPING OF EACH SYSTEM SEPARATELY AT NOT LESS THAN THE PRESSURES INDICATED IN PERFORMANCE REQUIREMENTS' ARTICLE.
a. FILL SYSTEM WITH NITROGEN TO THE REQUIRED TEST PRESSURE.
b. SYSTEM SHALL MAINTAIN TEST PRESSURE AT THE MANIFOLD GAGE THROUGHOUT DURATION OF TEST.
c. TEST JOINTS AND FITTINGS WITH ELECTRONIC LEAK DETECTOR OR BY BRUSHING A SMALL AMOUNT OF SOAP AND GLYCERIN SOLUTION OVER JOINTS.
4. REMAKE LEAKING JOINTS USING NEW MATERIALS, AND RETEST UNTIL SATISFACTORY RESULTS ARE ACHIEVED.
B. PREPARE TEST AND INSPECTION REPORTS.

3.6 SYSTEM CHARGING

- A. CHARGE SYSTEM USING THE FOLLOWING PROCEDURES:
1. INSTALL COIL IN FILTER DRYERS AFTER LEAK TEST BUT BEFORE EVACUATION.
2. EVACUATE ENTIRE REFRIGERANT SYSTEM WITH A VACUUM PUMP TO 500 MICROMETERS. IF VACUUM HOLDS FOR 12 HOURS, SYSTEM IS READY FOR CHARGING.
3. BREAK VACUUM WITH REFRIGERANT GAS, ALLOWING PRESSURE TO BUILD UP TO 2 PSIG.
4. CHARGE SYSTEM WITH A NEW FILTER-DRYER COIL IN CHARGING LINE.

END OF SECTION 232300

2.4 HANGERS AND SUPPORTS

A. HANGER RODS FOR NONCORROSIVE ENVIRONMENTS: CADMIUM-PLATED STEEL RODS AND NUTS.

B. HANGER RODS FOR CORROSIVE ENVIRONMENTS: ELECTROGALVANIZED, ALL-THREAD RODS OR GALVANIZED STEEL WITH THREADS PAINTED WITH ZINC-CHROMATE PRIMER AFTER INSTALLATION.

C. STRAP AND ROD SIZES: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 5-1; "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 5-2; "MINIMUM HANGER SIZES FOR ROUND DUCTS."

D. STEEL CABLES FOR GALVANIZED-STEEL DUCTS: GALVANIZED STEEL COMPLYING WITH ASTM A 603.

E. STEEL CABLE END CONNECTIONS: CADMIUM-PLATED STEEL ASSEMBLIES WITH BRACKETS, HANGERS AND BELTS DESIGNED FOR DUCT HANGER SERVICE, WITH AN AUTOMATIC-LOCKING AND CLAMPING DEVICE.

F. DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RODS, OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.

G. TRAPEZE AND RISER SUPPORTS:

- 1. SUPPORTS FOR GALVANIZED-STEEL DUCTS: GALVANIZED-STEEL SHAPES AND PLATES.
2. SUPPORTS FOR ALUMINUM DUCTS: ALUMINUM OR GALVANIZED STEEL COATED WITH ZINC CHROMATE.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

- A. INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS.
C. WHERE DUCTS PASS THROUGH NON-FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS AND ARE EXPOSED TO VIEW, COVER THE OPENING BETWEEN THE PARTITION AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS THE DUCT. OVERLAP JOINTS ON FOUR SIDES BY AT LEAST 1-1/2 INCHES.

D. PROTECT DUCT INTERIORS FROM DEBRIS, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS.

3.2 HANGER AND SUPPORT INSTALLATION

- A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. HANGER SPACING: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 5-1; "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 5-2; "MINIMUM HANGER SIZES FOR ROUND DUCT," FOR MAXIMUM HANGER SPACING AND SUPPORTS WITHIN 24 INCHES OF EACH ELBOW AND WITHIN 48 INCHES OF EACH BRANCH INTERSECTION.
C. SUPPORT VERTICAL DUCTS WITH STEEL ANGLES OR CHANNEL SECURED TO THE SIDES OF THE DUCT WITH WELDS, BOLTS, SHEET METAL SCREWS, OR BLIND RODS; SUPPORT AT EACH FLOOR AND AT A MAXIMUM INTERVALS OF 16 FEET.

D. INSTALL UPPER ATTACHMENTS TO STRUCTURES. SELECT AND USE UPPER ATTACHMENTS WITH PULL-OUT TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

3.3 CONNECTIONS

- A. MAKE CONNECTIONS TO EQUIPMENT WITH FLEXIBLE CONNECTORS COMPLYING WITH SECTION 233300 "AIR DUCT ACCESSORIES."
B. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FOR BRANCH, OUTLET AND INLET, AND TERMINAL UNIT CONNECTIONS.

3.4 PAINTING

- A. PAINT INTERIOR OF METAL DUCTS THAT ARE VISIBLE THROUGH REGISTERS AND AIR HANDLERS AND THAT DO NOT HAVE DUCT LINER. APPLY ONE COAT OF FLAT, BLACK, LATEX PAINT OVER A COMPATIBLE GALVANIZED-STEEL PRIMER.

DUCT SCHEDULE

B. SUPPLY DUCTS:

- 1. DUCTS CONNECTED TO FAN COIL UNITS, ERV-1 AND 2:
a. PRESSURE CLASS: POSITIVE 2-INCH WG.
b. MINIMUM SMACNA SEAL CLASS: A.
c. SMACNA LEAKAGE CLASS FOR RECTANGULAR: 12.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT DVAL: 12.

C. RETURN DUCTS:

- 1. DUCTS CONNECTED TO FAN COIL UNITS, ERV-1 AND 2:
a. PRESSURE CLASS: NEGATIVE 2-INCH WG.
b. MINIMUM SMACNA SEAL CLASS: A.
c. SMACNA LEAKAGE CLASS FOR RECTANGULAR: 12.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT DVAL: 12.

D. EXHAUST DUCTS:

- 1. DUCTS CONNECTED TO AIR-HANDLING UNITS ERV-1 AND 2:
a. PRESSURE CLASS: POSITIVE OR NEGATIVE 2-INCH WG.
b. MINIMUM SMACNA SEAL CLASS: A. IF NEGATIVE PRESSURE, AND A IF POSITIVE PRESSURE.
c. SMACNA LEAKAGE CLASS FOR RECTANGULAR: 6.
d. SMACNA LEAKAGE CLASS FOR ROUND AND FLAT DVAL: 3.

E. INSULATED FLEXIBLE DUCTS:

- 1. PRESSURE RATING: 8-INCH WG POSITIVE AND 10-INCH WG NEGATIVE.
2. MAXIMUM AIR VELOCITY: 4000 FPM.
3. TEMPERATURE RANGE: MINUS 10 TO PLUS 160 DEG F.
4. INSULATION R-VALUE: R6.

2.3 FLEXIBLE DUCT CONNECTORS

- A. CLAMPS: NYLON STRAP IN SIZES 3 THROUGH 18 INCHES, TO SUIT DUCT SIZE.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. INSTALL FLEXIBLE DUCTS ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. INSULATE FLEXIBLE DUCTS WITH INSULATION FILL AND THICKNESS AS INDICATED IN MANUFACTURER'S PRODUCT DATA.
C. VISION PANEL.
D. HINGES AND LATCHES: 1-BY-1-INCH-BUTT DR PLANO HINGE AND CAM LATCHES.
E. FABRICATE RODS AIRTIGHT AND SUITABLE FOR DUCT PRESSURE CLASS.
F. FRAME GALVANIZED SHEET STEEL, WITH BEND-OVER TABS AND FDM GASKETS.
G. NUMBER OF HINGES AND LATCHES:
a. ACCESS DOORS LESS THAN 12 INCHES SQUARE: NO HINGES AND TWO SASH LOCKS.
b. ACCESS DOORS UP TO 18 INCHES SQUARE: CONTINUOUS AND TWO SASH LOCKS.
c. ACCESS DOORS UP TO 24 BY 48 INCHES: CONTINUOUS AND TWO COMPRESSION LATCHES.

2.5 FLEXIBLE CONNECTORS

- A. MATERIALS: FLAME-RETARDANT OR NONCOMBUSTIBLE FABRICS.
B. COATINGS AND ADHESIVES: COMPLY WITH UL 181, CLASS 1.
C. METAL-EDGED CONNECTORS: FACTORY FABRICATED WITH A FABRIC STRIP 3-1/2 INCHES WIDE ATTACHED TO TWO STRIPS OF 2-3/4-INCH-WIDE, 0.028-INCH-THICK, GALVANIZED INHERIT-STEEL OR 0.028-INCH-THICK ALUMINUM SHEETS. PROVIDE METAL COMPATIBLE WITH CONNECTED DUCTS.
D. INDOOR SYSTEM, FLEXIBLE CONNECTOR FABRIC: GLASS FABRIC DUO-COATED WITH NEOPRENE.
1. MINIMUM WEIGHT: 26 OZ./SQ. YD.
2. TENSILE STRENGTH: 480 LBF/INCH IN THE WARP AND 360 LBF/INCH IN THE FILLING.
3. SERVICE TEMPERATURE: MINUS 40 TO PLUS 800 DEG F.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. INSTALL DUCT ACCESSORIES ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. INSTALL DUCT ACCESSORIES IN GALVANIZED-STEEL AND FIBROUS-GLASS DUCTS. STAINLESS-STEEL ACCESSORIES IN STAINLESS-STEEL DUCTS, AND ALUMINUM ACCESSORIES IN ALUMINUM DUCTS.
C. INSTALL VOLUME DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES EXTEND FROM LARGER DUCTS. WHERE DAMPERS ARE INSTALLED IN DUCTS HAVING DUCT LINER, INSTALL DAMPERS WITH HAT CHANNELS OF SAME DEPTH AS LINER, AND TERMINATE LINER WITH MOSSING AT HAT CHANNEL.
1. INSTALL STEEL VOLUME DAMPER IN STEEL DUCTS.
D. SET DAMPERS TO FULLY OPEN POSITION BEFORE TESTING, ADJUSTING, AND BALANCING.
E. INSTALL TEST HOLES AT FAN INLETS AND OUTLETS AND ELSEWHERE AS INDICATED.
F. INSTALL DUCT ACCESS DOORS ON SIDES OF DUCTS TO ALLOW FOR INSPECTING, ADJUSTING, AND MAINTAINING ACCESSORIES AND EQUIPMENT AT THE FOLLOWING LOCATIONS:
1. ON BOTH SIDES OF DUCT COILS.
G. INSTALL ACCESS DOORS WITH SWING AGAINST DUCT STATIC PRESSURE.

H. ACCESS DOOR SIZES:

- 1. ONE-HAND OR INSPECTION ACCESS: 8 BY 5 INCHES.
2. TWO-HAND ACCESS: 12 BY 6 INCHES.
3. HEAD AND HAND ACCESS: 18 BY 10 INCHES.

J. INSTALL FLEXIBLE CONNECTORS TO CONNECT DUCTS TO EQUIPMENT.

K. CONNECT DIFFUSERS TO DUCTS WITH MAXIMUM 60-INCH LENGTHS OF FLEXIBLE DUCT CLAMPED OR STRAPPED IN PLACE.

L. CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH DRAW BANDS.

M. INSTALL DUCT TEST HOLES WHERE REQUIRED FOR TESTING AND BALANCING PURPOSES.

3.2 FIELD QUALITY CONTROL

- A. TESTS AND INSPECTIONS:
1. OPERATE DAMPERS TO VERIFY FULL RANGE OF MOVEMENT.
2. INSPECT LEAKAGE AT ACCESS DOORS AND VERIFY THAT PURPOSE OF ACCESS DOOR CAN BE PERFORMED.
END OF SECTION 233300

SECTION 233346 - FLEXIBLE DUCTS

PART 1 - GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES:
1. INSULATED FLEXIBLE DUCTS.
B. PRODUCT DATA FOR EACH TYPE OF PRODUCT.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTION

- A. COMPLY WITH NFPA 90A, "INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS," AND WITH NFPA 90B, "INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS."
B. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FOR ACCEPTABLE MATERIALS, MATERIAL THICKNESSES, AND DUCT CONSTRUCTION METHODS UNLESS OTHERWISE INDICATED. SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
C. COMPLY WITH THE AIR DIFFUSION COUNCIL'S "ADC FLEXIBLE AIR DUCT TEST CODE FD 72-RI."
D. COMPLY WITH ASTM E 96/E 96M, "TEST METHODS FOR WATER VAPOR TRANSMISSION OF MATERIALS."
E. INSULATED FLEXIBLE DUCTS:
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. ELEXMASTER U.S.A., INC.
2. MCGILL AIRFLOW LLC.
3. THERMALEX A FLEX-TEK GROUP COMPANY.
4. OR APPROVED EQUAL.
B. UNSULATED, FLEXIBLE DUCT: UL 181, CLASS 1, TWO-PLY VINYL FILM SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE, FIBROUS-GLASS INSULATION; ALUMINIZED YAKER-BARRIER FILM.
1. PRESSURE RATING: 8-INCH WG POSITIVE AND 10-INCH WG NEGATIVE.
2. MAXIMUM AIR VELOCITY: 4000 FPM.
3. TEMPERATURE RANGE: MINUS 10 TO PLUS 160 DEG F.
4. INSULATION R-VALUE: R6.

2.3 FLEXIBLE DUCT CONNECTORS

- A. CLAMPS: NYLON STRAP IN SIZES 3 THROUGH 18 INCHES, TO SUIT DUCT SIZE.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. INSTALL FLEXIBLE DUCTS ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. INSULATE FLEXIBLE DUCTS WITH INSULATION FILL AND THICKNESS AS INDICATED IN MANUFACTURER'S PRODUCT DATA.
C. VISION PANEL.
D. HINGES AND LATCHES: 1-BY-1-INCH-BUTT DR PLANO HINGE AND CAM LATCHES.
E. FABRICATE RODS AIRTIGHT AND SUITABLE FOR DUCT PRESSURE CLASS.
F. FRAME GALVANIZED SHEET STEEL, WITH BEND-OVER TABS AND FDM GASKETS.
G. NUMBER OF HINGES AND LATCHES:
a. ACCESS DOORS LESS THAN 12 INCHES SQUARE: NO HINGES AND TWO SASH LOCKS.
b. ACCESS DOORS UP TO 18 INCHES SQUARE: CONTINUOUS AND TWO SASH LOCKS.
c. ACCESS DOORS UP TO 24 BY 48 INCHES: CONTINUOUS AND TWO COMPRESSION LATCHES.

A. DUCT-MOUNTED ACCESS DOORS: FABRICATE ACCESS PANELS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURES 7-2, "DUCT ACCESS DOORS AND PANELS," AND 7-3, "ACCESS DOORS - ROUND DUCT."

1. DOOR:

a. DOUBLE WALL, RECTANGULAR.

b. GALVANIZED SHEET METAL WITH INSULATION FILL AND THICKNESS AS INDICATED IN MANUFACTURER'S PRODUCT DATA FOR DUCT PRESSURE CLASS.

c. VISION PANEL.

d. HINGES AND LATCHES: 1-BY-1-INCH-BUTT DR PLANO HINGE AND CAM LATCHES.

e. FABRICATE RODS AIRTIGHT AND SUITABLE FOR DUCT PRESSURE CLASS.

2. FRAME: GALVANIZED SHEET STEEL, WITH BEND-OVER TABS AND FDM GASKETS.

3. NUMBER OF HINGES AND LATCHES:

- a. ACCESS DOORS LESS THAN 12 INCHES SQUARE: NO HINGES AND TWO SASH LOCKS.
b. ACCESS DOORS UP TO 18 INCHES SQUARE: CONTINUOUS AND TWO SASH LOCKS.
c. ACCESS DOORS UP TO 24 BY 48 INCHES: CONTINUOUS AND TWO COMPRESSION LATCHES.

2.5 SUPPORTS FOR ALUMINUM DUCTS: ALUMINUM OR GALVANIZED STEEL COATED WITH ZINC CHROMATE.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

- A. INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS.
C. WHERE DUCTS PASS THROUGH NON-FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS AND ARE EXPOSED TO VIEW, COVER THE OPENING BETWEEN THE PARTITION AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS THE DUCT. OVERLAP JOINTS ON FOUR SIDES BY AT LEAST 1-1/2 INCHES.

D. PROTECT DUCT INTERIORS FROM DEBRIS, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS.

3.2 HANGER AND SUPPORT INSTALLATION

- A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5, "HANGERS AND SUPPORTS."
B. HANGER SPACING: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 5-1; "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 5-2; "MINIMUM HANGER SIZES FOR ROUND DUCT," FOR MAXIMUM HANGER SPACING AND SUPPORTS WITHIN 24 INCHES OF EACH EL

Memo

To: Board of Selectpersons
From: Nikki Pratt, Deputy Town Manager
CC: Matt Garside, Town Manager
Date: 8/15/2022
RE: Tax Commitment

On April 2, 2022 the voters adopted the FY 23 budget as presented along with authorizing the Board to use up to \$675,000 from the unassigned fund balance. Given new information from the State we are scheduled to receive \$633,918 in revenue sharing this fiscal year. We are comfortable raising the revenue sharing amount to that amount instead of the estimated \$562,870 that was on the warrant.

The Town's certified ratio dropped from 95% to 86% this year which in turn made our valuation drop from \$821,779,101 to \$803,768,128. This is the first time in a long time that we have not seen an increase in valuation and was not anticipated. Therefore, the projected mil rate of 14.35 that we told voters who adopted the presented budget has increase to 14.66.

However, to note is that we are much better than the last time we were certified at 86% where our mil rate was 19.09.

We are showing three scenarios to the Board:

- 1) 15.5 mil rate (an increase of 0.40) using no undesignated fund balance and an overlay of \$21,140
- 2) 14.66 mil rate (a decrease of 0.44) using \$675,000 of the unassigned fund balance and an overlay of \$20,974
- 3) 15.10 mil rate (stays the same) using \$321,000 of the unassigned fund balance and an overlay of \$20,632

2022 ENHANCED BETE MUNICIPAL TAX RATE CALCULATION FORM
Municipality: Poland

BE SURE TO COMPLETE THIS FORM BEFORE FILLING IN THE TAX ASSESSMENT WARRANT

1. Total taxable valuation of real estate	1	669,135,660	
		(must match MVR Page 1, line 6)	
2. Total taxable valuation of personal property	2	61,253,700	
		(must match MVR Page 1, line10)	
3. Total taxable valuation of real estate and personal property (Line 1 plus line 2)	3	730,389,360	
		(must match MVR Page 1, line 11)	
4. (a) Total exempt value for all homestead exemptions granted	4(a)	33,348,380	
		(must match MVR Page 1, line 14f)	
(b) Homestead exemption reimbursement value	4(b)	24,344,317	
		(Line 4(a) multiplied by 0.73)	
5. (a) Total exempt value of all BETE qualified property	5(a)	83,276,600	
		(must match MVR Page 2, line 15c)	
Enhanced Total of all reimbursable BETE Exempt Valuation	5(b)	49,034,451	
6. Total valuation base (Line 3 plus line 4(b) plus line 5(b))	6	803,768,128	

ASSESSMENTS

7. County tax	7	1,018,941.00	
8. Municipal appropriation	8	5,874,842.00	
9. TIF Financing plan amount	9	797,999.00	
		(must match MVR Page 2, line 16c + 16d)	
10. Local education appropriation (local share/contribution) (Adjusted to municipal fiscal year)	10	7,503,538.00	
11. Total assessments (Add lines 7 through 10)	11	15,195,320.00	

ALLOWABLE DEDUCTIONS

12. Anticipated state municipal revenue sharing	12	633,917.56	
13. Other revenues: (All other revenues that have been formally appropriated to reduce the commitment such as excise tax revenue, T.G. reimbursement, renewable energy reimbursement, trust fund or bank interest income, appropriated surplus revenue, etc. (Do not include any homestead or BETE reimbursement)	13	2,124,136.00	
14. Total deductions (Line 12 plus line 13)	14	2,758,053.56	
15. Net to be raised by local property tax rate (Line 11 minus line 14)	15	12,437,266.44	

16.	12,437,266.44	X	1.05	=	13,059,129.76	Maximum Allowable Tax
	(Amount from line 15)					
17.	12,437,266.44	/	803,768,128	=	0.015474	Minimum Tax Rate
	(Amount from line 15)		(Amount from line 6)			
18.	13,059,129.76	/	803,768,128	=	0.016247	Maximum Tax Rate
	(Amount from line 16)		(Amount from line 6)			
19.	730,389,360	X	0.015500	=	11,321,035.08	Tax for Commitment
	(Amount from line 3)		(Selected Rate)		(Enter on MVR Page 1, line 13)	
20.	12,437,266.44	X	0.05	=	621,863.32	Maximum Overlay
	(Amount from line 15)					
21.	24,344,317	X	0.015500	=	377,336.91	Homestead Reimbursement
	(Amount from line 4b)		(Selected Rate)		(Enter on line 8, Assessment Warrant)	
22.	49,034,451	X	0.015500	=	760,033.99	BETE Reimbursement
	(Amount from line 5b)		(Selected Rate)		(Enter on line 9, Assessment Warrant)	
23.	12,458,405.98	-	12,437,266.44	=	21,139.54	Overlay
	(Line 19 plus lines 21 and 22)		(Amount from line 15)		(Enter on line 5, Assessment Warrant)	

(If Line 23 exceeds Line 20 select a lower tax rate.)

Results from this completed form should be used to prepare the Municipal Tax Assessment Warrant,
 Certificate of Assessment to Municipal Treasurer and Municipal Valuation Return.

2022 ENHANCED BETE MUNICIPAL TAX RATE CALCULATION FORM
Municipality: Poland

BE SURE TO COMPLETE THIS FORM BEFORE FILLING IN THE TAX ASSESSMENT WARRANT

1. Total taxable valuation of real estate	1	669,135,660	
		(must match MVR Page 1, line 6)	
2. Total taxable valuation of personal property	2	61,253,700	
		(must match MVR Page 1, line10)	
3. Total taxable valuation of real estate and personal property (Line 1 plus line 2)	3	730,389,360	
		(must match MVR Page 1, line 11)	
4. (a) Total exempt value for all homestead exemptions granted	4(a)	33,348,380	
		(must match MVR Page 1, line 14f)	
(b) Homestead exemption reimbursement value	4(b)	24,344,317	
		(Line 4(a) multiplied by 0.73)	
5. (a) Total exempt value of all BETE qualified property	5(a)	83,276,600	
		(must match MVR Page 2, line 15c)	
Enhanced Total of all reimbursable BETE Exempt Valuation	5(b)	49,034,451	
6. Total valuation base (Line 3 plus line 4(b) plus line 5(b))	6	803,768,128	

ASSESSMENTS

7. County tax	7	1,018,941.00	
8. Municipal appropriation	8	5,874,842.00	
9. TIF Financing plan amount	9	797,999.00	
		(must match MVR Page 2, line 16c + 16d)	
10. Local education appropriation (local share/contribution) (Adjusted to municipal fiscal year)	10	7,503,538.00	
11. Total assessments (Add lines 7 through 10)	11	15,195,320.00	

ALLOWABLE DEDUCTIONS

12. Anticipated state municipal revenue sharing	12	633,917.56	
13. Other revenues: (All other revenues that have been formally appropriated to reduce the commitment such as excise tax revenue, T.G. reimbursement, renewable energy reimbursement, trust fund or bank interest income, appropriated surplus revenue, etc. (Do not include any homestead or BETE reimbursement)	13	2,445,136.00	
14. Total deductions (Line 12 plus line 13)	14	3,079,053.56	
15. Net to be raised by local property tax rate (Line 11 minus line 14)	15	12,116,266.44	

16.	12,116,266.44	X	1.05	=	12,722,079.76	Maximum Allowable Tax
	(Amount from line 15)					
17.	12,116,266.44	/	803,768,128	=	0.015074	Minimum Tax Rate
	(Amount from line 15)		(Amount from line 6)			
18.	12,722,079.76	/	803,768,128	=	0.015828	Maximum Tax Rate
	(Amount from line 16)		(Amount from line 6)			
19.	730,389,360	X	0.015100	=	11,028,879.34	Tax for Commitment
	(Amount from line 3)		(Selected Rate)		(Enter on MVR Page 1, line 13)	
20.	12,116,266.44	X	0.05	=	605,813.32	Maximum Overlay
	(Amount from line 15)					
21.	24,344,317	X	0.015100	=	367,599.19	Homestead Reimbursement
	(Amount from line 4b)		(Selected Rate)		(Enter on line 8, Assessment Warrant)	
22.	49,034,451	X	0.015100	=	740,420.21	BETE Reimbursement
	(Amount from line 5b)		(Selected Rate)		(Enter on line 9, Assessment Warrant)	
23.	12,136,898.74	-	12,116,266.44	=	20,632.30	Overlay
	(Line 19 plus lines 21 and 22)		(Amount from line 15)		(Enter on line 5, Assessment Warrant)	

(If Line 23 exceeds Line 20 select a lower tax rate.)

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2022 ENHANCED BETE MUNICIPAL TAX RATE CALCULATION FORM
Municipality: Poland

BE SURE TO COMPLETE THIS FORM BEFORE FILLING IN THE TAX ASSESSMENT WARRANT

1. Total taxable valuation of real estate	1	669,135,660	
		(must match MVR Page 1, line 6)	
2. Total taxable valuation of personal property	2	61,253,700	
		(must match MVR Page 1, line10)	
3. Total taxable valuation of real estate and personal property (Line 1 plus line 2)	3	730,389,360	
		(must match MVR Page 1, line 11)	
4. (a) Total exempt value for all homestead exemptions granted	4(a)	33,348,380	
		(must match MVR Page 1, line 14f)	
(b) Homestead exemption reimbursement value	4(b)	24,344,317	
		(Line 4(a) multiplied by 0.73)	
5. (a) Total exempt value of all BETE qualified property	5(a)	83,276,600	
		(must match MVR Page 2, line 15c)	
Enhanced Total of all reimbursable BETE Exempt Valuation	5(b)	49,034,451	
6. Total valuation base (Line 3 plus line 4(b) plus line 5(b))	6	803,768,128	

ASSESSMENTS

7. County tax	7	1,018,941.00	
8. Municipal appropriation	8	5,874,842.00	
9. TIF Financing plan amount	9	797,999.00	
		(must match MVR Page 2, line 16c + 16d)	
10. Local education appropriation (local share/contribution) (Adjusted to municipal fiscal year)	10	7,503,538.00	
11. Total assessments (Add lines 7 through 10)	11	15,195,320.00	

ALLOWABLE DEDUCTIONS

12. Anticipated state municipal revenue sharing	12	633,917.56	
13. Other revenues: (All other revenues that have been formally appropriated to reduce the commitment such as excise tax revenue, T.G. reimbursement, renewable energy reimbursement, trust fund or bank interest income, appropriated surplus revenue, etc. (Do not include any homestead or BETE reimbursement)	13	2,799,136.00	
14. Total deductions (Line 12 plus line 13)	14	3,433,053.56	
15. Net to be raised by local property tax rate (Line 11 minus line 14)	15	11,762,266.44	

16.	11,762,266.44	X	1.05	=	12,350,379.76	Maximum Allowable Tax
	(Amount from line 15)					
17.	11,762,266.44	/	803,768,128	=	0.014634	Minimum Tax Rate
	(Amount from line 15)		(Amount from line 6)			
18.	12,350,379.76	/	803,768,128	=	0.015365	Maximum Tax Rate
	(Amount from line 16)		(Amount from line 6)			
19.	730,389,360	X	0.014660	=	10,707,508.02	Tax for Commitment
	(Amount from line 3)		(Selected Rate)		(Enter on MVR Page 1, line 13)	
20.	11,762,266.44	X	0.05	=	588,113.32	Maximum Overlay
	(Amount from line 15)					
21.	24,344,317	X	0.014660	=	356,887.69	Homestead Reimbursement
	(Amount from line 4b)		(Selected Rate)		(Enter on line 8, Assessment Warrant)	
22.	49,034,451	X	0.014660	=	718,845.05	BETE Reimbursement
	(Amount from line 5b)		(Selected Rate)		(Enter on line 9, Assessment Warrant)	
23.	11,783,240.76	-	11,762,266.44	=	20,974.32	Overlay
	(Line 19 plus lines 21 and 22)		(Amount from line 15)		(Enter on line 5, Assessment Warrant)	

(If Line 23 exceeds Line 20 select a lower tax rate.)

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 Certificate of Assessment to Municipal Treasurer and Municipal Valuation Return.

Town of Poland

1231 Maine Street, Poland, ME 04274
Phone: (207) 998-4601
Fax: (207) 998-2002
www.polandtownoffice.org



Assessing 207-998-4651
Code Enforcement 207-998-4604
Recreation 207-998-4650
Fire Rescue 207-998-4689
Public Works 207-998-2570
Solid Waste 207-998-4688

August 16, 2022

Authorization of cash disbursements for Fiscal Year 2023 totaling:

Town A/P:	\$ 862,230.71
Payroll	\$ 107,458.70
TIF 1:	
TIF 2:	\$ 1,000.00
DTV TIF:	
Total:	<u>\$ 970,689.41</u>

Stephen E. Robinson

Nathan P. McNally

Jane E. Pentheny

Mary Beth Taylor

Stanley L. Tetenman

Warrant 14

Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
00119 AFLAC						
0104	81393	08	INSURANCE		393563	
AFLAC ACCIDENT			G 10-2681-00		147.72	0.00
			GENERAL FUND / AFLAC Accide			
AFLAC CANCER			G 10-2682-00		88.20	0.00
			GENERAL FUND / AFLAC Cancer			
AFLAC DENTAL			G 10-2683-00		34.32	0.00
			GENERAL FUND / AFLAC Dental			
AFLAC HOSPITAL			G 10-2684-00		63.60	0.00
			GENERAL FUND / AFLAC Hospit			
			Vendor Total-		333.84	
00875 ALLEGIANCE TRUCKS						
0104	81394	08	PARTS	X501020046:01		
AIR CHARGE PIPE #15			E 130-01-3500-10		233.03	0.00
			PUB WORKS / PUBLIC WORKS - MAINT & REP / VEHICLE MAIN			
			Vendor Total-		233.03	
00975 AMANDA BOSSE						
0104	81395	08	J. BOSSE	REFUND		
J. BOSSE			E 500-01-1200-27		42.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		42.00	
01270 ANDREA WEBSTER						
0104	81396	08	L. WEBSTER	REFUND		
L. WEBSTER			E 500-01-1200-27		38.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		38.00	
00982 ANDROSCOGGIN COUNTY						
0104	81310	08	LIEN DISCHARGES (7)	AUGUST 2022		
LIEN DISCHARGES (7)			E 100-10-1000-14		133.00	0.00
			GENERAL / GENERAL - GENERAL / REGISTRY			
			Invoice Total-		133.00	
0104	81397	08	TRANSFERS	39502 OXF		
TRANSFERS			E 100-10-1000-14		36.00	0.00
			GENERAL / GENERAL - GENERAL / REGISTRY			
			Invoice Total-		36.00	
			Vendor Total-		169.00	
01042 ANDROSCOGGIN COUNTY						
0104	81311	08	CONTRACTUAL SERVICES	7/1/2022		
CONTRACTUAL SERVICES			E 140-02-3000-50		109,589.27	0.00
			PUB SAFETY / LAW ENFORCEM - PRO SERVICES / PROFESSIONAL			
			Vendor Total-		109,589.27	
00829 ANTONIO ROCHA INC						
0104	81398	08	STORYTELLING	8/8/22		
STORYTELLING			E 500-01-1200-27		600.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		600.00	
00103 ATLANTIC PARTNERS EMS, INC.						
0104	81399	08	TUITION & FEES	16683		
TUITION & FEES			E 140-01-2000-50		44.00	0.00
			PUB SAFETY / FIRE RESCUE - FIN SERVICES / TRAINING			
			Vendor Total-		44.00	
00129 BAKER & TAYLOR BOOKS						

Warrant 14

Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
0104	81400	08	BOOKS		5017867880	
BOOKS			E 700-10-1300-15		140.38	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / BOOKS			
			Invoice Total-		140.38	
0104	81400	08	BOOKS		5017875062	
BOOKS			E 700-10-1300-15		15.34	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / BOOKS			
			Invoice Total-		15.34	
0104	81400	08	BOOKS		5017880227	
BOOKS			E 700-10-1300-15		110.14	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / BOOKS			
			Invoice Total-		110.14	
			Vendor Total-		265.86	
00109 CARLITO RODRIGUEZ						
0104	81401	08	MILEAGE REIMBURSEMENT		JULY 2022	
MILEAGE REIMBURSEMENT			E 100-20-2000-40		128.13	0.00
			GENERAL / BLD & GROUND - FIN SERVICES / ALLOWANCES			
			Vendor Total-		128.13	
00222 CENTRAL MAINE POWER COMPANY						
0104	81402	08	AUGUST 2022		710001484701	
2557-STREET LIGHTS			E 140-05-1500-10		1,008.58	0.00
			PUB SAFETY / ST LIGHT - UTILITIES / ELECTRICITY			
			Vendor Total-		1,008.58	
00636 CHRISTINA GURNARI RYAN						
0104	81403	08	L & H RYAN		REFUND	
L & H RYAN			E 500-01-1200-27		72.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		72.00	
01005 DANIELLE LORING						
0104	81404	08	E. LORING-DYMOND		REFUND	
E. LORING-DYMOND			E 500-01-1200-27		42.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		42.00	
01854 DEPOT SQUARE HARDWARE						
0104	81405	08	SUPPLIES		A248969	
BUILDING AND GROUNDS			E 100-20-1000-04		31.98	0.00
			GENERAL / BLD & GROUND - GENERAL / GROUND SUPP			
			Invoice Total-		31.98	
0104	81405	08	SUPPLIES		A248363	
PAVEMENT CUTTING BLADE			E 130-01-1000-05		119.99	0.00
			PUB WORKS / PUBLIC WORKS - GENERAL / EQUIPMENT			
			Invoice Total-		119.99	
0104	81405	08	SUPPLIES		A248952	
WHITE OAK HILL CEM			E 130-01-3500-15		39.44	0.00
			PUB WORKS / PUBLIC WORKS - MAINT & REP / MAIN/REPAIR			
			Invoice Total-		39.44	
0104	81405	08	SUPPLIES		A249232	
SAWSALL BLADES			E 130-01-1000-05		22.99	0.00
			PUB WORKS / PUBLIC WORKS - GENERAL / EQUIPMENT			
			Invoice Total-		22.99	
			Vendor Total-		214.40	

00683 DERRICK PLUMMER

Warrant 14

Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
0104	81406	08	L. PLUMMER	REFUND		
L. PLUMMER			E 500-01-1200-27		38.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					38.00	
01206 EASTERN FIRE						
0104	81407	08	INSPECTION & TEST	1052-F135367		
INSPECTION & TEST			E 100-20-3000-50		385.00	0.00
			GENERAL / BLD & GROUND - PRO SERVICES / PROFESSIONAL			
Vendor Total-					385.00	
02312 EMILY SOMMA						
0104	81408	08	K. SOMMA	REFUND		
K. SOMMA			E 500-01-1200-27		38.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					38.00	
01015 EMMA SIMPSON						
0104	81409	08	M. SIMPSON	REFUND		
M. SIMPSON			E 500-01-1200-27		42.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					42.00	
02294 FIRST NATIONAL BANK OMAHA						
0104	81317	08	JULY 2022	0054		*** SEPARATE ***
WALMART			E 500-01-1200-27		88.98	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
BJS			E 500-01-1200-27		293.94	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
BJS			E 500-01-1200-01		99.99	0.00
			RECREATION / RECREATION - RECREATION / SPEC EVENTS			
AMAZON			E 500-01-1200-05		204.76	0.00
			RECREATION / RECREATION - RECREATION / BASKETBALL			
AMAZON			E 500-01-1200-27		137.64	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
HOME DEPOT			E 500-01-1200-27		289.60	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
HOMEDEPOT			E 500-01-1200-27		193.51	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
DOLLAR TREE			E 500-01-1200-27		159.46	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
JOANN STORES			E 500-01-1200-27		141.66	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
TRUE VALUE			E 500-01-1200-27		4.21	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
TRUE VALUE			E 500-01-1200-27		31.61	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
BJS			E 500-01-1200-27		62.76	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
MICHAELS			E 500-01-1200-27		89.13	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
DICKS SPORTING			E 500-01-1200-27		210.96	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
JIFFY SHIRTS			E 120-04-3500-11		65.12	0.00
			COMM SERVCS / BEACH MAINT - MAINT & REP / BEACH MAINT			
AMAZON			E 500-01-1200-27		62.98	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
ADOBE			E 500-01-1200-01		15.81	0.00
			RECREATION / RECREATION - RECREATION / SPEC EVENTS			
Invoice Total-					2,152.12	

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Jrnl	Check	Month	Invoice Description	Reference		
Description			Account	Proj	Amount	Encumbrance
0104	81410	08	JULY 2022		4400	
DEPOT SQUARE			E 700-10-1300-10		9.99	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / MISC LIBRARY			
DUNKIN			E 700-10-1300-40		10.49	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / ADULT PGMS			
FAMILY DOLLAR			E 700-10-1300-30		7.50	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / CHILD PGMS			
AMAZON			E 700-10-1300-30		63.97	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / CHILD PGMS			
PRESS HERALD MAINE			E 700-10-1300-20		252.36	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / NEWSPAPERS			
JOANN STORES			E 700-10-1300-40		34.96	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / ADULT PGMS			
JOANN STORES			E 700-10-1300-40		90.53	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / ADULT PGMS			
HANNAFORD			E 700-10-1300-30		34.43	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / CHILD PGMS			
FAMILY DOLLAR			E 700-10-1300-30		6.00	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / CHILD PGMS			
DUNKIN			E 700-10-1300-40		10.49	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / ADULT PGMS			
FAMILY DOLLAR			E 700-10-1300-30		13.00	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / CHILD PGMS			
Invoice Total-					533.72	
Vendor Total-					2,685.84	
00445 FOURWINDS CUSTOM SIGNS						
0104	81411	08	SIGNS		PWDEERXING	
DEER CROSSING SIGNS			E 130-01-1400-10		65.00	0.00
			PUB WORKS / PUBLIC WORKS - MISC EXPENSE / SIGNS			
Vendor Total-					65.00	
00314 G. A. DOWNING CO., INC.						
0104	81412	08	PORTABLE RENTAL (3)		97933	
PORTABLE RENTAL (3)			E 120-10-3500-15		202.67	0.00
			COMM SERVCS / BALL FIELD M - MAINT & REP / MAIN/REPAIR			
PORTABLE RENTAL (3)			E 120-04-3500-11		101.33	0.00
			COMM SERVCS / BEACH MAINT - MAINT & REP / BEACH MAINT			
Invoice Total-					304.00	
0104	81412	08	PORTABLE RENTAL (1)		97934	
PORTABLE RENTAL (1)			E 120-04-3500-11		155.15	0.00
			COMM SERVCS / BEACH MAINT - MAINT & REP / BEACH MAINT			
Invoice Total-					155.15	
Vendor Total-					459.15	
01269 GLORIA POIRIER						
0104	81413	08	A. KYAJOHNIAN		REFUND	
A. KYAJOHNIAN			E 500-01-1200-27		42.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					42.00	
01263 GOODMAN WIPER & PAPER						
0104	81414	08	SUPPLIES		5494	
SUPPLIES			E 140-01-1000-04		85.00	0.00
			PUB SAFETY / FIRE RESCUE - GENERAL / GROUND SUPP			
Vendor Total-					85.00	
00688 GRACE GENDRON						
0104	81415	08	O. GENDRON		REFUND	
O. GENDRON			E 500-01-1200-27		38.00	0.00

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Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description	Account	Proj				
RECREATION / RECREATION - RECREATION / SUMMER REC						
Vendor Total-					38.00	
00743 HUB INTERNATIONAL NEW ENGLAND, LLC						
0104	81416	08	INSURANCE	VOLUNTEER FF		
INSURANCE	E 100-10-2000-95				986.00	0.00
GENERAL / GENERAL - FIN SERVICES / VOLUNT INS						
Vendor Total-					986.00	
01851 ION NETWORKING LLC						
0104	81417	08	SERVICE	38179		
SERVICE	E 140-01-1000-03				33.75	0.00
PUB SAFETY / FIRE RESCUE - GENERAL / OFFICE SUPPL						
Invoice Total-					33.75	
0104	81417	08	SERVICE	38180		
SERVICE	E 700-10-1000-03				247.50	0.00
LIBRARY / RICKER LIBRA - GENERAL / OFFICE SUPPL						
Invoice Total-					247.50	
0104	81417	08	SERVICE	38376		
SERVICE	E 700-10-1000-03				187.00	0.00
LIBRARY / RICKER LIBRA - GENERAL / OFFICE SUPPL						
Invoice Total-					187.00	
0104	81417	08	SERVICE	38375		
SERVICE	E 140-01-1000-03				1,051.60	0.00
PUB SAFETY / FIRE RESCUE - GENERAL / OFFICE SUPPL						
Invoice Total-					1,051.60	
0104	81417	08	SERVICE	38374		
SERVICE	E 100-10-1000-03				1,448.68	0.00
GENERAL / GENERAL - GENERAL / OFFICE SUPPL						
Invoice Total-					1,448.68	
0104	81417	08	SERVICE	38178		
SERVICE	E 100-10-1000-03				67.50	0.00
GENERAL / GENERAL - GENERAL / OFFICE SUPPL						
Invoice Total-					67.50	
Vendor Total-					3,036.03	
01541 IRVING ENERGY						
0104	81418	08	ACCOUNT # 2905395	396850		
DIESEL	G 10-1800-01				17,198.00	0.00
GENERAL FUND / DIESEL INVEN						
Vendor Total-					17,198.00	
01989 JASON CHADBOURNE						
0104	81419	08	O & S CHADBOURNE	REFUND		
O & S CHADBOURNE	E 500-01-1200-27				72.00	0.00
RECREATION / RECREATION - RECREATION / SUMMER REC						
Vendor Total-					72.00	
00368 JENNIFER LETOURNEAU						
0104	81420	08	M. LETOURNEAU	REFUND		
M. LETOURNEAU	E 500-01-1200-27				38.00	0.00
RECREATION / RECREATION - RECREATION / SUMMER REC						
Vendor Total-					38.00	
00696 JESSICA DOLLEY						
0104	81421	08	A. DOLLEY	REFUND		
A. DOLLEY	E 500-01-1200-27				34.00	0.00
RECREATION / RECREATION - RECREATION / SUMMER REC						

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Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
Vendor Total-					34.00	
00544 K. L. JACK & CO.						
0104	81422	08	PARTS	5917236		
PARTS			E 500-01-1200-27		94.86	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					94.86	
01035 LYNN BUTTERFIELD						
0104	81423	08	DJ BUTTERFIELD	REFUND		
DJ BUTTERFIELD			E 500-01-1200-27		42.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					42.00	
00670 MAINE OXY-ACETYLENE SUPPLY CO.						
0104	81424	08	OXYGEN	02208074-00		
OXYGEN			E 140-01-1400-13		85.52	0.00
			PUB SAFETY / FIRE RESCUE - MISC EXPENSE / MEDICAL SUPP			
Invoice Total-					85.52	
0104	81424	08	OXYGEN	32544818		
OXYGEN			E 140-01-1400-13		132.36	0.00
			PUB SAFETY / FIRE RESCUE - MISC EXPENSE / MEDICAL SUPP			
Invoice Total-					132.36	
0104	81424	08	OXYGEN	32545198		
OXYGEN			E 140-01-1400-13		127.52	0.00
			PUB SAFETY / FIRE RESCUE - MISC EXPENSE / MEDICAL SUPP			
Invoice Total-					127.52	
Vendor Total-					345.40	
00757 MAINE WASTE TO ENERGY						
0104	81425	08	TIP FEES	00169981		
TIP FEES			E 130-02-1500-80		469.66	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			
Invoice Total-					469.66	
0104	81425	08	TIP FEES	00169082		
TIP FEES			E 130-02-1500-80		611.80	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			
Invoice Total-					611.80	
0104	81425	08	TIP FEES	00169275		
TIP FEES			E 130-02-1500-80		154.21	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			
Invoice Total-					154.21	
0104	81425	08	TIP FEES	00169300		
TIP FEES			E 130-02-1500-80		517.50	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			
Invoice Total-					517.50	
0104	81425	08	TIP FEES	00168429		
TIP FEES			E 130-02-1500-80		597.54	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			
Invoice Total-					597.54	
0104	81425	08	TIP FEES	00168458		
TIP FEES			E 130-02-1500-80		564.42	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			
Invoice Total-					564.42	
0104	81425	08	TIP FEES	00167876		
TIP FEES			E 130-02-1500-80		317.86	0.00
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL			

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Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance	
Description			Account	Proj			
Invoice Total-					317.86		
0104	81425	08	TIP FEES	00167992			
TIP FEES			E 130-02-1500-80		513.36	0.00	
			PUB WORKS / SOLID WASTE - UTILITIES / MSW DISPOSAL				
Invoice Total-					513.36		
Vendor Total-					3,746.35		
01837 MainePERS							
0104	81426	08	JULY 2022	3108506			
ADMIN			E 100-10-2000-75		2,866.86	0.00	
			GENERAL / GENERAL - FIN SERVICES / ICMA/MPRS				
PLANNING & DEV			E 120-01-2000-75		845.09	0.00	
			COMM SERVCS / PLANNING&DEV - FIN SERVICES / ICMA/MPRS				
RECREATION			E 120-02-2000-75		857.77	0.00	
			COMM SERVCS / RECREATION - FIN SERVICES / ICMA/MPRS				
PUBLIC WORKS			E 130-01-2000-75		2,366.66	0.00	
			PUB WORKS / PUBLIC WORKS - FIN SERVICES / ICMA/MPRS				
SOLID WASTE			E 130-02-2000-75		644.31	0.00	
			PUB WORKS / SOLID WASTE - FIN SERVICES / ICMA/MPRS				
LIBRARY			E 700-10-2000-75		648.06	0.00	
			LIBRARY / RICKER LIBRA - FIN SERVICES / ICMA/MPRS				
FIRE/RESCUE			E 140-01-2000-75		6,105.93	0.00	
			PUB SAFETY / FIRE RESCUE - FIN SERVICES / ICMA/MPRS				
EE CONTRIBUTIONS 110AC			G 10-2600-00		5,847.58	0.00	
			GENERAL FUND / MPERS				
FR CONTRIBUTIONS 3101C			G 10-2605-00		4,029.10	0.00	
			GENERAL FUND / MPERS F/R				
SERVICE CREDIT PURCHASE			G 10-2606-00		57.36	0.00	
			GENERAL FUND / MPERS BUYBK				
Vendor Total-					24,268.72		
00703 MECHANIC FALLS AUTO SUPPLY, INC.							
0104	81427	08	PARTS/SUPPLIES	PW709706			
PW SILVERADO PARTS			E 130-01-3500-10		76.49	0.00	
			PUB WORKS / PUBLIC WORKS - MAINT & REP / VEHICLE MAIN				
Vendor Total-					76.49		
00714 MECHANIC FALLS WATER DEPT.							
0104	81428	08	WATER	AUGUST 2022			
6353-WATER TOWN HALL			E 100-10-1500-65		15.04	0.00	
			GENERAL / GENERAL - UTILITIES / WATER				
6195-WATER TOWN OFFICE			E 100-10-1500-65		15.04	0.00	
			GENERAL / GENERAL - UTILITIES / WATER				
6205-SPRINKLER TOWN HALL			E 100-10-1500-66		103.68	0.00	
			GENERAL / GENERAL - UTILITIES / SPRINKLERS				
6315-WATER FIRE STATION			E 140-01-1500-65		38.69	0.00	
			PUB SAFETY / FIRE RESCUE - UTILITIES / WATER				
658-WATER FIRE HYDRANT			E 140-06-1500-75		1,406.25	0.00	
			PUB SAFETY / HYDRANTS - UTILITIES / HYDRANTS				
6347-SPRINKLER FIRE STAT.			E 140-01-1500-66		103.68	0.00	
			PUB SAFETY / FIRE RESCUE - UTILITIES / SPRINKLERS				
6320-WATER PUB WORKS			E 130-01-1500-65		38.69	0.00	
			PUB WORKS / PUBLIC WORKS - UTILITIES / WATER				
6225-LIBRARY WATER			E 700-10-1500-65		15.04	0.00	
			LIBRARY / RICKER LIBRA - UTILITIES / WATER				
6354-SPRINKLER LIBRARY			E 700-10-1500-66		103.68	0.00	
			LIBRARY / RICKER LIBRA - UTILITIES / SPRINKLERS				
Vendor Total-					1,839.79		
01282 MEDICAL REIMBURSEMENT SERVICES, INC							
0104	81429	08	JULY 2022	7681			

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Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
JULY 2022			E 140-01-3000-50		2,558.96	0.00
			PUB SAFETY / FIRE RESCUE - PRO SERVICES / PROFESSIONAL			
			Invoice Total-		2,558.96	
0104	81429	08	JUNE 2022	7619		
JUNE 2022			E 140-01-3000-50		2,053.18	0.00
			PUB SAFETY / FIRE RESCUE - PRO SERVICES / PROFESSIONAL			
			Invoice Total-		2,053.18	
			Vendor Total-		4,612.14	
01547 MICROMARKETING LLC						
0104	81430	08	BOOKS	895761		
BOOKS			E 700-10-1300-15		51.97	0.00
			LIBRARY / RICKER LIBRA - LIBRARY / BOOKS			
			Vendor Total-		51.97	
01235 MORGAN BROUSSEAU						
0104	81431	08	REC REIMBURSEMENT	7/12-8/4/22		
AMAZON			E 500-01-1200-27		42.19	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
AMAZON			E 500-01-1200-27		87.54	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
HANNAFORD			E 500-01-1200-27		39.41	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
FAMILY DOLLAR			E 500-01-1200-27		41.46	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		210.60	
00221 NICOLE LUSSIER						
0104	81432	08	TRAVEL REIMBURSEMENT	JULY 2022		
TRAVEL REIMBURSEMENT			E 100-10-2000-40		23.75	0.00
			GENERAL / GENERAL - FIN SERVICES / ALLOWANCES			
			Vendor Total-		23.75	
01264 NICOLE PATENAUDE						
0104	81433	08	REC REIMBURSEMENT	7/25-8/4		
FAMILY DOLLAR			E 500-01-1200-27		9.39	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
WALMART			E 500-01-1200-27		20.45	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		29.84	
00165 OCCUPATIONAL HEALTH CENTERS						
0104	81434	08	PHYSICAL/SCREEN	1207459110		
PHYSICAL/SCREEN			E 140-01-2000-71		260.00	0.00
			PUB SAFETY / FIRE RESCUE - FIN SERVICES / PYSICAL/DRUG			
			Invoice Total-		260.00	
0104	81434	08	PHYSICAL/SCREEN	1207458878		
HODSON			E 130-01-2000-71		169.00	0.00
			PUB WORKS / PUBLIC WORKS - FIN SERVICES / PYSICAL/DRUG			
			Invoice Total-		169.00	
			Vendor Total-		429.00	
00913 PINE STATE PEST SOLUTIONS, INC.						
0104	81435	08	MONTHLY INSPECTION	40987		
MONTHLY INSPECTION			E 100-20-3000-50		50.00	0.00
			GENERAL / BLD & GROUND - PRO SERVICES / PROFESSIONAL			
			Vendor Total-		50.00	
00988 RENT IT, INC						
0104	81436	08	ROLLER RENTAL	58614		

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Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
ROLLER RENTAL			E 130-01-3500-16		3,451.00	0.00
			PUB WORKS / PUBLIC WORKS - MAINT & REP / RENTAL EQUIP			
			Vendor Total-		3,451.00	
01884 RHR SMITH & COMPANY						
0104	81309	08	AUDIT FYE 6/30/2022	2022-2354		
AUDIT FYE 6/30/2022			E 100-10-3000-10		1,800.00	0.00
			GENERAL / GENERAL - PRO SERVICES / AUDIT			
			Invoice Total-		1,800.00	
0104	81309	08	AUDIT FYE 6/30/2022	2022-2565		
AUDIT FYE 6/30/2022			E 100-10-3000-10		1,500.00	0.00
			GENERAL / GENERAL - PRO SERVICES / AUDIT			
			Invoice Total-		1,500.00	
0104	81437	08	AUDIT FYE 6/30/2022	2022-1877		
AUDIT FYE 6/30/2022			E 100-10-3000-10		5,250.00	0.00
			GENERAL / GENERAL - PRO SERVICES / AUDIT			
			Invoice Total-		5,250.00	
			Vendor Total-		8,550.00	
01428 RJD APPRAISAL						
0104	81438	08	TY 22/23 ASSESSING SERV.	8/1/2022		
TY 22/23 ASSESSING SERV.			E 100-10-3000-70		2,583.33	0.00
			GENERAL / GENERAL - PRO SERVICES / ASSESS AGENT			
			Vendor Total-		2,583.33	
00899 RSU #16						
0104	81439	08	MONTHLY PAYMENT	AUGUST 2022		
MONTHLY PAYMENT			E 150-07-5000-20		625,294.84	0.00
			FINAN SERVCS / RSU 16 - SCHOOL / RSU 16			
			Vendor Total-		625,294.84	
01266 SARAH BISSONETTE						
0104	81440	08	E, H, L BISSONETTE	REFUND		
E, H, L BISSONETTE			E 500-01-1200-27		102.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		102.00	
01268 SARAH BOYD						
0104	81441	08	H. BOYD	REFUND		
H. BOYD			E 500-01-1200-27		38.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		38.00	
01032 SCOTT SEGAL						
0104	81316	08	PETTY CASH	AUGUST 2022		
WALMART			E 500-01-1200-27		121.74	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
HANNAFORD			E 500-01-1200-27		40.27	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
TRACTOR SUPPLY			E 500-01-1200-27		100.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
WALMART			E 500-01-1200-27		34.42	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
HANNAFORD			E 500-01-1200-27		17.31	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
WALMART			E 500-01-1200-27		80.10	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		393.84	
01029 SECRETARY OF STATE						

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Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
0104	81230	08	REPORT FOR7/29/2022	7/20-7/29/2022		
REPORT FOR7/29/2022			G 10-2300-03		10,119.06	0.00
			GENERAL FUND / STATE MV			
			Invoice Total-		10,119.06	
0104	81315	08	REPORT FOR 8/4/22	7/29-8/4/22		
REPORT FOR 8/4/22			G 10-2300-03		9,257.44	0.00
			GENERAL FUND / STATE MV			
			Invoice Total-		9,257.44	
			Vendor Total-		19,376.50	
01868 SPECTRUM BUSINESS						
0104	81312	08	INTERNET	0036902072322		*** SEPARATE ***
LIBRARY			E 700-10-1500-60		14.51	0.00
			LIBRARY / RICKER LIBRA - UTILITIES / INTERNET			
			Invoice Total-		14.51	
0104	81442	08	INTERNET	143094301072122		
TOWN HALL			E 100-10-1500-60		139.98	0.00
			GENERAL / GENERAL - UTILITIES / INTERNET			
			Invoice Total-		139.98	
0104	81442	08	INTERNET	143094201072122		
REC DEPT			E 500-01-1200-02		60.95	0.00
			RECREATION / RECREATION - RECREATION / OPERATING			
			Invoice Total-		60.95	
0104	81442	08	INTERNET	142912901072122		
PUBLIC WORKS			E 130-01-1500-60		89.95	0.00
			PUB WORKS / PUBLIC WORKS - UTILITIES / INTERNET			
			Invoice Total-		89.95	
			Vendor Total-		305.39	
00729 STACEY LEICY						
0104	81443	08	L. LEICY	REFUND		
L. LEICY			E 500-01-1200-27		38.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
			Vendor Total-		38.00	
02235 TOUCHTONE COMMUNICATIONS						
0104	81444	08	SERVICE	1880227		
SERVICE			E 700-10-1500-15		40.43	0.00
			LIBRARY / RICKER LIBRA - UTILITIES / PHONE			
			Vendor Total-		40.43	
01141 TOWN HALL STREAMS						
0104	81445	08	VIDEO STREAMING	14205		
VIDEO STREAMING			E 100-30-3000-50		250.00	0.00
			GENERAL / CABLE TV - PRO SERVICES / PROFESSIONAL			
			Vendor Total-		250.00	
02229 TOWN OF OXFORD						
0104	81446	08	THOMPSON LAKE DAM	7/1/2022		
THOMPSON LAKE DAM			E 120-05-1400-16		5,000.00	0.00
			COMM SERVCS / CONSERVATION - MISC EXPENSE / DAM REPAIR			
			Vendor Total-		5,000.00	
00303 TREASURER, STATE OF MAINE						
0104	81314	08	AUGUST 2022 REPORT	137486-137492		
AUGUST 2022 REPORT			G 10-2300-05		21.00	0.00
			GENERAL FUND / STATE DOG			
			Vendor Total-		21.00	

Warrant 14

Jrnl	Check	Month	Invoice Description	Reference	Amount	Encumbrance
Description			Account	Proj		
02254 TREASURER, STATE OF MAINE						
0104	81392	08	JULY 2022 REPORT		128394	
JULY 2022 REPORT			G 10-2300-02		12,616.05	0.00
			GENERAL FUND / STATE INL FI			
Vendor Total-					12,616.05	
01069 TYANNA HARTMAN						
0104	81447	08	B. HARTMAN		REFUND	
B. HARTMAN			E 500-01-1200-27		38.00	0.00
			RECREATION / RECREATION - RECREATION / SUMMER REC			
Vendor Total-					38.00	
01209 VERIZON WIRELESS						
0104	81313	08	JULY 2022		9911644642	
FIRE RESCUE TABLETS			E 140-01-1500-15		237.45	0.00
			PUB SAFETY / FIRE RESCUE - UTILITIES / PHONE			
CODE TABLET			E 120-01-1500-15		10.27	0.00
			COMM SVCS / PLANNING&DEV - UTILITIES / PHONE			
Vendor Total-					247.72	
02038 W. B. MASON CO. INC.						
0104	81448	08	SUPPLIES		231433872	
FIRE/RES SUPPLIES			E 140-01-1000-03		26.49	0.00
			PUB SAFETY / FIRE RESCUE - GENERAL / OFFICE SUPPL			
Invoice Total-					26.49	
0104	81448	08	SUPPLIES		231559832	
FIRE/RES SUPPLIES			E 140-01-1000-04		51.99	0.00
			PUB SAFETY / FIRE RESCUE - GENERAL / GROUND SUPP			
Invoice Total-					51.99	
Vendor Total-					78.48	
00193 WRIGHT-PIERCE						
0104	81449	08	PROFESSIONAL SERVICES		0000222071	
PROFESSIONAL SERVICES			E 600-16-3000-50		9,963.09	0.00
			SPECIAL REVS / RT 26 SEWER - PRO SERVICES / PROFESSIONAL			
Vendor Total-					9,963.09	
Prepaid Total-					147,844.01	
Current Total-					680,154.89	
EFT Total-					34,231.81	
Warrant Total-					862,230.71	

BOARD OF SELECTPERSONS

Stephen E. Robinson _____

Nathan P. McNally _____

Mary Beth Taylor _____

Jane E. Pentheny _____

Stanley L. Tetenman _____

A / P Check Register
Bank: NORTHEAST-GEN

Type	Check	Amount	Date	Wrnt	Payee
P	81230	10,119.06	08/01/22	14	1029 SECRETARY OF STATE
P	81309	3,300.00	08/02/22	14	1884 RHR SMITH & COMPANY
P	81310	133.00	08/03/22	14	0982 ANDROSCOGGIN COUNTY
P	81311	109,589.27	08/03/22	14	1042 ANDROSCOGGIN COUNTY
P	81312	14.51	08/03/22	14	1868 SPECTRUM BUSINESS
P	81313	247.72	08/03/22	14	1209 VERIZON WIRELESS
P	81314	21.00	08/04/22	14	0303 TREASURER, STATE OF MAINE
P	81315	9,257.44	08/08/22	14	1029 SECRETARY OF STATE
P	81316	393.84	08/09/22	14	1032 SCOTT SEGAL
P	81317	2,152.12	08/09/22	14	2294 FIRST NATIONAL BANK OMAHA
P	81392	12,616.05	08/09/22	14	2254 TREASURER, STATE OF MAINE
R	81393	333.84	08/16/22	14	0119 AFLAC
R	81394	233.03	08/16/22	14	0875 ALLEGIANCE TRUCKS
R	81395	42.00	08/16/22	14	0975 AMANDA BOSSE
R	81396	38.00	08/16/22	14	1270 ANDREA WEBSTER
R	81397	36.00	08/16/22	14	0982 ANDROSCOGGIN COUNTY
R	81398	600.00	08/16/22	14	0829 ANTONIO ROCHA INC
R	81399	44.00	08/16/22	14	0103 ATLANTIC PARTNERS EMS, INC.
R	81400	265.86	08/16/22	14	0129 BAKER & TAYLOR BOOKS
R	81401	128.13	08/16/22	14	0109 CARLITO RODRIGUEZ
R	81402	1,008.58	08/16/22	14	0222 CENTRAL MAINE POWER COMPANY
R	81403	72.00	08/16/22	14	0636 CHRISTINA GURNARI RYAN
R	81404	42.00	08/16/22	14	1005 DANIELLE LORING
R	81405	214.40	08/16/22	14	1854 DEPOT SQUARE HARDWARE
R	81406	38.00	08/16/22	14	0683 DERRICK PLUMMER
R	81407	385.00	08/16/22	14	1206 EASTERN FIRE
R	81408	38.00	08/16/22	14	2312 EMILY SOMMA
R	81409	42.00	08/16/22	14	1015 EMMA SIMPSON
R	81410	533.72	08/16/22	14	2294 FIRST NATIONAL BANK OMAHA
R	81411	65.00	08/16/22	14	0445 FOURWINDS CUSTOM SIGNS
R	81412	459.15	08/16/22	14	0314 G. A. DOWNING CO., INC.
R	81413	42.00	08/16/22	14	1269 GLORIA POIRIER
R	81414	85.00	08/16/22	14	1263 GOODMAN WIPER & PAPER
R	81415	38.00	08/16/22	14	0688 GRACE GENDRON
R	81416	986.00	08/16/22	14	0743 HUB INTERNATIONAL NEW ENGLAND, LLC
R	81417	3,036.03	08/16/22	14	1851 ION NETWORKING LLC
R	81418	17,198.00	08/16/22	14	1541 IRVING ENERGY
R	81419	72.00	08/16/22	14	1989 JASON CHADBOURNE
R	81420	38.00	08/16/22	14	0368 JENNIFER LETOURNEAU
R	81421	34.00	08/16/22	14	0696 JESSICA DOLLEY
R	81422	94.86	08/16/22	14	0544 K. L. JACK & CO.
R	81423	42.00	08/16/22	14	1035 LYNN BUTTERFIELD
R	81424	345.40	08/16/22	14	0670 MAINE OXY-ACETYLENE SUPPLY CO.
R	81425	3,746.35	08/16/22	14	0757 MAINE WASTE TO ENERGY
E	81426	24,268.72	08/16/22	14	1837 MainePERS
R	81427	76.49	08/16/22	14	0703 MECHANIC FALLS AUTO SUPPLY, INC.
R	81428	1,839.79	08/16/22	14	0714 MECHANIC FALLS WATER DEPT.
R	81429	4,612.14	08/16/22	14	1282 MEDICAL REIMBURSEMENT SERVICES, INC

A / P Check Register
Bank: NORTHEAST-GEN

Type	Check	Amount	Date	Wrnt	Payee
R	81430	51.97	08/16/22	14	1547 MICROMARKETING LLC
R	81431	210.60	08/16/22	14	1235 MORGAN BROUSSEAU
R	81432	23.75	08/16/22	14	0221 NICOLE LUSSIER
R	81433	29.84	08/16/22	14	1264 NICOLE PATENAUDE
R	81434	429.00	08/16/22	14	0165 OCCUPATIONAL HEALTH CENTERS
R	81435	50.00	08/16/22	14	0913 PINE STATE PEST SOLUTIONS, INC.
R	81436	3,451.00	08/16/22	14	0988 RENT IT, INC
R	81437	5,250.00	08/16/22	14	1884 RHR SMITH & COMPANY
R	81438	2,583.33	08/16/22	14	1428 RJD APPRAISAL
R	81439	625,294.84	08/16/22	14	0899 RSU #16
R	81440	102.00	08/16/22	14	1266 SARAH BISSONETTE
R	81441	38.00	08/16/22	14	1268 SARAH BOYD
R	81442	290.88	08/16/22	14	1868 SPECTRUM BUSINESS
R	81443	38.00	08/16/22	14	0729 STACEY LEICY
R	81444	40.43	08/16/22	14	2235 TOUCHTONE COMMUNICATIONS
R	81445	250.00	08/16/22	14	1141 TOWN HALL STREAMS
R	81446	5,000.00	08/16/22	14	2229 TOWN OF OXFORD
R	81447	38.00	08/16/22	14	1069 TYANNA HARTMAN
R	81448	78.48	08/16/22	14	2038 W. B. MASON CO. INC.
E	81449	9,963.09	08/16/22	14	0193 WRIGHT-PIERCE
Total		862,230.71			

Count	
Checks	68
Voids	0

Warrant 15

Jrnl	Check	Month	Invoice Description	Reference	
Description			Account	Amount	Encumbrance
01093 THOMPSON LAKE ASSOCIATION					
0150	5146	08	REIMBURSEMENT	LAKE ASSOC	
REIMBURSEMENT			E 400-07-6000-60	1,000.00	0.00
			TIFS / TIF 2 - TIFS / CEDC		
			Vendor Total-	1,000.00	
			Prepaid Total-	0.00	
			Current Total-	1,000.00	
			EFT Total-	0.00	
			Warrant Total-	1,000.00	

BOARD OF SELECTPERSONS

Stephen E. Robinson _____

Nathan P. McNally _____

Mary Beth Taylor _____

Jane E. Pentheny _____

Stanley L. Tetenman _____

A / P Check Register
Bank: NORTHEAST-TIF 2

Type	Check	Amount	Date	Wrnt	Payee
R	5146	1,000.00	08/16/22	15	1093 THOMPSON LAKE ASSOCIATION
Total		1,000.00			

Count	
Checks	1
Voids	0