

NEBRASKA DEPARTMENT OF EDUCATION  
SCHOOL FINANCE & ORGANIZATION SERVICES  
2008/09 STATE AID CERTIFICATION

**ASHLAND-GREENWOOD PUBLIC SCHS ( 78-0001-000 )**  
System Cost Grouping: STANDARD (6,533.97)

*WEIGHTED FORMULA STUDENTS CALCULATION*

Grade Range	Fall Membership	ADM/FM Ratio	Contracted Out	Formula Students	Weighting Factor	Weighted Formula Students
K	( 0 x	0.9938945455 ) +	0 =	0.0000 x	0.5 =	0.0000
FDK-6	( 428 x	0.9938945455 ) +	2 =	427.3869 x	1.0 =	427.3869
7-8	( 148 x	0.9938945455 ) +	0 =	147.0964 x	1.2 =	176.5157
9-12	( 261 x	0.9938945455 ) +	1 =	260.4065 x	1.4 =	364.5691
<b>834.8897</b>						<b>968.4716</b>

*SYSTEM FORMULA NEEDS CALCULATION*

Weighted Formula Students	968.4716
+ Indian ADA Factor ( 0.00 x .25)	0.0000
+ Extreme Remoteness Factor ( 0.00 x .125)	0.0000
+ Summer School Factor ( 11.00 x .025)	0.2750
Adjusted Formula Students	968.7466
x Cost Group Cost	6,533.9744
Subtotal	6,329,765.49
+ Transportation Allowance	183,626.82
+ Special Receipts Allowance	366,585.00
+ Distance Education & Telecommunication Allowance	16,910.76
+ Poverty Allowance	31,538.40
+ Limited English Proficiency Allowance	23,800.00
+ Elementary Class Size Allowance	102,045.46
Total Calculated System Formula Needs	7,054,271.93
Formula Needs Stabilization	0.00
System Formula Needs	<b>7,054,271.93</b>

*SYSTEM FORMULA RESOURCES CALCULATION*

Yield From Local Effort Rate	412,401,887 / 100 x 0.95	3,917,817.93
Net Option Funding		0.00
Allocated Income Tax Funds		111,025.09
Other Actual Receipts		1,051,066.60
Minimum Levy Adjustment		20,620.09
Total System Formula Resources		<b>5,100,529.71</b>

*SYSTEM STATE AID CALCULATION*

Equalization Aid Due System	1,953,742.22
Net Option Funding	0.00
Allocated Income Tax Funds	111,025.09
Lop Off	0.00
Stabilization Factor	0.00
Non-Equalized Minimum Levy Adjustment	0.00
Small School Stabilization Adjustment	0.00
Reorganization Incentive	0.00
Total System State Aid Calculated	2,064,767.31
Recapture of Prior Year Deficiencies	0.00
Prior Year (2007/08) State Aid Correction	(17,912.33)
<b>Total System State Aid</b>	<b>2,046,854.98</b>

Some numbers may be rounded for presentation. See "Tax Equity and Educational Opportunities Support Act - Certification of 2008-09 State Aid" TEEOSA document, available on our website at <http://ess.nde.state.ne.us/SchoolFinance/StateAid/AidFormula.htm>. For questions, call School Finance at (402) 471-2486 or email [connie.knoche@nde.ne.gov](mailto:connie.knoche@nde.ne.gov).

NEBRASKA DEPARTMENT OF EDUCATION  
SCHOOL FINANCE & ORGANIZATION SERVICES

**COMPARISON OF SYSTEM STATE AID CERTIFICATION INFORMATION**  
**2007/08 COMPARED TO 2008/09**  
FOR INFORMATION PURPOSES ONLY

**78-0001-000 ASHLAND-GREENWOOD PUBLIC SCHS**

CERTIFICATION ITEM DESCRIPTION	2007/08 STATE AID CERTIFICATION	2008/09 STATE AID CERTIFICATION	DIFFERENCE
<b>SYSTEM FORMULA NEEDS</b>	<i>STUDENTS</i>	<i>STUDENTS</i>	<i>STUDENTS</i>
Weighted Formula Students	974.1002	968.4716	(5.6286)
Limited English Proficiency Factor	0.00 0.0000		0.00 0.0000
Free Lunch/Poverty Factor	124.00 6.0667		(124.00) (6.0667)
Indian ADA Factor	0.00 0.0000	0.00 0.0000	0.00 0.0000
Extreme Remoteness Factor	0.00 0.0000	0.00 0.0000	0.00 0.0000
Summer School Factor		11.00 0.2750	11.00 0.2750
Adjusted Formula Students	980.1668	968.7466	(11.4202)
Cost Group Cost	6,193.4495	6,533.9744	340.5249
Subtotal	6,070,613.70	6,329,765.49	259,151.80
Transportation Allowance	147,551.32	183,626.82	36,075.50
Special Receipts Allowance	359,675.00	366,585.00	6,910.00
Distance Ed & Telecommunication Allowance	0.00	16,910.76	16,910.76
Poverty Allowance		31,538.40	31,538.40
Limited English Proficiency Allowance		23,800.00	23,800.00
Elementary Class Size Allowance		102,045.46	102,045.46
Total Calculated System Formula Needs	6,577,840.02	7,054,271.93	476,431.91
Temporary Aid Adjustment Factor	(82,223.00)		82,223.00
Formula Needs Stabilization		0.00	0.00
System Formula Needs	6,495,617.02	7,054,271.93	558,654.91
<b>SYSTEM FORMULA RESOURCES</b>			
System Adjusted Valuation	389,745,669	412,401,887	22,656,218
Local Effort Rate	0.95	0.95	0.00
Yield From Local Effort Rate	3,702,583.86	3,917,817.93	215,234.07
Net Option Funding	0.00	0.00	0.00
Allocated Income Tax Funds	50,760.70	111,025.09	60,264.38
Other Actual Receipts	846,728.90	1,051,066.60	204,337.70
Minimum Levy Adjustment	0.00	20,620.09	20,620.09
Total System Formula Resources	4,600,073.46	5,100,529.71	500,456.25
<b>SYSTEM STATE AID CALCULATED</b>			
Equalization Aid Due System	1,895,543.56	1,953,742.22	58,198.66
Net Option Funding	0.00	0.00	0.00
Allocated Income Tax Funds	50,760.70	111,025.09	60,264.38
Lop Off	0.00	0.00	0.00
Stabilization Factor	0.00	0.00	0.00
Non-Equalized Minimum Levy Adjustment	0.00	0.00	0.00
Small School Stabilization Adjustment	0.00	0.00	0.00
Reorganization Incentive	0.00	0.00	0.00
Total System State Aid Calculated	1,946,304.26	2,064,767.31	118,463.05
<b>SYSTEM STATE AID PAID</b>			
Recapture of Prior Year Deficiencies	0.00	0.00	0.00
Prior Year State Aid Correction	54,708.35	(17,912.33)	(72,620.67)
Total System State Aid	2,001,012.61	2,046,854.98	45,842.37

**This report is being provided for information purposes only.** See the "State Aid Certification" documents for actual certification of State Aid. See the "Tax Equity and Educational Opportunities Support Act - Certification of 2008-09 State Aid" TEEOSA document for information about the State Aid formula available on our website at <http://ess.nde.state.ne.us/SchoolFinance/StateAid/AidFormula.htm>. For questions, call School Finance at (402) 471-2486 or email [connie.knoche@nde.ne.gov](mailto:connie.knoche@nde.ne.gov). Some numbers may be rounded for presentation.

NEBRASKA DEPARTMENT OF EDUCATION  
SCHOOL FINANCE & ORGANIZATION SERVICES

**2008/09 STATE AID PAID COMPARED TO 2007/08 STATE AID TO BE PAID BY SYSTEM**

SYSTEM COUNTY/ DISTRICT NUMBER	DISTRICT NAME	CLASS	2007/08 SYSTEM STATE AID PAID	2008/09 SYSTEM STATE AID TO BE PAID	TOTAL DOLLAR DIFFERENCE
<b>POLK</b>					
72-0015-000	CROSS COUNTY COMMUNITY SCHOOLS	3	83,682.80	31,607.00	(52,075.80)
72-0019-000	OSCEOLA PUBLIC SCHOOLS	3	224,451.48	(345.77)	(224,797.25)
72-0032-000	SHELBY PUBLIC SCHOOLS	3	302,013.19	296,333.72	(5,679.47)
72-0075-000	HIGH PLAINS COMMUNITY SCHOOL	3	0.00	31,708.40	31,708.40
<b>RED WILLOW</b>					
73-0017-000	MC COOK PUBLIC SCHOOLS	3	5,614,241.76	6,075,722.80	461,481.04
73-0179-000	SOUTHWEST PUBLIC SCHOOLS	3	1,444,550.34	1,147,689.87	(296,860.47)
<b>RICHARDSON</b>					
74-0056-000	FALLS CITY PUBLIC SCHOOLS	3	2,666,975.90	2,724,788.39	57,812.49
74-0070-000	HUMBOLDT TABLE ROCK STEINAUE	3	1,660,881.75	1,566,347.34	(94,534.41)
74-0501-000	SE NEBRASKA CONSOLIDATED SCH	3	5,336.77	16,689.17	11,352.40
<b>ROCK</b>					
75-0100-000	ROCK COUNTY PUBLIC SCHOOLS	3	0.00	0.00	0.00
<b>SALINE</b>					
76-0002-000	CRETE PUBLIC SCHOOLS	3	5,406,475.04	6,218,624.01	812,148.97
76-0044-000	DORCHESTER PUBLIC SCHOOLS	3	340,125.38	613,851.90	273,726.52
76-0068-000	FRIEND PUBLIC SCHOOLS	3	593,231.57	472,757.22	(120,474.35)
76-0082-000	WILBER-CLATONIA PUBLIC SCHOOL	3	834,319.68	959,070.47	124,750.79
<b>SARPY</b>					
77-0001-000	BELLEVUE PUBLIC SCHOOLS	3	40,350,105.78	45,682,079.16	5,331,973.38
77-0027-000	PAPILLION-LA VISTA PUBLIC SCHS	3	27,688,433.45	31,196,588.50	3,508,155.05
77-0037-000	GRETNA PUBLIC SCHOOLS	3	4,465,475.16	4,905,085.26	439,610.10
77-0046-000	SOUTH SARPY DIST 46	3	140,099.87	210,790.77	70,690.90
<b>SAUNDERS</b>					
78-0001-000	ASHLAND-GREENWOOD PUBLIC SCHS	3	2,001,012.61	2,046,854.98	45,842.37
78-0009-000	YUTAN PUBLIC SCHOOLS	3	2,067,004.37	2,057,192.85	(9,811.52)
78-0039-000	WAHOO PUBLIC SCHOOLS	3	1,445,595.32	1,727,703.36	282,108.04
78-0072-000	MEAD PUBLIC SCHOOLS	3	99,754.00	41,945.62	(57,808.38)
78-0104-000	PRAGUE PUBLIC SCHOOLS	2	188,182.93	113,715.62	(74,467.31)
78-0107-000	CEDAR BLUFFS PUBLIC SCHOOLS	3	711,442.90	247,137.37	(464,305.53)
<b>SCOTTS BLUFF</b>					
79-0002-000	MINATARE PUBLIC SCHOOLS	3	1,321,433.57	1,288,302.16	(33,131.41)
79-0011-000	MORRILL PUBLIC SCHOOLS	3	1,697,527.93	1,809,424.63	111,896.70
79-0016-000	GERING PUBLIC SCHOOLS	3	9,475,350.55	10,849,576.23	1,374,225.68
79-0031-000	MITCHELL PUBLIC SCHOOLS	3	2,726,990.07	2,883,423.89	156,433.82
79-0032-000	SCOTTSBLUFF PUBLIC SCHOOLS	3	8,219,298.45	10,827,822.86	2,608,524.41
<b>SEWARD</b>					
80-0005-000	MILFORD PUBLIC SCHOOLS	3	1,927,463.28	2,235,829.38	308,366.10
80-0009-000	SEWARD PUBLIC SCHOOLS	3	1,933,857.34	1,555,739.63	(378,117.71)
80-0567-000	CENTENNIAL PUBLIC SCHOOLS	3	160.78	0.00	(160.78)
<b>SHERIDAN</b>					
81-0003-000	HAY SPRINGS PUBLIC SCHOOLS	3	1,264,102.81	1,249,969.53	(14,133.28)
81-0010-000	GORDON-RUSHVILLE PUBLIC SCHS	3	3,045,520.44	4,264,990.78	1,219,470.34
<b>SHERMAN</b>					
82-0001-000	LOUP CITY PUBLIC SCHOOLS	3	933,114.38	1,172,425.26	239,310.88
82-0015-000	LITCHFIELD PUBLIC SCHOOLS	2	417,514.99	563,991.77	146,476.78
<b>SIOUX</b>					
83-0500-000	SIOUX COUNTY PUBLIC SCHOOLS	3	0.00	0.00	0.00
<b>STANTON</b>					
84-0003-000	STANTON COMMUNITY SCHOOLS	3	1,193,867.05	1,220,181.51	26,314.46
<b>THAYER</b>					
85-0060-000	DESHLER PUBLIC SCHOOLS	3	340,517.11	920,847.55	580,330.44
85-0070-000	THAYER CENTRAL COMMUNITY SC	3	1,007,179.00	1,117,683.03	110,504.03

**2008/09 BUDGET FACTORS CERTIFICATION**

The certified amounts shown below will be used in local school district budgeting for the 2008/09 school fiscal year. The certified amounts are from the 2007/08 Budget Form LC-2 on file with the Nebraska Department of Education (NDE) through the NDE Portal and calculations made pursuant to current statutory requirements. These certified amounts will be prepopulated in the 2008/09 Budget Form LC-2. The 2008/09 Budget Form LC-2 will be available to school districts on the NDE Portal on or before July 1, 2008. If the certified information shown below does not agree with the amounts on file with the school district, (1) check for an email from NDE indicating changes were made to the original LC-2 filed by the school district; or (2) file a copy of the amended documents with NDE.

When the 2007/08 School District Budget Form and/or Budget Form LC-2 and attachments are amended, a copy of the amended documents should be filed with NDE. The certified amounts shown below will change as amendments to the 2007/08 Budget Form LC-2 and attachments are received by NDE. If the 2007/08 School District Budget Form and/or Budget Form LC-2 and attachments are amended after receiving this Certification, please file the amended forms with NDE. The school district will be notified when the amended information will be prepopulated in the 2008/09 LC-2.

**COUNTY: SAUNDERS**  
**COUNTY-DISTRICT NUMBER: 78-0001-000**  
**DISTRICT NAME: ASHLAND-GREENWOOD PUBLIC SCHS**  
**CLASS OF DISTRICT: 3**

Item	Amount	This Information is Taken From the 2007/08 LC-2 Line Number
2007/08 General Fund Budget of Disbursements & Transfers	7,342,289	B-100
Unused Budget Authority	194,112	B-150 or B-360
2007/08 Special Grant Funds	314,135	B-110
2007/08 Special Education Budget of Disbursements & Transfers	835,560	B-120
2007/08 General Fund Lid Exclusions	154,935	B-130
<b>Applicable Allowable Growth Rate (AAGR) for General Fund Expenditures</b>	4.8031 %	XXX
2008/09 Allowable Reserve Percentage	35.00 %	XXX

**Projected Budget of Receipts  
2008-09 Budget Year  
Ashland-Greenwood Public Schools**

<b>Level</b>	<b>2006-07 Actual</b>	<b>2007-08 Anticipated</b>	<b>2008-09 Projected</b>	<b>Receipts Change</b>	<b>Percent Change</b>
<u>Local</u>					
5% Public Power Proceeds	\$ 31,565	\$ 31,000	\$ 32,000	\$ 1,000	3.23%
Motor Vehicle Fees	\$ 353,369	\$ 363,000	\$ 373,000	\$ 10,000	2.75%
Interest on Investments	\$ 115,621	\$ 75,000	\$ 50,000	\$ (25,000)	-33.33%
Local License Fees & Fines	\$ 300	\$ 500	\$ 500	\$ -	0.00%
Other Local Receipts	\$ -	\$ -	\$ -	\$ -	-
Donation/Cash on Hand	\$ 382	\$ 500	\$ 500	\$ -	0.00%
Property Tax Requirement	\$ 3,637,587	\$ 3,702,060	\$ 4,053,185	\$ 351,125	9.48%
<b>Totals</b>	<b>\$ 4,138,824</b>	<b>\$ 4,172,060</b>	<b>\$ 4,509,184.72</b>	<b>\$ 337,125</b>	<b>8.08%</b>
<u>County</u>					
Fines and License Fees	\$ 62,379	\$ 60,000	\$ 65,000	\$ 5,000	8.33%
Other County Receipts	\$ -	\$ -	\$ -	\$ -	-
<b>Totals</b>	<b>\$ 62,379</b>	<b>\$ 60,000</b>	<b>\$ 65,000</b>	<b>\$ 5,000</b>	<b>8.33%</b>
<u>State</u>					
General State Aid	\$ 1,733,734	\$ 2,001,013	\$ 2,046,855	\$ 45,842	2.29%
Special Ed -School Age	\$ 302,463	\$ 300,000	\$ 320,000	\$ 20,000	6.67%
Spec. Ed. Transportation	\$ 40,943	\$ 40,000	\$ 42,000	\$ 2,000	5.00%
Pro Rata Motor Vehicle	\$ 13,083	\$ 13,000	\$ 13,000	\$ -	0.00%
Apportionment	\$ 100,609	\$ 62,000	\$ 62,000	\$ -	0.00%
High Ability (LB 1229)	\$ 8,460	\$ 8,000	\$ 8,000	\$ -	0.00%
Other State Receipts	\$ -	\$ -	\$ 7,500	\$ 7,500	-
<b>Totals</b>	<b>\$ 2,199,292</b>	<b>\$ 2,424,013</b>	<b>\$ 2,499,355</b>	<b>\$ 75,342</b>	<b>3.11%</b>
<u>Federal</u>					
NCLB -STARS Grant		\$ 15,000	\$ 15,000	\$ -	0.00%
NCLB - ARMS Grant	\$ 8,955	\$ -	\$ -	\$ -	-
Title I	\$ 21,579	\$ 64,946	\$ 65,000	\$ 54	0.08%
NCLB - Title II - A	\$ 11,376	\$ 26,625	\$ 25,000	\$ (1,625)	-6.10%
NCLB - Title II - D	\$ 1,349	\$ 791	\$ 800	\$ 9	1.14%
Title IV-A (Formerly Drug Free)	\$ 2,011	\$ 2,767	\$ 2,800	\$ 33	1.19%
Title V - A	\$ 2,505	\$ 1,006	\$ 1,000	\$ (6)	-0.60%
Pre-School Sped	\$ -	\$ -	\$ -	\$ -	-
Sped Part B Funds	\$ 174,663	\$ 160,000	\$ 180,000	\$ 20,000	12.50%
Medicaid	\$ 115,304	\$ 120,000	\$ 120,000	\$ -	0.00%
Carl Perkins Consortium	\$ 9,518	\$ 15,000	\$ 15,000	\$ -	0.00%
Other Federal	\$ 1,000	\$ 1,000	\$ 1,000	\$ -	0.00%
<b>Totals</b>	<b>\$ 348,260</b>	<b>\$ 407,135</b>	<b>\$ 425,600</b>	<b>\$ 18,465</b>	<b>4.54%</b>
<u>Non-Revenue</u>					
Clear Creek Balance	\$ 88,507	\$ -	\$ -	\$ -	-
Sale of Property	\$ 5,006	\$ 5,000	\$ 2,000	\$ (3,000)	-60.00%
<b>Totals</b>	<b>\$ 93,513</b>	<b>\$ 5,000</b>	<b>\$ 2,000</b>	<b>\$ (3,000)</b>	<b>-60.00%</b>
<b>Grand Total</b>	<b>\$ 6,842,268</b>	<b>\$ 7,068,208</b>	<b>\$ 7,501,140</b>	<b>\$ 432,932</b>	<b>6.13%</b>

TIME	LOCATION	EVENT
9:00	MS/HS Building	Arrive at MS/HS to greet media
9:30-10:30	MS/HS Building	Assembly with all 7-12 students in gym HS Band will play Presentation of Award from Amateur Radio Club
10:30-11:30	MS/HS Building	Media
12:00-1:30		Lunch & Break
1:30-2:30	Elementary	Assembly with K-6 students in gym Elementary Chorus will sing Blue & White and America the Beautiful
3:00-4:30	On Own	Break
4:30-5:00	Downtown Ashland	Parade Media
5:00-6:00	SASM	Reception Jazz Band
6:00-7:00	SASM	Dinner Star Spangled Banner Slide Show
7:00-8:00	SASM	<b>Program</b> Emcee Presentation of key to the city Entertainment Entertainment-Beautiful NE & When You Wish Upon Speaker
8:00	SASM	Photo Opportunity

PROPOSED COMMITTEE MEMBERS

**Co-Chairs:**

Ray Bentzen

Dottie Heusman

**Staff:**

Jim Mohrmann

Nate Tonjes

Matt Flynn

Megan Mason

Jenny Washburn

Dan Brokaw

Jerry Wendelin

Trisha Nichelson

**Community Members, Parents, and Board of Education:**

Karen Fricke

Kevin Garner

Kent Kingston

Donnie Laughlin

Bob Luebbe

Jerry Lusienski

Cheryl Reisen

Sonia Sherman



**Ashland-Greenwood Public Schools**

**AND**



**TRANE™**

**Partners On A Performance Contract**

**For**

**Facility Improvement Measures**

**February 4, 2008**







# ASHLAND GREENWOOD SENIOR HIGH SCHOOL

## FIM #1. LIGHTING

**Present Situation** - The lighting in the school is mostly performed with fluorescent lighting fixtures with a few incandescent bulbs in storage and closet areas. The fluorescent fixtures incorporate older style magnetic ballasts and T12 lamps.



GYM LIGHTING

The gymnasium uses high bay 400 watt metal halide fixtures. These fixtures require minutes to warm up, and the bulbs lose intensity as they age. Overall lighting levels are adequate.

**Recommended Solution** - Replace existing light fixture ballasts to newer electronic ballasts and lamps. Existing Gym fixtures will be replaced with 6 lamp fluorescent fixtures. Incandescent exit signs will be changed out with new exit signs using brighter more efficient LED lighting.

**FIM #1 Project Cost** \$87,250 with Annual Savings of \$13,000

## FIM #2. WATER

**Present Situation** - Many of the existing urinals and toilets are high water consumption devices. The lavatories could be upgraded with low flow aerators to save water.

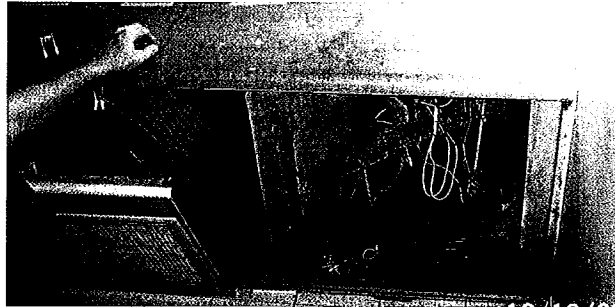
**Recommended Solution** - Perform a system retrofit to include replacing existing wall hung water closets with new 1.6Lpf units, installing flow moderators on existing sink faucets, etc.

**FIM #2 Project Cost** \$22,400 with Annual Savings of \$3,000



**FIM #3, FIM #4 - HVAC**

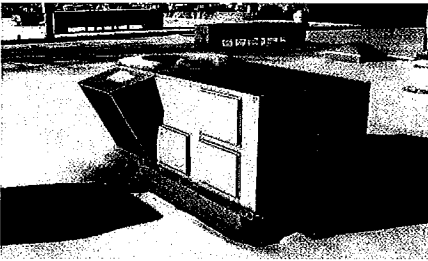
**Present Situation** - The original High School was built in the 1967 and uses a natural gas boiler for heating. There are two air handling units that serve the classrooms and the gymnasium respectively. The air handling unit serving the classrooms provides air to the classrooms via underground ductwork.



**FAN DISTRIBUTION BOX**

Each classroom in the 1967 building has a fan distribution box that controls the amount of underground air delivered to the room. This is accomplished with a motorized damper operated by a thermostat. Originally these classroom units had internal fans that helped circulate air in the room but these are now mostly disconnected.

In the mid 1980's the Middle School and shop additions were constructed. The Middle School building uses a gas boiler and one air handling unit to serve the classrooms and library. Each room has a terminal box that controls air flow into the space. Unexplained odor problems have been experienced in one classroom in this area over the past few years. The shop areas use a combination of hanging unit heaters and residential style furnaces with AC.



**OFFICE ROOF TOP UNIT**

During a remodel and addition in 1995 a chiller was added to provide cooling to the air handling units. Ductwork modifications were made to bring the building into code compliance and introduce fresh air. The addition also added rooftop air handling units to serve the new square footage including the kitchen and gymnasium. Other additions and remodels put the total number of rooftop units at seven.

**HVAC**

**Recommended Solution** - FIM#3 – Replace the existing terminal boxes serving the Middle School addition. Add a VFD to the Middle School AHU for energy efficiency.

**FIM #3 Project Cost** \$75,750 with Annual Savings of \$1,000

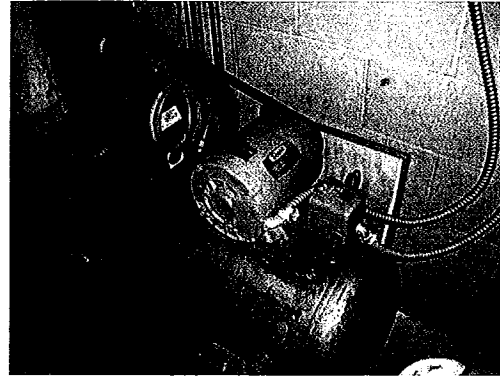
**Recommended Solution** - FIM#4 - Clean Middle School ductwork for improved airflow and to eliminate any odors originating from HVAC system.

**FIM #4 Project Cost** \$20,875 with Annual Savings of \$ 400



**FIM #5. TEMPERATURE CONTROL**

**Present Situation** - An electronic control system was installed in 1995 to control the main boiler, chiller, and the two air handling units serving the 1967 building. This is a DOS based system that is outdated and difficult to use. Individual room control in the 1967 building uses electric thermostats to control the zone dampers in each room. The Middle School and other areas constructed in 1986 use pneumatic thermostats and are an ongoing problem to control properly.



**PNEUMATIC AIR COMPRESSOR**

**Recommended Solution** - A new electronic temperature control system will be installed throughout the building to control and monitor all the building systems and classroom temperatures. The system will have an easy to use graphical interface and the ability for remote monitoring and control.

**FIM #5 Project Cost** \$79,650 with Annual Savings of \$8,500

**FIM #6, FIM# 7. LIFE SAFETY SYSTEMS**

**Present Situation** – The fire alarm system was installed in 1995 and modified in 2000 for the weight room addition. The existing fire alarm panel is functional but obsolete. Parts are no longer available to repair or expand this panel. There is no fire sprinkler system in the building.

**Recommended Solution** – FIM #6 - Install a new fire alarm panel to meet latest building codes including voice evacuation, and expandable for fire sprinkler zones and future construction.

**FIM #6 Project Cost** \$100,000 with no savings.

**Recommended Solution** – FIM #7 - Install a complete wet pipe sprinkler system to cover all interior spaces.

**FIM #7 Project Cost** \$400,000 with no savings.

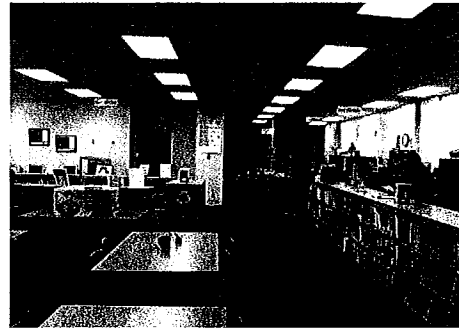


## Elementary School



### FIM #8. LIGHTING

**Present Situation** - The lighting in the school is mostly performed with fluorescent lighting fixtures with a few incandescent bulbs in storage and closet areas. The fluorescent fixtures incorporate older style magnetic ballasts and T12 lamps. The gymnasium uses ceiling mounted metal halide fixtures that provide poor light output. Some fluorescent fixtures have been mounted in the gym and are a noticeable improvement.



LIBRARY LIGHTING

**Recommended Solution** – Replace existing magnetic light fixture ballasts to newer electronic ballasts and lamps. Existing Gym metal halide fixtures will be replaced with 6 lamp fluorescent fixtures. Incandescent exit signs will be changed out with new exit signs using brighter more efficient LED lighting.

**FIM #8 Project Cost** \$54,250 with Annual Savings of \$5,100.

### FIM #9. WATER

**Present Situation** - Many of the existing urinals and toilets are high water consumption devices. The lavatories could be upgraded with low flow aerators to save water.

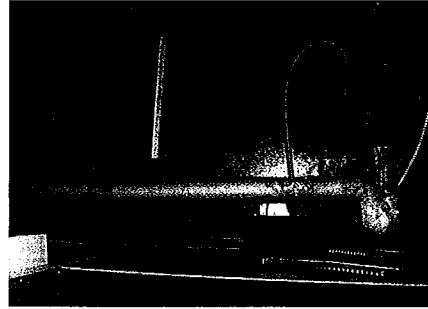
**Recommendation Solution** – Perform a system retrofit to include replacing existing wall hung water closets with new 1.6Lpf units, installing flow moderators on existing sink faucets, etc.

**FIM #9 Project Cost** \$25,975 with Annual Savings of \$1,600.



**FIM #10 #11. HVAC Projects**

The school was built in 1920 and was extensively remodeled in 1996. The building uses a two pipe fan coil system to heat and cool the building. Heat for the building is created from a gas fired steam boiler and heat exchanger with an air cooled chiller to create cooling. The classroom fan coil units draw fresh air in from louvers above the windows in multiple floors of the building. Poorly designed filter tracks in these fan coil units has allowed dirt to bypass the filters resulting in dirty coils.



**FAN COIL & FILTER**

Excessive humidity and warm interior rooms are the biggest comfort complaints. The school staff has systematically attempted to resolve the humidity problem thru trial and error control of the mechanical system. These methods have helped diagnose the problem but with limited success.

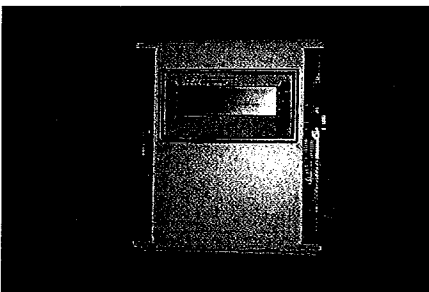
**FIM #10. Recommended Solution** - Clean coils in classroom fan coil units. This will require units to be removed out of ceilings, washed, and reinstalled. Modify air filter housings to accept filters properly.

**FIM #10 Project Cost** - \$98,300 with Annual Savings of \$3,000.

**FIM #11. Recommended Solution** - Replace (2) existing fan coil units serving second floor art room and 3<sup>rd</sup> floor band room. The new units will be DX fan coils with outside air economizer ducts. This will allow interior rooms to be cooled in all seasons.

**FIM #11 Project Cost** \$38,400 with Annual Savings of \$100.

**FIM #12. TEMPERATURE CONTROL**



**Present Situation** - Individual room control is accomplished with electrical thermostats. Day/night control is performed with a simple energy management system that kills power to all the classroom fan coil units. The control system has a difficult to use operator interface located in a control panel in the boiler room.

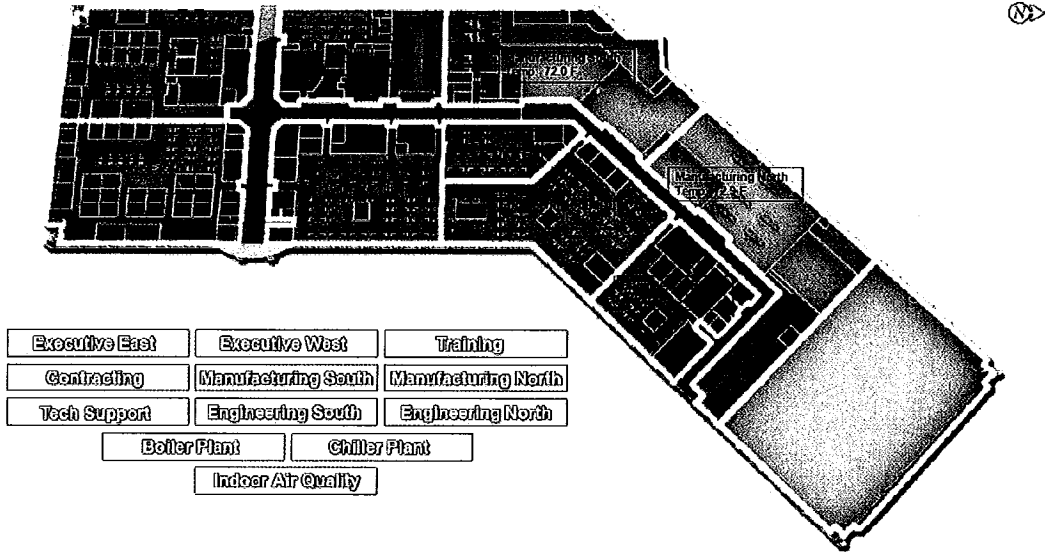
**ENERGY MANAGEMENT PANEL**

**Recommended Solution** - A new electronic energy management system will be installed to monitor temperature, humidity, and CO2 levels. A CO2 sensor in each room will monitor the air quality and open fresh air intake dampers only when needed. This control sequence will verify the building is not over ventilated reducing both energy usage and interior humidity.

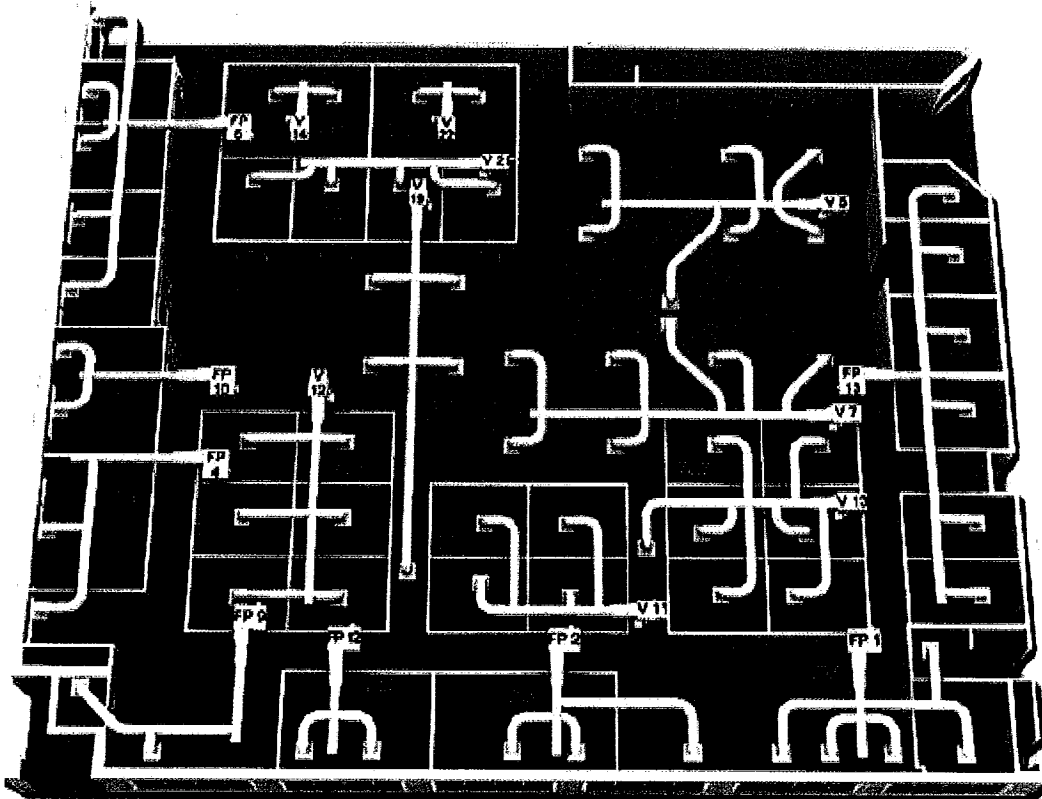
**FIM #12 Project Cost** \$86,750 with Annual Savings of \$6,000.



# TEMPRATURE CONTROL GRAPHIC EXAMPLES



ENTIRE BUILDING FLOOR PLAN



SPECIFIC AREA FLOOR PLAN



**Manufacturing North**

Outdoor Air Flow Setpoint: 1200.0  
 Outdoor Air Damper: 632 cfm  
 Outside Air Temp: 71.4  
 Return Air Temp: 74.7  
 Mixed Air Temp: 76.4  
 Filter Status: Clean

Supply Air Temp Setpoint: 55.0  
 Supply Air Temp: 55.5  
 Duct Pressure Setpoint: 3.0  
 Duct Static Pressure: 3.0  
 Variable Frequency Drive: 100.0 %  
 Fan Status: On

Chilled Water Supply Temp: 60.2  
 Chilled Water Return Temp: 59.2  
 CHW Valve Position: 64 %

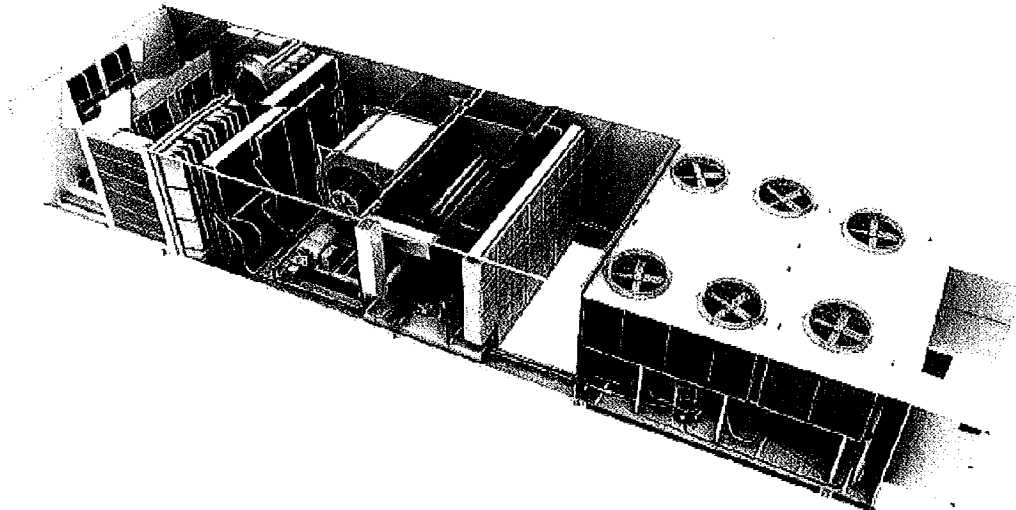
Hot Water Supply Temp: 177.8  
 Hot Water Return Temp: 158.7  
 HW Valve Position: 64 %

Filter Status Control

## AIR HANDLING UNIT

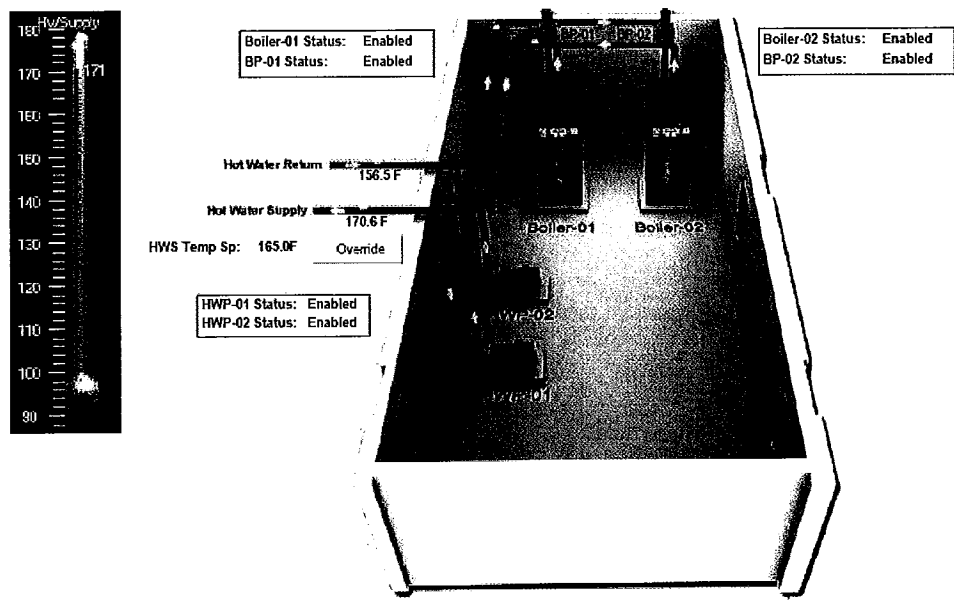
**Executive West    Executive East**

Name: Executive IntelliPak™ RTU		IntelliPak™ Rooftop	
Active Mode: Cooling		VAV, DX Cooling	
Present Value: Unoccupied		Gas/Electric Heat	
<b>Supply Air Conditions</b>		<b>Fan Status: On</b>	
Temperature:	64.29 Deg <input type="button" value="Override"/>	<b>Cooling Status</b>	
Cooling Setpoint:	48.0 Deg	Capacity In Use: 0 %	
Heating Setpoint:	95.0 Deg	<b>Heating Status</b>	
Pressure:	0.58 IWG	Temperature:	74.5 Deg
Pressure Setpoint:	2.0 IWG	Morning Warmup Setpoint:	62.0 Deg
Fan IGW/VFD Position:	60 %	Daytime Warmup Setpoint:	74.0 Deg
		1:	Off
		2:	Off
		3:	Off

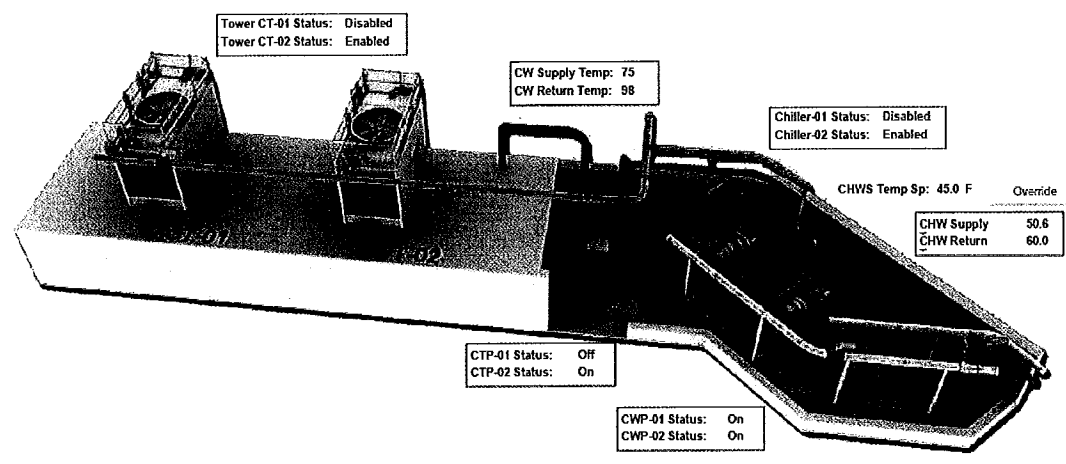


## ROOFTOP AIR HANDLING UNIT





## BOILER ROOM



## CHILLER PLANT