Vol M03 Page 28035

State of Oregon, County of Klamath
Recorded 04/30/2003 9:18 a m.
Vol M03 Pg 28035-96
Linda Smith, County Clerk
Fee $ 326.00 # of Pgs 62

UCC FINANCING STATEMENT

FOLLOW INSTRUCTIONS (front and back) CAREFULLY

A. NAME & PHONE OF CONTACT AT FILER [optional]

B. SEND ACKNOWLEDGMENT TO: (Name and Address)

Rt LexisNexis Document Solutions
801 Adlai Stevenson Drive
Springfield, IL 62703

'03 APR 30 AM9:18

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

1. DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (1a or 1b) - do not abbreviate or combine names

1a. ORGANIZATION'S NAME: Klamath Falls City School District, Oregon

OR

1b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

1c. MAILING ADDRESS: 1336 Avalon | CITY: Klamath Falls | STATE: OR | POSTAL CODE: 97603-4423 | COUNTRY: USA

1d. SEE INSTRUCTIONS | ADD'L INFO RE ORGANIZATION DEBTOR | 1e. TYPE OF ORGANIZATION: GOVAG | 1f. JURISDICTION OF ORGANIZATION: OR | 1g. ORGANIZATIONAL ID #, if any | [X] NONE

2. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - insert only one debtor name (2a or 2b) - do not abbreviate or combine names

2a. ORGANIZATION'S NAME

OR

2b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

2c. MAILING ADDRESS | CITY | STATE | POSTAL CODE | COUNTRY

2d. SEE INSTRUCTIONS | ADD'L INFO RE ORGANIZATION DEBTOR | 2e. TYPE OF ORGANIZATION | 2f. JURISDICTION OF ORGANIZATION | 2g. ORGANIZATIONAL ID #, if any | [ ] NONE

3. SECURED PARTY'S NAME (or NAME of TOTAL ASSIGNEE of ASSIGNOR S/P) - insert only one secured party name (3a or 3b)

3a. ORGANIZATION'S NAME: LaSalle Bank National Association

OR

3b. INDIVIDUAL'S LAST NAME | FIRST NAME | MIDDLE NAME | SUFFIX

3c. MAILING ADDRESS: 135 S. LaSalle Street, Suite 545 | CITY: Chicago | STATE: IL | POSTAL CODE: 60603 | COUNTRY: USA

4. This FINANCING STATEMENT covers the following collateral:

The collateral as described in SCHEDULE A attached hereto and made a part hereof.

This Financing Statement is to be filed in the REAL ESTATE RECORDS. This Financing Statement is a FIXTURE FILING. This Financing Statement covers goods (property) which are or are to become fixtures on the real estate described in SCHEDULE B attached hereto and made a part hereof.

5. ALTERNATIVE DESIGNATION [if applicable]: [ ] LESSEE/LESSOR [ ] CONSIGNEE/CONSIGNOR [ ] BAILEE/BAILOR [ ] SELLER/BUYER [ ] AG. LIEN [ ] NON-UCC FILING

6. [X] This FINANCING STATEMENT is to be filed [for record] (or recorded) in the REAL ESTATE RECORDS. Attach Addendum [if applicable] | 7. Check to REQUEST SEARCH REPORT(S) on Debtor(s) [ADDITIONAL FEE] [optional] [ ] All Debtors [ ] Debtor 1 [ ] Debtor 2

8. OPTIONAL FILER REFERENCE DATA #897

OR-Klamath County

295-1487-2

FILING OFFICE COPY — UCC FINANCING STATEMENT (FORM UCC1) (REV. 05/22/02)

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801 Adlai Stevenson Drive
Springfield, IL 62703-4261

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UCC FINANCING STATEMENT ADDENDUM

FOLLOW INSTRUCTIONS (front and back) CAREFULLY

9. NAME OF FIRST DEBTOR (1a or 1b) ON RELATED FINANCING STATEMENT

9a. ORGANIZATION'S NAME
Klamath Falls City School District, Oregon

OR

9b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME,SUFFIX

10. MISCELLANEOUS: OR-Klamath County

THE ABOVE SPACE IS FOR FILING OFFICE USE ONLY

11. ADDITIONAL DEBTOR'S EXACT FULL LEGAL NAME - insert only one name (11a or 11b) - do not abbreviate or combine names

11a. ORGANIZATION'S NAME

OR

11b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME	SUFFIX

11c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY

ADD'L INFO RE ORGANIZATION DEBTOR	11e. TYPE OF ORGANIZATION	11f. JURISDICTION OF ORGANIZATION	11g. ORGANIZATIONAL ID #, if any
			☐ NONE

12. ☐ ADDITIONAL SECURED PARTY'S or ☐ ASSIGNOR S/P'S NAME - insert only one name (12a or 12b)

12a. ORGANIZATION'S NAME

OR

12b. INDIVIDUAL'S LAST NAME	FIRST NAME	MIDDLE NAME	SUFFIX

12c. MAILING ADDRESS	CITY	STATE	POSTAL CODE	COUNTRY

13. This FINANCING STATEMENT covers ☐ timber to be cut or ☐ as-extracted collateral, or is filed as a ☒ fixture filing.

14. Description of real estate:

See SCHEDULE B attached for description of real estate.

15. Name and address of a RECORD OWNER of above-described real estate (if Debtor does not have a record interest):

Klamath Falls City School District, Oregon
1336 Avalon
Klamath Falls, OR 97603-4423

16. Additional collateral description:

17. Check only if applicable and check only one box.

Debtor is a ☐ Trust or ☐ Trustee acting with respect to property held in trust or ☐ Decedent's Estate

18. Check only if applicable and check only one box.

☐ Debtor is a TRANSMITTING UTILITY

☐ Filed in connection with a Manufactured-Home Transaction — effective 30 years

☐ Filed in connection with a Public-Finance Transaction — effective 30 years

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SCHEDULE A
To
FORM UCC-1 Financing Statement

Klamath Falls City School District, Oregon, as Debtor
LaSalle Bank National Association, as Secured Party

The Equipment is described below:

Quantity Description

See Attachment A – Scope of Work for equipment description and locations attached hereto and made a part hereof.

Together with all of the accessories, attachments and appurtenances appertaining or attached to any of said Equipment, whether now owned or hereafter acquired, and all substitutions, accessions, features, renewals, cables, parts fittings, and replacements of, and additional special features, model changes and improvements to any and all of said Equipment together with all rents, proceeds, issues, income, profits and avails pertaining thereto or derived therefrom*.

Equipment Location:

See Attachment A – Scope of Work for equipment description and locations attached hereto and made a part hereof.

Vendor:
Control Contractors, Inc.
5000 SE 25th Avenue
Portland, OR 97202

*The inclusion of proceeds of the collateral herein does not constitute Secured Party's authorization that Debtor may sell the collateral.

Sale or Closure Planned	Year Built	School
No	1928	Joseph Conger Elementary School 1700 California Klamath Falls, OR 97601
No	1928	Fairview Elementary School 1017 Donald Street Klamath Falls, OR 97601
No	1909	Mills Elementary School 520 East Main Street Klamath Falls, OR 97601
No	1923	Pelican Elementary School 501 McLean Street Klamath Falls, OR 97601
No	1911	Riverside Elementary School 707 Cypress Street Klamath Falls, OR 97601
No	1923	Roosevelt Elementary School 1125 Eldorado Avenue Klamath Falls, OR 97601
No	1961	Ponderosa Junior High School 2554 Main Street Klamath Falls, OR 97601
No	1961	Mazama High School 3009 Summers Lane Klamath Falls, OR 97603
No	1959	District Office 1336 Avalon Klamath Falls, OR 97603

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Facility Improvement Agreement

Attachment A – Scope of Work

CONTROL CONTRACTORS

This proposal includes the following Facility Improvement Measures:

CCI will supply all labor and material to retrofit the lighting in each School listed as recommended in the Nexant, Inc. energy audit report date November 8, 2001. All lamps and ballasts will be retrofitted per the report with all old material being disposed of per environmental regulations. As discussed, the Gymnasium lights will not be retrofitted as part of this agreement. Schools lighting being retrofitted as follows:

- Mazama High School
- Ponderosa Middle School
- Pelican Elementary
- Riverside Elementary
- Roosevelt Elementary
- Fairview Elementary
- Conger Elementary
- Mills Elementary
- District Office (O'Neill)

CCI will supply all labor and material to retrofit the DDC control systems in each School listed as recommended in the Nexant Inc. energy audit report dated November 8, 2001. The controls will be retrofitted to include all the DDC points described in the report. The system will be intranet based and will require the School District to provide Ethernet LAN drops at the appropriate location in each School listed below. All fan systems and mechanical equipment will be scheduled per the report or operated in a manner consistent with industry standards or occupancy comfort. In addition, a total of 7 Variable Frequency Drives will be included to control the geothermal pumps and the cooling tower fans at Ponderosa Middle School and Mazama High School. Schools HVAC controls being upgraded as follows;

- Mazama High School
- Ponderosa Middle School
- Riverside Elementary
- Roosevelt Elementary
- Fairview Elementary
- Mills Elementary
- District Office (O'Neill)

This proposal does not include the following:

- Any work that is not specifically identified above.
- Repair work.
- Any asbestos abatement.
- Any mechanical work.
- Gym Lighting upgrades as specified in the Nexant Inc. reports, as referenced above.

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Control Contractors, Inc.
Facility Improvement Agreement
Attachment A
Support Services

CONTROL CONTRACTORS

GENERAL CONDITIONS

1. This agreement applies only to equipment installed prior to effective date of this agreement and as described in this agreement. Normal working hours (8 a.m. to 4 p.m.; Monday through Friday, excluding holidays) will apply to all services, unless otherwise stated, including major repairs performed under this agreement.

2. This agreement assumes the systems covered to be in maintainable condition. If repairs are found necessary upon initial inspection or initial seasonal start-up, repair charges will be submitted for approval. Should these restoration charges be declined, those non maintainable items will be eliminated from the program and the agreement price adjusted accordingly.

3. It is agreed that the customer shall provide reasonable means of access to all devices which are to be maintained. Normal operation such as starting, stopping and resetting of the listed equipment is not included in this program. However, Control Contractors, Inc. shall be permitted to start and stop all primary equipment incidental to the operation of the mechanical system.

4. If the system is modified, changed or altered, or if any equipment is added, or if the system is removed within the premises or to other premises, Control Contractors, Inc., at its sole option, reserves the right to terminate or re-negotiate this agreement based on the condition of the system after the changes have been made.

5. It is agreed that the contract price shall be adjusted yearly; such adjustment shall be consistent with current labor and material costs. This agreement may be terminated after its initial term on the anniversary of its effective date by either party by giving written notice a minimum of 30 days prior to the anniversary date.

6. Control Contractors, Inc. shall not, under any circumstances, be liable for injury to persons or damage to property unless such injury or damage is caused by a negligent act of omission or commission by Control Contractors, Inc. agents, employees or subcontractors.

7. Control Contractors, Inc. and Customer assume the non-occurrence of the following contingencies which, without limitation, might render performance by Control Contractors, Inc. impractical: strikes, fires, war, late or non-delivery by suppliers of Control Contractors, Inc., and all other contingencies beyond the reasonable control of Control Contractors, Inc. Under no circumstances shall Control Contractors, Inc. be liable for any special or consequential damages whether based upon lost goodwill, lost resale profits, work stoppage, impairment of other goods or otherwise and whether arising out of breach of warranty, breach of contract, negligence or otherwise, except only in the case of personal injury where applicable law requires such liability. But in no event shall Control Contractors, Inc.'s liability exceed the purchase price paid under this contract.

8. The Customer shall pay Control Contractors, Inc., in addition to the contract price, the amount of all present and future taxes or any other government charge now or hereafter imposed by existent or future laws with respect to the transfer, use, ownership, or possession of equipment to which this agreement relates, exclusive of ordinary personal property taxes assessed against Control Contractors, Inc.

9. It is agreed that the customer shall assume responsibility and pay extra for all service and material required due to electrical power failure, low voltage, burned out main or branch fuses, low water pressure, corrosion or lightning strikes.

10. The customer is responsible for the addition of any items of equipment or performance of any safety test or corrections in design as recommended or required by insurance companies, government, state, municipalities or other authorities.

11. The customer is responsible for the indoor air quality of their facility.

12. In the event Control Contractors, Inc. is required to make any repairs and/or replacement and/or emergency calls occasioned by improper operation or misuse of equipment covered by this agreement or any cause beyond Control Contractors, Inc.'s control, the customer shall reimburse Control Contractors, Inc. for expenses incurred in making repairs and/or replacements and/or emergency calls in accordance with the established rate for performing such service such as calls for thermostat setting, air balancing or equipment resetting.

13. If equipment becomes non-repairable due to unavailability of replacement parts, Control Contractors, Inc., at its option, may remove the equipment from the contract and will not be required to maintain or service such equipment as a part of this agreement. However, Control Contractors, Inc. will assist the owner in replacing the equipment at prevailing service rates.

14. The customer is responsible for the replacement or repair of non moving parts of the heating, cooling and ventilating systems, such as duct work, boiler shell and tubes, boiler refractory and complementary equipment, for example but not limited to: cabinets, fixtures, boxes, water supply lines, drain lines, steam lines, plumbing, oil storage tanks, oil and/or gas lines, domestic water lines, refrigerant piping, pneumatic tubing, converter shell and tubes, heating or cooling coils and electrical wiring.

15. Control Contractors, Inc. reserves the right to discontinue this maintenance service agreement at any time, without notice, unless all payments under this contract shall have been made as agreed.

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Control Contractors, Inc.
Facility Improvement Agreement
Attachment A
Support Services

CONTROL CONTRACTORS

System Application Support
Control Contractors Inc agrees to provide recommendations to the Customer regarding modifications to the existing system applications for added energy savings, more efficient operation, and further enhanced information and facility management capabilities.

Database Maintenance
Annually, as a minimum, Control Contractors Inc will review all application software databases and verify that such databases are maintained in accordance with published recommended operating procedures. A complete backup of the most recently verified databases will be maintained, on file by CCI, for emergency backup through telephone modem link up or on site visit. The customer will provide 24-hour phone line access to the network of digital control systems for diagnostic, support of maintenance staff personnel, and monitoring purposes. Emergency service and phone modem support will be provided.

Migration Hardware and Software Pricing Preference
In the event that the Customer desires to purchase new User Interfaces, LAN Interface Devices, and/or Area Controllers while this agreement is active, the Customer is guaranteed that they will receive a preferential discount on said equipment offered through standard CCI pricing schedules.

Chiller Preventive Maintenance
CCI will provide a seasonal preventive maintenance service check to the Chillers at Mazama and Ponderosa Schools to increase comfort and reliability, improved energy efficiency, and aid in lengthening system useful life span.

Temperature Control Preventive Maintenance
CCI will provide a seasonal temperature control preventive maintenance check to the sites listed to provide increased comfort, improved energy efficiency, and aid in lengthening system useful life span.

Automation System Routine Maintenance
CCI will provide preventive maintenance and oversite services to ensure that the DDC controls and control routines installed during the attached retrofit remain as intended to capture all available energy savings.

Reduced labor rates
CCI will provide reduced labor rates for all work done outside the scope of this agreement (per published rates).

Emergency Service
CCI will provide emergency service 24 hours a day at preferred customer rates.

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Facility Improvement Agreement
Attachment B-Support Services

CONTROL CONTRACTORS

Services to be provided at the following locations: Mazama High School, Ponderosa Middle School, Administration Office (O'Neill), Mills Elementary, Roosevelt Elementary, Fairview Elementary, and Riverside Elementary.

Control Contractors, Inc. agrees to provide the support services described in the attached schedules in accordance with the following terms and conditions:

Terms and Payment
This Service Agreement shall begin on the 1st day of September, 2003 and shall continue for an initial term of three years and from year to year thereafter until terminated.

After the initial term, this Support Service Agreement will remain in effect and either party may terminate this Agreement upon thirty days written notice prior to the anniversary date of the Agreement. The contract price shall be subject to adjustment yearly to recognize any changes in costs. Notice of proposed adjustment to the annual price will be provided at least sixty days prior to Agreement renewal date.

Control Contractors, Inc. agrees to furnish the services as described in this Agreement for the total sum of Fifteen Thousand Seven Hundred Fifty Seven dollars ($15,757.00) per year.

Invoices will be issued monthly/quarterly/annually (circle one). Payment will be made within 30 days of invoice date.

This proposal, including the attached pages, special conditions, and attachments constitutes the entire agreement and shall become a valid contract after Customer acceptance and credit approval by Control Contractors, Inc.. This Agreement supersedes all prior presentations and agreements not incorporated herein. This proposal is valid through: 03/30/03

Customer: Klamath Falls City Schools

By: Paul D Peterson

Print Name: Paul D Peterson

Title: Business Manager

Date: 2/19/03

Control Contractors, Inc.

By: _____

Print Name: _____

Title: _____

Date: _____

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Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Height	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
Mazama High School	Monday-Friday 7:30am-11:00pm, september - june; 277V lighting					-	
Stage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 30fc	12 ft	148W	20	458	3.0	1,354 kWh
Sound room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 45-80fc	8 ft	148W	4	458	0.6	271 kWh
Band office/pract. rm	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 45-80fc	multiple	148W	3	3,111	0.4	1,381 kWh
Band room	2 lamp U-shaped T12 4' w/ 1 EEMB, 2x2, Trof 40 W	20 ft	88W	2	3,111	0.2	535 kWh
Instrument closet	60W incandescent socket	8 ft	60W	1	120	0.1	7 kWh
Band/Choir	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	16 ft	148W	54	3,111	8.0	24,863 kWh
Choir closets	100W incandescent, screw socket	10 ft	100W	2	10	0.2	2 kWh
Arts closet	60W incandescent, 1x1 recessed	8 ft	60W	1	80	0.1	5 kWh
Classes/offices/	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	10 ft	118W	312	3,111	36.8	114,535 kWh
Cafeteria	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	10 ft	118W	96	1,281	11.3	14,511 kWh
Cafeteria	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	10 ft	118W	32	854	3.8	3,226 kWh
Faculty lunch room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 55fc	16 ft	148W	8	3,111	1.2	3,683 kWh
Kitchen/snack shop	75W reflective flood	8 ft	75W	8	915	0.6	549 kWh
Kitchen mop room	200W incandescent, screw socket	8 ft	200W	1	366	0.2	73 kWh
Boiler room	300W incandescent, hood	12 ft	300W	12	3,111	3.6	11,200 kWh
Work bench, boiler rm	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip hood, 60 W, 65fc	8 ft	128W	1	3,111	0.1	398 kWh
Custodial office	300W incandescent, hood	8 ft	300W	2	3,111	0.6	1,867 kWh
Custodial office	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Strip	8 ft	74W	1	3,111	0.1	230 kWh
Classrooms/boiler room/l	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 32-88fc	multiple	148W	381	3,111	56.4	175,423 kWh
Wood shop addition	2 lamp T12 4' w/ 1 EEMB, 1x4, Strip 40 W, 55fc	13 ft	86W	28	3,111	2.4	7,491 kWh
Wood storage	75W incandescent, 1x1 recessed	10 ft	75W	3	3,111	0.2	700 kWh
Wood storage	18 W CFL	10 ft	11W	2	8,760	0.0	193 kWh
Paint room	75W incandescent, vapor/expl	8 ft	75W	1	183	0.1	14 kWh
Restroom, wood shop	75W incandescent	8 ft	75W	1	549	0.1	41 kWh
Storage, home ec.	25W incandescent, screw socket	8 ft	25W	2	366	0.1	18 kWh
Elect. Supply	100W incandescent, screw socket	8 ft	100W	1	8,760	0.1	875 kWh
Auto shop class	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 40 W, 55fc	8 ft	86W	16	3,111	1.4	4,281 kWh
Auto shop work	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip, HO, 95W, 65fc	12 ft	206W	25	3,111	5.2	16,022 kWh
Computer storage	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 25fc	8 ft	74W	5	549	0.4	203 kWh
Home Ec.	60W incandescent, recessed, 9fc	8 ft	60W	1	3,111	0.1	187 kWh
Display case #4	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 40 W		86W	1	3,111	0.1	268 kWh
Janitor's closet	60W incandescent, socket	7 ft	60W	1	1,098	0.1	66 kWh
Library/5/7/9/11/science	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 40 W, 35-85fc	8 ft	172W	275	3,111	47.3	147,150 kWh
Hallways/shops/restroom	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	multiple	74W	328	3,111	24.3	75,510 kWh
Main Gym	175W metal halide	35 ft	175W	36	600	6.3	3,780 kWh
Old Gym	175W metal halide	25 ft	175W	9	600	1.6	945 kWh
Upper Gym	175W metal halide	25 ft	175W	12	600	2.1	1,260 kWh
Gym/Mezz stairs	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Strip	10 ft	128W	2	3,111	0.3	796 kWh
Mezz Gym Storage	75W incandescent, screw socket	8 ft	75W	2	3,111	0.2	467 kWh
Mezz Gym Storage	90W incandescent, screw socket	8 ft	90W	3	3,111	0.3	840 kWh
New Gym Areas	T-8 fixtures	na	175W	0		-	0 kWh
Kitchen/Weight room	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	8 ft	74W	50	915	3.7	3,386 kWh
Kitchen hoods	90W incandescent, JJ	7 ft	90W	6	366	0.5	198 kWh
Pantry/dry storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Tr ceil mnt, 40 W	8 ft	86W	2	915	0.2	157 kWh
Locker/restroom	2 lamp, 75W incandescent, globe, 16fc	8 ft	150W	2	549	0.3	165 kWh
Girl's showers	2 lamp T12 4' w/ 1 EEMB, 1x4, Vapor Wrap, 34 W	11 ft	74W	31	3,111	2.3	7,137 kWh
Faculty restrooms	75W refl flood, rec. cannister	8 ft	75W	2	732	0.2	110 kWh
Storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof, ceil mnt, 34 W	8 ft	74W	6	275	0.4	122 kWh
Storage areas	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W	multiple	74W	14	549	1.0	569 kWh
Janitor closets	75W incandescent	8 ft	75W	2	366	0.2	55 kWh
Janitor closets	90W incandescent, screw socket	8 ft	90W	3	366	0.3	99 kWh
Janitor closets	100W incandescent, recessed	8 ft	100W	3	366	0.3	110 kWh
Fan room	300W incandescent, screw socket	8 ft	300W	1	40	0.3	12 kWh
Restrooms	2 lamp, 60 W incandescent, wall mount	7 ft	120W	2	549	0.2	132 kWh
Exterior, rec area (county:	75W reflective flood	na	75W	13	4,015	1.0	3,915 kWh
Exterior	75W flood	na	75W	18	4,015	1.4	5,420 kWh
Exterior	70W hps, estimate wall mount fixtures	na	70W	10	4,015	0.7	2,811 kWh
Exterior	175W hps, estimate wall mount fixtures	na	175W	2	4,015	0.4	1,405 kWh
Exterior	metal halide, 250W	na	250W	11	4,015	2.8	11,041 kWh
Exterior, parking lot	300W mercury vapor (6-11:30), on photo/off timer	na	300W	16	4,745	4.8	22,776 kWh
Crawl space	100W incandescent, estimate 100 (60-150W)		100W	55	20	5.5	110 kWh
	Total Installed Capacity:		246 kW		*Annual Electricity Use:*		674,949 kWh

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Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op *	Installed kW	Annual Energy Use
Ponderosa Junior High School	Monday-Friday 7:30am-9:00pm, september - june					-	
21	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 43fc	8 ft	148W	8	3,111	1.2	3,683 kWh
Classes	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 40-90fc	11 ft	74W	372	3,111	27.5	85,840 kWh
Restrooms, G&B	300W incandescent, 1x1, 20-70fc	10 ft	300W	6	3,111	1.8	5,600 kWh
Coat room	300W incandescent, 1x1	10 ft	300W	1	183	0.3	55 kWh
Home Ec/ Room 23	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 48fc	10 ft	74W	6	3,111	0.4	1,381 kWh
Storage, main office	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 35fc	8 ft	74W	2	549	0.1	81 kWh
Entrance	300W incandescent, 1x1, downlight	11 ft	300W	2	-	0.6	0 kWh
Restrooms, teachers	2 lamp, 75 W incandescent, wall mount	7 ft	150W	2	915	0.3	275 kWh
SRG room	100 W incandescent, wall mount	7 ft	100W	2	2,196	0.2	439 kWh
Storage RR, maint	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 15-20fc	8 ft	148W	6	915	0.9	813 kWh
Janitor closet	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W		118W	1	2,196	0.1	259 kWh
Classrooms, old wing	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50	9 ft	128W	67	3,111	8.6	26,680 kWh
Hall, old wing	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	10 ft	74W	31	3,111	2.3	7,137 kWh
Display case	40W incandescent		40W	8	1,830	0.3	586 kWh
Boiler room	300W incandescent, hood	10 ft	300W	4	2,562	1.2	3,074 kWh
Elevator	2 lamp T12 2' w/ 1 EEMB, 1x2, Wrap, 30 W	7 ft	66W	1	3,111	0.1	205 kWh
Biology storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	10 ft	148W	2	3,111	0.3	921 kWh
Library storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 15-20fc	10 ft	148W	3	3,111	0.4	1,381 kWh
Recycle room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 15-20fc	8 ft	148W	1	3,111	0.1	460 kWh
Entrance/Stairs	300W incandescent, 1x1, downlight	11 ft	300W	10	3,111	3.0	9,333 kWh
Entrance/Stairs	75W incandescent, wall mount	10 ft	75W	2	3,111	0.2	467 kWh
Custodial room	300W incandescent, wall mount		300W	2	3,111	0.6	1,867 kWh
Chiller room	300W incandescent, hood, 10-20 fc		300W	6	3,111	1.8	5,600 kWh
Halls	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof 34 W, 15-70fc	11 ft	148W	15	3,111	2.2	6,906 kWh
Halls	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof 34 W, 30-65fc	8 ft	148W	19	3,111	2.8	8,748 kWh
Halls/Maint. hall	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 35fc	8 ft	74W	31	3,111	2.3	7,137 kWh
Student store	2 lamp, 75 W incandescent, 1x2, wall mount	7 ft	150W	2	732	0.3	220 kWh
Gym	175 W metal halide	25 ft	175W	36	1,739	6.3	10,953 kWh
Gym	300W incandescent, high bay	25 ft	300W	5	1,739	1.5	2,608 kWh
Locker rooms, G&B	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W, 30fc	20 ft	74W	65	3,111	4.8	14,964 kWh
Phys Ed. Storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 30fc	15 ft	74W	20	1,739	1.5	2,573 kWh
Coaches offices	3 lamp T12 4' w/ 2 EEMB, 2x4, EC, 34 W	15 ft	118W	7	1,739	0.8	1,436 kWh
Showers, B&G	2 lamp T12 4' w/ 1 EEMB, 1x4, Vapor Wrap, 34 W	10 ft	74W	10	3,111	0.7	2,302 kWh
Janitor closet	300W incandescent, 1x1, wall mount		300W	1	2,196	0.3	659 kWh
Wrestling room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50-60fc		128W	32	540	4.1	2,212 kWh
Weight room	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip, HO, 70fc	8 ft	237W	5	1,464	1.2	1,735 kWh
Choir & band rooms	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 55-60fc	20 ft	118W	46	3,111	5.4	16,887 kWh
Restrooms	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 75fc	8 ft	118W	6	3,111	0.7	2,203 kWh
Music Room/Instr. stor	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 35fc	20 ft	74W	3	3,111	0.2	691 kWh
Instr. stor	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W		118W	1	366	0.1	43 kWh
Cafeteria	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	10 ft	118W	54	915	6.4	5,830 kWh
Chair storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 25 fc	8 ft	74W	4	40	0.3	12 kWh
Hall storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 25 fc	8 ft	74W	5	120	0.4	44 kWh
Kitchen	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	10 ft	118W	21	915	2.5	2,267 kWh
Hood lights	60W incandescent, JJ, white glass	8 ft	60W	4	549	0.2	132 kWh
Computer lab	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 35fc	20 ft	118W	24	3,111	2.8	8,810 kWh
Ind. Arts office	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 35fc	8 ft	74W	2	3,111	0.1	460 kWh
Shop	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 35fc		118W	24	3,111	2.8	8,810 kWh
Shop	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 35fc		74W	8	3,111	0.6	1,842 kWh
Spray room	300W incandescent, glass/explosion proof	8 ft	300W	4	80	1.2	96 kWh
Exterior	150W incandescent, 1 lamp, recessed downlight	na	150W	5	4,015	0.8	3,011 kWh
Exterior	200W incandescent, 1 lamp, recessed downlight	na	200W	2	4,015	0.4	1,606 kWh
Exterior	300W incandescent, 1 lamp, recessed downlight	na	300W	8	4,015	2.4	9,636 kWh
Exterior	70W hps, estimate wall mount fixtures	na	70W	2	4,015	0.1	562 kWh
Exterior	175W mercury vapor (6-11:30), on photo/off timer	na	175W	16	4,015	2.8	11,242 kWh
	Total Installed Capacity:		112 kW		*Annual Electricity Use:*		292,573 kWh

Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
O'Neill Administration Offices			Mon-Fri 7-4pm year round				
Offices/Conf./Secretary	2 lamp T12 4' w/ 1 EEMB, 1x4, Tr/Wr, 34 W, 48-75fc	8 ft	74W	10	2,340	0.7	1,732 kWh
Offices	2 lamp T12 8' w/ 1 EEMB, 5x8, H shape, HO, 110 W, 70-	8 ft	237W	53	2,340	12.6	29,393 kWh
Offices	2 lamp T12 6' w/ 1 EEMB, 3x6, H shape, HO, 85 W	8 ft	186W	8	2,340	1.5	3,482 kWh
Office C/Toy storage	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 62fc	10 ft	74W	5	2,340	0.4	866 kWh
Toy Storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 90fc	8 ft	148W	2	2,340	0.3	693 kWh
RR near Conf. Room B	2 lamp 60W incandescent, globe	8 ft	120W	1	78	0.1	9 kWh
Classrooms	2 lamp T12 8' w/ 1 EEMB, 5x8, H shape, HO, 110 W, 50-	10 ft	237W	55	2,340	13.0	30,502 kWh
Office, Deputy Suprint	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 40 W, 140	8 ft	172W	4	2,340	0.7	1,610 kWh
Restrooms	4 lamp T12 4' w/ 2 EEMB, 2x4, Tr/Wr, 34 W	10 ft	148W	14	600	2.1	1,243 kWh
Kitchen storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Str, 34 W, 48-75fc	8 ft	74W	21	520	1.6	808 kWh
Kitchen hall/restroom	60W incandescent, globe	8 ft	60W	3	50	0.2	9 kWh
Kitchen hood	2 lamp T12 4' w/ 1 EEMB, 1x4, Str, 34 W, 48-75fc	7 ft	74W	2	60	0.1	9 kWh
Pantry	100 W incandescent	11 ft	100W	1	104	0.1	10 kWh
Boardroom	4 lamp T8 4' w/ 1 El Ballast, 2x4, Trof	20 ft	116W	44	260	5.1	1,327 kWh
Gym	400 W metal halide	20 ft	400W	12	720	4.8	3,456 kWh
Storage rooms	2 lamp T12 4' w/ 1 EEMB, 1x4, Str, 34 W, 48-75fc	12 ft	74W	18	100	1.3	133 kWh
Mech. Room	300W incandescent, hood	10 ft	300W	6	480	1.8	864 kWh
Mail room	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 34 W, 30fc	12 ft	148W	3	2,340	0.4	1,039 kWh
Hallways	3 lamp T8 4' w/ 1 El Ballast, 2x4, Trof	9 ft	87W	44	3,120	3.8	11,943 kWh
Fan room	2 lamp T12 4' w/ 1 EEMB, 1x4, Str, 34 W	9 ft	74W	1	100	0.1	7 kWh
Fan room	40W incandescent, socket	8 ft	40W	1	100	0.0	4 kWh
Exterior pole	175W mercury vapor (6-11:30), on photo/off timer	na	175W	3	4,015	0.5	2,108 kWh
Exterior	100W HPS	na	100W	3	4,015	0.3	1,205 kWh
Exterior	11 W CFL	8 ft	11W	4	4,015	0.0	177 kWh
	Total Installed Capacity:		52 kW		*Annual Electricity Use:*		92,628 kWh

Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
Roosevelt Elementary School		Monday-Friday 7am-4pm, september - july				-	
Class 4-5, Sp Ed, Art, F	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50-7	11 ft	128W	15	2,030	1.9	3,898 kWh
Classes 1-3, 4-8	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 40 W, 85fc	8 ft	172W	56	2,030	9.6	19,553 kWh
Class 1	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 40 W	8 ft	172W	2	2,030	0.3	698 kWh
Class 5	150W incandescent, globe	10 ft	150W	1	2,030	0.2	305 kWh
Cafeteria, Kitchen	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 40 W	12 ft	86W	22	1,117	1.9	2,112 kWh
Classes 8-14/Library	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50-7	10 ft	128W	74	2,030	9.5	19,228 kWh
Music/PrincJ/Admin/nur	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50-7	10 ft	128W	18	2,030	2.3	4,677 kWh
Cafeteria	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50-7	12 ft	128W	1	1,117	0.1	143 kWh
Special Ed.	2 lamp T12 4' w/ 1 EEMB, 1x4, Tr ceil mnt, 40 W	8 ft	86W	1	1,117	0.1	96 kWh
Teach Restroom	75 W incandescent, décor	9 ft	75W	1	508	0.1	38 kWh
Furnace Room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC chain, 60 W	10 ft	128W	2	2,030	0.3	520 kWh
Furnace Room	2 lamp T12 4' w/ 1 EEMB, 1x4, Str chain 34 W	10 ft	74W	1	2,030	0.1	150 kWh
Furnace Room	4 lamp T12 4' w/ 2 EEMB, 2x4, Wr chain, 34 W	9 ft	148W	6	2,030	0.9	1,803 kWh
Furnace Room stairs	150W incandescent	10 ft	150W	1	2,030	0.2	305 kWh
Furnace & Fan Room	75W incandescent, socket/table lamp/pendant	multi	75W	3	2,030	0.2	457 kWh
Fan Room	100W incandescent, socket	multi	100W	1	1,015	0.1	102 kWh
Fan Room	60W incandescent, socket	multi	60W	2	1,015	0.1	122 kWh
LockersRestroom, Girls	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 50-7	10 ft	128W	6	2,030	0.8	1,559 kWh
LockersRestroom, Girls	100W incandescent, JJ	11 ft	100W	1	50	0.1	5 kWh
Dressing Rm Strg, Girls	100W incandescent, JJ	11 ft	100W	1	-	0.1	0 kWh
Hub Room	300W incandescent, hood	10 ft	300W	1	1,440	0.3	432 kWh
LockersRestroom, Boys	4 lamp T12 4' w/ 2 EEMB, 2x4, Vap-Tr, 40 W, clear	11 ft	172W	10	2,030	1.7	3,492 kWh
LockersRestroom, Boys	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 40 W	11 ft	172W	6	2,030	1.0	2,095 kWh
Computer room	300W mercury vapor (6-11:30), on photo/off timer	20 ft	300W	12	609	3.6	2,194 kWh
Gym	400 W metal halide	25 ft	400W	8	1,440	3.2	4,608 kWh
Gym	300W incandescent, hood	20 ft	300W	4	1,440	1.2	1,728 kWh
Auditorium	175 W metal halide	25 ft	175W	9	1,440	1.6	2,268 kWh
Auditorium hall/closets	60W incandescent	9 ft	60W	4	50	0.2	12 kWh
Janitor closet	60W incandescent, globe	9 ft	60W	2	609	0.1	73 kWh
Janitor closet	100W incandescent, JJ	9 ft	100W	1	1,015	0.1	102 kWh
Janitor closet	75 W incandescent	9 ft	75W	1	2,030	0.1	152 kWh
Storage closet	150W incandescent, globe	10 ft	150W	1	75	0.2	11 kWh
Stage	100W incandescent, JJ	16 ft	100W	2	50	0.2	10 kWh
Hallway, upper	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 20fc	12 ft	74W	32	2,436	2.4	5,768 kWh
Hallway, lower	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	9 ft	74W	18	2,436	1.3	3,245 kWh
Stairs	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 20fc	15 ft	74W	6	2,436	0.4	1,082 kWh
Stairs	2 lamp T12 2' w/ 1 EEMB, 1x2, Wrap, 20 W	15 ft	46W	1	2,436	0.0	112 kWh
Stairs	75 W incandescent, glass drum	10 ft	75W	2	2,030	0.2	305 kWh
Exit sign, gym	dual 15W incandescent Exit Sign		30W	1	8,760	0.0	263 kWh
Exterior pole	175W mercury vapor (6-11:30), on photo/off timer	na	175W	2	4,015	0.4	1,405 kWh
Exterior	11 W CFL	8 ft	11W	5	8,760	0.1	482 kWh
	Total Installed Capacity:		47 kW		*Annual Electricity Use:*		85,607 kWh

Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
Fairview Elementary School		Monday-Friday 7am-4pm, september - july				-	
Halls & Stairs	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 25 fc	9 ft	74W	28	1,641	2.1	3,399 kWh
Halls & Stairs	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 30 fc	9 ft	148W	31	1,641	4.6	7,527 kWh
Class 14,15/Teachrs rm	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 70 fc w/s	8 ft	148W	45	1,641	6.7	10,926 kWh
Teacher's work room	4 lamp T12 4' w/ 2 EEMB, 2x4, Wr, 34 W, 70 fc w/sl	11 ft	148W	5	1,641	0.7	1,214 kWh
Classes upstairs + hub	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 40 W, 70-82 fc	9 ft	172W	123	1,641	21.2	34,706 kWh
Classes up & downstair	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W, 38f	8 ft	128W	34	1,641	4.4	7,139 kWh
Kitchen/Cafeteria/Anne	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W	8 ft	128W	23	1,015	2.9	2,988 kWh
Music Room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W	13 ft	128W	34	1,641	4.4	7,139 kWh
Library	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W, 50 fc	12 ft	74W	13	1,641	1.0	1,578 kWh
Office	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 40 W, 55 fc w/s	9 ft	172W	8	1,641	1.4	2,257 kWh
Restrooms/speech/lang	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	9 ft	74W	28	1,641	2.1	3,399 kWh
Restrooms, boys	60W incandescent		60W	2	609	0.1	73 kWh
Restrooms, boys	25W incandescent		25W	1	609	0.0	15 kWh
Stage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	17 ft	148W	8	1,641	1.2	1,942 kWh
Gym	175 W metal halide	25 ft	175W	8	800	1.4	1,120 kWh
Gym	500W incandescent, hood	23 ft	500W	4	800	2.0	1,600 kWh
Stage/storage	200W incandescent, screw socket		200W	3	609	0.6	365 kWh
Stage/Kitchen hall	40W incandescent, rec opaque	9 ft	40W	3	1,015	0.1	122 kWh
Storage areas	200W incandescent, globe/socket		200W	3	812	0.6	487 kWh
Storage areas	150W incandescent, globe/socket		150W	5	609	0.8	457 kWh
Janitor closet	150 W incandescent, socket	10 ft	150W	1	609	0.2	91 kWh
Rm 15/Dressing rm, gir	100W incandescent, globe		100W	13	915	1.3	1,190 kWh
Showers	100W incandescent, JJ		100W	5	915	0.5	458 kWh
Gym & janitor closets	100W incandescent, 1x1 rec. glass		100W	5	1,930	0.5	965 kWh
Storage, locker room	1 lamp T12 8' w/ 1 EEMB, 1x8, Strip, 60 W	10 ft	72W	34	50	2.4	122 kWh
Storage, gym	50W incandescent, 1x1 rec. glass		50W	5	579	0.3	145 kWh
Closet under stairs	100W incandescent, 1x1 rec. glass + socket		100W	2	50	0.2	10 kWh
Closets	75W incandescent, globe/rec. 1x1 opaque		75W	3	366	0.2	82 kWh
Boiler room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 60 W	10 ft	128W	34	200	4.4	870 kWh
Exterior pole	175W mercury vapor (6-11:30), on photo/off timer	na	175W	5	4,015	0.9	3,513 kWh
Exterior	100W incandescent, screw socket		100W	2	4,015	0.2	803 kWh
Exterior	75W reflective flood		75W	1	4,015	0.1	301 kWh
Exterior	25W incandescent, 1x1, 1 lamp, recessed	9 ft	25W	6	4,015	0.2	602 kWh
Exterior	200W incandescent, hood		200W	1	8,760	0.2	1,752 kWh
	Total Installed Capacity:		69 kW		*Annual Electricity Use:*		99,360 kWh

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Klamath Falls City Schools

Lighting Inventory

Zone	Description	Flxt Ht	Flxt Watts	Flxt Qty	Hours of Op	Installed kW	Annual Energy Use
Mills Elem School		Mon-Fri 7am-7pm -September through July					
Restrooms	75 W incandescent, Globe	8 ft	75W	2	2,233	0.2	335 kWh
Closets	100W incandescent	8 ft	100W	1	2,233	0.1	223 kWh
Music Rm	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	16 ft	74W	12	2,233	0.9	1,983 kWh
Stairs (music)	75 W incandescent, Globe	12 ft	75W	1	2,233	0.1	167 kWh
Stage	500W incandescent	18 ft	500W	6	147	3.0	441 kWh
Stage	300W incandescent	18 ft	300W	4	147	1.2	176 kWh
Stage, left	75 W incandescent, 1x1 rec. glass	8 ft	75W	2	147	0.2	22 kWh
Stage, stairs	52 W incandescent, Screw socket	8 ft	52W	1	147	0.1	8 kWh
Auditorium	300W incandescent, 1x1 rec. glass	30 ft	300W	12	210	3.6	756 kWh
Auditorium	500W incandescent, 1x1 rec. glass	30 ft	500W	11	210	5.5	1,155 kWh
Aud. Entry	60W incandescent, rec. canister & globe	8 ft	60W	6	210	0.4	76 kWh
Aud. Lobby	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	8 ft	74W	4	210	0.3	62 kWh
Restrooms	75 W incandescent, Globe	8 ft	75W	3	210	0.2	47 kWh
Storage	75 W incandescent, Globe	8 ft	75W	3	10	0.2	2 kWh
Hall	150W incandescent, rec. glass	10 ft	150W	7	2,233	1.1	2,345 kWh
Hall	2 lamp, 150W incandescent, rec	10 ft	300W	1	8,760	0.3	2,628 kWh
Class, speech/lang	2 lamp T12 4' w/ 1 EEMB, 1x4 Egg Cr/Pend 34W	10 ft	74W	2	2,376	0.1	352 kWh
Class Rms 3-6	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 52-75 fc	12 ft	148W	42	2,376	6.2	14,769 kWh
Book Closet	300W incandescent, screw socket	12 ft	300W	1	198	0.3	59 kWh
Art Supply	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	12 ft	148W	3	2,233	0.4	991 kWh
Restrooms	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 40 fc	12 ft	148W	4	2,233	0.6	1,322 kWh
Rsrm 8	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 50 W, special	12 ft	212W	9	2,233	1.9	4,281 kWh
Room 7,9,10-20	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 50-65 fc	12 ft	148W	156	2,233	23.1	51,556 kWh
Conf. Room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	12 ft	148W	2	792	0.3	234 kWh
Main Office	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 30@ 80 f	12 ft	148W	8	2,233	1.2	2,644 kWh
Asst. Principal	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 90 fc	12 ft	148W	4	2,233	0.6	1,322 kWh
Teach. Restroom	4 lamp T12 4' w/ 2 EEMB, 1x2, Wrap, 20 W	8 ft	46W	9	495	0.4	205 kWh
Health Rm	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	12 ft	148W	3	2,233	0.4	991 kWh
Speech	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	10 ft	74W	2	2,233	0.1	330 kWh
Gym (new gym)	metal halide (150-250W)	na	175W	0		-	0 kWh
Gym Hall	T-8 fixtures	na	175W	0		-	0 kWh
Gym Restroom	T-8 fixtures	na	175W	0		-	0 kWh
Gym Storage	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Strip	10 ft	128W	2	198	0.3	51 kWh
Rsrm 1	4 lamp T12 4' w/ 2 EEMB, 2x4, T/W, 34 W, 100 fc	8 ft	148W	6	792	0.9	703 kWh
Rsrm 1	2 lamp T12 8' w/ 1 EEMB, 1x8, Egg Cr, 80 W, 63 fc	8 ft	128W	5	2,233	0.6	1,429 kWh
Room 2, 1A	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W, 50-65 f	8 ft	74W	43	2,233	3.2	7,106 kWh
Speech	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	8 ft	74W	2	2,233	0.1	330 kWh
Custodi Rm	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip, HO	8 ft	237W	4	2,233	0.9	2,117 kWh
Cust Apt.	estimated 60W incandescent	8 ft	60W	15	548	0.9	493 kWh
Paper Storage	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Strip	8 ft	74W	1	198	0.1	15 kWh
Restroom Boys	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 37 fc	8 ft	148W	3	2,233	0.4	991 kWh
Storage	60W incandescent socket	8 ft	60W	1	198	0.1	12 kWh
Class Rm 21-24	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 70 fc w/	10 ft	148W	14	2,233	2.1	4,627 kWh
Library	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 70 fc w/	10 ft	148W	24	2,233	3.6	7,932 kWh
Hub Rm	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Strip, 84 fc	8 ft	128W	1	2,233	0.1	286 kWh
Copy Rm	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	12 ft	74W	2	2,233	0.1	330 kWh
Boiler Rm	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	10 ft	74W	3	3,600	0.2	798 kWh
Boiler Rm	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Strip	10 ft	74W	4	3,600	0.3	1,064 kWh
Boiler Rm	200W incandescent, screw socket	10 ft	200W	1	3,600	0.2	720 kWh
Boiler Rm Stairs	100W incandescent, screw socket	10 ft	100W	1	3,600	0.1	360 kWh
Rm 26 Bilng/SMART	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	10 ft	74W	4	2,233	0.3	661 kWh
Cafeteria	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	8 ft	148W	13	990	1.9	1,905 kWh
Kitchen	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34 W, 35-45 fc	10 ft	74W	14	990	1.0	1,026 kWh
Kitchen Storage1	75 W incandescent, socket	10 ft	75W	1	594	0.1	45 kWh
Kitchen Storage2	150 W incandescent, socket	10 ft	150W	1	396	0.2	59 kWh
Restroom Girls	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 37 fc	10 ft	148W	3	2,233	0.4	991 kWh
ESL	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34 W, 50 fc	10 ft	74W	12	2,233	0.9	1,983 kWh
ESLStorage	100 W incandescent, JJ	8 ft	100W	3	50	0.3	15 kWh
Scout Storage	90 W incandescent, socket	7 ft	90W	1	50	0.1	5 kWh
Reading Recovery	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34 W, 56 fc	10 ft	74W	2	2,233	0.1	330 kWh
Reading Rec. stg	4 lamp T12 4' w/ 2 EEMB, 2x4, Wr, 34 W, 80 fc	10 ft	148W	3	396	0.4	176 kWh
Reading Rec. offic	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Strip, 50 fc	10 ft	128W	2	2,233	0.3	572 kWh
Reading Rec. RR	90 W incandescent, JJ	7 ft	90W	1	396	0.1	36 kWh
Halways	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	12 ft	74W	52	3,366	3.8	12,952 kWh
Halways-Emergnc	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, 34 W	12 ft	74W	8	8,760	0.6	5,186 kWh
Halways	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Wrap	12 ft	74W	30	3,366	2.2	7,473 kWh
Halways	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Strip	12 ft	128W	9	3,366	1.2	3,878 kWh
Halways	4 lamp T12 4' w/ 2 EEMB, 2x4, Wr, 34 W	12 ft	148W	13	3,366	1.9	6,476 kWh
Halways	100W incandescent, recessed	9 ft	100W	2	2,673	0.2	535 kWh
Exterior	175W mercury vapor (6-11:30), on photo/off timer	na	175W	3	4,015	0.5	2,108 kWh
Exterior	300W mercury vapor (6-11:30), on photo/off timer	na	300W	1	4,745	0.3	1,424 kWh
Exterior	150W incandescent, 1 lamp	na	150W	4	8,760	0.6	5,256 kWh
Exterior	150W incandescent, 2 lamp	na	300W	2	8,760	0.6	5,256 kWh
Exterior	100W incandescent, 1 lamp recessed?	9 ft	100W	2	8,760	0.2	1,752 kWh
		Total Installed Capacity:	86 kW		*Annual Electricity Use:*		178,927 kWh

Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
Conger Elementary School	Monday-Friday 7am-4:30pm, september - june					-	
Front Hall Classrooms/l	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 47fc avg	10 ft	148W	57	1,830	8.4	15,438 kWh
Classrooms, upstairs n	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 63fc avg	10 ft	148W	70	1,830	10.4	18,959 kWh
New Devel. Area	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 65fc	10 ft	148W	2	1,830	0.3	542 kWh
New Devel. Area RR/Ut	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W	0 ft	74W	4	366	0.3	108 kWh
New Devel. Area Halls	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W	0 ft	74W	3	1,830	0.2	406 kWh
Front Hall, upstairs	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 30fc	10 ft	148W	35	1,830	5.2	9,479 kWh
Front Hall Restroom	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 47fc avg	10 ft	148W	1	1,830	0.1	271 kWh
Front Hall Restroom	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W, 31fc	10 ft	74W	1	1,830	0.1	135 kWh
Classrooms, south hall	2 lamp T12 8' w/ 1 EEMB, 1x8, Egg Cr, 60 W, 40-80	9 ft	128W	34	1,830	4.4	7,964 kWh
Classrooms	100W incandescent, globe	10 ft	100W	2	1,830	0.2	366 kWh
Hallway, north	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Wrap, 17-48fc	10 ft	74W	34	1,830	2.5	4,604 kWh
Library	4 lamp T12 4' w/ 2 EEMB, 2x4, EC Pend, 34 W, 26fc	8 ft	148W	24	1,830	3.6	6,500 kWh
Stage	500W incandescent	18 ft	500W	3	147	1.5	221 kWh
Stage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	20 ft	74W	2	1,830	0.1	271 kWh
Stage/misc classroom	150W incandescent, socket	16 ft	150W	3	1,600	0.5	720 kWh
Gym	500W incandescent, hood pendant	20 ft	500W	4	1,647	2.0	3,294 kWh
Gym	175 W metal halide	25 ft	175W	12	600	2.1	1,260 kWh
Gym	18 W CFL	25 ft	11W	5	8,760	0.1	482 kWh
Music room/Restrooms	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 34 W, 45fc av	11 ft	148W	17	1,830	2.5	4,604 kWh
Stairs	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 34 W, 30fc av	10 ft	148W	3	1,830	0.4	813 kWh
Stairs	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34 W	8 ft	74W	2	1,830	0.1	271 kWh
Storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 34 W	12 ft	148W	3	366	0.4	163 kWh
Downstairs playrooms/l	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 21-55fc	12 ft	148W	34	1,830	5.0	9,209 kWh
Cafeteria	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 45	11 ft	148W	17	915	2.5	2,302 kWh
Kitchen	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	11 ft	74W	6	915	0.4	406 kWh
Boiler room	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, 34 W	12 ft	148W	2	1,830	0.3	542 kWh
Boiler room	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W	12 ft	74W	1	1,830	0.1	135 kWh
Custodial closet	4 lamp T12 4' w/ 2 EEMB, 2x4, 34 W	12 ft	148W	2	1,098	0.3	325 kWh
Custodial closet	2 lamp T12 4' w/ 1 EEMB, 1x4, 34 W	12 ft	74W	1	1,098	0.1	81 kWh
Restroom, boys	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 40 W	11 ft	86W	1		0.1	157 kWh
Dressing rooms/locker	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W, 22fc	11 ft	74W	22	80	1.6	130 kWh
Halls	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Pend, 34 W	8 ft	74W	2	1,830	0.1	271 kWh
Mens room, north hall	2 lamp T12 4' w/ 1 EEMB, 2x4, Wrap, 34 W, 20fc	12 ft	74W	4	549	0.3	163 kWh
Ladies room, north hall	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Pend, 34 W, 25 f	10 ft	74W	2	549	0.1	81 kWh
Elevator	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Pend, 34 W	8 ft	74W	2	1,830	0.1	271 kWh
New devel. Area	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Pend, 34 W, 55fc	7 ft	74W	36	1,830	2.7	4,875 kWh
Closets	100W incandescent, screw socket		100W	6	458	0.6	275 kWh
Janitor Closets	60W incandescent, screw socket		60W	3	275	0.2	49 kWh
Stairs, landing	60 W incandescent, globe	9 ft	60W	1	1,830	0.1	110 kWh
Table lamp, classroom	40W incandescent		40W	1	1,231	0.0	51 kWh
Exit sign, green	dual 25W incandescent Exit Sign		50W	1	8,760	0.1	438 kWh
Exterior	175W mercury vapor (6-11:30), on photo/off timer	na	175W	5	4,015	0.9	3,513 kWh
Exterior	100W incandescent, decorative downlight wall mnt	9 ft	100W	3	3,650	0.3	1,095 kWh
Exterior	40W incandescent, 1x1, 1 lamp recessed	9 ft	40W	16	4,015	0.6	2,570 kWh
	Total Installed Capacity:		62 kW		*Annual Electricity Use:*		103,920 kWh

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Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
Pelican Elementary School	Monday-Friday 7am-4:30pm, september - june					-	
Classrooms	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 58fc avg	12 ft	148W	131	1,830	19.4	35,480 kWh
Room 1/Stage hall	200W incandescent, hood, 30fc	10 ft	200W	2	1,830	0.4	732 kWh
Room 2A	60W incandescent, drum	12 ft	60W	2	1,830	0.1	220 kWh
Partitioned class	4 lamp T12 4' w/ 2 EEMB, 2x4, EC, 34 W, 30fc avg	12 ft	148W	14	1,830	2.1	3,792 kWh
Mezzanine office	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 68fc avg	8 ft	148W	1	1,830	0.1	271 kWh
Mezzanine office, RR	40W incandescent, décor	8 ft	40W	1	92	0.0	4 kWh
Cafeteria	4 lamp T12 4' w/ 2 EEMB, 2x4, EC, 34 W, 30fc avg	12 ft	148W	12	915	1.8	1,625 kWh
Kitchen	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip hood, 60 W, 65l	12 ft	128W	8	1,373	1.0	1,405 kWh
Kitchen RR/Girl's locke	300W incandescent, globe/expl proof	10 ft	300W	3	80	0.9	72 kWh
Music Office	300W incandescent, globe/expl proof	10 ft	300W	1	1,600	0.3	480 kWh
Kitchen storage/RR/sup	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W, 35fc	9 ft	74W	8	458	0.6	271 kWh
Food storage	2 lamp T12 2' w/ 1 EEMB, 1x2, Wrap, 20 W	15 ft	46W	1	60	0.0	3 kWh
Stage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	16 ft	148W	12	1,830	1.8	3,250 kWh
Gym	175 W metal halide	25 ft	175W	15	1,200	2.6	3,150 kWh
Office/Library/RR	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W, 68fc avg	12 ft	148W	26	1,830	3.8	7,042 kWh
Restroom, girls/music r	150W incandescent, globe	11 ft	150W	12	1,830	1.8	3,294 kWh
Storage areas	150W incandescent, decor/expl.	12 ft	150W	4	549	0.6	329 kWh
Janitor closets/Restroo	100W incandescent, recessed	12 ft	100W	5	1,600	0.5	800 kWh
Storage/Restrooms	75 W incandescent, socket/globe	12 ft	75W	4	200	0.3	60 kWh
Storage closets	90 W incandescent, screw socket, 8fc	12 ft	90W	3	100	0.3	27 kWh
Storage	60W incandescent, recessed/socket	12 ft	60W	7	80	0.4	34 kWh
Teacher's lounge	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W	12 ft	74W	4	1,830	0.3	542 kWh
Janitor's Res. Storage/l	2 lamp 60W incandescent, drum	12 ft	120W	1	100	0.1	12 kWh
Halls	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 34 W, 35fc	20 ft	74W	7	1,830	0.5	948 kWh
Halls	2 lamp T12 4' w/ 1 EEMB, 1x4, EC Pend, 34 W, 30fc	10 ft	74W	24	1,830	1.8	3,250 kWh
Halls	2 lamp T12 8' w/ 1 EEMB, 1x8, Egg Cr, 60 W, 30fc	9 ft	128W	8	1,830	1.0	1,874 kWh
Halls	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34 W, 55fc	10 ft	74W	15	1,830	1.1	2,031 kWh
Halls/Entry	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 34 W	20 ft	148W	3	1,830	0.4	813 kWh
Halls	75 W incandescent, screw socket, 8fc	12 ft	75W	3	1,830	0.2	412 kWh
Boiler room	300W incandescent, hood	11 ft	300W	4	2,745	1.2	3,294 kWh
Exterior	150W incandescent, 1 lamp, décor downlight	9 ft	150W	5	4,015	0.8	3,011 kWh
Exterior	175W mercury vapor (6-11:30), on photo/off timer	na	175W	5	4,015	0.9	3,513 kWh
	Total Installed Capacity:		47 kW		*Annual Electricity Use:*		82,039 kWh

Klamath Falls City Schools

Lighting Inventory

Zone	Description	Fixt Ht	Fixt Watts	Fixt Qty	Hours of Op	Installed kW	Annual Energy Use
Riverside Elementary School		Monday-Friday 7am-4pm, september - june				-	
Classrooms	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 50-70fc	10 ft	128W	94	1,830	12.0	22,019 kWh
Class Storage Closets	300W incandescent, globe/hood/socket	18 ft	300W	32	1,098	9.6	10,541 kWh
Main Office/Halls/Kitch	2 lamp T12 4' w/ 1 EEMB, 1x4, Wr Pend, 34 W, 35 fc	9 ft	74W	37	1,830	2.7	5,011 kWh
	2 lamp T12 4' w/ 1 EEMB, 1x4, Wr Pend, 34 W	9 ft	74W	5	108	0.4	40 kWh
Nurse	4 lamp T12 4' w/ 2 EEMB, 2x4, T/W, 34 W	9 ft	148W	6	792	0.9	703 kWh
Kitchen/Cafeteria	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pend, 40fc	10 ft	128W	11	1,098	1.4	1,546 kWh
Restroom, Girls	200W incandescent, hood, 30fc	10 ft	200W	2	1,830	0.4	732 kWh
Storage/Closet	150W incandescent, socket/globe	10 ft	150W	4	549	0.6	329 kWh
Closet	100W incandescent, screw socket	10 ft	100W	1	275	0.1	27 kWh
Janitor Closets	90W incandescent, screw socket	10 ft	90W	3	1,464	0.3	395 kWh
Closets	75W incandescent, screw socket	10 ft	75W	2	30	0.2	5 kWh
Gym	400 W metal halide	25 ft	400W	12	720	4.8	3,456 kWh
Gym/Stage	500W incandescent	18 ft	500W	4	720	2.0	1,440 kWh
Stage	500W incandescent, hood	18 ft	500W	1	50	0.5	25 kWh
Exterior pole	175W mercury vapor (6-11:30), on photo/off timer	na	175W	2	4,015	0.4	1,405 kWh
		Total Installed Capacity:	36 kW		*Annual Electricity Use:*		47,674 kWh

8.1.2 Combined District-Wide Existing Lighting and Proposed Lighting Retrofits

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Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

	Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Blst /Fix	Fixt Qty	Total Lmps	Total Blsts	Hours of Op.	Installed kW	Annual Energy Use
1Mazama	Wood shop addition	2 lamp T12 4' w/ 1 EEMB, 1x4, Strip 4(	86W	2	1	28	56	28	3,111	2.4	7,481 kWh
1Mazama	Pantry/dry storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Tr cell	86W	2	1	2	4	2	915	0.2	157 kWh
1Mazama	Storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof, cl	74W	2	1	6	12	6	276	0.4	122 kWh
1Mazama	Girl's showers	2 lamp T12 4' w/ 1 EEMB, 1x4, Vapor	74W	2	1	31	62	31	3,111	2.3	7,137 kWh
1Mazama	Display case #4	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 4	86W	2	1	1	2	1	3,111	0.1	268 kWh
1Mazama	Hallways/shops/n	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	328	656	328	3,111	24.3	75,610 kWh
1Mazama	Kitchen/Weight ro	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	50	100	50	915	3.7	3,386 kWh
1Mazama	Custodial office	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Sh	74W	2	1	1	2	1	3,111	0.1	230 kWh
1Mazama	Storage areas	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	14	28	14	549	1.0	600 kWh
1Mazama	Computer storage	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	5	10	5	549	0.4	203 kWh
1Mazama	Auto shop class	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 40	86W	2	1	16	32	16	3,111	1.4	4,281 kWh
1Mazama	Auto shop work	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip,	205W	2	1	25	50	25	3,111	5.2	16,022 kWh
1Mazama	Band room	2 lamp T12 4' w/ 1 EEMB, U-shaped 2	86W	2	1	2	4	2	3,111	0.2	535 kWh
1Mazama	Gym/Mezz stairs	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Sta	128W	2	1	2	4	2	3,111	0.3	798 kWh
1Mazama	Work bench, boil	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip h	128W	2	1	1	2	1	3,111	0.1	398 kWh
1Mazama	Classes/offices/	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	312	936	624	3,111	36.8	114,535 kWh
1Mazama	Cafeteria	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	96	288	192	1,281	11.3	14,511 kWh
1Mazama	Cafeteria	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	32	96	64	854	3.8	3,228 kWh
1Mazama	Band/Choir	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	54	216	108	3,111	8.0	24,883 kWh
1Mazama	Stage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	20	80	40	458	3.0	1,354 kWh
1Mazama	Classrooms/boiler	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	381	1524	762	3,111	56.4	175,423 kWh
1Mazama	Sound room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	4	16	8	458	0.6	271 kWh
1Mazama	Band office/pract.	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	3	12	6	3,111	0.4	1,381 kWh
1Mazama	Faculty lunch room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	8	32	16	3,111	1.2	3,683 kWh
1Mazama	Library/5/7/8/11/h	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 4	172W	4	2	275	1100	550	3,111	47.3	147,158 kWh
2Pendaros	Elevator	2 lamp T12 3' w/ 1 EEMB, 1x3, Wrap,	66W	2	1	1	2	1	3,111	0.1	205 kWh
2Pendaros	Showers, B&G	2 lamp T12 4' w/ 1 EEMB, 1x4, Vapor	74W	2	1	10	20	10	3,111	0.7	2,302 kWh
2Pendaros	Locker rooms, G&	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	65	130	65	3,111	4.8	14,964 kWh
2Pendaros	Hall, old wing	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	31	62	31	3,111	2.3	7,137 kWh
2Pendaros	Chair storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	4	8	4	40	0.3	12 kWh
2Pendaros	Hall storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	5	10	5	120	0.4	44 kWh
2Pendaros	Phys Ed. Storage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	20	40	20	1,739	1.5	2,573 kWh
2Pendaros	Storage, main off	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	2	4	2	549	0.1	81 kWh
2Pendaros	Home Ec/ Room	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap,	74W	2	1	6	12	6	3,111	0.4	1,381 kWh
2Pendaros	Halls/Maint. hall	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	31	62	31	3,111	2.3	7,137 kWh
2Pendaros	Music Room/inst	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	3	6	3	3,111	0.2	691 kWh
2Pendaros	Ind. Arts office	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	2	4	2	3,111	0.1	460 kWh
2Pendaros	Shop	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	8	16	8	3,111	0.6	1,842 kWh
2Pendaros	Classes	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	372	744	372	3,111	27.5	85,640 kWh
2Pendaros	Classrooms, old	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	67	134	67	3,111	8.6	26,686 kWh
2Pendaros	Wrestling room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	32	64	32	540	4.1	2,212 kWh
2Pendaros	Weight room	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip,	237W	2	1	6	10	5	1,464	1.2	1,736 kWh
2Pendaros	Coaches offices	3 lamp T12 4' w/ 2 EEMB, 2x4, EC, 34	118W	3	2	7	21	14	1,739	0.8	1,430 kWh
2Pendaros	Janitor closet	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	1	3	2	2,196	0.1	260 kWh
2Pendaros	Instr. stor	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	1	3	2	366	0.1	43 kWh
2Pendaros	Cafeteria	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	54	162	108	915	0.4	5,830 kWh
2Pendaros	Choir & band roo	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	46	138	92	3,111	5.4	16,887 kWh
2Pendaros	Restrooms	3 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	3	2	6	18	12	3,111	0.7	2,203 kWh
2Pendaros	Halls	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof 34	148W	4	2	15	60	30	3,111	2.2	6,906 kWh
2Pendaros	Halls	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof 34	148W	4	2	19	76	38	3,111	2.8	8,748 kWh
2Pendaros	Kitchen	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	21	84	42	915	3.1	2,844 kWh
2Pendaros	Biology storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	2	8	4	3,111	0.3	921 kWh
2Pendaros	Storage RR, maint	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	8	24	12	915	0.9	813 kWh
2Pendaros	Library storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	3	12	6	3,111	0.4	1,381 kWh
2Pendaros	Recycle room	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	1	4	2	3,111	0.1	460 kWh
2Pendaros	Computer lab	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	4	2	24	96	48	3,111	2.8	8,810 kWh
2Pendaros	Shop	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	118W	4	2	24	96	48	3,111	2.8	8,810 kWh
2Pendaros	21	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3	148W	4	2	8	32	16	3,111	1.2	3,683 kWh
3Mills	Teach. Restroom	2 lamp T12 2' w/ 1 EEMB, 1x2, Wrap,	46W	2	1	9	18	9	495	0.4	205 kWh
3Mills	Class, speech/ar	2 lamp T12 4' w/ 1 EEMB, 1x4 Ess Ct/	74W	2	1	2	4	2	2,376	0.1	352 kWh
3Mills	Kitchen	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34	74W	2	1	14	28	14	890	1.0	1,026 kWh
3Mills	ESL	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34	74W	2	1	12	24	12	2,233	0.9	1,983 kWh
3Mills	Reading Recover	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34	74W	2	1	2	4	2	2,233	0.1	330 kWh
3Mills	Music Rm	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	12	24	12	2,233	0.9	1,983 kWh
3Mills	Aud. Lobby	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	4	8	4	210	0.3	62 kWh
3Mills	Speech	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	2	4	2	2,233	0.1	330 kWh

Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Blsts /Fixt.	Fixt. Qty	Total Lmps	Total Blsts	Hours of Operation	Installed kW	Annual Energy Use	Total fixt. hours
Wood shop addition	2 lamp T8 4' w/ 1 EB, 32W	13 ft	58W	2	1	28	56	28	3,111	1.6	5,052 kWh	87,108
Pantry/dry storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	916	0.1	106 kWh	1,830
Storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	6	12	6	275	0.3	96 kWh	1,647
Girls showers	2 lamp T8 4' w/ 1 EB, 32W	11 ft	58W	2	1	31	62	31	3,111	1.8	5,594 kWh	96,441
Display case #4	2 lamp T8 4' w/ 1 EB, 32W		58W	2	1	1	2	1	3,111	0.1	180 kWh	3,111
Hallways/shops/restroo	2 lamp T8 4' w/ 1 EB, 32W	multiple	58W	2	1	328	656	328	3,111	18.9	59,184 kWh	1,020,408
Kitchen/Weight room	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	50	100	50	915	2.9	2,654 kWh	45,750
Custodial office	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	1	2	1	3,111	0.1	180 kWh	3,111
Storage areas	2 lamp T8 4' w/ 1 EB, 32W	multiple	58W	2	1	14	28	14	549	0.8	446 kWh	7,686
Computer storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	5	10	5	549	0.3	159 kWh	2,745
Auto shop class	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	16	32	16	3,111	0.9	2,887 kWh	49,776
Auto shop work	4 lamp T8 8' w/ 1 EB, 1x8, Strip,	12 ft	116W	4	1	25	100	25	3,111	2.9	9,022 kWh	77,775
Band room	2 lamp T8 4' w/ 1 EB, U-shaped,	20 ft	58W	2	1	2	4	2	3,111	0.1	361 kWh	6,222
Gym/Mezz stairs	4 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	2	8	2	3,111	0.2	722 kWh	6,222
Work bench, boiler rm	4 lamp T8 4' w/ 1 EB, 32W	8 ft	116W	4	1	1	4	1	3,111	0.1	361 kWh	3,111
Classes/offices/	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	312	936	312	3,111	27.1	84,445 kWh	970,632
Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	96	288	96	1,281	8.4	10,699 kWh	122,976
Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	32	96	32	854	2.8	2,379 kWh	27,342
Band/Choir	4 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	54	216	54	3,111	6.3	19,487 kWh	167,904
Stage	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	20	60	20	458	1.7	706 kWh	8,150
Classrooms/boiler room	3 lamp T8 4' w/ 1 EB, 32W	multiple	87W	3	1	381	1143	381	3,111	33.1	103,120 kWh	1,185,291
Sound room	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	4	12	4	458	0.3	150 kWh	1,830
Band office/pract. rm	3 lamp T8 4' w/ 1 EB, 32W	multiple	87W	3	1	3	9	3	3,111	0.3	812 kWh	9,333
Faculty lunch room	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	8	24	8	3,111	0.7	2,165 kWh	24,888
Library/5/7/8/11/chicano	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	275	825	275	3,111	23.9	74,431 kWh	855,525
Elevator	2 lamp T8 3' w/ 1 EB, 25W	7 ft	40W	2	1	1	2	1	3,111	0.0	140 kWh	3,111
Showers, B&G	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	10	20	10	3,111	0.6	1,804 kWh	31,110
Locker rooms, G&B	2 lamp T8 4' w/ 1 EB, 32W	20 ft	58W	2	1	65	130	65	3,111	3.8	11,728 kWh	202,215
Hall, old wing	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	31	62	31	3,111	1.8	5,594 kWh	96,441
Chair storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	4	8	4	40	0.2	9 kWh	160
Hall storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	5	10	5	120	0.3	35 kWh	600
Phys Ed. Storage	2 lamp T8 4' w/ 1 EB, 32W	16 ft	58W	2	1	20	40	20	1,739	1.2	2,017 kWh	34,770
Storage, main office	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	549	0.1	64 kWh	1,098
Home Ec/ Room 23	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	6	12	6	3,111	0.3	1,083 kWh	18,666
Halls/Maint. hall	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	31	62	31	3,111	1.8	5,594 kWh	96,441
Music Room/inst. stor	3 lamp T8 4' w/ 1 EB, 32W	20 ft	58W	2	1	3	6	3	3,111	0.2	541 kWh	9,333
Ind. Arts office	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	3,111	0.1	361 kWh	6,222
Shop	2 lamp T8 4' w/ 1 EB, 32W		58W	2	1	8	16	8	3,111	0.5	1,444 kWh	24,888
Classes	2 lamp T8 4' w/ 1 EB, 32W	11 ft	58W	2	1	372	744	372	3,111	21.6	67,123 kWh	1,157,292
Classrooms, old wing	4 lamp T8 4' w/ 1 EB, 32W	8 ft	116W	4	1	67	268	67	3,111	7.8	24,179 kWh	208,437
Wrestling room	4 lamp T8 4' w/ 1 EB, 32W		116W	4	1	32	128	32	540	3.7	2,004 kWh	17,280
Weight room	4 lamp T8 8' w/ 1 EB, 1x8, Strip,	8 ft	116W	4	1	5	20	5	1,464	0.6	840 kWh	7,320
Coaches offices	3 lamp T8 4' w/ 1 EB, 2x4, EC, 3	15 ft	87W	3	1	7	21	7	1,739	0.5	1,059 kWh	12,170
Janitor closet	3 lamp T8 4' w/ 1 EB, 32W		87W	3	1	1	3	1	2,196	0.1	191 kWh	2,196
Instr. stor	3 lamp T8 4' w/ 1 EB, 32W		87W	3	1	1	3	1	366	0.1	32 kWh	366
Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	54	162	54	915	4.7	4,299 kWh	49,410
Choir & band rooms	3 lamp T8 4' w/ 1 EB, 32W	20 ft	87W	3	1	46	138	46	3,111	4.0	12,450 kWh	143,108
Restrooms	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	6	18	6	3,111	0.5	1,624 kWh	18,666
Halls	3 lamp T8 4' w/ 1 EB, 32W	11 ft	87W	3	1	15	45	15	3,111	1.3	4,000 kWh	48,885
Halls	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	19	57	19	3,111	1.7	5,142 kWh	59,109
Kitchen	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	21	63	21	915	1.8	1,072 kWh	19,215
Biology storage	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	2	6	2	3,111	0.2	541 kWh	6,222
Storage RR, maint	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	6	18	6	915	0.5	478 kWh	5,490
Library storage	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	3	9	3	3,111	0.3	812 kWh	9,333
Recycle room	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	1	3	1	3,111	0.1	271 kWh	3,111
Computer lab	4 lamp T8 4' w/ 1 EB, 2x4, 32W	20 ft	116W	4	1	24	96	24	3,111	2.8	8,681 kWh	74,664
Shop	4 lamp T8 4' w/ 1 EB, 2x4, 32W		116W	4	1	24	96	24	3,111	2.8	8,681 kWh	74,664
21	3 lamp T8 4' w/ 1 EB, 32 W	8 ft	87W	3	1	8	24	8	3,111	0.7	2,165 kWh	24,888
Teach. Restroom	2 lamp T8 2' w/ 1 EB, 17W	8 ft	33W	2	1	9	18	9	495	0.3	147 kWh	4,455
Class, speech/lang	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	2	4	2	2,376	0.1	276 kWh	4,752
Kitchen	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	14	28	14	890	0.8	804 kWh	13,860
ESL	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	12	24	12	2,233	0.7	1,554 kWh	26,796
Reading Recovery	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	2	4	2	2,233	0.1	259 kWh	4,466
Music Rm	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	12	24	12	2,233	0.7	1,554 kWh	26,796
Aud. Lobby	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	4	8	4	210	0.2	49 kWh	840
Speech	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	2	4	2	2,233	0.1	259 kWh	4,466

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Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Ballst /Fix	Fixt Qty	Total Lmps	Total Ballst	Hours of Op.	Installed kW	Annual Energy Use
3Mills	Speech 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	2	4	2	2,233	0.1	330 kWh
3Mills	Room 2, 1A 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	43	86	43	2,233	3.2	7,105 kWh
3Mills	Copy Rm 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	2	4	2	2,233	0.1	330 kWh
3Mills	Boiler Rm 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	3	6	3	3,600	0.2	799 kWh
3Mills	Rm 26 Bilng/SMJ 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	4	8	4	2,233	0.3	661 kWh
3Mills	Halloways 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	52	104	52	3,366	3.8	12,952 kWh
3Mills	Halloways-Emergn 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	8	16	8	6,760	0.6	5,186 kWh
3Mills	Paper Storage 2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Sb	74W	2	1	1	2	1	198	0.1	15 kWh
3Mills	Boiler Rm 2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Sb	74W	2	1	4	8	4	3,600	0.3	1,060 kWh
3Mills	Custodial Rm 2 lamp T12 8' w/ 1 EEMB, 1x8, Strip, F	237W	2	1	4	8	4	2,233	0.9	2,117 kWh
3Mills	Halloways 2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Wh	74W	2	1	30	60	30	3,366	2.2	7,473 kWh
3Mills	Gym Storage 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Sbl	128W	2	1	2	4	2	198	0.3	51 kWh
3Mills	Halloways 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Sbl	128W	2	1	9	18	9	3,366	1.2	3,870 kWh
3Mills	Reading Rec. ofc 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Sbl	128W	2	1	2	4	2	2,233	0.3	572 kWh
3Mills	Hub Rm 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Sbl	128W	2	1	1	2	1	2,233	0.1	268 kWh
3Mills	Room 1 2 lamp T12 8' w/ 1 EEMB, 1x8, Eqs Cr	128W	2	1	5	10	5	2,233	0.6	1,429 kWh
3Mills	Room 1 4 lamp T12 4' w/ 2 EEMB, 2x4, TAW, 3-	148W	4	2	6	24	12	792	0.9	703 kWh
3Mills	Art Supply 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	3	12	6	2,233	0.4	991 kWh
3Mills	Conf. Room 4Lmp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	2	8	4	792	0.3	234 kWh
3Mills	Health Rm 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	3	12	6	2,233	0.4	991 kWh
3Mills	Cafeteria 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	13	52	26	990	1.9	1,966 kWh
3Mills	Main Office 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	8	32	16	2,233	1.2	2,644 kWh
3Mills	Restroom Boys 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	3	12	6	2,233	0.4	991 kWh
3Mills	Restroom Girls 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	3	12	6	2,233	0.4	991 kWh
3Mills	Restrooms 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	4	16	8	2,233	0.6	1,322 kWh
3Mills	Room 7,9,10-20 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	156	624	312	2,233	23.1	51,656 kWh
3Mills	Class Rms 3-6 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	42	168	84	2,378	6.2	14,768 kWh
3Mills	Class Rm 22-24 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	14	56	28	2,233	2.1	4,827 kWh
3Mills	Library 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	24	96	48	2,233	3.6	7,932 kWh
3Mills	Asst. Principal 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	4	16	8	2,233	0.6	1,322 kWh
3Mills	Room 8 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 6l	212W	4	2	9	36	18	2,233	1.9	4,261 kWh
3Mills	Halloways 4 lamp T12 4' w/ 2 EEMB, 2x4, Wr, 34	148W	4	2	13	52	26	3,366	1.9	6,476 kWh
3Mills	Reading Rec. slg 4 lamp T12 4' w/ 2 EEMB, 2x4, Wr, 34	148W	4	2	3	12	6	396	0.4	176 kWh
4O'Neill	Fan room 2 lamp T12 4' w/ 1 EEMB, 1x4, Sir, 34	74W	2	1	1	2	1	100	0.1	7 kWh
4O'Neill	Kitchen storage 2 lamp T12 4' w/ 1 EEMB, 1x4, Sir, 34	74W	2	1	21	42	21	520	1.6	866 kWh
4O'Neill	Kitchen hood 2 lamp T12 4' w/ 1 EEMB, 1x4, Sir, 34	74W	2	1	2	4	2	60	0.1	8 kWh
4O'Neill	Storage rooms 2 lamp T12 4' w/ 1 EEMB, 1x4, Sir, 34	74W	2	1	18	36	18	100	1.3	133 kWh
4O'Neill	Offices/Conf./Sec 2 lamp T12 4' w/ 1 EEMB, 1x4, TsWr,	74W	2	1	10	20	10	2,340	0.7	1,732 kWh
4O'Neill	Office C/Toy stor 2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	6	10	6	2,340	0.4	866 kWh
4O'Neill	Restrooms 4 lamp T12 4' w/ 2 EEMB, 2x4, TsWr,	148W	4	2	14	56	28	600	2.1	1,243 kWh
4O'Neill	Toy Storage 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	2	8	4	2,340	0.3	593 kWh
4O'Neill	Office, Deputy Su 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 4l	172W	4	2	4	16	8	2,340	0.7	1,610 kWh
4O'Neill	Mail room 4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	148W	4	2	3	12	6	2,340	0.4	1,039 kWh
5Roosevel	Stairs 2 lamp T12 2' w/ 1 EEMB, 1x2, Wrap, :	46W	2	1	1	2	1	2,436	0.0	112 kWh
5Roosevel	Furnace Room 2 lamp T12 4' w/ 1 EEMB, 1x4, Str cha	74W	2	1	1	2	1	2,030	0.1	150 kWh
5Roosevel	Special Ed. 2 lamp T12 4' w/ 1 EEMB, 1x4, Tr coll :	86W	2	1	1	2	1	1,117	0.1	96 kWh
5Roosevel	Cafeteria, Kitcher 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 4	86W	2	1	22	44	22	1,117	1.9	2,112 kWh
5Roosevel	Halway, lower 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	18	36	18	2,436	1.3	3,245 kWh
5Roosevel	Halway, upper 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	32	64	32	2,436	2.4	5,768 kWh
5Roosevel	Stairs 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	6	12	6	2,436	0.4	1,062 kWh
5Roosevel	Furnace Room 2 lamp T12 8' w/ 1 EEMB, 1x8, EC ch4	128W	2	1	2	4	2	2,030	0.3	520 kWh
5Roosevel	Class 4-5, Sp Ed, 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	15	30	15	2,030	1.9	3,898 kWh
5Roosevel	Classes 6-14/Lbr 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	74	148	74	2,030	9.5	19,278 kWh
5Roosevel	Music/Prins./Adm 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	18	36	18	2,030	2.3	4,677 kWh
5Roosevel	Cafeteria 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	1	2	1	1,117	0.1	143 kWh
5Roosevel	LockersRestroom 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	6	12	6	2,030	0.8	1,559 kWh
5Roosevel	Classes 1-3, 4-6 4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 4l	172W	4	2	56	224	112	2,030	9.6	19,553 kWh
5Roosevel	LockersRestroom 4 lamp T12 4' w/ 2 EEMB, 2x4, Vap-Tr	172W	4	2	10	40	20	2,030	1.7	3,492 kWh
5Roosevel	Furnace Room 4 lamp T12 4' w/ 2 EEMB, 2x4, Wr cha	148W	4	2	8	24	12	2,030	0.9	1,893 kWh
5Roosevel	Class 1 4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	172W	4	2	2	8	4	2,030	0.3	698 kWh
5Roosevel	LockersRestroom 4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	172W	4	2	6	24	12	2,030	1.0	2,095 kWh
6Fairview	Storage, locker ro 1 lamp T12 8' w/ 1 EEMB, 1x8, Strip, 6	72W	1	1	34	34	34	50	2.4	122 kWh
6Fairview	Restrooms/speec 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	28	56	28	1,841	2.1	3,389 kWh
6Fairview	Halls & Stairs 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	28	56	28	1,841	2.1	3,389 kWh
6Fairview	Library 2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap, :	74W	2	1	13	26	13	1,841	1.0	1,570 kWh
6Fairview	Kitchen/Cafeteria 2 lamp T12 8' w/ 1 EEMB, 1x8, EC Pa	128W	2	1	23	46	23	1,815	2.9	2,968 kWh

Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Ballst /Fixt.	Fixt. Qty	Total Lmps	Total Ballst	Hours of Operation	Installed kW	Annual Energy Use	Total fixt. hours
Speech	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	2,233	0.1	259 kWh	4,466
Room 2, 1A	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	43	86	43	2,233	2.5	5,569 kWh	96,019
Copy Rm	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	2	4	2	2,233	0.1	259 kWh	4,466
Boiler Rm	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	3	6	3	3,600	0.2	628 kWh	10,800
Rm 26 Bilng/SMART	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	4	8	4	2,233	0.2	518 kWh	8,932
Halloways	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	52	104	52	3,366	3.0	10,162 kWh	175,032
Halloways-Emergnc	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	8	16	8	6,760	0.6	4,065 kWh	70,080
Paper Storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	1	2	1	198	0.1	11 kWh	198
Boiler Rm	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	4	8	4	3,600	0.2	835 kWh	14,400
Custodial Rm	2 lamp T8 8' w/ 1 EB, 1x8, Strip,	8 ft	116W	4	1	4	16	4	2,233	0.5	1,036 kWh	8,932
Halloways	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	30	60	30	3,366	1.7	5,857 kWh	100,980
Gym Storage	2 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	2	8	2	198	0.2	46 kWh	396
Halloways	2 lamp T8 4' w/ 1 EB, 32W	12 ft	116W	4	1	9	36	9	3,366	1.0	3,614 kWh	30,294
Reading Rec. ofc	2 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	2	8	2	2,233	0.2	518 kWh	4,466
Hub Rm	2 lamp T8 4' w/ 1 EB, 32W	8 ft	116W	4	1	1	4	1	2,233	0.1	259 kWh	2,233
Room 1	2 lamp T8 4' w/ 1 EB, 32W	8 ft	116W	4	1	5	20	5	2,233	0.6	1,295 kWh	11,165
Room 1	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	6	18	6	792	0.5	413 kWh	4,752
Art Supply	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	3	9	3	2,233	0.3	583 kWh	6,699
Conf. Room	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	2	6	2	792	0.2	138 kWh	1,584
Health Rm	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	3	9	3	2,233	0.3	583 kWh	6,699
Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	13	39	13	990	1.1	1,120 kWh	12,870
Main Office	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	8	24	8	2,233	0.7	1,554 kWh	17,864
Restroom Boys	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	3	9	3	2,233	0.3	583 kWh	6,699
Restroom Girls	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	3	9	3	2,233	0.3	583 kWh	6,699
Restrooms	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	4	12	4	2,233	0.3	777 kWh	8,932
Room 7,9,10-20	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	156	468	156	2,233	13.6	30,366 kWh	348,348
Class Rms 3-6	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	42	126	42	2,378	3.7	8,582 kWh	98,792
Class Rm 22-24	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	14	42	14	2,233	1.2	2,720 kWh	31,262
Library	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	24	72	24	2,233	2.1	4,663 kWh	53,592
Asst. Principal	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	4	12	4	2,233	0.3	777 kWh	8,932
Room 8	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	9	27	9	2,233	0.8	1,748 kWh	20,097
Halloways	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	13	39	13	3,366	1.1	3,807 kWh	43,758
Reading Rec. slg	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	3	9	3	396	0.3	103 kWh	1,188
Fan room	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	1	2	1	100	0.1	6 kWh	100
Kitchen storage	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	21	42	21	520	1.2	633 kWh	10,920
Kitchen hood	2 lamp T8 4' w/ 1 EB, 32W	7 ft	58W	2	1	2	4	2	60	0.1	7 kWh	120
Storage rooms	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	18	36	18	100	1.0	104 kWh	1,800
Offices/Conf./Secretar.	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	10	20	10	2,340	0.6	1,357 kWh	23,400
Office C/Toy storage	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	6	10	6	2,340	0.3	679 kWh	11,700
Restrooms	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	14	42	14	600	1.2	731 kWh	8,400
Toy Storage	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	2	6	2	2,340	0.2	407 kWh	4,680
Office, Deputy Suprint	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	4	12	4	2,340	0.3	814 kWh	9,360
Mail room	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	3	9	3	2,340	0.3	611 kWh	7,020
Stairs	2 lamp T8 2' w/ 1 EB, 17W	15 ft	33W	2	1	1	2	1	2,436	0.0	80 kWh	2,436
Furnace Room	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	1	2	1	2,030	0.1	118 kWh	2,030
Special Ed.	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	1	2	1	1,117	0.1	65 kWh	1,117
Cafeteria, Kitchen	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	22	44	22	1,117	1.3	1,425 kWh	24,583
Halway, lower	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	18	36	18	2,436	1.0	2,543 kWh	43,848
Halway, upper	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	32	64	32	2,436	1.9	4,671 kWh	77,952
Stairs	2 lamp T8 4' w/ 1 EB, 32W	15 ft	58W	2	1	6	12	6	2,436	0.3	848 kWh	14,618
Furnace Room	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	2	6	2	2,030	0.2	353 kWh	4,060
Classes 4-5, Sp Ed, Art, I	4 lamp T8 4' w/ 1 EB, 32W	11 ft	116W	4	1	15	60	15	2,030	1.7	3,632 kWh	30,450
Classes 6-14/Library	4 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	74	296	74	2,030	8.6	17,428 kWh	150,220
Music/Prins./Administrat	4 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	18	72	18	2,030	2.1	4,238 kWh	36,540
Cafeteria	4 lamp T8 4' w/ 1 EB, 32W	12 ft	116W	4	1	1	4	1	1,117	0.1	130 kWh	1,117
LockersRestroom, Girls	4 lamp T8 4' w/ 1 EB, 32W	10 ft	116W	4	1	6	24	6	2,030	0.7	1,413 kWh	12,180
Classes 1-3, 4-6	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	56	168	56	2,030	4.9	9,990 kWh	113,680
LockersRestroom, Boys	3 lamp T8 4' w/ 1 EB, 32W	11 ft	87W	3	1	18	30	10	2,030	0.9	1,766 kWh	20,300
Furnace Room	3 lamp T8 4' w/ 1 EB, 32W	9 ft	87W	3	1	6	18	6	2,030	0.5	1,060 kWh	12,180
Class 1	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	2	6	2	2,030	0.2	353 kWh	4,060
LockersRestroom, Boys	3 lamp T8 4' w/ 1 EB, 32W	11 ft	87W	3	1	6	18	6	2,030	0.6	1,060 kWh	12,180
Storage, locker room	2 lamp T8 4' w/ 1 EB, 32W	13 ft	58W	1	1	34	34	34	50	2.0	99 kWh	1,700
Restrooms/speech/larg	2 lamp T8 4' w/ 1 EB, 32W	9 ft	58W	2	1	28	56	28	1,841	1.6	2,064 kWh	45,934
Halls & Stairs	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	28	56	28	1,841	1.6	2,064 kWh	45,934
Library	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	13	26	13	1,841	0.8	1,237 kWh	21,327
Kitchen/Cafeteria/Anne	4 lamp T8 4' w/ 1 EB, 32W	8 ft	116W	4	1	23	92	23	1,015	2.7	2,769 kWh	23,345

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Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

	Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Blst /Fix	Fixt Qty	Total Lmps	Total Blsts	Hours of Op.	Installed kW	Annual Energy Use	Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Blsts /Fixt.	Fixt. Qty	Total Lmps	Total Blsts	Hours of Operation	Installed kW	Annual Energy Use	Total fixt. hours
6Fairview	Music Room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Per	128W	2	1	34	68	34	1,641	4.4	7,139 kWh	Music Room	4 lamp T8 4' w/ 1 EB, 32W	13 ft	118W	4	1	34	136	34	1,641	3.9	6,470 kWh	55,777
6Fairview	Boiler room	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Per	128W	2	1	34	68	34	200	4.4	870 kWh	Boiler room	4 lamp T8 4' w/ 1 EB, 32W	10 ft	118W	4	1	34	136	34	200	3.9	780 kWh	6,800
6Fairview	Classes up & dow	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Per	128W	2	1	34	68	34	1,641	4.4	7,139 kWh	Classes up & downstai	4 lamp T8 4' w/ 1 EB, 32W	8 ft	118W	4	1	34	136	34	1,641	3.9	6,470 kWh	56,777
6Fairview	Stage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	8	32	16	1,641	1.2	1,942 kWh	Stage	4 lamp T8 4' w/ 1 EB, 32W	17 ft	118W	4	1	8	32	8	1,641	0.9	1,522 kWh	13,124
6Fairview	Halls & Stairs	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	31	124	62	1,641	4.6	7,627 kWh	Halls & Stairs	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	31	93	31	1,641	2.7	4,424 kWh	50,856
6Fairview	Class 14,16/Teac	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	45	180	90	1,641	6.7	10,928 kWh	Class 14,16/Teachers w	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	45	135	45	1,641	3.9	6,473 kWh	73,823
6Fairview	Office	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 4(	172W	4	2	8	32	16	1,641	1.4	2,267 kWh	Office	3 lamp T8 4' w/ 1 EB, 32W	9 ft	87W	3	1	8	24	8	1,641	0.7	1,142 kWh	13,124
6Fairview	Classes upstairs -	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 4(	172W	4	2	123	492	246	1,641	21.2	34,706 kWh	Classes upstairs + hub	3 lamp T8 4' w/ 1 EB, 32W	9 ft	87W	3	1	123	369	123	1,641	10.7	17,655 kWh	201,782
6Fairview	Teacher's work ro	4 lamp T12 4' w/ 2 EEMB, 2x4, Wr, 34	148W	4	2	5	20	10	1,641	0.7	1,214 kWh	Teacher's work room	3 lamp T8 4' w/ 1 EB, 32W	11 ft	87W	3	1	5	15	5	1,641	0.4	714 kWh	8,203
7Conger	Custodial closet	2 lamp T12 4' w/ 1 EEMB, 1x4, 34 W	74W	2	1	1	2	1	1,098	0.1	81 kWh	Custodial closet	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	1	2	1	1,098	0.1	64 kWh	1,098
7Conger	Stairs	2 lamp T12 4' w/ 1 EEMB, 1x4, Trof 34	74W	2	1	2	4	2	1,830	0.1	271 kWh	Stairs	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
7Conger	Stage	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 3	74W	2	1	2	4	2	1,830	0.1	271 kWh	Stage	2 lamp T8 4' w/ 1 EB, 32W	20 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
7Conger	Kitchen	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 3	74W	2	1	8	12	6	915	0.4	408 kWh	Kitchen	2 lamp T8 4' w/ 1 EB, 32W	11 ft	58W	2	1	6	12	6	915	0.3	318 kWh	5,490
7Conger	Boiler room	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 3	74W	2	1	1	2	1	1,830	0.1	135 kWh	Boiler room	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	1	2	1	1,830	0.1	106 kWh	1,830
7Conger	Dressing roomsA	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	22	44	22	60	1.6	130 kWh	Dressing rooms/locker	2 lamp T8 4' w/ 1 EB, 32W	11 ft	58W	2	1	22	44	22	60	1.3	102 kWh	1,760
7Conger	Front Hall Restroo	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	1	2	1	1,830	0.1	135 kWh	Front Hall Restroom	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	1	2	1	1,830	0.1	106 kWh	1,830
7Conger	Hallway, north	2 lamp T12 4' w/ 1 EEMB, 1x8 F40, Wh	74W	2	1	34	68	34	1,830	2.6	4,804 kWh	Hallway, north	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	34	68	34	1,830	2.0	3,600 kWh	62,220
7Conger	Halls	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Per	74W	2	1	2	4	2	1,830	0.1	271 kWh	Halls	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
7Conger	Elevator	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Per	74W	2	1	2	4	2	1,830	0.1	271 kWh	Elevator	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
7Conger	Ladies room, nort	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Per	74W	2	1	2	4	2	1,830	0.1	271 kWh	Ladies room, north hall	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
7Conger	New devel. Area	2 lamp T12 4' w/ 1 EEMB, 2x4, EC Per	74W	2	1	2	4	2	549	0.1	81 kWh	New devel. Area	2 lamp T8 4' w/ 1 EB, 32W	7 ft	58W	2	1	2	4	2	549	0.1	64 kWh	1,098
7Conger	New Devel. Area	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	36	72	36	1,830	2.7	4,875 kWh	New Devel. Area RR/U	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	36	72	36	1,830	2.1	3,921 kWh	65,880
7Conger	New Devel. Area	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	4	8	4	366	0.3	406 kWh	New Devel. Area Halls	2 lamp T8 4' w/ 1 EB, 32W	8 ft	58W	2	1	4	8	4	366	0.2	85 kWh	1,464
7Conger	Restroom, boys	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 46	88W	2	1	3	6	3	1,830	0.2	157 kWh	Restroom, boys	2 lamp T8 4' w/ 1 EB, 32W	11 ft	58W	2	1	3	6	3	1,830	0.2	318 kWh	5,490
7Conger	Mens room, north	2 lamp T12 4' w/ 1 EEMB, 2x4, Wrap, :	74W	2	1	1	2	1		0.1	183 kWh	Mens room, north hall	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	1	2	1		0.1	0 kWh	0
7Conger	Classrooms, sout	2 lamp T12 8' w/ 1 EEMB, 1x8, Ess Cr	128W	2	1	4	8	4	549	0.3	7,964 kWh	Classrooms, south hall	4 lamp T8 4' w/ 1 EB, 32W	9 ft	118W	4	1	4	8	4	549	0.2	127 kWh	2,196
7Conger	Custodial closet	4 lamp T12 4' w/ 2 EEMB, 2x4, 34 W	148W	2	1	34	68	34	1,830	4.4	326 kWh	Custodial closet	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	2	6	2	1,098	0.2	181 kWh	2,196
7Conger	Library	4 lamp T12 4' w/ 2 EEMB, 2x4, EC Per	148W	4	2	2	8	4	1,098	0.3	6,500 kWh	Library	4 lamp T8 4' w/ 1 EB, 32W	8 ft	118W	4	1	24	96	24	1,830	2.8	5,095 kWh	43,920
7Conger	Downstairs playro	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	24	96	48	1,830	3.6	9,200 kWh	Downstairs playroomA	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	34	102	34	1,830	3.0	5,413 kWh	62,220
7Conger	Front Hall, upstai	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	34	136	68	1,830	6.0	9,478 kWh	Front Hall, upstairs	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	35	105	35	1,830	3.0	5,572 kWh	64,050
7Conger	Cafeteria	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	35	140	70	1,830	6.2	2,302 kWh	Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	11 ft	87W	3	1	17	51	17	816	1.6	1,353 kWh	15,555
7Conger	Front Hall Classr	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	17	68	34	816	2.5	15,438 kWh	Front Hall Classrooms/	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	57	171	57	1,830	5.0	8,876 kWh	104,310
7Conger	Front Hall Restroo	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	1	4	2	1,830	0.1	271 kWh	Front Hall Restroom	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	1	3	1	1,830	0.1	159 kWh	1,830
7Conger	Classrooms, upst	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	70	280	140	1,830	10.4	18,950 kWh	Classrooms, upstairs n	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	70	210	70	1,830	8.1	11,145 kWh	128,100
7Conger	New Devel. Area	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	2	8	4	1,830	0.3	542 kWh	New Devel. Area	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	2	6	2	1,830	0.2	318 kWh	3,660
7Conger	Storage	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	148W	4	2	3	12	6	366	0.4	183 kWh	Storage	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	3	9	3	366	0.3	96 kWh	1,098
7Conger	Boiler room	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	148W	4	2	2	8	4	1,830	0.3	542 kWh	Boiler room	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	2	6	2	1,830	0.2	318 kWh	3,660
7Conger	Stairs	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	148W	4	2	3	12	6	1,830	0.4	813 kWh	Stairs	3 lamp T8 4' w/ 1 EB, 32W	19 ft	87W	3	1	3	9	3	1,830	0.3	478 kWh	5,490
7Conger	Music room/Rest	4 lamp T12 4' w/ 2 EEMB, 2x4, Wrap, :	148W	4	2	17	68	34	1,830	2.5	4,804 kWh	Music room/Restrooms	3 lamp T8 4' w/ 1 EB, 32W	11 ft	87W	3	1	17	51	17	1,830	1.5	2,707 kWh	31,110
8Pelican	Food storage	2 lamp T12 2' w/ 1 EEMB, 1x2, Wrap, :	48W	2	1	1	2	1	60	0.0	3 kWh	Food storage	2 lamp T8 2' w/ 1 EB, 17W	15 ft	32W	2	1	1	2	1	60	0.0	2 kWh	60
8Pelican	Halls	2 lamp T12 4' w/ 1 EEMB, 1x4, EC Per	74W	2	1	24	48	24	1,830	1.8	3,250 kWh	Halls	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	24	48	24	1,830	1.4	2,547 kWh	43,920
8Pelican	Kitchen storage/F	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	8	16	8	458	0.6	271 kWh	Kitchen storage/RR/ove	2 lamp T8 4' w/ 1 EB, 32W	9 ft	58W	2	1	8	16	8	458	0.5	212 kWh	3,660
8Pelican	Halls	2 lamp T12 4' w/ 1 EEMB, 1x4, Wrap 2	74W	2	1	7	14	7	1,830	0.5	948 kWh	Halls	2 lamp T8 4' w/ 1 EB, 32W	20 ft	58W	2	1	7	14	7	1,830	0.4	743 kWh	12,810
8Pelican	Teacher's lounge	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	4	8	4	1,830	0.3	542 kWh	Teacher's lounge	2 lamp T8 4' w/ 1 EB, 32W	12 ft	58W	2	1	4	8	4	1,830	0.2	425 kWh	7,320
8Pelican	Halls	2 lamp T12 4' w/ 1 EEMB, 2x4, Trof 34	74W	2	1	15	30	15	1,830	1.1	2,031 kWh	Halls	2 lamp T8 4' w/ 1 EB, 32W	10 ft	58W	2	1	15	30	15	1,830	0.9	1,692 kWh	27,450
8Pelican	Halls	2 lamp T12 8' w/ 1 EEMB, 1x8, Ess Cr	128W	2	1	9	18	9	1,830	1.0	1,874 kWh	Halls	4 lamp T8 4' w/ 1 EB, 32W	9 ft	116W	4	1	8	32	8	1,830	0.9	1,698 kWh	14,640
8Pelican	Kitchen	2 lamp T12 8' w/ 1 EEMB, 1x8, Strip lic	128W	2	1	8	16	8	1,372	1.0	1,405 kWh	Kitchen	4 lamp T8 4' w/ 1 EB, 32W	12 ft	118W	4	1	8	32	8	1,373	0.9	1,274 kWh	10,980
8Pelican	Partitioned class	4 lamp T12 4' w/ 2 EEMB, 2x4, EC, 34	148W	4	2	14	56	28	1,830	2.1	3,792 kWh	Partitioned class	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	14	42	14	1,830	1.2	2,228 kWh	25,620
8Pelican	Cafeteria	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	12	48	24	816	1.8	1,626 kWh	Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	12	36	12	915	1.0	955 kWh	10,980
8Pelican	Stage	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	12	48	24	1,830	1.8	3,250 kWh	Stage	4 lamp T8 4' w/ 1 EB, 32W	16 ft	118W	4	1	12	48	12	1,830	1.4	2,547 kWh	21,960
8Pelican	Halls/Entry	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	3	12	6	1,830	0.4	813 kWh	Halls/Entry	4 lamp T8 4' w/ 1 EB, 32W	20 ft	118W	4	1	3	12	3	1,830	0.3	637 kWh	5,490
8Pelican	Classrooms	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	131	524	262	1,830	19.4	36,466 kWh	Classrooms	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	131	393	131	1,830	11.4	20,857 kWh	239,730
8Pelican	Mezzanine office	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	1	4	2	1,830	0.1	271 kWh	Mezzanine office	3 lamp T8 4' w/ 1 EB, 32W	8 ft	87W	3	1	1	3	1	1,830	0.1	159 kWh	1,830
8Pelican	Office/Library/RR	4 lamp T12 4' w/ 2 EEMB, 2x4, Trof, 3-	148W	4	2	26	104	52	1,830	3.8	7,042 kWh	Office/Library/RR	3 lamp T8 4' w/ 1 EB, 32W	12 ft	87W	3	1	26	78	26	1,830	2.3	4,138 kWh	47,580
9Riverside		2 lamp T12 4' w/ 1 EEMB, 1x4, Wr Per	74W	2	1	5	10	5	108	0.4	40 kWh		2 lamp T8 4' w/ 1 EB, 32W	9 ft	58W	2	1	5	10	5	108	0.3	31 kWh	540
9Riverside	Main Office/Halls/	2 lamp T12 4' w/ 1 EEMB, 1x4, Wr Per	74W	2	1	37	74	37	1,830	2.7	5,011 kWh	Main Office/Halls/Kitch	2 lamp T8 4' w/ 1 EB, 32W	9 ft	58W	2	1	37	74	37	1,830	2.1	3,927 kWh	67,710
9Riverside	Kitchen/Cafeteria	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Per	128W	2	1	11	22	11	1,098	1.4	1,546 kWh	Kitchen/Cafeteria	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	11	33	11	1,098	1.0	1,051 kWh	12,078
9Riverside	Classrooms	2 lamp T12 8' w/ 1 EEMB, 1x8, EC Per	128W	2	1	94	188	94	1,830	12.0	22,018 kWh	Classrooms	3 lamp T8 4' w/ 1 EB, 32W	10 ft	87W	3	1	94	282	94	1,830	8.2	14,060 kWh	172,020
9Riverside	Nurse	4 lamp T12 4' w/ 2 EEMB, 2x4, T/W, 3-	148W	4	2	6	24	12	792	0.9	703 kWh	Nurse	3 lamp T8 4' w/ 1 EB, 32W	9 ft	87W	3	1	6	18	6	792	0.5	413 kWh	4,752
O'Neill H-shaped Fixture Retrofits																								
4O'Neill	Offices	2 lamp T12 6' w/ 1 EEMB, 3x6, H shap	188W	2	1	8	16	8	2,340	1.5	3,482 kWh	Offices	3 lamp T8 4' w/ 1 EB, new fixture	8 ft	87W	3	1	8	24	8	2,340	0.7	1,628 kWh	18,720
4O'Neill	Classrooms	2 lamp T12 8' w/ 1 EEMB, 6x8, H shap	237W	2	1	55	110	55	2,340	13.0	30,502 kWh	Classrooms	3 lamp T8 4' w/ 1 EB, new fixture	10 ft	87W	3	1	55	165	55	2,340	4.8	11,187 kWh	128,700
4O'Neill	Offices	2 lamp T12 8' w/ 1 EEMB, 6x8, H shap	237W	2	1	53	106	53	2,340	12.6	29,393 kWh	Offices	3 lamp T8 4' w/ 1 EB, new fixture	8 ft	87W	3	1	53	159	53	2,340	4.6	10,790 kWh	124,020
CFL Retrofits					4810	14287	7438																	0

28056

Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Blst /Fix	Fixt Qty	Total Lmps	Total Blsts	Hours of Op.	Installed kW	Annual Energy Use
6Fairview Restrooms, boys	25W Incandescent	25W	1	0	1	1	0	609	0.0	15 kWh
6Fairview Exterior	25W Incandescent, 1x1, 1 lamp, recess	25W	1	0	8	8	0	4,015	0.2	802 kWh
1Mazama Storage, home ec	25W Incandescent, screw socket	25W	1	0	2	2	0	366	0.1	18 kWh
2Ponderos Display case	40W Incandescent	40W	1	0	8	8	0	1,830	0.3	586 kWh
7Conger Table lamp, class	40W Incandescent	40W	1	0	1	1	0	1,281	0.0	51 kWh
7Conger Exterior	40W Incandescent, 1x1, 1 lamp recess	40W	1	0	16	16	0	4,015	0.6	2,570 kWh
8Pelican Mezzanine office,	40W Incandescent, décor	40W	1	0	1	1	0	92	0.0	4 kWh
6Fairview Stage/Kitchen hal	40W Incandescent, rec opaque	40W	1	0	3	3	0	1,015	0.1	122 kWh
4O'Neill Fan room	40W Incandescent, socket	40W	1	0	1	1	0	100	0.0	4 kWh
6Fairview Storage, gym	50W Incandescent, 1x1 rec. glass	50W	1	0	5	5	0	578	0.3	145 kWh
3Mills Stage, stairs	52W Incandescent, Screw socket	52W	1	0	1	1	0	147	0.1	8 kWh
5Roosevel Auditorium hallwa	60W Incandescent	60W	1	0	4	4	0	50	0.2	12 kWh
6Fairview Restrooms, boys	60W Incandescent	60W	1	0	2	2	0	609	0.1	73 kWh
1Mazama Instrument closet	60W Incandescent socket	60W	1	0	1	1	0	120	0.1	7 kWh
3Mills Storage	60W Incandescent socket	60W	1	0	1	1	0	198	0.1	12 kWh
1Mazama Arts closet	60W Incandescent, 1x1 recessed	60W	1	0	1	1	0	80	0.1	5 kWh
8Pelican Room 2A	60W Incandescent, drum	60W	1	0	2	2	0	1,830	0.1	220 kWh
4O'Neill Kitchen hallway	60W Incandescent, globe	60W	1	0	3	3	0	50	0.2	9 kWh
6Roosevel Janitor closet	60W Incandescent, globe	60W	1	0	2	2	0	609	0.1	73 kWh
7Conger Stairs, landing	60W Incandescent, globe	60W	1	0	1	1	0	1,830	0.1	110 kWh
2Ponderos Hood lights	60W Incandescent, JJ, white glass	60W	1	0	4	4	0	549	0.2	132 kWh
3Mills Aud. Entry	60W Incandescent, rec. cannister & gl	60W	1	0	8	8	0	210	0.4	76 kWh
1Mazama Home Ec.	60W Incandescent, recessed, flic	60W	1	0	1	1	0	3,111	0.1	187 kWh
8Pelican Storage	60W Incandescent, recessed/socket	60W	1	0	7	7	0	80	0.4	34 kWh
7Conger Janitor Closets	60W Incandescent, screw socket	60W	1	0	3	3	0	275	0.2	49 kWh
1Mazama Janitor's closet	60W Incandescent, socket	60W	1	0	1	1	0	1,098	0.1	66 kWh
5Roosevel Fan Room	60W Incandescent, socket	60W	1	0	2	2	0	1,015	0.1	122 kWh
3Mills Cust. Apt.	60W Incandescent, estimated	60W	1	0	15	15	0	549	0.9	493 kWh
8Pelican Janitor's Res. Sta	2 lamp, 60W incandescent, drum	120W	2	0	1	2	0	100	0.1	12 kWh
4O'Neill RR near Cond. Rc	2 lamp, 60W incandescent, globe	120W	2	0	1	2	0	78	0.1	8 kWh
8Pelican Janitor's Res. Sta	2 lamp, 60W incandescent, drum	120W	2	0	1	2	0	100	0.1	12 kWh
4O'Neill RR near Cond. Rc	2 lamp, 60W incandescent, globe	120W	2	0	1	2	0	78	0.1	9 kWh
1Mazama Restrooms	2 lamp, 60W incandescent, wall mount	120W	2	0	2	4	0	549	0.2	132 kWh
2Ponderos Student store	2 lamp, 75W incandescent, 1x2, wall n	150W	2	0	2	4	0	732	0.3	220 kWh
1Mazama Locker/restroom	2 lamp, 75W incandescent, globe, 16k	150W	2	0	2	4	0	549	0.3	165 kWh
2Ponderos Restrooms, teach	2 lamp, 75W incandescent, wall mount	150W	2	0	2	4	0	915	0.3	275 kWh
1Mazama Restroom, wood s	75W Incandescent	75W	1	0	1	1	0	549	0.1	41 kWh
1Mazama Janitor closets	75W Incandescent	75W	1	0	2	2	0	366	0.2	55 kWh
5Roosevel Janitor closet	75W Incandescent	75W	1	0	1	1	0	2,030	0.1	152 kWh
3Mills Stage, left	75W Incandescent, 1x1 rec. glass	75W	1	0	2	2	0	147	0.2	22 kWh
1Mazama Wood storage	75W Incandescent, 1x1 recessed	75W	1	0	3	3	0	3,111	0.2	700 kWh
5Roosevel Teach Restroom	75W Incandescent, décor	75W	1	0	1	1	0	508	0.1	38 kWh
5Roosevel Stairs	75W Incandescent, glass drum	75W	1	0	2	2	0	2,030	0.2	305 kWh
3Mills Restrooms	75W Incandescent, Globe	75W	1	0	2	2	0	2,233	0.2	335 kWh
3Mills Stairs (music)	75W Incandescent, Globe	75W	1	0	1	1	0	2,233	0.1	167 kWh
3Mills Restrooms	75W Incandescent, Globe	75W	1	0	3	3	0	210	0.2	47 kWh
3Mills Storage	75W Incandescent, Globe	75W	1	0	3	3	0	10	0.2	2 kWh
6Fairview Closets	75W Incandescent, globe/rec. 1x1 ope	75W	1	0	3	3	0	366	0.2	82 kWh
1Mazama Mezz Gym Store	75W Incandescent, screw socket	75W	1	0	2	2	0	3,111	0.2	497 kWh
8Riverside Closets	75W Incandescent, screw socket	75W	1	0	2	2	0	30	0.2	5 kWh
8Pelican Halls	75W Incandescent, screw socket, flic	75W	1	0	3	3	0	1,830	0.2	412 kWh
3Mills Kitchen Storage1	75W Incandescent, socket	75W	1	0	1	1	0	594	0.1	45 kWh
8Pelican Storage/Restroom	75W Incandescent, socket/globe	75W	1	0	4	4	0	200	0.3	60 kWh
5Roosevel Furnace & Fan Ro	75W Incandescent, socket/table lamp	75W	1	0	3	3	0	2,030	0.2	457 kWh
1Mazama Paint room	75W Incandescent, vapor/exp	75W	1	0	1	1	0	183	0.1	14 kWh
2Ponderos Entrance/Stairs	75W Incandescent, wall mount	75W	1	0	2	2	0	3,111	0.2	467 kWh
1Mazama Faculty restrooms	75W Incandescent flood, rec. cannister	75W	1	0	2	2	0	732	0.2	110 kWh
1Mazama Exterior	75W Incandescent flood	75W	1	0	18	18	0	4,015	1.4	6,420 kWh
1Mazama Kitchen/snack sho	75W Incandescent flood	75W	1	0	8	8	0	915	0.6	549 kWh
1Mazama Exterior, rec area	75W Incandescent flood	75W	1	0	13	13	0	4,015	1.0	3,915 kWh
6Fairview Exterior	75W Incandescent flood	75W	1	0	1	1	0	4,015	0.1	301 kWh
1Mazama Kitchen hoods	90W Incandescent, JJ	90W	1	0	6	6	0	366	0.5	198 kWh
3Mills Reading Rec. RR	90W Incandescent, JJ	90W	1	0	1	1	0	366	0.1	36 kWh
1Mazama Mezz Gym Store	90W Incandescent, screw socket	90W	1	0	3	3	0	3,111	0.3	840 kWh
1Mazama Janitor closets	90W Incandescent, screw socket	90W	1	0	3	3	0	366	0.3	99 kWh
8Riverside Janitor Closets	90W Incandescent, screw socket	90W	1	0	3	3	0	1,464	0.3	395 kWh

Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Blsts /Fixt.	Fixt. Qty	Total Lmps	Total Blsts	Hours of Operation	Installed kW	Annual Energy Use	Total Rst. hours
Restrooms, boys	8W CFL		8W	1	0	1	1	0	609	0.0	5 kWh	609
Exterior	8W CFL	9 ft	8W	1	0	8	8	0	4,015	0.0	193 kWh	
Storage, home ec.	8W CFL	8 ft	8W	1	0	2	2	0	366	0.0	6 kWh	
Display case	11W CFL		11W	1	0	8	8	0	1,830	0.1	181 kWh	14,640
Exterior	11W CFL		11W	1	0	1	1	0	1,281	0.0	14 kWh	1,281
Table lamp, classroom	11W CFL	9 ft	11W	1	0	16	16	0	4,015	0.2	707 kWh	64,240
Mezzanine office, RR	11W CFL	8 ft	11W	1	0	1	1	0	92	0.0	1 kWh	92
Stage/Kitchen hall	11W CFL	8 ft	11W	1	0	3	3	0	1,015	0.0	33 kWh	3,045
Fan room	11W CFL	8 ft	11W	1	0	1	1	0	100	0.0	1 kWh	100
Storage, gym	13W CFL		13W	1	0	5	5	0	578	0.1	38 kWh	2,895
Stage, stairs	13W CFL	9 ft	13W	1	0	1	1	0	147	0.0	2 kWh	147
Auditorium hallway/closets	15W CFL	8 ft	15W	1	0	4	4	0	50	0.1	3 kWh	200
Restrooms, boys	15W CFL		15W	1	0	2	2	0	609	0.0	18 kWh	1,218
Instrument closet	15W CFL	8 ft	15W	1	0	1	1	0	120	0.0	2 kWh	120
Storage	15W CFL	8 ft	15W	1	0	1	1	0	198	0.0	3 kWh	198
Arts closet	15W CFL	8 ft	15W	1	0	1	1	0	80	0.0	1 kWh	80
Room 2A	15W CFL	12 ft	15W	1	0	2	2	0	1,830	0.0	55 kWh	3,660
Kitchen hall/restroom	15W CFL	8 ft	15W	1	0	3	3	0	50	0.0	2 kWh	150
Janitor closet	15W CFL	9 ft	15W	1	0	2	2	0	609	0.0	18 kWh	1,218
Stairs, landing	15W CFL	8 ft	15W	1	0	1	1	0	1,830	0.0	27 kWh	1,830
Hood lights	15W CFL	8 ft	15W	1	0	4	4	0	549	0.1	33 kWh	2,196
Aud. Entry	15W CFL	8 ft	15W	1	0	6	6	0	210	0.1	19 kWh	1,260
Home Ec.	15W CFL	8 ft	15W	1	0	1	1	0	3,111	0.0	47 kWh	3,111
Storage	15W CFL	12 ft	15W	1	0	7	7	0	80	0.1	8 kWh	560
Janitor Closets	15W CFL		15W	1	0	3	3	0	275	0.0	12 kWh	824
Janitor's closet	15W CFL	7 ft	15W	1	0	1	1	0	1,098	0.0	16 kWh	1,098
Fan Room	15W CFL	multi	15W	1	0	2	2	0	1,015	0.0	30 kWh	2,030
Cust. Apt.	15W CFL	8 ft	15W	1	0	15	15	0	549	0.2	123 kWh	8,213
Janitor's Res. Storage	2 lamp 15W CFL	12 ft	30W	2	0	1	2	0	100	0.0	3 kWh	100
RR near Cond. Room B	2 lamp 15W CFL	8 ft	30W	2	0	1	2	0	78	0.0	2 kWh	78
Janitor's Res. Storage	2 lamp 15W CFL	12 ft	30W	2	0	1	2	0	100	0.0	3 kWh	100
RR near Cond. Room B	2 lamp 15W CFL	8 ft	30W	2	0	1	2	0	78	0.0	2 kWh	78
Restrooms	2 lamp 15W CFL	7 ft	30W	2	0	2	4	0	549	0.1	33 kWh	1,098
Student store	2 lamp 15W CFL	7 ft	30W	2	0	2	4	0	732	0.1	53 kWh	1,464
Locker/restroom	2 lamp 15W CFL	8 ft	30W	2	0	2	4	0	549	0.1	40 kWh	1,098
Restrooms, teachers	2 lamp 15W CFL	7 ft	30W	2	0	2	4	0	915	0.1	66 kWh	1,830
Restroom, wood shop	15W CFL	8 ft	15W	1	0	1	1	0	549	0.0	10 kWh	549
Janitor closets	15W CFL	8 ft	15W	1	0	2	2	0	366	0.0	13 kWh	732
Janitor closet	15W CFL	9 ft	15W	1	0	1	1	0	2,030	0.0	37 kWh	2,030
Stage, left	15W CFL	8 ft	15W	1	0	2	2	0	147	0.0	5 kWh	294
Wood storage	15W CFL	10 ft	15W	1	0	3	3	0	3,111	0.1	169 kWh	9,333
Teach Restroom	15W CFL	9 ft	15W	1	0	1	1	0	508	0.0	9 kWh	508
Stairs	15W CFL	10 ft	15W	1	0	2	2	0	2,030	0.0	73 kWh	4,060
Restrooms	15W CFL	8 ft	15W	1	0	2	2	0	2,233	0.0	80 kWh	4,466
Stairs (music)	15W CFL	12 ft	15W	1	0	1	1	0	2,233	0.0	40 kWh	2,233
Restrooms	15W CFL	8 ft	15W	1	0	3	3	0	210	0.1	11 kWh	630
Storage	15W CFL	8 ft	15W	1	0	3	3	0	10	0.1	1 kWh	30
Closets	15W CFL		15W	1	0	3	3	0	366	0.1	20 kWh	1,098
Mezz Gym Storage	15W CFL	8 ft	15W	1	0	2	2	0	3,111	0.0	112 kWh	6,222
Closets	15W CFL	10 ft	15W	1	0	2	2	0	30	0.0	1 kWh	60
Halls	15W CFL	12 ft	15W	1	0	3	3	0	1,830	0.1	99 kWh	5,490
Kitchen Storage1	15W CFL	10 ft	15W	1	0	1	1	0	594	0.0	11 kWh	594
Storage/Restrooms	15W CFL	12 ft	15W	1	0	4	4	0	200	0.1	14 kWh	800
Furnace & Fan Room	15W CFL	multi	15W	1	0	3	3	0	2,030	0.1	110 kWh	6,090
Paint room	15W CFL	8 ft	15W	1	0	1	1	0	183	0.0	3 kWh	183
Entrance/Stairs	15W CFL	10 ft	15W	1	0	2	2	0	3,111	0.0	112 kWh	6,222
Faculty restrooms	15W CFL	8 ft	15W	1	0	2	2	0	732	0.0	26 kWh	1,464
Exterior	15W CFL	na	15W	1	0	18	18	0	4,015	0.3	1,301 kWh	72,270
Kitchen/snack shop	15W CFL	8 ft	15W	1	0	8	8	0	915	0.1	132 kWh	7,320
Exterior, rec area (cour	15W CFL	na	15W	1	0	13	13	0	4,015	0.2	840 kWh	52,195
Exterior	15W CFL		15W	1	0	1	1	0	4,015	0.0	72 kWh	4,015
Kitchen hoods	23W CFL	7 ft	23W	1	0	6	6	0	366	0.1	51 kWh	2,196
Reading Rec. RR	23W CFL	7 ft	23W	1	0	1	1	0	366	0.0	9 kWh	366
Mezz Gym Storage	23W CFL	8 ft	23W	1	0	3	3	0	3,111	0.1	216 kWh	9,333
Janitor closets	23W CFL	8 ft	23W	1	0	3	3	0	366	0.1	25 kWh	1,098
Janitor Closets	23W CFL	10 ft	23W	1	0	3	3	0	1,464	0.1	101 kWh	4,392

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Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Blst /Fix	Fixt Qty	Total Lmps	Total Blsts	Hours of Op.	Installed kW	Annual Energy Use
8Pelican Storage closets	90W incandescent, screw socket, 8/c	90W	1	0	3	3	0	100	0.3	27 kWh
3Mills Scout Storage	90W incandescent, socket	90W	1	0	1	1	0	50	0.1	5 kWh
3Mills Closets	100W incandescent	100W	1	0	1	1	0	2,233	0.1	223 kWh
4O'Neill Pantry	100W incandescent	100W	1	0	1	1	0	104	0.1	10 kWh
3Mills Exterior	100W incandescent, 1 lamp recessed/	100W	1	0	2	2	0	8,760	0.2	1,752 kWh
6Fairview Gym & janitor clos	100W incandescent, 1x1 rec. glass	100W	1	0	5	5	0	1,930	0.5	966 kWh
6Fairview Closet under stair	100W incandescent, 1x1 rec. glass +	100W	1	0	2	2	0	50	0.2	10 kWh
7Conger Exterior	100W incandescent, decorative downl	100W	1	0	3	3	0	3,650	0.3	1,095 kWh
1Mazama Crawl space	100W incandescent, estimate 100 (60-	100W	1	0	55	55	0	20	5.5	110 kWh
6Fairview Rm 15/Dressing r	100W incandescent, globe	100W	1	0	13	13	0	915	1.3	1,190 kWh
7Conger Classrooms	100W incandescent, globe	100W	1	0	2	2	0	1,830	0.2	366 kWh
3Mills ESLStorage	100W incandescent, JJ	100W	1	0	3	3	0	50	0.3	15 kWh
5Roosevel Lockers/Restroom	100W incandescent, JJ	100W	1	0	1	1	0	50	0.1	5 kWh
5Roosevel Dressing Rm Stgs	100W incandescent, JJ	100W	1	0	1	1	0	-	0.1	0 kWh
5Roosevel Janitor closet	100W incandescent, JJ	100W	1	0	1	1	0	1,015	0.1	102 kWh
5Roosevel Stage	100W incandescent, JJ	100W	1	0	2	2	0	50	0.2	10 kWh
6Fairview Showers	100W incandescent, JJ	100W	1	0	5	5	0	915	0.5	458 kWh
1Mazama Janitor closets	100W incandescent, recessed	100W	1	0	3	3	0	366	0.3	110 kWh
3Mills Hallways	100W incandescent, recessed	100W	1	0	2	2	0	2,673	0.2	535 kWh
8Pelican Janitor closets/Rc	100W incandescent, recessed	100W	1	0	5	5	0	1,600	0.5	800 kWh
1Mazama Chair closets	100W incandescent, screw socket	100W	1	0	2	2	0	10	0.2	2 kWh
1Mazama Elect. Supply	100W incandescent, screw socket	100W	1	0	1	1	0	8,760	0.1	876 kWh
3Mills Boiler Rm Stairs	100W incandescent, screw socket	100W	1	0	1	1	0	3,600	0.1	360 kWh
6Fairview Exterior	100W incandescent, screw socket	100W	1	0	2	2	0	4,015	0.2	803 kWh
7Conger Closets	100W incandescent, screw socket	100W	1	0	6	6	0	456	0.6	275 kWh
9Riverside Closet	100W incandescent, screw socket	100W	1	0	1	1	0	276	0.1	27 kWh
5Roosevel Fan Room	100W incandescent, socket	100W	1	0	1	1	0	1,015	0.1	102 kWh
2Ponderos SRG room	100W incandescent, wall mount	100W	1	0	2	2	0	2,190	0.2	438 kWh
2Ponderos Exterior	150W incandescent, 1 lamp, recessed	150W	1	0	5	5	0	4,015	0.8	3,011 kWh
3Mills Exterior	150W incandescent, 1 lamp	150W	1	0	4	4	0	8,760	0.6	5,256 kWh
3Mills Hall	150W incandescent, rec. glass	150W	1	0	7	7	0	2,233	1.1	2,345 kWh
3Mills Hall	2 lamp, 150W incandescent, rec	300W	2	0	1	2	0	8,760	0.3	2,628 kWh
5Roosevel Class 5	150W incandescent, globe	150W	1	0	1	1	0	2,030	0.2	306 kWh
8Pelican Exterior	150W incandescent, 1 lamp, décor glo	150W	1	0	5	5	0	4,015	0.6	3,011 kWh
8Pelican Restroom, girls/m	150W incandescent, globe	150W	1	0	12	12	0	1,830	1.8	3,294 kWh
Inc. to T8 Retrofits										
3Mills Exterior	150W incandescent, 2 lamp	300W	1	0	2	2	0	8,760	0.6	5,256 kWh
3Mills Kitchen Storage2	150W incandescent, socket	150W	1	0	1	1	0	398	0.2	59 kWh
5Roosevel Furnace Room st	150W incandescent	150W	1	0	1	1	0	2,030	0.2	305 kWh
5Roosevel Storage closet	150W incandescent, globe	150W	1	0	1	1	0	75	0.2	11 kWh
6Fairview Storage areas	150W incandescent, globe/socket	150W	1	0	5	5	0	609	0.8	457 kWh
6Fairview Janitor closet	150W incandescent, socket	150W	1	0	1	1	0	608	0.2	91 kWh
7Conger Stage/misc closet	150W incandescent, socket	150W	1	0	3	3	0	1,600	0.5	720 kWh
8Pelican Storage areas	150W incandescent, decor/expl.	150W	1	0	4	4	0	548	0.6	329 kWh
9Riverside Storage/Closet	150W incandescent, socket/globe	150W	1	0	4	4	0	549	0.6	329 kWh
6Fairview Storage areas	200W incandescent, globe/socket	200W	1	0	3	3	0	812	0.6	487 kWh
8Pelican Room 1/Stage ha	200W incandescent, hood, 30/c	200W	1	0	2	2	0	1,830	0.4	732 kWh
9Riverside Restroom, Girls	200W incandescent, hood, 30/c	200W	1	0	2	2	0	1,830	0.4	732 kWh
1Mazama Kitchen mop room	200W incandescent, screw socket	200W	1	0	1	1	0	366	0.2	73 kWh
3Mills Boiler Rm	200W incandescent, screw socket	200W	1	0	1	1	0	3,600	0.2	720 kWh
6Fairview Stage/storage	200W incandescent, screw socket	200W	1	0	3	3	0	609	0.6	365 kWh
3Mills Stage	300W incandescent	300W	1	0	4	4	0	147	1.2	176 kWh
2Ponderos Cool room	300W incandescent, 1x1	300W	1	0	1	1	0	183	0.3	55 kWh
2Ponderos Restrooms, G&B	300W incandescent, 1x1, 20-70/c	300W	1	0	6	6	0	3,111	1.8	5,600 kWh
2Ponderos Entrance	300W incandescent, 1x1, downlight	300W	1	0	2	2	0	-	0.6	0 kWh
2Ponderos Entrance/Stairs	300W incandescent, 1x1, downlight	300W	1	0	10	10	0	3,111	3.0	8,333 kWh
2Ponderos Janitor closet	300W incandescent, 1x1, wall mount	300W	1	0	1	1	0	2,190	0.3	659 kWh
2Ponderos Spray room	300W incandescent, glass/outdoor p	300W	1	0	4	4	0	60	1.2	90 kWh
8Pelican Kitchen RR/Girl's	300W incandescent, globe/expl proof	300W	1	0	3	3	0	60	0.9	72 kWh
8Pelican Music Office	300W incandescent, globe/expl proof	300W	1	0	1	1	0	1,600	0.3	480 kWh
8Riverside Class Storage Cl	300W incandescent, globe/hood/socke	300W	1	0	32	32	0	1,098	9.6	10,541 kWh
1Mazama Boiler room	300W incandescent, hood	300W	1	0	12	12	0	3,111	3.6	11,200 kWh
1Mazama Custodial office	300W incandescent, hood	300W	1	0	2	2	0	3,111	0.6	1,867 kWh
2Ponderos Boiler room	300W incandescent, hood	300W	1	0	4	4	0	2,562	1.2	3,074 kWh
4O'Neill Mech. Room	300W incandescent, hood	300W	1	0	8	8	0	480	1.8	864 kWh

Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Blsts /Fixt.	Fixt. Qty	Total Lmps	Total Blsts	Hours of Operation	Installed kW	Annual Energy Use	Total fixt. hours
Storage closets	23W CFL	12 ft	23W	1	0	3	3	0	100	0.1	7 kWh	300
Scout Storage	23W CFL	7 ft	23W	1	0	1	1	0	50	0.0	1 kWh	50
Closets	23W CFL	8 ft	23W	1	0	1	1	0	2,233	0.0	51 kWh	2,233
Pantry	23W CFL	11 ft	23W	1	0	1	1	0	104	0.0	2 kWh	104
Exterior	23W CFL	9 ft	23W	1	0	2	2	0	8,760	0.0	483 kWh	17,520
Gym & janitor closets	23W CFL		23W	1	0	5	5	0	1,930	0.1	222 kWh	9,650
Closet under stairs	23W CFL		23W	1	0	2	2	0	50	0.0	2 kWh	100
Exterior	23W CFL	8 ft	23W	1	0	3	3	0	3,050	0.1	262 kWh	10,050
Crawl space	23W CFL		23W	1	0	55	55	0	20	1.3	26 kWh	1,100
Rm 15/Dressing rm, gir	23W CFL		23W	1	0	13	13	0	915	0.3	274 kWh	11,895
Classrooms	23W CFL	10 ft	23W	1	0	2	2	0	1,830	0.0	84 kWh	3,660
ESLStorage	23W CFL	8 ft	23W	1	0	3	3	0	50	0.1	3 kWh	150
Lockers/Restroom, Gils	23W CFL	11 ft	23W	1	0	1	1	0	50	0.0	1 kWh	50
Dressing Rm Stgs, Girls	23W CFL	11 ft	23W	1	0	1	1	0	-	0.0	0 kWh	0
Janitor closet	23W CFL	9 ft	23W	1	0	1	1	0	1,015	0.0	23 kWh	1,015
Stage	23W CFL	16 ft	23W	1	0	2	2	0	50	0.0	2 kWh	100
Showers	23W CFL		23W	1	0	5	5	0	915	0.1	105 kWh	4,575
Janitor closets	23W CFL	8 ft	23W	1	0	3	3	0	366	0.1	25 kWh	1,098
Hallways	23W CFL	9 ft	23W	1	0	2	2	0	2,673	0.0	123 kWh	5,346
Janitor closets/Restroo	23W CFL	12 ft	23W	1	0	5	5	0	1,600	0.1	184 kWh	8,000
Chair closets	23W CFL	10 ft	23W	1	0	2	2	0	10	0.0	0 kWh	20
Elect. Supply	23W CFL	8 ft	23W	1	0	1	1	0	8,760	0.0	201 kWh	8,760
Boiler Rm Stairs	23W CFL	10 ft	23W	1	0	1	1	0	3,600	0.0	83 kWh	3,600
Exterior	23W CFL		23W	1	0	2	2	0	4,015	0.0	185 kWh	8,030
Closets	23W CFL		23W	1	0	6	6	0	458	0.1	63 kWh	2,745
Closet	23W CFL	10 ft	23W	1	0	1	1	0	275	0.0	6 kWh	275
Fan Room	23W CFL	mus	23W	1	0	1	1	0	1,015	0.0	23 kWh	1,015
SRG room	23W CFL	7 ft	23W	1	0	2	2	0	2,190	0.0	101 kWh	4,382
Exterior	1 lamp, T8 circline, surf mount	na	32W	1	0	5	5	0	4,015	0.2	642 kWh	20,075
Exterior	1 lamp, T8 circline, surf mount	na	32W	1	0	4	4	0	8,760	0.1	1,121 kWh	35,040
Hall	1 lamp, T8 circline, surf mount	10 ft	32W	1	0	7	7	0	2,233	0.2	500 kWh	15,631
Hall	2 lamp, T8 circline, surf mount	10 ft	54W	2	0	1	2	0	8,760	0.1	473 kWh	8,760
Class 5	1 lamp, T8 circline, surf mount	10 ft	32W	1	0	1	1	0	2,030	0.0	65 kWh	2,030
Exterior	1 lamp, T8 circline, surf mount	9 ft	32W	1	0	5	5	0	4,015	0.2	642 kWh	20,075
Restroom, girls/music r	1 lamp, T8 circline, surf mount	11 ft	32W	1	0	12	12	0	1,830	0.4	703 kWh	21,960
Exterior	2 lamp, T8 wraparound fixture	na	58W	2	1	2	4	2	8,760	0.1	1,016 kWh	17,520
Kitchen Storage2	1 lamp, T8 strip fixture	16 ft	29W	1	1	1	1	1	398	0.0	11 kWh	398
Furnace Room stairs	1 lamp, T8 strip fixture	10 ft	29W	1	1	1	1	1	2,030	0.0	59 kWh	2,030
Storage closet	1 lamp, T8 strip fixture	10 ft	29W	1	1	1	1	1	75	0.0	2 kWh	75
Storage areas	1 lamp, T8 strip fixture		29W	1	1	5	5	5	609	0.1	88 kWh	3,045
Janitor closet	1 lamp, T8 strip fixture	10 ft	29W	1	1	1	1	1	609	0.0	18 kWh	609
Stage/misc classroom	1 lamp, T8 strip fixture	16 ft	29W	1	1	3	3	3	1,600	0.1	139 kWh	4,800
Storage areas	1 lamp, T8 strip fixture	12 ft	29W	1	1	4	4	4	548	0.1	64 kWh	2,196
Storage/Closet	1 lamp, T8 strip fixture	10 ft	29W	1	1	4	4	4	549	0.1	64 kWh	2,196
Storage areas	2 lamp, T8 strip fixture		58W	2	1	3	6	3	812	0.2	141 kWh	2,436
Room 1/Stage hall	2 lamp, T8 wraparound fixture	10 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
Restroom, Girls	2 lamp, T8 wraparound fixture	10 ft	58W	2	1	2	4	2	1,830	0.1	212 kWh	3,660
Kitchen mop room	2 lamp, T8 strip fixture	8 ft	58W	2	1	1	2	1	366	0.1	21 kWh	366
Boiler Rm	2 lamp, T8 strip fixture	10 ft	58W	2	1	1	2	1	3,600	0.1	208 kWh	3,600
Stage/storage	2 lamp, T8 strip fixture		58W	2	1	3	6	3	609	0.2	106 kWh	1,827
Stage	2 lamp, T8 wraparound fixture	18 ft	58W	2	1	4	8	4	147	0.2	34 kWh	588
Cool room	2 lamp, T8 wraparound fixture	10 ft	58W	2	1	1	2	1	183	0.1	11 kWh	183
Restrooms, G&B	2 lamp, T8 wraparound fixture	10 ft	58W	2	1	6	12	6	3,111	0.3	1,083 kWh	18,666
Entrance	2 lamp, T8 wraparound fixture	11 ft	58W	2	1	2	4	2	-	0.1	0 kWh	0
Entrance/Stairs	2 lamp, T8 wraparound fixture	11 ft	58W	2	1	10	20	10	3,111	0.6	1,804 kWh	31,110
Janitor closet	2 lamp, T8 strip fixture		58W	2	1	1	2	1	2,190	0.1	127 kWh	2,190
Spray room	2 lamp, T8 wraparound fixture **	8 ft	58W	2	1	4	8	4	80	0.2	19 kWh	320
Kitchen RR/Girl's locke	2 lamp, T8 wraparound fixture **	10 ft	58W	2	1	3	6	3	80	0.2	14 kWh	240
Music Office	2 lamp, T8 wraparound fixture **	10 ft	58W	2	1	1	2	1	1,600	0.1	93 kWh	1,600
Class Storage Closets	2 lamp, T8 strip fixture	18 ft	58W	2	1	32	64	32	1,098	1.9	2,028 kWh	35,138
Boiler room	2 lamp, T8 strip fixture	12 ft	58W	2	1	12	24	12	3,111	0.7	2,166 kWh	37,332
Custodial office	2 lamp, T8 strip fixture	8 ft	58W	2	1	2	4	2	3,111	0.1	361 kWh	6,222
Boiler room	2 lamp, T8 strip fixture	10 ft	58W	2	1	4	8	4	2,562	0.2	594 kWh	10,248
Mech. Room	2 lamp, T8 strip fixture	10 ft	58W	2	1	6	12	6	480	0.3	167 kWh	2,880

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Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Ballst /Fix	Fixt Qty	Total Lmps	Total Ballst	Hours of Op.	Installed kW	Annual Energy Use
5Roosevel Hub Room	300W incandescent, hood	300W	1	0	1	1	0	1,440	0.3	432 kWh
6Pelican Boiler room	300W incandescent, hood	300W	1	0	4	4	0	2,745	1.2	3,294 kWh
2Pendores Chiller room	300W incandescent, hood, 10-20 fe	300W	1	0	6	6	0	3,111	1.8	5,600 kWh
1Mazama Fan room	300W incandescent, screw socket	300W	1	0	1	1	0	40	0.3	12 kWh
3Mills Book Closet	300W incandescent, screw socket	300W	1	0	1	1	0	198	0.3	59 kWh
2Pendores Custodial room	300W incandescent, wall mount	300W	1	0	2	2	0	3,111	0.6	1,867 kWh
3Mills Stage	500W incandescent	500W	1	0	6	6	0	147	3.0	441 kWh
9Riverside Stage	500W incandescent, hood	500W	1	0	1	1	0	50	0.5	25 kWh
Exterior & HID Retrofits										
2Pendores Exterior	200W incandescent, 1 lamp, recessed	200W	1	0	2	2	0	4,015	0.4	1,606 kWh
6Fairview Exterior	200W incandescent, hood	200W	1	0	1	1	0	8,760	0.2	1,752 kWh
2Pendores Exterior	300W incandescent, 1 lamp, recessed	300W	1	0	8	8	0	4,015	2.4	9,636 kWh
2Pendores Exterior	175W mercury vapor (6-11:30), on phc	175W	16	16	16	16	16	4,015	2.8	11,242 kWh
3Mills Exterior	175W mercury vapor (6-11:30), on phc	175W	3	3	3	3	3	4,015	0.5	2,184 kWh
4O'Neill Exterior pole	175W mercury vapor (6-11:30), on phc	175W	3	3	3	3	3	4,015	0.5	2,184 kWh
5Roosevel Exterior pole	175W mercury vapor (6-11:30), on phc	175W	2	2	2	2	2	4,015	0.4	1,405 kWh
6Fairview Exterior pole	175W mercury vapor (6-11:30), on phc	175W	5	5	5	5	5	4,015	0.9	3,513 kWh
7Conger Exterior	175W mercury vapor (6-11:30), on phc	175W	5	5	5	5	5	4,015	0.9	3,513 kWh
8Pelican Exterior	175W mercury vapor (6-11:30), on phc	175W	5	5	5	5	5	4,015	0.9	3,513 kWh
9Riverside Exterior pole	175W mercury vapor (6-11:30), on phc	175W	2	2	2	2	2	4,015	0.4	1,405 kWh
1Mazama Exterior, parking l	400W mercury vapor (6-11:30), on phc	400W	18	18	18	18	18	4,745	8.4	30,368 kWh
3Mills Exterior	400W mercury vapor (6-11:30), on phc	400W	1	1	1	1	1	4,745	0.4	1,896 kWh
Remove the Gym fixtures										
3Mills Auditorium	300W incandescent, 1x1 rec. glass	300W	1	0	12	12	0	210	3.6	756 kWh
2Pendores Gym	300W incandescent, high bay	300W	1	0	5	5	0	1,739	1.5	2,608 kWh
5Roosevel Gym	300W incandescent, hood	300W	1	0	4	4	0	1,440	1.2	1,728 kWh
3Mills Auditorium	500W incandescent, 1x1 rec. glass	500W	1	0	11	11	0	210	5.5	1,155 kWh
6Fairview Gym	500W incandescent, hood	500W	1	0	4	4	0	800	2.0	1,600 kWh
7Conger Stage	500W incandescent	500W	1	0	3	3	0	147	1.5	221 kWh
7Conger Gym	500W incandescent, hood pendant	500W	1	0	4	4	0	1,847	2.0	3,294 kWh
9Riverside Gym/Stage	500W incandescent	500W	1	0	4	4	0	720	2.0	1,440 kWh
									18	12,801

Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Ballst /Fixt.	Fixt. Qty	Total Lmps	Total Ballst	Hours of Operation	Installed kW	Annual Energy Use	Total fixt. hours
Hub Room	2 lamp, T8 strip fixture	10 ft	58W	2	1	1	2	1	1,440	0.1	84 kWh	1,440
Boiler room	2 lamp, T8 strip fixture	11 ft	58W	2	1	4	8	4	2,745	0.2	637 kWh	10,980
Chiller room	2 lamp, T8 strip fixture		58W	2	1	6	12	6	3,111	0.3	1,093 kWh	18,666
Fan room	2 lamp, T8 strip fixture	8 ft	58W	2	1	1	2	1	40	0.1	2 kWh	40
Book Closet	2 lamp, T8 strip fixture	12 ft	58W	2	1	1	2	1	198	0.1	11 kWh	198
Custodial room	2 lamp, T8 strip fixture		58W	2	1	2	4	2	3,111	0.1	361 kWh	6,222
Stage	3 lamp, T8 surface mount module	18 ft	87W	3	1	6	18	6	147	0.5	77 kWh	882
Stage	3 lamp, T8 surface mount module	18 ft	87W	3	1	1	3	1	50	0.1	4 kWh	50
Exterior	70 hps, fixture	na	70W	1	0	2	2	0	4,015	0.1	562 kWh	8,030
Exterior	70 hps, fixture	na	70W	1	0	1	1	0	8,760	0.1	613 kWh	8,760
Exterior	150 hps, fixture	na	150W	1	0	8	8	0	4,015	1.2	4,818 kWh	32,120
Exterior	70W hps	na	70W	1	0	16	16	0	4,015	1.1	4,497 kWh	64,240
Exterior	70W hps	na	70W	1	0	3	3	0	4,015	0.2	843 kWh	12,045
Exterior pole	70W hps	na	70W	1	0	3	3	0	4,015	0.2	843 kWh	12,045
Exterior pole	70W hps	na	70W	1	0	2	2	0	4,015	0.1	562 kWh	8,030
Exterior pole	70W hps	na	70W	1	0	5	5	0	4,015	0.4	1,405 kWh	20,075
Exterior	70W hps	na	70W	1	0	5	5	0	4,015	0.4	1,405 kWh	20,075
Exterior	70W hps	na	70W	1	0	5	5	0	4,015	0.4	1,405 kWh	20,075
Exterior pole	70W hps	na	70W	1	0	2	2	0	4,015	0.1	562 kWh	8,030
Exterior, parking lot	150W hps	na	150W	1	0	18	18	0	4,745	2.4	11,388 kWh	75,920
Exterior	150W hps	na	150W	1	0	1	1	0	4,745	0.2	712 kWh	4,745
Auditorium	Removed	30 ft	0W	0	0	12	0	0	210	-	0 kWh	2,520
Gym	Removed	25 ft	0W	0	0	5	0	0	1,739	-	0 kWh	8,693
Gym	Removed	20 ft	0W	0	0	4	0	0	1,440	-	0 kWh	5,760
Auditorium	Removed	30 ft	0W	0	0	11	0	0	210	-	0 kWh	2,310
Gym	Removed	23 ft	0W	0	0	4	0	0	800	-	0 kWh	3,200
Stage	Removed	18 ft	0W	0	0	3	0	0	147	-	0 kWh	441
Gym	Removed	20 ft	0W	0	0	4	0	0	1,847	-	0 kWh	6,588
Gym/Stage	Removed	18 ft	0W	0	0	4	0	0	720	-	0 kWh	2,880
Exit sign, gym	dual 15W incandescent Exit Sign		30W	2	0	1	2	0	8,760	0.0	263 kWh	
Exit sign, green	dual 25W incandescent Exit Sign		50W	2	0	1	2	0	8,760	0.1	438 kWh	
Exterior	70W hps, estimate wall mount fixtu	na	70W	10	10	10	10	10	4,015	0.7	2,811 kWh	
Exterior	70W hps, estimate wall mount fixtu	na	70W	2	2	2	2	2	4,015	0.1	562 kWh	
Exterior	100W HPS	na	100W	3	3	3	3	3	4,015	0.3	1,205 kWh	
Gym (new gym)	metal halide (150-250W)	na	175W	0	0	0	0	0		-	0 kWh	
Exterior	metal halide, 250W	na	250W	11	11	11	11	11	4,015	2.8	11,041 kWh	
New Gym Areas	T-8 fixtures	na	175W	0	0	0	0	0		-	0 kWh	
Gym Hall	T-8 fixtures	na	175W	0	0	0	0	0		-	0 kWh	
Gym Restroom	T-8 fixtures	na	175W	0	0	0	0	0		-	0 kWh	
Halways	3 lamp T8 4' w/ 1 El Ballast, 2x4,	8 ft	87W	44	44	44	44	44	3,120	3.8	11,943 kWh	
Beardroom	4 lamp T8 4' w/ 1 El Ballast, 2x4,	20 ft	116W	44	44	44	44	44	260	5.1	1,327 kWh	
Wood storage	18 W CFL	10 ft	11W	2	2	2	2	2	8,760	0.0	193 kWh	
Gym	18 W CFL	25 ft	11W	5	5	5	5	5	8,760	0.1	482 kWh	
Exterior	11 W CFL	8 ft	11W	4	4	4	4	4	4,015	0.0	177 kWh	
Exterior	11 W CFL	8 ft	11W	5	5	5	5	5	8,760	0.1	482 kWh	
Exterior	175W hps, estimate wall mount l	na	175W	2	2	2	2	2	4,015	0.4	1,405 kWh	
Main Gym	175W metal halide	35 ft	175W	36	36	36	36	36	600	6.3	3,780 kWh	
Old Gym	175W metal halide	25 ft	175W	9	9	9	9	9	600	1.6	945 kWh	
Upper Gym	175W metal halide	25 ft	175W	12	12	12	12	12	600	2.1	1,260 kWh	
Gym	175W metal halide	25 ft	175W	36	36	36	36	36	1,739	6.3	10,953 kWh	
Auditorium	175W metal halide	25 ft	175W	9	9	9	9	9	1,440	1.6	2,268 kWh	
Gym	175W metal halide	25 ft	175W	8	8	8	8	8	800	1.4	1,120 kWh	

1Mazama	*Mazama High School*
2Pendores	*Pendoresa Junior High*
3Mills	*Mills Elem School*
4O'Neill	*O'Neill Administration Offices*
5Roosevel	*Roosevelt Elementary School*
6Fairview	*Fairview Elementary School*
7Conger	*Conger Elementary School*
8Pelican	*Pelican Elementary School*
9Riverside	*Riverside Elementary School*

Monday-Friday 7:30am-11:00pm, september - june; only school w/277V for lighting	-
Monday-Friday 7:30am-9:00pm, september - june	-
Mon-Fri 7am-7pm -September through July	
Mon-Fri 7-4pm year round	
Monday-Friday 7am-4pm, september - july	-
Monday-Friday 7am-4pm, september - july	-
Monday-Friday 7am-4:30pm, september - june	-
Monday-Friday 7am-4:30pm, september - june	-
Monday-Friday 7am-4pm, september - june	-

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Klamath Falls City Schools

District Wide Existing Lighting and Proposed Lighting Retrofits

Zone	Existing Fixture Description	Fixt. Watts	Lmps /Fix	Blst /Fix	Fixt Qty	Total Lmps	Total Blsts	Hours of Op.	Installed kW	Annual Energy Use
7Conger	Gym 175W metal halide	175W	12	12	12	12	12	600	2.1	1,260 kWh
8Pelican	Gym 175W metal halide	175W	15	15	15	15	15	1,200	2.6	3,150 kWh
4O'Neill	Gym 400W metal halide	400W	12	12	12	12	12	720	4.8	3,456 kWh
5Roosevel	Gym 400W metal halide	400W	8	8	8	8	8	1,440	3.2	4,608 kWh
5Roosevel	Computer room/g 400W metal halide	400W	12	12	12	12	12	600	4.8	2,928 kWh
6Riverside	Gym 400W metal halide	400W	12	12	12	12	12	720	4.8	3,456 kWh
		141 kW	kW	kW	kW	kW		*Annual El*		248,755 kWh

Zone	Proposed Retrofit Description	Fixture Height	Fixt. Watts	Lmps /Fixt.	Blsts /Fixt.	Fixt. Qty	Total Lmps	Total Blsts	Hours of Operation	Installed kW	Annual Energy Use	Total fixt. hours
	Gym 175W metal halide	25 ft	175W	12	12	12	12	12	600	2.1	1,260 kWh	
	Gym 175W metal halide	25 ft	175W	15	15	15	15	15	1,200	2.6	3,150 kWh	
	Gym 400W metal halide	20 ft	400W	12	12	12	12	12	720	4.8	3,456 kWh	
	Gym 400W metal halide	25 ft	400W	8	8	8	8	8	1,440	3.2	4,608 kWh	
Computer room/gym	400W metal halide	20 ft	175W	1	0	12	12	0	600	2.1	1,260 kWh	
	Gym 400W metal halide	25 ft	400W	12	12	12	12	12	720	4.8	3,456 kWh	
	Total Installed Capacity:		#REF! kW	kW	kW	kW	kW			*Annual Ek*	84,714 kWh	

8.1.3 Energy Savings and Project Cost Summary for Linear Fluorescent Retrofit

Savings and cost summaries and calculations have been summarized here on a district-wide and a school-by-school basis. Calculations for individual schools used the appropriate utility rates described in Section 2.2 for each school. Calculations that describe a summary of all schools used a weighted average utility rate, determined using the annual energy use, peak demand and energy and demand charges at each of the schools.

Replace All T-12 Lamps and Magnetic Ballasts with T-8 Lamps and Electronic Ballasts for Entire School District

Assumptions			
	Weighted Avg. Demand Cost (D$):	$4.33	/kW-mo
	Weighted Avg. Energy Cost (E$):	$0.03597	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	4,794	4,794		
Operating Hours:	2,346	2,346		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.53	1.00		
Lamps/Fixture:	2.93	2.76		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	40	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	14,055	13,226		
Replacement Fraction:	12%	12%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	7,322	4,794		
Replacement Fraction:	4%	4%		
POWER AND ENERGY				
Lighting Power	627.68	384.26	243.43	kW
Lighting Energy	1,472,410	901,380	571,030	kWh
Heat displaced	22,946.7	14,047.5	(8,899.2)	therms
Peak cooling load increase	165.18	101.12	64.06	kW
Cooling load increase	97,311	59,572	37,739	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$35,473	$21,716	$13,757	
Electric Energy Cost:	$56,466	$34,567	$21,899	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$14,632	$13,067	$1,565	
Total Operating Cost:	$106,571	$69,350	$37,221	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$112,275	
Labor:			$156,220	
Overhead and Profit (15% on material, 38% on labor)			$75,955	
Total Cost:			$344,450	=$72 /fixt.
				=$72 /bal.
SIMPLE PAYBACK			9.3	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Mazama H.S.

Assumptions			
	Demand Cost (D$):	$4.68	/kW-mo
	Energy Cost (E$):	$0.03240	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	1,697	1,697		
Operating Hours:	2,821	2,821		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.70	1.00		
Lamps/Fixture:	3.14	2.76		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	40	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	5,324	4,689		
Replacement Fraction:	14%	14%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	2,882	1,697		
Replacement Fraction:	5%	5%		
POWER AND ENERGY				
Lighting Power	233.77	135.98	97.79	kW
Lighting Energy	659,568	383,656	275,912	kWh
Heat displaced	10,279.0	5,979.1	(4,300.0)	therms
Peak cooling load increase	61.52	35.78	25.74	kW
Cooling load increase	43,591	25,356	18,235	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$14,280	$8,307	$5,974	
Electric Energy Cost:	$22,782	$13,252	$9,530	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$6,881	$5,566	$1,315	
Total Operating Cost:	$43,944	$27,124	$16,819	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$39,761	
Labor:			$55,300	
Overhead and Profit (15% on material, 38% on labor)			$26,890	
Total Cost:			$121,950	=$72 /fixt.
				=$72 /bal.
SIMPLE PAYBACK			7.3	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Ponderosa J.H.S.

Assumptions		
Demand Cost (D$):	$4.68	/kW-mo
Energy Cost (E$):	$0.03240	/kWh
Heating hours/year:	4,000	hr/yr
Heating efficiency	100%	
Heating cost:	$0.000	/therm
Cooling hours/year:	2,200	hr/yr
Months cooling during peak demand:	4	
Cooling efficiency	3.8	COP
Percent fixtures in conditioned space	100%	
Labor time to replace lamp:	0.0	minutes
Labor time to replace ballast:	61.1	minutes
Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	902	902		
Operating Hours:	2,732	2,732		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.26	1.00		
Lamps/Fixture:	2.40	2.55		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	40	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	2,165	2,298		
Replacement Fraction:	14%	14%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	1,140	902		
Replacement Fraction:	5%	5%		
POWER AND ENERGY				
Lighting Power	94.74	66.63	28.11	kW
Lighting Energy	258,879	182,068	76,812	kWh
Heat displaced	4,034.5	2,837.4	(1,197.1)	therms
Peak cooling load increase	24.93	17.53	7.40	kW
Cooling load increase	17,109	12,033	5,076	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$5,788	$4,070	$1,717	
Electric Energy Cost:	$8,942	$6,289	$2,653	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$2,649	$2,799	($150)	
Total Operating Cost:	$17,378	$13,158	$4,220	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$20,651	
Labor:			$29,393	
Overhead and Profit (15% on material, 38% on labor)			$14,220	
Total Cost:			$64,265	=$71 /fixt. =$71 /bal.
SIMPLE PAYBACK			15.2	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

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Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Mills Elementary

Assumptions			
	Demand Cost (D$):	$5.23	/kW-mo
	Energy Cost (E$):	$0.03430	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	539	539		
Operating Hours:	2,429	2,429		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.58	1.00		
Lamps/Fixture:	3.15	2.66		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	38	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	1,698	1,434		
Replacement Fraction:	12%	12%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	849	539		
Replacement Fraction:	4%	4%		
POWER AND ENERGY				
Lighting Power	71.62	41.36	30.26	kW
Lighting Energy	173,942	100,453	73,489	kWh
Heat displaced	2,710.8	1,565.5	(1,145.3)	therms
Peak cooling load increase	18.85	10.88	7.96	kW
Cooling load increase	11,496	6,639	4,857	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$4,889	$2,824	$2,066	
Electric Energy Cost:	$6,361	$3,673	$2,687	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$1,770	$1,505	$265	
Total Operating Cost:	$13,019	$8,002	$5,018	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$12,492	
Labor:			$17,564	
Overhead and Profit (15% on material, 38% on labor)			$8,520	
Total Cost:			$38,576	=$72 /fixt.
				=$72 /bal.
SIMPLE PAYBACK			7.7	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace Remaining T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at O'Neill (District Administrative Offices)

Assumptions		
Demand Cost (D$):	$5.23	/kW-mo
Energy Cost (E$):	$0.03430	/kWh
Heating hours/year:	4,000	hr/yr
Heating efficiency	100%	
Heating cost:	$0.000	/therm
Cooling hours/year:	2,200	hr/yr
Months cooling during peak demand:	4	
Cooling efficiency	3.8	COP
Percent fixtures in conditioned space	100%	
Labor time to replace lamp:	0.0	minutes
Labor time to replace ballast:	61.1	minutes
Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings
FIXTURES			
Quantity:	80	80	
Operating Hours:	969	969	
Use Factor:	100%	100%	
Ballasts/Fixture:	1.29	1.00	
Lamps/Fixture:	2.58	2.29	
New Fixture Cost (less ballast cost)			
Number of New Fixtures			
LAMPS			
Avg. Watts/Lamp:	37	29	
Life:	20,000	20,000	
Cost each:	$1.57	$2.48	
Quantity:	206	183	
Replacement Fraction:	5%	5%	
BALLASTS			
Watts/ballast	8	-	
Life:	60,000	60,000	
Cost each:	$9.47	$16.56	
Quantity:	103	80	
Replacement Fraction:	2%	2%	
POWER AND ENERGY			
Lighting Power	8.54	5.31	3.24 kW
Lighting Energy	8,275	5,141	3,134 kWh
Heat displaced	129.0	80.1	(48.8) therms
Peak cooling load increase	2.25	1.40	0.85 kW
Cooling load increase	547	340	207 kWh
ANNUAL OPERATING COST			
Total Power Cost:	$583	$362	$221
Electric Energy Cost:	$303	$188	$115
Heating Energy Cost:	$0	$0	$0
Lamp& Ballast O&M Cost:	$86	$86	$0
Total Operating Cost:	$971	$636	$336
IMPLEMENTATION COST			
Materials (lamps and ballasts):			$1,780
Labor:			$2,607
Overhead and Profit (15% on material, 38% on labor)			$1,253
Total Cost:			$5,640 =$71 /fixt. =$71 /bal.
SIMPLE PAYBACK			16.8 years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Roosevelt Elem.

Assumptions			
	Demand Cost (D$):	$3.03	/kW-mo
	Energy Cost (E$):	$0.05110	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	277	277		
Operating Hours:	2,034	2,034		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.29	1.00		
Lamps/Fixture:	2.58	3.12		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	49	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	714	864		
Replacement Fraction:	10%	10%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	357	277		
Replacement Fraction:	3%	3%		
POWER AND ENERGY				
Lighting Power	37.56	25.03	12.53	kW
Lighting Energy	76,416	50,923	25,493	kWh
Heat displaced	1,190.9	793.6	(397.3)	therms
Peak cooling load increase	9.88	6.59	3.30	kW
Cooling load increase	5,050	3,365	1,685	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$1,486	$990	$496	
Electric Energy Cost:	$4,163	$2,774	$1,389	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$623	$680	($57)	
Total Operating Cost:	$6,272	$4,444	$1,828	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$6,735	
Labor:			$9,027	
Overhead and Profit (15% on material, 38% on labor)			$4,426	
Total Cost:			$20,188	=$73 /fixt. =$73 /bal.
SIMPLE PAYBACK			11.0	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

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Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Fairview Elem.

Assumptions			
	Demand Cost (D$):	$3.03	/kW-mo
	Energy Cost (E$):	$0.05110	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	448	448		
Operating Hours:	1,378	1,378		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.49	1.00		
Lamps/Fixture:	2.91	2.99		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	46	30		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	1,302	1,340		
Replacement Fraction:	7%	7%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	668	448		
Replacement Fraction:	2%	2%		
POWER AND ENERGY				
Lighting Power	64.60	39.85	24.76	kW
Lighting Energy	89,045	54,922	34,123	kWh
Heat displaced	1,387.7	855.9	(531.8)	therms
Peak cooling load increase	17.00	10.49	6.51	kW
Cooling load increase	5,885	3,630	2,255	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$2,555	$1,576	$979	
Electric Energy Cost:	$4,851	$2,992	$1,859	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$787	$735	$51	
Total Operating Cost:	$8,192	$5,303	$2,889	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$10,751	
Labor:			$14,599	
Overhead and Profit (15% on material, 38% on labor)			$7,137	
Total Cost:			$32,486	=$73 /fixt.
				=$73 /bal.
SIMPLE PAYBACK			11.2	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Conger Elem.

Assumptions			
	Demand Cost (D$):	$3.03	/kW-mo
	Energy Cost (E$):	$0.05110	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	424	424		
Operating Hours:	1,638	1,638		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.63	1.00		
Lamps/Fixture:	3.26	2.85		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	38	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	1,382	1,207		
Replacement Fraction:	8%	8%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	691	424		
Replacement Fraction:	3%	3%		
POWER AND ENERGY				
Lighting Power	58.51	35.00	23.51	kW
Lighting Energy	95,826	57,327	38,499	kWh
Heat displaced	1,493.4	893.4	(600.0)	therms
Peak cooling load increase	15.40	9.21	6.19	kW
Cooling load increase	6,333	3,789	2,544	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$2,314	$1,384	$930	
Electric Energy Cost:	$5,220	$3,123	$2,097	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$971	$814	$157	
Total Operating Cost:	$8,506	$5,322	$3,184	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$10,023	
Labor:			$13,817	
Overhead and Profit (15% on material, 38% on labor)			$6,732	
Total Cost:			$30,571	=$72 /fixt.
				=$72 /bal.
SIMPLE PAYBACK			9.6	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Pelican Elem.

Assumptions			
	Demand Cost (D$):	$3.03	/kW-mo
	Energy Cost (E$):	$0.05110	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	274	274		
Operating Hours:	1,730	1,730		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.73	1.00		
Lamps/Fixture:	3.45	2.90		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	38	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	946	794		
Replacement Fraction:	9%	9%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	473	274		
Replacement Fraction:	3%	3%		
POWER AND ENERGY				
Lighting Power	39.62	23.00	16.62	kW
Lighting Energy	68,548	39,793	28,755	kWh
Heat displaced	1,068.3	620.1	(448.1)	therms
Peak cooling load increase	10.43	6.05	4.37	kW
Cooling load increase	4,530	2,630	1,900	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$1,567	$910	$657	
Electric Energy Cost:	$3,734	$2,168	$1,566	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$702	$559	$143	
Total Operating Cost:	$6,004	$3,636	$2,367	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$6,512	
Labor:			$8,929	
Overhead and Profit (15% on material, 38% on labor)			$4,355	
Total Cost:			$19,796	=$72 /fixt. =$72 /bal.
SIMPLE PAYBACK			8.4	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

Replace All T12 Lamps and Magnetic Ballasts with T8 Lamps and Electronic Ballasts at Riverside Elem.

Assumptions			
	Demand Cost (D$):	$3.03	/kW-mo
	Energy Cost (E$):	$0.05110	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	153	153		
Operating Hours:	1,680	1,680		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.04	1.00		
Lamps/Fixture:	2.08	2.73		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	55	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	318	417		
Replacement Fraction:	8%	8%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	159	153		
Replacement Fraction:	3%	3%		
POWER AND ENERGY				
Lighting Power	18.71	12.09	6.62	kW
Lighting Energy	31,437	20,321	11,116	kWh
Heat displaced	489.9	316.7	(173.2)	therms
Peak cooling load increase	4.92	3.18	1.74	kW
Cooling load increase	2,078	1,343	735	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$740	$478	$262	
Electric Energy Cost:	$1,713	$1,107	$606	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$229	$298	($68)	
Total Operating Cost:	$2,682	$1,883	$799	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$3,571	
Labor:			$4,986	
Overhead and Profit (15% on material, 38% on labor)			$2,422	
Total Cost:			$10,978	=$72 /fixt.
				=$72 /bal.
SIMPLE PAYBACK			13.7	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

8.1.4 Energy Savings and Project Cost Summary for CFL/Circline Retrofit

Install Fixed Wattage Compact Fluorescent Lamps In Standard Incandescent Fixtures for School District

Assumptions			
	Weighted Avg. Demand Cost (D$):	$4.33	/kW-mo
	Weighted Avg. Energy Cost (E$):	$0.03597	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency (geothermal):	100.0	
	Heating cost (electric):	$0.00	/kWh
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	10.4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	9.3	minutes
	Labor time to replace ballast:	9.3	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	375	375		
Operating Hours:	1,487	1,487		hr/yr
Use Factor:	100%	100%		
Percent on During Peak:	33%	33%		
Ballasts/Fixture:	-	-		
Lamps/Fixture:	1	1		
New Fixture Cost (less ballast cost and rebate)		$34.68		
Number of New Fixtures		150		
LAMPS				
Watts/Lamp:	83.8	19.7		
Life:	1,000	15,000		hrs
Cost each:	$1.00	$9.50		
Quantity:	388	388		
Replacement Fraction:	149%	10%		
BALLASTS				
Watts/ballast	0	0		
Life:	60,000	60,000		hrs
Cost each:	$0.00	$0.00		
Quantity:	0	0		
Replacement Fraction:	2%	2%		
POWER AND ENERGY				
Nameplate Power (FYI only):	32.5	7.7	24.8	kW
Lighting Power	10.7	2.5	8.2	kW
Lighting Energy	48,324	11,386	36,938	kWh
Heat displaced	753	177	(575.7)	therms
Peak cooling load increase	2.8	0.7	2.2	kW
Cooling load increase	3,194	752	2,441	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$684	$161	$523	
Electric Energy Cost:	$1,853	$437	$1,417	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$3,438	$556	$2,882	
Total Operating Cost:	$5,975	$1,154	$4,821	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$8,888	
Labor:			$1,924	
Overhead and Profit (15% on material, 38% on labor)			$2,061	
Total Cost:			$12,874	=$34 /fixt.
SIMPLE PAYBACK			2.7	years

Material costs are based on Grainger Catalog No. 389 and include sales tax and shipping, except that standard material cost was adjusted to match quote from WEST-LITE Supply Co., provided by client. Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

8.1.5 Energy Savings and Project Cost Summary for Large Incandescent to Linear Fluorescent Retrofit

Replace High Wattage Incandescents with T-8 Lamps and Electronic Ballasts for Entire School District

Assumptions			
	Weighed Avg. Demand Cost (D$):	$4.33	/kW-mo
	Weighed Avg. Energy Cost (E$):	$0.03597	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	144	144		
Operating Hours:	1,622	1,622		
Use Factor:	100%	100%		
Ballasts/Fixture:	-	1.00		
Lamps/Fixture:	1.00	1.91		
New Fixture Cost (less ballast cost)		$61.50		
Number of New Fixtures		144		
LAMPS				
Avg. Watts/Lamp:	281	29		
Life:	1,000	20,000		
Cost each:	$4.04	$2.48		
Quantity:	144	275		
Replacement Fraction:	162%	8%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	0	144		
Replacement Fraction:	3%	3%		
POWER AND ENERGY				
Lighting Power	40.40	7.98	32.43	kW
Lighting Energy	65,542	12,938	52,604	kWh
Heat displaced	1,021.4	201.6	(819.8)	therms
Peak cooling load increase	10.63	2.10	8.53	kW
Cooling load increase	4,332	855	3,477	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$2,283	$451	$1,832	
Electric Energy Cost:	$2,513	$496	$2,017	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$945	$247	$698	
Total Operating Cost:	$5,741	$1,194	$4,548	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$11,925	
Labor:			$4,692	
Overhead and Profit (15% on material, 38% on labor)			$3,564	
Total Cost:			$20,181	=$140 /fixt.
				=$140 /bal.
SIMPLE PAYBACK			4.4	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

8.1.6 Energy Savings and Project Cost Summary for Exterior HID Retrofit

Replace Remaining Mercury Vapor & High Wattage Incand. Exterior Lights with HPS Fixtures for School District

Assumptions			
	Weighed Avg. Demand Cost (D$):	$4.33	/kW-mo
	Weighed Avg. Energy Cost (E$):	$0.03597	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency (geothermal):	100.0	
	Heating cost (electric):	$0.00	/kWh
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	10.4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0	minutes
	Labor time to replace fixt/lamp/ballast:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	69	69		
Operating Hours:	4,264	4,264		hr/yr
Use Factor:	100%	100%		
Percent on During Peak:	0%	0%		
Ballasts/Fixture:	-	-		
Lamps/Fixture:	1	1		
New Fixture Cost (less ballast cost and rebate)		$99.50		
Number of New Fixtures		34		
LAMPS				
Avg. Watts/Lamp:	246.0	99.0		
Life:	24,000	24,000		hrs
Cost each:	$18.94	$29.60		
Quantity:	69	69		
Replacement Fraction:	18%	18%		
BALLASTS				
Watts/ballast	0	0		
Life:	60,000	60,000		hrs
Cost each:	$0.00	$15.29		
Quantity:	0	0		
Replacement Fraction:	7%	7%		
POWER AND ENERGY				
Nameplate Power (FYI only):	17.0	6.8	10.1	kW
Lighting Power	0.0	0.0	0.0	kW
Lighting Energy	72,375	29,121	43,254	kWh
Heat displaced	1,128	454	(674.1)	therms
Peak cooling load increase	0.0	0.0	0.0	kW
Cooling load increase	4,783	1,925	2,859	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$0	$0	$0	
Electric Energy Cost:	$2,776	$1,117	$1,659	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$232	$363	($131)	
Total Operating Cost:	$3,008	$1,480	$1,528	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$5,425	
Labor:			$0	
Overhead and Profit (15% on material, 38% on labor)			$814	
Total Cost:			$6,239	=$90 /fixt.
SIMPLE PAYBACK			4.1	years

Material costs are based on Grainger Catalog No. 389 and include sales tax and shipping, except that standard material cost was adjusted to match quote from WEST-LITE Supply Co., provided by client. Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

8.1.7 Energy Savings and Project Cost Summary for Incandescent Lamp Removal Retrofit

Remove High Wattage Incandescent Fixtures in Gymnasiums at All Schools

Assumptions			
	Weighted Avg. Demand Cost (D$):	$4.33	/kW-mo
	Weighted Avg. Energy Cost (E$):	$0.03597	/kWh
	Heating hours/year:	-	hr/yr
	Heating efficiency	85%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	8,760	hr/yr
	Months cooling during peak demand:	12	
	Cooling efficiency	4.4	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to disconnect fixture:	15.0	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	47	47		
Operating Hours:	689	-		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.00	1.00		
Lamps/Fixture:	1.00	1.00		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Watts/Lamp:	400	-		
Life:	1,000	438,000		
Cost each:	$7.42	$0.00		
Quantity:	47	47		
Replacement Fraction:	69%	0%		
BALLASTS				
Watts/ballast	-	-		
Life:	60,000	438,000		
Cost each:	$0.00	$0.00		
Quantity:	47	47		
Replacement Fraction:	1%	0%		
POWER AND ENERGY				
Lighting Power	18.80	0.00	18.80	kW
Lighting Energy	12,957	0	12,957	kWh
Heat displaced	0.0	0.0	0.0	therms
Peak cooling load increase	4.27	1.44	2.83	kW
Cooling load increase	2,945	-	2,945	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$1,199	$75	$1,124	
Electric Energy Cost:	$572	$0	$572	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$245	$0	$245	
Total Operating Cost:	$2,015	$75	$1,941	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$0	
Labor:			$376	
Overhead and Profit (15% on material, 38% on labor)			$142	
Total Cost:			$518	=$11 /fixt. =$11 /bal.
SIMPLE PAYBACK			0.3	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

8.1.8 Energy Savings and Project Cost Summary for Fixture Replacement Retrofit (O'Neill)

Replace H-Shaped T12 Fixtures at O'Neill (Administrative Offices) with 3 Lamp, T8 Fixtures and Elec Ballasts

Assumptions			
	Demand Cost (D$):	$5.23	/kW-mo
	Energy Cost (E$):	$0.03430	/kWh
	Heating hours/year:	4,000	hr/yr
	Heating efficiency	100%	
	Heating cost:	$0.000	/therm
	Cooling hours/year:	2,200	hr/yr
	Months cooling during peak demand:	4	
	Cooling efficiency	3.8	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to replace fixture:	61.1	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	116	116		
Operating Hours:	2,340	2,340		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.00	1.00		
Lamps/Fixture:	2.00	3.00		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Avg. Watts/Lamp:	117	29		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	232	348		
Replacement Fraction:	12%	12%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$16.56		
Quantity:	116	116		
Replacement Fraction:	4%	4%		
POWER AND ENERGY				
Lighting Power	28.01	10.09	17.92	kW
Lighting Energy	65,548	23,615	41,933	kWh
Heat displaced	1,021.5	368.0	(653.5)	therms
Peak cooling load increase	7.37	2.66	4.72	kW
Cooling load increase	4,332	1,561	2,771	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$1,912	$689	$1,223	
Electric Energy Cost:	$2,397	$864	$1,533	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$233	$324	($91)	
Total Operating Cost:	$4,542	$1,876	$2,666	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$2,786	
Labor:			$3,780	
Overhead and Profit (15% on material, 38% on labor)			$1,848	
Total Cost:			$8,415	=$73 /fixt.
				=$73 /bal.
SIMPLE PAYBACK			3.2	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

8.1.9 Energy Savings and Project Cost Summary for Ballast Disconnection at Roosevelt

Disconnect Ballasts in Already De-lamped Fixtures in Hallways at Roosevelt

Assumptions			
	Demand Cost (D$):	$3.03	/kW-mo
	Energy Cost (E$):	$0.05110	/kWh
	Heating hours/year:	-	hr/yr
	Heating efficiency	85%	
	Heating cost	$0.000	/therm
	Cooling hours/year:	8,760	hr/yr
	Months cooling during peak demand:	12	
	Cooling efficiency	4.4	COP
	Percent fixtures in conditioned space	100%	
	Labor time to replace lamp:	0.0	minutes
	Labor time to disconnect ballast:	5.2	minutes
	Labor Cost ($/H):	$32.00	/hour

	Existing	Proposed	Savings	
FIXTURES				
Quantity:	66	66		
Operating Hours:	2,436	2,436		
Use Factor:	100%	100%		
Ballasts/Fixture:	1.00	1.00		
Lamps/Fixture:	-	-		
New Fixture Cost (less ballast cost)				
Number of New Fixtures				
LAMPS				
Watts/Lamp:	-	-		
Life:	20,000	20,000		
Cost each:	$1.57	$2.48		
Quantity:	0	0		
Replacement Fraction:	12%	12%		
BALLASTS				
Watts/ballast	8	-		
Life:	60,000	60,000		
Cost each:	$9.47	$0.00		
Quantity:	66	66		
Replacement Fraction:	4%	4%		
POWER AND ENERGY				
Lighting Power	0.53	0.00	0.53	kW
Lighting Energy	1,286	0	1,286	kWh
Heat displaced	0.0	0.0	0.0	therms
Peak cooling load increase	0.12	1.44	(1.32)	kW
Cooling load increase	292	-	292	kWh
ANNUAL OPERATING COST				
Total Power Cost:	$24	$52	($29)	
Electric Energy Cost:	$81	$0	$81	
Heating Energy Cost:	$0	$0	$0	
Lamp& Ballast O&M Cost:	$33	$0	$33	
Total Operating Cost:	$137	$52	$85	
IMPLEMENTATION COST				
Materials (lamps and ballasts):			$0	
Labor:			$183	
Overhead and Profit (15% on material, 38% on labor)			$69	
Total Cost:			$252	=$4 /fixt.
				=$4 /bal.
SIMPLE PAYBACK			3.0	years

Material costs are based on Grainger Catalog No. 389 or 391 and include sales tax and shipping.
Labor time is based on Means Maintenance & Repair Cost Estimator 1998.

SCHEDULE B
To
FORM UCC-1 Financing Statement

Klamath Falls City School District, Oregon, as Debtor
LaSalle Bank National Association, as Secured Party

The legal description(s) of the real estate is:

See attached Exhibit A for Legal Descriptions.

The name of the record owner is:
(if Debtor does not have an interest of record in the real estate)

EXHIBIT A

28084

Sale or Closure Planned	Year Built	School
No	1928	Joseph Conger Elementary School 1700 California Klamath Falls, OR 97601
No	1928	Fairview Elementary School 1017 Donald Street Klamath Falls, OR 97601
No	1909	Mills Elementary School 520 East Main Street Klamath Falls, OR 97601
No	1923	Pelican Elementary School 501 McLean Street Klamath Falls, OR 97601
No	1911	Riverside Elementary School 707 Cypress Street Klamath Falls, OR 97601
No	1923	Roosevelt Elementary School 1125 Eldorado Avenue Klamath Falls, OR 97601
No	1961	Ponderosa Junior High School 2554 Main Street Klamath Falls, OR 97601
No	1961	Mazama High School 3009 Summers Lane Klamath Falls, OR 97603
No	1959	District Office 1336 Avalon Klamath Falls, OR 97603

28085

Conger 1/2

- - Property Data Selection Menu - -

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R757513 (Real Estate)
Map Tax Lot: R-3809-029CB-01500-000
Legal : BUENA VISTA ADDITION, BLOCK 116 & 117. LOT 1-12 BLK 116 & 1-12 BLK*

Situs : 1700 CALIFORNIA
KLAMATH FALLS, OR 97601
Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 70-214
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

Year Built :
Living Area: 38354

2002 Roll Values

Improvements	$	1,288,200	(+)
Land	$	55,600	(+)
Appraised	$	1,343,800	(=)
Exemptions	$	1,343,800	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: _

1 Sess-1 172.16.0.1 1 23/43

28086

2 of 2

- - Property Primary Information - -

1. Property ID : R757513 (Real Estate) Last Changed: 02/27/03
Legal Description: BUENA VISTA ADDITION, BLOCK 116 & 117, LOT 1-12 BLK 116 & 1-12 BLK 117 LESS NWLY POR TO ST HWY COMM

2. Owner ID: 57228
SCHOOL DISTRICT #1
475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

3. Code Area : 001
4. Exemptions: EX

5. Map TaxLot: R-3809-029CB-01500-000
6. Map ID : 3809

7. Comment :

8. Names :

9. Situs : 1700 CALIFORNIA
KLAMATH FALLS, OR 97601

10. Alt Acct Num :
11. Property Class: 921B

12. Neighborhood : 1B20
13. Franchise Code:
14. Process Status:
15. Account Status: A (Active)
Appraise Value: $1,382,450

Enter 'STAT' for Status Code, 'L' for Legal Screen, 'SA' for Situs Addr., Field Number, or <RET> to Exit: ___

1 Sess-1 172.16.0.1 1 23/33

28087

Mills 1 of 2

* - - Property Data Selection Menu - -

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R767192 (Real Estate)
Map Tax Lot: R-3809-033AC-03000-000
Legal : MILLS, BLOCK 100 & BLOCK 15
INDUSTRIAL. LOT 300-315 & VAC HOME*

Situs :
Year Built :
Living Area:

Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 76-47
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

2002 Roll Values

Improvements	$	0	(+)
Land	$	0	(+)
Appraised	$	0	(=)
Exemptions	$	0	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp	(Y) primarY	(S)econdary	(L)and/Impr
(G)en Appr	(O)wnership	(H)istory	(,) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

28088

2 of 2

- - Property Primary Information - -

1. Property ID : R767192 (Real Estate) Last Changed: 01/09/92
Legal Description: MILLS, BLOCK 100 & BLOCK 15 INDUSTRIAL, LOT 300-315 & VAC HOME AVE

2. Owner ID: 57228
SCHOOL DISTRICT #1
475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

8. Names :

9. Situs :

3. Code Area : 001
4. Exemptions: EX
5. Map TaxLot: R-3809-033AC-03000-000
6. Map ID : 3809
7. Comment :

10. Alt Acct Num :
11. Property Class: 920A
12. Neighborhood : 6A10
13. Franchise Code:
14. Process Status:
15. Account Status: A (Active)
Appraise Value: $0

Enter 'STAT' for Status Code, 'L' for Legal Screen, 'SA' for Situs Addr., Field Number, or <RET> to Exit: ___

1 Sess-1 172.16.0.1 1 23/33

28089

Pelican

* - - Property Data Selection Menu - -

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R696633 (Real Estate)
Map Tax Lot: R-3809-019DB-00200-000
Legal : KLAMATH LAKE, BLOCK POR 1 ALL 3 & 4
POR 6, LOT 1 THRU 6 ALSO ADJ VAC ST

Situs : 501 MCLEAN ST
KLAMATH FALLS, OR 97601

Year Built :
Living Area: 17940

Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 271-30
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

2002 Roll Values

Improvements	$	1,161,000	(+)
Land	$	50,400	(+)
Appraised	$	1,211,400	(=)
Exemptions	$	1,211,400	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

28090

Riverside

- - Property Data Selection Menu - -

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R770883 (Real Estate)
Map Tax Lot: R-3809-032CB-02700-000
Legal : RIVERSIDE, BLOCK 11 & 12

Situs : 707 CYPRESS
KLAMATH FALLS, OR 97601
Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 41-76
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

Year Built :
Living Area: 14678

2002 Roll Values

Improvements	$	755,500	(+)
Land	$	54,770	(+)
Appraised	$	810,270	(=)
Exemptions	$	810,270	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

28091

Roosevelt

* - - Property Data Selection Menu - -

Prop ID : R755356 (Real Estate)
Map Tax Lot: R-3809-028BC-04800-000
Legal : HOT SPRINGS, BLOCK 34, LOT 1 THRU 22. ACRES 4.06

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Situs : 1125 ELDORADO BLVD
KLAMATH FALLS, OR 97601
Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 74-82
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

Year Built :
Living Area:

2002 Roll Values			
Improvements	$	0	(+)
Land	$	0	(+)
Appraised	$	0	(=)
Exemptions	$	0	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

28092

Pondrosa 1 of 2

- - Property Data Selection Menu - -

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R764159 (Real Estate)
Map Tax Lot: R-3809-033AA-00100-000
Legal : TWP 38 RNGE 9, BLOCK SEC 33, TRACT POR NE4NE4 UNPLATTED LESS HWY.*

Situs : 2554 MAIN ST
KLAMATH FALLS, OR 97601
Year Built :
Living Area:
Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 327-289
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

2002 Roll Values

Improvements	$	0	(+)
Land	$	0	(+)
Appraised	$	0	(=)
Exemptions	$	0	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

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2 of 2

- - Property Primary Information - -

Property ID : R764159 (Real Estate) Last Changed: 08/01/01
1. Legal Description: TWP 38 RNGE 9, BLOCK SEC 33, TRACT POR NE4NE4 UNPLATTED LESS HWY, ACRES 29.95

2. Owner ID: 57228
SCHOOL DISTRICT #1
475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

8. Names :

9. Situs : 2554 MAIN ST
KLAMATH FALLS, OR 97601

3. Code Area : 001
4. Exemptions: EX

5. Map TaxLot: R-3809-033AA-00100-000
6. Map ID : 3809

7. Comment :

10. Alt Acct Num :
11. Property Class: 920A

12. Neighborhood : 6A15
13. Franchise Code:
14. Process Status:
15. Account Status: A (Active)
Appraise Value: $0

Enter 'STAT' for Status Code, 'L' for Legal Screen, 'SA' for Situs Addr., Field Number, or <RET> to Exit: ___

1 Sess-1 172.16.0.1 1 23/33

28094

Mayama

* - - Property Data Selection Menu - -

Prop ID : R795875 (Real Estate)
Map Tax Lot: R-3909-011BB-00100-000
Legal : TWP 39 RNGE 9, BLOCK SEC 11, TRACT POR HOMEDALE, ACRES 24.70

Owner: UNION HIGH SCHOOL
(69443) DISTRICT NO 2
475 S ALAMEDA
KLAMATH FALLS, OR 97601

Situs : 3009 SUMMERS LN
KLAMATH FALLS, OR 97603
Name(s) :
Code Area : 041
Sale Info :
Deed Type :
Instrument: NO DEED REF
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments : 24.00
2003-04 SB125 Taxes :

Year Built :
Living Area:

2002 Roll Values			
Improvements	$	138,560	(+)
Land	$	131,200	(+)
Appraised	$	269,760	(=)
Exemptions	$	269,760	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

28095

District Office

* - - Property Data Selection Menu - -

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R444371 (Real Estate)
~~Map Tax~~ Lot: R-3809-034CC-00100-000
Legal : ENTERPRISE TRACTS, LOT 37 & 38A LY S OF EBERLEIN ST, ACRES 19.14

Situs : 1336 AVALON ST
KLAMATH FALLS, OR 97603

Year Built : 1960
Living Area: 29106

Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 250-234
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

2002 Roll Values

Improvements	$	1,314,410	(+)
Land	$	1,221,900	(+)
Appraised	$	2,536,310	(=)
Exemptions	$	2,536,310	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istorV	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43

28096

Fairview

* -- Property Data Selection Menu --

Owner: SCHOOL DISTRICT #1
(57228) 475 SOUTH ALAMEDA
KLAMATH FALLS, OR 97601

Prop ID : R757595 (Real Estate)
Map Tax Lot: R-3809-029DB-07900-000
Legal : FAIRVIEW, BLOCK 5, LOT ALL, LOTS 5-6 OF BLK 8 & VAC FULTON ST

Situs : 1017 DONALD ST
KLAMATH FALLS, OR 97601

Year Built :
Living Area: 31682

Name(s) :
Code Area : 001
Sale Info :
Deed Type :
Instrument: 93-311
2002 Tax Status * No Taxes Due *
Current Levied Taxes : 0.00
Special Assessments :
2003-04 SB125 Taxes :

2002 Roll Values

Improvements	$	1,169,900	(+)
Land	$	118,540	(+)
Appraised	$	1,288,440	(=)
Exemptions	$	1,288,440	(-)
Taxable RMV	$	0	(=)
M50 Assessed	$	0	

(AD) Alt Disp (G)en Appr	(Y) primarY (O)wnership	(S)econdary (H)istory	(L)and/Impr (.) More

Enter Option from Above or <RET> to Exit: __

1 Sess-1 172.16.0.1 1 23/43