

Requirement Detail

by Asset Name and Category

HEMECROFT

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft - Parking
Asset Number: 475a

Requirement Name	Vehicular Paving: South and East Lots/Play Areas		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2007	Total Estimated Cost:	283,200
Funding Year	-	Funding Type	-
Requirement Location	South and East Lots and Play Area	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Very poor condition, needs reconstruction.

PHOTOS

ACTION DESCRIPTION

Reconstruct parking and play areas on South and East sides of school.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft - Parking
Asset Number: 475a

Requirement Name	Vehicular Paving: North Parking Lot		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2007	Total Estimated Cost:	3,540
Funding Year	-	Funding Type	-
Requirement Location	North Parking Lot	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Settled trench in north parking lot.

PHOTOS

ACTION DESCRIPTION

Repair settled trench in north parking lot.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft - Parking
Asset Number: 475a

Requirement Name	Vehicular Paving: North and West Parking Lots		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2007	Total Estimated Cost:	7,080
Funding Year	-	Funding Type	-
Requirement Location	North and West Parking Lots	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Some cracks need sealing, pavement surface needs seal coat.

PHOTOS

ACTION DESCRIPTION

Crack seal and seal coat North and West Parking Lots.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft - Parking
Asset Number: 475a

Requirement Name	Vehicular Paving: North and West Parking Lots		
Linked System	Parking Lots	Inspection Date	08/01/2006
Prime System	Paving and Surfacing	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2012	Total Estimated Cost:	35,400
Funding Year	-	Funding Type	-
Requirement Location	North and West Parking Lots	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Parking lots will need overlay in 6-10 years.

PHOTOS

ACTION DESCRIPTION

Overlay north parking lot and west parking lot in 6-10 years.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Accessibility

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Equipment and Furnishings: Accessibility	
Linked System	Equipment and Furnishings	Inspection Date 11/12/2006
Prime System	Equipment and Furnishings	Finish Date -
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status Open
Inspector Name	JQP Inc.	Actual Cost 0
Action Date	11/12/2009	Total Estimated Cost: 31,160
Funding Year	-	Funding Type -
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$ -
Savings Description	-	

REQUIREMENT DESCRIPTION

This requirement includes accessibility issues related to high public use areas of the school, including auditoriums, stadiums, gymnasiums, ticket counters, and the main office. Items include: providing wheelchair viewing positions, providing access to the stage, providing an assistive listening system and lowering counters.

It also includes accessibility issues found in Specialty Areas (science labs, cooking labs, industrial arts areas, as well as the media center/library). Items include: providing accessible work stations in kitchens, providing accessible labs and lowering eyewashes.

PHOTOS



Equipment and Furnishings: Accessibility

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ACTION DESCRIPTION

Correct accessibility issues as required.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Accessibility

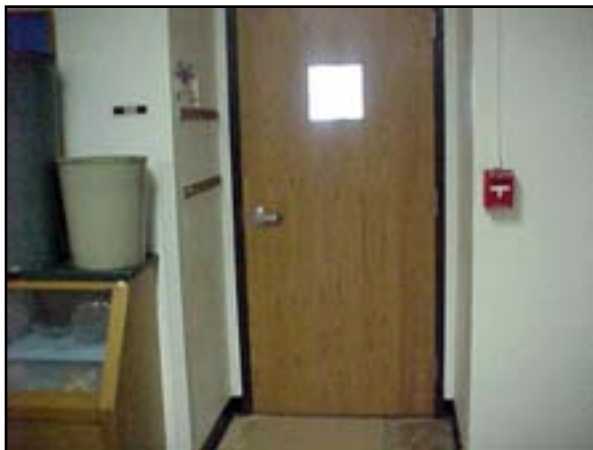
Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Interior Construction: Accessibility		
Linked System	Interior Construction	Inspection Date	11/12/2006
Prime System	Interior Construction	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	JQP Inc.	Actual Cost	0
Action Date	11/12/2009	Total Estimated Cost:	7,554
Funding Year	-	Funding Type	-
Requirement Location	Interior	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

This requirement includes accessibility issues encountered while you move through the school. Items include: providing elevator or ramp, adding/modifying handrails (only if the level is not served by an elevator or other accessible route), widening doors, replacing door hardware, eliminating protruding hazards and all permanent room identification signage as well as directional signage (adding signs, replacing signs and relocating signs).

PHOTOS



Interior Construction: Accessibility

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ACTION DESCRIPTION

Make necessary modifications to correct accessibility issues as needed.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Accessibility

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Plumbing: Accessibility	Inspection Date	11/12/2006
Linked System	Plumbing	Finish Date	-
Prime System	Plumbing	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	JQP Inc.	Total Estimated Cost:	24,434
Action Date	11/12/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Plumbing throughout		
Savings Description	-		

REQUIREMENT DESCRIPTION

This requirement includes accessibility issues in toilet rooms, locker/shower rooms and drinking fountains. All requirements for upgrading a toilet or locker/shower room are included in this category, even if they are not plumbing (i.e. relocating stall partitions to provide 60 in. wide stall, relocating toilet paper dispenser or grab bars, etc.). Items include: replacing drinking fountains, raising/lowering toilets, installing grab bars, relocating toilet paper or towel dispensers, adding handheld shower wands, and providing 60 in. wide fully compliant toilet stalls.

Note: the actual cost to complete work in toilet rooms may be increased by a decision to do work beyond what is required for accessibility, such as re-tiling, replacing all fixtures, replacing all stall partitions, etc.

PHOTOS



Plumbing: Accessibility

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ACTION DESCRIPTION

Upgrades as needed to meet plumbing accessibility requirements.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Accessibility

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Site Improvements: Accessibility		
Linked System	Site Improvements	Inspection Date	11/12/2006
Prime System	Site Improvements	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	JQP Inc.	Actual Cost	0
Action Date	11/12/2009	Total Estimated Cost:	7,697
Funding Year	-	Funding Type	-
Requirement Location	Exterior	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

This requirement includes accessibility issues from the moment you are on school grounds until you get to the front door. Items include: adding and identifying accessible parking and adding or modifying accessible routes (sidewalks).

PHOTOS



Site Improvements: Accessibility

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ACTION DESCRIPTION

Correct exterior accessibility issues as required.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Air and Water Quality

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC - Dehumidification Chiller and Piping Mains		
Linked System	Chilled Water Distribution	Inspection Date	07/12/2006
Prime System	Chilled Water Distribution	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	256,650
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Homecroft Elementary School has no means of dehumidification. Without dehumidification capabilities, these spaces cannot meet ASHRAE 55-1992 space design conditions.

PHOTOS



HVAC - Dehumidification Chiller and Piping Mains

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ACTION DESCRIPTION

Addition of an air cooled chiller, pumps, and insulated chilled water pipe distribution system. Chiller to be screened for appearance purposes.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Air and Water Quality

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Replace Classroom Unit Ventilators		
Linked System	Air Distribution Systems	Inspection Date	07/12/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	6- Does Not Meet Current Codes/Standards	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	317,656
Funding Year	-	Funding Type	-
Requirement Location	1952 old Library, 1956 Addition, and 1963 Addition	Annual Energy/Ops Savings \$	609
Savings Description	Energy savings will be generated by using heat exchangers to recover exhaust air energy in order to pre-condition make-up air. In addition, each classroom occupancy controls will reduce ventilation rates and control the lighting to save energy when rooms are not in use. Additional energy will be consumed to provide dehumidification during the cooling months.		

REQUIREMENT DESCRIPTION

The seven (7) classroom unit ventilators are 43-54 years old and have exceeded the recommended useful life. In addition, these classroom unit ventilators are typically not capable of meeting current ASHRAE indoor air quality standards. As part of this upgrade, the new mechanical system will incorporate heat recovery and classroom occupancy / CO2 controls to save energy.

In addition the old teachers lounge and surrounding area has no means of ventilation. This does not meet 2000 International Mechanical Code.

PHOTOS



HVAC: Replace Classroom Unit Ventilators

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ACTION DESCRIPTION

All Costs in USD.

Remove existing classroom unit ventilators, patch wall to match existing. Replace with modern ventilation system with energy recovery with dehumidification, duct distribution system, and variable air volume boxes with hot water reheat coils and hot water finned tube radiation on exterior walls. Upgrade the controls systems to DDC and commission the new system.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Air and Water Quality

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Plumbing: Replace Galvanized Domestic Water Piping		
Linked System	Domestic Water Distribution	Inspection Date	07/12/2006
Prime System	Domestic Water Distribution	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/12/2007	Total Estimated Cost:	172,162
Funding Year	-	Funding Type	-
Requirement Location	Barnes Wing - 1952 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The 54 year old domestic water distribution piping consists of galvanized piping which is connected via lead based solder. Current flushing procedures have maintained lead levels at an acceptable level. As the piping continues to age, this may not be possible.

During this process the domestic water piping system from the 1993 building would be connected to the Barnes 1960 Building and the 1962 Addition which would allow for a single hot water plant.

There are also two extra small toilets, one in the boys and one in the girls that are difficult to use.

PHOTOS



Plumbing: Replace Galvanized Domestic Water Piping

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ACTION DESCRIPTION

Remove all galvanized domestic water distribution piping as well as faucets and fixtures containing lead solder. Install insulated copper piping and fixtures/faucets where required. Wall cutting and patching would be required.

Interconnect the domestic water systems from the 1960 Barnes Wing and the 1962 Addition to the 1993 Addition.

All Costs in USD.

Replace the two (2) extra small water closets in the 1960 Barnes Wing.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Appearance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Fittings: Refinish Wood Casework		
Linked System	Fittings	Inspection Date	08/07/2006
Prime System	Fittings	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2012	Total Estimated Cost:	55,012
Funding Year	-	Funding Type	-
Requirement Location	1952, 1956, 1963 additions classrooms	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Wood open and closed storage casework and countertops are dated, worn and drab in appearance.

PHOTOS



Fittings: Refinish Wood Casework

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ACTION DESCRIPTION

Refinish existing wood open and closed storage casework. (and replace plastic laminate countertops). Approximately 700 L.F. casework.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Appearance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Interior Doors: Refinish Wood Doors		
Linked System	Interior Doors	Inspection Date	08/07/2006
Prime System	Interior Doors	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2012	Total Estimated Cost:	3,983
Funding Year	-	Funding Type	-
Requirement Location	1952, 1956, 1963 additions, classroom/offices	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing interior wood door finish is beyond useful life and worn.

PHOTOS



Interior Doors: Refinish Wood Doors

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ACTION DESCRIPTION

Refinish existing interior wood doors. Approximately 55 doors.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Appearance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Site Improvements: General Landscaping	Inspection Date	10/03/2006
Linked System	Site Improvements	Finish Date	-
Prime System	Site Improvements	Status	Open
Priority	2- Potentially Critical (1-2 Yrs)	Actual Cost	0
Inspector Name	Northern Lights Landscaping	Total Estimated Cost:	1,326
Action Date	10/03/2007	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Property around facility		
Savings Description	-		

REQUIREMENT DESCRIPTION

There are areas around the facility (lawn, trees, shrubs and perennials) that require care to improve appearance. There are negative slope areas around the facility bringing drainage towards the facility instead of away from the facility. There are lawn areas around the immediate building requiring restoration.

PHOTOS

ACTION DESCRIPTION

Pruning, cultivating and mulching of existing trees, shrubs and perennials. Correct negative slope around foundations by installing soil and sod. Restore lawn at stressed and/or non existing lawn areas around immediate building by installing soil and sod.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Appearance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Wall Finishes: Paint Interior	Inspection Date	08/07/2006
Linked System	Wall Finishes	Finish Date	-
Prime System	Wall Finishes	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Siddens, Lance	Total Estimated Cost:	86,403
Action Date	08/07/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Interior		
Savings Description	-		

REQUIREMENT DESCRIPTION

Paint entire interior wall surfaces.

PHOTOS



Wall Finishes: Paint Interior

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ACTION DESCRIPTION

Paint all interior wall surfaces.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Asbestos

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Floor Finishes: Replace Vinyl Asbestos Tile (VAT)		
Linked System	Floor Finishes	Inspection Date	08/07/2006
Prime System	Floor Finishes	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2012	Total Estimated Cost:	108,088
Funding Year	-	Funding Type	-
Requirement Location	Corridors 1952 and 1963 additions, Main Office, Nurse Office, and associated toilets/ work room and classroom 123, cafeteria/kitchen, toilets in 126 and 127	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Vinyl Asbestos Tile exists in quantity in the above noted areas.

PHOTOS



Floor Finishes: Replace Vinyl Asbestos Tile (VAT)

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ACTION DESCRIPTION

Replace existing VAT with VCT Approximately 11,000 S.F.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Asbestos

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Hazardous Components: Abatement	Inspection Date	07/01/2006
Linked System	Hazardous Components Abatement	Finish Date	-
Prime System	Hazardous Components Abatement	Status	Open
Priority	1- Currently Critical (Immediately)	Actual Cost	0
Inspector Name	Wormuth, Kevin	Total Estimated Cost:	22,420
Action Date	07/01/2006	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Entire Facility		
Savings Description	-		

REQUIREMENT DESCRIPTION

This facility was built when asbestos was a common component of many building materials. The majority of asbestos in this facility was part of the insulating materials. Some has been abated, but in some areas it is still present.

PHOTOS

ACTION DESCRIPTION

Abatement of asbestos containing materials throughout facility.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Ceiling Finishes: Replace Acoustical Tile		
Linked System	Ceiling Finishes	Inspection Date	08/07/2006
Prime System	Ceiling Finishes	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2012	Total Estimated Cost:	111,982
Funding Year	-	Funding Type	-
Requirement Location	First Floor Classrooms, Corridors, 1952, 1956, and 1963 additions	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

2X4 suspended acoustical tile is beyond useful life and district standardization goal is to convert to 2X2 suspended acoustical tile.

PHOTOS



Ceiling Finishes: Replace Acoustical Tile

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ACTION DESCRIPTION

Replace 2 X 4 suspended acoustical tile and grid with 2 X 2 suspended acoustical tile and grid, Approximately 19,000 S. F.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Ceiling Finishes: Replace Acoustical Tile		
Linked System	Ceiling Finishes	Inspection Date	08/07/2006
Prime System	Ceiling Finishes	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2012	Total Estimated Cost:	59,590
Funding Year	-	Funding Type	-
Requirement Location	1963 Addition rooms 101, 102, B1, B3, 1952 addition rooms: Main Office, Nurse, Bookroom, Workroom, Gymnasium, Stage, Cafeteria	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

12 X 12 Adhesive applied acoustical tile is beyond useful life and dated.

PHOTOS



Ceiling Finishes: Replace Acoustical Tile

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ACTION DESCRIPTION

Replace 2X2 adhesive applied acoustical tile and replace with 2x2 suspended acoustical tile. Approximately 13,000 S.F.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Exterior Doors: Replace Wood Doors		
Linked System	Exterior Doors	Inspection Date	08/07/2006
Prime System	Exterior Doors	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2009	Total Estimated Cost:	20,001
Funding Year	-	Funding Type	-
Requirement Location	1952 Addition- NE Entry, Boiler Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing Panel wood doors are original, uninsulated and beyond useful life.

PHOTOS



Exterior Doors: Replace Wood Doors

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Exterior Doors: Replace Wood Doors

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All Costs in USD.

ACTION DESCRIPTION

Replace original exterior panel wood doors with aluminum full glass insulated (entries) and flush hollow metal insulated galvanized (non-entry). Approximately 5 doors.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Floor Finishes: Replace Carpet	Inspection Date	08/07/2006
Linked System	Floor Finishes	Finish Date	-
Prime System	Floor Finishes	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Siddens, Lance	Total Estimated Cost:	117,358
Action Date	08/07/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Classrooms 1952, 1956, 1963 additions		
Savings Description	-		

REQUIREMENT DESCRIPTION

All classroom carpet, in general is worn and deteriorating

PHOTOS



Floor Finishes: Replace Carpet

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ACTION DESCRIPTION

Replace existing carpet with new carpet or VCT approximately 16,000 S.F.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Floor Finishes: Replace Sheet Vinyl	Inspection Date	08/07/2006
Linked System	Floor Finishes	Finish Date	-
Prime System	Floor Finishes	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Siddens, Lance	Total Estimated Cost:	8,467
Action Date	08/07/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Gymnasium Stage		
Savings Description	-		

REQUIREMENT DESCRIPTION

Sheet Vinyl at Gymnasium stage is beyond useful life.

PHOTOS



Floor Finishes: Replace Sheet Vinyl

ACTION DESCRIPTION

Replace stage sheet vinyl with VCT. Approximately 550 S.F.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Heating System Conversion - Steam to Hot Water		
Linked System	Steam Distribution Systems	Inspection Date	07/12/2006
Prime System	Steam Distribution Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/12/2009	Total Estimated Cost:	329,574
Funding Year	-	Funding Type	-
Requirement Location	1952 and 1956 Building.	Annual Energy/Ops Savings \$	3,399
Savings Description	Energy savings generated from converting from a steam system to a how water system that includes condensing style boiler(s).		

REQUIREMENT DESCRIPTION

There is only one very large steam boiler serving this building.

The 54 year old steam system has exceeded the recommended useful life expectancy. A steam system requires substantially more maintenance than a modern hot water steam system due to steam traps, condensate pumps, and chemical treatment.

The 1963 and 2005 additions are served by a steam to hot water heat exchanger and are heated by hot water.

PHOTOS



HVAC: Heating System Conversion - Steam to Hot Water

ACTION DESCRIPTION

Install new high efficiency hot water condensing boilers and hot water piping system. Replace all steam terminal heating devices and coils with hot water devices and coils.

Connect to existing hot water system serving the 1963 and 2005 addition.

All Costs in USD.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Replace Ventilation 1952 Classrooms		
Linked System	Air Distribution Systems	Inspection Date	06/28/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	06/28/2009	Total Estimated Cost:	1,353,106
Funding Year	-	Funding Type	-
Requirement Location	1952 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The 54 year old ventilation system has exceeded the recommended useful life expectancy and currently poorly distributes ventilation air.

PHOTOS



HVAC: Replace Ventilation 1952 Classrooms

ACTION DESCRIPTION

Replacement of the Existing Ventilation System with a Modern Ventilation System consisting of Air Handling Units with Energy Recovery, Duct Distribution System, and Variable Air Volume Boxes with Hot Water Reheat Coils and Hot Water Finned Tube Radiation.

This would require replacement of the wood deck in the hallways.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Lighting Equipment: Occupancy Sensors		
Linked System	Lighting Equipment	Inspection Date	09/19/2006
Prime System	Lighting Equipment	Finish Date	-
Priority	4- Mid Term Needs (6-10 Yrs)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/19/2012	Total Estimated Cost:	6,193
Funding Year	-	Funding Type	-
Requirement	Classrooms	Annual Energy/Ops	-
Location		Savings \$	
Savings Description	-		

REQUIREMENT DESCRIPTION

The existing classroom occupancy sensors are single technology sensors and will need replacement in the mid term future. Dual technology sensors offer improved performance.

PHOTOS

ACTION DESCRIPTION

Remove and replace existing classroom occupancy sensors with dual technology occupancy sensors.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Other Equipment - Walk-In Cooler		
Linked System	Equipment and Furnishings	Inspection Date	09/15/2006
Prime System	Equipment and Furnishings	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Stout Mechanical	Actual Cost	0
Action Date	09/15/2009	Total Estimated Cost:	8,826
Funding Year	-	Funding Type	-
Requirement Location	Kitchen	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The cabinet walls are made of wood. The coils in the evaporator and condenser are dirty.

PHOTOS



Other Equipment - Walk-In Cooler

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ACTION DESCRIPTION

Clean coils and cover wood walls to add insulating value.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Plumbing: Replace Underground Sanitary Sewer Lines		
Linked System	Plumbing	Inspection Date	11/29/2006
Prime System	Plumbing	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	76,700
Funding Year	-	Funding Type	-
Requirement Location	All Building Areas 35 Years or Older	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Underground sanitary sewer lines require replacement due to tree roots, pipe degradation, and pipe damage due to ground shifting over time.

PHOTOS

ACTION DESCRIPTION

Replace the underground sanitary sewer lines with new.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Roof System: Replace Roof	Inspection Date	08/01/2006
Linked System	Roofing	Finish Date	-
Prime System	Roofing	Status	Open
Priority	2- Potentially Critical (1-2 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	14,809
Action Date	08/01/2007	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	31
Requirement Location	Relocatable		
Savings Description	Energy savings generated from improved roof insulation.		

REQUIREMENT DESCRIPTION

Roof system beyond rated service life. Includes roof Area 9.

PHOTOS



Roof System: Replace Roof

-

ACTION DESCRIPTION

Replace shingled and rolled roofing systems. Sequence work with roof-level wall restoration.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Roof System: Replace Roof	Inspection Date	08/01/2006
Linked System	Roofing	Finish Date	-
Prime System	Roofing	Status	Open
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Actual Cost	0
Inspector Name	Inspec	Total Estimated Cost:	465,567
Action Date	08/01/2009	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	801
Requirement Location	Multiple Locations		
Savings Description	Energy savings generated from improved roof insulation.		

REQUIREMENT DESCRIPTION

Roof system beyond rated service life. Includes roof Areas 1-8.

PHOTOS

ACTION DESCRIPTION

Replace EPDM roof system. Sequence work with roof-level wall restoration.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Beyond Rated Life

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Site Furnishings: Playground Upgrade / Replacement		
Linked System	Site Furnishings	Inspection Date	10/03/2006
Prime System	Site Furnishings	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Earl F. Anderson	Actual Cost	0
Action Date	10/03/2009	Total Estimated Cost:	78,671
Funding Year	-	Funding Type	-
Requirement Location	Facility Grounds	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Playground equipment was installed in 1990. The playgournd has a "pea rock" surface which does not meet ADA. The playground equipment does not meet current safety and ADA requirements. Equipment is adequate for existing population.

PHOTOS



Site Furnishings: Playground Upgrade / Replacement

-

ACTION DESCRIPTION

Replace existing playground with new equipment to meet needs of enrollment. Replace surface material with district standard and replace edging as needed.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Building Code

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Elevators and Lifts: Elevator Repair	Inspection Date	08/28/2006
Linked System	Elevators and Lifts	Finish Date	-
Prime System	Elevators and Lifts	Status	Open
Priority	2- Potentially Critical (1-2 Yrs)	Actual Cost	0
Inspector Name	Schindler Elevator Corp.	Total Estimated Cost:	11,163
Action Date	08/28/2007	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	1963 Addition		
Savings Description	-		

REQUIREMENT DESCRIPTION

Work required falls into three categories: Code Compliance A17.3, Life Safety Issues and Product Upgrades.

PHOTOS

ACTION DESCRIPTION

Upgrade elevators for code compliance, life safety issues and product upgrades.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Building Code

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC - Ventilation Improvements		
Linked System	Air Distribution Systems	Inspection Date	07/17/2006
Prime System	Air Distribution Systems	Finish Date	-
Priority	6- Does Not Meet Current Codes/Standards	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	11,800
Funding Year	-	Funding Type	-
Requirement Location	All Floors - 2005 Addition	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The air distribution system has no means of relief air. Pressure balance per ASHRAE is required by the 2000 International Mechanical Code.

PHOTOS



HVAC - 2005 Addition Ventilation Improvements

-

ACTION DESCRIPTION

Re-duct the return air and add a powered relief air fan to the duct system.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Building Code

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Replace Dishwasher Exhaust Hood		
Linked System	Exhaust Ventilation Systems	Inspection Date	06/28/2006
Prime System	Exhaust Ventilation Systems	Finish Date	-
Priority	6- Does Not Meet Current Codes/Standards	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	17,700
Funding Year	-	Funding Type	-
Requirement Location	Kitchen 1952 Building Addition	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The existing dishwasher has an existing exhaust hood but is not effective. It does not have an exhaust hood as required by the 2000 International Mechanical Code. Exhausting the dishwasher steam is critical in maintaining proper indoor air quality in the kitchen.

PHOTOS



HVAC: Replace Dishwasher Exhaust Hood

-

ACTION DESCRIPTION

Demolish the existing dishwasher hood and fan system.

Add a Type II hood and dishwasher exhaust fan with the required externally insulated aluminum ductwork. Installation to comply with the 2000 International Mechanical Code.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Building Code

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Replace Kitchen Grease Exhaust Hood / Add Kitchen Make Up Air		
Linked System	Exhaust Ventilation Systems	Inspection Date	07/12/2006
Prime System	Exhaust Ventilation Systems	Finish Date	-
Priority	6- Does Not Meet Current Codes/Standards	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	120,950
Funding Year	-	Funding Type	-
Requirement Location	Kitchen - 1952 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The existing grease exhaust hood has been written up as a non compliant hood by the State Fire Marshall. This hood needs to be replaced with a code compliant grease exhaust hood and fan.

In addition, the kitchen does not have a dedicated make up air unit. Make up air for the kitchen hood is required by the 2000 International Mechanical Code.

PHOTOS



HVAC: Replace Kitchen Grease Exhaust Hood / Add Kitchen Make Up Air

-

ACTION DESCRIPTION

Replace the existing grease exhaust hood and fan and grease duct with 2000 International Mechanical Code compliant kitchen grease hood exhaust system.

Add a dedicated make up air unit with dehumidification.

All Costs in USD.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Building Code

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Superstructure: Enlarge Toilets		
Linked System	Superstructure	Inspection Date	08/07/2006
Prime System	Superstructure	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2009	Total Estimated Cost:	78,588
Funding Year	-	Funding Type	-
Requirement Location	Nurse 1952 addition toilets resource room 1952 addition toilets	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Toilet rooms are undersized for accessibility. Minimal toilet facilities exist in the structure.

PHOTOS



Superstructure: Enlarge Toilets

ACTION DESCRIPTION

enlarge 4 toilet rooms for accessibility requirements.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Capacity

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Electrical Distribution: Insufficient Capacity		
Linked System	Electrical Service and Distribution	Inspection Date	08/11/2006
Prime System	Electrical Service and Distribution	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	08/11/2009	Total Estimated Cost:	7,670
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing Branch Panels are lacking capacity for additional circuits. Panels must be added to accommodate circuits needed for additional receptacles in classrooms.

PHOTOS



Electrical Distribution: Insufficient Capacity

Electrical Distribution: Insufficient Capacity

ACTION DESCRIPTION

Provide two new 100 amp feeders and panels to help carry the extra load of additional receptacles throughout the building.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Capacity

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Electrical Service: Insufficient Capacity		
Linked System	Electrical Service and Distribution	Inspection Date	08/11/2006
Prime System	Electrical Service and Distribution	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	08/11/2009	Total Estimated Cost:	6,490
Funding Year	-	Funding Type	-
Requirement Location	Boiler Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Main service is lacking breaker space to feed new panel boards which will be necessary to add receptacles to classrooms.

PHOTOS



Electrical Distribution: Insufficient Capacity

-

ACTION DESCRIPTION

To feed the new branch panel boards a new 400 amp distribution panel will be installed and fed from the existing service. A new 400 amp breaker will be installed in main service to feed the 400 amp distribution panel.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Capacity

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Add Cooling Capability to Computer Lab and IT Data Room		
Linked System	Cooling Generating Systems	Inspection Date	07/12/2006
Prime System	Cooling Generating Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/12/2007	Total Estimated Cost:	133,930
Funding Year	-	Funding Type	-
Requirement Location	IT Data Room - 1952 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The Computer Lab and IT Data room gets hot, which could cause technology equipment failure.

PHOTOS



HVAC: Add Cooling Capability to IT Data Room

-

ACTION DESCRIPTION

Provide a fan coil with a DX cooling coil with full economizer capability to utilize free cooling when outdoor conditions allow.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Capacity

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Wiring Devices: Insufficient Receptacles		
Linked System	Branch Wiring Devices	Inspection Date	07/18/2006
Prime System	Branch Wiring Devices	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	07/18/2009	Total Estimated Cost:	48,380
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

In general, classrooms have an insufficient number of receptacles. Computers and other electronics are plugged into power strips due to the lack of receptacles. This limits future addition of electronic devices and presents a fire hazard.

PHOTOS



Wiring Devices: Insufficient Receptacles
 Wiring Devices: Insufficient Receptacles

ACTION DESCRIPTION

Provide six additional 20 amp receptacle per classroom and associated branch wiring. Upgrade will first require additional branch panel boards and service modifications.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Exterior Walls: Wall Renovation		
Linked System	Exterior Walls	Inspection Date	08/01/2006
Prime System	Exterior Walls	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Inspec	Actual Cost	0
Action Date	08/01/2009	Total Estimated Cost:	218,300
Funding Year	-	Funding Type	-
Requirement Location	Entire Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Deteriorated roof-level and grade-level walls and chimney.

PHOTOS



Exterior Walls: Wall Renovation

-

ACTION DESCRIPTION

Tuck pointing, spot brick replacement, joint sealant replaement, new chimney cap, and misc. items. Sequence work with reroofing Areas 1,2B,4, and 5.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Ductwork Cleaning	Inspection Date	11/29/2006
Linked System	Air Distribution Systems	Finish Date	-
Prime System	Air Distribution Systems	Status	Open
Priority	4- Mid Term Needs (6-10 Yrs)	Actual Cost	0
Inspector Name	Schumacher, Russ	Total Estimated Cost:	4,130
Action Date	11/29/2012	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	Building Wide		
Savings Description	-		

REQUIREMENT DESCRIPTION

Clean the duct systems that are not replaced by the indoor air quality upgrade.

PHOTOS

ACTION DESCRIPTION

Clean ductwork that is not replaced due to indoor air quality upgrades.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Plumbing - Sewage Ejector Replacement		
Linked System	Plumbing	Inspection Date	07/18/2006
Prime System	Plumbing	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/18/2007	Total Estimated Cost:	8,850
Funding Year	-	Funding Type	-
Requirement Location	Heat Exchanger Room - 1952 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The sewage ejector in the basement is duplex. One of the sewage ejectors has been replaced within the last two years. The other is requires replacement to provide a reliable backup.

PHOTOS



Plumbing - Sewage Ejector Replacement

-

ACTION DESCRIPTION

Replace the existing vertical sewage ejector with a new vertical sewage ejector with new duplex control panel.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Deferred Maintenance

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Superstructure: Demolish Relocatable Classroom		
Linked System	Superstructure	Inspection Date	08/07/2006
Prime System	Superstructure	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Siddens, Lance	Actual Cost	0
Action Date	08/07/2009	Total Estimated Cost:	39,294
Funding Year	-	Funding Type	-
Requirement Location	1987 Relocatable Classroom	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Modular wood framed pre-fabricated structure is in disrepair and has outlived its useful life. Ramp and stair access does not meet accessibility standards (ADA).

PHOTOS



Superstructure: Demolish Relocatable Classroom

-

ACTION DESCRIPTION

Demolish Existing Building

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Energy and Operational Efficiency

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Controls: VendingMiser Vending Machine Controls		
Linked System	Controls and Instrumentation	Inspection Date	09/23/2006
Prime System	Controls and Instrumentation	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/23/2006	Total Estimated Cost:	826
Funding Year	-	Funding Type	-
Requirement Location	Vending Machines	Annual Energy/Ops Savings \$	81
Savings Description	VeningMiser controls cycle power to the vending machine during unoccupied times to save energy.		

REQUIREMENT DESCRIPTION

Install VendingMiser controls on vending machines.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Energy and Operational Efficiency

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Remote Condenser Heat Removal		
Linked System	Exhaust Ventilation Systems	Inspection Date	07/12/2006
Prime System	Exhaust Ventilation Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/12/2007	Total Estimated Cost:	4,484
Funding Year	-	Funding Type	-
Requirement Location	Kitchen - 1952 Addition	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The cooler is located in the dry food storage area, which overheats this area.

PHOTOS

ACTION DESCRIPTION

Add an roof exhaust fan above the condensers for summer operation.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Energy and Operational Efficiency

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	HVAC: Steam System Steam Trap Upgrades		
Linked System	Steam Distribution Systems	Inspection Date	09/07/2006
Prime System	Steam Distribution Systems	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/07/2006	Total Estimated Cost:	7,847
Funding Year	-	Funding Type	-
Requirement Location	Facility Wide	Annual Energy/Ops Savings \$	939
Savings Description	Heating savings attributed to leaking steam traps that result in the overheating of tunnel areas or steam venting in condensate receiver tanks.		

REQUIREMENT DESCRIPTION

- 1) Complete survey all steam traps system wide to locate failed traps.
- 2) Replace or repair of failed traps depending on trap age, condition, and availability of replacement part kits.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Energy and Operational Efficiency

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Lighting: Lighting Retrofit	Inspection Date	09/20/2006
Linked System	Lighting Equipment	Finish Date	-
Prime System	Lighting Equipment	Status	Open
Priority	1- Currently Critical (Immediately)	Actual Cost	0
Inspector Name	Ruud, Mark	Total Estimated Cost:	57,224
Action Date	09/20/2006	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	2,395
Requirement Location	Entire Facility		
Savings Description	Energy savings generated through more efficient lighting technology.		

REQUIREMENT DESCRIPTION

Lighting project consists of the following:

- 1) Retrofit/Replace 34w T12 fixtures with 25w T8 lighting
- 2) Relamp 32w T8 lamps with 25w T8 lamps
- 3) Replace HID lighting with T8 lighting fixtures
- 4) Replace Incand. lighting with Fluorescent
- 5) Upgrade exit signs with LED technology
- 6) Gym Occupancy Sensors

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Energy and Operational Efficiency

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Plumbing - Addition of Natural Gas Water Heater		
Linked System	Plumbing	Inspection Date	07/17/2006
Prime System	Plumbing	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	-	Total Estimated Cost:	29,500
Funding Year	-	Funding Type	-
Requirement Location	Mechanical Room 1952 Building	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The domestic hot water is currently generated by a steam to hot water heat exchanger, with an electric water heater for summer operation. A natural gas water heater is desired for summer operation.

PHOTOS



cyclone heaters

-

ACTION DESCRIPTION

Add Natural Gas Water Heater for summer operation.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Energy and Operational Efficiency

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Plumbing: Water Conservation Upgrades		
Linked System	Plumbing Fixtures	Inspection Date	09/21/2006
Prime System	Plumbing Fixtures	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Ruud, Mark	Actual Cost	0
Action Date	09/21/2006	Total Estimated Cost:	13,313
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	2,567
Savings Description	Reduce water and sewer usage using new low flow devices.		

REQUIREMENT DESCRIPTION

Replace / Retrofit standard flow flush valves and faucets with low flow devices.

PHOTOS

ACTION DESCRIPTION

-

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Life Safety

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Fire Protection: Provide Improved Sprinkler Service Access		
Linked System	Fire Protection	Inspection Date	07/18/2006
Prime System	Fire Protection	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	Schumacher, Russ	Actual Cost	0
Action Date	07/18/2006	Total Estimated Cost:	5,900
Funding Year	-	Funding Type	-
Requirement Location	Crawlspace	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The fire inspector has requested providing improved access for the fire protection service.

It currently is located in the crawlspace and is very difficult to crawl to sprinkler entrance, which is required for life safety inspection.

In addition, a portion of the building is served off the domestic water system. These zones should be connected to the fire protection system.

PHOTOS



Fire Protection: Provide Improved Sprinkler Service Access

ACTION DESCRIPTION

Add access door in floor of classroom directly above the fire protection system water supply entrance.

Connect system currently served by domestic water to a zone from the fire protection system.

All Costs in USD.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Occupant Security

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communication and Security: Access Control		
Linked System	Communications and Security	Inspection Date	09/19/2006
Prime System	Security and Detection Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	11,800
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Doors need ability to be locked down with access allowed only to authorized people. Also doors without card readers should be monitored for unauthorized access.

PHOTOS



Communication and Security: Access Control

-

ACTION DESCRIPTION

Install 3 proximity card readers at main entry doors for both public and personal
 And add magnetic door contacts to all other exterior doors on a alarm system.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Occupant Security

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communications and Security: CCTV		
Linked System	Communications and Security	Inspection Date	11/30/2006
Prime System	Communications and Security	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	11/30/2007	Total Estimated Cost:	66,016
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

There are currently no cameras located in the school. Cameras would add an increased security throughout the school which is becoming more critical.

PHOTOS

ACTION DESCRIPTION

Provide cameras throughout school. Camera locations provided by ISD 709.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Occupant Security

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Fire Alarm Systems: Outdated System		
Linked System	Fire Alarm Systems	Inspection Date	09/19/2006
Prime System	Fire Alarm Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	50,032
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Fire alarm systems are old analog system. System is prone to malfunctions and is very hard to identify exact area of alarm. It is also difficult to troubleshoot and find malfunctions.

PHOTOS



Fire Alarm Systems: Outdated System

-

ACTION DESCRIPTION

Replace fire system with a fully addressable fire system.
 This will allow for quick response to exact alarm device
 And allow for better maintenance and safety

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communication and Security: Cabling Upgrade		
Linked System	Communications and Security	Inspection Date	08/16/2006
Prime System	Local Area Networks	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	71,390
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Existing building cabling has been installed in several stages over the years and contains different categories of cabling.

PHOTOS



Communication and Security: Cabling Upgrade

-

ACTION DESCRIPTION

Replace old and mixed telephone/data cabling with up to date category 6 or 6A. Add basic wireless coverage. Add high bandwidth Fiber Optic Cabling between wiring closets. Standardize quantity of phone and data in classroom and offices.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communication and Security: Clock System		
Linked System	Communications and Security	Inspection Date	09/19/2006
Prime System	Clock and Program Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	11,800
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Master clock systems no longer keep clocks in time. Most are only used for running the bells. Atomic clocks may not receive a signal through the brick buildings. Many clocks do not work at all.

PHOTOS



Communication and Security: Clock System

-

ACTION DESCRIPTION

Install new wireless master clock system. The main clock receives the GPS signal for exact time and then sends signal to other clocks in facility. This will allow for accurate time and less tardiness between classes.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communication and Security: Public Address and Sound System		
Linked System	Communications and Security	Inspection Date	09/19/2006
Prime System	Intercommunication and Paging System	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2009	Total Estimated Cost:	12,980
Funding Year	-	Funding Type	-
Requirement Location	Building Wide	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

PA system is 25+ years old but is still functional.
 There are no speakers located in hallways or commons areas.

PHOTOS



Communication and Security: Public Address and Sound System
 -

ACTION DESCRIPTION

Update paging head end with new system and amplifier
 And install speakers where needed.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communication and Security: Telephone System Upgrade		
Linked System	Communications and Security	Inspection Date	08/16/2006
Prime System	Telephone Systems	Finish Date	-
Priority	1- Currently Critical (Immediately)	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	08/16/2006	Total Estimated Cost:	3,894
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

The telephone system should be upgraded to the new District standard of CISCO VOIP. The telephone system should include port for access to the Paging/Intercom system. The Paging/Intercom system should be modified to allow access from the new telephone system.

PHOTOS

ACTION DESCRIPTION

Install a new CISCO phone system. Add paging interface. Remove old system after installation of new.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communication and Security: Video/TV Distribution Upgrade		
Linked System	Communications and Security	Inspection Date	08/16/2006
Prime System	Television Systems	Finish Date	-
Priority	3- Necessary - Not Yet Critical (3-5 Yrs)	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	08/16/2009	Total Estimated Cost:	22,066
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Analog Broadcast TV Signals are required by the FCC to be turned off in the Spring of 2009.

PHOTOS

ACTION DESCRIPTION

Install new TV Distribution System capable of digital signals in all classrooms and administrative areas as required.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Communications and Security: Sound System Upgrades		
Linked System	Communications and Security	Inspection Date	08/15/2006
Prime System	Classroom Sound Systems	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	54,516
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Kindergarten, 1st and 2nd grades have Audio Enhancement systems. The Gymnasium Sound System is portable and works well enough. Staff would like a permanent system.

PHOTOS

ACTION DESCRIPTION

Add audio enhancement systems to remaining Classrooms.
 Replace Gymnasium sound system.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Controls and Instrumentation: BAS and Controls Upgrade		
Linked System	Controls and Instrumentation	Inspection Date	07/18/2006
Prime System	Building Automation Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Schmidt, Brian	Actual Cost	0
Action Date	07/18/2007	Total Estimated Cost:	118,000
Funding Year	-	Funding Type	-
Requirement Location	Entire building	Annual Energy/Ops Savings \$	1,173
Savings Description	Energy saving through optimization and repairs of existing control system.		

REQUIREMENT DESCRIPTION

Upgrade existing, outdated BAS to new Web-based BAS and tie to new District-wide BAS network. This will allow for central monitoring and control of all buildings from the Facilities Management building.

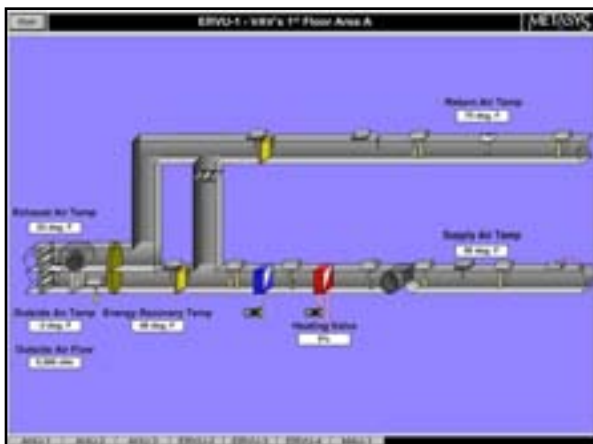
Upgrade existing pneumatic controls (old technology) to new Direct Digital controls.

Upgrade/replace existing temperature control valves, dampers, and actuators. The majority are beyond rated life and many are disconnected and not functioning, thus not operating as energy efficiently as possible.

Replace existing temperature control air compressor and air dryer with new and repair control air line leaks. This will improve the energy efficiency of the existing control system.

The existing controls shall be recommissioned to verify proper sequence of operation and optimize energy efficiency. Additional control and monitoring points shall also be added to the BAS system to optimize HVAC system performance.

PHOTOS



Controls and Instrumentation: BAS and Controls Upgrade

ACTION DESCRIPTION

Upgrade existing BAS to new web based to tie to District-wide BAS network. Add additional monitoring and control points to optimize BAS system.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Emergency Power Distribution: Generator Backup		
Linked System	Emergency Light and Power Systems	Inspection Date	09/19/2006
Prime System	Emergency Light and Power Systems	Finish Date	-
Priority	2- Potentially Critical (1-2 Yrs)	Status	Open
Inspector Name	Crotteau, Paul	Actual Cost	0
Action Date	09/19/2007	Total Estimated Cost:	69,242
Funding Year	-	Funding Type	-
Requirement Location	Exterior near Electrical Room	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

School currently has no backup power system to be used during a power failure. To keep students in school during power outage sufficient lighting must be maintained along with necessary life safety systems.

PHOTOS



Emergency Power Distribution: Generator Backup

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ACTION DESCRIPTION

Install transfer switch and generator to feed distribution system during a power outage. Generator will be sized to handle the full building demand.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

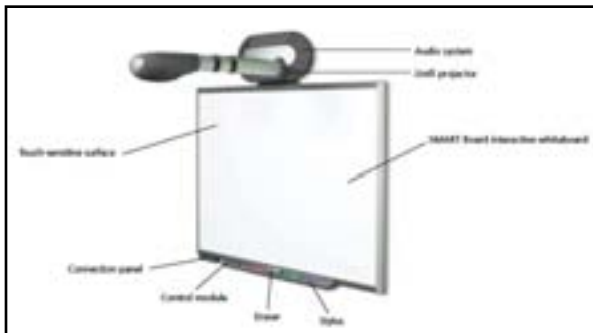
Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Equipment and Furnishings: Visual Systems (Smart Boards)		
Linked System	Equipment and Furnishings	Inspection Date	08/15/2006
Prime System	Audio-visual Equipment	Finish Date	-
Priority	5- Recommendations/ Improvements	Status	Open
Inspector Name	The Westlund Group	Actual Cost	0
Action Date	-	Total Estimated Cost:	233,640
Funding Year	-	Funding Type	-
Requirement Location	Entire Facility	Annual Energy/Ops Savings \$	-
Savings Description	-		

REQUIREMENT DESCRIPTION

Site has no Smart Boards installed. Three Smart Boards are on order.

PHOTOS



Equipment and Furnishings: Visual Systems (Smart Boards)

-

ACTION DESCRIPTION

Install additional Smart Boards.

District: Duluth Public Schools
Facility: Homecroft Elementary School
Category: Upgrades

Asset Name: Homecroft Elementary School
Asset Number: 475

Requirement Name	Fittings: Replace Chalkboard	Inspection Date	08/07/2006
Linked System	Fittings	Finish Date	-
Prime System	Fittings	Status	Open
Priority	5- Recommendations/ Improvements	Actual Cost	0
Inspector Name	Siddens, Lance	Total Estimated Cost:	42,176
Action Date	-	Funding Type	-
Funding Year	-	Annual Energy/Ops Savings \$	-
Requirement Location	1952, 1956, 1963 additions classrooms		
Savings Description	-		

REQUIREMENT DESCRIPTION

Replace existing chalkboard with markerboard for district standardization/ modernization

PHOTOS



Fittings: Replace Chalkboard

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ACTION DESCRIPTION

Replace existing chalkboard with markerboard approximately, 2,300 S.F.