McKinstry
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Scenario - I - Individual FIM's
Minneapolis Parks & Recreation Board - Phase 1 Group 1
Table 4.2: FIM Matrix

FIM #	FIM Name	Description (Existing Conditions)	Description (Proposed Conditions)	Building	Implementation Cost	Annual Utility Savings	Annual CO2 Savings (lbs)	Annual Operational Savings	One Time Operational Savings (Capital Cost Avoidance)	Potential Utility Rebate **	Net Customer Cost	Simple Payback (with Utility Incentive)
1.01-LOG	Boiler Improvements	Existing Boiler is past the end of it's projected useful life - it is starting to cost money to keep running and needs to be replaced.	Install one new high-efficiency boiler	Logan	$98,988	$1,524	15,553	$2,000	$0	$0	$98,988	28.1
1.01-PER	Furnace Upgrades	Existing Gas Fired Furnaces are Inefficient and have Exceeded their Expected Useful Life	Upgrade the Furnaces to Higher Efficient Units	Pershing	$31,001	$939	9,283	$0	$31,010	$0	-$9	0.0
3.01-NOK	HVAC Improvements - Increase Ventilation	Existing Ventilation Systems are Not Operating as Originally Designed or Intented.	Make Provisions / Improvements to Provide Adequate Ventilation for Improved Air Quality	Lake Nokomis	$3,801	$0	0	$0	$0	$0	$3,801	
3.01-LOG	HVAC Improvements - Increase Ventilation	Existing Ventilation Systems are Not Operating as Originally Designed or Intented.	Make Provisions / Improvements to Provide Adequate Ventilation for Improved Air Quality	Logan	$3,472	$0	0	$0	$0	$0	$3,472	
3.01-MAT	HVAC Improvements - Increase Ventilation	Existing Ventilation Systems are Not Operating as Originally Designed or Intented.	Make Provisions / Improvements to Provide Adequate Ventilation for Improved Air Quality	Matthews	$4,055	$0	0	$0	$0	$0	$4,055	
3.01-McR	HVAC Improvements - Increase Ventilation	Existing Ventilation Systems are Not Operating as Originally Designed or Intented.	Make Provisions For Improvement to Indoor Air Quality	McRae	$3,379	$0	0	$0	$0	$0	$3,379	
3.01-PER	HVAC Improvements - Increase Ventilation	Existing Ventilation Systems are Not Operating as Originally Designed or Intented.	Make Provisions / Improvements to Provide Adequate Ventilation for Improved Air Quality	Pershing	$3,886	$0	0	$0	$0	$0	$3,886	
9.01-NOK	Interior Lighting Improvements	Many areas throughout the facilites have flourescent fixtures containing 32 watt T8 lamps with electronic ballasts. The gym is Metal Halide Fixtures	Retrofit 32 watt T8 lamps with 28 watt T8 lamps for improved energy efficiency. Also replace metal halide in gym with Fluorescent.	Lake Nokomis	$16,850	$1,619	23,563	$0	$0	$1,508	$15,342	9.5
9.01-LOG	Interior Lighting Improvements	Many areas throughout the facilites have flourescent fixtures containing 32 watt T8 lamps with electronic ballasts.	Retrofit 32 watt T8 lamps with 28 watt T8 lamps for improved energy efficiency.	Logan	$16,024	$824	8,959	$0	$0	$363	$15,661	19.0
9.01-MAT	Interior Lighting Improvements	Many areas throughout the facilites have flourescent fixtures containing 32 watt T8 lamps with electronic ballasts.	Retrofit 32 watt T8 lamps with 28 watt T8 lamps for improved energy efficiency.	Matthews	$2,617	$287	5,666	$0	$0	$326	$2,291	8.0
9.01-McR	Interior Lighting Improvements	Many areas throughout the facilites have flourescent fixtures containing 32 watt T8 lamps with electronic ballasts.	Retrofit 32 watt T8 lamps with 28 watt T8 lamps for improved energy efficiency.	McRae	$2,020	$628	6,883	$0	$0	$161	$1,859	3.0
9.01-PER	Interior Lighting Improvements	Many areas throughout the facilites have flourescent fixtures containing 32 watt T8 lamps with electronic ballasts.	Retrofit 32 watt T8 lamps with 28 watt T8 lamps for improved energy efficiency.	Pershing	$1,806	$646	5,969	$0	$0	$107	$1,700	2.6
9.02-NOK	Temperature Controls Improvements-Proliphix	Temperatures within the Facility are Manually Controlled	Install Energy Manager System (EMS) for Web Based Control of HVAC	Lake Nokomis	$34,413	$1,967	23,262	$0	$0	$2,000	$32,413	16.5
9.02-LOG	Temperature Controls Improvements-EMS	Temperatures within the Facility are Manually Controlled	Install Energy Manager System (EMS) for Web Based Control of HVAC	Logan	$46,129	$1,898	19,228	$0	$0	$2,000	$44,129	23.2
9.02-MAT	Temperature Controls Improvements	Existing DDC Controls Are Not Operating Utilizing Energy Efficient Strategies	Re-Commissioning Existing Direct Digital Control (DDC) Systems	Matthews	$12,544	$909	9,091	$0	$0	$250	$12,294	13.5

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9.02-McR	Temperature Controls Improvements	Existing DDC Controls Are Not Operating Utilizing Energy Efficient Strategies	Re-Commissioning Existing Direct Digital Control (DDC) Systems	McRae	$8,996	$393	3,911	$0	$0	$250	$8,746	22.3
9.02-PER	Temperature Controls Improvements-Proliphix	Temperatures within the Facility are Manually Controlled	Energy Manager System (EMS) Web Based Control of HVAC	Pershing	$18,795	$1,394	12,807	$0	$0	$1,000	$17,795	12.8
13.04-NOK	Building Envelope Improvements	Existing roof / wall intersections around perimeters of many building sections have gaps that contribute to excessive infiltration. Additionally, many exterior doors and windows have deteriorated door sweeps, weather stripping and caulking.	Seal these exterior openings with expansion foam and insulate to reduce infiltration, install door sweeps, weather stripping and caulking which will help lower energy consumption.	Lake Nokomis	$18,786	$1,687	17,177	$0	$0	$1,500	$17,286	10.2
13.04-LOG	Building Envelope Improvements	Existing roof / wall intersections around perimeters of many building sections have gaps that contribute to excessive infiltration. Additionally, many exterior doors and windows have deteriorated door sweeps, weather stripping and caulking.	Seal these exterior openings with expansion foam and insulate to reduce infiltration, install door sweeps, weather stripping and caulking which will help lower energy consumption.	Logan	$19,428	$1,470	14,997	$0	$0	$1,500	$17,928	12.2
13.04-MAT	Building Envelope Improvements	Existing roof / wall intersections around perimeters of many building sections have gaps that contribute to excessive infiltration. Additionally, many exterior doors and windows have deteriorated door sweeps, weather stripping and caulking.	Seal these exterior openings with expansion foam and insulate to reduce infiltration, install door sweeps, weather stripping and caulking which will help lower energy consumption.	Matthews	$19,910	$1,068	10,400	$0	$0	$2,000	$17,910	16.8
13.04-McR	Building Envelope Improvements	Existing roof / wall intersections around perimeters of many building sections have gaps that contribute to excessive infiltration. Additionally, many exterior doors and windows have deteriorated door sweeps, weather stripping and caulking.	Seal these exterior openings with expansion foam and insulate to reduce infiltration, install door sweeps, weather stripping and caulking which will help lower energy consumption.	McRae	$23,880	$1,561	15,479	$0	$0	$1,500	$22,380	14.3
13.04-PER	Building Envelope Improvements	Existing roof / wall intersections around perimeters of many building sections have gaps that contribute to excessive infiltration. Additionally, many exterior doors and windows have deteriorated door sweeps, weather stripping and caulking.	Seal these exterior openings with expansion foam and insulate to reduce infiltration, install door sweeps, weather stripping and caulking which will help lower energy consumption.	Pershing	$16,049	$944	9,335	$0	$0	$1,500	$14,549	15.4
16.05-NOK	Vending Machine Control on Cold Beverage Machines	Existing Cold Beverage machines are Operating 24/7.	Install vending misers on the cold beverage vending machines to improve energy savings.	Lake Nokomis	$676	$197	2,587	$0	$0	$0	$676	3.4
16.05-LOG	Vending Machine Control on Cold Beverage Machines	Existing Cold Beverage machines are Operating 24/7.	Install vending misers on the cold beverage vending machines to improve energy savings.	Logan	$676	$246	2,475	$0	$0	$0	$676	2.7
16.05-MAT	Vending Machine Control on Cold Beverage Machines	Existing Cold Beverage machines are Operating 24/7.	Install vending misers on the cold beverage vending machines to improve energy savings.	Matthews	$338	$65	1,112	$0	$0	$0	$338	5.2
16.05-McR	Vending Machine Control on Cold Beverage Machines	Existing Cold Beverage machines are Operating 24/7.	Install vending misers on the cold beverage vending machines to improve energy savings.	McRae	$676	$219	2,214	$0	$0	$0	$676	3.1
18.16-NOK	Water Conservation	Currently there are very few water efficient faucets, toilet, etc.	Install low flow aerators on faucets, replace faulty diaphragms on toilet and urinals flush valves, etc.	Lake Nokomis	$7,842	$716	966	$335	$0	$0	$7,842	7.5

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18.16-LOG	Water Conservation	Currently there are very few water efficient faucets, toilet, etc.	Install low flow aerators on faucets, replace faulty diaphragms on toilet and urinals flush valves, etc.	Logan	$3,918	$802	2,382	$212	$0	$0	$3,918	3.9
18.16-MAT	Water Conservation	Currently there are very few water efficient faucets, toilet, etc.	Install low flow aerators on faucets, replace faulty diaphragms on toilet and urinals flush valves, etc.	Matthews	$2,416	$581	1,606	$91	$0	$0	$2,416	3.6
18.16-McR	Water Conservation	Currently there are very few water efficient faucets, toilet, etc.	Install low flow aerators on faucets, replace faulty diaphragms on toilet and urinals flush valves, etc.	McRae	$2,955	$298	551	$110	$0	$0	$2,955	7.2
18.16-PER	Water Conservation	Currently there are very few water efficient faucets, toilet, etc.	Install low flow aerators on faucets, replace faulty diaphragms on toilet and urinals flush valves, etc.	Pershing	$3,379	$446	1,080	$106	$0	$0	$3,379	6.1
29.06-ALL	Resource Conservation Management	Currently no activites to promote energy savings progress and initiatives	Create a energy savings promotion to tie all the sustainability efforts together (20-40-15)	All	$13,333	$0	0	$0	$0	$0	$13,333	
30-ALL	Detailed Engineering Study	Detailed Engineering Study	Detailed Engineering Study	All	$30,600	$0	0	$0	$0	$0	$30,600	
Totals for Selected FIMs					$473,634	$23,330	226,534	$2,854	$31,010	$15,964	$426,660	16.3

** Utility rebate is contingent on utility company funding and final approval. Funds are shown for reference only.

TOTALS By Building

Building	Implementation Cost	Annual Utility Savings	Annual CO2 Savings (lbs)	Annual Operational Savings	One Time Operational Savings (Capital Cost Avoidance)	Potential Utility Rebate **	Net Customer Cost	Simple Payback (with Utility Incentive)
Logan	$188,635	$6,764	63,593	$2,212	$0	$3,863	$184,772	20.6
Pershing	$74,915	$4,369	38,474	$106	$31,010	$2,607	$41,299	9.2
Lake Nokomis	$82,368	$6,186	67,555	$335	$0	$5,008	$77,360	11.9
Matthews	$41,878	$2,911	27,874	$91	$0	$2,576	$39,302	13.1
McRae	$41,905	$3,099	29,038	$110	$0	$1,911	$39,994	12.5
All	$13,333	$0	0	$0	$0	$0	$13,333	
All	$30,600	$0	0	$0	$0	$0	$30,600	
TOTAL	$473,634	$23,330	226,534	$2,854	$31,010	$15,964	$426,660	16.3