



Information Paper

To: Nelson County Board of Education

From: Tim Hockensmith, Chief Operating Officer

cc: Dr. Anthony Orr, Superintendent

Date: April 26, 2016

Re: Performance Contract Phase II Presentation

Presentation and discussion of possible additional energy savings measures and building upgrades.



Guaranteed Energy Savings Contract - Phase II

Proposed Project Scope



Bloomfield Middle School

Full Geothermal HVAC Renovation

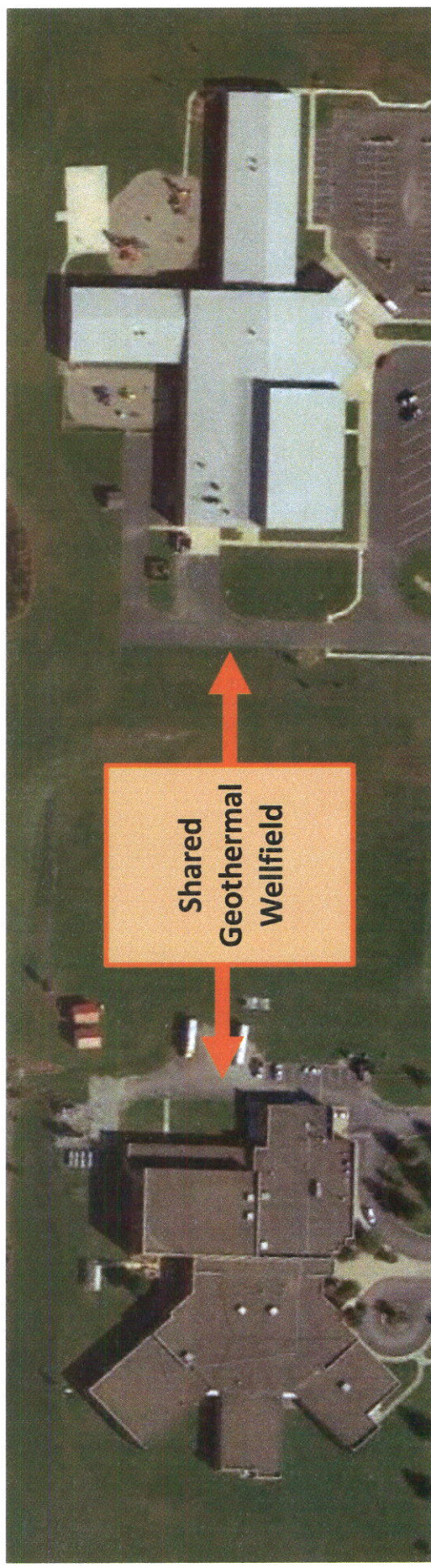
- Utilize the existing Bloomfield ES well field
- Eliminate existing chillers and boilers
- All new heat pumps, energy recovery ventilation units, pumps, motors, cooling tower, domestic hot water heaters, kitchen make-up air unit

Full Web-based DDC Controls

- System will be integrated with the existing web-based controls of the district
- Water heaters will be integrated to control system

LED Lighting Upgrades

- Interior LED upgrades
- Exterior LED wallpacks and canopy fixtures



Other Schools Included

New Haven School

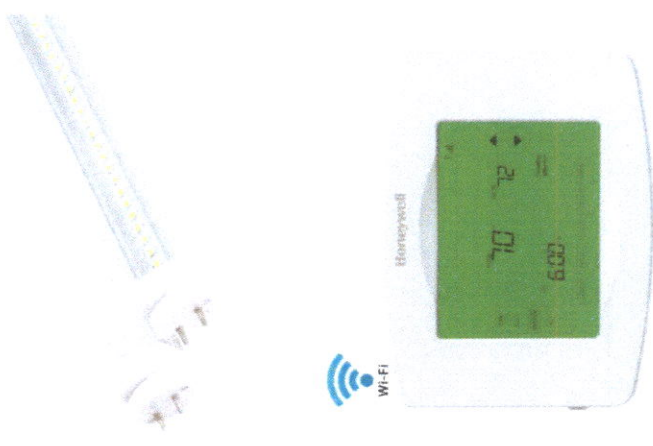
- New web-based DDC controls integrated into district wide system
- Interior LED lighting upgrades

Nelson County High School

- Interior LED lighting upgrades
- Exterior lighting controls
- Integrate electric heaters into HVAC control system
- Building envelope upgrades at the fieldhouse to reduce infiltration and improve insulation
- Wifi enabled programmable thermostats at the fieldhouse

Bloomfield Elementary School

- Interior LED lighting upgrades



Nelson County Schools - Phase 2 Proposed Project Financial Pro-Forma									
Cost Inputs			Savings Inputs						
Project Cost		\$ 2,647,615	Year 1 Guaranteed Energy Savings (GES)						\$ 108,361
Bond Issuance Cost		\$ 92,385	Year 1 O&M Savings						\$ 27,000
Total Bond Issue		\$ 2,740,000	Annual Energy Escalation Rate						4.50%
Interest Rate		3.50%	Annual O&M Rate Escalation						2.50%
Financing Term (Years)		20	Restricted Funds Requirement						-
Year 2 Additional Maintenance/M&V		\$ 2,500	% of Project Funded from Savings						100%
			* Anticipated Rebate						\$ 25,000
Year	Bond Payment	M&V	Total Cost	Energy Savings	O&M Savings	Total Savings	Yearly Cashflow	Cumulative Cashflow	
2017	\$ 158,155	\$ -	\$ 158,155	\$ 108,361	\$ 52,000	\$ 160,361	\$ 2,206	\$ 2,206	\$ 2,206
2018	\$ 136,755	\$ 2,500	\$ 139,255	\$ 113,237	\$ 27,675	\$ 140,912	\$ 1,657	\$ 1,657	\$ 3,863
2019	\$ 140,755	\$ 2,563	\$ 143,318	\$ 118,333	\$ 28,367	\$ 146,700	\$ 3,382	\$ 3,382	\$ 7,246
2020	\$ 149,655	\$ 2,627	\$ 152,282	\$ 123,658	\$ 29,076	\$ 152,734	\$ 453	\$ 453	\$ 7,698
2021	\$ 153,355	\$ 2,692	\$ 156,047	\$ 129,223	\$ 29,803	\$ 159,026	\$ 2,978	\$ 2,978	\$ 10,677
2022	\$ 161,955	\$ 2,760	\$ 164,715	\$ 135,038	\$ 30,548	\$ 165,586	\$ 871	\$ 871	\$ 11,548
2023	\$ 164,795	\$ 2,829	\$ 167,624	\$ 141,114	\$ 31,312	\$ 172,426	\$ 4,803	\$ 4,803	\$ 16,350
2024	\$ 172,500	\$ 2,899	\$ 175,399	\$ 147,464	\$ 32,095	\$ 179,559	\$ 4,160	\$ 4,160	\$ 20,510
2025	\$ 179,935	\$ 2,972	\$ 182,907	\$ 154,100	\$ 32,897	\$ 186,997	\$ 4,091	\$ 4,091	\$ 24,601
2026	\$ 187,100	\$ 3,046	\$ 190,146	\$ 161,035	\$ 33,719	\$ 194,754	\$ 4,608	\$ 4,608	\$ 29,209
2027	\$ 198,995	\$ 3,122	\$ 202,117	\$ 168,281	\$ 34,562	\$ 202,844	\$ 727	\$ 727	\$ 29,936
2028	\$ 204,965	\$ 3,200	\$ 208,165	\$ 175,854	\$ 35,426	\$ 211,280	\$ 3,115	\$ 3,115	\$ 33,051
2029	\$ 215,625	\$ 3,280	\$ 218,905	\$ 183,768	\$ 36,312	\$ 220,080	\$ 1,174	\$ 1,174	\$ 34,225
2030	\$ 220,820	\$ 3,362	\$ 224,182	\$ 192,037	\$ 37,220	\$ 229,257	\$ 5,075	\$ 5,075	\$ 39,300
2031	\$ 230,705	\$ 3,446	\$ 234,151	\$ 200,679	\$ 38,150	\$ 238,829	\$ 4,678	\$ 4,678	\$ 43,978
2032	\$ 245,125	\$ 3,532	\$ 248,657	\$ 209,709	\$ 39,104	\$ 248,813	\$ 156	\$ 156	\$ 44,134
2033	\$ 253,125	\$ 3,621	\$ 256,746	\$ 219,146	\$ 40,082	\$ 259,228	\$ 2,482	\$ 2,482	\$ 46,616
2034	\$ 265,600	\$ 3,711	\$ 269,311	\$ 229,008	\$ 41,084	\$ 270,092	\$ 780	\$ 780	\$ 47,396
2035	\$ 276,200	\$ 3,804	\$ 280,004	\$ 239,313	\$ 42,111	\$ 281,424	\$ 1,420	\$ 1,420	\$ 48,816
2036	\$ 286,000	\$ 3,899	\$ 289,899	\$ 250,082	\$ 43,164	\$ 293,246	\$ 3,347	\$ 3,347	\$ 52,163
Total	\$ 4,002,120	\$ 59,865	\$ 4,061,985	\$ 3,399,442	\$ 714,706	\$ 4,114,148	\$ 52,163	\$ 52,163	\$ 52,163

*Included in year 1 O&M Savings