



Grosse Pointe Public School System

Capital Planning Assessment Report

July 31, 2017





Presentation Overview

- ☐ Review GPPSS' Capital Planning Goals and Objectives
- □ Review Sample Facility Assessment Report Process
- □ Review Report Benchmarking and Findings
- □ Review Financial Considerations
- **□** Questions and Answers





Capital Planning Goals and Objectives





Capital Planning Goals and Objectives

- ☐ Grosse Pointe Public School System ("GPPSS") engaged Plante Moran Cresa to perform a facility assessment review of the BCS major buildings and sites. Site visits took place in the Spring of 2017
 - ☐ The goal of this assessment is to provide GPPSS a "road map" to help establish needs for future capital improvement projects and future Sinking Fund or Bond Program over the next 10 years.
- ☐ The assessments primary focus will be three major components:
 - Critical need/life safety
 - Facility needs & replacement
 - Property enhancements





Facility Assessment Goals and Objectives

- □PMC reviewed the over 1,800,000 square feet of elementary, middle, and high school level buildings and sites as well as support facilities
- □ Review included site work, building envelope, mechanical/electrical systems, environmental, educational technology, security and surveillance needs, site traffic, furniture, and furnishings/equipment needs for each facility.
 - ☐ The report represents a statement of the physical condition of the buildings and properties based upon visual site observation. The assessment review was non-invasive nor diagnostic.





Facility Assessment Goals and Objectives

☐ Evaluation Definitions

The following terms will be used throughout the report and are defined as follows:

•Excellent: New or like new.

•Good: Average to above-average condition for the building system or material

assessed, with consideration of its age, design, and geographical location. Generally, other than normal maintenance, no work is recommended or

required.

•Fair: Average condition for the building system evaluated. Satisfactory; however,

some short term and/or immediate attention is required or recommended (primarily due to normal aging and wear of the building system) to return

the system to a good condition.

•Poor: Below average condition for the building system evaluated. Requires

immediate repair, significant work, or replacement is anticipated to

return the building system or material to an acceptable condition.





Facility Assessment Goals and Objectives

☐ Document Review

PMC was provided the following documents for review:

- •Floor plans of the existing facilities as provided by GPPSS
- •Room Utilization report as provided by GPPSS
- •Roofing report by J.D. Candler
- •Swimming Pool Audit report by Counsilman Hunsaker
- Security & Technology assessment by Wright & Hunter



Sample Facility Assessment Report Process





Sample – Elementary School

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Defer Elementary School K-5

15425 Kercheval, Grosse Pointe Park, Michigan 48230

Building Age: 93 years
Square Footage: 60,001 s.f.
Acres: 6.32
Students: 315

Capacity: 525 (60% Utilization)

Description:

Defer Elementary School is a 3 story brick clad Tudor Revival style building built in 1924 with an addition built in 1928. It was designated a Michigan State Historic Site in 1996 and listed on the National Register of Historic Places in 2001. Students at Defer will attend Pierce Middle School and Grosse Pointe South High School. Defer Elementary is in relatively good condition for its age and requires attention to building components that have exceed their life cycle expectancy.





2017 Facilities Assessment

Site

The asphalt parking lot has shown signs of wear and cracking and should be replaced within the next 5 years. The playground equipment is newer and appear to be in good shape. There are (4) ballfields with dugouts and a small field house for storage surrounded by a site perimeter fence.

Roofing:

The flat built-up roof areas range in age from 27, 21 and 17 years old and require replacement in the near future.

HVAC:

The (2) steam boilers servicing the building are 20 years old and will need replacement or significant reconditioning in the next 5 to 10 years. The entire building is air conditioned with DX cooling systems (Sanyo units and (1) RTU for the library).

Electrical:

It is also recommended to replace the existing stem mounted and lay-in 2'x4' fluorescent light fixtures with more energy efficient LED throughout the building. Classrooms will require additional electrical power needs to support new IT equipment.

Plumbing:

The restrooms have been renovated recently and do not require further renovation at this time. When the restrooms were renovated, the galvanized piping was replaced with copper and new sanitary lines installed if they were accessible. The existing 93 year old domestic hot and cold water galvanized piping, sanitary & storm drains and heating system piping have been replaced on an "as needed" basis.

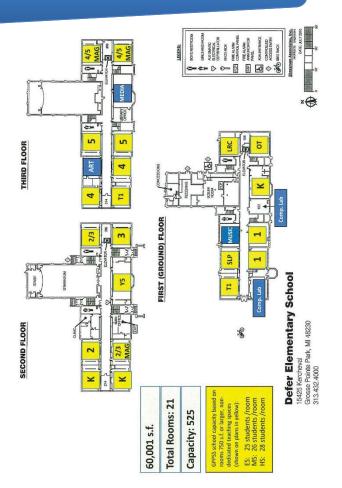
Finishes:

Several rooms and corridors have carpet floor covering and will require replacement due to wear. Some of the classroom casework/cabinets will need replacement throughout the building. Where stem mounted fluorescent fixtures are present, it is recommended to install new acoustical tile ceilings and lighting. The existing greenhouse requires replacement and the classroom furniture should be replaced due to age and wear.





Sample – Elementary School





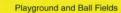
2017 Facilities Assessment





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Music Room







Classroom Cabinets

Gym Stage Storage Cabinets





Sample – Elementary School

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2017 Facilities Assessment





Defer Elementary School

61,001 s.f. 6.32 Acres





2017 Facilities Assessment



Total Sections: 3 Total Sq/Ft: 19,230

Мар	Name	Sq/Ft	Est Install	Grade
1	Section 1-A	4,540	2000	D
2	Section 2-B	9,952	1996	F
3	Section 3-C	4,737	1990	F

Defer Elementary School Roof Information - JD Candler Report dated 10-13-15





Sample – El								d Cap	ital Priorities Property	0
					COST (S)		(1 - 3 years)	nance	Enhancement (7 - 10 years)	
					2000		100 100			
Paying							1			
Replace Asphalt Parking Lot (86 spaces) 2000 (17 years old)	26,500	1.	26,500	\$3.50	\$96,460	1.62%		\$117,661		
Greenhouse replacement Flag Pole Replacement (Rocket Enterprises)	1	1	1	\$150,000.00	\$156,000 \$10,400	2.62%	\$10,400		\$213,720	
Improve landscaping	1	1	i	\$25,000.00	\$26,000	0.44%	\$10,400		\$35,620	
SITE SUBTOTAL					\$288,660	4.85%	\$10,400	\$117,681	\$249,340	_
2.0 BUILDING ENVELOPE										
Roofing Work - J.D. Candler Report Replace Roof (BUR) installed 1990, grade FI	4,737	-	4.737	58.D0	539.412	0.66%	539.412			
Replace Root (BUR, installed 1996, grade F)	9,952	1	9,952	\$8.00	\$82,801	1.39%	\$82,801			
Replace Roof (BUR, installed 2000, grade D)	4,540	1	4,540	\$8.00	\$37,773	0.63%	\$37,773			
Patching / Curbs Refurbish Exterior Wood Doors	10	1	10	\$25,000.00	\$15,600	0.44%	\$26,000			
BUILDING ENVELOPE SUBTOTAL					\$201,585	3,39%	\$201,586	\$0	50	
3.0 INTERIOR/FINISHES										
Abatement (Allowance)	1	1	1	\$100,000.00	\$104.000	1.75%	\$104.000			
Flooring - majority of building 12x12 VCT							13333333			
Classrooms (CPT)	700	3	2,100	\$4.50	\$9,828	0.17%	\$9,828			
Library (CPT) Teachers Lounge (CPT)	900	1	900	\$4.50	\$4,212	0.07%	84,212			
Kindergarten (CPT)	025	1	925	\$4.50	\$4,320	0.07%	\$4,329			
Music (CPT) Paint Areas Disturbed by Construction	925	1	30,000	\$4.50 \$1.00	\$4,329	0.52%	\$4,329			
Window treatment	4		1	\$25,000.00	\$26,000	0.44%	\$26,000			
Install Ceilings (19 CR's, Office area, Clinic, 2 conf. rms	700	23	16,100	\$4.00	\$66,976	0.00%	\$66,976			
Classroom & Corridor doors and hardware	62	1	52	\$1,750.00	\$94,640	1.59%	\$94,640			
Casework							O-STANCES IN			
Replace classroom casework (fewers)	60	1	BD	\$250.00	\$15,600	0.26%			\$21,372	
Returbish stage storage doors. INTERIOR/FINISHES SUBTOTAL		+		\$7:500.00	\$373,126	6.27%	\$349,726	\$0	\$32,058	
4.0 PLUMBING SYSTEMS										
Replace hot water heater (1997) 60 cal	.1	1	1	\$5,000.00	\$5,200	0.09%		\$6,344		
Horizontal HW/CW Piping Replacement (mains only)	60,001	1	60.001	\$4.00	\$249,604	4 19%			5341,958	
Senitary & Storm Drain Replacement (mains only)	60.001	1	60.001	\$3.00	\$187,203	3.14%			\$256,468	
Steam & Condensate Piping Replacement (allow) Replace and add domestic water valves and fittings (allow	1	1	1	\$50,000.00	\$104,000 \$52,000	0.87%			\$142,480	
Plumbing Fixtures				-337733775	10715375					
Toilet Rooms have been renovated										
PLUMBING SYSTEMS SUBTOTAL					\$598,007	10.05%	\$0	\$6,344	\$812,146	_
5.0 HVAC SYSTEMS										
Healing Steam Bollers (Weil McLain, 1997)	2	1	2	\$125,000.00	\$260,000	4.37%	5260,000			
Assoc. equip , comb. Air, emerg. Gas stops	*	70	2	5725,000.00	2200,000	4.5774	3260,000			
Replace Steam Heating System Valves (allow)	9	1	1	\$40,000.00	\$41,600	0,70%	\$41,600			
Replace Gym Air Handler	31	1	1.	\$100,000.00	\$104,000	1.75%	\$104,000			
Replace Classroom Air Handlers (2 major units) less gym Ventilation	56,000	1	58,000	\$15.00	\$873,600	14.68%	\$873,600 \$0			
Replace Kitchen Exhaust Fan (No ansul or make up air or potential other code update requirements)	13	1	1	\$30,000.00	531.200	0.52%	\$31,200			
Ar and Water Balance Commissioning	60,001 60,001	1	60,001	\$0.10 \$0.15	\$8,240 \$9,360	0.10%	56,240 59,360			
	60.001	1	60.001	\$2.50	\$156,003	2.62%	\$156.003			
Temperature Controls Currently Medysis for AHU only, predom. Pneumatic controls	30,001	100	90,001	36.36	#13E1003	E-550.3	9100,003			
Air Conditioning (not included in scope) Sarryo DX units for classrooms/offices installed 1998										
RTU for Library RTU for Gym (10 yrs old)										

0,001	Elementary School s.f. 3-stery Building 1925, Addition: 1925		Geogr	Cost Data abon Factor = aphic Factor =	1.00	(Medium) (US Median) Spring 2017		1.04	Cost Escala	ition Factors	1.04
_			OURI ESON	Minist Landon No.	11977	Spring SOLI	_	7.97.	11105	5117015	1007
ine	Draft 6-28-17	Area Required	No. of Rms. / Units	Total Area	Base Unit	Effective Program Area	As % of Total	Critical Needs	Deferrable	Property Enhancement	Other
lo.	Program Area	(in Sq. Ft.)	Required	(in Sq. Ft.)	Cost (5)	Cost (\$)	Cost	(1 - 3 years)	(4 - 6 years)	(7 - 10 years)	
88	S.O ELECTRICAL SYSTEMS			- Vandeline Community		TOWAL NEW YORK					
89	D.V. ELECTRICAL STOTEMS							1			
90	Lighting							576.644			
91	Replace Ltg with LED's (23 rooms w/stem mtd flut) Retrofit Corndor Ltg	4.300	1	4.300	\$3,200.00	\$76,544 \$8,944	0.15%	\$76,544 \$8,944			
93	Replace exterior building lights	60.001		60.001	50.25	\$15.600	0.26%	\$15,600			
94	Replace all emergency and exit lights	50,001	1	60.001	\$0.25	\$15,600	0.26%	\$15,600			
-	Add Occupancy Sensors	40	1	40	5500.00	\$20,800	0.35%	\$20,800			
95	Add electrical upgrade for IT (classrooms)	26	1	26	\$8,000.00	\$135,200	2.27%	\$135,200			
	Add Generator	1	1	1	\$100,000.00	\$104,000	1.75%			\$142,480	
97	ELECTRICAL SYSTEMS SUBTOTAL					\$376,689	6,33%	5272,689	\$0	\$142,480	
	7.0 SECURITY (Wright & Hunter)										
00	Door Access System	10	790	-1	\$25,000.00	\$26,000	0.44%	\$26,000			
61	Surveillance System	1	1	. 1	\$31,000.00	\$32,240	0.54%	\$32,240			
02								*****			
03 -	SECURITY SYSTEMS SUBTOTAL					\$58,240	0.98%	\$58,240	\$0	50	- 3
08 1	I.O NOT USED										
06	OTHER SUBTOTAL	(so	0.00%	so	\$0	80	-
09 1	0.0 FURNITURE & EQUIPMENT										
10	Classroom furniture	39	1.	39	\$12,000.00	\$486,720	0.10%	l		5666,866	
11	Computer Lab Furniture	1	-1-	- t	\$15,000.00	\$15,600	0.26%	l		\$21,372	
12											
13	FURNITURE & EQUIPMENT SUBTOTAL					\$502,320	0.44%	50	\$0	\$688,178	
15	A A TROUBLE CON ONLINE & March										
16 :	Classroom Technology (Wright & Hunter) Classroom Technology (AV. Desktop, Laptops, Tablets)		1	9	\$409,133.00	\$425,488	7.15%	3425.498			
18	Network Cabling	-	4	- 12	\$200,000.00	\$208,000	3.49%	\$208,000			
19	Network Wireless and Switches		4	4	5220,000.00	5228.800	3.84%	5228.800			
20	Telephone System	1	1	1	\$74,400.00	877,376	1.30%	\$77,370			
21	Public Address Systems	1	1	1	\$25,000.00	\$26,000	0.44%	\$26,000			
22	Fiber WAN	1	1	3	\$40,000.00	\$41,600	0.70%	\$41,600			
23.	TECHNOLOGY SUBTOTAL					\$1,007,274	16.92%	\$1,007.274	50	50	
24	Building Infrastructure Improvement Total			60.001	\$81.47	54 888 104	82.12%	53.381.917	\$124.025	51 924 202	
26	Project Contingency:	10.00%	Of Building	& Site Budget	401.41	\$337.851	5.660%	\$237.464	\$12,403	\$123,602	- 1
27	Permits, Testing & Printing	2.50%		& Site Budget		\$92,909	1.56%	565,303	53,411	\$33,991	- 1
28	Construction Manager Fee and Costs:	8.00%	Of Building	& Site Budget		\$304,742	5.12%	5214,193	\$11,187	\$111,489	1
29 .	Professional Fees & Costs:	8.00%	Of Building	& Site Budget	& Contingency		5 6 500	6555 556	E12.062	\$100 400	
20 1	PROJECT TOTAL					\$5,952,727	1.00 ODS	\$4,130,205	\$163,106	\$2,313,693	

\$4,130,205 \$163,108 \$2,313,693 \$0 \$6,607,006



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Sample - Middle School

ASSESSMENT





Brownell Middle School 6-8

260 Chalfonte, Grosse Pointe Farms, Michigan

Building Age: 61 years
Square Footage: 157,493 s.f.
Acres: 15.2
Students: 612

Capacity: 754 (81% Utilization)

Brownell Middle School is a 157,493 s.f brick clad 2-story building which opened in its doors in 1956. Students who graduate Brownell will attend North High School.





2017 Facilities Assessment

Site

The 144 car asphalt parking lot was resurfaced in 2010 and may need replacement in the near future. There are a total of 3 ballfields at the southern end of the 15.2 acre site.

Roofing:

The built-up roof areas range in age from 18, 10, 8, 7, and 3 years old. Due to the varying ages of the roofs, only some roof areas will need replacement in the near future.

HVAC

The (2) steam boilers servicing the building are 24 years old and will need replacement or significant reconditioning in the next 5 to 10 years. Several of the room unit ventilators require replacement on the second level. Some of the classrooms do not have air conditioning.

Electrical:

It is also recommended to replace the existing corridor and classroom fluorescent light fixtures with more energy efficient LED fixtures throughout the building. Classrooms will require additional electrical power needs to support new IT equipment.

Plumbing:

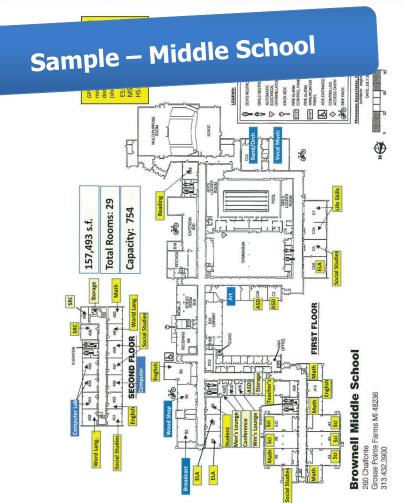
The pool equipment and boiler require replacement due to condition and age. It is recommended to replace the existing 61 year old domestic hot and cold water galvanized piping, sanitary & storm drains and heating system piping. An allowance for replacement is included in the summary of costs.

Finishes

Where stem mounted fluorescent fixtures are present, it is recommended to install new acoustical tile ceilings and LED lighting. Some of the classroom, office and media center furniture should be replaced due to age and









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2017 Facilities Assessment

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Steam Boilers







Classroom A/C Unit

Classroom Lighting





Sample – Middle School

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Lorr acilities Assessment







Performing Arts Center

Unit Ventilator



Classroom Furniture





2017 Facilities Assessment



Map	Name	Sq/Ft	Est Install	Grade
1	Section 1-A	15,035	2009	В
2	Section 2-B	7,208	1999	C
3	Section 3-C	22,674	1999	C
4	Section 4-D	5,617	1999	C
5	Section 5-E	57,797	2014	A
6	Section 6-F	4,906	2014	A
7	Section 7-G	10,922	1999	D
8	Section 8-H	14,780	1999	D
9	Section 9-I	482	2007	В
10	Section 10-J	493	2007	В
11	Section 11-K	549	2007	В
12	Section 12-L	1,283	2007	В
13	Section 13-M	377	2007	В
14	Section 14-N	411	2007	В
15	Section 15-O	423	2007	В
16	Section 16-P	1,371	2007	В
17	Section 17-Q	12,365	2010	C
18	Section 18-R	707	2010	В
10	Section 19-S	2 427	2010	

Brownell Middle School Roof Information - JD Candler Report dated 12-30--15





Sample – Middle School

ine	Draft 6-28-17 Program Area	Area Required (in Sq. Ft.)	No. of Rms. / Units Required	Total Area (in Sq. Ft.)	Base Unit Cost (\$)	Effective Program Area Cost (5)	As % of Total Cost	Critical Needs (1 - 3 years)	Deferrable Maintenance	Property Enhancement (7 - 10 years)	Other
	1.0 SITE	(11,14,14)		2							
2											
3	Paying Replace Asphalt Parking Lot (144 spaces) 2010	72,000		72,000	53.50	\$262,080	2.51%		\$319,738		
5			100				3410100071		******		
5	Improve landscaping	,		11	525,000.00	\$26,000	0.26%			\$35,620	
8.	SITE SUBTOTAL					\$288,000	2.87%	\$0	\$319,738	\$35,620	
	2.0 BUILDING ENVELOPE										
2	Roofing Work - J.D. Candler Report	7 208	-	1000000	58.00	\$59.071	0.60%		\$73,164		
3	Replace Roof (BUR, installed 1999, grade C) Replace Roof (BUR, installed 1999, grade C)	7.208	- 8	7,208 22,674	\$8.00	\$188,646	1.88%		\$230,150		
s	Replace Roof (BUR, installed 1999, grade C)	5,617	1	5,617	\$8.00	\$46,733	0.47%		\$57,015		
6	Replace Roof (BUR, installed 1999, grade D)	10,922	1	10,922	\$8.00	\$90,871	0.91%	\$90,871			
7	Replace Roof (BUR, installed 1999, grade D)	14,760		14,780	\$8.00 \$0.00	\$122,970	0.00%	\$122,970		\$0	
8	Replace Roof BUR, installed 2007, grade B) Replace Roof BUR, installed 2007, grade B)	549	- 5	549	\$0.00	30	0.00%			30	
0	Replace Roof BUR, installed 2007, grade B)	1,283	- 1	1,283	\$0.00	SD	0.00%			50	
1	Replace Roof BUR, installed 2007, grade B)	377	1	377	\$0.00	\$0	0.00%			80	
2	Replace Roof BUR, installed 2007, grade B)	411	2	411	\$0.00	\$0	0.00%			\$0	
1	Replace Roof BUR, installed 2007, grade B) Replace Roof BUR, installed 2007, grade B)	423 1,371	1	423 1,371	\$0.00	\$0 \$0	0.00%			\$0 \$0	
5	Replace Roof BUR, installed 2009, grade B)	15,035	- 1	15.035	\$0.00	50	0.00%			50	
3	Replace Roof (BUR, installed 2010, grade C)	12,365	1	12,345	\$8.00	\$102,877	1.03%		\$125,510		
7	Replace Roof (BUR, installed 2010, grade B)	707	1	707	50.00	sc	0.00%			50	
3	Replace Roof (BUR, installed 2010, grade B) Replace Roof (BUR, installed 2014, grade A)	3,437 57,797		3,437	\$0.00	30	0.00%			\$0 \$0	
,	Replace Hoof (BUR, installed 2014, grade A) Replace Roof (BUR, installed 2014, grade A)	4,906			50.00					\$0	
	Patching / Curbs for new M/E Work	1	1	- 1	\$50,000.00	\$52,000	0.52%		\$63,440	40	
3											
	BUILDING ENVELOPE SUBTOTAL					\$654,069	6,62%	\$213,841	\$549,279	\$0	
3 1	3.0 INTERIOR/FINISHES										
	Abatement (allow)	1	1	1.1	\$200,000.00	\$208,000	2.07%	\$208,000			
•	Replace door hardware		30	30	\$500.00	\$15,600	0.16%	\$15,600			
1	Flooring Classrooms (VCT)	760	12	9.000	84.50	842,120	0.42%	\$42,120			
2	Regiace Pool Tile, Gutter	100	1	8.000	\$25,000.00	\$26,000	0.26%	\$28,000			
3	Paint Areas Disturbed by Construction	20,000	1	20,000	\$1.00	520,800	0.21%	\$20,800			
	Coiling Replacement	800	12	9,600	\$4.00	\$39,936	0.40%	\$39,936			
5 -	INTERIOR/FINISHES SUBTOTAL					\$352,456	3.52%	\$352,456	\$0	\$0	
9	4.0 PLUMBING SYSTEMS Horizontal HW/CW Plping Replacement (mains only)	157,493	40	157,493	84.00	\$855,171	6.50%			\$897.584	
0	Sanitary & Storm Drain Replacement (mains only)	157,493	40	157,493	53.00	\$491,378	4.90%			\$673.186	
î.	Steam & Condensate Piping Replacement (allow)		1	1	\$200,000.00	\$208,000	2.07%			\$284,960	
	Replace and add domestic water valves and fittings (allow		13	- 3	\$100,000.00	\$104,000	1,04%			\$142,480	
4	Replace Pool pump, motor, filter, flow meter, valves, piping	1	-	- 1	\$140,000.00	\$145,600	1.45%	\$145,600			
5 1	Replace Pool pump, motor, filter, flow meter, valves, piping gauges, install backwash air gap, chemical pumps, Inishes PLUMBING SYSTEMS SUBTOTAL.	i	t	1	\$140,000.00	\$145,600	1.45%	\$145,600	50	\$1,998,212	
4 5 1 5 1 5 1 5 1 5 1	gauces, install backwash air gap, chemical pumps, finishes	1	t	ä	\$140,000.00				\$0	\$1,998,212	
4 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	gauges, install backwesh sir gap, chemical pumps, finishes PLUMBING SYSTEMS SUBTOTAL	1	6	,	\$140,000.00				\$0	\$1,998,212	
5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	gauges, install backwesh air gap, chemical pumps, finishes PLUMBING SYSTEMS SUBTOTAL 5.6 HVAC SYSTEMS Haating Steam Bolers (1955, 24 years old)	2	0	1 2	\$180,000,00	\$1,604,149	16.00% 3.73%	\$145,600 \$374,400	\$0	\$1,998,212	-
3 1 3 1 1 2 3	gauges, notall backwesh air gap, chemical pumps, finishes PLUMBING SYSTEMS SUBTOTAL 5.6 HVAC SYSTEMS Haating		1			\$1,604,149	16.03%	\$145,500	\$0	\$1,998,212	
5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	gauges, install backwisch ein gap. chemicel pumgs. Frinbeis PLUMBING SYSTEMS SUBTOTAL 5. CHVAC SYSTEMS Finaling Steam Bolers (1995, 24 years old) Replace Steam Heating System Valves.	2 1		2 1	\$180,000.00 \$60,000.00	\$1,604,149 \$374,400 \$80,200	3.73% 0.83%	\$145,600 \$374,400 \$83,200	\$0	\$1,998,212	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	gauges, notall backwesh air gap, chemical gumps, frithes PLUMBING SYSTEMS SUBTOTAL 5. CHVAC SYSTEMS Heating Steen Bellers (1955, 24 years olf) Repluce Steen Heating System Valves Replace 2nd Floor Units Vertis	2	1		\$180,000.00 \$80,000.00 \$20,000.00	\$374,400 \$80,200 \$291,200	3.73% 0.83% 2.90%	\$145,600 \$374,400 \$83,200 \$291,200	50	\$1,998,212	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	gauges, install backwisch ein gap. chemicel pumgs. Frinbeis PLUMBING SYSTEMS SUBTOTAL 5. CHVAC SYSTEMS Finaling Steam Bolers (1995, 24 years old) Replace Steam Heating System Valves.	2 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 1	\$180,000.00 \$60,000.00	\$1,604,149 \$374,400 \$80,200	3.73% 0.83%	\$145,600 \$374,400 \$83,200	\$0	\$1,998,212	
4 5 5 6 7 8 1 1 2 3 4 5 6 7 8	gauges, notall backwesh air gap, chemical pumps, fritheis PLUMBING SYSTEMS SUBTOTAL 5. HVAC SYSTEMS Haating Steam Bollers (1995; 24 years old) Replace Steam Heating Systems Valves Replace 2nd Floor Units Wartis	2 1 14 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 1	\$180,000.00 \$80,000.00 \$20,000.00 \$20,000.00	\$1,604,149 \$374,460 \$80,200 \$291,200 \$20,860	3.78% 0.83% 2.90% 0.21%	\$145,600 \$374,400 \$83,200 \$291,200 \$20,800	50	\$1,998,212	1111
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	pages, neal lookeesh air gap, revenues perms. Initiative. 8. HYAC SYSTEMS Bearing Statement of the stateme	2 1 14 1 3	1	2 1 14 1	\$180,000,00 \$80,000,00 \$20,000,00 \$20,000,00 \$100,000,00	\$374,400 \$83,200 \$291,200 \$20,800 \$312,000	3.73% 0.83% 0.21% 0.21% 3.11%	\$145,600 \$374,400 \$83,200 \$291,200 \$20,800 \$312,000	\$0	\$1,998,212	
4 1 1 1 2 3 4 5 S 7 S S S 7 S S S S 7 S S S 7 S S S S 7 S S S S 7 S S S S 7 S	gueges, nedal backweek air geo, Chemodi purgas, Indials PLMSBNO SYSTEMS SUBTOTAL SEMME DELET (1955, 24 years old) Bellet Balletin (1955, 24 years old) Belletin Balletin (1955, 24 years old) Belletin Balletin (1956, 24 years old) Belletin Albertin (1956, 24 years old) Belletin Albertin (1956, 24 years old) Belletin Albertin (1956, 24 years) Belletin (1956, 24 ye	2 1 14 1 3 3 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 1 14 1 3 3 1	\$180,000 00 \$80,000 00 \$20,000 00 \$20,000 00 \$100,000 00 \$60,000 00	\$374,400 \$43,200 \$291,200 \$20,800 \$312,000 \$52,000	3.73% 0.83% 2.90% 0.21% 3.11% 0.52%	\$145,600 \$374,400 \$83,200 \$291,200 \$312,000 \$52,000	.50	\$1,996,212	
45 1 1 2 3 4 5 8 7 8 9 9 1 2 3 4 5	gauges, seeling backwarth or gar Chemoral garress, Trevines, Seel IVAC STITUSE Blean Bicker (1955, 34 years old) Blean Bicker (1955, 54 years old) Blean	2 1 14 1 3 3 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 1 14 1 3 3 1	\$180,000 00 \$80,000 00 \$20,000 00 \$20,000 00 \$100,000 00 \$60,000 00	\$374,400 \$89,200 \$291,200 \$20,800 \$312,000 \$52,000	3,73% 0,83% 2,90% 0,21% 3,11% 0,52% 0,52% 1,04%	\$145,600 \$374,400 \$80,200 \$291,200 \$312,000 \$52,000 \$104,000	60	\$1,996,212	
45 1 1 2 3 4 5 6 7 8 9 9 1 2 3 4 5 6 7	gauge, seed backward or gap chemical garges. Testing S. B. MAC STITUES SE MAC STITUES Blees Blees and Seed of Seed or Seed o	2 1 1 14 1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1	1	2 1 14 1 3 1 1 1 1	\$180,000 00 \$80,000 00 \$20,000 00 \$20,000 00 \$100,000 00 \$60,000 00 \$60,000 00 \$100,000 00	\$374,400 \$80,200 \$291,200 \$291,200 \$30,860 \$312,000 \$52,000 \$52,000 \$104,000	3.73% 0.83% 2.90% 0.21% 0.52% 0.52%	\$145,600 \$374,400 \$93,200 \$291,200 \$312,000 \$52,000 \$52,000	\$0	\$1,996,212	
45 87 8 9 1 2 3 4 5 6 7 8 9	gauges, seeling blookenship on general general streets. E. IVAC 837TER Bloom Bloom 1955. 24 years old? Blookens Steen research glystem Yavans. Blookens Steen 1955. 24 years old? Blookens And Steen 1955. 24 years old? Blookens And Steen 1955. 24 years old? Blookens And Plooken Yavans. Blookens And Plookens Yavans. Blookens And Plookens Yavans. And Conditioning. And DX units. Ventalities. Next Steen.	2 1 1 14 1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1	1	2 1 14 1 3 1 1 1 1	\$180,000 00 \$80,000 00 \$20,000 00 \$20,000 00 \$100,000 00 \$60,000 00 \$60,000 00 \$100,000 00	\$374,400 \$80,200 \$291,200 \$291,200 \$30,860 \$312,000 \$52,000 \$52,000 \$104,000	3,73% 0,83% 2,90% 0,21% 3,11% 0,52% 0,52% 1,04%	\$145,600 \$374,400 \$80,200 \$291,200 \$312,000 \$52,000 \$104,000	\$0	51,998,212	
458789012345878901234587890	gauge, seed backwell or gap chemical general transits. 5. IVAC STYTES The Management of the Manageme	2 1 14 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	14	\$180,000 00 \$80,000 00 \$20,000 00 \$20,000 00 \$100,000 00 \$40,000 00 \$40,000 00 \$40,000 00 \$100,000 00 \$7,500 00 \$30,000 00	\$374,400 940,200 \$291,200 \$291,200 \$20,860 \$312,000 \$50,000 \$104,000 \$241,800	3,73% 0,83% 2,90% 0,21% 3,11% 0,52% 0,52% 0,52% 0,00%	\$145,600 \$374,400 \$291,200 \$29,800 \$312,000 \$20,000 \$104,000 \$241,900	50	\$1,998,212	
45 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1	gauges, seels backweit er gen Chemore geners, Treiber S. BE INAC STITUES Blean Belein (1965, 34 years old) Blean Belein (1965, 54 years old) Blean Belein (1965, 54 years old) Blean Belein (1965, 54 years old) Belein Selber (1965, 54 years old)	2 1 14 1 3 1 1 1	1	2 1 14 13 13 13 13 13 13 13 13 13 13 13 13 13	\$180,000 03 \$60,000 03 \$20,000 03 \$20,000 03 \$100,000 03 \$60,000 03 \$60,000 03 \$100,000,00	\$374,400 949,200 \$291,200 \$291,200 \$372,000 \$302,000 \$104,000	9.73% 9.73% 9.80% 9.20% 9.21% 9.52% 1.52% 1.04%	\$145,600 \$374,400 \$21,200 \$21,200 \$312,000 \$124,000 \$124,000 \$312,000 \$124,000	\$0	81,998,212	
456789012345678901234567890123	gauges, maid backwarb or gain chemical general traveller. E. IVAC STYTEE **EARTH ** **Been Book of Styte	2 1 1 14 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1	1	2 1 14 1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1	\$180,000,00 \$80,000,00 \$20,000,00 \$30,000,00 \$100,000,00 \$60,000,00 \$7,500,00 \$30,000,00 \$10,000,00 \$10,000,00 \$10,000,00 \$2,50 \$31,000,00	\$1,604,149 \$374,400 90,200 \$291,200 \$312,000 \$312,000 \$104,000 \$241,600 \$312,000 \$41,600 \$41,600	3.73% 0.83% 2.90% 0.21% 0.52% 0.52% 0.00% 0.31% 0.00%	\$145,600 \$374,400 \$93,200 \$291,200 \$312,000 \$104,000 \$104,000 \$31,200 \$31,200 \$31,200 \$41,600 \$41,600	\$0	\$1,998,212	
8 1	gauges, seeling backweith or gap chemotrop garmet, treviews, E. IVAC 8371E48 Blasse Bibliot 1955, 34 years old; Blasse Bibliot 1955, 35 years old; Periodic Silson research glysien Vavies. Begliose Silson research glysien Vavies. Begliose Silson From Vertical Research glysien Vavies. Begliose Silson From Vertical Research glysien Vavies. Begliose Silson From Vertical Research glysien Vavies. Begliose Mortina Vertical Research glysien Vavies. Begliose Mortina Vertical Research glysien Vertical Research Common Vertical Research Common Vertical Research Common Vertical Vertical Research Common Vertical Vertical Research Common Vertical Research C	2 1 1 14 13 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1	1	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$180,000 00 \$80,000 00 \$20,000 00 \$20,000 00 \$5100,000 00 \$100,000 00 \$7,500 00 \$30,000 50 \$10,000 50	\$374,400 \$83,200 \$29,200 \$20,800 \$312,000 \$50,000 \$104,000 \$241,600 \$412,000 \$412,000 \$412,000	3,73% 0,83% 2,90% 0,25% 0,52% 0,52% 1,04% 0,00%	\$145,600 \$374,400 \$291,200 \$20,800 \$312,000 \$20,000 \$104,000 \$3141,000 \$31,200 \$3141,000	\$0	\$1,998,212	

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Summary of Costs Brownell MS

57,4	nell Middle School 53 a.f. 2-stary Building 1956		Geogra	Cost Data ation Factor = ation Factor =	1,00 1,00 1,04	(Medium) (US Median) Spring 2017		1.04	Cost Escala	stion Factors	1.04
ine	Draft 6-28-17	Area Required	No. of Rms. / Units	Total Area	Base Unit	Effective Program Area	As % of Total	Critical Needs	Deferrable Maintenance	ital Priorities Property Enhancement	Other
No.	Program Area	(in Sq. Ft.)	Required	(in Sq. Ft.)	Cost (\$)	Cost (\$)	Cost	(1 - 3 years)	(4 - 6 years)	(7 - 10 years)	
88	6.0 ELECTRICAL SYSTEMS										
89	Lighting							l			
90	Replace Lighting with LED's	35	1	35	\$1,200,00	\$43,680	0.44%	\$43,680			
91	Replace exterior building lights	157,493	1	157,493	\$0.25	\$40,948	0.41%	\$40,948			
92	Replace all emergency and exit lights	157,493	1	157,493	\$0.25	540,948	0.41%	\$40,948			
	Add electrical upgrade for IT (classrooms)	40		40	\$5,000.00	\$208,000	2.07%	5208,000			
94	Add Generator FLECTRICAL SYSTEMS SUBTOTAL	1	1	1	\$150,000.00	\$156,000	1.58%	\$333.576	50	\$213.720 \$213.720	
95	ELECTRICAL SYSTEMS SUBTOTAL					\$489,576	4.88%	\$333,576	30	\$213,720	_
	7.0 SECURITY (Wright & Hunter)										
98	Door Access System	1	1		\$50,000,00	\$52,000	0.52%	\$52,000			
99	Surveillance System	10	1		\$87,000.00	\$90,480	0.90%	\$90,480			
00								1 200 200 200			
01	SECURITY SYSTEMS SUBTOTAL					\$142,480	1.42%	\$142,480	50	\$0	
103 104 105 106	8.0 NOT USED OTHER SUBTOTAL					\$0	0.00%	50	80	\$0	
07											
80	9.0 FURNITURE & EQUIPMENT Classroom furniture	1	20	20	\$15,000.00	\$312,000	3.11%			8427 440	
100	Other furniture (Office, lobby, etc.)	1	20	20	\$8,000.00	\$86.560	0.68%			\$91.187	
51	Media Center Furniture	- 6	- 1		\$20,000.00	520,800	0.21%			528.496	
12	noon seller i sinsere				444,444					200,100	
13								2000			
14	FURNITURE & EQUIPMENT SUBTOTAL					\$399,360	3.98%	\$0	\$0	\$547,123	- 3
	10.0 TECHNOLOGY (Wright & Hunter)										
17	Classroom Technology (AV. Desktop, Laptops, Tablets)	1	1	1	\$825,000.00	\$858.000	8.58%	\$858,000			
18	Network Cabling	1	- 1	1	\$750,000.00	\$780,000	7.78%	5780,000			
19	Network Wireless and Switches	1	1	1	\$350,000.00	\$364,000	3.63%	\$364,000			
20	Telephone System	1	1	-1	\$100,800.00	\$104,832	1.05%	\$104,832			
21	Public Address Systems	1	1	1	\$75,000.00	\$78,000	0.78%	\$78,000			
22	Fiber WAN TECHNOLOGY SUBTOTAL	1	1	1	\$80,000.00	\$83,200	22,62%	\$83,200 \$2,268,032	50	50	
24	TECHNOLOGY SUBTOTAL					92,268,032	22.02%	32,260,032	30	30	-
25	Building Infrastructure Improvement Total			157 493	552.46	\$8.262.833	82.41%	\$5,510,615	\$869.016	\$2.794.975	
26	Project Contingency:	10.00%	Of Building	& Site Budget		\$559,544	5.58%	\$324,258	\$86,902	\$224,755	
	Permits, Testing & Printing	2.50%		& Site Budget		\$153,875	1.53%	\$89,171	\$23,898	\$61,808	4
27	Construction Manager Fee and Costs:	8.00%		& Site Budget		****		****	220.500	E445 446	
28						\$545,085	5.44%	\$315,879	\$84,656	\$218,948	
28	Professional Fees & Costs: PROJECT TOTAL	8.00%	O! Building	& Site Budget	a Consequence	\$10,026,045	100.00%	\$6,532,405	\$1,142,857	\$3,502,915	-

\$6,532,405 \$1,142,857 \$3,502,915 \$0 \$11,178,177





Sample - High School

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2017 Facilities Assessment



North High School 9-12

707 Vernier, Grosse Pointe Woods, Michigan

Building Age: 51 years Square Footage: 342,148 s.f. Acres: 31.3

Students: 1,385

Capacity: 2,408 (57% Utilization)

North High School is a 342,148 s.f brick clad 3-story building which opened in its doors in 1966. It is the High School for Poupard ES, Mason ES, Ferry ES and Parcells MS students.





2017 Facilities Assessment

Site:

The South 179 car asphalt parking lot and the North 356 car student parking lot may need replacement in 4 to 6 years along with several catch basins. The football field turf needs replacement, the running track requires replacement along with the stadium lights.

Roofing:

The built-up roof areas range in age from 37, 22, 21, 18, 16, 14, 12, 7 and 4 years old. Due to the varying ages of the roofs, only some roof areas will need replacement in the near future.

HVAC:

The (2) steam boilers servicing the building are 24 years old and will need replacement or significant reconditioning in the next 5 to 10 years. Several of the room unit ventilators require replacement on the second level. Some of the classrooms do not have air conditioning.

Electrical

It is also recommended to replace the existing corridor and classroom fluorescent light fixtures with more energy efficient LED fixtures throughout the building. Classrooms will require additional electrical power needs to support new IT equipment. The existing electrical panels and switch gear are original and should be replaced.

Plumbing:

The pool equipment requires replacement due to condition and age. The domestic hot water boiler is 17 years old and requires replacement in the near future. The circulation pumps in the fan rooms should be replace due to current condition and wear. It is recommended to replace the existing 51 year old domestic hot and cold water galvanized piping, sanitary & storm drains and heating system piping. An allowance for replacement is included in the summary of costs.

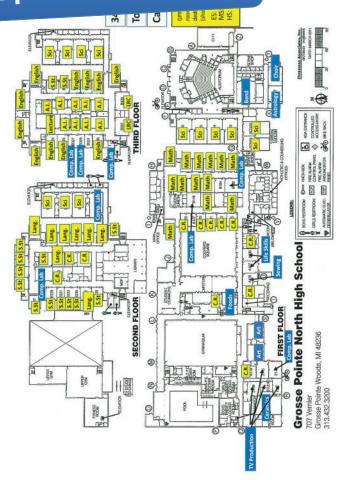
Finished

Where stem mounted fluorescent fixtures are present, it is recommended to install new acoustical tile ceilings and LED lighting. The third floor ceilings and flooring should be replace due to their current condition and the lockers should be replaced. The kitchen walk-in freezer and serving lines should be replaced. The exterior metal panels at Area A North Lobby should be replace due to their current condition and several windows require replacement with more energy efficient units. The Performing Arts Center (PAC) orchestra pit elevator requires repairs or replacement.





Sample – High School





2017 Facilities Assessment





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Original Building Controls

Original Electrical Switchgear





Sample - High School



2017 Facilities Assessment















Typical Toilet Room



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2017 Facilities Assessment

North High School

342,148 s.f. 31.3 Acres





Sample - High School

					100	apring 2017	- (F) (B)	1.04	1,22	ation Factors 1.37	1.04
ĺ			100-60701111			435543377900			Ranked Car	pital Priorities	
	Draft 6-28-17	Area Required	No. of Rms. / Units	Total Area	Base Unit	Program Area	As % of Total	Critical Needs	Deferrable Maintenance	Property Enhancement	Oth
_	Program Area	(in Sq. Ft.)	Required	(in Sq. Ft.)	Cost (\$)	Cost (\$)	Cost	(1 - 3 years)	(4 - 6 years)	(7 - 10 years)	
	3.0 INTERIOR/FINISHES										
	Abatement Remove 3rd floor ACT Tile	30,000	40	30,000	\$3.00	\$93,600	0.32%	\$93,600			
	Remove 3rd floor ACT Ceiling	30,000	1	30,000	\$3.00	\$93,600	0.32%	\$93,600			
	Remove Spray on Asbest. At removed lockers	1	1	1	\$20,000.00	\$20,800	0.07%	\$20,800			
	PAC Elevator	Ť	1	4	\$250,000.00	\$260,000	0.89%	\$260,000			
							2022/201				
	Doors & Hardware						3				
	Replace door hardware (locksets only)	500	1	500	\$500.00	\$260,000	0.89%	\$260,000			
							00.000				
	Ceilings Replace Corridor and CR Ceilings (due to new MRP/IT work	30.000	1	30.000	\$4.00	\$124,800	0.43%	\$124,800			
	at 3rd floor						32,5,6	20.7019200			
	Flooring										
	Corridor and Classrooms 3rd floor	30,000	1	30,000	\$4.00	\$124,800	0.43%	\$124,800			
	Paint Areas Disturbed by Construction	30,000	1	30,000	\$1.00	\$31,200	0.11%		\$38,064		
							200000000000000000000000000000000000000				
	Replace Toilet Partitions (metal or plastic)	1	12	12	\$25,000.00	\$312,000	1.07%		\$380,640		
	Replace Toilet Accessories (TP, PT, soap, mirror, grab bars,	1	12	12	\$600.00	\$7,488	0.03%		\$9,135		
	Lockers										
	Replace student comidor lockers 3rd Floor	1	300	300	\$175.00	\$54,600	0.19%		\$66,612		
	Replace athletic lockers	1	80	80	\$175.00	\$14,560	0.05%		\$17,763		
	Replace gym lockers	1.	80	80	\$175.00	814,560	0.05%		\$17,763		
	Replace Walk-in Freezer	1	1	1	\$100,000.00	\$104,000	0.36%		\$126,880		
	Replace Serving Lines in Cafeteria	1	1	3.	\$50,000.00	\$52,000	0.18%		\$63,440		
	INTERIOR/FINISHES SUBTOTAL					\$1,568,008	5,36%	\$977,600	\$720,298	\$0	
						4.10.010.00					
	4.0 PLUMBING SYSTEMS										
	Replace circulation pumps in each fan room	14	10			\$72,800	0.25%	\$72,800			
				14	\$5,000.00						
	Replace 6" Back Flow Preventer	1	1	14	\$5,000.00 \$10,000.00	\$10,400	0.04%	\$10,400			
	Horizontal HW/CW Piping Replacement (mains only)	342,148		342,148	\$10,000.00 \$4.00	\$10,400	4.87%	\$10,400		\$1,949,970	
	Horizontal HW/CW Plping Replacement (mains only) Sanitary & Storm Drain Replacement (mains only)	1	1	342,148 342,148	\$10,000.00 \$4.00 \$3.00	\$10,400 \$1,423,336 \$1,067,502	4.87% 3.65%	\$10,400		\$1,462,477	
	Horizontal HW/CW Piping Replacement (mains only)	342,148	1	342,148	\$10,000.00 \$4.00	\$10,400 \$1,423,336 \$1,067,502 \$416,000	4.87% 3.65% 1.42%	\$10,400			
	Honzontal HW/CW Piping Replacement (mains only) Sanitary & Storm Drain Replacement (mains only) Steam & Condensate Piping Replacement (allow) Hot Water Boller (2000)	342,148	1 1 1	342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000	4.87% 3.65% 1.42% 0.18%		\$63,440	\$1,462,477	
	Horzental HWCW Piping Replacement (mains only) Sanitary & Storm Drain Replacement (mains only) Steam & Condensate Poling Replacement (allow) Hot Water Boller (2000) Replace pool equipment	342,148	1 1 1	342,148 342,148 1	\$4.00 \$4.00 \$3.00 \$400,000.00	\$10,400 \$1,423,336 \$1,067,502 \$416,000	4.87% 3.65% 1.42%	\$10,400 \$33,280	\$63,440	\$1,462,477	
	Honzontal HW/CW Piping Replacement (mains only) Sanitary & Storm Drain Replacement (mains only) Steam & Condensate Piping Replacement (allow) Hot Water Boller (2000)	342,148	1 1 1	342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000	4.87% 3.65% 1.42% 0.18%		\$63,440 \$182,707	\$1,462,477	
	Horizontal HW.CW Piping Replacement (mains only) Santary & Storm Drain Replacement (mains only) Steam & Conditional Piping Replacement (sallow) Hot Water Boller (2000) Replace pole occupient Purnoing Pixtures Replace (bol	342,148 342,148 1 1	1 1 1 1	1 342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00	\$10,400 \$1,423,336 \$1,067,502 \$416,000 \$52,000 \$33,280 \$149,760	4.87% 3.65% 1.42% 0.18% 0.11%	\$33,280	\$182,707	\$1,462,477 \$569,920	
The state of the s	Harizontal HWCW Piping Replacement (mains orby) Santany S, Storm Drain Replacement (mains orby) Santany S, Storm Drain Replacement (mains orby) Hot Wash Poling (Replacement (allow) Hot Wash Poling (2000) Replace pool equipment Plumbing Fishures Replace to felter/urnal/stavatories. PLUMBING SYSTEMS SUBTOTAL	342,148 342,148 1 1	1 1 1 1	1 342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00	\$1,423,336 \$1,087,502 \$416,000 \$52,000 \$33,280	4.87% 3.65% 1.42% 0.18% 0.11%		1222000	\$1,462,477	
The state of the s	Horizontal HW.CW Piping Replacement (mains only) Santary & Storm Drain Replacement (mains only) Steam & Conditional Piping Replacement (sallow) Hot Water Boller (2000) Replace pole cycliment Purnoing Pixtures Replace (boliste (urhashillavatories.	342,148 342,148 1 1	1 1 1 1	1 342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00	\$10,400 \$1,423,336 \$1,067,502 \$416,000 \$52,000 \$33,280 \$149,760	4.87% 3.65% 1.42% 0.18% 0.11%	\$33,280	\$182,707	\$1,462,477 \$569,920	
The state of the s	Harizontal HWCW Piping Replacement (mains orby) Santany S, Storm Drain Replacement (mains orby) Santany S, Storm Drain Replacement (mains orby) Hot Wash Poling (Replacement (allow) Hot Wash Poling (2000) Replace pool equipment Plumbing Fishures Replace to felter/urnal/stavatories. PLUMBING SYSTEMS SUBTOTAL	342,148 342,148 1 1	1 1 1 1	1 342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00	\$10,400 \$1,423,336 \$1,067,502 \$416,000 \$52,000 \$33,280 \$149,760	4.87% 3.65% 1.42% 0.18% 0.11%	\$33,280	\$182,707	\$1,462,477 \$569,920	
-	Hardonal MV.CVI Pyrop Reducement (Indian contr) Scalaring Human Date Reducement (Indian contr) Steam & Condensate Pointy Replacement (allow) Hat Water Gad Very Replacement (allow) Hat Water Gad Very Replacement (Indian Control Con	342,148 342,148 1 1	1 1 1 1	1 342,148 342,148 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00	\$10,400 \$1,423,336 \$1,067,502 \$416,000 \$52,000 \$33,280 \$149,760	4.87% 3.65% 1.42% 0.18% 0.11%	\$33,280	\$182,707	\$1,462,477 \$569,920	
-	Harizontal HW.CW Piping Replacement (mains orth) Saratary S. Storm Drain Replacement (mains orth) Saratary S. Storm Drain Replacement (mains orth) Saratary S. Storm Drain Replacement (allow) Hat Washe Folker (2000) Replace police discharant Plumbing Flouries Plumbing Flouries Plumbing Flouries Plumbing SYSTEMS SUBTOTAL 6.0 HVAC SYSTEMS Sharin Bollen (2002 Johnson Low Pressure) Sharin Bollen (2002 Johnson Low Pressure) Saraco capate, camb. Air orenig Grassbory	1 342,148 342,148 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 2	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00 \$12,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$53,280 \$149,760 \$33,225,077	4.87% 3.65% 1.42% 0.18% 0.51% 11.03%	\$33,280	\$182,707 \$246,147 \$634,400	\$1,462,477 \$569,920	
The state of the s	Hardonal MV.CVI Pyrop Reducement (Indian contr) Scalaring Human Date Reducement (Indian contr) Steam & Condensate Pointy Replacement (allow) Hat Water Gad Very Replacement (allow) Hat Water Gad Very Replacement (Indian Control Con	1 342,148 342,148 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00 \$12,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$33,280 \$149,760 \$3,225,077	4.87% 3.65% 1.42% 0.18% 0.11% 0.51% 11.03%	\$33,280	\$182,707 \$246,147	\$1,462,477 \$569,920	
	Historoidal HW.CW Piping Replacement (mains orth) Santany S. Storm Drain Replacement (mains orth) Santany S. Storm Drain Replacement (mains orth) Santany S. Storm Drain Replacement (abov) Hist Waste Foliay (2000) Replace pote deplacement Plumbing Finance Plumbing Finance Plumbing Finance Plumbing Finance Plumbing SysTEMS SUBTOTAL SO HYAC SYSTEMS Heating Shawn Bollen (2002 Johnson Low Pressure) Shawoc equip., centr. Air, centre, Gas stops Replace Steam Heating System Valves	1 342,148 342,148 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 12	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00 \$12,000.00 \$250,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$104,000	4.87% 3.65% 1.42% 0.18% 0.51% 11.03% 1.78% 0.36%	\$33,280	\$182,707 \$246,147 \$634,400	\$1,462,477 \$569,920	
- 1	Historical HW-CVV Pipeng Replacement (mains only) Santany & Storm Danis Replacement (mains only) Santany & Storm Danis Replacement (mains only) Santany & Storm Danis Replacement (story) Hot Wars Replace 20000) Phyliace policy occupients Replace to liets furnishes havatories PLUMBING SYSTEMS SUBTOTAL S. HIVAC SYSTEMS SHEET Bollers; (2002 Johnson Low Pressure) Asson, equip., curth. Air, emerg. Gas stops Replace Storm Horing System Valves. Install now yount togs.	1 342,148 342,148 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$3.00 \$50,000.00 \$32,000.00 \$12,000.00 \$100,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$104,000 \$52,000	4.87% 3.65% 1.42% 0.18% 0.11% 0.51% 11.03% 1.78% 0.36%	\$33,280	\$182,707 \$246,147 \$634,400 \$126,880	\$1,462,477 \$569,920	
The state of the s	Horizontal HW.CW Piping Replacement (mains orth) Saratary S. Storm Drain Replacement (mains orth) Saratary S. Storm Drain Replacement (mains orth) Saratary S. Storm Drain Replacement (allow) Hot Washe Folker (2000) Replace pot deutomant Plumbing Flouries Replace to telestrum trainist invatories Plumbing Flouries Plumbing Flouries Plumbing SYSTEMS SUBTOTAL 6.0 HVAC SYSTEMS Swem Bollen (2002 Johnson Low Pressure) Savano: quayeomb. Air, emerg. Grassing Special Stam Horiting System Valves Install new peam traps Install new peam traps Flouries Flou	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 12	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$32,000.00 \$12,000.00 \$250,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$104,000	4.87% 3.65% 1.42% 0.18% 0.51% 11.03% 1.78% 0.36%	\$33,280	\$182,707 \$246,147 \$634,400	\$1,462,477 \$569,920	
The state of the s	Historical HW.CW Press Reducement (mine only) Steam & Condensate Poles Reducement (mine only) Steam & Condensate Poles Replacement (allow) Hot Wass Boller (2000) Hot Wass Boller (2000) Purching Folker Replace to letter unnastituatories PLAMENG SYSTEMS PLAMENG SYSTEMS SUBTOTAL 6.0 HVAC SYSTEMS Swam Bollen (2002 Johnson Low Pressure) Assoc. capie., centh. Air, emerg. Gas steps Replace Steam Horing System Valves. Install new shalm traps Replace Steam Horing System Valves.	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4.00 \$3.00 \$3.00 \$3.00 \$3.00 \$3.2,000.00 \$32,000.00 \$12,000.00 \$12,000.00 \$10,000.00	\$10,400 \$1,423,536 \$1,087,536 \$416,000 \$32,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$5,070,000	4.87% 3.65% 1.42% 0.18% 0.51% 11.03% 1.78% 0.36% 0.18% 1.78%	\$33,280 \$116,480 \$52,000	\$182,707 \$246,147 \$634,400 \$126,880	\$1,462,477 \$569,920	
The state of the s	Horizontal HW.CW Piping Replacement (mains orth) Saratary S. Storm Drain Replacement (mains orth) Saratary S. Storm Drain Replacement (mains orth) Saratary S. Storm Drain Replacement (allow) Hot Washe Folker (2000) Replace pot deutomant Plumbing Flouries Replace to telestrum trainist invatories Plumbing Flouries Plumbing Flouries Plumbing SYSTEMS SUBTOTAL 6.0 HVAC SYSTEMS Swem Bollen (2002 Johnson Low Pressure) Savano: quayeomb. Air, emerg. Grassing Special Stam Horiting System Valves Install new peam traps Install new peam traps Flouries Flou	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$3.00 \$50,000.00 \$32,000.00 \$12,000.00 \$100,000.00	\$10,400 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$104,000 \$52,000	4.87% 3.65% 1.42% 0.18% 0.11% 0.51% 11.03% 1.78% 0.36%	\$33,280	\$182,707 \$246,147 \$634,400 \$126,880	\$1,462,477 \$569,920	
The state of the s	Historical HW.CW Press Reducement (mine only) Steam & Condensate Poles Reducement (mine only) Steam & Condensate Poles Replacement (allow) Hot Wass Boller (2000) Hot Wass Boller (2000) Purching Folker Replace to letter unnastituatories PLAMENG SYSTEMS PLAMENG SYSTEMS SUBTOTAL 6.0 HVAC SYSTEMS Swam Bollen (2002 Johnson Low Pressure) Assoc. capie., centh. Air, emerg. Gas steps Replace Steam Horing System Valves. Install new shalm traps Replace Steam Horing System Valves.	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4.00 \$3.00 \$3.00 \$3.00 \$3.00 \$3.2,000.00 \$32,000.00 \$12,000.00 \$12,000.00 \$10,000.00	\$10,400 \$1,423,536 \$1,087,536 \$416,000 \$32,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$5,070,000	4.87% 3.65% 1.42% 0.18% 0.51% 11.03% 1.78% 0.36% 0.18% 1.78%	\$33,280 \$116,480 \$52,000	\$182,707 \$246,147 \$634,400 \$126,880	\$1,462,477 \$569,920	
The state of the s	Hostorical HW.CVV Piping Replacement (mains only) Santany S. Storm Danis Replacement (mains only) Santany S. Storm Danis Replacement (mains only) Hot Mark Policy Replacement (story) Pumbing Policy Replacement Policy Replacement (story) Pumbing Policy Policy Replacement (story) Pumbing Policy Policy Replacement (story) Pumbing Policy Replacement (story) Pumbing Policy Replacement (story) Policy Replacement (story) Replace Septement (story) Replacement (story) Rep	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4.00 \$3.00 \$400,000.00 \$50,000.00 \$52,000.00 \$12,000.00 \$12,000.00 \$13,000.00 \$15,000.00 \$15,000.00	\$1,423,36 \$1,423,36 \$1,087,502 \$416,000 \$52,000 \$149,760 \$33,225,077 \$520,000 \$52,000 \$53,070,000	4.87% 3.65% 1.42% 0.18% 0.51% 11.03% 1.78% 0.36% 0.36%	\$33,280 \$116,480 \$52,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400	\$1,462,477 \$569,920	
The state of the s	Historical HW-CVV Pipaig Replacement (mains only) Santary & Storm Danis Replacement (mains only) Santary & Storm Danis Replacement (name only) How Wash Excellented Pipaig Replacement (story) How Wash Ecolor (2000) Phyliac pool occipionni Pepiace to Orleto uninsalshavatorias PLUMBING SYSTEMS SUBTOTAL S. HIVAC SYSTEMS SHARING STORM STATES SHARING STORM STATES Hasting Sharin Bollen (2002 Johnson Low Pressure) Assoc. aque., cumb. Air, cmerg. Gas stops Replace Stam Horing System Valves. Install now sharin Fapa Replace Stam Horing System Valves. Install now sharin Fapa Replace Stam Horing System (2005), Heat ex (1166 AHU Pool (Saltumid) AH Conditioning 10% Replace Collection (110%) Replace Collection (10%) Replace Collection (40%) Replace (2006)	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4.00 \$4.00 \$4.00 \$5.00 \$5.00 \$5.00 \$12,000.00 \$12,000.00 \$12,000.00 \$11,000.00 \$11,000.00 \$11,000.00 \$10,000.00	\$1,423,336 \$1,423,336 \$1,087,502 \$416,000 \$52,000 \$149,760 \$33,280 \$149,760 \$32,25,077 \$520,000 \$104,000 \$5,070,000 \$104,000	4.87%; 3.65%; 1.42%; 0.11%; 0.51%; 11.03%; 1.78%; 0.36%; 0.36%; 0.36%; 0.80%;	\$33,280 \$116,480 \$52,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400	\$1,462,477 \$569,920	
The state of the s	Hostorical HW.CW Piping Replacement (mains orth) Santany 3, 5torn Drain Replacement (mains orth) Santany 3, 5torn Drain Replacement (mains orth) Santany 3, 5torn Drain Replacement (abov) Hot Waste Foliay (2000) Replace pote deplacement Plumbing Flowing Replace to Celephanet Plumbing Flowing Replace to Celephanet Plumbing Flowing Replace State Training Plumbing System Substitution Plumbing System Substitution Plumbing System Substitution Santan Bollen (2002 Johnson Low Pressure) Assoc captor, comb. Air. cenerg, Gas stops Replace Stam Heating System Valves Install new seam tops Replace Stam Heating System Valves Install new seam tops Replace Stam Heating System Valves Aur Conditioning - 1005. Replace Other McClawy Contribugal Chiller, 2002; Replace Other McClawy Contribugal Chiller, 2002; Replace Child Privacy 1005.	1 342,148 342,148 1 1 1 1 2 2 1	1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 2 2	\$10,000.00 \$4,00,000.00 \$4,00,000.00 \$400,000.00 \$400,000.00 \$12,000.00 \$12,000.00 \$1,000.00 \$1,000.00 \$1,000.00 \$25,000.00 \$25,000.00	\$1,423,36 \$1,423,36 \$1,087,502 \$416,000 \$52,000 \$149,760 \$33,225,077 \$520,000 \$52,000 \$53,070,000	4.87%, 3.65%, 1.42%, 0.18%, 0.11%, 0.51%, 11.03%, 1.78%, 0.36%, 0	\$33,280 \$116,480 \$52,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400 \$317,200 \$25,376	\$1,462,477 \$569,920	
The state of the s	Historical HV.CVI Pyros Replacement (minc only) Hostorical HV.CVI Pyros Replacement (minc only) Steam & Condensate Powing Replacement (allow) Hot Waste Boder (2000) Hot Waste Boder (2000) PULMENT STATE (MINC ONLY) PLAMENTS SYSTEMS SUBTOTAL 5.0 HVAC SYSTEMS Heating Swam Bolian (2002 Johnson Low Pressure) Assoc. capie., cent. Air, centre, Gas stops Replace State Horizon (System Valves. Install new seam traps Reptace Stam Horizon (System Valves. AAU Lan China. (Cri. (1986), Sic Histor (2005), Heat ex (1966 AAU Conditioning - 1004; Replace Childre Purces (1969) Air Conditioning - 1004; Replace Childre Purces (1969)	1 342,148 342,148 342,148 1 1 1 1 1 2 2 1 50 325,000 3)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 2 2 1 1 50 325,000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$10,000.00 \$4,00,000.00 \$4,00,000.00 \$400,000.00 \$50,000.00 \$12,000.00 \$12,000.00 \$1,000.00 \$1,000.00 \$1,000.00 \$260,000.00 \$260,000.00 \$260,000.00 \$260,000.00	\$1,42,336 \$1,627,502 \$11,067,502 \$11,067,502 \$140,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$104,000 \$5,070,000 \$104,000 \$260,000 \$20,800 \$52,000	4.87%, 3.65%, 1.42%, 0.18%, 0.11%, 0.51%, 11.03%, 1.78%, 0.36%, 0	\$33,280 \$116,480 \$52,000 \$104,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400	\$1,462,477 \$569,920	
	Hostorical HW.CVV Piping Replacement (mains only) Santany S. Storm Danis Replacement (mains only) Santany S. Storm Danis Replacement (mains only) Hot Ware Foliate (2000) Replace polici equipment Plumbing Foliate Plumbing SySTEMS SUBTOTAL So HWAG SYSTEMS Heating Sheam Bolles (2002 Johnson Low Pressure) Assoc. capta., camb. Air energi, Gas stops Replace Select Heating Sheam Heating Sheam Heating Sheam Heating Foliate Plumbing Foliate Art Under Office, Crit (1689) Sci Higg (2005), Heat ex (168 Art Under Office, Crit (1689) Sci Higg (2005), Heat ex (168 Replace Colliste PubClavy Centrifuse) Foliate Foliat	1 342,148 342,148 1 1 1 1 2 2 1 325,000 1) 1 1 1 1 342,148	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$10,000.00 \$4.00,000.00 \$4.00,000.00 \$4.00,000.00 \$4.00,000.00 \$32,000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00	\$1,42,536 \$1,42,536 \$1,067,502 \$16,000 \$32,280 \$149,760 \$3,225,677 \$120,000 \$5,070,000 \$104,000 \$5,070,000 \$104,000 \$5,070,000 \$5,07	4.87% 3.65% 1.42% 0.18% 0.11% 11.03% 1.78% 0.36% 0.36% 0.36% 0.36% 0.36% 0.07% 0.07% 0.07%	\$33,280 \$116,480 \$52,000 \$104,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400 \$317,200 \$25,376	\$1,462,477 \$569,920	
The state of the s	Historical HV.CVI Pyros Replacement (minc only) Hostorical HV.CVI Pyros Replacement (minc only) Steam & Condensate Powing Replacement (allow) Hot Waste Boder (2000) Hot Waste Boder (2000) PULMENT STATE (MINC ONLY) PLAMENTS SYSTEMS SUBTOTAL 5.0 HVAC SYSTEMS Heating Swam Bolian (2002 Johnson Low Pressure) Assoc. capie., cent. Air, centre, Gas stops Replace State Horizon (System Valves. Install new seam traps Reptace Stam Horizon (System Valves. AAU Lan China. (Cri. (1986), Sic Histor (2005), Heat ex (1966 AAU Conditioning - 1004; Replace Childre Purces (1969) Air Conditioning - 1004; Replace Childre Purces (1969)	1 342,148 342,148 342,148 1 1 1 1 1 2 2 1 50 325,000 3)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 2 2 1 1 50 325,000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$10,000.00 \$4,00,000.00 \$4,00,000.00 \$400,000.00 \$50,000.00 \$12,000.00 \$12,000.00 \$1,000.00 \$1,000.00 \$1,000.00 \$260,000.00 \$260,000.00 \$260,000.00 \$260,000.00	\$1,42,336 \$1,627,502 \$11,067,502 \$11,067,502 \$140,000 \$33,280 \$149,760 \$3,225,077 \$520,000 \$104,000 \$5,070,000 \$104,000 \$260,000 \$20,800 \$52,000	4.87%, 3.65%, 1.42%, 0.18%, 0.11%, 0.51%, 11.03%, 1.78%, 0.36%, 0	\$33,280 \$116,480 \$52,000 \$104,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400 \$317,200 \$25,376	\$1,462,477 \$569,920	
	Hostorical HW.CVV Piping Replacement (mains only) Santany S. Storm Danis Replacement (mains only) Santany S. Storm Danis Replacement (mains only) Hot Ware Foliate (2000) Replace polici equipment Plumbing Foliate Plumbing SySTEMS SUBTOTAL So HWAG SYSTEMS Heating Sheam Bolles (2002 Johnson Low Pressure) Assoc. capta., camb. Air energi, Gas stops Replace Select Heating Sheam Heating Sheam Heating Sheam Heating Foliate Plumbing Foliate Art Under Office, Crit (1689) Sci Higg (2005), Heat ex (168 Art Under Office, Crit (1689) Sci Higg (2005), Heat ex (168 Replace Colliste PubClavy Centrifuse) Foliate Foliat	1 342,148 342,148 1 1 1 1 2 2 1 325,000 1) 1 1 1 1 342,148	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 342,148 342,148 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	\$10,000.00 \$4.00,000.00 \$4.00,000.00 \$4.00,000.00 \$4.00,000.00 \$32,000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00 \$1.000.00	\$1,42,536 \$1,42,536 \$1,067,502 \$16,000 \$32,280 \$149,760 \$3,225,677 \$120,000 \$5,070,000 \$104,000 \$5,070,000 \$104,000 \$5,070,000 \$5,07	4.87% 3.65% 1.42% 0.18% 0.11% 11.03% 1.78% 0.36% 0.36% 0.36% 0.36% 0.36% 0.07% 0.07% 0.07%	\$33,280 \$116,480 \$52,000 \$104,000	\$182,707 \$246,147 \$634,400 \$126,880 \$6,185,400 \$317,200 \$25,376	\$1,462,477 \$569,920	

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Summary of Costs North HS

42,1	High School 48 s.f. 3-story Building 1966		Geogra	Cost Data ation Factor = aphic Factor = ation Factor =	1.00 1.00 1.04	(Medium) (US Median) Spring 2017		1.04	Cost Escal	ation Factors	1.04
ine	Draft 6-28-17	Area Required	No. of Rms. / Units	Total Area	Base Unit	Effective Program Area	As % of Total	Critical Needs	Deferrable Maintenance	Property Enhancement	Other
No.	Program Area	(in Sq. Ft.)	Required	(in Sq. Ft.)	Cost (\$)	Cost (\$)	Cost	(1 - 3 years)	(4 - 6 years)	(7 - 10 years)	
49 50	6.0 ELECTRICAL SYSTEMS										
51	O.O ELECTRICAL STOTERS							1			
52	Power							l .			
53	Original Switch Gear										
54	Replace Existing Panels	1	4	4	\$50,000.00	\$208,000	0.71%	\$208,000			
55											
56	Lighting		100								
57	Replace Lighting with LED's (New OS, Switching, etc.) Replace all emergency and exit lights	342,148 342,148	1	342,148	\$2.00	\$711,668 \$88,958	2.43%	\$711,668 \$88,958			
58	Add electrical upgrade for IT (classrooms)	108		108	\$5,000.00	\$561,600	227.85%	\$561,600			
	Add Generator	106	1	100	\$250,000.00	\$260,000	0.89%	9301,000		\$356,200	
60	Add Generator			2.5	9230,000.00	Q2.00,000	U-109 M	l .		4030,200	
61	ELECTRICAL SYSTEMS SUBTOTAL					\$1,830,226	6.26%	\$1,570,226	\$0	\$356,200	
32	Character Control of C										
	7.0 SECURITY (Wright & Hunter)			1	\$100,000.00	\$104.000	0.36%	\$104,000			
64	Door Access System	- 1	2	1	\$237,000.00	\$246,480	0.84%	\$246,480			
65 66	Surveillance System	100	0.8	5,01	φε37,000.00	9240,400	0.0410	9240,460			
67	SECURITY SYSTEMS SUBTOTAL					\$350,480	1.20%	\$350,480	\$0	\$0	
68	Normal Access (Access										
	8.0 NOT USED							l			
70								I			
71	OTHER SUBTOTAL					SO	0.00%	\$0	\$0	\$0	
73											
	9.0 FURNITURE & EQUIPMENT							ı			
75 76											
77								ı			
78								1000			
79	FURNITURE & EQUIPMENT SUBTOTAL					\$0	0.00%	\$0	\$0	\$0	
BO B1	10.0 TECHNOLOGY (Wright & Hunter)										
32	Classroom Technology (AV, Desktop, Laptops, Tablets)	247	24.7	21	\$1,852,000.00	\$1,926,080	6.58%	\$1,926,080			
83	Network Cabling	1	1	1	\$900,000.00	\$936,000	3.20%	\$936,000			
84	Network Wireless and Switches	1	1	1	\$500,000.00	\$520,000	1.78%	\$520,000			
85	Telephone System	1	1	1	\$264,000.00	\$274,560	0.94%	\$274,560			
86	Public Address Systems	1	1	1	\$100,000.00	\$104,000	0.36%	\$104,000			
87	Fiber WAN	1	1	1	\$102,500.00	\$106,600	0.36%	\$106,600			
88 89	TECHNOLOGY SUBTOTAL					\$3.867,240	13.22%	\$3,867,240	so	\$0	
	TEGINOLOGI GODICIAL										
90	Building Infrastructure Improvement Total:			342,148	\$67.71	\$23,168,474	79.21%	\$9,667,484	\$11,694,129	\$5,364,423	
91	Project Contingency:	10.00%		& Site Budge		\$1,930,123	6.60%	\$580,024	\$1,169,413	\$536,442	
91 92				& Site Budge	t	\$530,784	1.81%	\$159,507	\$321,589	\$147,522	
90 91 92 93	Permits, Testing & Printing:	2.50%									
91 92 93 94	Permits, Testing & Printing: Construction Manager Fee and Costs:	8.00%	Of Building	& Site Budge		\$1,740,971	5.95%	\$523,182	\$1,054,810	\$483,871	
91 92 93 94 95	Permits, Testing & Printing:		Of Building	& Site Budge	it 1 & Contingenc		5.95%	\$523,182 \$11,495,234	\$1,054,810	\$483,871 \$7,054,839	

\$11,495,234 \$15,379,137 \$7,054,839 \$0 \$33,929,210





Facility Assessment Report Benchmarking and Findings





Facility Assessment Report Benchmarking

☐ Ave. Capital Cost per s.f. for Infrastructure Improvement

<u>Item</u>	Low	<u>High</u>
Roofing	\$6	\$8
Windows	\$8	\$12
Interiors/Finishes:	\$6	\$9
Mechanical	\$12	\$16
Electrical	\$10	\$13
Plumbing	\$3	\$5
Site/Parking	<u>\$5</u>	\$7
Average:	\$50	\$70
	Roofing Windows Interiors/Finishes: Mechanical Electrical Plumbing Site/Parking	Roofing \$6 Windows \$8 Interiors/Finishes: \$6 Mechanical \$12 Electrical \$10 Plumbing \$3 Site/Parking \$5

PMC Capital Planning Clients

Detroit Public Schools	\$500M
Warren Con Schools	\$350M*
Livonia Schools	\$195M
Rochester Schools	\$183M
Farmington Schools	\$131M
West Bloomfield	\$120M
Belleville Schools	\$80M
Novi Schools	\$70M
Woodhaven Schools	\$53M
Crestwood Schools	\$35M
Southgate Schools	\$20M

^{*} denotes over \$141M in 2015 bond programs





Facility Assessment Report Benchmarking

□ Comparative Capital Costs (per student and facility area)

	Proposed / Approved Bond	# of	Educational	Cost per	Cost per	Year of Previous
School District Name	Budgets	Students	Square Feet	Student	Educational S.F.	Bond/Amount
Detroit Public Schools (Passed 2009)	\$500,000,000	47,000	9,875,000	\$10,638	\$50.63	1994 (\$1.5B)
Livonia Public Schools (Passed 2013)	\$195,000,000	14,902	2,712,653	\$13,085	\$71.89	1994 (\$50M)
Rochester Community Schools (2016)	\$183,000,000	15,117	2,395,000	\$12,106	\$76.41	2004 (\$63M)
Warren Consolidated Schools (Passed 2015)	\$141,000,000	15,508	2,515,000	\$9,092	\$56.06	2000 (\$150M)
Farmington Public Schools (Passed 2015)	\$131,000,000	9,500	1,797,497	\$13,789	\$72.88	1997 (\$93M)
West Bloomfield School District (Passed 2017)	\$120,000,000	6,630	1,600,000	\$18,100	\$75.00	2009 (\$63M)
Plymouth Canton Schools (Passed 2013)	\$114,000,000	17,390	2,513,672	\$6,555	\$45.35	2004 (\$109M)
Novi Community Schools (Passed 2015)	\$70,000,000	6,800	876,352	\$10,294	\$79.88	2001 (\$27M)

Average \$11,708 \$66.01





GPPSS Facility Assessment Report Findings

☐ Ave. 10 year Capital Cost per s.f. for GPPSS (based on 1.87M SF)

Item	Average
 Elementary School 	\$111.54
Middle Schools	\$80.70
High Schools	\$79.87
Support Buildings	\$99.21
Average:	\$92.83

☐ Summary of Capital Costs (over next 10 years)

•	Summary of 10 Year Capital Costs	\$167.603.852
•	Property Enhancement (7-10 Years)	\$48,017,931
•	Deferred Maintenance (4-6 Years):	\$28,047,681
•	Critical Need (1-3 Years)	\$91,538,240





Grosse Pointe Public School System SUMMARY OF COSTS BY PRIORITIZATION

Bldg#			Total Costs		Critical Need (1 - 3)		Deferred Maintenance (4 - 6)		Property Enhancement (7 - 10)		Total	
	ELEMENTARY:											
1	Defer Elementary School	\$	6,607,006	\$	4,130,205	\$	163,108	\$	2,313,693	\$	6,607,006	
2	Ferry Elementary School	\$	6,809,747	\$	4,382,036	\$	352,022	\$	2,075,689	\$	6,809,747	
3	Kerby Elementary School	\$	6,438,846	\$	4,305,835	\$	230,023	\$	1,902,987	\$	6,438,846	
4	Maire Elementary School	\$	6,750,001	\$	2,362,889	\$	2,579,342	\$	1,807,770	\$	6,750,001	
5	Mason Elementary School	\$	5,662,216	\$	3,998,427	\$	374,927	\$	1,288,861	\$	5,662,216	
6	Monteith Elementary School	\$	7,578,888	\$	5,012,138	\$	275,602	\$	2,291,147	\$	7,578,888	
7	Poupard Elementary School	\$	7,735,550	\$	4,521,032	\$	954,534	\$	2,259,984	\$	7,735,550	
8	Richard Elementary School	\$	5,234,209	\$	2,182,283	\$	923,294	\$	2,128,633	\$	5,234,209	
9	Trombly Elementary School	\$	5,628,130	\$	3,809,629	\$	361,695	\$	1,456,807	\$	5,628,130	
	MIDDLE:											
10	Brownell Middle School	\$	11,178,177	\$	6,532,405	\$	1,142,857	\$	3,502,915	\$	11,178,177	
11	Parcells Middle School	\$	15,382,240	\$	8,030,653	\$	1,821,989	\$	5,529,599	\$	15,382,240	
12	Pierce Middle School	\$	12,738,252	\$	8,480,376	\$	1,439,111	\$	2,818,766	\$	12,738,252	
	HIGH:											
13	North High School	\$	33,929,210	\$	11,495,234	\$	15,379,137	\$	7,054,839	\$	33,929,210	
14	South High School	\$	28,292,560	\$	18,355,378	\$	1,263,772	\$	8,673,410	\$	28,292,560	
	SUPPORT:											
15	Barnes Early Childhood Center	\$	5,307,688	\$	2,782,859	\$	649,877	\$	1,874,953	\$	5,307,688	
16	Administration	\$	2,331,131	\$	1,156,860	\$	136,393	\$	1,037,878	\$	2,331,131	
	TOTAL BUILDINGS BUDGET	\$	167,603,853	\$	91,538,240	\$	28,047,681	\$	48,017,931	\$	167,603,853	
	Escalation Factors				1.04		1.22		1.37			
	Net Present Value (NPV)	\$	167,603,853	\$	91,538,240	\$	22,989,903	\$	35,049,585	\$	149,577,728	



Report Card

Project Feasibility A*

Bond Issue/Millage Campaign A*

Project Management A*



Major Items

Grosse Pointe Public School System

Major Items (exludes soft costs)

<u>Bldq</u> <u>#</u>	Name of School Facility	Cost/s.f.	Paving	Roofing	Plumbing	HVAC	Electrical	Security	Tech	Furniture	Pools
7	ELEMENTARY:										
1	Defer Elementary School	\$79.73	\$117,681	\$185,985	\$818,490	\$1,482,003	\$415,169	\$58,240	\$1,007,274	\$688,178	
2	Ferry Elementary School	\$72.86	\$204,932	\$483,221	\$911,595	\$474,036	\$534,516	\$55,120	\$1,045,408	\$602,690	
3	Kerby Elementary School	\$62.15	\$117,681	\$63,542	\$983,449	\$1,943,434	\$422,086	\$52,000	\$970,320	\$380,422	
4	Maire Elementary School	\$93.92	\$187,429	\$212,573	\$732,158	\$1,597,982	\$387,374	\$49,920	\$999,024	\$387,546	
5	Mason Elementary School	\$95.36	\$127,712	\$138,195	\$520,251	\$1,272,757	\$415,594	\$48,880	\$996,944	\$370,448	
6	Monteith Elementary School	\$89.11	\$0	\$217,627	\$844,440	\$1,792,864	\$460,844	\$59,280	\$1,067,456	\$712,400	
7	Poupard Elementary School	\$89.47	\$188,100	\$280,872	\$831,814	\$1,825,643	\$467,785	\$55,120	\$1,133,600	\$514,353	#
8	Richard Elementary School	\$67.92	\$86,060	\$232,187	\$773,229	\$614,067	\$366,027	\$49,920	\$1,087,216	\$763,693	
9	Trombley Elementary School	\$94.82	\$97,031	\$183,014	\$501,202	\$1,078,925	\$562,801	\$94,640	\$920,816	\$404,643	
	MIDDLE:										
10	Brownell Middle School	\$52.46	\$319,738	\$763,119	\$1,998,212	\$1,898,630	\$547,296	\$142,480	\$2,268,032	\$547,123	\$301,600
11	Parcells Middle School	\$50.68	\$234,162	\$1,244,978	\$2,562,476	\$1,743,925	\$755,778	\$132,080	\$1,359,696	\$692,453	\$546,000
12	Pierce Middle School	\$50.68	\$195,040	\$772,364	\$1,504,861	\$2,808,601	\$629,051	\$132,080	\$2,165,904	\$511,788	\$540,800
	HIGH:										
13	North High School	\$67.71	\$1,272,678	\$1,949,730	\$4,311,714	\$7,948,654	\$1,926,426	\$350,480	\$350,480	\$0	\$137,280
14	South High School	\$35.29	\$689,520	\$684,527	\$5,650,181	\$3,159,700	\$1,608,540	\$410,800	\$1,359,696	\$0	\$22,464
	SUPPORT:										
15	Barnes Early Childhood Center	\$77.53	\$317,886	\$337,832	\$712,065	\$759,056	\$759,056	\$67,600	\$806,416	\$447,387	
16	Administration	\$77.99	\$131,781	\$11,724	\$308,004	\$308,004	\$225,661	\$45,760	\$621,816	\$641,160	
	TOTALS:		\$4,287,431	\$7,761,491	\$23,964,142	\$30,708,281	\$10,484,005	\$1,804,400	\$18,160,098	\$7,664,284	\$1,548,144





Next Steps...

Capital Planning considerations on the following;

- How should GPPSS address capital needs?
- Should GPPSS consider renewing the Sinking Fund or consider a potential Capital Bond?
- What is the dollar amount required to address capital needs versus the dollar amount that could be supported by the Community?
- What capital needs should be included in that dollar amount?



Questions / Answers