



**BUREAU  
VERITAS**

# FACILITY CONDITION ASSESSMENTS

Wyoming Schools  
June 2023

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Program Manager  
and  
Jason Mayes

## Successful Asset Management:

*Managing assets and budgets through predictive and focused strategies, rather than by unpredictable or reactive actions.*

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**ABOUT BUREAU VERITAS**

**SCOPE OF WORK**

**REPORTING AND FINDINGS –  
SCHOOL STRUCTURES**

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**QUESTIONS**



**BUREAU  
VERITAS**

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# BUREAU VERITAS NORTH AMERICA

## NORTH AMERICA

**\$900**

Million In Revenue

**8,000**

Employees

**140**

Offices and Laboratories in All 50 States and Throughout Canada



# BUILDING ASSESSMENT & PROJECT MANAGEMENT GROUP



## National Focus on Facility Assessments and Capital Planning

**\$120+**

Million In Revenue

**800+**

Employees

**35**

Years of Assessments

**60,000+**

Projects Completed

**10B+**

SF of Municipal Assessments

**40+**

States with Consultants

## Relevant Educational Experience



**District Offices**



**Athletic Fields**



**Maintenance Buildings**



**Warehouse**



**Classroom Facilities**



**Labs / STEM**



**Libraries**



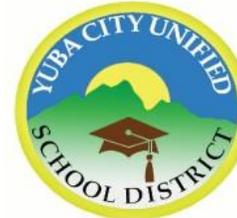
**Performing Arts**



# K-12 EDUCATIONAL



REDWOOD DAY SCHOOL  
*Engaged. Prepared. Inspired.*



Simi Valley Schools  
SIMI VALLEY UNIFIED SCHOOL DISTRICT



GUERNEVILLE SCHOOL DISTRICT



CVUSD  
CONEJO VALLEY UNIFIED SCHOOL DISTRICT



Ocean View School District



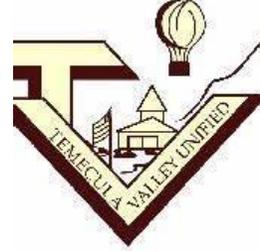
Escondido UNION SCHOOL DISTRICT



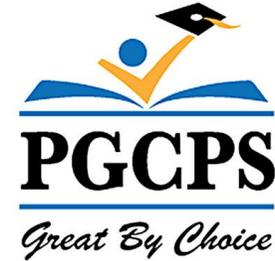
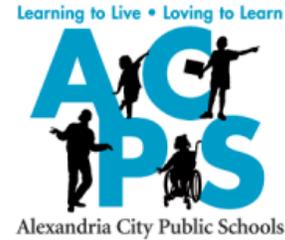
SAN PASQUAL VALLEY  
Unified School District



CUPERTINO UNION SCHOOL DISTRICT



# K-12 EDUCATIONAL



# STATEWIDE EXPERIENCE



JUDICIAL COUNCIL  
OF CALIFORNIA



Utah Division of  
Facilities Construction  
and Management

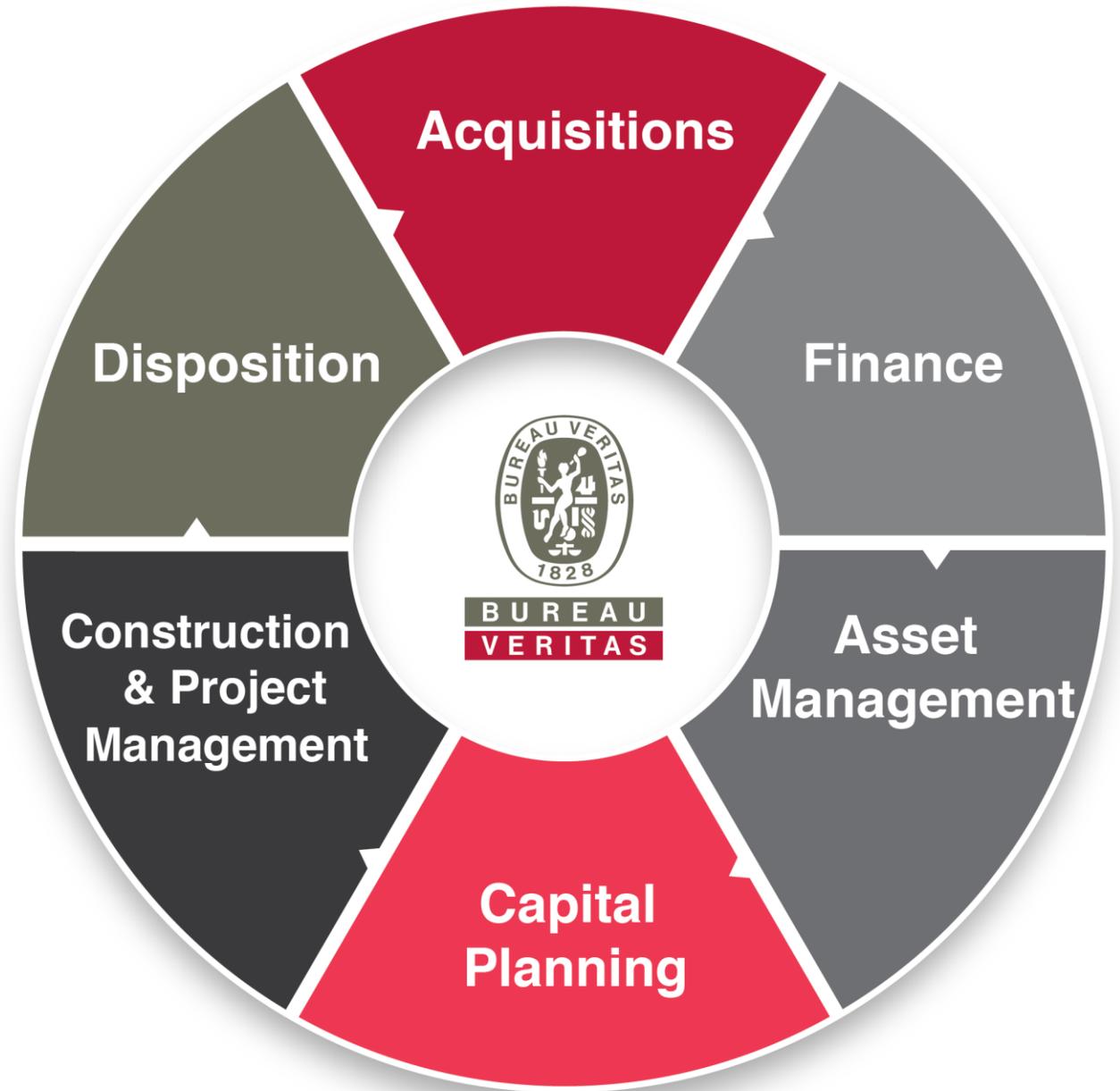


Office of  
General Services

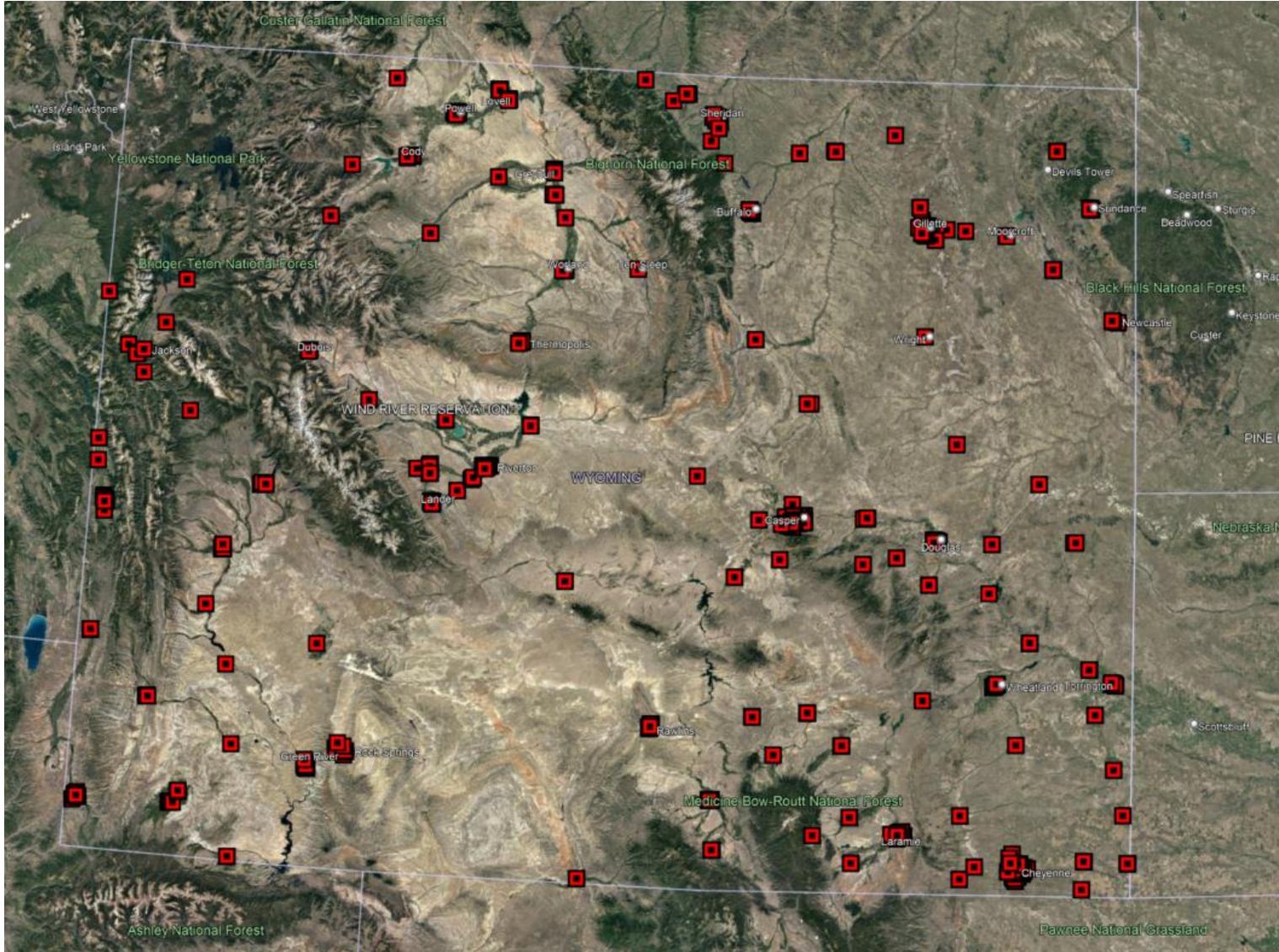


# FACILITY CONSULTING

- FACILITY CONDITION ASSESSMENTS
- CAPITAL PLANNING
- ADA TRANSITION PLANS
- ENERGY AUDITS AND COMMISSIONING
- CMMS CONSULTING
- PREVENTIVE MAINTENANCE SCHEDULES



# SCHOOL DISTRICT LOCATIONS



- Albany #1
- Big Horn #1
- Big Horn #2
- Big Horn #3
- Big Horn #4
- Campbell #1
- Carbon #1
- Carbon #2
- Converse #1
- Converse #2
- Crook #1
- Fremont #1
- Fremont #2
- Fremont#6
- Fremont#14
- Fremont #21
- Fremont #24
- Fremont #25
- Fremont #38
- Goshen #1
- Hot Springs #1
- Johnson #1
- Laramie #1
- Laramie #2
- Lincoln #1
- Lincoln #2
- Natrona #1
- Niobrara#1
- Park #1
- Park #6
- Park #16
- Platte #1
- Platte #2
- Sheridan #1
- Sheridan #2
- Sheridan #3
- Sublette#1
- Sublette #9
- Sweetwater#1
- Sweetwater #2
- Teton #1
- Uinta #1
- Uinta #4
- Uinta #6
- Washakie #1
- Washakie #2
- Weston #1
- Weston #7



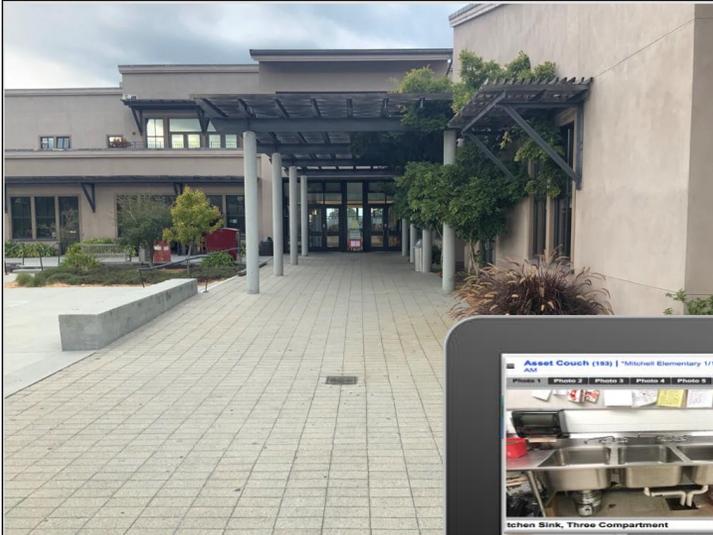
# DATA COLLECTION TOOL

☰ **Field Data Entry | Library Technology Center**

+ Counts
 ☰ Calc
 💬 Notes
 📷 Photos
 📦 Assets
 Field
↓ Save

**Overview**
Struc
Facade
Roof
Interior
Elevator
Plum
HVAC
Elec
Fire
Other
Site

**Elevations**
Building Info
Space Photos
Plans / Sketches / Certificates / Other





**Rear Picnic Area**

Caption

EXTRA PHOTO

Caption

140526.19R000 021.017  
Monterey Peninsula College

**Building Name**

Library Technology Center



Elevation



Left Elevation



Elevation



Right Elevation

**Library Technology Center**

Year	Built	Renovated
1985	2002	





## DATA COLLECTION BY FIELD ASSESSORS

- Informational calls with school districts set up in advance of assessment
- Pre-Survey Questionnaires requested to be filled out in advance by school staff
- Visited every school building in person
- Review of Construction Plans where available

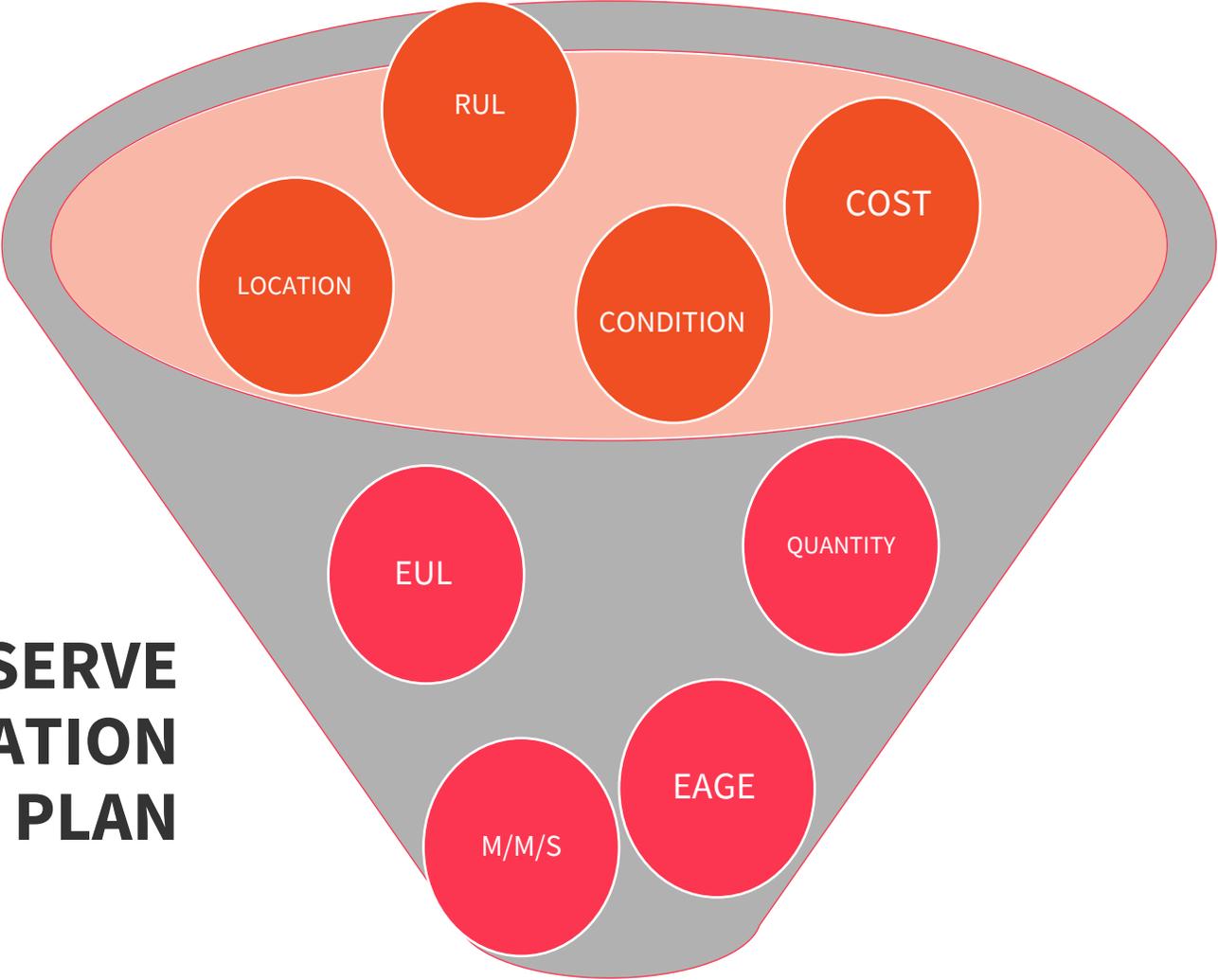
## DATA COLLECTED

- Data on 48,159 individual materials, systems or equipment
- Data divided into 14 separate systems for each building, if present
- Data includes expected replacement year for each of the 48,159 individual materials, systems or equipment



# CRITICAL DATA POINTS

## REPLACEMENT RESERVE PRIORITIZATION CAPITAL PLAN



# TERMS TO KNOW

- **EXPECTED USEFUL LIFE (EUL)** – Industry Standard Life Expectancy for a material or system
- **EFFECTIVE AGE** – Bureau Veritas Opinion on the age given the current conditions
- **REMAINING USEFUL LIFE** - Bureau Veritas Opinion on Number of Years Until Replacement
- **DEFICIENCIES** – Immediate Repairs and Short-Term Repairs
- **PLAN TYPES** – The Reason for a repair or replacement.
  - ✓ They are: Safety, Performance Integrity, Environmental, Accessibility, Lifecycle Repairs, Modernization/Adaptation
- **RESERVE ITEMS** – Assets whose replacement should be planned for in future years
- **IMMEDIATE REPAIRS** – Unsafe or life-safety, mission critical element, contribute to critical failure (Year 1)
- **SHORT TERM REPAIRS** – Less critical deficiencies (Years 2 & 3)
- **FCI** – Facility Condition Index



# FACILITY CONDITION INDEX

**FCI = Repair Needs / Building Replacement Value = FCI (%)**

## WHAT IS THE FCI PERCENTAGE REALLY TELLING US?

### HIGHER FCI

- Means less remaining useful lifespan (RUL)

### LOWER FCI

- Means more remaining useful lifespan (RUL)

## LOWER FCI = BETTER RELATIVE CONDITION

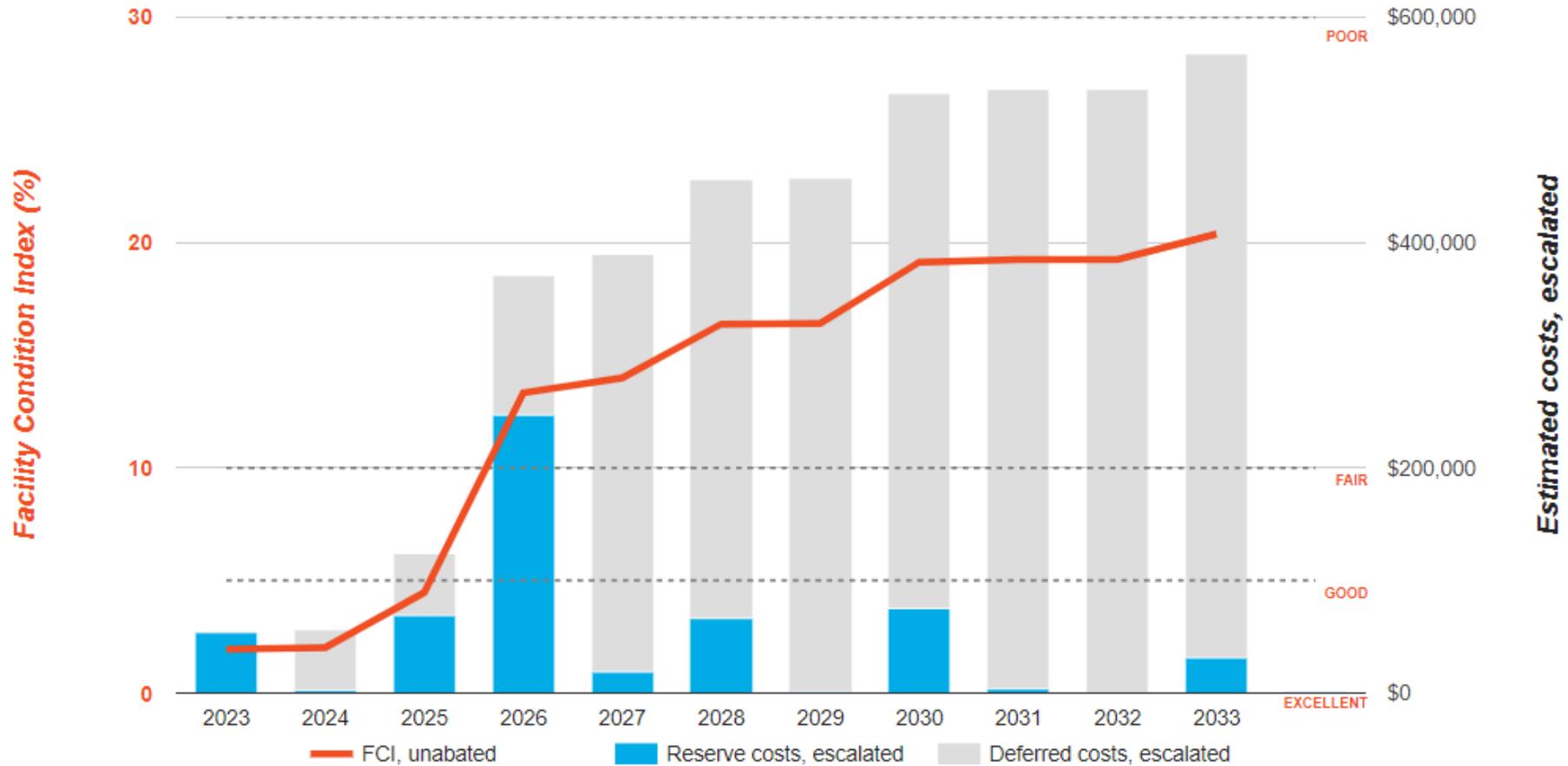
### FCI EXAMPLES

- Entire new roof could increase FCI by 0.03
- Entire school new Flooring could increase FCI by 0.01
- New HVAC system could increase FCI by 0.04



# FACILITY CONDITION INDEX

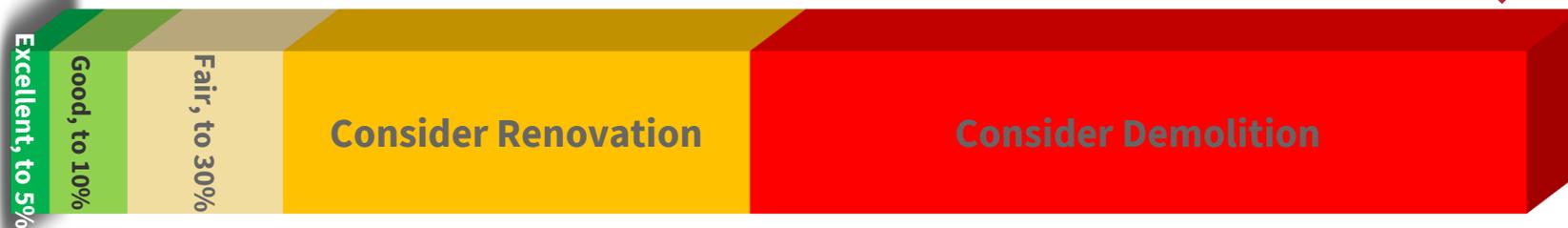
## FACILITY CONDITION INDEX INCREASES OVER TIME IF REPAIRS AND CAPITAL IMPROVEMENTS ARE NOT IMPLEMENTED



# FACILITY CONDITION INDEX

## WHAT IS THE FCI PERCENTAGE REALLY TELLING US?

**THE RELATIVE CONDITION OF THE BUILDING WHEN TO CONSIDER RENOVATION OR REPLACEMENT**



# FACILITY CONDITION INDEX

## FCI CAN BE MEASURED AT DIFFERENT POINTS IN TIME.

For the purpose of capital planning and budgeting evaluating using the 5-year FCI is recommended for substantial renovation or replacement of school buildings.

Cost/SF	Total SF	Replacement Value	Current	1-Year	2-Year	3-Year	5-Year	10-Year
\$501	7,818	\$3,916,818	0.5%	0.7%	1.3%	1.3%	4.6%	13.8%
\$484	32,140	\$15,555,760	0.0%	0.0%	4.1%	8.6%	27.1%	31.3%
\$484	7,443	\$3,602,412	0.0%	0.1%	2.2%	3.4%	5.7%	19.0%
\$501	7,027	\$3,520,527	0.0%	0.0%	0.3%	0.5%	7.8%	8.4%
\$200	1,766	\$353,200	2.6%	2.6%	2.6%	2.6%	2.6%	17.4%
\$484	12,951	\$6,268,284	1.1%	1.2%	1.6%	2.8%	3.8%	11.9%



# FINDINGS AND REPORTING

Albany #1	Lincoln #1
Big Horn #1	Lincoln #2
Big Horn #2	Natrona #1
Big Horn #3	Niobrara#1
Big Horn #4	Park #1
Campbell #1	Park #6
Carbon #1	Park #16
Carbon #2	Platte #1
Converse #1	Platte #2
Converse #2	Sheridan #1
Crook #1	Sheridan #2
Fremont #1	Sheridan #3
Fremont #2	Sublette#1
Fremont#6	Sublette #9
Fremont#14	Sweetwater#1
Fremont #21	Sweetwater #2
Fremont #24	Teton #1
Fremont #25	Uinta #1
Fremont #38	Uinta #4
Goshen #1	Uinta #6
Hot Springs #1	Washakie #1
Johnson #1	Washakie #2
Laramie #1	Weston #1
Laramie #2	Weston #7



# KEY FINDINGS

## KEY FINDINGS IN EACH SCHOOL REPORT

- Identifies significant deteriorated assets
- Brief description of the problem with a photo and costs



### Fire Extinguisher Expired Certification

Type ABC,  
Utility closet

Uniformat Code: D4030  
Recommendation: **Replace in 2023**

Priority Score: 90.9

Plan Type: Safety

Cost Estimate: \$200

\$\$\$\$

The fire extinguisher is overdue for inspection. Replacement is recommended. Due to the insignificant cost, this can be done during routine maintenance. - AssetCALC ID: 5132899



### Window in Poor condition.

Wood  
Building Exterior

Uniformat Code: B2020  
Recommendation: **Replace in 2023**

Priority Score: 87.9

Plan Type:  
Performance/Integrity

Cost Estimate: \$5,600

\$\$\$\$

There are three exterior windows that have cracked glazing. Replacement is recommended. - AssetCALC ID: 5133114



### Sink/Lavatory in Poor condition.

Wall-Hung, Vitreous China  
Restrooms

Uniformat Code: D2010  
Recommendation: **Replace in 2023**

Priority Score: 83.9

Plan Type:  
Performance/Integrity

Cost Estimate: \$7,000

\$\$\$\$

Three sinks are continuously running water. Replacement is recommended. - AssetCALC ID: 5133012



# IMMEDIATE NEEDS REPORT

**IMMEDIATE REPAIRS 12 Months** – Unsafe or life-safety, mission critical element, contribute to critical failure. Time Period is one year.

ID	Location Description	UF Code	Description	Condition	Plan Type	Cost
5693013	Maintenance Shed	B3010	Roofing, Repairs	Poor	Performance/ Integrity	\$1,700
5692961	Site	G2020	Parking Lots, Pavement, Concrete, Repair	Poor	Performance/ Integrity	\$61,900
5692973	Parking lot	G2020	Parking Lots, Pavement, Asphalt, Cut & Patch	Poor	Performance/ Integrity	\$1,700
5692967	Site	G2060	Retaining Wall, Concrete Masonry Unit (CMU), Repair	Poor	Performance/ Integrity	\$1,400
5692998	Site	G2060	Fences & Gates, Fence, Chain Link 4', Replace	Poor	Performance/ Integrity	\$3,900
5913349	Boilers	P2030	Engineering Study, Mechanical, General Design	Poor	Performance/ Integrity	\$10,800
<b>Total (6 items)</b>						<b>\$81,400</b>



# SYSTEMS EXPENDITURE FORECAST

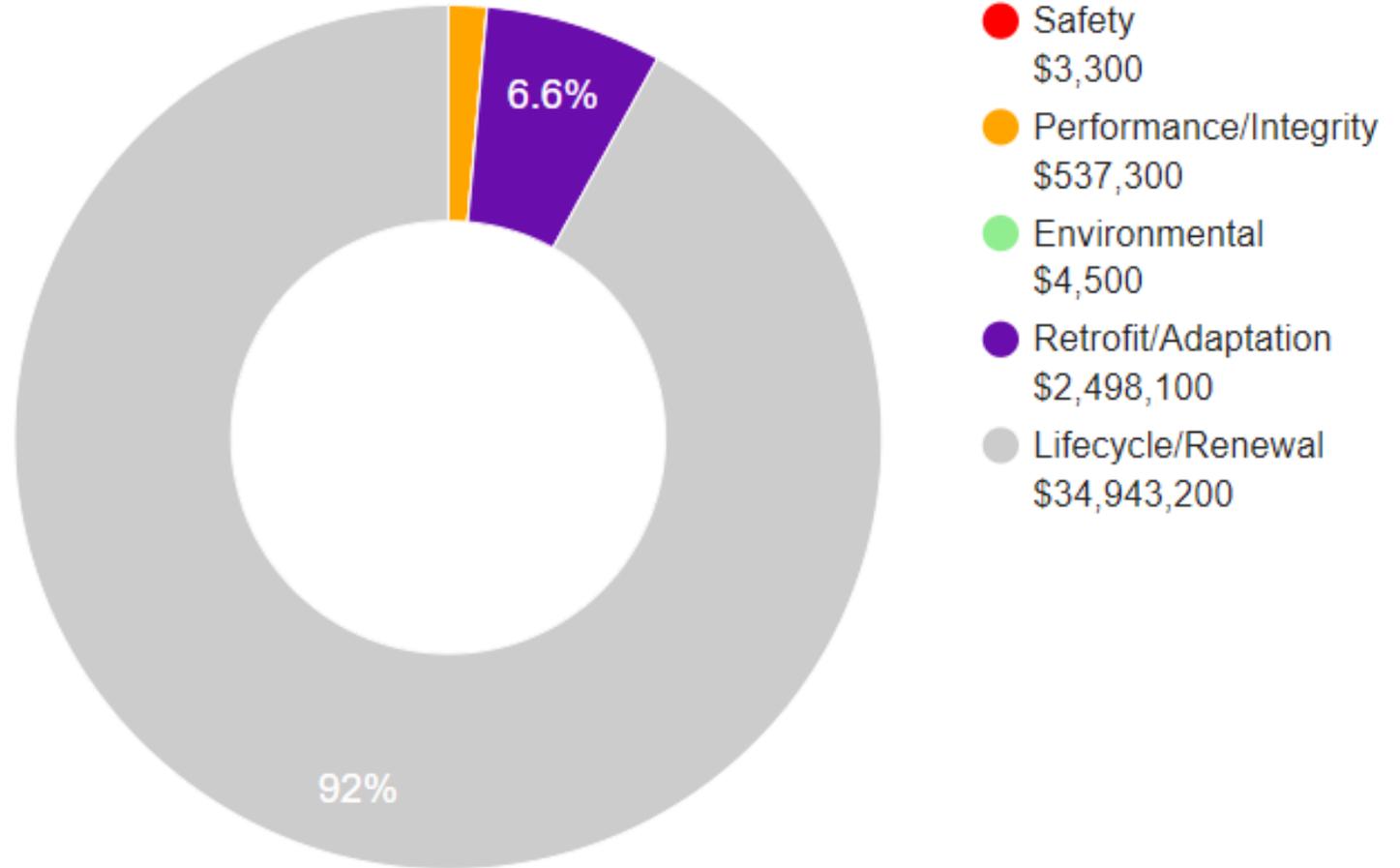
System Expenditure Forecast					
System	Immediate	Short Term (1-2 yr)	Near Term (3-5 yr)	Med Term (6-10 yr)	TOTAL
Facade	-	-	\$8,880	-	\$8,880
Roofing	\$1,702	-	-	-	\$1,702
Interiors	-	-	\$3,384,365	\$2,643,814	\$6,028,179
Conveying	-	-	-	\$52,945	\$52,945
Plumbing	-	-	-	\$55,493	\$55,493
HVAC	-	-	-	-	-
Fire Protection	-	-	-	-	-
Electrical	-	-	-	-	-
Fire Alarm & Electronic Systems	-	-	-	\$4,907,276	\$4,907,276
Equipment & Furnishings	-	-	\$2,537	\$302,234	\$304,771
Special Construction & Demo	-	-	\$24,357	\$177,031	\$201,388
Site Development	\$5,266	-	\$3,479,499	\$180,995	\$3,665,760
Site Pavement	\$63,622	\$141,152	\$103,463	\$286,920	\$595,157
Follow-up Studies	\$10,836	-	-	-	\$10,836



# PLAN TYPE REPORT

**PLAN TYPES** – the Reason for a repair or replacement.

- Safety
- Performance Integrity
- Environmental
- Accessibility
- Modernization/Adaptation
- Lifecycle Repairs



**10-YEAR TOTAL: \$37,986,400**



# REPLACEMENT RESERVES

6/2/2023

Uniformat Code	Location	Description	ID	Cost Description	Lifespan (EUL)	Age	RUL	Quantity	Unit	Unit Cost *	Subtotal	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Deficiency Repair Estimate			
A1010	Boiler room	5649809	Foundation System, Concrete w/ Continuous Footings,, 1-2 Story Building	75	65	10	985	LF	\$185.76	\$182,974												\$182,974	\$182,974			
B2010	Building Exterior	5649779	Exterior Walls, Glass Block, Replace	40	35	5	220	SF	\$77.40	\$17,028							\$17,028							\$17,028		
B2010	Building Exterior	5649801	Exterior Walls, Brick, Repoint	50	45	5	5368	SF	\$82.04	\$440,248							\$440,248							\$440,248		
B2020	Throughout building	5649784	Glazing, Windows, Replace	30	25	5	6428	SF	\$77.40	\$497,527							\$497,527							\$497,527		
B2050	Building Exterior	5649805	Exterior Door, Steel, Standard, Replace	40	35	5	20	EA	\$928.80	\$18,576							\$18,576							\$18,576		
B3010	Roof	5649813	Roofing, Single-Ply Membrane, EPDM, Replace	20	18	2	32140	SF	\$17.03	\$547,280			\$547,280												\$547,280	
C1030	Throughout building	5649802	Interior Door, Wood, Solid-Core, Replace	40	35	5	51	EA	\$1,083.60	\$55,264							\$55,264								\$55,264	
C1030	Building Exterior	5649772	Interior Door, Steel, Standard, Replace	40	35	5	2	EA	\$928.80	\$1,858							\$1,858								\$1,858	
C1070	Classrooms	5649787	Suspended Ceilings, Acoustical Tile (ACT), Replace	25	20	5	10000	SF	\$5.42	\$54,180							\$54,180								\$54,180	
C1090	Restrooms	5649798	Toilet Partitions, Metal, Replace	20	10	10	12	EA	\$1,315.80	\$15,790													\$15,790		\$15,790	
C2010	Throughout building	5649818	Wall Finishes, any surface, Prep & Paint	10	5	5	32140	SF	\$2.32	\$74,629							\$74,629								\$74,629	
C2030	Hallways	5649806	Flooring, Luxury Vinyl Tile (LVT), Replace	15	10	5	2058	SF	\$11.61	\$23,893							\$23,893								\$23,893	
C2030	Classrooms	5649790	Flooring, Carpet, Commercial Standard, Replace	10	5	5	28000	SF	\$11.61	\$325,080							\$325,080								\$325,080	
C2030	Gymnasium	5960088	Flooring, Wood, Sports, Refinish	10	8	2	2664	SF	\$7.74	\$20,619			\$20,619												\$20,619	
C2030	Gymnasium	5649783	Flooring, Maple Sports Floor, Replace	30	27	3	2664	SF	\$26.32	\$70,106							\$70,106								\$70,106	
D2010	Throughout building	5649825	Plumbing System, Supply & Sanitary, (excludes fixtures), Replace	40	37	3	32140	SF	\$17.03	\$547,280				\$547,280												\$547,280
D2010	Boiler room	5649829	Backflow Preventer, Domestic Water, Replace	30	27	3	2	EA	\$4,953.60	\$9,907							\$9,907								\$9,907	
D2010	Janitor closet	5649808	Sink/Lavatory, Service Sink, Laundry, Replace	30	27	3	1	EA	\$1,242.00	\$1,242							\$1,242								\$1,242	
D2010	Restrooms	5649768	Sink/Lavatory, Vanity Top, Stainless Steel, Replace	30	25	5	4	EA	\$1,857.60	\$7,430							\$7,430								\$7,430	
D2010	Restrooms	5649773	Urinal, Standard, Replace	30	25	5	6	EA	\$1,702.80	\$10,217							\$10,217								\$10,217	
D2010	Restrooms	5649770	Toilet, Commercial Water Closet, Replace	30	25	5	12	EA	\$2,012.40	\$24,149							\$24,149								\$24,149	
D2010	Throughout building	5649785	Drinking Fountain, Wall-Mounted, Bi-Level, Replace	15	5	10	2	EA	\$2,322.00	\$4,644													\$4,644		\$4,644	





# **FINDINGS AND REPORTING – OVERALL INFORMATION**



**BUREAU  
VERITAS**

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# SYSTEMS EXPENDITURE REPORT

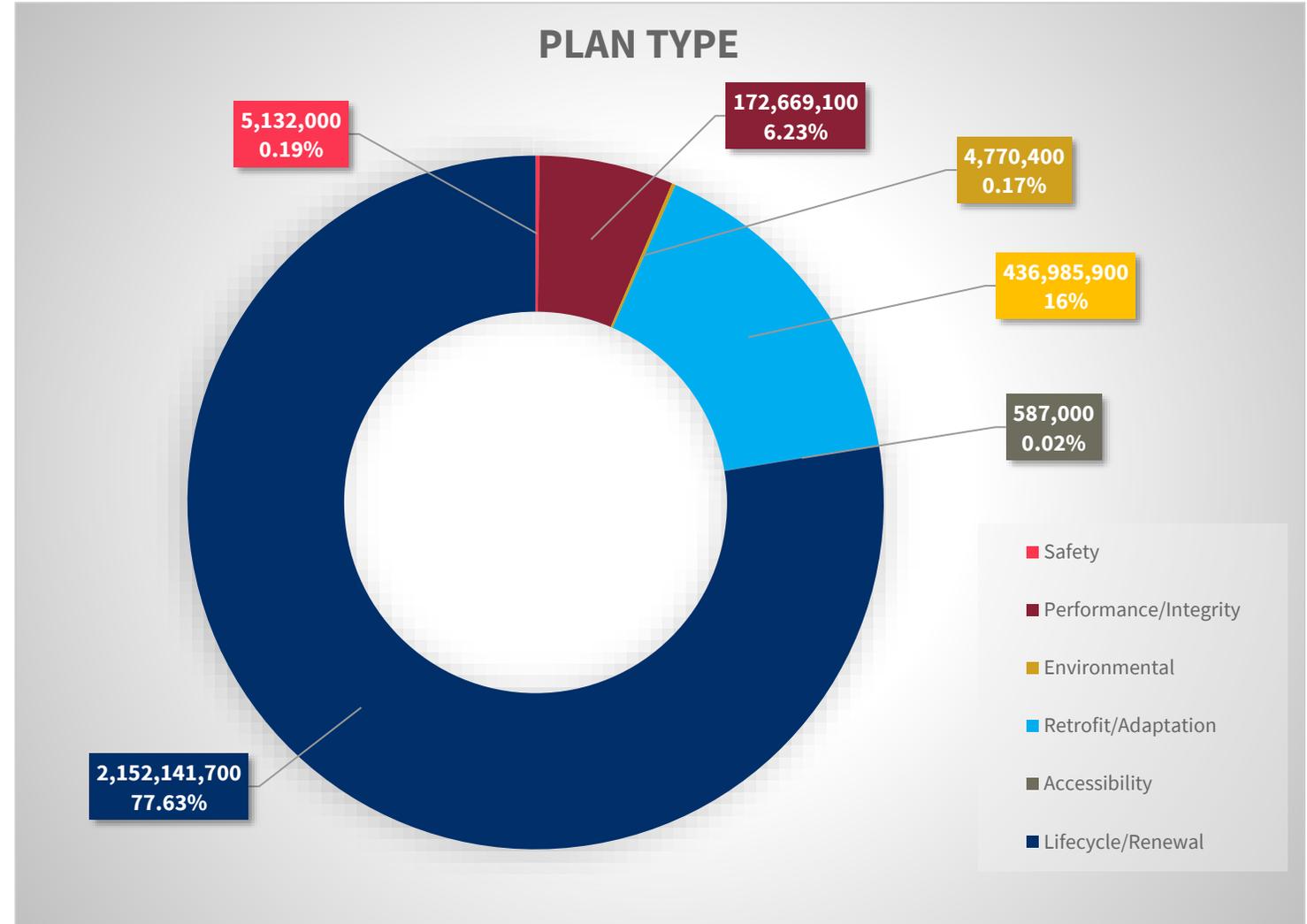
## ALL COSTS FOR ALL DISTRICTS SEPARATED BY BUILDING SYSTEM

System	System Expenditure Forecast					TOTAL
	12-Month	Short Term (1-2 yr)	Near Term (3-5 yr)	Med Term (6-10 yr)	Long Term (11-20 yr)	
<b>Structure</b>	\$1,851,164	\$751,684	\$801,145	\$2,608,052	\$15,137,029	\$21,149,074
<b>Facade</b>	\$6,125,464	\$12,887,008	\$33,700,467	\$67,226,853	\$233,693,254	\$353,633,046
<b>Roofing</b>	\$23,303,031	\$43,481,515	\$78,086,080	\$176,865,807	\$315,054,438	\$636,790,871
<b>Interiors</b>	\$5,856,311	\$46,739,327	\$247,750,338	\$310,121,204	\$779,360,909	\$1,389,828,089
<b>Conveying</b>	\$1,437,362	\$1,132,205	\$3,198,629	\$1,823,136	\$8,964,052	\$16,555,384
<b>Plumbing</b>	\$1,374,922	\$32,382,751	\$58,915,575	\$98,222,380	\$257,732,871	\$448,628,499
<b>HVAC</b>	\$7,235,111	\$42,477,758	\$107,194,002	\$166,463,833	\$448,133,145	\$771,503,849
<b>Fire Protection</b>	\$140,968	\$2,165,505	\$7,583,468	\$14,649,217	\$44,915,187	\$69,454,345
<b>Electrical</b>	\$2,295,481	\$35,969,712	\$87,995,897	\$130,949,656	\$276,372,371	\$533,583,117
<b>Fire Alarm &amp; Electronic Systems</b>	\$3,251,905	\$18,079,752	\$75,827,112	\$185,152,931	\$222,756,078	\$505,067,778
<b>Equipment &amp; Furnishings</b>	\$6,148,576	\$10,746,060	\$58,357,794	\$154,362,578	\$177,270,746	\$406,885,754
<b>Special Construction &amp; Demo</b>	\$1,515,131	\$1,739,818	\$8,043,783	\$14,322,424	\$47,020,546	\$72,641,702
<b>Site Pavement</b>	\$6,813,212	\$24,306,462	\$29,503,311	\$50,023,544	\$175,865,512	\$286,512,041
<b>Site Development</b>	\$4,515,444	\$17,813,730	\$77,456,487	\$143,219,910	\$304,041,040	\$547,046,611
<b>Site Utilities</b>	\$1,839,833	\$960,589	\$4,144,778	\$11,546,968	\$23,505,424	\$41,997,592
<b>Follow-up Studies</b>	\$495,628	\$0	\$3,589	\$0	\$0	\$499,217
<b>Accessibility</b>	\$330,872	\$0	\$0	\$0	\$0	\$330,872
<b>TOTALS (3% inflation)</b>	<b>\$74,530,600</b>	<b>\$291,634,100</b>	<b>\$878,562,600</b>	<b>\$1,527,558,600</b>	<b>\$3,329,822,800</b>	<b>\$6,102,108,700</b>

# PLAN TYPE CHART – SCHOOLS

10-Year Cost Totals by Plan Type

Safety	\$5,132,000
Performance/Integrity	\$172,669,100
Accessibility	\$587,000
Environmental	\$4,770,400
Retrofit/Adaptation	\$436,985,900
Lifecycle/Renewal	\$2,152,141,700
<b>Total</b>	<b>\$2,772,286,100</b>



# FCI – EDUCATIONAL BUILDINGS

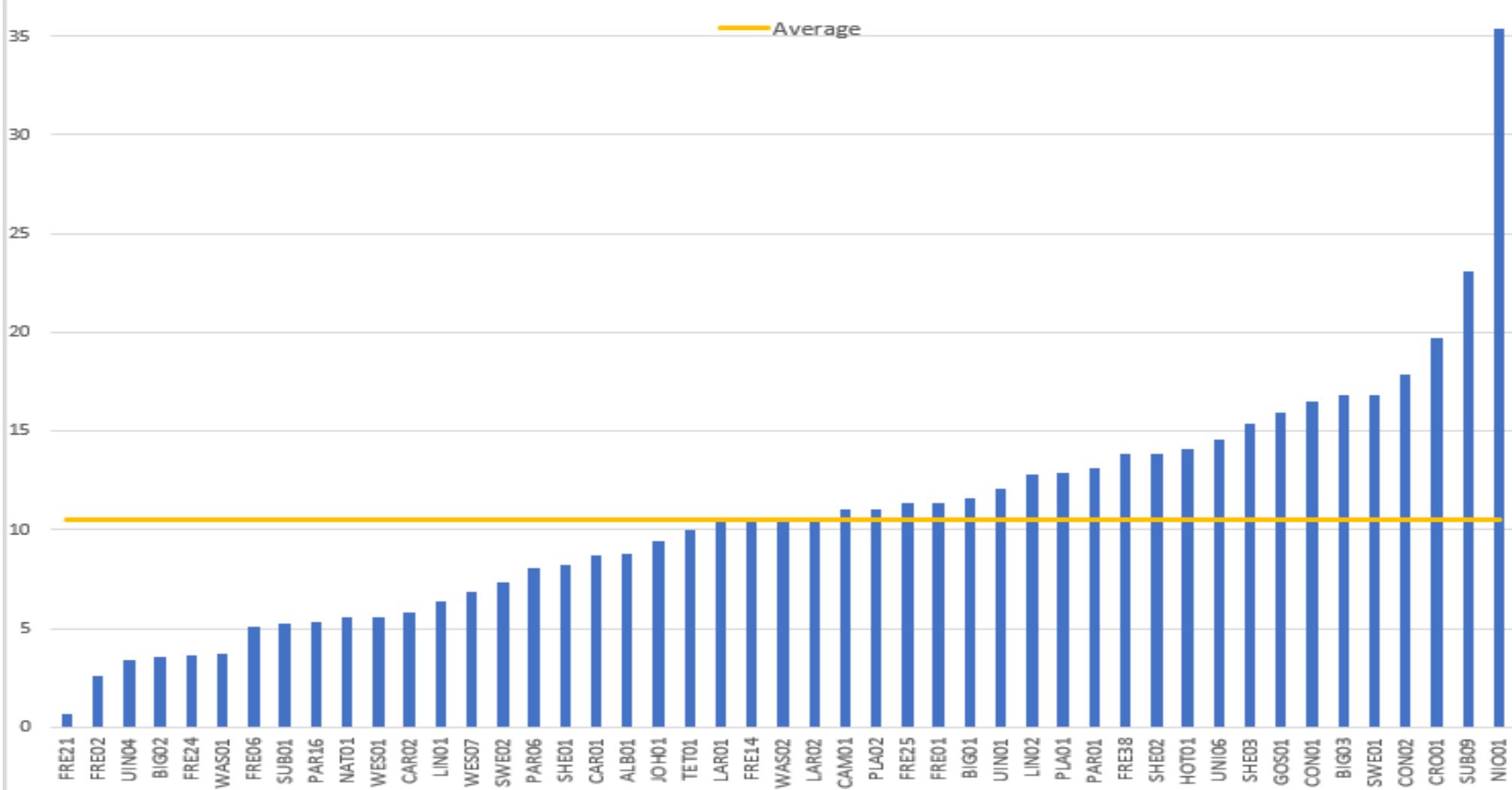
## TEN HIGHEST FCI EDUCATIONAL BUILDINGS – 5-YEAR FCI

Educational Facility (year built)	Cost/SF	Total SF	Replacement Value	Current	3-Year	5-Year	10-Year
PLA01 Wheatland JHS_1601-005-0100 (1927)	\$565	42,465	\$19,109,250	2.40%	55.50%	56.00%	64.40%
GOS01 Southeast ES/MS/HS_0801-011-0100 (1980)	\$565	46,527	\$17,168,463	0.00%	33.90%	54.20%	93.90%
LAR01 Hobbs ES_1101-019-0100 (1959)	\$484	41,708	\$20,186,672	0.40%	12.80%	46.40%	54.50%
NIO01 Lusk ES/MS_1401-003-0100 (1984)	\$525	72,364	\$25,793,100	0.00%	4.70%	45.40%	54.80%
CON01 Douglas Intermediate ES_0501-010-0100 (1978)	\$484	55,727	\$20,563,263	4.00%	25.60%	39.30%	55.60%
SWE01 Rock Springs HS_1901-018-0100 (1971)	\$582	322,536	\$119,015,784	1.80%	21.30%	38.90%	52.80%
SUB09 Big Piney HS_1809-005-0100 (1987)	\$582	121,976	\$45,009,144	0.00%	9.40%	38.60%	56.90%
CAM01 Conestoga ES_0301-016-0100 (1982)	\$458	60,000	\$27,480,000	8.20%	21.20%	37.80%	49.20%
LAR01 Miller ES_1101-023-0100 (1965)	\$484	16,000	\$5,904,000	1.10%	4.50%	36.90%	47.20%
CON01 Douglas MS_0501-012-0100 (1988)	\$565	102,226	\$37,721,394	9.40%	18.90%	36.30%	65.80%

# FCI – PER SCHOOL DISTRICT - EDUCATIONAL BUILDINGS

## SCHOOL DISTRICT AVERAGE 5-YEAR FCI FOR EDUCATIONAL BUILDINGS

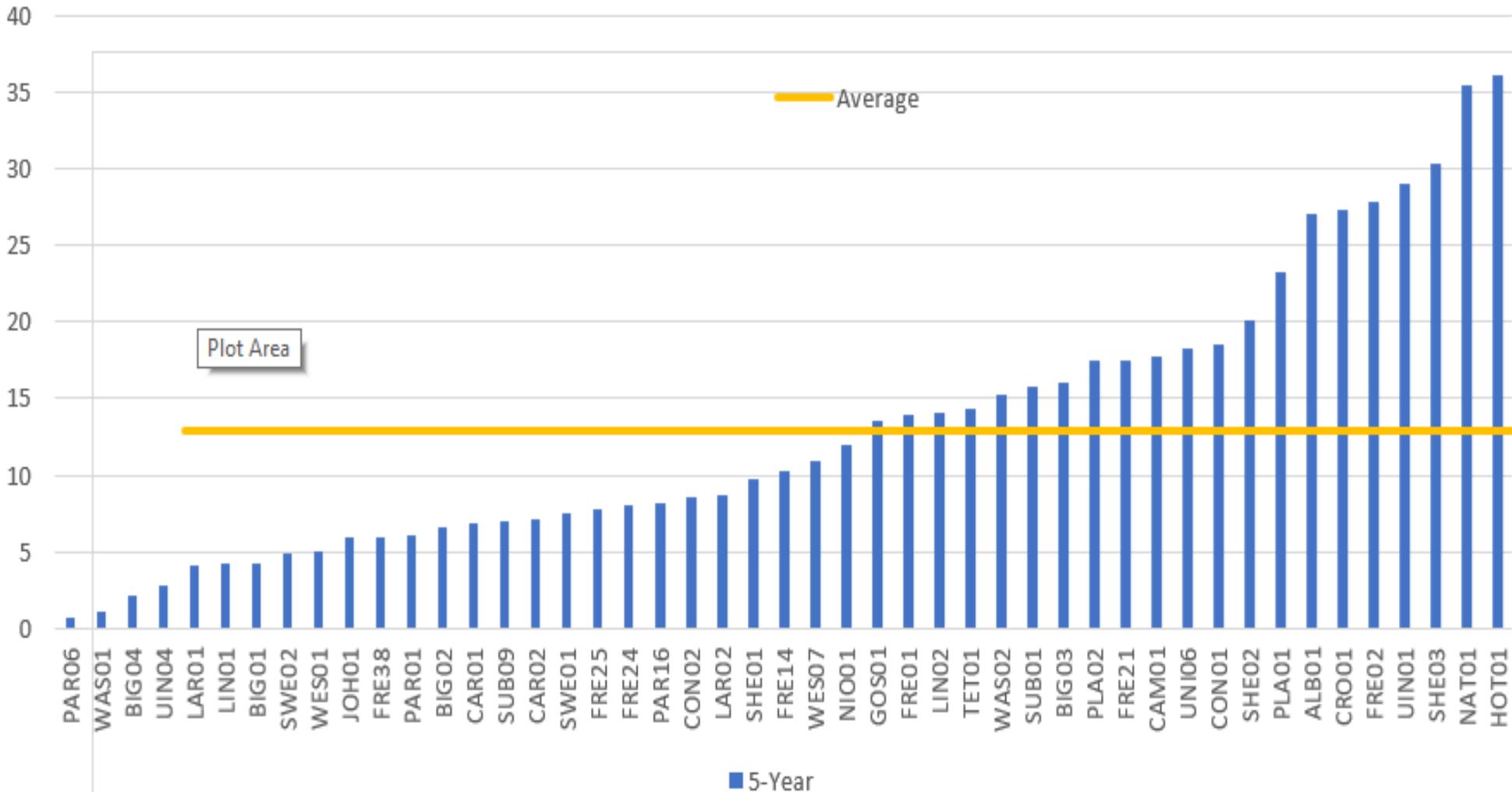
Higher numbers are worse condition



# FCI – PER SCHOOL DISTRICT - SUPPORT BUILDINGS

## SCHOOL DISTRICT AVERAGE 5-YEAR FCI FOR SUPPORT BUILDINGS

Higher numbers are worse condition





**BUREAU  
VERITAS**

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# Questions?