



District Sites Benchmark Review

Example District

Submitted to:

Your Business Officer



Business Officer

Thank you for giving SMA the opportunity to review your campus sites. The observations in this report are meant to be a good initial step to improve your operations. The goal is to identify which campus or district facility service needs improvement.

The facility services typically represent around 7 to 15 percent of your total budget yet this department controls many vital interests of the district. This report should help you begin to improve facility operations.

We try to seek objective data about the real resources and issues of your facility functions; however, benchmarking alone won't identify many needs. Please realize that your facility operations require a more detailed ongoing refinement.

Our goal is to be your support team in the improvement of facility services. We look forward to helping you accomplish excellence in this vital part of your district.

Sincerely,

Michael Stapleton
Service Management Assist, LLC.

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District facility interview

School Example One interview details

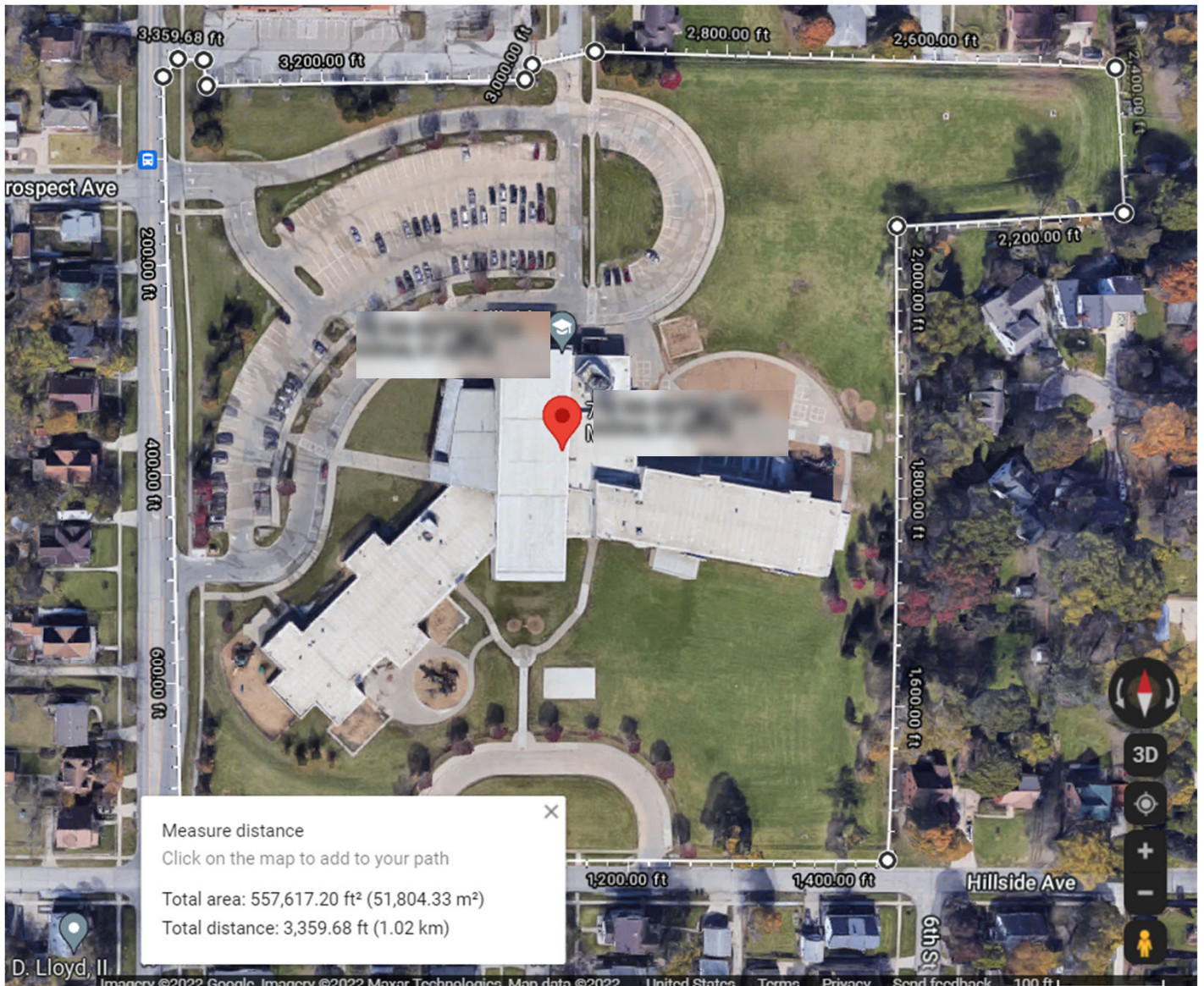
School Example Two interview details

School Example One



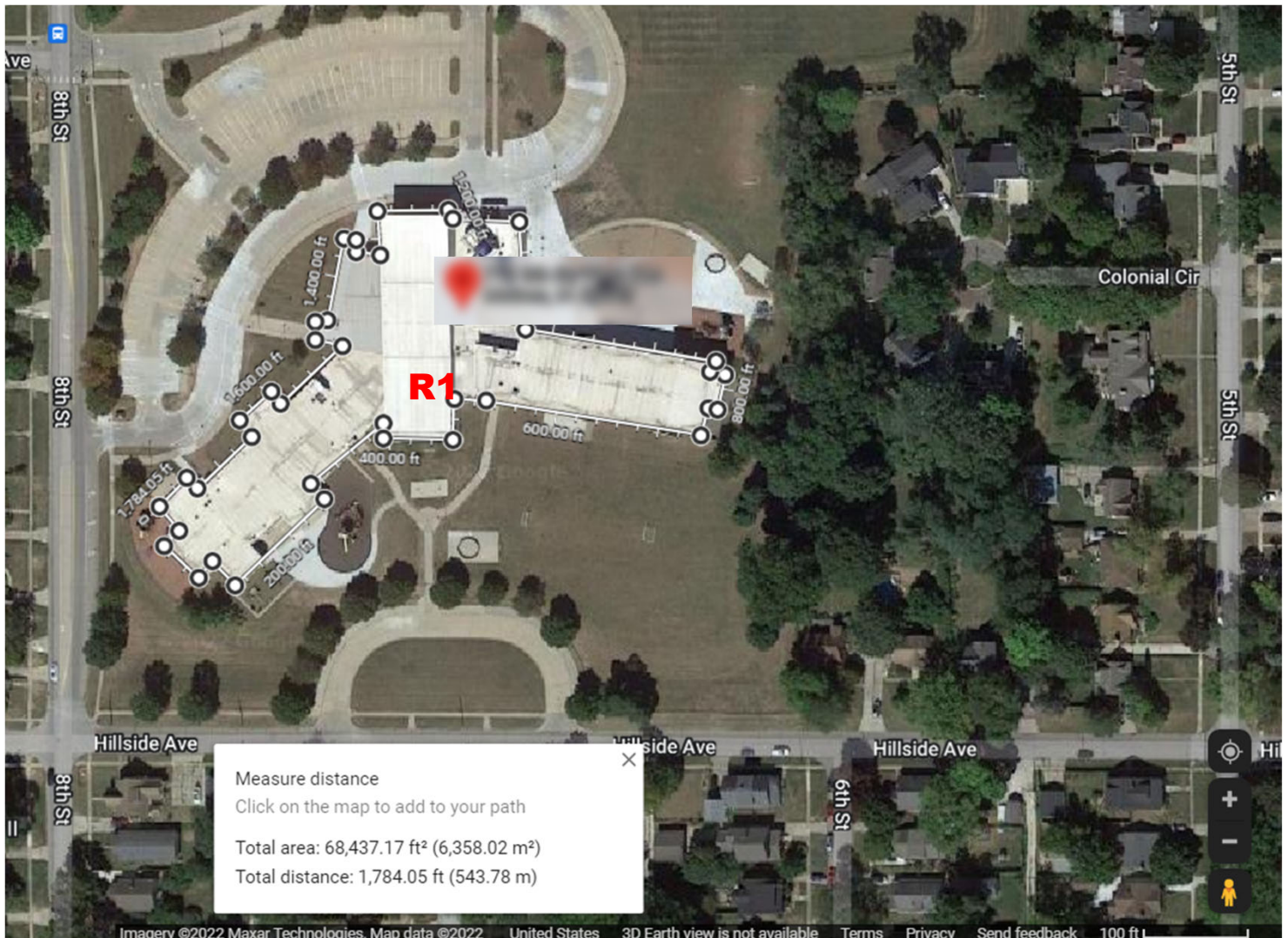
Site Based Statistics:		Site Name: School Example One		Grade Level: Pre-K-6th	
Students:	572	X SF	146	Year Built:	2004
Full Map square feet:	557,617				
Service Estimates		Benchmark	Actual	Variance	Site Information
Custodial:	Hrs per day				Total Acres: 12.82 Actual SF per Student
Cleaning Level 2	23.32		Variance	Blds Square Feet	82,389 144
Cleaning Level 3	1 15.37		(15.37)	Students SF Est.	83,512
Cleaning Level 4	9.48			Benchmark	Actual
	Hrs per day		7	Building(s) Square Foot Estimates	
Other Duties	2 9.02				
	FTEs	Actual	Variance	Cafeteria	3,056
Custodial Staff(Level 3)	3 3.05	3.00	(0.05)	Corridor, Carpet	5,632
Maintenance:	Per Month	Actual	Variance	Corridor, HS	10,103
Work orders per Month	4 36		(36)	Classroom, C	31,725
PM hours per Month	3		(3)	Classroom, HS	4,782
Roof SF to Maintain	68,437			Gym	9,204
Grounds:	Per Week	Actual	Variance	Kitchen	1,284
Site Employee Hrs/WK	5 9.6	9.0	(0.6)	Library	2,737
Turf Acres:	7.64				
Pavement SF	114,061			Mechanical	2,526
Playground SF	42,939			Office, Carpet	4,914
Equipment Counts (Estimated by Square Footage)				Office, HS	182
6 HVAC	Benchmark	Actual			
Air Conditioner, Split Sys	1			Rest Room	1,933
Exhaust Hood	2			Storeroom	3,347
Fan, Exhaust	19			Stair	965
Make-up Air Unit	1			Fixtures (Cust #)	129
Unit Heater, Wall	15			8 Equipment Counts (Estimated by Square Footage)	
Air Handling Unit	7			Plumbing	Benchmark Actual
Boiler, Hot Water	2			Drinking Fountains	8
Chiller	1			Hot Water Heaters	2
Cooling Tower	1			Sinks	74
Pump	10			Soap Dispensers	53
Heat Pumps	114			Toilets	44
				Urinals	23
1. Hours per day to clean the school based on the national average of Level 3. 2. Other daily duties for custodians: events , cafeteria help, emergency calls, etc. 3. Benchmarked custodial staffing level. 4. Maintenance average statistics. 5. Grounds workers hours/week estimate. 6. HVAC estimated equipment counts. 7. Square footage averaged by type of area. 8. More equipment estimated counts.				Electrical	
				Electrical Panels	30
				Emergency Lights	104
				Exit Lights	48
				Llight Fixtures	879
				Transformers	6
				Safety	
				Fire Extinguishers	13
				Heat & Smoke Dete	89
					307,922
Site	557,617	Roof 1	68,437	Pavement 1	91,990 Playground 1 3,794
-Roof	68,437	Roof 2		Pavement 2	10,893 Playground 2 10,738
-Pavement	114,061	Roof 3		Pavement 3	8,024 Playground 3 28,407
-Playground	42,939	Roof 4		Pavement 4	3,154 Playground 4
Turf square feet	332,180	Roof SF	68,437	Pavement SF	114,061 Playgrd SF 42,939

School Example One Site Parameter



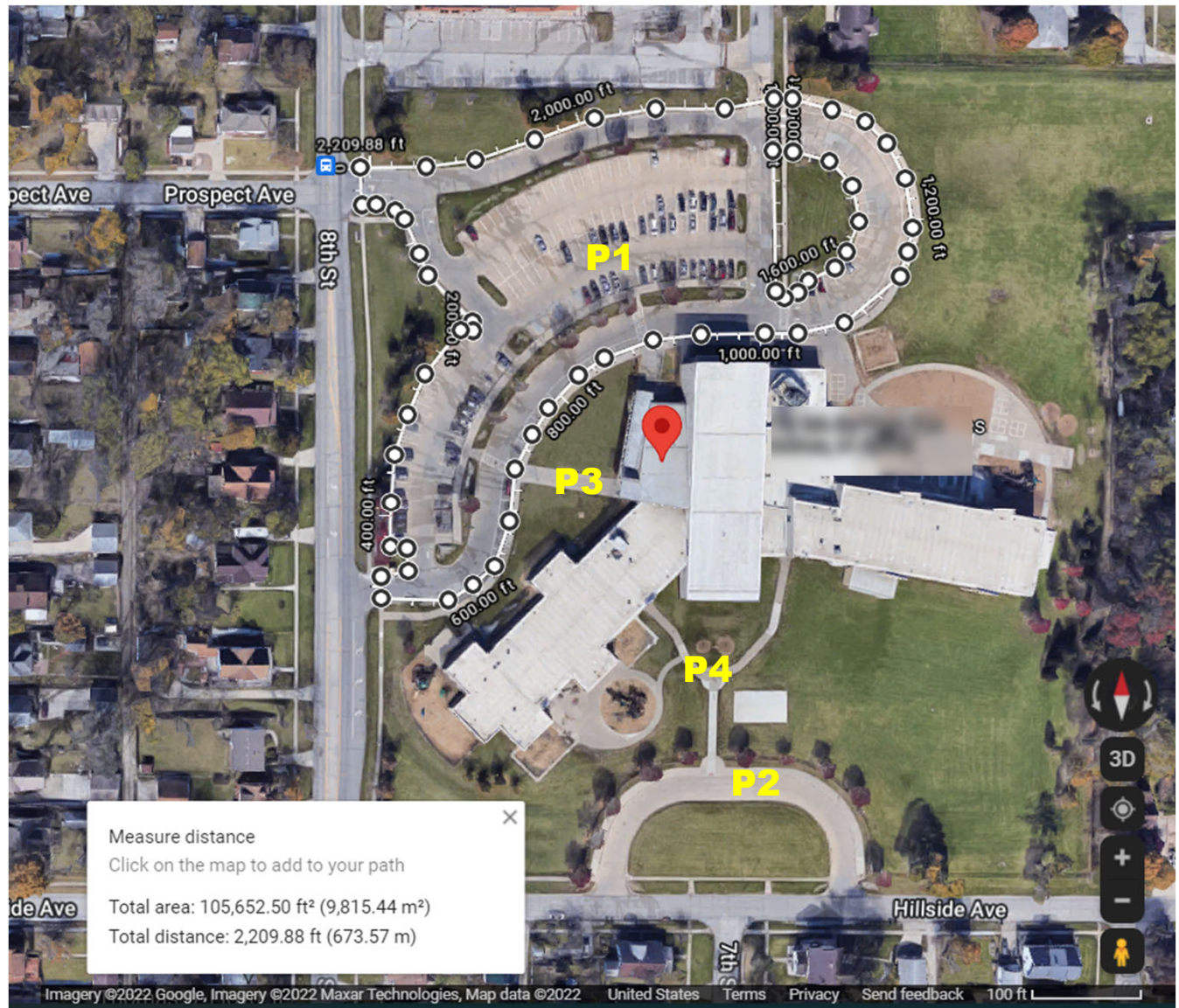
This slide shows the measuring of the parameter of the school site and calculates the total square footage of the site.

School Example One Roof



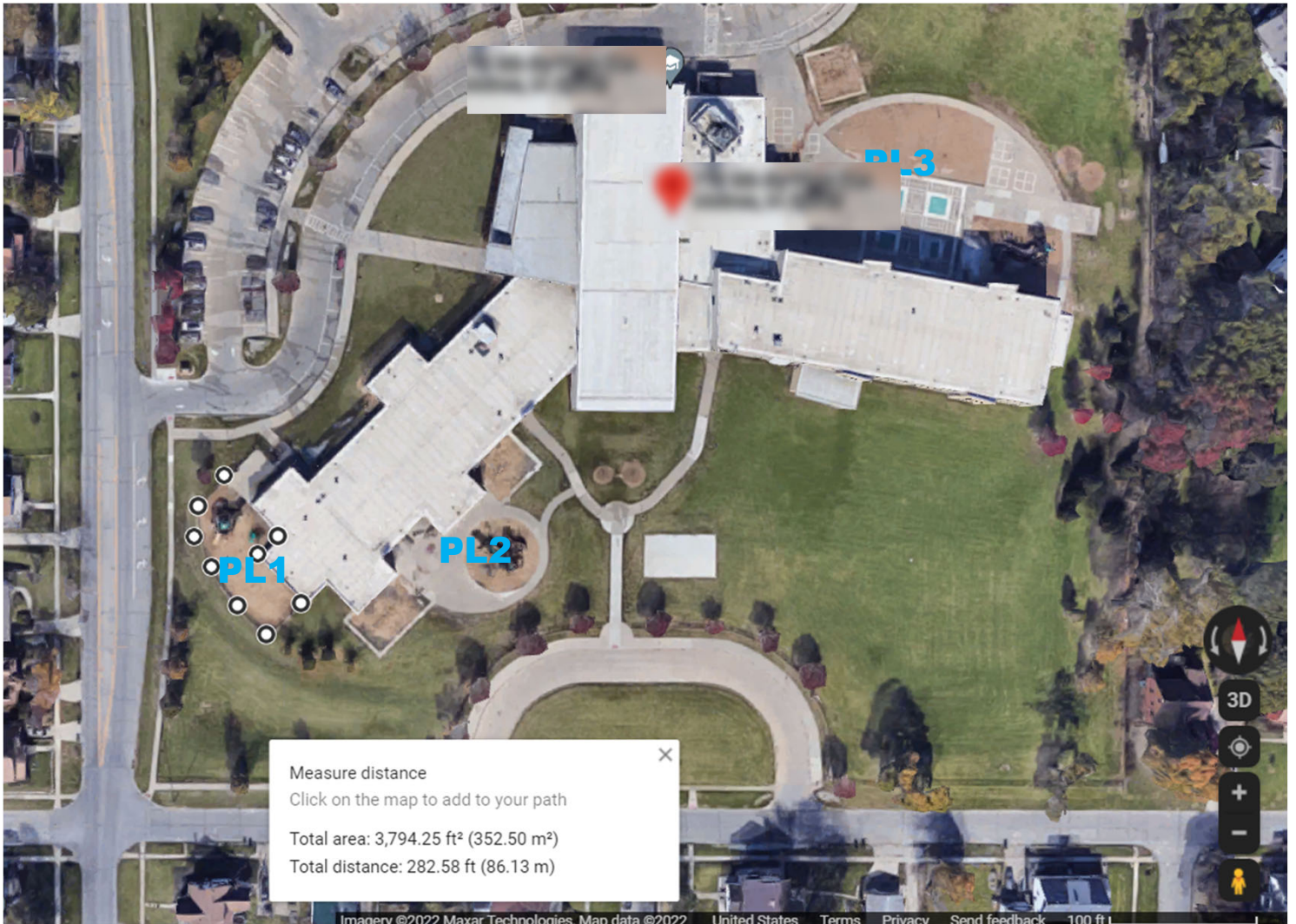
This slide shows the measuring of the roof for the school. The total roof square footage is 68,437.

School Example One Pavement



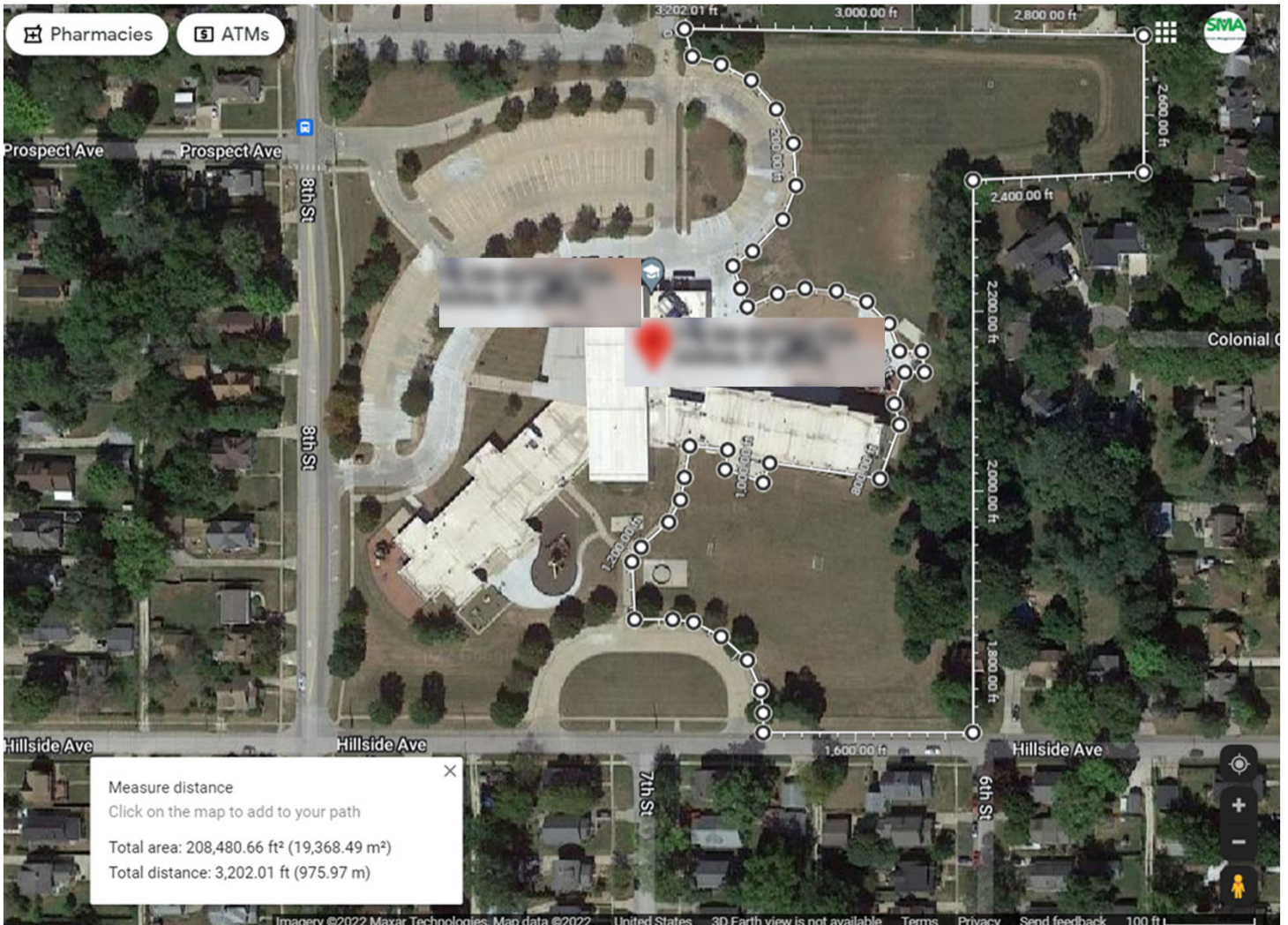
This slide shows the measuring of the pavement for the school site, note the labeling P1, P2 etc. These are the measurements for each pavement section: P1=91,990, (105,653-13,663, the turf amount.) P2=10,893, P3 8,024, P4= 3,157. The total pavement square footage is 114,061.

School Example One Playground



This slide shows the measuring of the playgrounds for the school site, note the labeling PL1, PL 2 etc. These are the measurements for each playground section: PL1=3,794, PL2 =10,738, PL3=28,409. The total playground square footage is 42,939

School Example One Turf



The turf square footage was calculated by taking the site total, (557,617) then subtracting the roof (68,437), the pavement (114,061) and the playground (42,939) to calculate the total turf, 332,180 square feet or 12.82 acres.

School Example One 3D Views



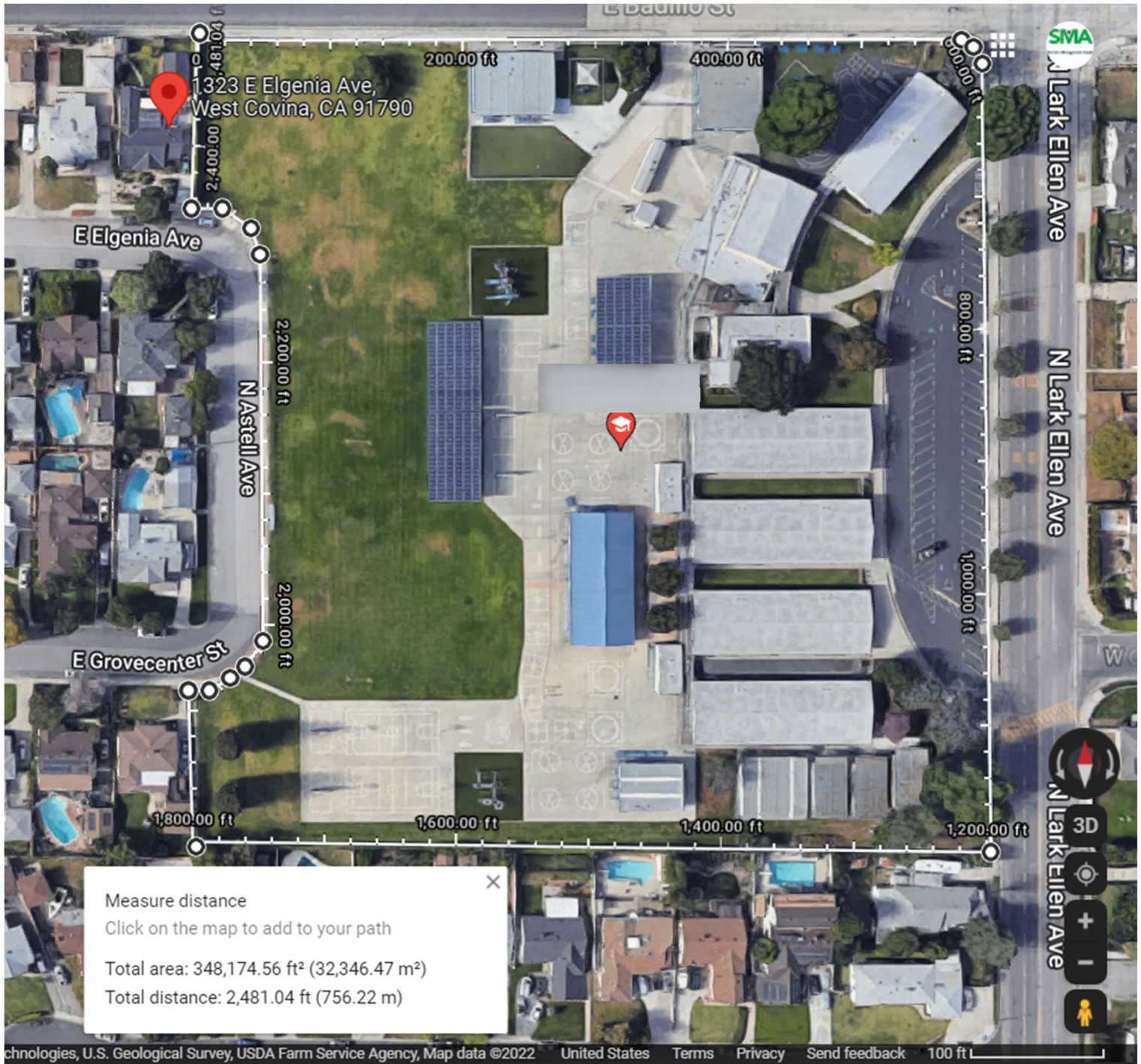
School Example Two



Site Based Statistics:			Site Name: Example School Two		Grade Level: KG-5th		
Students:	525	Multiplier:	115		Year Built:	1957	
Full Map square feet:	348,175						
Service Estimates	Benchmark	Actual	Variance	Site Information			
Custodial:	Hrs per day			Total Acres:	8.00	Actual SF per Student	
Cleaning Level 2	23.63		Variance	Blds Square Feet	64,203	122	
Cleaning Level 3	1 15.60		(15.60)	Students SF Est.	60,375		
Cleaning Level 4	9.63				Benchmark	Actual	
	Hrs per day		7	Building(s) Information			
Other Duties	2 7.80			Auditorium	1,107		
	FTEs	Actual	Variance	Cafeteria	2,745		
Custodial Staff(Level 3)	3 2.93	2.50	(0.43)	Corridor, Carpet	808		
Maintenance:	Per Month	Actual	Variance	Corridor, HS	3,892		
Work orders per Month	4 28		(28)	Classroom, C	23,696		
PM hours per Month	3		(3)	Classroom, HS	11,985		
Roof SF to Mantain	64,203			Gym	2,864		
Grounds:	Per Week	Actual	Variance	Kitchen	904		
Site Employee Hrs/WK	5 6.0	6.0	(0.0)	Library	2,060		
Turf Acres:	3.44			Locker Room	971		
Pavement SF	34,298			Mechanical	764		
Playground SF	99,973			Office, Carpet	3,527		
Equipment Counts (Estimated by Square Footage)				Office, HS	2,092		
6 HVAC	Benchmark	Actual		Pool	8		
Air Conditioner, Split Sys	2			Rest Room	2,451		
Exhaust Hood	2			Storeroom	4,073		
Fan, Exhaust	18			Stair	256		
Make-up Air Unit	1			Fixtures (Cust #)	100		
Unit Heater, Wall	12			8 Equipment Counts (Estimated by Square Footage)			
Package Heating & Cool	2			Plumbing	Benchmark	Actual	
Heat Pump, Water Sour	27			Drinking Fountains	6		
Through Wall Pkg	15			Hot Water Heaters	1		
Pump	10			Sinks	58		
				Soap Dispensers	41		
				Toilets	34		
				Urinals	18		
<div>1. Hours per day to clean the school based on the national average of Level 3.</div> <div>2. Other daily duties for custodians: events , cafeteria help, emergency calls, etc.</div> <div>3. Benchmarked custodial staffing level.</div> <div>4. Maintenance average statistics.</div> <div>5. Grounds workers hours/week estimate.</div> <div>6. HVAC estimated equipment counts.</div> <div>7. Square footage averaged by type of area.</div> <div>8. More equipment estimated counts.</div>				Electrical			
				Electrical Panels	23		
				Emergency Lights	81		
				Exit Lights	38		
				Light Fixtures	685		
				Transformers	5		
				Safety			
				Fire Extinguishers	10		
				Heat & Smoke Dete	70		
		262,752					
Site	348,175	Roof 1	27,336	Pavement 1	27,104	Playground 1	80,911
-Roof	64,203	Roof 2	36,867	Pavement 2	7,194	Playground 2	8,658
-Pavement	34,298	Roof 3		Pavement 3		Playground 3	10,404
-Playground	99,973	Roof 4		Pavement 4		Playground 4	
Turf square feet	145,701	Roof SF	64,203	Pavement SF	34,298	Playgrd SF	99,973
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- Hours per day to clean the school based on the national average of Level 3.
- Other daily duties for custodians: events , cafeteria help, emergency calls, etc.
- Benchmarked custodial staffing level.
- Maintenance average statistics.
- Grounds workers hours/week estimate.
- HVAC estimated equipment counts.
- Square footage averaged by type of area.
- More equipment estimated counts.

School Example Two Site Parameter



This slide shows the measuring of the parameter of the school site and calculates the total square footage of the site.

School Example Two Roof



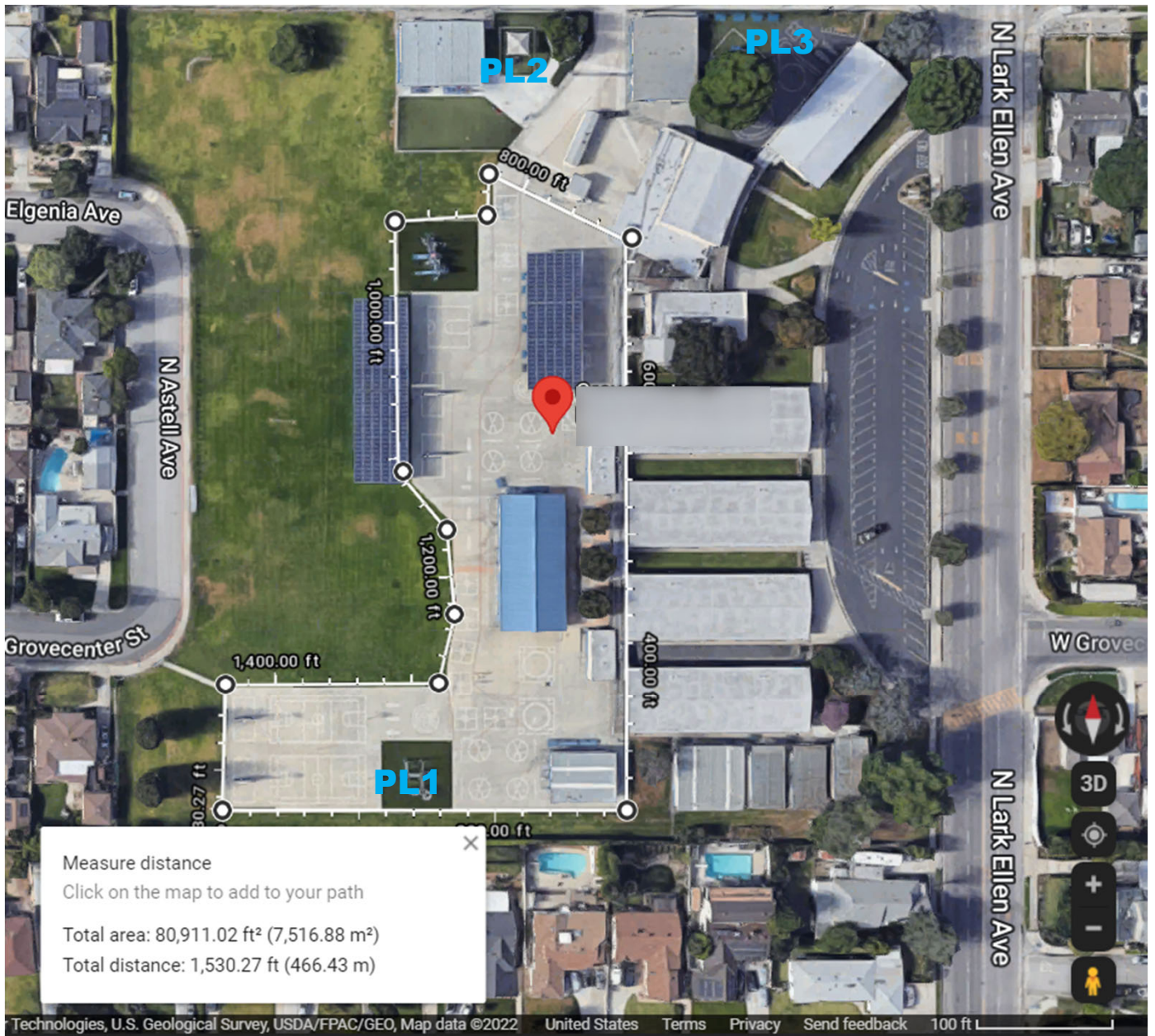
This slide shows the measuring of the roofs for the school site, note the labeling R1, R2 etc. These are the measurements for each roof section: R1 = 27,336; R2 = 1,510; R3=5,014, R4=3,377, R5=6,636, R6=5,103, R7=3,708, R8=173, R9=441, R10=2,975, R11=1,806, R12=2,422, R13=3,702. The total roof square footage is 64,203.

School Example Two Pavement



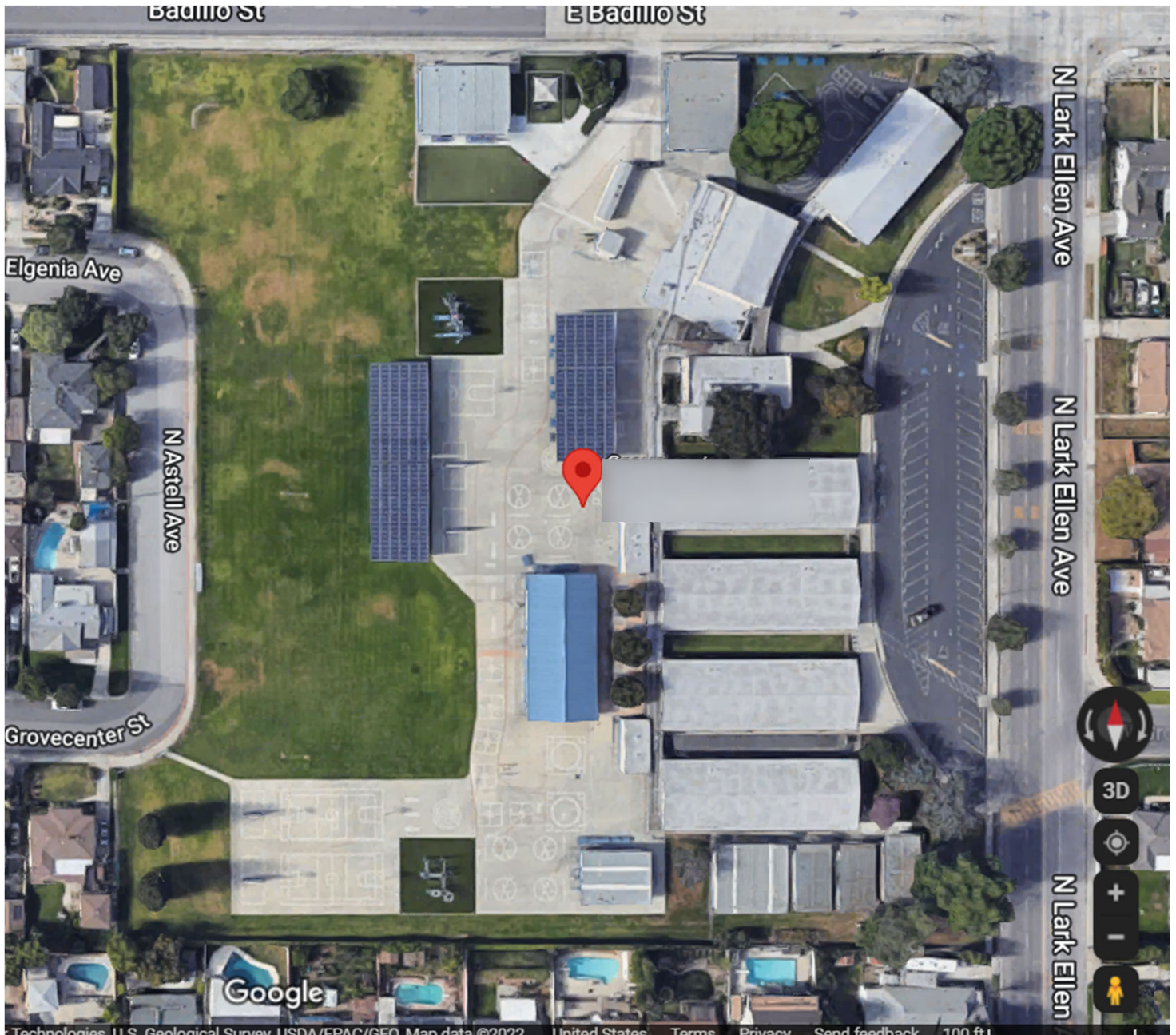
This slide shows the measuring of the pavement for the school site, note the labeling P1, P2 etc. These are the measurements for each pavement section: P1=27,104, P2=7,194 The total pavement square footage is 34,298

School Example Two Playground



This slide shows the measuring of the playgrounds for the school site, note the labeling PL1, PL 2 etc. These are the measurements for each playground section: PL1=80,911, PL2 =8,658, PL3=10,404. The total playground square footage is 99,973

School Example Two Turf



The turf square footage was calculated by taking the site total, (348,175) then subtracting the roof (64,203), the pavement (34,298) and the playground (99,973) to calculate the total turf, 149,701 square feet or 3.44 acres.

School Example Two 3D Views



District Benchmark Observations

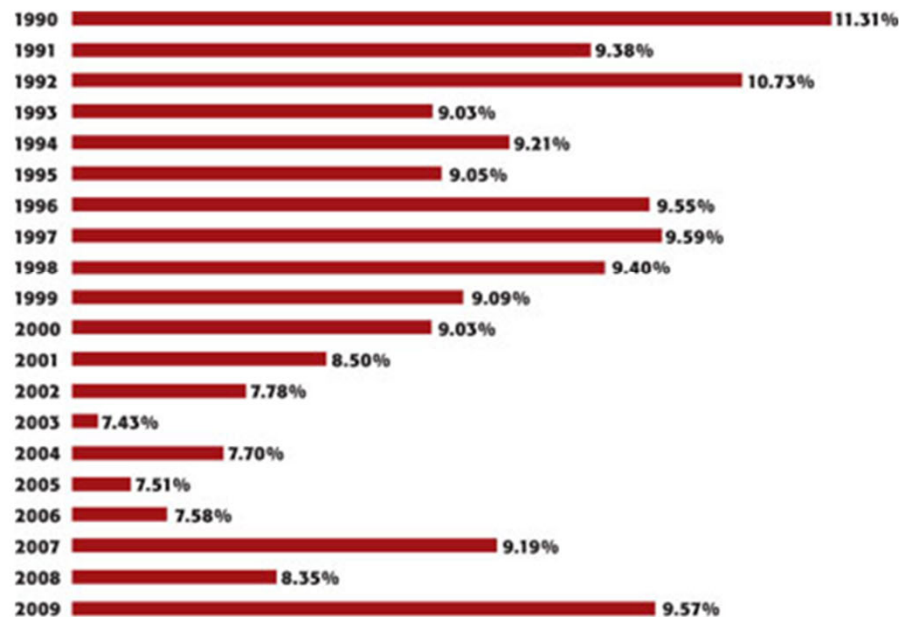
Question 1:

Is your institution investing the typical amount of annual budget in operations and maintenance?

M&O expenditures over the past 20 years

Apr 1, 2009 12:00 PM

Spending by school districts on maintenance and operations as a percentage of total district expenditures over the past two decades



The AS&U nationwide survey of K-12 maintenance and operations budgets as a percent of total district budget averages **8.95%** given this 20-year sampling.

Facility Operations Observations

(continued)

Question 2:

Do you have staffing levels that match benchmarks in custodial, maintenance and grounds?

Facility Department Current Staffing

Square Footage	1,095,000
Acres	300

Position Summary in Full Time Equivalents

	Benchmark	Actual
Manager	2.19	1.00
Supervisor	2.74	3.00
Clerical	1.92	1.00
Custodial	39.11	35.00
Maintenance	11.89	8.00
Grounds	9.68	4.00
Total FTE's	67.52	52.00

Workload Statistics:

Site Bases Statistics											
#	School Name	Students*	Low Grd	High Grd	Total Acres	Turf Acres	Roof SF	Pavement SF	Playground	Bld. Sq. Ft.	%
1	School Example One	572	PK	06	12.82	7.64	68,437	114,061	42,939	82,389	7.52%
2	School Example Two	525	KG	05	8.00	3.44	64,203	34,298	99,973	64,203	5.86%
3	School Example Three	421	KG	05							0.00%

Site Bases Statistics Benchmarked Levels		Custodial		Maintenance		Grounds
		Cleaning	Other	Work	Planned	
		Level 3	Duties	Orders	Maintenance	Site
		Hrs/Day	Hrs/Day	/Month	Hrs/Month	Hrs/Week
1	School Example One	15.37	9.02	36	3.00	9.60
2	School Example Two	15.60	7.80	28	3.00	6.00
3	School Example Three	0.00	0.00	0	0.00	0.00

Facility Operations Observations

(continued)

Question 3:

Do you have enough leadership resources? Properly skilled and motivated leadership more than pays for itself in refined systems and performance.

Question 4:

Which facility management systems seem to have need of increased implementation or refinement? (Such as: corrective work order flow; planned maintenance; custodial scheduling; grounds plan calendar etc.)

District Sites Review Appendix

District-wide manager interview

School site-based interview summaries

Levels of cleaning

“Other Duties” explained

District-wide manager interview

District Building Square Footage: Please provide the total square footage of district buildings, if you don't have an exact number estimate the square footage.

1 response

1,000,000 SF

District Acres: Please provide the total acreage of the district, if you don't have an exact number estimate the acres.

225 Acres

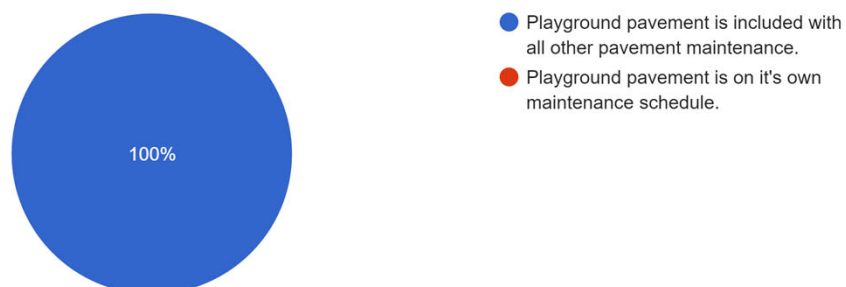
District facility budget: Please provide the total amount the district is budgeting for facilities operations (typically custodial, maintenance, grounds and utilities expense). \$8,200,000

Facilities leadership team: Please provide numbers of managers and supervisors along with their titles.

One Manager (Facility Manager); Three Supervisors (Custodial, Maintenance and Grounds)

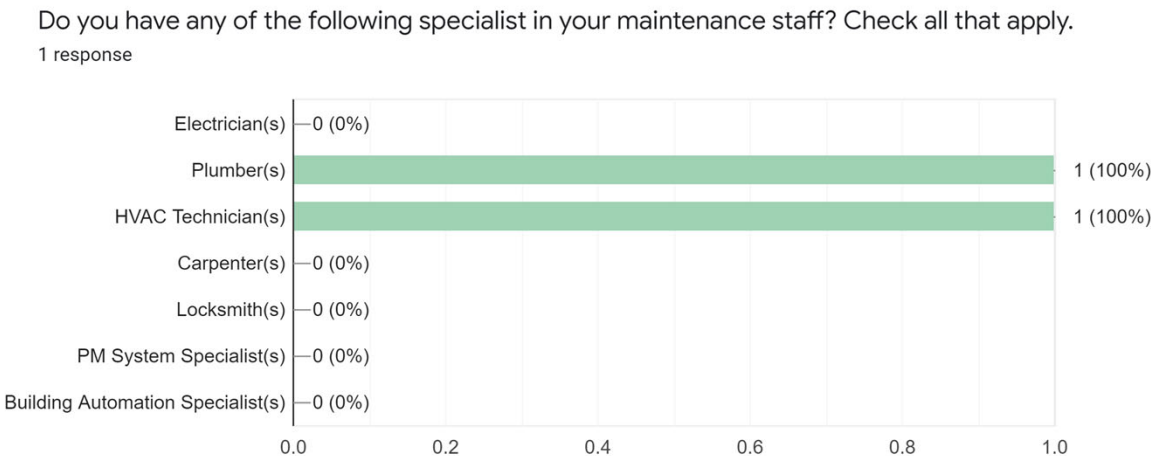
Do you include playground pavement as part of your roadway and parking lot pavement maintenance?

1 response



District-wide manager interview

Maintenance Staffing: Please provide the total number of maintenance workers employed by your district in full time equivalents. 8 FTE

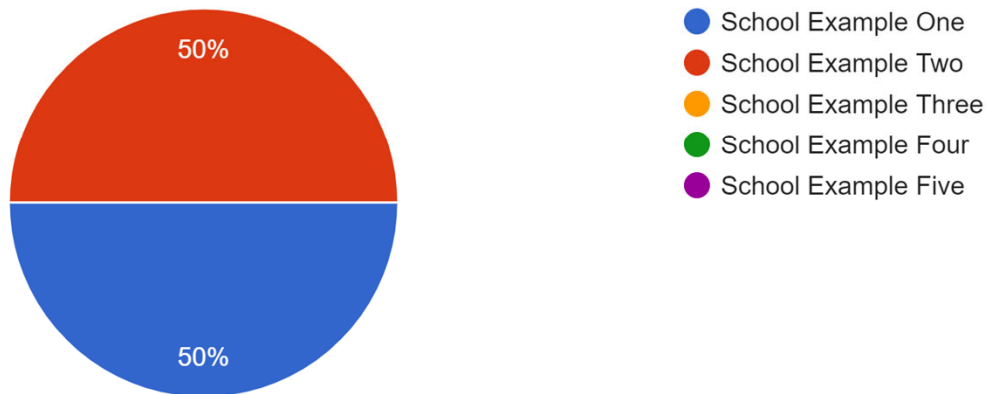


Grounds Staffing: Please provide the total number of district grounds employees who service your district in full time equivalents. 4 FTE

School site-based interview summaries

Select the School/building (each site will require a separate submittal)

2 responses



Building Square Footage: Please provide the square footage of the building(s) of this school site, if you don't have an exact number estimate the square footage.

82,389

64,203

Site Acres: Please provide the acres of this school site, if you don't have an exact number estimate the acres.

12.8

8

Custodial Staffing: Please provide how many custodians service this site in full time equivalents.

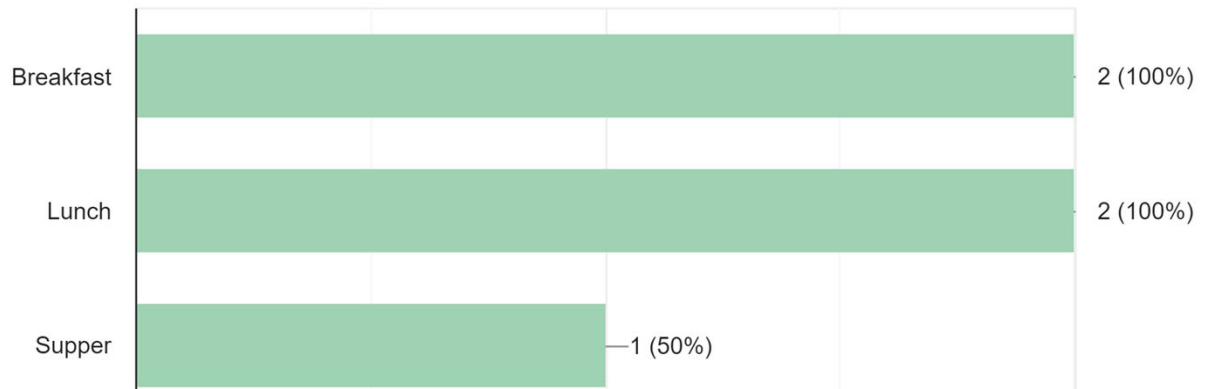
3

2.5

School site-based interview summaries

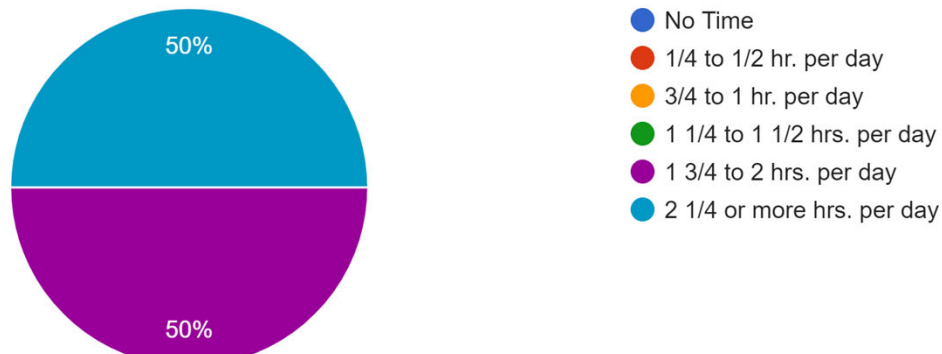
Cafeteria/Food Service Support, please check the meals that are served in your school:

2 responses



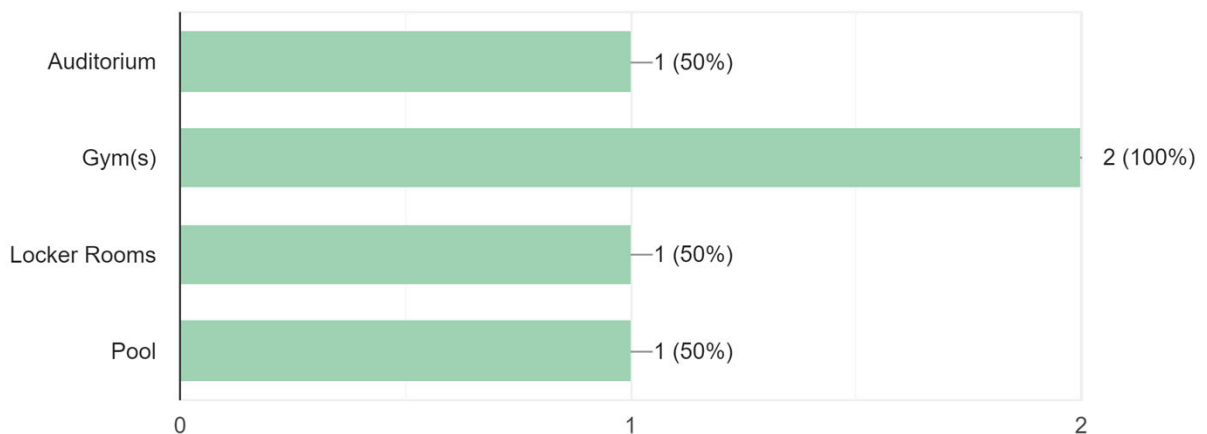
Cafeteria/Food Service Support, please select the best time estimate estimate of the total employee hours per day supporting food services:

2 responses



Check the types of areas that apply to this site, not all school sites have these areas (or buildings). Check all that apply.

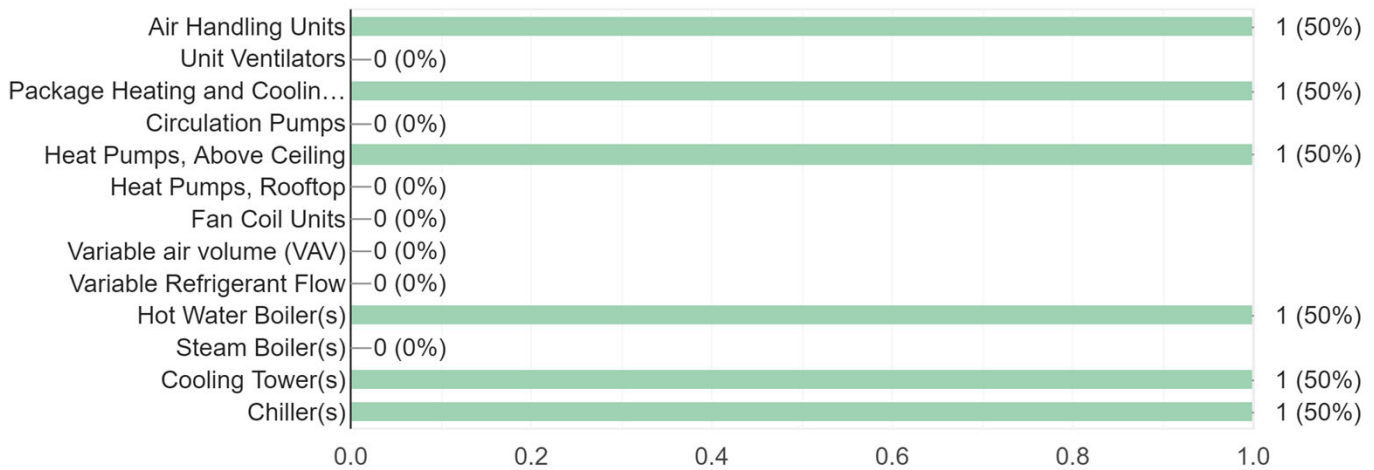
2 responses



School site-based interview summaries

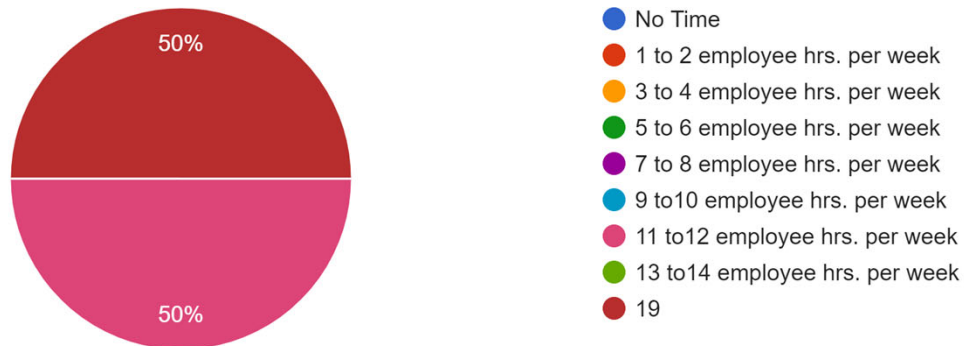
HVAC Information: Identify this site's type(s) of HVAC equipment. Check all that apply.

2 responses



Grounds Support: Estimate the total employee hours per week required for grounds work during the growing season (A crew of 3 spending 2 hours = 6 employee hours).

2 responses



Association of School Business Officials Custodial Levels

SMA uses the five ASBO levels as a point of reference to determine where your District rates. Listed here are the ASBO levels:

Levels of Cleaning / Density of Staffing

ESTABLISHING EXPECTATIONS FOR CUSTODIAL EFFORTS

Planners, administrators, and community members must agree on what constitutes “cleanliness.” While there is not a nationwide standard for describing standards of cleanliness, a five-tiered system of expectations is emerging to help guide decision-making:

Level 1 cleaning results in a “spotless” building, as might normally be found in a hospital environment or corporate suite. At this level, a custodian with proper supplies and tools can clean approximately 10,000 to 11,000 (California equivalent: 7,000 to 7,700) square feet in an 8-hour period.

Level 2 cleaning is the uppermost standard for most school cleaning, and is generally reserved for restrooms, special education areas, kindergarten areas, or food service areas. A custodian can clean approximately 18,000 to 20,000 (California equivalent: 12,600 to 14,000) square feet in an 8-hour shift.

Level 3 cleaning is the norm for most school facilities. It is acceptable to most stakeholders and does not pose any health issues. A custodian can clean approximately 28,000 to 31,000 (California equivalent: 19,600 to 21,700) square feet in 8 hours.

Level 4 cleaning is not normally acceptable in a school environment. Classrooms would be cleaned every other day, carpets would be vacuumed every third day, and dusting would occur once a month. At this level, a custodian can clean 45,000 to 50,000 (California equivalent: 31,500 to 35,000) square feet in 8 hours.

Level 5 cleaning can very rapidly lead to an unhealthy situation. Trash cans might be emptied, and carpets vacuumed on a weekly basis. One custodian can clean 85,000 to 90,000 (California equivalent: 59,500 to 63,000) square feet in an 8-hour period.

The figures above are estimates. The actual number of square feet per shift a custodian can clean will depend on additional variables, including the type of flooring, wall covers, and number of windows, all of which must be taken into account when determining workload expectations. Taken from page 82 of The Planning Guide for Maintaining School Facilities by the School

Facilities Maintenance Task Force; National Forum on Education Statistics and the Association of School Business Officials International (ASBO®) Sponsored by the National Center for Education Statistics and the National Cooperative Education Statistics System February 2003.

http://www.emsc.nysed.gov/facplan/publicat/Planning_Guide_Maintaining_School_Facilities_040303.pdf

California square footage needs to be increased by 30% to be equivalent to the national numbers. California schools have reduced square footage in corridors, gyms and cafeterias due to campus configuration verses a self-contained school building. Campuses have more custodial outside and entrance work. 23,000 in California is equivalent to 29,900 square feet in these ASBO Levels.

Other custodial duties explained

The “Other Duties” interview of Custodians is designed to quantify the duties driven by school activities that are beyond cleaning the buildings each day. A typical California school district of one million square feet will have around 45 custodians, compare that to an office complex of the same square footage requiring around 23 custodians. The difference between an office complex and school are the many duties required beyond cleaning for the school custodians. Quantifying the “Other Duties” task workload is best accomplished by interviewing the custodians. Listed below are some typical tasks quantified in the SMA interviews:

Event Support (Set-up and tear down for athletics, arts, clubs, etc.)

Cafeteria Support

Directly Assigned Calls (911 type reactive requests typically by radio)

Shipping / Receiving

Opening the Campus

Locking the Campus

Grounds Duties (Leaves and trash clean-up)

Maintenance Duties (light maintenance, i.e., bulb replacement, desk repairs, etc.)

Double Cleaning (Some areas may require more than one clean per day)

Graffiti Removal

Laundry (mops, rags, etc.)

Playground Inspections

Quality Checks

Recycling

Security

Stocking Materials (i.e., copy paper)

Clerical Work (Work orders, e-mail etc.)

Traffic Control