

# 2019 Total Cost of Ownership Report

Presented to Facilities Planning Committee

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# **Cerritos College**

## **Total Cost of Ownership**

### **Executive Summary**

Founded in 1955, Cerritos College is a public comprehensive community college with over 40 buildings situated on 135 acres. The College serves over 23,000 students each semester and is committed to providing accessible, low-cost, and quality education for everyone in its community. Cerritos College has benefited from voters' support of two General Obligation bonds totaling \$560 million for capital improvement projects. The Facilities Master Plan (FMP) provides a construction phasing plan to implement the building program funded by the bonds.

The College has initiated a vigorous building program that has resulted in nine new major buildings and three buildings in various development phases.

Cerritos College acknowledges that long term capital improvements and planning require more resources than the initial capital outlay. Therefore, the District has adopted a Total Cost of Ownership (TCO) model to analyze and quantify resources for future capital improvements. The TCO model is reviewed annually, using current staffing, utility and maintenance expenditures that determine projected future cost impacts per square footage. The model is flexible so that as new projects are developed, or new reoccurring expenditures are identified, the model can be adjusted to reflect these developments.

The TCO basis for staffing evaluation is the Association of Physical Plant Administrators (APPA) guidelines, which establishes service levels and the staffing requirement to achieve the desired service level. These APPA metrics, coupled with known historical expenditure data, is the basis that quantifies projected Total Cost of Ownership that the District must accommodate to sustain the capital improvements and ultimately the taxpayers investment in the District.

The TCO determinations are routinely discussed and evaluated with Executive Council, shared governance committees and included in the Facilities and Business Services area plans.

## FCI REPORT

Cerritos College

Facility Name ↕	Bldg #	Gross Area (Sq.Ft.)	Year Built	Last Renovation	Cost Model	Cost Per Sq. Ft.	Total Current Repair Cost	Replacement Value	FCI % ↕
California Community Colleges									
Cerritos									
Cerritos College									
ADMINISTRATION	1	45,568	1963	1991	CC Admin 1SnCP CF	\$472.77	\$145,282,673	\$428,098,773	33.94%
AQUATICS CENTER	90	3,013	2009		CC Block Elect/Mech	\$2,990.87	\$7,102,528	\$21,544,095	32.97%
AUTO PARTNERS	93	11,800	2010		CC Class 1SwCP P&B	\$430.29	\$0	\$9,011,521	0.00%
AUTO TECH BRAKE LAB	48	4,828	1960		CC Lab 1SnCP CF	\$525.95	\$0	\$5,077,304	0.00%
AUTO TECH PAINT PREP	47	3,333	1990		CC Lab 1SnCP CF	\$525.95	\$1,516,039	\$2,539,287	59.70%
AUTO TECH SPRAY BOOTH 1	44	788	1990		CC Spray Booth	\$327.66	\$116,685	\$1,752,991	6.66%
AUTO TECH SPRAY BOOTH 2	45	788	1990		CC Spray Booth	\$327.66	\$0	\$258,196	0.00%
AUTO TECH SPRAY BOOTH 3	46	788	1990		CC Spray Booth	\$327.66	\$0	\$258,196	0.00%
AUTO TECH STEAM RM	49	1,753	2011						
AUTO TECH STORAGE	50	1,504	2011		CC Block Storage	\$253.17	\$0	\$380,783	0.00%
AUTO TECHNOLOGY CENTER	28	40,245	1978	1990	CC Trade Shop	\$259.20	\$5,053,475	\$10,431,906	48.44%
BOOKSTORE	25	22,037	1974		CC SC 1SnCP CF	\$560.31	\$6,142,901	\$12,347,992	49.75%
BURNIGHT CENTER	21	45,513	1965	1991	CC Class MSnCP CF	\$484.66	\$9,774,547	\$22,059,241	44.31%
BUSINESS EDUCATION TEMP	15	22,008	1960		CC Class 1SnCP CF	\$515.96	\$6,760,285	\$11,355,468	59.53%
CAMPUS POLICE	33	3,168	1988		CC Modular WF	\$326.16	\$1,075,945	\$1,033,307	104.13%
CENTRAL PLANT	91	7,559	2009		CC Block BuildingwCP	\$2,307.68	\$0	\$17,443,753	0.00%
CHILD DEVELOPMENT CENTER	96	8,880	2015						
CLASSROOM BUILDING	35	7,428	2003						
COMMUNITY ED ANNEX	92	4,000	1985		CC Modular WF	\$326.16	\$1,524,887	\$1,304,680	116.88%
COMMUNITY EDUCATION 'A'	30	10,432	1981	1991	CC Admin 1SnCP TW	\$511.17	\$1,086,049	\$7,377,205	14.72%
CONCESSIONS	24	1,440	1964		CC Admin MSnCP WF	\$451.69	\$347,746	\$650,419	53.46%
FACILITIES & PURCHASING	42	35,025	2011		CC Aud MSnCP SF	\$546.50	\$0	\$19,141,513	0.00%
FIELD HOUSE	6	7,440	1958		CC lockerroom Bldg.	\$595.37	\$2,476,534	\$4,429,478	55.91%
FINE ARTS COMPLEX	4	50,784	2016						
GYMNASIUM	7	40,354	1961	2014	CC Gym MSnCP TW	\$594.98	\$8,438,979	\$24,009,823	35.15%
HEALTH OCC/ SKILLS LAB	40	22,291	2004		CC Class 1SnCP WF	\$474.63	\$0	\$10,579,754	0.00%
HEALTH SCIENCES	26	45,939	1976		CC Class MSnCP TW	\$489.11	\$12,541,103	\$22,470,143	55.81%
LEARNING RESOURCE CENTER	10	94,170	1961	1998	CC Lib MSnCP C-I-P	\$548.46	\$13,955,254	\$51,647,537	27.02%
LIBERAL ARTS	8	39,576	2014		CC Class MSwCP P&B	\$422.99	\$0	\$16,740,648	0.00%
MATH/CIS	97	34,483	2016						
METALS	12	26,668	1961		CC Class 1SwCP CF	\$471.62	\$8,280,436	\$12,577,429	65.84%
MODULAR CLASSROOMS	94	3,840	2014						
MULTI PURPOSE	9	27,888	1959	1963	CC Class MSnCP CF	\$484.66	\$9,944,513	\$13,516,756	73.57%
PHYSICAL EDUCATION	14	21,886	1959		CC lockerroom Bldg.	\$595.37	\$9,639,317	\$13,030,049	73.98%
PHYSICAL SCI/TECHNOLOGY	43	33,284	2011		CC Class MSnCP P&B	\$467.33	\$8,876	\$15,554,945	0.06%
PUBLIC AFFAIRS BUILDING	37	2,482	2003	2003	CC Class 1SnCP WF	\$474.63	\$0	\$1,178,007	0.00%

# Recommended APPA STAFFING STANDARDS

## APPA's Levels of Service Establishing Parameters

<b>Level</b>	<b><u>Maintenance</u></b>	<b><u>Custodial</u></b>	<b><u>Grounds</u></b>
<b>1</b>	Showpiece Facility	Orderly Spotlessness	State of the Art
<b>2</b>	Comprehensive Stewardship	Orderly Tidiness	High Level
<b>3</b>	Managed Care	Casual Inattention	Moderate Level
<b>4</b>	Reactive Management	Moderate Dinginess	Moderately Low-Level
<b>5</b>	Crisis Response	Unkempt Neglect	Minimum Level

## APPA Maintenance Standards

<u>LEVELS</u>	<u>Sq. ft. per Staffing</u>	<u>Classroom</u>	<u>Laboratory</u>	<u>Office</u>	<u>Residence Hall</u>
1	47,220	66,667	37,037	41,667	55,556
2	67,456	83,333	47,619	62,500	71,429
3	94,439	111,111	66,667	90,909	100,000
4	118,049	125,000	111,111	125,000	125,000
5	236,098	166,667	166,667	250,000	166,667

Description	LEVEL 1 Showpiece	LEVEL 2 Comprehensive Stewardship	LEVEL 3 Managed Care	LEVEL 4 Reactive Management
Customer Service & Response Time	Able to respond to virtually any service, immediate response.	Response to most service needs, typically in a week.	Services available only by reducing maintenance, response times of one month or less.	Services available only by reducing maintenance, response times of one year or less.
Customer Satisfaction	Proud of facilities; have a high level of trust for the facilities organization.	Satisfied with facilities related services, usually complimentary of facilities staff.	Basic level of facilities care. Able to perform mission duties. Lack of pride in physical environment.	Generally critical of cost, responsiveness and quality of facilities services.
PM vs. CM	100%	75-100%	50-75%	25-50%
Maintenance Mix	All PM is scheduled and performed on time. Emergencies (e.g. power outages) are infrequent and handled efficiently	A well developed PM program; PM done less than defined schedule. Occasional emerg. caused by pump failures etc.	Reactive maintenance high due to systems failing. High number of emergencies causes reports to upper mgmt.	Worn-out systems require staff to be scheduled to react to failure. PM work consists of simple tasks done inconsistently.
Aesthetics, Interior	Like new finishes	Clean/crisp finishes	Average finishes	Dingy finishes
Aesthetics, Exterior	Window, doors, trim, exterior walls are like new	Watertight, good appearance of exterior cleaners	Minor leaks and blemishes average exterior appearance.	Somewhat drafty and leaky, rough-looking exterior
Aesthetics, Lighting	Bright and clean, attractive lighting	Bright and clean, attractive lighting	Small percentage of lights out, generally well lit and clean.	Numerous lights out, missing diffusers, secondary areas dark.
Service Efficiency	Maintenance activities appear highly organized and focused. Service and maintenance calls are responded to immediately.	Maintenance activities appear organized with direction. Service and maintenance calls are responded to in a timely manner.	Maintenance activities appear to be somewhat organized, but remain people dependent. Service/ maintenance calls are sporadic without apparent cause.	Maintenance activities are somewhat chaotic and people dependent. Service/maintenance calls are typically not responded to in a timely manner.
Building Systems Reliability	Breakdown maintenance is rare and limited to vandalism and abuse repairs.	Breakdown maintenance is limited to system components short of MTBF.	Building and systems components periodically or often fail.	Systems unreliable. Constant need for repair. Backlog repair exceeds resources.
Operating Budget as % of CRV	>.4.0	3.5-4.0	3.0-3.5	2.5-3.0
Campus Average FCI	<0.05	0.05-0.15	0.15-0.29	0.30-0.49

# APPA Custodial Standards

Custodial  
LEVELS

Sq. ft. per Staffing

1	8,500
2	16,700
3	26,500
4	39,500
5	45,600

Level 1 Orderly Spotlessness	Level 2 Ordinary Tidiness	Level 3 Casual Inattention	Level 4 Moderate Dinginess	Level 5 Unkempt Neglect
<p>Floors and base moldings shine and/or are bright and clean; colors are fresh. All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints. Washroom and shower tile and fixtures gleam and are odor-free; supplies are adequate. ...</p>	<p>Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls, but there can be up to two days' worth of dirt, dust, stains and streaks. All vertical and horizontal surfaces are clean, but marks...</p>	<p>Floors are swept clean, but upon close observation dust, dirt, and stains, as well as a buildup of dirt, dust, and/or floor finish in corners and along walls, can be seen. There are dull spots and/or matted carpet in walking lanes, and streaks and ...</p>	<p>Floors are swept clean, but are dull. Colors are dingy, and there is an obvious buildup of dust, dirt, and/or floor finish in corners and along walls. Molding is dull, and contains streaks and splashes. All vertical and horizontal surfaces have conspicuous dust, ...</p>	<p>Floors and carpets are dirty and have visible wear and/or pitting. Colors are faded and dingy, and there is a conspicuous buildup of dirt, dust, and/or floor finish in corners and along walls. Base molding is dirty, stained and streaked. Gum, stains, dirt, dust balls, and trash are broadcast. All vertical and horizontal surfaces have major accumulations of dust, ...</p>
<p>Annual cleaning of all blinds. Repairs completed with 24 hours. Special projects completed within 5 working days. New buildings (avg size of 100,000 NSF) online in one week.</p>	<p>Cleaning of all blinds within 18 months. Repairs completed within 1 week. Special projects completed within 5 working days. ...</p>	<p>Cleaning of all blinds within 3 years. Repairs completed within 2 weeks. Special projects completed within 10 working days. ...</p>	<p>Cleaning of all blinds every 5 years. Repairs completed within three weeks. Special projects completed with one month. New buildings ...</p>	<p>No regular Blind cleaning Repairs done only as time permits. Special project work done only during semester breaks. New buildings (avg size of 100,000 NSF) would require additional/contracted ...</p>
<p>All work requests completed the same day. All light fixtures in working order. All academic, low voltage, HID and emergency lighting systems maintained on a timely basis.</p>	<p>75% of work requests completed same day. No more than 5% of all lights out at any given time. Delays in maintenance for academic, ...</p>	<p>50% of work request completed same day. No more than 10% of all lights out at any given time. Delays in maintenance for academic, low voltage, HID and ...</p>	<p>Lighting in academic buildings replaced on an "as needed" basis. Requests would be prioritized with most urgent requests completed within one week. Delays in ...</p>	<p>Maintain essential minimal lighting in academic buildings. Many lights will be out in areas and only replaced when absolutely necessary. Maintenance for academic, low voltage, HID and emergency lighting systems ...</p>

Sample Classroom task list and frequencies per APPA level

Classrooms	APPA 1	APPA 2	APPA 3	APPA 4	APPA 5
Empty trash/replace liners	Daily	Daily	Daily	2X Week	1X Week
Clean whiteboards	Daily	Daily	Daily	2X Week	1X Week
Sweep/Dust mop floors	Daily	Daily	Daily	3X Week	1X Week
Spot mop floor	Daily	Daily	Daily	Daily	Daily
Damp mop entire floor	Daily	Daily	1X Week	Bi-Weekly	Monthly
Vacuum high traffic areas	Daily	Daily	Daily	3X Week	1X Week
Wall to wall vacuuming	Daily	Daily	1X Week	Bi-Weekly	Monthly
Carpet Spot Removal	As Needed	As Needed	Daily	Bi-Weekly	Monthly
Wipe down touch points	Daily	Daily	Daily	3X Week	1X Week
Clean/disinfect drinking fountain	Daily	Daily	Daily	1X Week	Bi-Weekly
Spot clean interior glass	Daily	Daily	Daily	Daily	Daily
Clean interior glass (full cleaning)	Daily	Daily	Daily	1X Week	Bi-Weekly
Dust furniture	Daily	Daily	1X Week	Bi-Weekly	Monthly
High/low dust	Daily	Daily	1X Week	Bi-Weekly	Monthly
Spot clean walls, doors and graffiti	Daily	Daily	Daily	Daily	Daily
Machine scrub floor	As Needed	As Needed	Monthly	Quarterly	1X Year
Burnish floors	As Needed	As Needed	Monthly	Quarterly	1X Year
Vacuum supply and return air vents	As Needed	Bi-Weekly	Monthly	Bi-Monthly	Quarterly
Dust ceiling area and light fixtures	As Needed	Bi-Weekly	Monthly	Bi-Monthly	Quarterly
Clean trash receptacles	Daily	1X Week	Monthly	Bi-Monthly	Quarterly
Wipe down window ledges	Daily	1X Week	Monthly	Bi-Monthly	Quarterly
Scrub and recoat floors	As Needed	2X Year	1X Year	Every Other Year	1X Year
Strip and refinish floors	As Needed	1X Year	1X Year	1X Year	Every Other Year
Full carpet extraction	As Needed	Monthly	2X Year	1 Year	Every Other Year



# APPA Grounds Standards

<u>GROUNDS</u>				
<u>LEVELS</u>	<u>Main Grounds</u>	<u>Open Area</u>	<u>Athletic</u>	<u>INDUSTRY STANDARD</u>
	<u>Acres/person</u>	<u>Acres/person</u>	<u>Acres/person</u>	<u>Acres/person</u>
1	1.15	20	2.71	
2	2.3	25	4.09	10
3	2.55	33.33	5.99	
4	5.74	50	11.52	
5	13.5	100	14.29	

<b>LEVEL 1</b>	<b>LEVEL 2</b>	<b>LEVEL 3</b>	<b>LEVEL 4</b>	<b>LEVEL 5</b>
<p><b>State of the Art</b></p> <p>Maintenance applied to a high-quality diverse landscape. Associated with high-traffic urban areas, such as public squares, malls, government grounds, or college/university campuses.</p>	<p><b>High Level</b></p> <p>Associated with well-developed public areas, malls, government grounds, or college/university campuses. Recommended level for most organizations.</p>	<p><b>Moderate Level</b></p> <p>Associated with locations that have Moderate to low levels of development or visitation, or with operations that, because of budget restrictions, cannot afford a higher level of maintenance.</p>	<p><b>Moderately Low-Level</b></p> <p>Associated with locations affected by budget restrictions that cannot afford a high level of maintenance.</p>	<p><b>Minimum Level</b></p> <p>Associated with locations that have severe budget restrictions.</p>

## APPA Grounds Descriptions of Levels:

### LEVEL 1

- **TURF CARE.** Grass height maintained according to species and variety of grass. Mowed at least once every five working days but may be as often as once every three working days. Aeration as required but not less than four times per year. Reseeding or sodding as needed. Weed control to be practiced so that no more than 1 percent of the surface has weeds present.
- **FERTILIZER.** Adequate fertilization applied to plant species according to their optimum requirements. Application rates and times should ensure an even supply of nutrients for the entire year. Nitrogen, phosphorus, and potassium percentages should follow local recommendations. Trees, shrubs, and flowers should be fertilized according to their individual requirements of nutrients for optimum growth. Unusually long or short growing seasons may *modify* the chart slightly.
- **IRRIGATION.** Sprinkler irrigated-electric automatic commonly used. Some manual systems could be considered adequate under plentiful rainfall circumstances and with adequate staffing. Frequency of use follows rainfall, temperature, season length, and demands of plant material.
- **LITTER CONTROL.** Minimum of once per day, seven days per week. Extremely high visitation may increase the frequency. Receptacles should be plentiful enough to hold all trash usually generated between servicing without overflowing.
- **PRUNING.** Frequency dictated primarily by species and variety of trees and shrubs. Length of growing season and design concept also a controlling factor-i.e., clipped vs. natural-style hedges. Timing scheduled to coincide with low demand periods or to take advantage of special growing characteristics.
- **DISEASE AND INSECT CONTROL.** At this maintenance level, the controlling objective is to avoid public awareness of any problems. It is anticipated at Level 1 that problems will either be prevented or observed at a very early stage and corrected immediately.
- **SNOW REMOVAL.** Snow removal starts the same day that accumulations of .5 inch are present. At no time will now be permitted to cover transportation or parking surfaces longer than noon of the day after the snow stops. Application of snow-melting compound and/or gravel is appropriate to reduce the danger of injury due to falls.
- **SURFACES.** Sweeping, cleaning, and washing of surfaces should be done so that at no time does an accumulation of sand, dirt, or leaves distract from the looks or safety of the area.
- **REPAIRS.** Repairs to all elements of the design should be done immediately when problems are discovered, provided replacement parts and technicians are available to accomplish the job. When disruption to the public might be major and the repair is not critical, repairs may be postponed to a time period that is least disruptive.
- **INSPECTIONS.** A staff member should conduct inspection daily.
- **FLORAL PLANTINGS.** Normally, extensive or unusual floral plantings are part of the design. These may include ground-level beds, planters, or hanging baskets. Often, multiple plantings are scheduled, usually for at least two blooming cycles per year. Some designs may call for a more frequent rotation of bloom. Maximum care, including watering, fertilizing, disease control, disbudding, and weeding, is necessary. Weeding flowers and shrubs is done a minimum of once per week. The desired standard is essentially weeded free.

### LEVEL 2

- **TURF CARE.** Grass cut once every five working days. Aeration as required but not less than two times per year. Reseeding or sodding when bare spots are present. Weed control practiced when weeds present a visible problem or when weeds represent 5 percent of the turf surface. Some pre-emergent products may be used at this level.
- **FERTILIZER.** Adequate fertilizer level to ensure that all plant materials are healthy and growing vigorously. Amounts depend on species, length of growing season, soils, and rainfall. Rates should correspond to at least the lowest recommended rates. Distribution should ensure an even supply of nutrients for the entire year. Nitrogen, phosphorus, and potassium percentages should follow local recommendations. Trees, shrubs, and flowers should receive fertilizer levels to ensure optimum growth.
- **IRRIGATION.** Sprinkler irrigated--electric automatic commonly used. Some manual systems could be considered adequate under plentiful rainfall circumstances and with adequate staffing. Frequency of use follows rainfall, temperature, season length, and demands of plant material.
- **LITTER CONTROL.** Minimum of once per day, five days per week. Offsite movement of trash depends on size of containers and use by the public. High use may dictate daily or more frequent leaning.
- **PRUNING.** Usually done at least once per season unless species planted dictate more frequent attention. Sculpted hedges or high-growth species may dictate a more frequent requirement than most trees and shrubs in natural-growth plantings.
- **DISEASE AND INSECT CONTROL.** Usually done when disease or insects are inflicting noticeable damage, are reducing vigor of plant material, or could be considered a bother to the public. Some preventive measures may be used, such as systemic chemical treatments. Cultural prevention of disease can reduce time spent in this category. Some minor problems may be tolerated at this level.
- **SNOW REMOVAL.** Snow removed by noon the day following snowfall. Gravel or snowmelt may be used to reduce ice accumulation.
- **SURFACES.** Should be cleaned, repaired, repainted, or replaced when their appearances have noticeably deteriorated.
- **REPAIRS.** Should be done whenever safety, function, or appearance is in question. **INSPECTIONS.** Inspection should be conducted by some staff member at least once a day when regular staff is scheduled.
- **FLORAL PLANTINGS.** Normally, no more complex than two rotations of bloom per year. Care cycle is usually at least once per week, but watering may be more frequent. Health and vigor dictate cycle of fertilization and disease control. Beds essentially kept weed free.

### LEVEL 3

- TURF CARE. Grass cut once every ten working days. Normally not aerated unless turf quality indicates a need or in anticipation of an application of fertilizer. Reseeding or resodding done only when major bare spots appear. Weed control measures normally used when 50 percent of small areas are weed infested or when 15 percent of the general turf is infested with weeds.
- FERTILIZER. Applied only when turf vigor seems to be low. Low-level application
- done once per year. Rate suggested is one-half the level recommended.
- IRRIGATION. Dependent on climate. Locations that receive more than 25 inches of rainfall a year usually rely on natural rainfall with the possible addition of portable irrigation during periods of drought. Dry climates that receive less than 25 inches of rainfall usually have some form of supplemental irrigation. When irrigation is automatic, a demand schedule is programmed. Where manual servicing is required, the norm would be two to three times per week.
- LITTER CONTROL. Minimum service of two to three times per week. High use may dictate higher levels during the warm season.
- PRUNING. When required for health or reasonable appearance. With most tree and shrub species, pruning would be performed once every two to three years.
- DISEASE AND INSECT CONTROL. Done only to address epidemics or serious complaints. Control measures may be put into effect when the health or survival of the plant material is threatened or when public comfort is an issue.
- SNOW REMOVAL. Snow removal done based on local law requirements but generally accomplished by the day following snowfall. Some crosswalks or surfaces may not be cleared at all.
- SURFACES. Cleaned on a complaint basis. Repaired or replaced as budget allows. REPAIRS. Should be done whenever safety or function is in question. INSPECTIONS. Inspections are conducted once per week.
- FLORAL PLANTINGS. Only perennials or flowering trees or shrubs.

### LEVEL 4

- TURF CARE. Low-frequency mowing scheduled based on species. Low growing grasses may not be mowed. High grasses may receive periodic mowing. Weed control limited to legal requirements for noxious weeds.
- FERTILIZER. Not fertilized.
- IRRIGATION. No irrigation.
- LITTER CONTROL. Once per week or less. Complaints may increase level above one servicing.
- PRUNING. No regular trimming. Safety or damage from weather may dictate actual
- work schedule.
- DISEASE AND INSECT CONTROL. None except where the problem is epidemic and the epidemic condition threatens resources or the public.
- SNOW REMOVAL. Snow removal done based on local law requirements but generally accomplished by the day following snowfall. Some crosswalks or surfaces may not be cleared at all.
- SURFACES. Replaced or repaired when safety is a concern and when budget is available.
- REPAIRS. Should be done whenever safety or function is in question.
- INSPECTIONS. Inspections are conducted once per month.
- FLORAL PLANTINGS. None. May have wildflowers, perennials, flowering trees, or shrubs in place.
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### LEVEL 5

- TURF CARE. Low-frequency mowing scheduled based on species. Low growing grasses may not be mowed. High grasses may receive periodic mowing. Weed control limited to legal requirements for noxious weeds.
- FERTILIZER. Not fertilized.
- IRRIGATION. No irrigation.
- LITTER CONTROL. On demand or complaint basis.
- PRUNING. No pruning unless safety is involved.
- DISEASE AND INSECT CONTROL. No control except in epidemic or safety situations.
- SNOW REMOVAL. Snow removal done based on local law requirements but generally accomplished by the day following snowfall. Some crosswalks or surfaces may not be cleared at all.
- SURFACES. Serviced only when safety is a consideration.
- REPAIRS. Should be done whenever safety or function is in question. INSPECTIONS. Inspections are conducted once per month.
- FLORAL PLANTINGS. None. May have wildflowers, perennials, flowering trees, or shrubs in place

# Physical Plant Historical Workload Data

The Physical Plant Division includes the units of Facilities, Grounds and Custodial Operations.

The Facilities unit is responsible for the maintenance and repair of the campus buildings, mechanical systems, related campus infrastructure and their physical attributes.

The Grounds unit is responsible for the maintenance of lawns, landscaping, athletic fields, site irrigation systems, sidewalks and general cleaning of the outside areas of the campus, including all parking lots.

The Custodial unit is responsible for the daily cleaning of all restrooms, classrooms, offices, shower/locker rooms, gymnasium, trash collection and other interior facilities on campus.

## **Facilities, Trades, Maintenance and Grounds Work Load Data**

The department uses a computerized maintenance management system for the processing of work orders throughout the campus.

Tracking completed work orders and man hours per calendar year:

Year	Total Work Orders Completed	Man Hours required
2009	3485	6102
2010	2887	4290
2011	3233	4760
2012	4463	6854
2013	3129	5399
2014	3119	5771
2015	2778	5632
2016	3286	6385
2017	2895	5312
2018	3122	6345

Tracking completed key request orders per calendar year:

Year	Spring Semester	Summer	Fall Semester	Annual Total
2009	203	67	211	481
2010	198	65	220	483
2011	177	75	250	502
2012	266	81	253	600
2013	171	37	192	400
2014	159	70	118	347
2015	122	54	139	315
2016	116	52	134	302
2017	136	33	90	259
2018	107	50	132	289

# Physical Plant Historical Workload Data

The department assigns custodial staff for all buildings throughout the campus. The cumulative square footage and coverage per custodian is tracked by calendar year:

Year	Gross Sq. Feet (GSF)	Assigned Sq. Feet (ASF)	Custodians	GSF/Custodian	ASF/Custodian
2009	814,170	578,543	29	28,075	19,950
2010	824,022	558,521	29	28,415	19,259
2011	824,022	558,521	29	28,415	19,259
2012	862,131	581,255	29	29,729	20,043
2013	887,750	624,956	29	30,612	21,550
2014	900,770	604,482	30	30,026	20,149
2015	900,770	604,482	30	30,026	20,149
2016	900,770	604,482	30	30,026	20,149
2017	924,800	615,276	30	30,827	20,509
2018	924,800	615,276	30	30,827	20,509

The custodial staff is also responsible for set up and removal of tables, chairs, tents, and trash receptacles for various events on campus. The total operations and man hours expended is tracked by calendar year:

Year	Setups/Removals	Man Hours
2009	589	1927
2010	554	1389
2011	577	1375
2012	502	1205
2013	494	1078
2014	556	1717
2015	617	1779
2016	574	1564
2017	543	1689
2018	542	1440

# Physical Plant Historical Workload Data

This work order data referenced above demonstrates improvement in corrective maintenance work orders and the man hours required to complete these requests. The recent focused efforts on corrective maintenance by the division is reducing maintenance requests by district staff. Continued proactive corrective measures will stabilize the campus operations and maintenance workload, allowing for more preventative maintenance to be implemented.

The key request data reflects increased efficiency due to changes in keying matrixes which has resulted in fewer requests. With implementation of additional matrix modifications, this trend should continue to favorably improve.

Regarding the custodial workload, with the new construction of buildings through the bond program, gross and assigned square footage is increasing. This is increasing the averaged workload of the custodians. Tracking the amount and man hours required for setups and removals demonstrates that the custodian workload is impacted by these required tasks. The setups average nearly two per workday, which lessens the ability of the custodians to complete their assigned cleaning tasks.

The above referenced data reflects the information that the department is able to capture in statistical data. This does not account for the many intangible services that the department provides with respect to emergency requests, construction consulting and routine, non- documented maintenance.

Clearly, the increasing workload for both groups without additional staff will challenge the department to provide the services that the district requires. These trends need to be monitored in future years to plan for additional staffing levels, contracted services, or part time employees to maintain the district needs.

# Staffing Levels vs. APPA Standards

Cerritos College 2018- 2019: 969,791 Gross Square Footage (GSF)  
(Includes phase 1 of new HWC)

Report Date: January 15, 2019

## Maintenance

Service Level	Level 1	Level 2	Level 3	Level 4	Level 5
APPA	1 staff/47,220 GSF	1 staff/67,456 GSF	1 staff/94,439 GSF	1 staff/118,049 GSF	1 staff/236,098 GSF
Cerritos					
12 positions					
0 vacancies					
12 staff			1 staff/80,816 GSF		

## Custodians

Service Level	Level 1	Level 2	Level 3	Level 4	Level 5
APPA	1 staff/8,500 GSF	1 staff/16,700 GSF	1 staff/26,500 GSF	1 staff/39,500 GSF	1 staff/45,600 GSF
Cerritos					
32 positions					
0 vacancies					
32 staff			1 staff/30,306 GSF		

Grounds Note: 134 acres (5,837,040 s.f.) minus 969,791 GSF equals 4,912,240 s.f. or **111 acres of grounds maintenance**

Service Level	Level 1	Level 2	Level 3	Level 4	Level 5
APPA	1 staff/1.15 acre	1 staff/2.3 acre	1 staff/2.55 acre	1 staff/5.74	1 staff/13.5
Cerritos					
10 positions					
0 vacancies					
10 staff					1 staff/11.1 acres

# Total Costs of Ownership Calculations Assumptions

\*2017/18 data utilized

<b>Total Gross Square Feet for CCCD Campus (01/01/2019)</b>	969,791
<b>Total Assignable Square Feet for CCCD Campus</b>	640,197
<b>Number of Custodians</b>	32
<b>Number of Grounds Personnel</b>	10
<b>Number of Maintenance Personnel</b>	12
<b>Number of Managers for above areas</b>	3
<b>Number of Admin Support Staff</b>	3
<b>Total Employee Count</b>	60
<b>Annualized Cost of Custodians</b>	\$2,537,379
<b>Annualized Costs of Grounds Personnel</b>	\$945,893
<b>Annualized Costs of Maintenance Personnel</b>	\$1,477,869
<b>Annualized Costs of Support Staff</b>	\$282,898
<b>Annualized Costs of Managers</b>	\$362,064
<b>Total Salary &amp; Benefits</b>	\$5,606,103
<b>Custodians Cost per Gross Square Feet</b>	\$2.62
<b>Grounds Cost per Square Feet of outside space (Total Acreage less Gross Square Feet)</b>	\$ 0.19
<b>Maintenance Cost per Gross Square Feet</b>	\$1.52
<b>Support Staff Cost per Gross Square Feet</b>	\$0.29
<b>Managers/Support Cost per Gross Square Feet</b>	\$0.37
<b>Annual Domestic &amp; Reclaimed Water Cost for July 2017-June 2018</b>	\$130,766
<b>Cost Per Gross Square Feet</b>	\$0.13
<b>Annual SCE/Constellation Energy usage for July 2017-June 2018</b>	\$1,613,700
<b>Annual SC Gas Energy usage for July 2017-June 2018</b>	\$155,653
<b>Total Energy Expenditures for July 2017-June 2018</b>	\$1,769,353
<b>Energy Cost per Gross Square Feet</b>	\$1.82



## Service Contracts for Campus Maintenance Assumptions

\*2017/18 data utilized

<b>Total Gross Square Feet for CCCD Campus (01/01/2019)</b>	969,791
<b>Total Assignable Square Feet for CCCD Campus</b>	640,197
<b>Elevator Contract</b>	
Cost of annual elevator maintenance contract (each additional two elevators)	\$298
Cost extrapolated over 30 years(2019 dollars)	\$8,940
<b>Air Filter Contract</b>	
Average Cost of AHU Filter Maintenance per GSF	\$0.09
Cost per 10,000 GSF	\$888
Cost extrapolated over 30 years(2019 dollars)per 10,000 GSF	\$26,640
<b>Fire Alarm Annual Contract</b>	
Average cost per gross square feet	\$0.13
Cost per 10,000 GSF	\$1,300
Cost extrapolated over 30 years(2019 dollars)per 10,000 GSF	\$39,000

<b>TOTAL COST OF OWNERSHIP ANALYSIS HEALTH &amp; WELLNESS COMPLEX</b>										
				2.62	1.52	0.19	1.95	0.22		
<b>EXISTING BUILDINGS</b>	<b>GSF</b>	<b>GROUNDS AREA</b>	<b>ELEVATORS</b>	<b>CUSTODIAL /YR</b>	<b>MAINT. /YR</b>	<b>GROUNDS /YR</b>	<b>UTILITIES /YR</b>	<b>SERVICE/YR</b>	<b>TOTAL COST/YR</b>	<b>NOTES</b>
PHYSICAL ED	21,886	Minimal	0	\$57,374	33,266	4,158	42,677	4,815	\$142,290	
STUDENT HEALTH	3,008	Normal	0	\$7,881	4,572	572	5,865	661	\$19,551	No Elevator service contract for these buildings
WEIGHT ROOM	4,624	Normal	0	\$12,115	7,028	880	9,017	1,017	\$30,057	
DANCE (CB105)	1,898	None	0	\$4,972	2,884	0	3,701	417	\$11,974	
TOTAL GSF	31,416									
<b>TOTAL ANNUAL COST</b>									\$203,872	
<b>NEW BUILDINGS</b>	<b>GSF</b>	<b>GROUNDS AREA</b>	<b>ELEVATORS</b>	<b>CUSTODIAL /YR</b>	<b>MAINT. /YR</b>	<b>GROUNDS /YR</b>	<b>UTILITIES /YR</b>	<b>SERVICE/YR</b>	<b>TOTAL COST/YR</b>	<b>NOTES</b>
Kinesiology	45,633	Normal	2	\$119,558	69,362	8,670	88,984	10,337	\$296,911	incl. Conference Center, 2 elevators
Dance	7,446	Normal	0	\$19,508	11,318	1,414	14,519	1,638	\$48,397	
Physical Education	6,370	Normal	0	\$16,689	9,682	1,210	14,519	1,402	\$43,502	
Student Health	6,945	Normal	0	\$18,195	10,556	1,319	13,542	1,527	\$45,139	
Team Room	11,615	Normal	0	30,431	17,654	2,207	22,649	2,553	\$75,494	
TOTAL GSF	64,193									
<b>TOTAL ANNUAL COST</b>									\$509,443	
<b>INCREASE ANNUAL NET COST</b>									\$305,571	
<b>SUMMARY</b>										
<b>SQ. FT. INCREASE</b>	<b>32,777</b>	Per APPA Standards Level III:		<b>One additional custodian</b>	<b>.5 Maint. Personnel</b>					<b>This building project creates an immediate need for increased operating expenses of \$305,571 per year, which includes one full time custodian and one half full-time maintenance personnel.</b>

<b>TOTAL COST OF OWNERSHIP ANALYSIS PERFORMING ARTS CENTER</b>										
				2.62	1.52	0.19	1.95	0.22		
<b>EXISTING BUILDINGS</b>	<b>GSF</b>	<b>GROUNDS AREA</b>	<b>ELEVATORS</b>	<b>CUSTODIAL /YR</b>	<b>MAINT. /YR</b>	<b>GROUNDS /YR</b>	<b>UTILITIES /YR</b>	<b>SERVICE/YR</b>	<b>TOTAL COST/YR</b>	<b>NOTES</b>
BURNIGHT THEATER	45,513	Minimal	2	\$119,244	69,179	8,647	88,750	10,312	\$296,132	
TOTAL GSF	45,513									
<b>TOTAL ANNUAL COST</b>									\$296,132	
<b>NEW BUILDINGS</b>	<b>GSF</b>	<b>GROUNDS AREA</b>	<b>ELEVATORS</b>	<b>CUSTODIAL /YR</b>	<b>MAINT. /YR</b>	<b>GROUNDS /YR</b>	<b>UTILITIES /YR</b>	<b>SERVICE/YR</b>	<b>TOTAL COST/YR</b>	<b>NOTES</b>
Perfroming Arts Center	80,925	Extensive	2	\$212,023	123,006	15,375	157,803	17,803	\$526,010	
			4 wheel lifts							4 wheel chair lifts
TOTAL GSF	80,925									
<b>TOTAL ANNUAL COST</b>									\$526,010	
<b>INCREASE ANNUAL NET COST</b>									\$229,878	
<b>SUMMARY</b>										
<b>SQ. FT. INCREASE</b>	<b>35,412</b>	<b>Per APPA Standards Level III:</b>		<b>One additional custodian</b>	<b>.5 Maint. Personnel</b>					<b>This building project creates an immediate need for increased operating expenses of \$229,878 per year, which includes one full time custodian and one half full-time maintenance personnel.</b>