

January 2019 Brown Bag Lunch Presentations

Presentation 1: Integrated Pest Management Program

Presentation 2: Integrated Capital Asset Management (ICAMP)

Presentation 3: New FM Project Program – Movement Towards
Improvement



Topic

Integrated Pest Management (IPM)

Date

January 29, 2019

Reduced Chemical Use as a Part of the IPM Program at UC San Diego

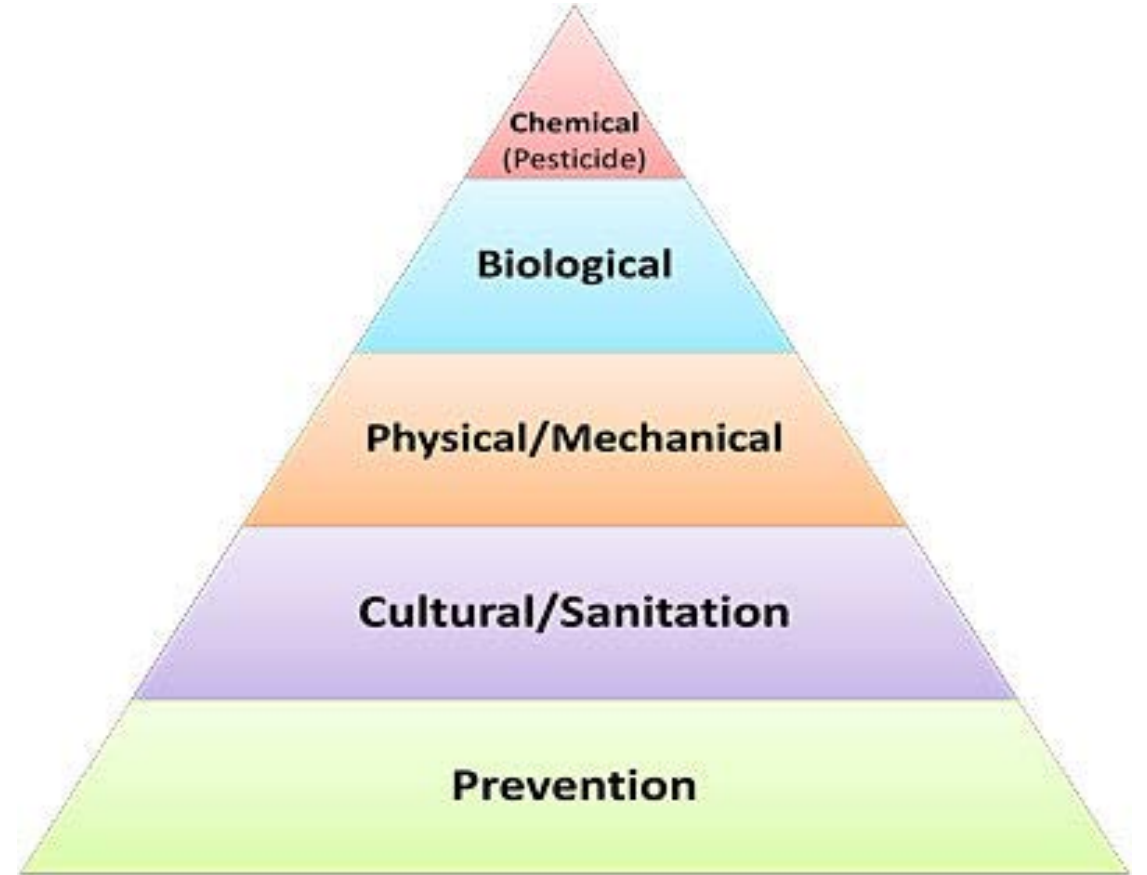


The 'If',
'Where',
'When' and
'Which' of Pest
Control

What is an IPM?

Integrated pest management (IPM) is not a single pest management method but a series of pest management evaluations, decisions, and actions.

The basic elements of an IPM program are:



PREVENTION

Practice good sanitation and regular maintenance in order to create an environment that is not conducive to pest establishment, growth, or reproduction.

For pest plants (aka Weeds), MULCH is an important part of our prevention measures

MULCH



Different Kinds Of Mulch

Organic

- Wood chips
- Pine needles
- Composted green waste

Inorganic

- Rocks
- Plastic
- Recycled rubber

Mulch can be nearly anything laid on the surface of the soil in a landscape for a specific beneficial purpose...

Your '57 Chevy rusting in the front yard is not necessarily mulch, but it could be!

Why Mulch?

Mulch:

- Retains soil moisture
- Slows erosion
- Weed suppression
- Lowered herbicide application
- Breaks down into soil nutrients



Mulch Maintenance

- Like anything, mulch needs to be maintained.
- Organic mulch breaks down, decomposes, becomes soil
- Inorganic mulch degrades overtime as well-
- Even rocks!



UCSD Produced Mulch

Everything that we can chip, we do. UCSD Tree Crew produced approximately 1,200 cubic yards of wood chips

Outside tree trimming contractors account for approximately 1,500 cubic yards

The mulch is seasoned and repurposed into our landscapes



PRE-ESTABLISHED ACTION LEVELS

Determine a point at which pest populations or environmental conditions indicate that action must be taken. Action levels may vary by site, pest, and season. Finding a single pest does not always mean immediate action is needed.

MONITORING AND IDENTIFICATION

Keep track of pest populations to determine if pests are reaching your pre-established action levels. This will help determine what type of treatment, if any, is necessary and reveals whether pest treatment has been effective.

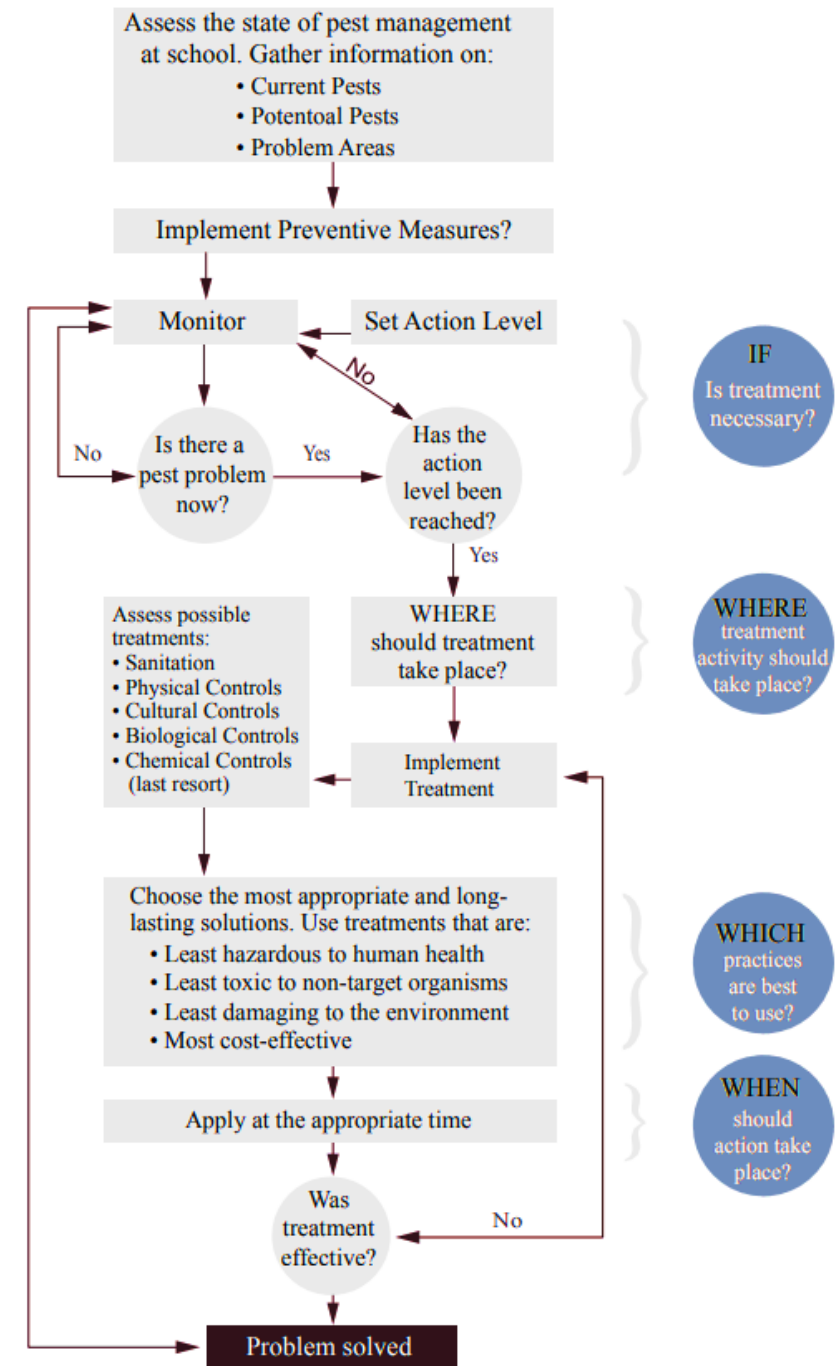
USING LEAST-HAZARDOUS METHODS

Once prevention, action levels, and monitoring indicate that pest management is needed, evaluate the proper management methods for both effectiveness and risk. Effective, non-chemical pest management practices, including mechanical options such as hand-pulling weeds or vacuuming up cockroaches, are chosen first, followed by least hazardous chemical options, such as low toxicity products or highly targeted chemicals like pheromones that disrupt mating. It's a good idea to check for alternatives to pesticides first.



Lacewing adult and larvae

The IPM Decision Making Process



CRITERIA FOR SELECTING LEAST HAZARDOUS PEST CONTROL PRACTICES

Once the IPM decision-making process is in place and monitoring indicates a pest treatment is needed, the choice of specific practices can be made. Choose practices that are:

- Least hazardous to human health.
- Least disruptive of natural controls in landscape situations.
- Least toxic to non-target organisms.
- Most likely to be permanent and prevent recurrence of the pest problem.
- Easiest to carry out safely and effectively.
- Most cost-effective in the short and long term.
- Appropriate to the weather, soils, water, and the energy resources of the site and the maintenance system

EXEMPT PESTICIDE PRODUCTS

For treating pests in the landscape when effective, when pest populations are moderate and the location makes the most sense.



APPENDIX 1: Exempt Active Ingredients

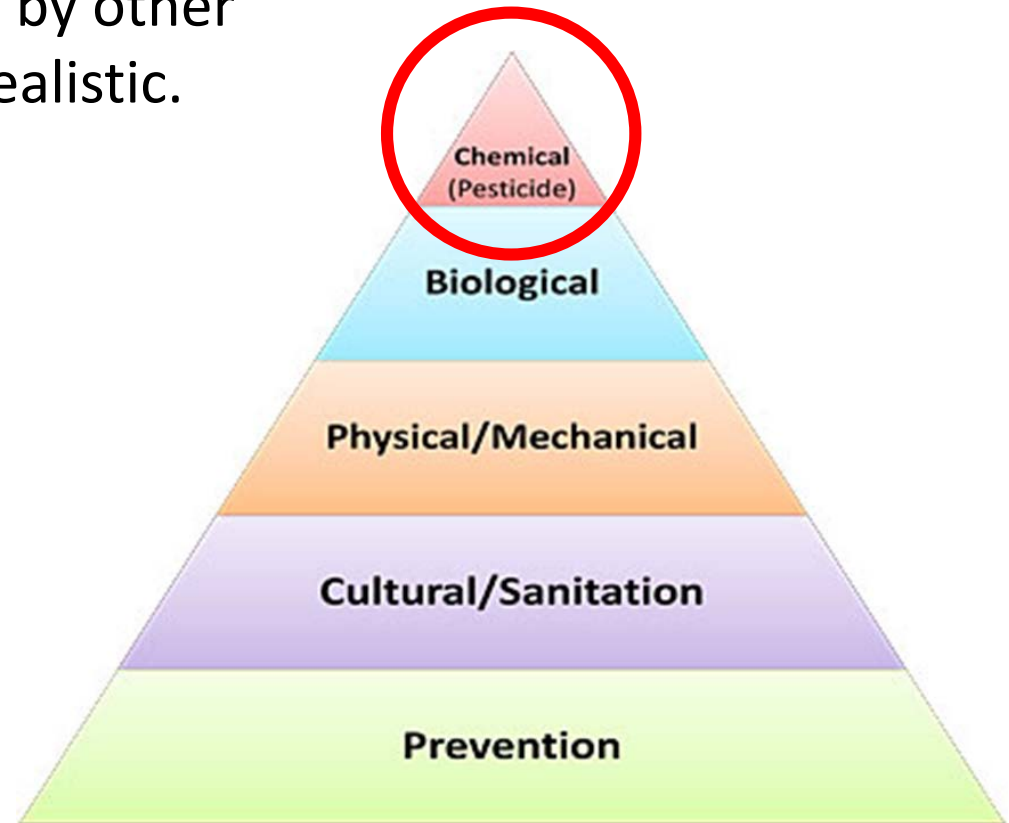
Active Ingredients Allowed in Exempted Pesticide Products under FIFRA 25(b) and the California Code of Regulations (CCR) § 6147

CAS #	Chemical Name	CAS #	Chemical Name
8001-79-4	Castor oil (U.S.P. or equivalent)	6915-15-7	Malic acid ¹
N/A	Cedar oil ¹	N/A	Mint
N/A	Cinnamon	N/A	Mint oil ¹
N/A	Cinnamon oil ¹	N/A	Peppermint ²
77-92-9	Citric acid ¹	8006-90-4	Peppermint oil ^{1,2}
N/A	Citronella (non-topical uses only)	122-70-3	2-Phenethyl propionate ¹
8000-29-1	Citronella oil (non-topical uses only)	122-70-3	2-phenylethyl propionate ¹
N/A	Cloves ²	590-00-1	Potassium sorbate ¹
8000-34-8	Clove oil ^{1,2}	N/A	Putrescent whole egg solids
N/A	Corn gluten meal	N/A	Rosemary ²
8001-30-7	Corn oil	8000-25-7	Rosemary oil ^{1,2}
N/A	Cottonseed oil	N/A	Sesame (includes ground sesame plant)
N/A	Dried blood	8008-74-0	Sesame oil
97-53-0	Eugenol ^{1,2}	7647-14-5	Sodium chloride (common salt)
N/A	Garlic	151-21-3	Sodium lauryl sulfate ^{1,2}
8008-99-9	Garlic oil ¹	8001-22-7	Soybean oil
106-24-1	Geraniol ²	N/A	Thyme ²
8000-46-2	Geranium oil ²	8007-46-3	Thyme oil ^{1,2}
N/A	Lauryl sulfate ¹	N/A	White pepper ¹
8007-02-1	Lemongrass oil ¹	7440-66-6	Zinc metal strips (consisting solely of zinc metal and impurities)
8001-26-1	Linseed oil		



Asian Citrus Psyllid

We reserve the use of EPA registered Pesticides as a **LAST RESORT** and to address pest issues that represent a risk to public health or property, or when infestations are at a level where timely control by other methods can be difficult or unrealistic.



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

Pest Notes Library

Pest Notes are peer-reviewed scientific publications about specific pests or pest management topics, directed at California's home and landscape audiences. Pest Notes are available to view online and in a downloadable PDF version. Most Pest Notes are 2 to 5 pages long in print.

[Insects, mites, mollusks, and nematodes](#) | [Plant diseases](#) | [Weeds](#)

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View online	PDF	Published
Insects, mites, mollusks, and nematodes: Invertebrate pests		
Ants	PDF 	October 2012
Aphids	PDF 	June 2013
Asian Citrus Psyllid and Huanglongbing Disease	PDF 	June 2016
Avocado Lace Bug	PDF 	March 2007
Bagrada Bug	PDF 	January 2014
Bark Beetles	PDF 	November 2008
Bed Bugs	PDF 	May 2013
Bee and Wasp Stings	PDF 	September 2011
Bee Swarms	PDF 	May 2012
Black Scale	PDF  (2.3 MB)	May 2012
Boxelder Bug	PDF 	July 2014
Brown Marmorated Stink Bug	PDF 	May 2014

Facilities Condition Assessment

UCSD

Key Points

- What is the FCA?
- Why are we doing the FCA?
- Introduction to the inspectors on board
- The inspection
- Data input and how it will be used
- The Schedule
- Benefits of the FCA

What is the FCA?

- The FCA is a UCOP initiative that allows for Facilities Condition Assessments across all UC campuses
- Inspector teams are evaluating, and recording the condition of the electrical, mechanical, architectural, and building envelope.

Why are we doing the FCA?

- To get a clear picture of the remaining life of our current assets, and associated replacement costs for the purpose of deferred maintenance planning.
- Justifying our maintenance budget by identifying and estimating deferred maintenance.
- The FCA will produce an initial roadmap for managing the asset over its life span

From the UCOP Perspective



University of California

- "Apples to apples" across UC
- Quantify UC's DM backlog
- Build a credible and justifiable strategy for addressing DM
- Move toward a financially stable portfolio

The Inspectors

Electrical Inspectors

- Gabriel Almazan
- Marsha Texeira

Mechanical Inspector

- Samuel Sanchez
- Jeremy DaCosta

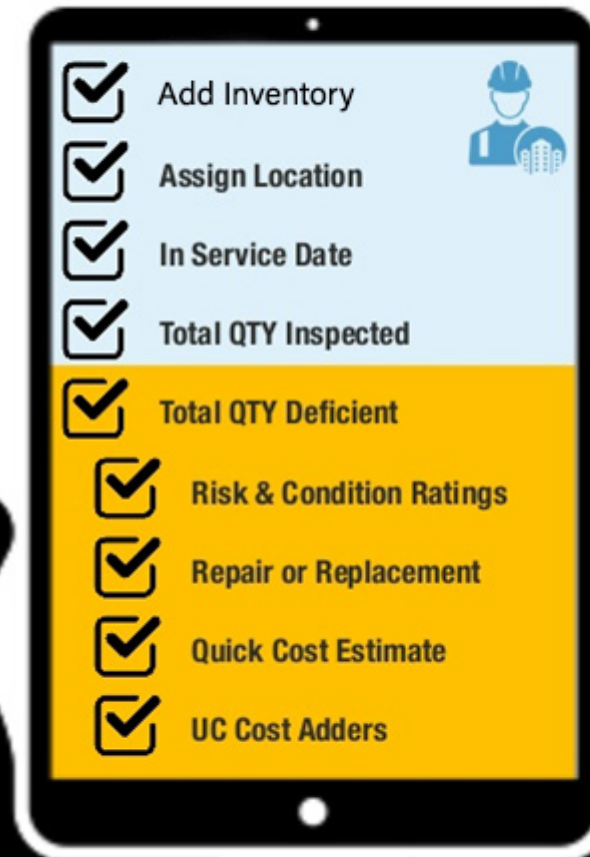
ICAMP 2.0



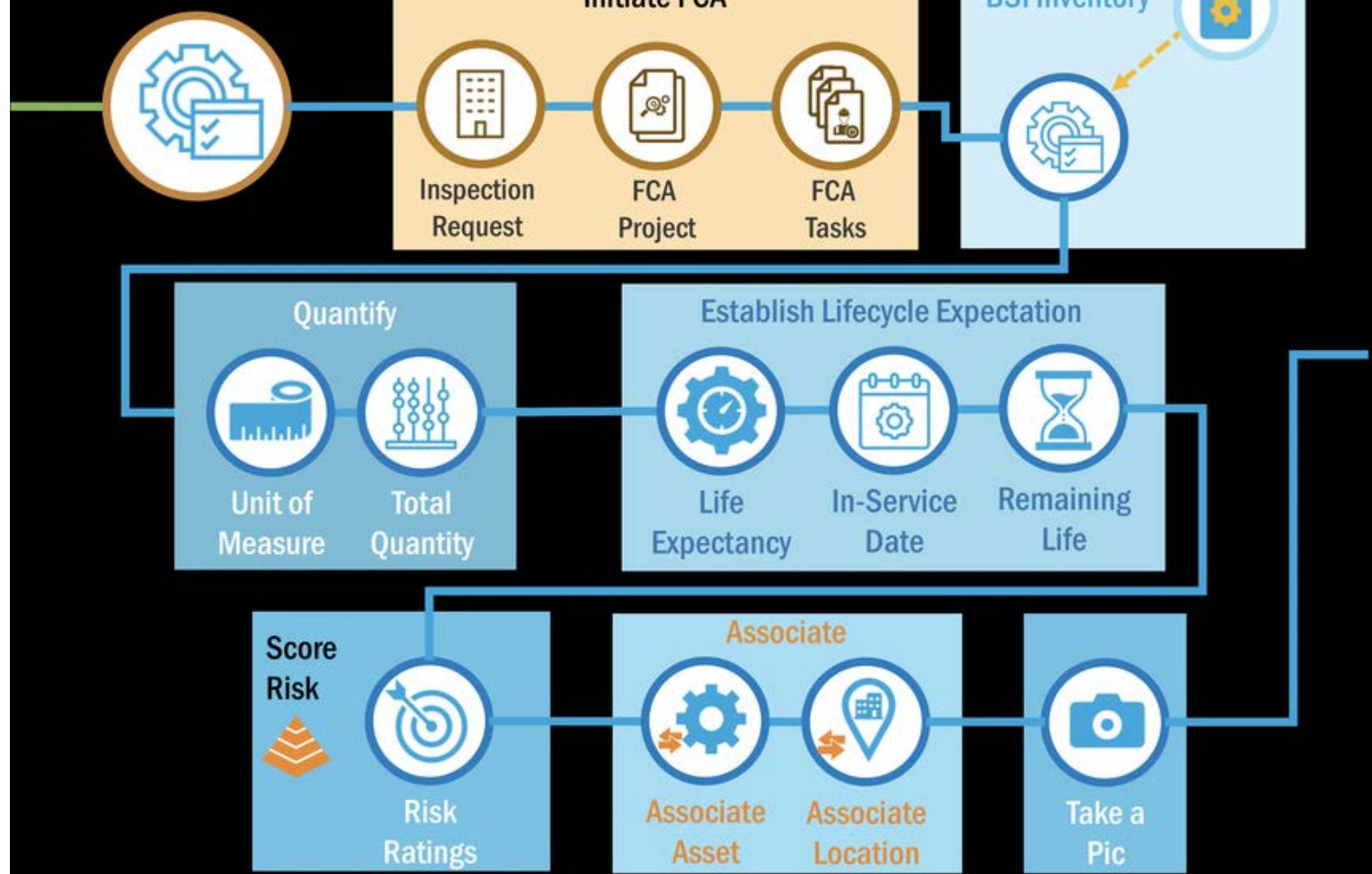
Mobile FCA App



- Build inventory
- Identify asset deficiencies
- Easy to use & fast



Inventorizing



Inspecting



Inspectors will use their knowledge and experience to inspect real property assets



Real Property

Permanently fixed elements that support the building or structure



Facilities, Systems & Components



Visual & Non-Invasive

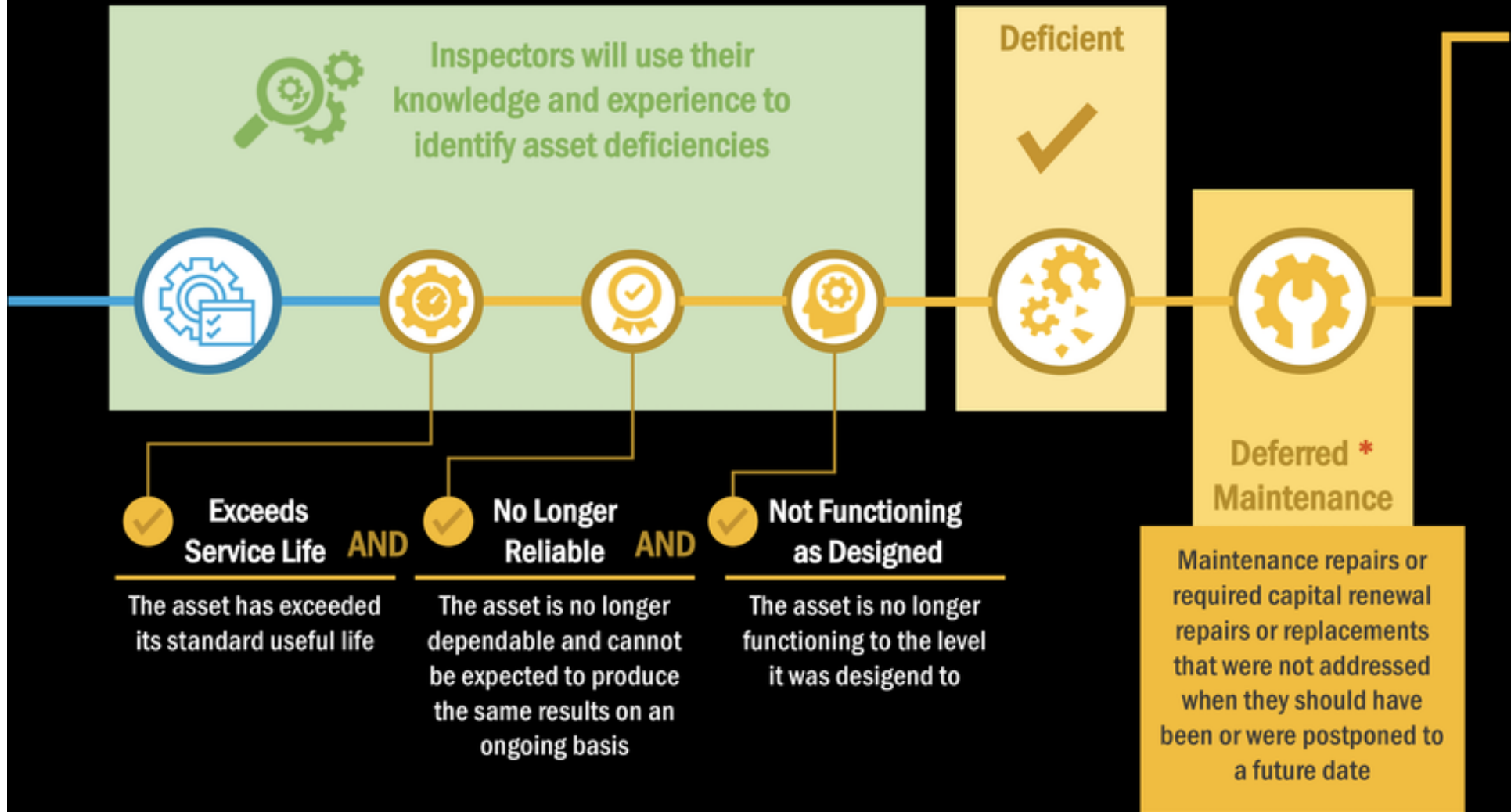
Inspect the readily accessible elements of an asset



Invasive & Non-Destructive

Open panels, infrared, sampling

When is an Asset Deficient?

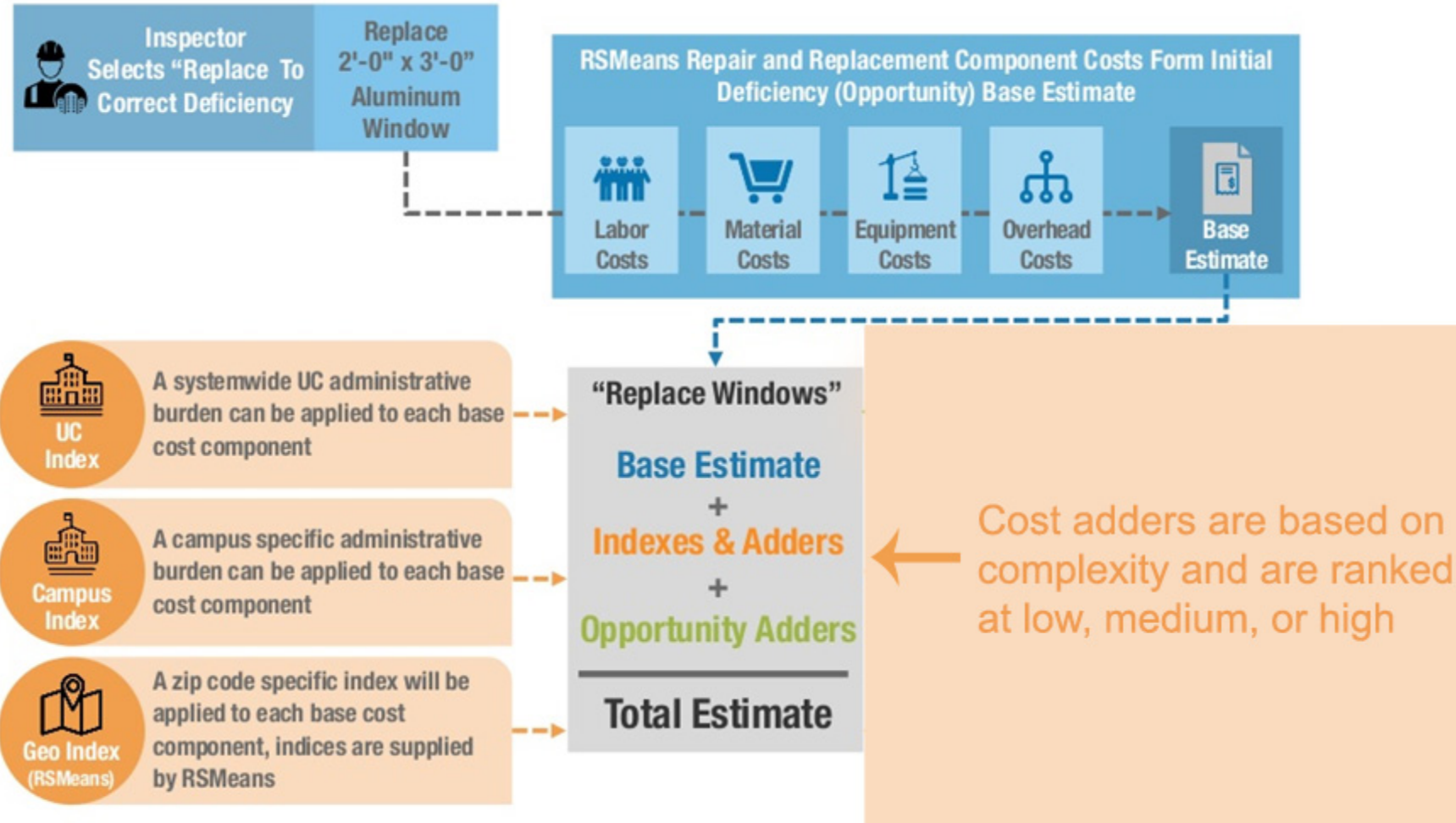


Log Deficiency

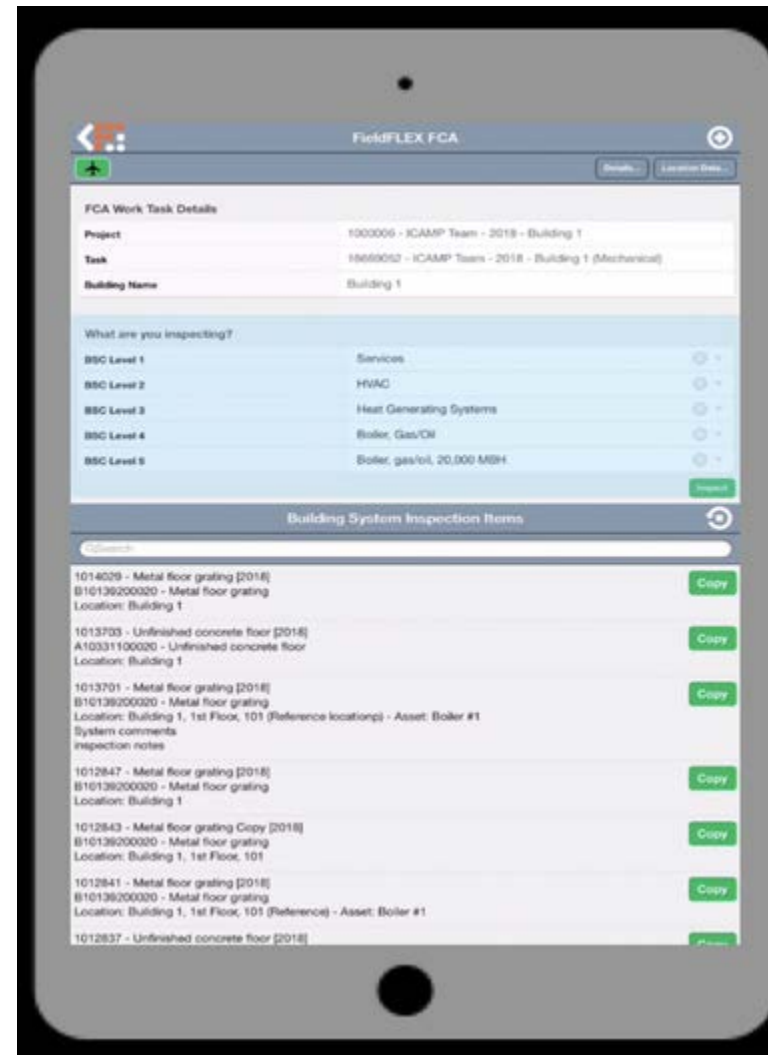




Deficiency Estimates and UC Cost Adders



The Field Flex App



Field Flex App with Phrase-Board



Inspection ID

BSI ID

Name

Inspected By

Date

Inspector No

Description

Associate As

Asset

Asset ID

Save

✓ Done

Assessment Outcome Goals



A Standardized Asset Inventory and Condition Assessment of the major components and building systems across the UC portfolio



Cost out and track Deferred Maintenance (DM) Backlog; develop DM buydown strategy



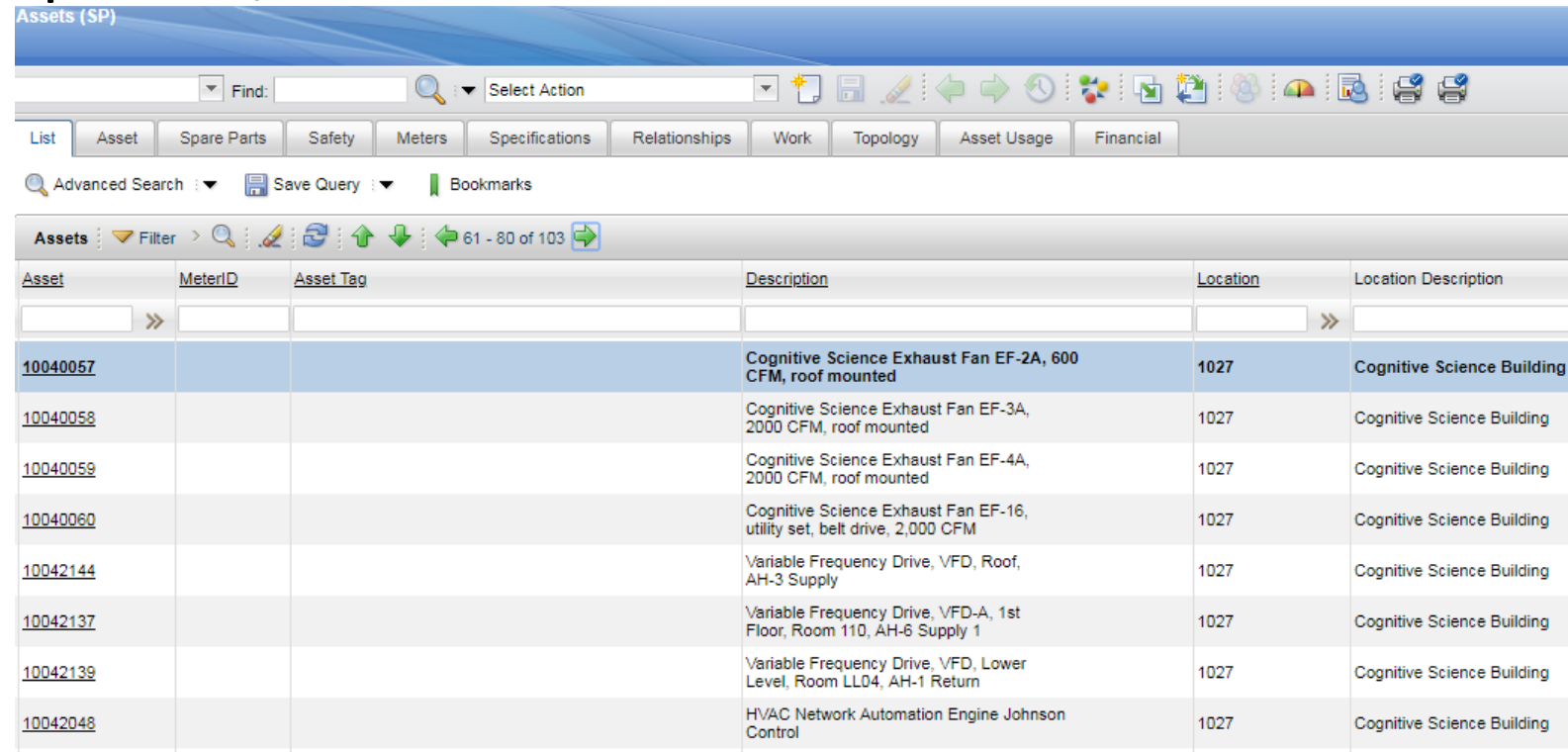
Cost out and track Facility Renewal needs (major repairs and replacements); when funded prevent future DM accumulation



Use Real Property Risk scoring to drive investment towards the reduction of mission critical risk; helps balance funding demands

Updated Asset Data

- Our Asset Management System, Maximo, is getting updated, and more accurate asset data.



The screenshot displays the Maximo Asset Management System interface. At the top, there is a search bar with a 'Find:' label and a 'Select Action' dropdown. Below this is a navigation menu with tabs for 'List', 'Asset', 'Spare Parts', 'Safety', 'Meters', 'Specifications', 'Relationships', 'Work', 'Topology', 'Asset Usage', and 'Financial'. The 'List' tab is currently selected. Below the navigation menu, there are options for 'Advanced Search', 'Save Query', and 'Bookmarks'. The main content area shows a table of assets with columns for 'Asset', 'MeterID', 'Asset Tag', 'Description', 'Location', and 'Location Description'. The table contains 8 rows of data, with the first row highlighted in blue. The assets listed are exhaust fans and variable frequency drives (VFDs) located in the Cognitive Science Building.

Asset	MeterID	Asset Tag	Description	Location	Location Description
10040057			Cognitive Science Exhaust Fan EF-2A, 600 CFM, roof mounted	1027	Cognitive Science Building
10040058			Cognitive Science Exhaust Fan EF-3A, 2000 CFM, roof mounted	1027	Cognitive Science Building
10040059			Cognitive Science Exhaust Fan EF-4A, 2000 CFM, roof mounted	1027	Cognitive Science Building
10040060			Cognitive Science Exhaust Fan EF-16, utility set, belt drive, 2,000 CFM	1027	Cognitive Science Building
10042144			Variable Frequency Drive, VFD, Roof, AH-3 Supply	1027	Cognitive Science Building
10042137			Variable Frequency Drive, VFD-A, 1st Floor, Room 110, AH-6 Supply 1	1027	Cognitive Science Building
10042139			Variable Frequency Drive, VFD, Lower Level, Room LL04, AH-1 Return	1027	Cognitive Science Building
10042048			HVAC Network Automation Engine Johnson Control	1027	Cognitive Science Building

The FCA Schedule

- We are inspecting all state funded buildings over the next three years, followed by others as funding allows
- We are inspecting these buildings in the order of the previous FCA beginning with Revelle College, with a few exceptions.
- The team is currently inspecting School of Medicine
- Feel free to contact me at ajs044@ucsd.edu with scheduling concerns or questions

What we have done so far

Buildings Inspected	Electrical	Mechanical	Architectural
Cognitive Science Building	100%	100%	100%
York Hall	100%	100%	100%
Natural Sciences Building	100%	100%	100%
Marine Ecosystem Sensing, Observation and Modeling	100%	100%	100%
Revelle College Provost Office	100%	100%	100%
Bonner Hall	100%	100%	100%
Galbraith Hall	100%	100%	0%
Urey Hall	100%	100%	0%
Urey Hall Office Addition	100%	100%	0%
Mayer Hall	100%	100%	0%
Mayer Hall Addition	100%	100%	0%
Cellular and Molecular Medicine East	100%	100%	0%
Pacific Hall	100%	100%	0%
Biomedical Sciences Building	90%	20%	0%
Deferred Maintenance Opportunities by Priority	Amount		
Priority 1 (should replace within 1 year)	\$289,905.71		
Priority 2 (replace within 2 years)	\$16,195,616.38		
Priority 3 (replace in 3 - 5 years)	\$6,594,921.48		
Priority 4 (replace in 4 - 6 years)	\$1,949,714.39		
Priority 5 (not urgent but needs replacing at some point)	\$20,844.30		
Total dollar amount of all Opportunities to date	\$25,051,002.26		

We are approximately 8% done with the total square footage of state funded buildings on campus

Benefits

- An up to date deferred maintenance list that provides important details such as age of the asset and mission risk ratings
- Updated asset data that will help us with preventative and predictive maintenance
- High level of detail on our assets and the condition of them in every building on campus

Any Questions?



Campus Improvement Project Competition

UC San Diego

Facilities Management

January 29, 2019

Agenda

- Project Competition – Movement Towards Improvement
- Program Goals– Improving the Campus one project at a time.
- Program Basics
 - Project submission steps.

Program Goals

- Given that FM is resourced to “maintain” the existing facilities, infrastructure, and landscape – we are often challenged to find resources for refreshing or making improvements across the campus.
- Therefore, by specifically setting aside funding and partnering with the campus community for project inputs, FM will endeavor to begin making progressive “improvements” across the campus one project at a time.

Movement Towards Improvement

- Roll out of FM's "Campus Improvement" program with a quarterly competition for projects up to \$25K.
- Request Campus Community submit project ideas to enhance the Physical Environment. Only campus core space is eligible. Excludes spaces within/adjacent to Health System, HDH, Recreation, University Centers, and other Auxiliaries.
- FM will execute all of the work using our Building Operation's Project Team.

Building Interior Project Examples



Building Exterior Project Examples



Landscape Improvement Examples



Program Basics

- Submission: Send an email explaining the proposed project with 2-5 pictures or a two-minute video to Building Operations, Rich Cota, within the first month of each quarter (JAN, APR, JUL, OCT).
- Facilities Management will judge the entries on their impact for enhancing and improving the campus environment within the funds allotted.
- Selected Quarterly Projects will be announced during the second month within the quarter (FEB, MAY, AUG, NOV).

Questions/Comments