2016 Bond Planning

Facility Management Maintenance CPAC Sub-Committee Presentation

Meeting One

Denver Public Schools

March 7, 2016
Agenda - Facilities Maintenance Sub-group Kickoff Meeting

- Public Comment
- Introductions/Ice Breaker
- Denver Plan 2020 Goals / DPS Facilities Vision
- Existing Facility Overview and Funding
- Scope and Role of Sub-Committee and DPS
- Needs Categorization
- Facilities Assessment Process
- Cost Estimation Process
- Next meeting date and agenda

- APPENDIX – Facilities Definitions
Introductions & Icebreaker
Denver Plan 2020 Goals

Overarching Goal: Great schools in every neighborhood
By 2020, 80% of students from every region within DPS will attend a high performing school in their region, as measured by the district’s school performance framework.

• School readiness
  – By 2020, 80% of DPS third-graders will be at or above grade level in reading and writing.

• Ready for college & career
  – By 2020, the four-year graduation rate for students who start with DPS in ninth grade will increase to 90%.
  – By 2020, we will double the number of students per class who graduate college and career ready while raising the bar (adding Science and Social Studies in addition to English and Math).

• Support the whole child
  – Schools have Whole Child incorporated into their Unified Improvement Plan
  – Student survey fall 2015 measured progress on whole child. Will align on final measure spring 2016 and can have baseline and target conversations summer 2016 after first district-wide results

• Close the opportunity gap
  – By 2020, the graduation rate for African American and Latino students will increase by 30%.
  – The proficiency in reading and writing for third-grade African American and Latino students will increase by 25%.
Our Vision: Every Child Succeeds

Great Schools in Every Neighborhood

**GOALS**
- A Foundation for Success in School
- Support for the Whole Child
- Ready for College & Career
- Close the Opportunity Gap

**STRATEGIES**
- Leadership
- Teaching
- Flexibility
- Invest Early Culture

**CORE BELIEFS**
- Every child has talent and potential.
- Our diversity is a community treasure.
- We can and will eliminate the opportunity gap.
- We must dramatically accelerate our progress.
- Every family deserves choice and access.
- Our kids need all of us.

**SHARED CORE VALUES**
- Students First
- Integrity
- Equity
- Collaboration
- Accountability
- Fun

- 5 -
DPS Facility Management is inspired by a vision that is aligned with the mission and vision of DPS and the Denver Plan. Simple and straightforward, the Vision 2020 is to provide a high quality learning environment for every student.

We will provide an environment that is safe, clean, and supports the whole child. An environment that is functionally designed and upgraded to the highest standards to meet building and educational needs. We will ensure equity across all schools and learning environments that reflect the diversity of needs of the Whole Child. We will provide an environment that internally and externally meets programmatic needs, is sustainable and provides a community connection.
Existing Facility Overview

Denver Public Schools by the Numbers

- 256 programs located in 175 DPS owned facilities
- 15.4 million square feet across DPS
- 8 Administrative Facilities
- Just over 2,000 acres
- 17% are Registered Historic Landmarks
- 2nd largest facility manager in the city (after City and County of Denver)
- DPS students also served in 22 non-DPS owned facilities including district-leased space at 7 facilities
- Average age of DPS owned facilities is over 55 years
DPS Facilities - Building Age

Legend

Building Age
- < 20 Years Old
- 21 - 40 Years Old
- 41 - 60 Years Old
- 61 - 80 Years Old
- > 81 Years Old

Board Members
- Anne Rowe
- Vacant
- Lisa Flores
- Michael Johnson
- Rosemary Rodriguez

Discover a World of Opportunity™
Existing Facility Overview

Gross Square Footage (GSF) Built by Decade

<table>
<thead>
<tr>
<th>Decade</th>
<th>Gross Square Footage (GSF)</th>
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<tbody>
<tr>
<td>1920's</td>
<td>0.35 Million GSF</td>
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<td>1930's</td>
<td>0.05 Million GSF</td>
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<tr>
<td>1940's</td>
<td>3.43 Million GSF</td>
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<td>1950's</td>
<td>3.55 Million GSF</td>
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<td>1960's</td>
<td>1.65 Million GSF</td>
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<tr>
<td>1970's</td>
<td>1.55 Million GSF</td>
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<tr>
<td>1980's</td>
<td>0.80 Million GSF</td>
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<td>1990's</td>
<td>0.21 Million GSF</td>
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<tr>
<td>2000's</td>
<td>1.52 Million GSF</td>
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<td>2010's</td>
<td>1.58 Million GSF</td>
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Key Events:

- **1920's**: Denver booms following WW I
- **1930's**: World War II
- **1940's**: Denver Broncos are Established
- **1950 / 60's**: Denver Broncos have 1st winning season. Denver Nuggets join NBA
- **1970's**: Bronco's win Super Bowl TWICE
- **1990**: DPS has a positive 8% growth
- **2010's**: Broncos win 3rd Super Bowl
In 2009, the legislature reinterpreted Amendment 23 to mean that only the base amount was covered by the mandatory increases, not the factors associated with District Funding.

In order to make across-the-board cuts from all school districts, the legislature added a new “Budget Stabilization” or “Negative Factor” to the School Finance Act formula.

Since 2010-11 the annual State Total of the “Negative Factor” has grown to nearly $1 billion.

The “Negative Factor” impacts Denver Public Schools by nearly $92 million per year and has reduced funding to DPS by more than $430 million since its inception.
Comparing Denver Public Schools and neighboring districts based on the costs of serving students of need, DPS is funded $724 less than its neighboring districts on average.

The weights of .35 for FRL and .47 ELL are based on an analysis APA Consulting conducted of the cost of serving such students in several states in 2013.1

Existing Facility Overview – Funding

DPS has 15.3 million square feet of facilities, with an average age of 55 years. Facilities range from new & state-of-the-art to over 100 year old historic landmarks.

- An estimated $16.3 M of our annual budget is used to maintain facilities:
  - A Service Call Center to capture, triage and report on the 26,000 work orders annually processed.
  - An internal staff of 150 full time team members, who perform and manage both preventive and reactive maintenance work order/project completion.
  - Use of external contractors to perform specific maintenance projects and specialized activities.
  - Purchase of materials/supplies used in performing maintenance activities.
  - Our work is largely reactive (responding to problems) due to resource constraints.
  - Note that schools do not generally pay directly for any maintenance projects, although do for some work they desire to have completed.
  - Manage a maintenance and custodial operations warehouse.
  - Manage fleet and large maintenance equipment programs.

- Additionally we spend approximately $40M annually on deferred maintenance from our Gen Obligation Bond:
  - This includes roof, boiler, electrical, plumbing, fire protection,… projects completed by contractors managed by DPS staff, generally over the summer.
District growth measured by student population and SQFT has grown at about 2X the rate as our maintenance budget and the number of Maintenance workers over 5 years.

Cumulative Percent Growth from 2011

- Students: 11.0%
- SQFT: 8.9%
- Maint. FTEs: -0.8%
- Maint. Budget: 4.4%
Funding for our Schools and Maintenance of Facilities

- DPS funding for central shared services (e.g., payroll, IT, finance, HR) at 5% is among the lowest of major school districts surveyed.

- During the past years of declining state funding, DPS has continued to maximize funding in the classrooms by reducing or limiting increases in centrally budgeted services (including Facility Maintenance).

- Funds for facility work have been focused on the most critical maintenance needs – **failing systems** and **life safety items** although not sufficient enough to meet the growing needs of aging facilities.

HOW A DOLLAR IS SPENT

- 59¢: Direct School Funding
- 36¢: School-Based Services
- 5¢: Central School Support Services
  - 11¢: Special Education and Student Services
  - 8¢: Academic Supports
  - 5¢: Facilities, Utilities, and Insurance
  - 4¢: Food Service
  - 3¢: Community Engagement, Adult Education, VoC Ed, Other Ed
  - 2¢: Transportation
  - 2¢: Other
  - 1¢: Athletics
What are Investment areas to be evaluated by this Sub-Committee?

**Facility Maintenance**

- ADA (Americans with Disability Act) related projects
- Code deficiency projects
- Safety related projects
- Asset Replacement at end of Life
- Heat Mitigation to address non-air conditioned buildings
- Energy efficiency projects
### What is the Role of CPAC in this Sub-Committee?

<table>
<thead>
<tr>
<th>CPAC</th>
<th>DPS</th>
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<tbody>
<tr>
<td>▪ Review and understand the assessment methodology used to prioritize needs</td>
<td>▪ Clear vision of facility maintenance and current state of facilities</td>
</tr>
<tr>
<td>▪ Review and understand the estimating methodology used to cost projects</td>
<td>▪ Share assessment process used and prioritization criteria for facility maintenance needs.</td>
</tr>
<tr>
<td>▪ Evaluate and recommend appropriate level of funding and priorities within and across facility maintenance categories given overall funding constraints.</td>
<td>▪ Transparency and Trust</td>
</tr>
<tr>
<td>▪ Assist the team in working through options for projects with more than one potential solution</td>
<td>▪ Pertinent Information and Data</td>
</tr>
<tr>
<td>▪ Advocate for facility needs to stakeholders and the public</td>
<td>▪ Timely and Responsive</td>
</tr>
</tbody>
</table>
Five Pronged Categorization Approach

Five categories of projects targeting the greatest needs.

Safety

Items that have a high probability of causing injury, danger, or loss.

Code

Targeting code deficiencies per standards of public safety, health, and local authorities having jurisdiction

Impact on School Operation

Item that has high probability of causing school closure or operation suspension in the event of failure.
Five Pronged Categorization Approach

Five categories of projects targeting the greatest needs.

End of Service Life

Assets that have exceeded or are near end of their expected life cycle based on manufactured service life

Heat Mitigation

Targeting and prioritizing upgrades to non and partially air-conditioned facilities to alleviate high heat conditions that could potentially impact the learning environment.
Prong #1: Safety

- Horizontal Surfaces, Walks and Steps
- Field Turf
- Handrails
- Ceiling Tiles
- Concrete Overhangs
Prong #2: Code compliance

- Fire Alarm & Fire Sprinkler Systems
- HVAC Corridor Returns (Fire Code Compliance)
- Orders to Comply (Fire Code Compliance)
- Elevators (ADA and Fire-Alarm Interface)
- Sidewalks (City Mandate)
- ADA Remodels
- Hot Water Delivery (Health Code Compliance)
Prong #3: Impact on School Operation

- Heating and Cooling Systems
- Water Distribution Systems
- Sanitary Waste Systems
- Moisture Protection
Prong #4: End of Service Life

- Boilers, Chillers, Cooling Towers and associated pumps and piping
- Roofs
- Door Hardware
- Electrical Switch Gear, Transformers, etc.
- Water Heaters and Tanks
- Domestic Water Distribution
Prong #5: Heat Mitigation

- Automatic Night Time Hot Air Purging
- Cooling Zones
What Process Was Used to Assess Facilities?

- March 2014 – July 2015 (17 months)
- 7 Planning Staff Conducted 170 Facility Reassessments
- Over 14,000 Opportunity Records Produced.

<table>
<thead>
<tr>
<th>Building Component</th>
<th>Code Issue</th>
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<tr>
<td>Auditorium Seats</td>
<td>Building Code Issues</td>
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<tr>
<td>Ceiling Finishes</td>
<td>Exit Lighting</td>
</tr>
<tr>
<td>Exterior Lighting</td>
<td>Exterior Soffits</td>
</tr>
<tr>
<td>Exterior Steps/Walks</td>
<td>Exterior Wall Finishes</td>
</tr>
<tr>
<td>Fixed Casework</td>
<td>Flooring</td>
</tr>
<tr>
<td>Interior Doors</td>
<td>Interior Lighting</td>
</tr>
<tr>
<td>Lockers</td>
<td>Major/Minor Renovation</td>
</tr>
<tr>
<td>Paving &amp; Surfacing</td>
<td>Restroom Fixtures</td>
</tr>
<tr>
<td>Roofing</td>
<td>Stairs/Ramps/Handrails</td>
</tr>
<tr>
<td>Toilet Partitions</td>
<td>Univents</td>
</tr>
<tr>
<td>Water Distribution</td>
<td>Windows</td>
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</tbody>
</table>
Facilities Assessment Process

The Following Process was Used to Assess Deficiencies at All 175 Locations.

- **1 - Critical Failure is Imminent/Code Violation**
  - Near-term Action is Required to Prevent Further Damage to Building or Injury to Persons

- **2 - Will Become Critical in 1-2 Years**
  - Correction should be Made Soon to Prevent Further Damage to Building or Injury to Persons

- **3 - Will Be Critical in 3-4 Years**
  - Correction Necessary, But is a Lower Priority

- **4 - Acknowledged**
  - Condition Will be Tracked, No Corrective Action at This Time

- **5 - Grandfathered Code/ADA**
  - Condition is Acceptable per Authorities Having Jurisdiction

- **6 - New Construction**
  - New Building, Building Addition, or Improvements to Separate Site

**New Construction**
- New Building, Building Addition, Improvements to Separate Site

**Renovation**
- Scope that Includes More than One Trade

**Modifications/Corrections**
- Minor Changes that Improve Existing Conditions

**Repair (Major)**
- Fixes or Improvements Over $10K in Cost

**Repair (Minor)**
- Fixes or Improvements Below $10K in Cost

**Replace**
- A Substitution of Like Components with New or Improved

**Other**
- Anything that Does Not Clearly Fall into the Above

[Diagram showing the process flow with Evaluation Priority, Assessment Process, and Corrective Action stages with icons for Facility Location, Opportunity Worksheet, Upload Data in Tririga, 2011 Information, 2014 Checklist, Reassessment Site Visit, and CPAC Prioritization]
2011 Information Used for Reassessments

- Notes from Previous Assessment
- Information in Tririga
- Engineering Reports
- 2012 Bond Projects Completed
- Non-Bond Scope in Tririga
- Capacity Studies
- Specific A/E Assessments:
  - Science Rooms
  - Gymnasiums
  - Auditoriums
  - Emergency Egress Lighting
- Update Significant Plan Differences:
  - Site Information
  - Floor Plans
  - Annunciator Panel
Facilities Assessment Process

Assessment Documents

REASSESSMENT CHECKLIST 2014

<table>
<thead>
<tr>
<th>BUILDING NAME</th>
<th>INFO TO REVIEW BEFORE VISITING SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malan</td>
<td></td>
</tr>
<tr>
<td>ASSESSOR</td>
<td></td>
</tr>
<tr>
<td>2/22/2015</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

Opportunity Review Worksheet
- Existing list of Aspects and Opportunities to Enhance
- 2011 Assessment Plan 2012, Physical Condition
- C & P/PLANNING FACILITIES & SITES (school name), Assessment
- Records & Documents for that school
- C & P/Planning FACILITIES & SITES (school name)
- Previous Mechanical Assessment by U.S. Engineering
- N/A: Planning FACILITIES & SITES DISTRICT WIDE
- C & P/Assessment 2012-13-14 U.S. Engineering report
- Previous Electrical Assessment by U.S. Engineering
- N/A: Planning FACILITIES & SITES DISTRICT WIDE
- N/A: Assessment 2013-14-15 Census & Computer Lab Assessment
- (Not applicable for Elementary Schools)
- Projects completed to date in the 2011 and 2012 Bond Program
- N/A: BOND PROGRAM 2011-12, Bond Info Sheet (for 2012 GOB)
- C & P/Assessment 2012-2013 Bond Program, C & P/Assessment 2011-2012 Bond Program, Bond Info Sheet
- C & P/Assessment 2013-14 Bond Program, Bond Info Sheet
- C & P/Assessment 2014-15 Bond Program, Bond Info Sheet
- Non-Bond Projects (2013 and earlier) Triage, Portfolio, Project, Center Panel and not by school
- C & P/Assessment 2014-15 Bond Program, Bond Info Sheet
- Emergency Egress Lighting Survey 2011-2012, Egress Lighting Survey (read each folder for your school)
- Compare all of the items in previous assessment that are marked as “Poor” or “Very Poor” with the Opportunity Review Worksheet.
- Match the items with the Opportunity Review Worksheet (2011-12, 2012-13, 2013-14) and note any missing opportunities.
- Each item needs to be entered in the OEI either before visiting the site or after it has been reviewed. Note that something like a laboratory safety issue can still be closed under one opportunity.
- New opportunities are to be added to the bottom of the OER with all fields completed.
- Make sure of the projects that have been completed in the last few years and that are planned for this year. These will have to be entered as “Completed” when you visit the site.

WORKSHEET & EQUIPMENT FOR WORK ON SITE
- Site Plan
- Floor Plan (including capacity plans)
- Exterior Plan
- Any other notes and documents
- Worksheet: Recommend Checklist (worksheet no. 1) and Opportunity Review (worksheet no. 2)
- Take Measurements
- Clipboard (optional)
- Colors (or cell phone camera)
## Facilities Assessment Process

### Assessment Documents

<table>
<thead>
<tr>
<th>WHAT TO ASSESS?</th>
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<tbody>
<tr>
<td>✓ All assets listed in the Opportunity Review Worksheet (ORW),</td>
</tr>
<tr>
<td>✓ All assets / opportunities identified from other assessments to be added to the ORW. (You may want to include Dave Hunt to walk the roof, or he may agree to do it separately.)</td>
</tr>
<tr>
<td>✓ Include any physical conditions observed to be &quot;Poor&quot; or &quot;Very Poor&quot; not previously noted.</td>
</tr>
<tr>
<td>✓ Completion of previously scheduled construction projects.</td>
</tr>
<tr>
<td>✓ Significant Plan Differences between the following: (Make notes on floor plans.)</td>
</tr>
<tr>
<td>- Fire Map / Annunciator Panel</td>
</tr>
<tr>
<td>- Archives Master Plans (CADD drawings)</td>
</tr>
<tr>
<td>- Actual Conditions</td>
</tr>
<tr>
<td>✓ Review the Site Plan for differences between Actual Conditions and CAD Plans</td>
</tr>
<tr>
<td>✓ Photos for general documentation (for Malcolm’s library)</td>
</tr>
<tr>
<td>- Main Entry</td>
</tr>
<tr>
<td>- Marquee</td>
</tr>
<tr>
<td>- Administration Office Area</td>
</tr>
<tr>
<td>- Typical Classroom</td>
</tr>
<tr>
<td>- Typical Corridor</td>
</tr>
<tr>
<td>- Typical Restroom</td>
</tr>
<tr>
<td>- Auditorium</td>
</tr>
<tr>
<td>- Gym</td>
</tr>
<tr>
<td>- Cafeteria</td>
</tr>
<tr>
<td>- Boiler Room</td>
</tr>
<tr>
<td>✓ Any other Unique or Special areas (but don't go crazy)</td>
</tr>
</tbody>
</table>
Facilities Assessment Process

Assessment Documents
## Facilities Assessment Process

### Assessment Documents

<table>
<thead>
<tr>
<th>Record ID</th>
<th>S Yr Plan</th>
<th>Level 4 Code</th>
<th>Level 3 Description</th>
<th>Asset Location on Site</th>
<th>Notes - Request Group Description / Plant Notes</th>
<th>Request Category</th>
<th>Submission (Self-Assessment / Good, Poor, Very Poor)</th>
<th>Budget</th>
<th>Status</th>
<th>Priority</th>
<th>Opportunity Deficiency</th>
<th>Corrective Action</th>
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<tr>
<td>400.E0100.03</td>
<td>4200.63</td>
<td>Long Term</td>
<td>Existing Walls</td>
<td>Exterior</td>
<td>See comments under Site Improvement - Ramp</td>
<td>Master Plan</td>
<td>NA</td>
<td>$9,538</td>
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<td>400.E0100.03</td>
<td>4200.02</td>
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<td>Exterior Stairs &amp; Fire Escapes</td>
<td>Exterior</td>
<td>See comments under Site Improvement</td>
<td>Master Plan</td>
<td>NA</td>
<td>$9,538</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.E0100.03</td>
<td>4200.02</td>
<td>Long Term</td>
<td>Exterior Doors &amp; Entrances</td>
<td>Exterior</td>
<td>Existing doors in entry of the exterior or entry to the building.</td>
<td>Master Plan</td>
<td>Very Poor</td>
<td>$15,520</td>
<td>Acknowledged</td>
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<td>$15,520</td>
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[Logo of Denver Public Schools]
Facility Assessment Process

- Assessment Priority
  - 1 – Critical Failure or Code Violations
  - 2 - Likely to become critical in 1-2 years
  - 3 – Likely to become critical in 3-4 years
  - 4 – Acknowledged
  - 5 – Grandfathered Code Issues and ADA
  - 6 – New Construction
Facility Prioritization Process

- Priority 1 Refinement
  - 1.1 – Failed System, Equipment, Material that impacts school operation; Life Safety issues; Code Corrections Required by Authorities Having Jurisdiction, Heat Mitigation, End of Service Life
  
  1.2 – Failure of System, Equipment, or Material either from condition or life cycle that would not keep a school from operating.
  
  1.3 – Imminent Failure

- Priority 1.1 Ranking
  
  Ranking of Opportunities using Failed System, Equipment, Material that impacts school operation; Life Safety issues; Code Corrections Required by Authorities Having Jurisdiction criteria, Heat Mitigation, End of Service Life
  
  Rankings for each department from 1 - 400
What is the Cost Estimation Process?

- Resources used for Estimates

  - Google Document – current costs shared with all Planners for estimating.
  - Cost Consultants – hired to complete large, complicated, or unique projects.
  - RS Means Online – nationally recognized resource for construction estimating.
  - Third Party Estimates – collected from PM’s for recent capital projects.
  - General Contractors – used as a resource for local cost information.
  - Actual Hard Bids – from recent capital projects funded by the 2012 Bond.
  - School Districts – conversations within the Denver Metro Area provided comparable data.
Cost Estimation Process

- Levels of Estimating
  - Building Type
  - Cost/SF
  - Assemblies
  - Cost per Unit
Cost Estimation Process

- **RS Means References**
  - **Table of Contents**
    - Line Items Organized by “line numbers”
    - First Six Digits Refer to MasterFormat
    - Rest of Number is Used by RS Means
  
  - **Descriptions of Line Items**
    - A Base Case is Indicated at the Top
    - Variations Included in Indentations
  
  - **Cost Data Also Includes**
    - Crews – Labor and Equipment
    - Daily Output – Productivity in an 8-Hour Day
    - Labor Hours
    - Bare Costs, Overhead/Profit
### Cost Estimation Process

#### RS Means References

<table>
<thead>
<tr>
<th>RS Means Code</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost 1</th>
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<th>Unit 3</th>
<th>Cost 4</th>
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<td>0905053000020</td>
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<td>C.F.</td>
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<td>0.87</td>
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<td>Drywall, nailed or screwed</td>
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# Cost Estimation Process

## RS Means References

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Cost Estimation Process

Re-Assessment Estimates

- **Site Visits**
  - Touch Base with FM
  - Reference Record Documents
  - Photograph Conditions
  - Track Very Poor or Poor Items

- **Opportunities**
  - Confirm Existing
  - Check Previous Bond Scope
  - Create New

- **Estimating in Tririga**
  - Create for Each Opportunity
  - Multiple Work Tasks
  - Total Project Costs
  - Notes & Documents Tab
Cost Estimation Process

- Re-Assessment Estimates – Escalation Factors
Next Meeting

- March ____, 2016; 5:00 pm – TBD

- Agenda:
  - 2008 Bond Investments
  - 2012 Bond Investments
  - Draft Maintenance List
## 2016 CPAC: Detailed Project Plan

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We will discuss and plan upcoming meetings with the committee.
Reference documents

APPENDIX
Facilities Definitions

- Asset – a single item of ownership having an exchange value
- Assessment – evaluation of the condition of an asset
- Campus – building or site that contains one or more programs
- Condition – existing state of an asset
- Deficiency – asset that is in poor condition, at the end of service life, or failed
- Opportunity – a request for work that has been defined and priced
- Tririga – IBM software used to support the database for capital assets in Facility Management
- UniFormat Code – standard for classifying building specifications, cost estimating and cost analysis