**BOARD OF TRUSTEES**
**PLANNING AND BUDGET COMMITTEE MEETING**
**DALLAS COUNTY COMMUNITY COLLEGE DISTRICT**
**AND RICHLAND COLLEGIATE HIGH SCHOOLS**
**District Office**
**1601 South Lamar Street**
**Lower Level, Room 007**
**Dallas, TX 75215**
**Tuesday, May 11, 2010**
**3:00 PM**

# AGENDA

1. Certification of Posting of Notice of the Meeting — Wright Lassiter

2. Spring Revision of the 2009-10 Budget — Ed DesPlas
   Committee Action: Motion for approval and submission at the May 11, 2010 Board of Trustees meeting.

3. Three-year Financial Plan as Provided for in Board Policy BAA (LOCAL) including Planning Assumptions for 2010-12 — Ed DesPlas

4. Energy Savings Performances Services (follow-up to presentation of February 2, 2010) — Ed DesPlas and Clyde Porter

5. Executive Session: The Board may conduct an executive session as authorized under §551.074 of the Texas Government Code to deliberate on personnel matters, including evaluation of the chancellor and any prospective employee who is noted in Employment of Contractual Personnel.

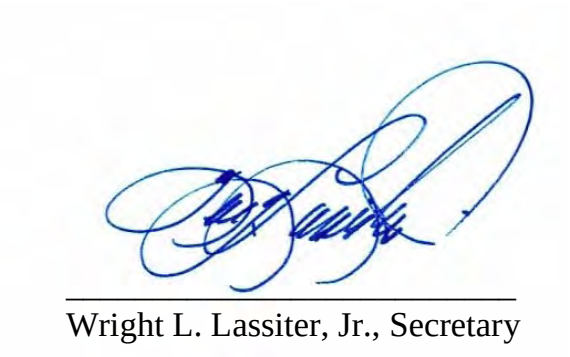
   As provided by §551.072 of the Texas Government Code, the Board of Trustees may conduct an executive session to deliberate regarding real property since open deliberation would have a detrimental effect upon negotiations with a third person.

   The Board may conduct an executive session under §551.071 of the Texas Government Code to seek the advice of its attorney on a matter in which the duty of the attorney under the Rules of Professional Conduct clearly conflict with the Open Meetings Act.

6. Adjournment

**CERTIFICATION OF POSTING OF NOTICE MAY 11, 2010**
**PLANNING AND BUDGET COMMITTEE MEETING OF THE**
**DALLAS COUNTY COMMUNITY COLLEGE DISTRICT**
**AND RICHLAND COLLEGIATE HIGH SCHOOLS**
**BOARD OF TRUSTEES**

I, Wright L. Lassiter, Jr., Secretary of the Board of Trustees of the Dallas County Community College District, do certify that a copy of this notice was posted on the 7th day of May, 2010, in a place convenient to the public in the District Office Administration Building, and a copy of this notice was provided on the 7th day of May, 2010, to John F. Warren, County Clerk of Dallas County, Texas, and the notice was posted on the bulletin board at the George Allen Sr. Courts Building, all as required by the Texas Government Code, §551.054.



_____
Wright L. Lassiter, Jr., Secretary

# Spring Budget Revision
# May 11, 2010

# *Current Funds*

## Overview

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Unrestricted | **$ 353,474,037** | **$ 4,054,431** | **$ 357,528,468** |
| Auxiliary | **12,312,335** | **(357,367)** | **11,954,968** |
| Restricted | **111,513,531** | **9,057,629** | **120,571,160** |
| Subtotal | **$ 477,299,903** | **$ 12,754,693** | **$ 490,054,596** |
| RCHS [1] | **$ 2,735,678** | **$ (133,537)** | **2,602,141** |
| Grand Total | **$ 480,035,581** | **$ 12,621,156** | **$ 492,656,737** |

[1] Richland Collegiate High School

# *Current Funds Highlights*

## Unrestricted Revenue

- *Tuition* projected to increase $2,073,561
  - Credit tuition increase of $1,924,211 projected
  - Continuing education tuition increase of $149,350 projected
- *Investment Income* projected to decrease $650,000
- *Use of Fund Balance* projected to increase $2,625,452
- *General Revenue* projected to decrease $109,166

# *Unrestricted Fund*

## Revenues & Additions

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| State Appropriations | **$ 96,381,533** | **$ -** | **$ 96,381,533** |
| Tuition | **79,906,374** | **2,073,561** | **81,979,935** |
| Taxes for Current Operations | **126,151,795** | **-** | **126,151,795** |
| Federal Grants & Contracts | **1,245,261** | **22,144** | **1,267,405** |
| State Grants & Contracts | **125,661** | **-** | **125,661** |
| Investment Income | **5,050,000** | **(650,000)** | **4,400,000** |
| General Revenue | **3,024,673** | **(109,166)** | **2,915,507** |
| Non-mandatory Transfers-In | **-** | **92,440** | **92,440** |
| Use of Fund Balance | **41,588,740** | **2,625,452** | **44,214,192** |
| Total | **$ 353,474,037** | **$ 4,054,431** | **$ 357,528,468** |

# *Current Funds Highlights*

Unrestricted Expenditures *(page 1 of 2)*

- *Instruction* projected to increase $2,672,232
- *Institutional Support* projected to increase $1,458,842
- *Plant Operations & Maintenance* projected to increase $1,942,165
- *Repairs & Rehabilitation* projected to decrease $5,881,269
- Enrollment Growth money of $1,400,000 distributed reducing reserve

# *Current Funds Highlights*

## Unrestricted Expenditures *(page 2 of 2)*

- Several reserves cleared out per the 5% budget reduction plan submitted to the State and placed in one reserve for the total $3,401,573
- Non-mandatory Transfers increase $7,661,897 primarily to support capital projects

# *Unrestricted Fund*

## Expenditures & Uses

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Instruction | $ 133,952,705 | $ 2,672,232 | $ 136,624,937 |
| Public Service | 6,880,367 | 148,158 | 7,028,525 |
| Academic Support | 19,041,385 | (501,484) | 18,539,901 |
| Student Services | 28,768,141 | 710,555 | 29,478,696 |
| Institutional Support | 64,110,626 | 1,458,842 | 65,569,468 |
| Staff Benefits | 11,468,744 | 34,718 | 11,503,462 |
| Plant Operations & Maintenance | 32,469,503 | 1,942,165 | 34,411,668 |
| Repairs & Rehabilitation | 33,090,855 | (5,881,269) | 27,209,586 |
| Reserve - Campus | 6,056,371 | (1,880,288) | 4,176,083 |
| Reserve - Compensation | 60,364 | (60,364) | - |
| Reserve - Retention | 803,200 | (803,200) | - |
| Reserve - Operating | 3,373,923 | (2,203,280) | 1,170,643 |
| Reserve - Enrollment Growth | 1,400,000 | (1,400,000) | - |
| Reserve - 5% State Reduction Plan | - | 3,401,573 | 3,401,573 |
| Reserve - Non-operating | 1,587,990 | (1,256,688) | 331,302 |
| Mandatory Transfers | 2,355,229 | 10,864 | 2,366,093 |
| Non-mandatory Transfers | 8,054,634 | 7,661,897 | 15,716,531 |
| Total | $ 353,474,037 | $ 4,054,431 | $ 357,528,468 |

# *Current Funds Highlights*

## Auxiliary Revenue

- *Sales & Services* projected to decrease $423,831

## Auxiliary Expenditures

- *Student Activities* projected to increase $375,418
- *Transfers-out* projected to increase $202,700
- *Sales & Services* expenditures projected to decrease $393,749

# *Auxiliary Fund*

## Revenues & Additions

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Sales & Services | $ 5,911,796 | $ (423,831) | $ 5,487,965 |
| Investment Income | 230,702 | 197 | 230,899 |
| Transfers-in | 5,175,797 | 6,267 | 5,182,064 |
| Use of Fund Balance | 994,040 | 60,000 | 1,054,040 |
| Total | $ 12,312,335 | $ (357,367) | $ 11,954,968 |

# *Auxiliary Fund*

## Expenditures & Uses

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Student Activities | $ 7,385,190 | $ 375,418 | $ 7,760,608 |
| Sales & Services | 3,629,831 | (393,749) | 3,236,082 |
| Reserve - Campus | 800,548 | (327,853) | 472,695 |
| Reserve - District | 381,279 | (213,883) | 167,396 |
| Transfers-out | 115,487 | 202,700 | 318,187 |
| Total | $ 12,312,335 | $ (357,367) | $ 11,954,968 |

# *Restricted Fund Highlights*

Revenues *(page 1 of 2)*

- *Federal Grants & Contracts* projected to increase $6,679,344 consisting mainly of
  - Increased Pell revenue of $5,000,000
  - Addition of a US Department of Education grant of $464,589
  - A Dallas County Local Workforce Board ARRA-funded grant of $887,302

# *Restricted Funds Highlights*

Revenues *(page 2 of 2)*

- *State Grants & Contracts* is projected to increase $1,528,285 due to several new grants and scholarships from the Texas Higher Education Coordinating Board and one from the Texas Workforce Commission
- *Local Grants & Contracts* is projected to increase $500,000 for TPEG due to increased enrollment

# *Restricted Fund*

## Revenues & Additions

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Insurance/Retirement Match | $ 26,411,849 | $ - | $ 26,411,849 |
| SBDC State Match | 1,841,483 | 175,000 | 2,016,483 |
| ARRA State Funding | 1,612,555 | - | 1,612,555 |
| Subtotal State Appropriations | $ 29,865,887 | 175,000 | $ 30,040,887 |
| Grants & Contracts | | | |
| Federal | 70,302,377 | 6,679,344 | 76,981,721 |
| State | 5,631,808 | 1,528,285 | 7,160,093 |
| Local | 5,520,623 | 500,000 | 6,020,623 |
| Transfers-in | 144,528 | 175,000 | 319,528 |
| Total | $ 111,465,223 | 9,057,629 | $ 120,522,852 |
| RCHS [1] | $ 48,308 | - | $ 48,308 |
| Grand Total | $ 111,513,531 | $ 9,057,629 | $ 120,571,160 |

[1] Richland Collegiate High School

# *Restricted Funds Highlights*

Expenditures

- *Grants & Contracts* is projected to increase $2,416,088 for the new grants
- *Scholarships & Fellowships* is projected to increase $6,641,541 for Pell, TPEG, and Texas Higher Education Coordinating Board grants

# *Restricted Fund*

## Expenditures & Uses

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Insurance/Retirement Match | **$ 26,411,848** | **$ -** | **$ 26,411,848** |
| Grants & Contracts | **34,302,683** | **2,416,088** | **36,718,771** |
| Scholarships | **50,750,692** | **6,641,541** | **57,392,233** |
| Subtotal | **$ 111,465,223** | **$ 9,057,629** | **$ 120,522,852** |
| RCHS [1] | **48,308** | **-** | **48,308** |
| Grand Total | **$ 111,513,531** | **$ 9,057,629** | **$ 120,571,160** |

[1] Richland Collegiate High School

# *Richland Collegiate High School*

- RCHS State Funding projected to decrease $131,737
- RCHS Expenditures realigned to reflect current needs and state funding reduction

# *Richland Collegiate High School*

## Revenues and Additions

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| State Funding | $ 2,724,878 | $ (131,737) | $ 2,593,141 |
| Investment Income | 10,800 | (1,800) | 9,000 |
| Total | $ 2,735,678 | $ (133,537) | $ 2,602,141 |

## Expenditures and Uses

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Instruction | $ 1,358,337 | $ 111,421 | $ 1,469,758 |
| Public Service | 194,741 | - | 194,741 |
| Academic Support | 194,526 | (140,763) | 53,763 |
| Student Services | 356,914 | (10,000) | 346,914 |
| Institutional Support | 631,160 | (94,195) | 536,965 |
| Total | $ 2,735,678 | $ (133,537) | $ 2,602,141 |

# *Non-operating Funds*

## Overview

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Unexpended Plant | **$ 84,429,527** | **$ 9,435,750** | **$ 93,865,277** |
| Debt Service | **$ 42,348,525** | **$ 25,695** | **$ 42,374,220** |
| Quasi-endowment | **$ 510,000** | **$ (5,000)** | **$ 505,000** |

# *Unexpended Plant Fund Highlights*

## Revenues

- *Investment Revenue* projected to increase $475,100
- *Transfers-in* projected to increase $7,545,228
- *Use of Fund Balance* projected to increase $1,415,422

# *Unexpended Plant Fund Highlights*

Expenditures

- *Building & Physical Plant Repairs* projected to increase $1,571,426
- *Construction* projected to increase $9,773,071
- *Architects* projected to decrease $3,689,622
- *Furniture & Equipment* projected to increase $1,688,435

# *Unexpended Plant Fund*

## Revenues and Additions

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Investment Revenue | $ 364,000 | $ 475,100 | $ 839,100 |
| General Obligation Bonds | 50,000,000 | - | 50,000,000 |
| Transfers-in | 20,870 | 7,545,228 | 7,566,098 |
| Use of Fund Balance | 34,044,657 | 1,415,422 | 35,460,079 |
| Total | $ 84,429,527 | $ 9,435,750 | $ 93,865,277 |

## Expenditures and Uses

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Bldg & Physical Plant Repairs | $ 2,860,013 | $ 1,571,426 | $ 4,431,439 |
| Construction | 61,872,666 | 9,773,071 | 71,645,737 |
| Architects | 10,313,845 | (3,689,622) | 6,624,223 |
| Furniture & Equipment | 7,981,179 | 1,688,435 | 9,669,614 |
| Bond Cost of Issuance | 150,000 | - | 150,000 |
| Non-mandatory Transfers | 1,251,824 | 92,440 | 1,344,264 |
| Total | $ 84,429,527 | $ 9,435,750 | $ 93,865,277 |

# *Debt Service*

- *Investment Revenue* projected to increase $57,000 decreasing amount needed for *Transfer-in*
- *Commercial Paper Fees* represents $25,695 final expenditures in closing out the program

# *Debt Service*

## Revenues and Additions

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Investment Revenue | $ 48,000 | $ 57,000 | $ 105,000 |
| Taxes (Maintenance Tax Notes) | 6,381,218 | - | 6,381,218 |
| Taxes (General Obligation Bonds) | 29,486,530 | - | 29,486,530 |
| Transfer-in (Tuition) | 2,322,986 | - | 2,322,986 |
| Transfer-in (Unexpended) | 1,251,824 | (31,305) | 1,220,519 |
| Transfer-in (Unrestricted) | 2,857,967 | - | 2,857,967 |
| Total | $ 42,348,525 | $ 25,695 | $ 42,374,220 |

## Expenditures and Uses

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| G.O. Bond Principal & Interest | $ 30,168,010 | $ - | $ 30,168,010 |
| Revenue Bonds Principal & Interest | 5,180,953 | - | 5,180,953 |
| MTN Principal & Interest | 6,210,444 | - | 6,210,444 |
| Commercial Paper Fees | - | 25,695 | 25,695 |
| Uncollectible Tax Expense | 203,457 | - | 203,457 |
| Tax Collection Fees | 585,661 | - | 585,661 |
| Total | $ 42,348,525 | $ 25,695 | $ 42,374,220 |

# *Quasi Endowment Fund*

*Investment Income* is projected to decrease $5,000

# *Quasi Endowment*

## Revenues

| | Current Budget | Proposed Change | Spring Revision |
|---|---|---|---|
| Investment Income | **$ 110,000** | **$ (5,000)** | **$ 105,000** |
| Lease Income | **400,000** | **-** | **400,000** |
| Total | **$ 510,000** | **$ (5,000)** | **$ 505,000** |

## Expenditures

| | | | |
|---|---|---|---|
| Transfers-out (Rising Star Program) | **$ 510,000** | **$ (5,000)** | **$ 505,000** |
| Total | **$ 510,000** | **$ (5,000)** | **$ 505,000** |

# The End

# Dallas County Community College District

Multi-Year Financial Outlook and Plan
FY 2010 – 2012

DCCCD Planning and Budget Meeting
May 11, 2010

# 2010 – 2012 Revenue Assumptions

| | FY 2011 | FY 2012 |
|---|---|---|
| **Credit Enrollment** | **5.0% increase** | **5.0% increase** |
| **Tuition Rate** | **TBD** | **TBD** |
| **State Funding** | **6.5% decrease** | **$1.6 million decrease** |
| **Tax Base** | **4.0% decrease** | **no change** |
| **Tax Rate – M&O** | **$0.0778** | **$0.0778** |

# 2010 – 2012 Expenditures Assumptions and Provisions

| | FY 2011 | FY 2012 |
|---|---|---|
| New Square Footage – added to 854,328 s.f. opened in FY2010 | 208,097 s.f. | no new s.f. |
| Provision for Funding Gap - expanded facilities | $4,630,612 | $4,630,612 |
| Scale Back Visiting Scholar Provision | $1,551,750 | $1,034,500 |
| Mid-Year Growth Provision | -0- | -0- |
| Provision for Retention Initiatives | -0- | -0- |
| Technology "Edge" Provision | $1,000,000 | $1,000,000 |
| Provision for Salary Adjs | -0- | -0- |
| Provision for Job Reclassifications | -0- | -0- |
| Provision for Planned Maintenance – Facilities | -0- | -0- |

# Estimated Revenue
# 2010 – 2012

***Spring Revision**

| | FY 2010 | FY 2011 | FY 2012 |
|---|---|---|---|
| **State Revenue** | **96,507,194** | **91,750,133** | **90,137,578** |
| **Federal Funds** | **1,267,405** | **1,305,427** | **1,305,427** |
| **Tuition** | **81,979,935** | **85,773,055** | **89,746,655** |
| **Taxes** | **126,151,795** | **120,971,375** | **120,971,375** |
| **Investment Revenue** | **4,400,000** | **4,400,000** | **4,400,000** |
| **Other Revenue** | **3,007,947** | **3,054,420** | **3,103,216** |
| **Use of Fund Balance - excluded** | **-0-** | **-0-** | **-0-** |
| **Total** | **313,314,276** | **307,254,410** | **309,664,251** |

*** Pending Board Approval**

# Estimated Expenditures 2010 - 2012

| | FY 2010 | FY 2011 | FY 2012 |
|---|---|---|---|
| **College Operations:** | ***Spring Revision** | | |
| **Allocation** | **277,208,026** | **250,120,483** | **250,394,609** |
| **Community Campuses** | **5,589,531** | **6,435,728** | **6,435,728** |
| **Expanded Facilities** | **4,400,000** | **9,030,612** | **9,030,612** |
| **Less College Use of Fund Balance** | **- 23,076,158** | **-0-** | **-0-** |
| **Total College Operations** | **264,121,399** | **265,586,823** | **265,860,949** |
| **Percent of Change** | | **0.6%** | **0.1%** |
| **DO/DSC /VC Use of Fund Balance - excluded** | **-0-** | **-0-** | **-0-** |
| **District Operations** | **26,739,426** | **26,739,426** | **26,739,426** |
| **Reserve** | **576,416** | **-0-** | **-0-** |
| **Total District Operations** | **27,315,842** | **26,739,426** | **26,739,426** |
| **Percent of Change** | | **-2.1%** | **0.0%** |
| **Virtual College Operations** | **3,294,415** | **3,294,415** | **3,294,415** |
| **Reserve for Reduction of State Funds** | **3,401,573** | **-0-** | **-0-** |
| **Reserves and Transfers** | **15,181,047** | **14,783,559** | **14,856,908** |
| **Total** | **313,314,276** | **310,404,223** | **310,751,698** |

***Pending Board Approval**

# Gaps Using Assumptions

| | *Spring Revision FY 2010 | FY 2011 | FY 2012 |
|---|---|---|---|
| **Estimated Revenue**** | **313,314,276** | **307,254,410** | **309,664,251** |
| **Estimated Expenditures**** | **313,314,276** | **310,404,223** | **310,751,698** |
| **Estimated Operations Gap** | **0** | **3,149,813** | **1,087,447** |
| **Tuition Rate - In District** | **41** | **41/TBD** | **TBD** |
| **Tuition Rate - Out of District** | **76** | **TBD** | **TBD** |
| **Tuition Rate - Out of State** | **121** | **TBD** | **TBD** |
| **M & O Tax Rate Needed** | **0.0778** | **0.0778(?)/TBD** | **TBD** |

*** Pending board Approval**
****Excluding Use of Fund Balance**

# Issues and Impact

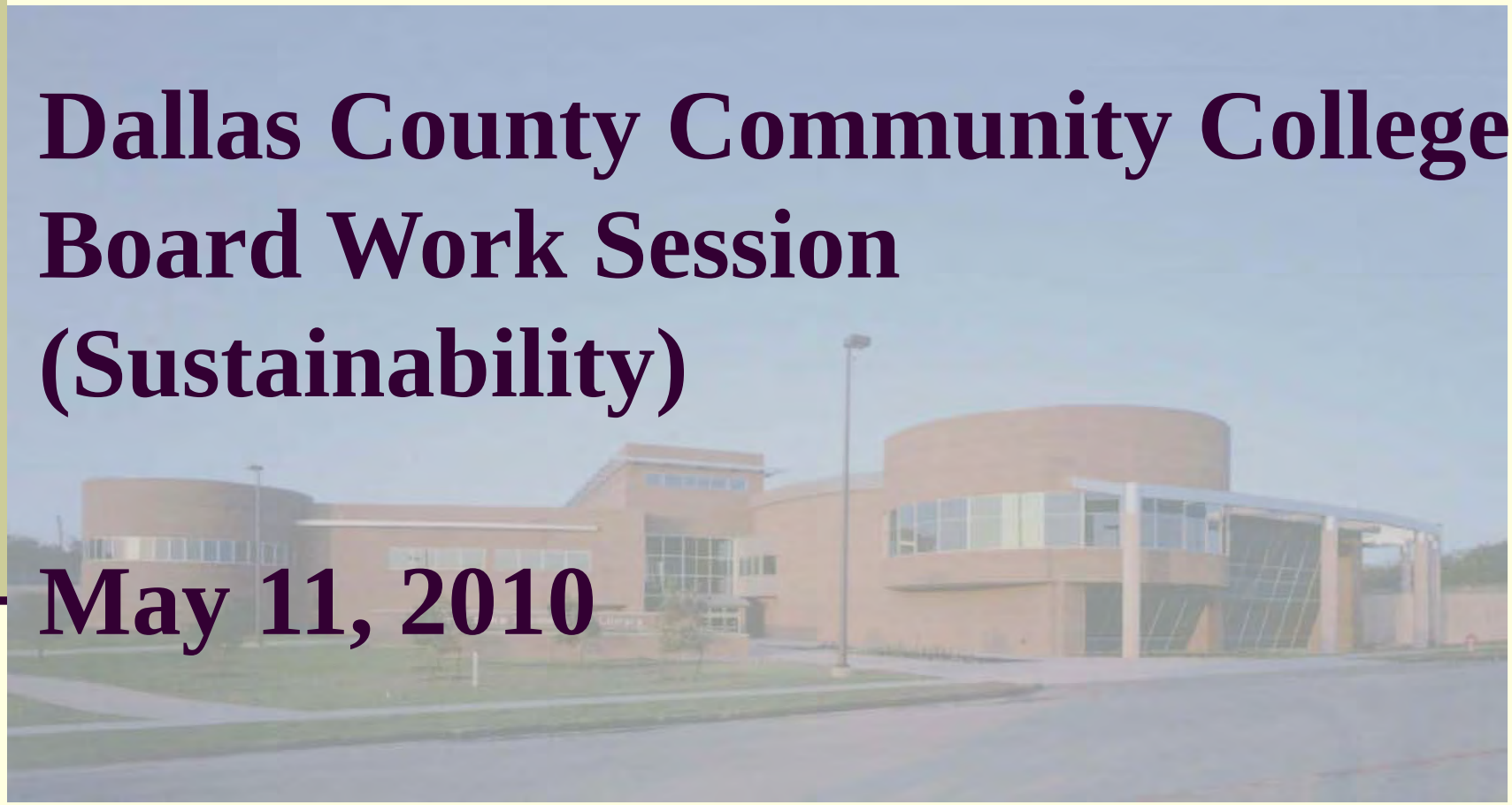
- Mid-year augmentation to Budget Allocation only in the event of enrollment increases that exceed 5%
- No provision for salary increase for FY 2011 or FY 2012
    - Change in CPI (Feb. 09 – Feb. 10) is 2.1%. Cost of 2% increase is $4 million
    - Early estimate for increased cost of employee paid health coverage is $1 million
- Broad review of compensation issues to commence in May 2010; recommendation to impact 2011-2012 to be submitted by February 2011
- No money for job reclassifications
- No funding for planned maintenance projects

# Revenue Issues to Watch

- Credit Enrollment Levels, relative to projections
- Continuing Education Tuition/Fees, relative to projections
- Changes in Tax Base
- Decline in State revenue projections
- Changes to state funding of employee health insurance

# Operational Issues

- Costs to operate new square footage (covered in assumptions)
- Costs to accommodate increasing enrollment
- Continued funding of student retention efforts
- Keeping pace with planned facilities maintenance and repairs
- Honing Technological Edge – (somewhat covered in assumptions)
- Exploring and achieving efficiency measures



# Dallas County Community College Board Work Session (Sustainability)

## May 11, 2010

# Board Work Session – Feb. 2, 2010 Follow Up

- **Background:**
  - Presentation:  Performance Contracting Schneider Electric Buildings Americans, Inc., (by Ed DesPlas)
  - Explore Commissioning – Hand out provided Article:  Optimize Building Systems with Commissioning
    - Meeting Held with Texas A&M University (Energy Systems Laboratory) – Feb. 24, 2010

# Those Attending💻

**DCCCD**

Dr. Jennifer Wimbish
Ed DesPlas
Clyde Porter
Kim Green
Robb Dean
Philip Todd
Huan Luong
Patricia Davis

**Texas A&M University**

Dr. Dan Turner, P.E.
Song Deng, P.E.

# What Is Commissioning?

- **Definitions**
  - Verifying that building systems perform as required to meet the needs and expectations of the owner (DCCCD)
  - Systematic process of assuring that a building facility performs efficiently in accordance with the design intent and the DCCCD (owner‘s) operational needs
  - Systematic process of assuring by verification and documentation from the design phase to a maximum of one year after construction, that all building facility systems perform interactively in accordance with the owner‘s operational needs including preparation of operational personnel.

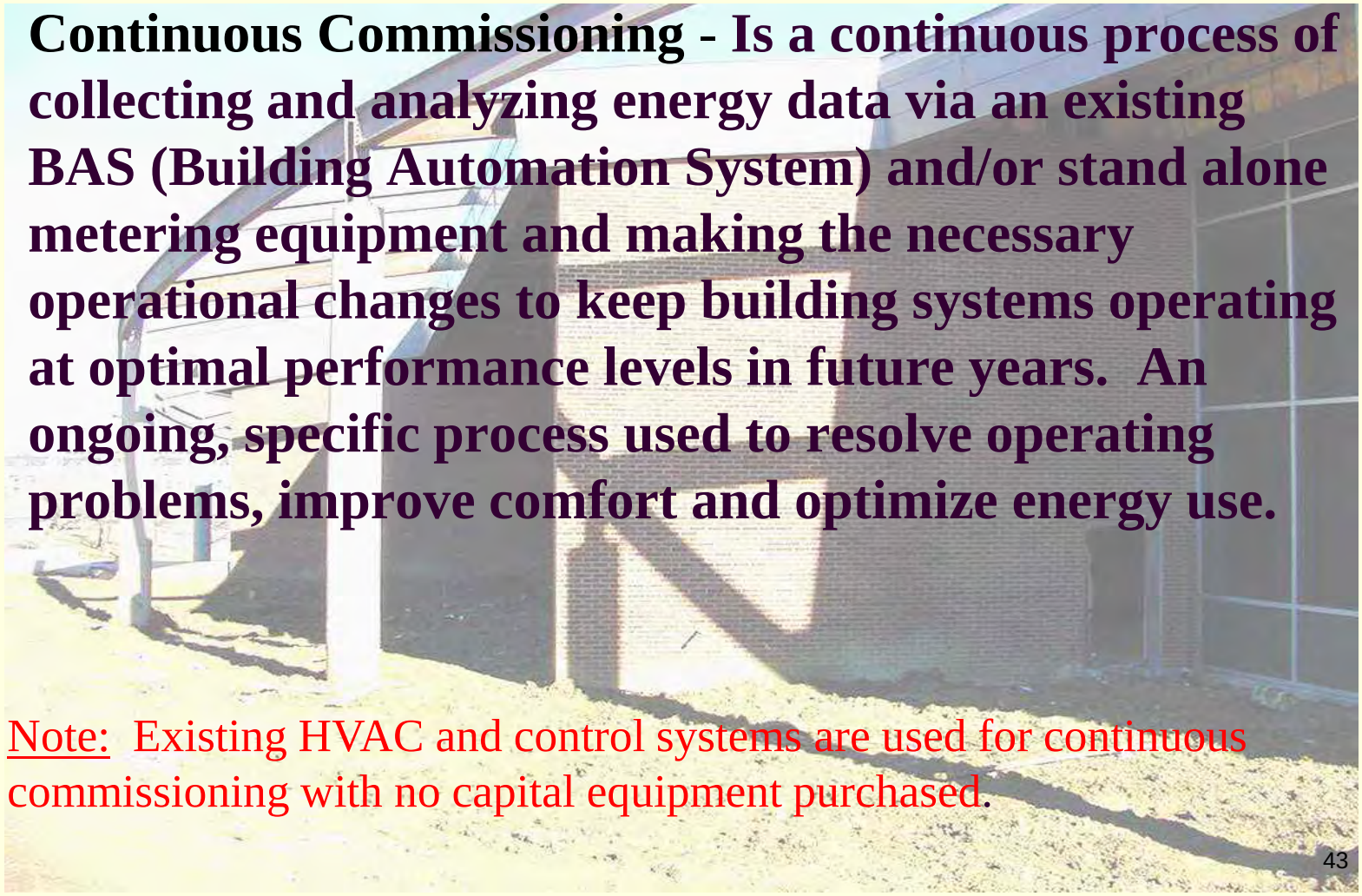
# Other Applicable Definitions?

- **Building Commissioning** ☙ 2007 ASHRAE - HVAC Application, "quality-oriented a process for achieving, verifying and documenting that the performance of facilities system and assemblies meet defined objectives and criteria. The defined objectives and criteria are often referred to as the owner's project requirement (ORP).

- **Recommissioning** - 2007 ASHRAE – HVAC Application, is applying "commissioning to a project that has previously been delivered using the commissioning process."

- **Existing Building Commissioning** – 2007 ASHRAE - "existing building commissioning, often called 'retro-commissioning, applies commissioning to an existing facility that may not have been previously commissioned."

- **Continuous Commissioning - Is a continuous process of collecting and analyzing energy data via an existing BAS (Building Automation System) and/or stand alone metering equipment and making the necessary operational changes to keep building systems operating at optimal performance levels in future years. An ongoing, specific process used to resolve operating problems, improve comfort and optimize energy use.**



Note: Existing HVAC and control systems are used for continuous commissioning with no capital equipment purchased.

# Sustainability Compliance Benefits

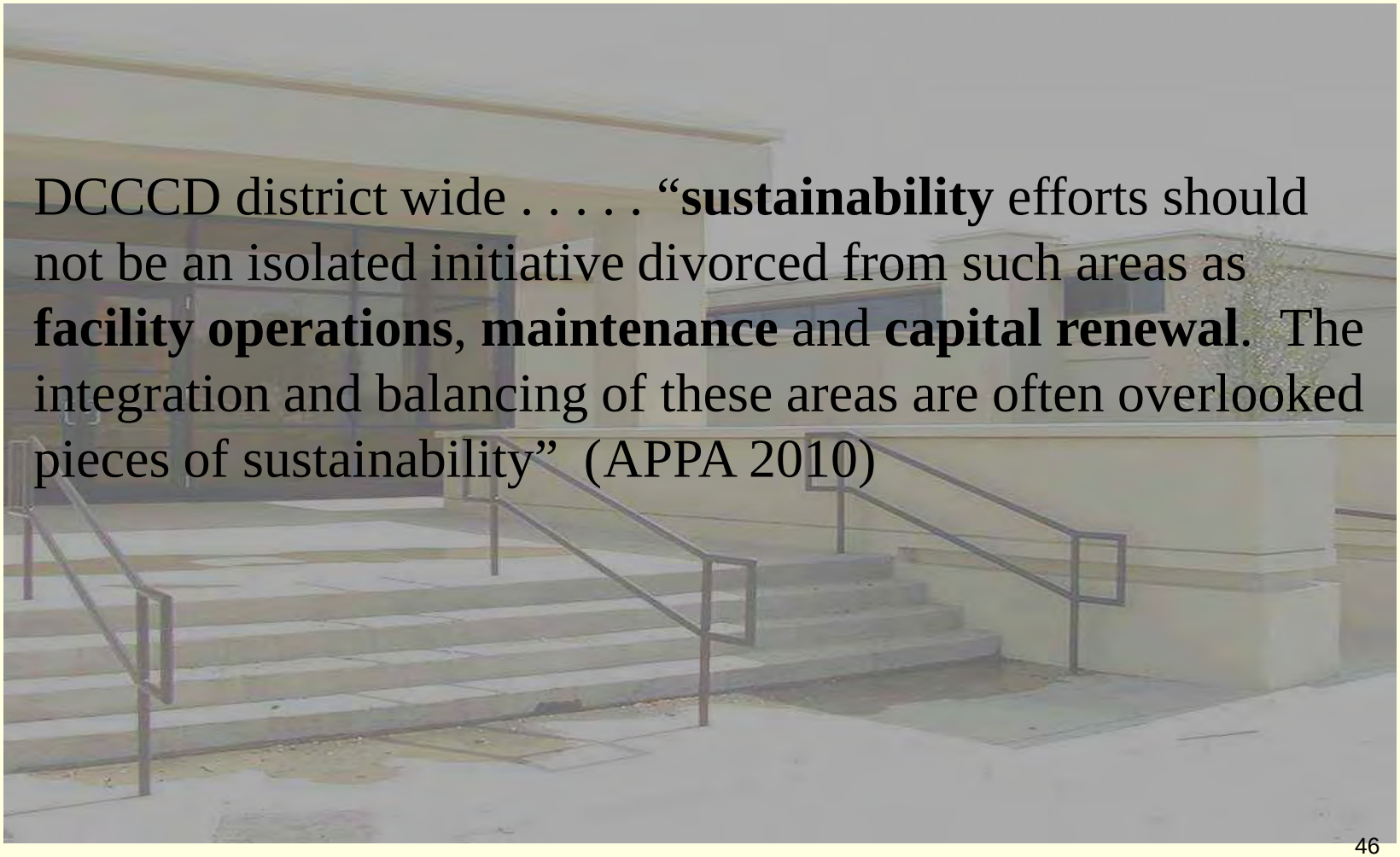
- The Texas Health & Safety Code 388.005 requires political subdivisions to decrease energy usage by 5% each year for 6 years
- Cooperative efforts with major public entities in Dallas County to reduce emissions
- Satisfies efforts with American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) and Green Buildings Council (LEED Certification Agency)
- American Association of Sustainability in Higher Education with annual reporting requirements

# DCCCD Physical Plant Age Profile

| Campus | Age |
|---|---|
| 1. El Centro | 44 years. |
| 2. Bill J Priest | 22 years. |
| 3. Eastfield | 40 years |
| 4. Mountain View | 40 Years |
| 5. Richland | 38 years |
| 6. North Lake | 33 years |
| 7. Cedar Valley | 33 years |
| 8. Brookhaven | 32 years |

*Average Life of Educational Facility is 54 years (APPA)

# Strategic Implication for Sustainability



DCCCD district wide . . . . . "**sustainability** efforts should not be an isolated initiative divorced from such areas as **facility operations**, **maintenance** and **capital renewal**. The integration and balancing of these areas are often overlooked pieces of sustainability" (APPA 2010)

# Continuous Commissioning Process

**Texas A&M University System**

(Energy Systems Laboratory)

# Factoid: Most Commercial US Buildings Operate Sub-Optimally

- Frequent “hot & cold” calls
- High energy use common
- Sub-Optimal operations & deferred maintenance contribute to:
  - Poor indoor air quality and comfort
  - High energy use and equipment failures

Note: Enhanced building performance technique known as building Continuous Commissioning (CC) can detect and remedy most deficiencies at minimum cost.

# Traditional Retrofit Practice for Energy Efficiency in US

- Energy Audit
- Develop a plan based on simple payback
- “Drop-in Approach”
  (one-for-one equipment replacement)

# Objectives of Continuous Commissioning

- Identify and solve existing operating problems
- Improve building thermal comfort and indoor air quality
- Minimize building energy consumption
- Minimize building energy cost
- Provide knowledge-based and hands-on training to in-house facility management staff

# Continuous Commissioning

- **Philosophy**
  - A ***"team effort"*** (facility staff and Continuous Commissioning engineers) to commission mechanical and control devices to optimize overall building systems
  - Oriented toward total building performance with emphasis on energy management

# What Facilities are Good Candidates?

- Administrative, Office Buildings
- Institutional Building and Educational Campuses
- Hospitals, Laboratories
- Data Centers
- Airports
- Central Power/Utilities/Energy Plants
- Manufacturing Facilities
- Most Building > 50,000 sq. ft. with Building Automated Systems in United States

# Continuous Commissioning Process Seven Steps

- Continuous Commissioning Assessment
- Develop Performance Baselines
- Develop Detailed Implementation Plan
- Implement Continuous Commissioning Measures
- Document Changes
- Train Staff (Facilities Services/Facilities Management)
- Keep Commissioning Continuous with Effective Measurements and Verification

# Technical Case for Continuous Commissioning

- Determines optimum settings for building based on current operation – **not design conditions**
- Deferred maintenance items impacting energy use are readily identified and prioritized
- Premature equipment failures and costly upgrades can be avoided, with true energy retrofit opportunities identified

# Business Case for Continuous Commissioning

- High rate-of-return (average payback of 2 years)
- Low Cost Measure
- Enhanced comfort and employee productivity
- Accurate energy baseline for metrics
- Reduces risk to owner and/or service provider
- Quality assurance tool to detect defects

**Factoid:** "Effectiveness of research, deployment and high performance building tied closely to quality assurance (i.e. CC)"

# Benefits of Continuous Commissioning

- Continuous Commissioning is typically the most cost effective efficiency measure that can be applied to a building or physical plant.
- Short paybacks compared to large capital retrofit projects
- Combining Continuous Commissioning with energy retrofits is the “best of both worlds”
- Energy efficiency reduces emissions and carbon footprint
- Continuous Commissioning reduces energy use by 15 – 25% with ½ - 3 year payback

# Continuous Commissioning (CC)

- **History** – (Texas A&M)
  - 1992 Continuous Commissioning started by Energy Lab as part of Texas LoanSTAR program
  - 1996 Continuous Commissioning implementation on Texas A&M campus started
  - 2006 first licensee (for the Continuous Commissioning Process)
  - 2009 – Implemented in over 450 buildings with more than $100+ million in savings to date

# Applications of the Continuous Commissioning Process

- Continuous Commissioning of buildings after energy retrofits – Texas LoanSTAR program
- Continuous Commissioning of existing buildings (including new buildings) as a stand – alone energy conservation measure – Matheson Courthouse in Salt Lake City

# Applications of the Continuous Commissioning Process, (Continued)

- Continuous Commissioning as an Energy Conservation Measure in a major energy retrofit program:
  - Praire View A&M University
  - Alamo Community College

- Continuous Commissioning as the lead conservation measure in a retrofit program:
  - Omaha Public Power

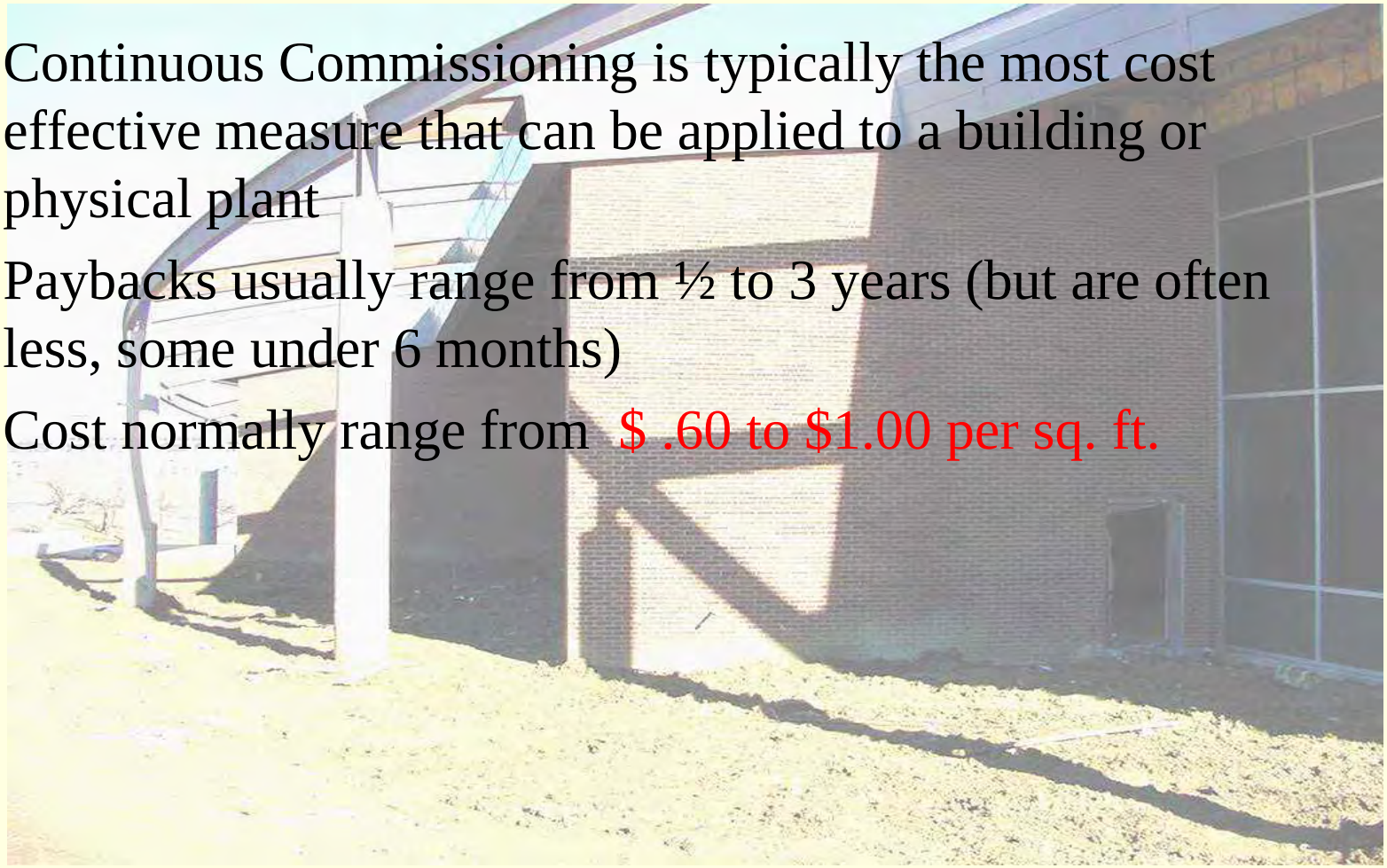
# Examples of Continuous Commissioning Projects

- Texas LoanSTAR Program
- Texas A&M University Campus
- Texas Health and Human Services Commission
- Alamo Community College District, San Antonio
- Utah Dept. of Natural Resources
  - Matheson Courthouse
  - Salt Lake Community College

# Examples of Continuous Commissioning Projects (continued)

- US Army Medical Command
  - Brooke Army Medical Command
  - Walter Reed Army Institute of Research
- Dallas Fort Worth Airport

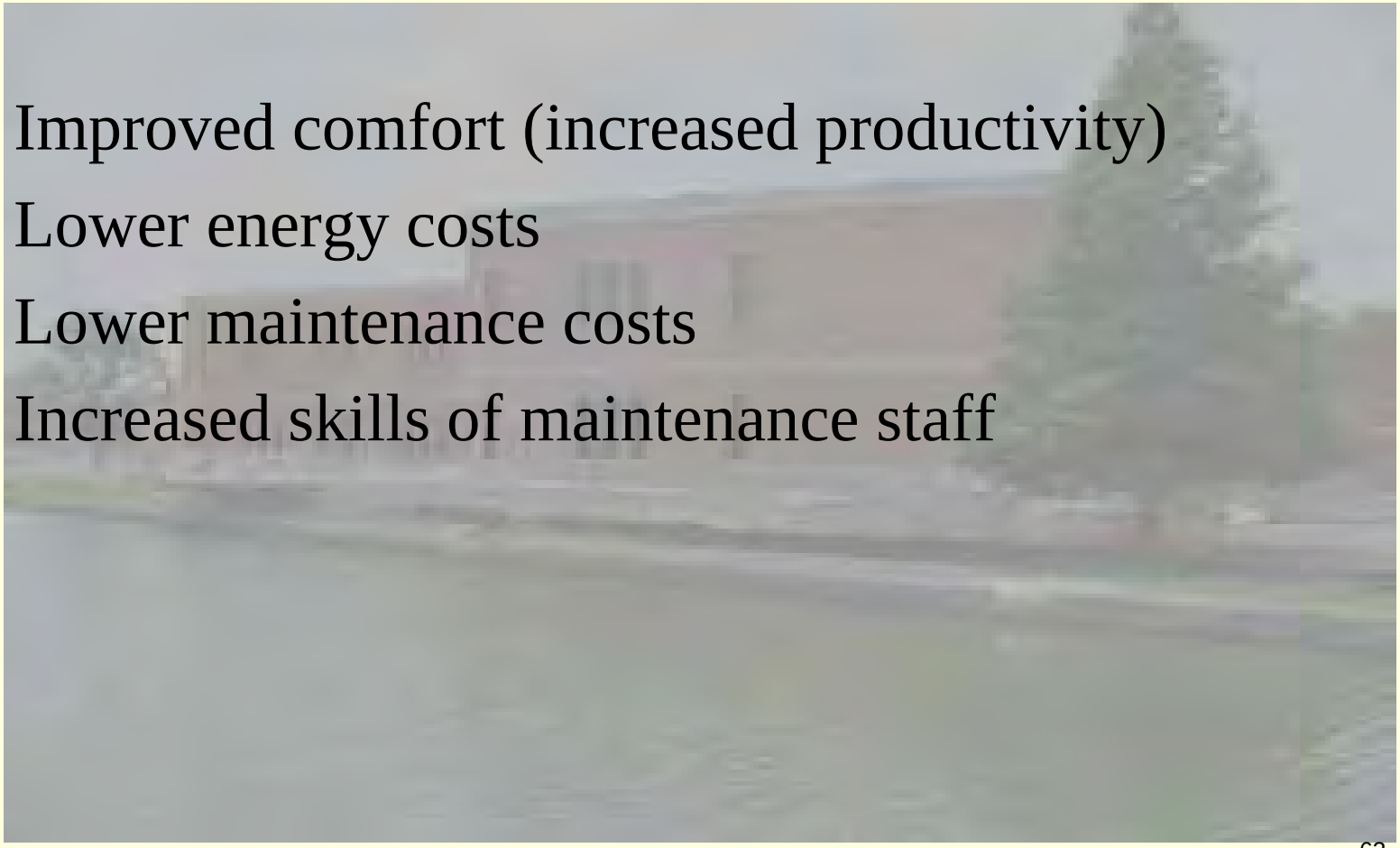
# Summary of Benefits



- Continuous Commissioning is typically the most cost effective measure that can be applied to a building or physical plant
- Paybacks usually range from ½ to 3 years (but are often less, some under 6 months)
- Cost normally range from $ .60 to $1.00 per sq. ft.

# Summary of Benefits (continued)

Results are:



- Improved comfort (increased productivity)
- Lower energy costs
- Lower maintenance costs
- Increased skills of maintenance staff

# Questions????

Case Studies (Texas A&M) Energy System Laboratory

W. Dan Turner, Ph.D., P.E.

Song Deng, P.E.

# Conclusion/Recommend Industry Leaders in Facilities Management

"These findings demonstrate that commissioning is arguably the single most cost effective strategy for reducing energy cost and greenhouse gas emissions in buildings today" . . . . . Article – "It's payback time" , Building Operations Mag., by Lorne Snyder