



# Enterprise Infrastructure Asset Management (EIAMS)

52<sup>nd</sup> Annual Association of Conservation Engineers Conference  
September 18, 2013  
by Howard Thomas, P.E. and Alicia J. Weaver, PMP



MDC's Design and Development Division

Putting conservation on the ground and connecting people with nature.

# EIAMS - Project Key Concepts

- MDC's infrastructure assets estimated replacement value is approximately \$1.6 billion.
- The objective of infrastructure asset management is to meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers.
- MDC does not have all the information that its decision makers need to effectively allocate construction and maintenance dollars and time between competing infrastructure needs at its many areas.
- The department needs better information to balance infrastructure and operational expenditures.
- Regulatory and audit requirements (GASB34)

# EIAMS Five Year Implementation Plan

Task	FY2013				FY2014				FY2015				FY2016				FY2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
BMP Implementation	Initial BMPs (not dependent on Software)								BMPs Dependent on Software				BMPS Reliant on SystemData or Prior BMP Implementation							
Software Selection	Software Procurement																			
Software Implementation					Software Implementation															
Data Collection and Validation					Data Collection, Validation, and Condition Assessments															
Reporting, Forecasting, Modeling													Initial Reports				Forecasting, Modeling			

09/04/2013

**Note: The software implementation plan is dependent on software vendor selection and the vendor's implementation schedule.**

# EIAMS Implementation Plan

## **FY2013:**

- Completed request for proposal (RFP)
- Established draft asset management policy, and recommended guidelines
- Began Implementation of software independent best management practices (BMPs)
- Evaluated asset management / computerized maintenance management system (AM/CMMS) RFP vendor responses

# Best Management Practices (BMPs) Resource Types by Year



# EIAMS Implementation Plan

FY2014:

- Select and implement AM/CMMS solution
- Complete implementation of software independent BMPs
- Begin implementation of software dependent BMPs
- Establish business processes and procedures for data collection and inventory, condition assessment, maintenance requirements, frequencies, and work assignment
- Begin infrastructure asset data collection, validation and condition assessments

# EIAMS Implementation Plan

## **FY2015:**

- Full Implementation of AM/CMMS Solution
- Complete implementation of software dependent BMPs
- Develop condition assessment and maintenance programs
- Draft the initial reporting procedures



# EIAMS Implementation Plan

## FY2016:

- Continue asset data collection, validation and condition assessments
- Implement BMPs dependent on system data availability
- Draft and initiate procedures for reporting and forecasting

# EIAMS Implementation Plan

**FY2017:** (and beyond!)

- Continue asset data collection, validation and condition assessments
- Implement advanced reporting, forecasting and modeling procedures
- Complete BMPs related to full development of asset management program

# 150 BMPs in 15 Categories

- **Administrative Business Process**
- **Planning**
- **Design**
- **Construction Asset Acquisition**
- **Construction**
- **Decommissioning**
- **Maintenance Organization**
- **Maintenance Management Administration**
- **CMMS Administration**
- **Maintenance Management**
- **Infrastructure Maintenance and Repair**
- **Operating Budget**
- **Capital Budgeting**
- **Reporting Requirements**
- **Business Practices / CAD**

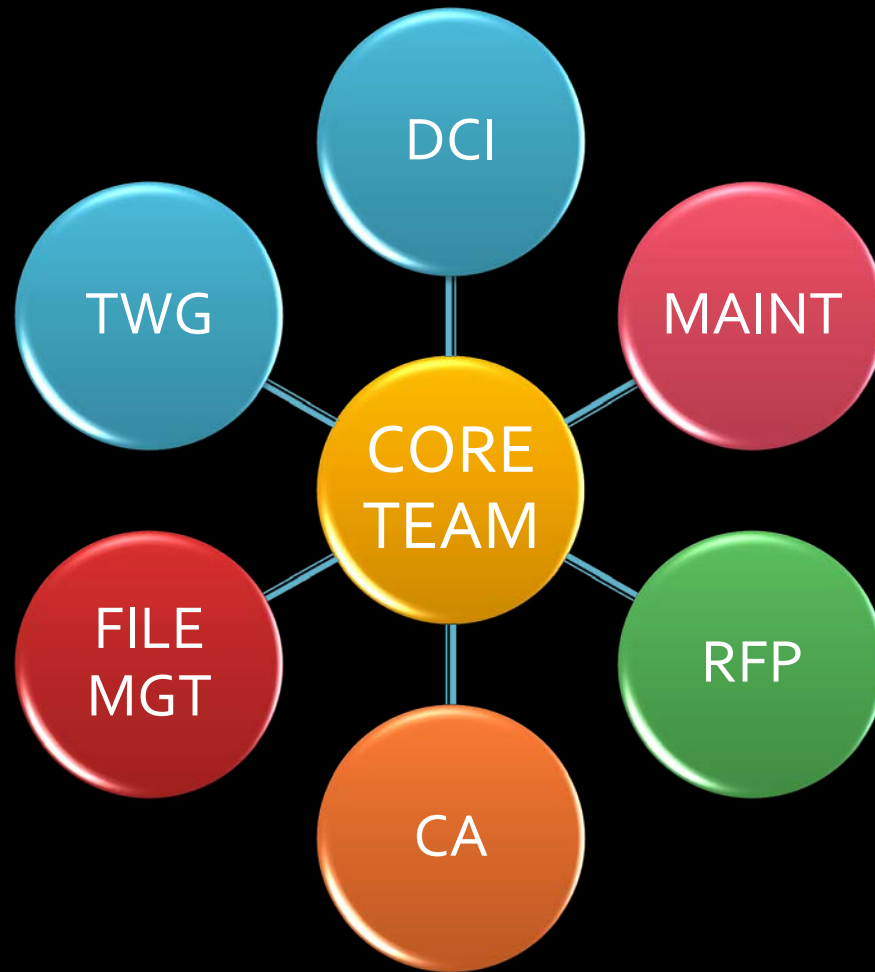
# BMP – 58 Condition Assessment

- **Infrastructure Maintenance and Repair**
- 58. The condition of specific infrastructure assets are periodically inspected with at least once every 3 years (GASB) condition assessments.
- Condition assessments should be utilized to make “eyes on the ground” adjustments to estimated remaining useful life of major components.

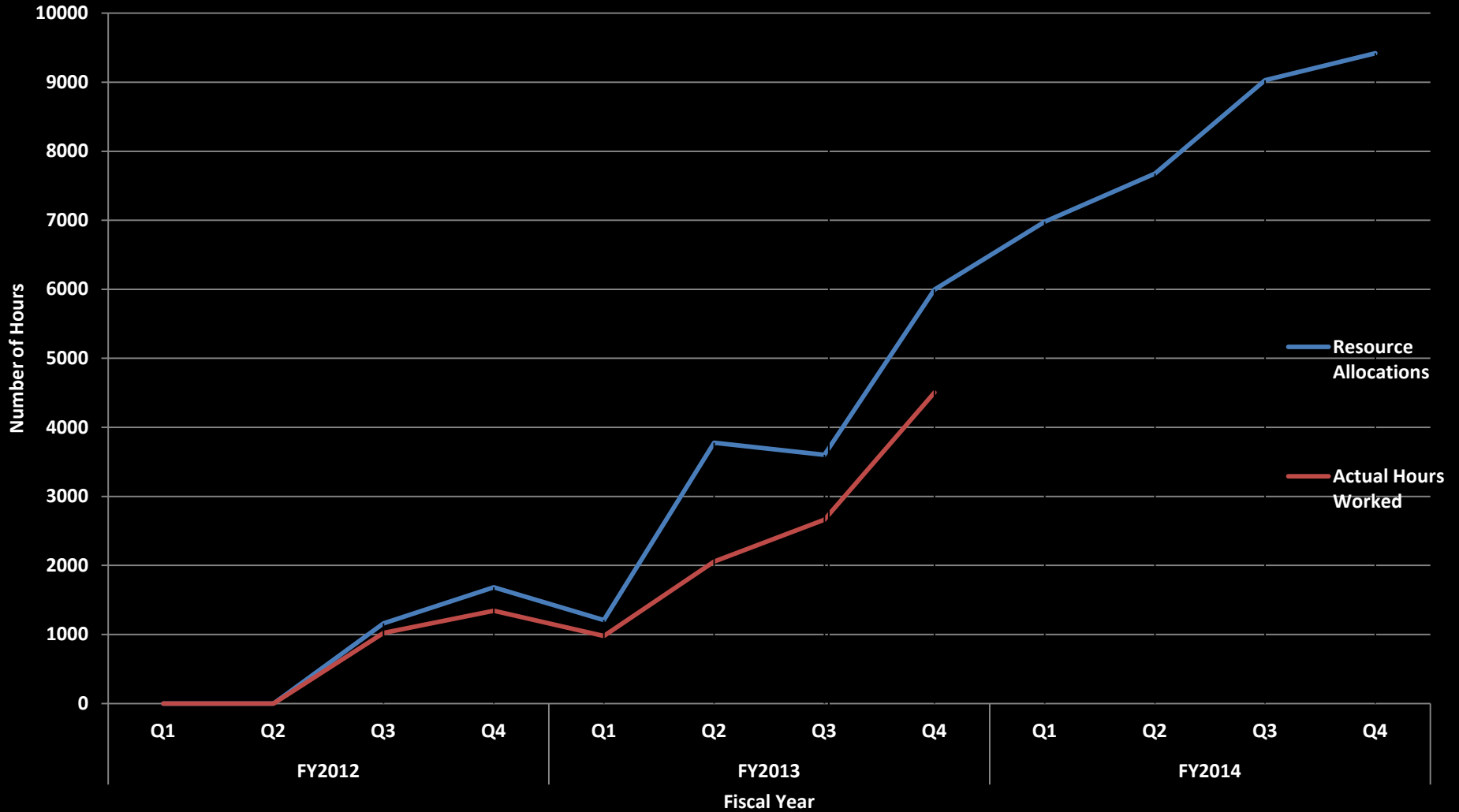
# BMP – 58 Condition Assessment

- D&D – Management & Area/Site/Facility Managers
- Phase in as assets added to system.
- Matrix derived criteria from various facility maintenance resources, recommended managerial practices, and prior experience with other clients.

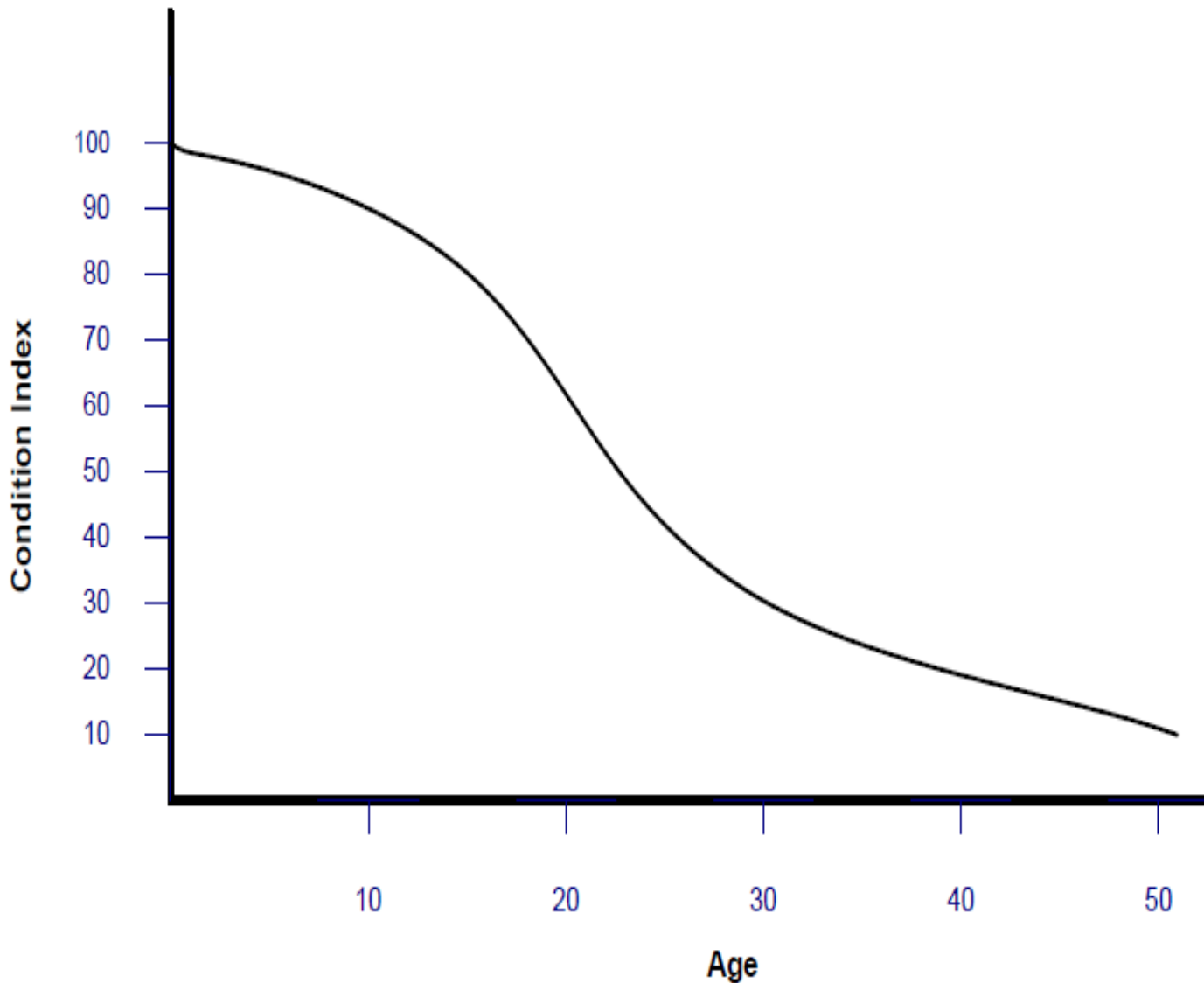
# EIAMSTEAMS



# Resource Allocation and Actual Hours Worked



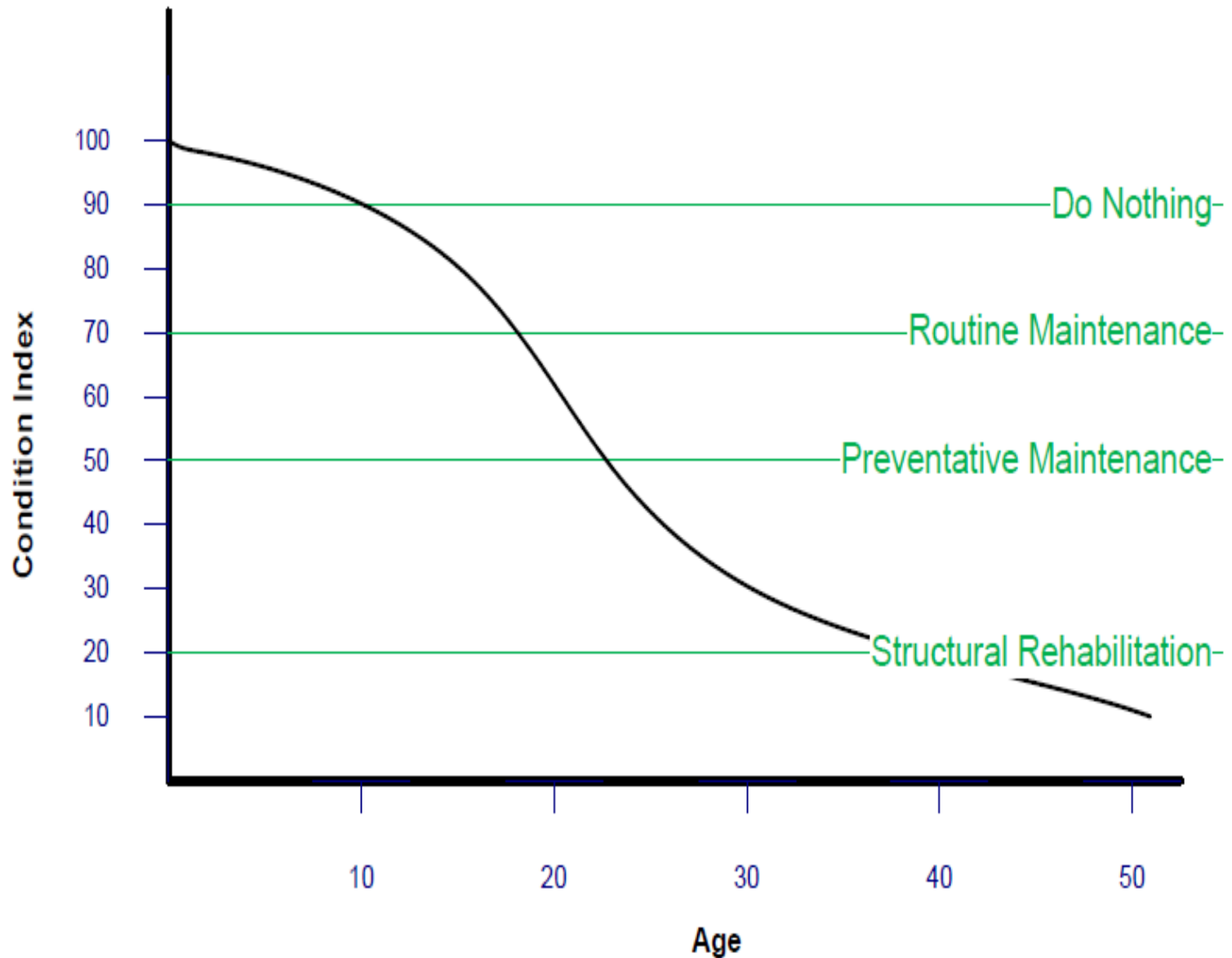
# Theory behind Performance Curves



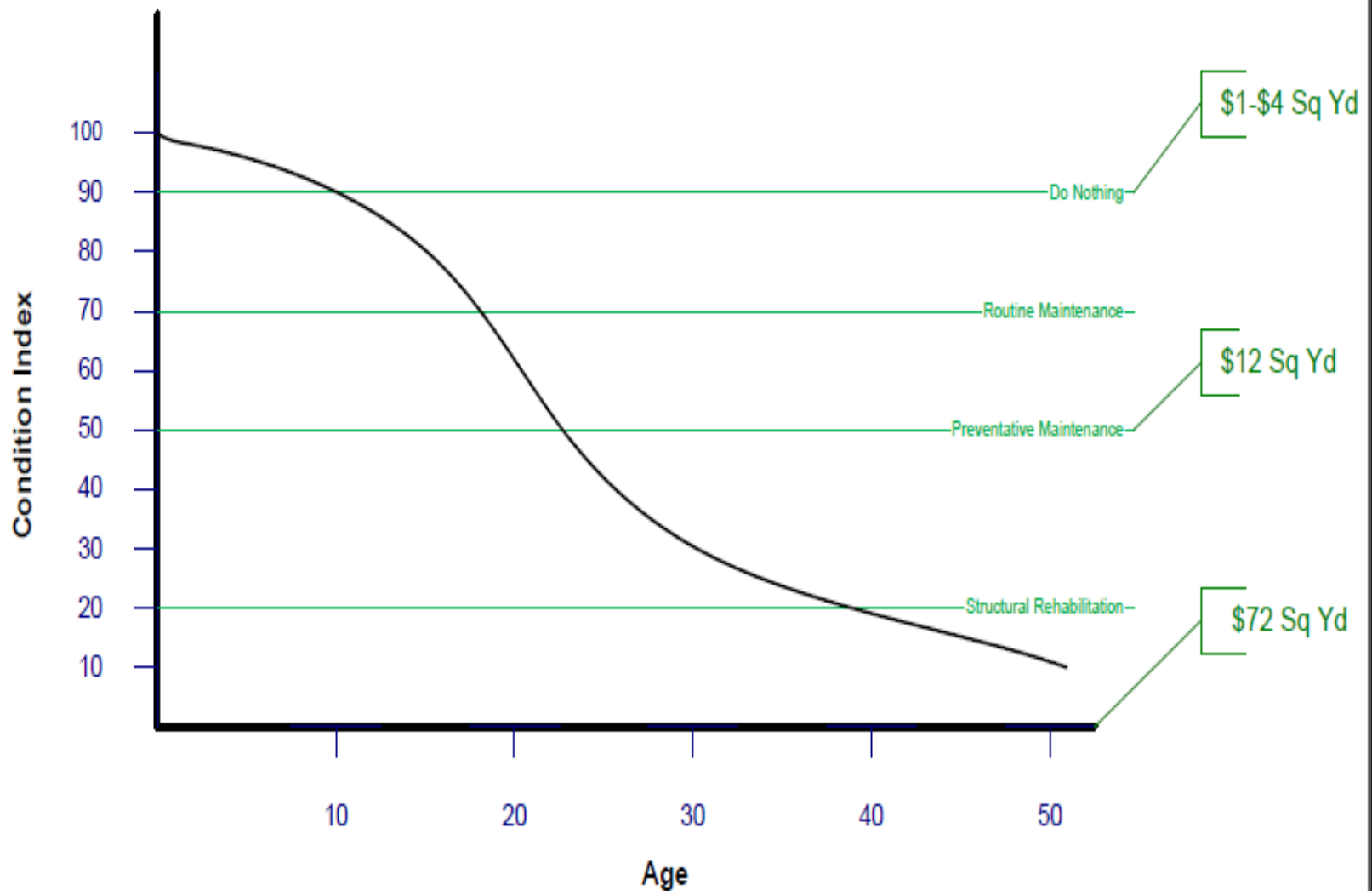


# Treatment Bands

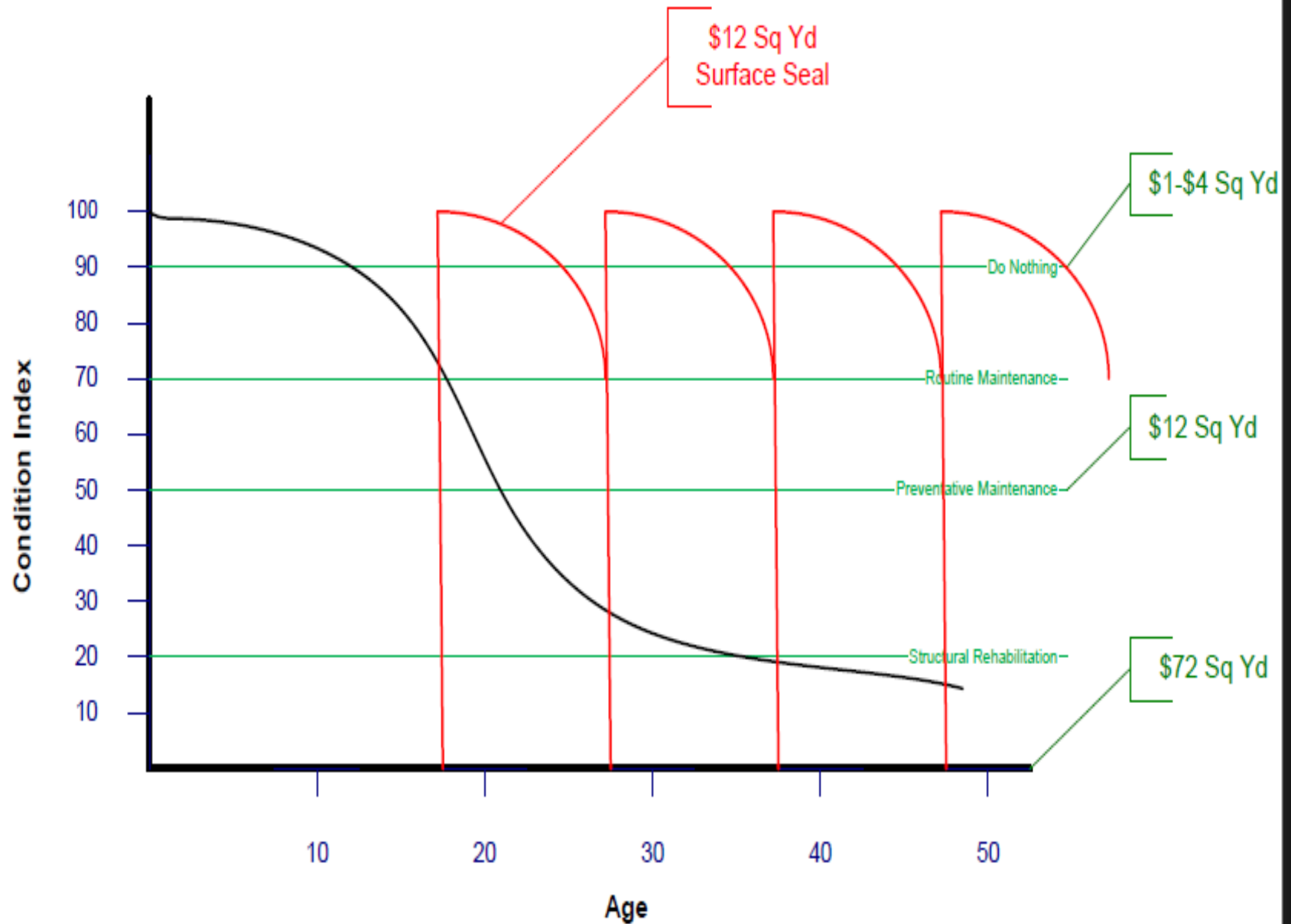
(Could be most sever distress)



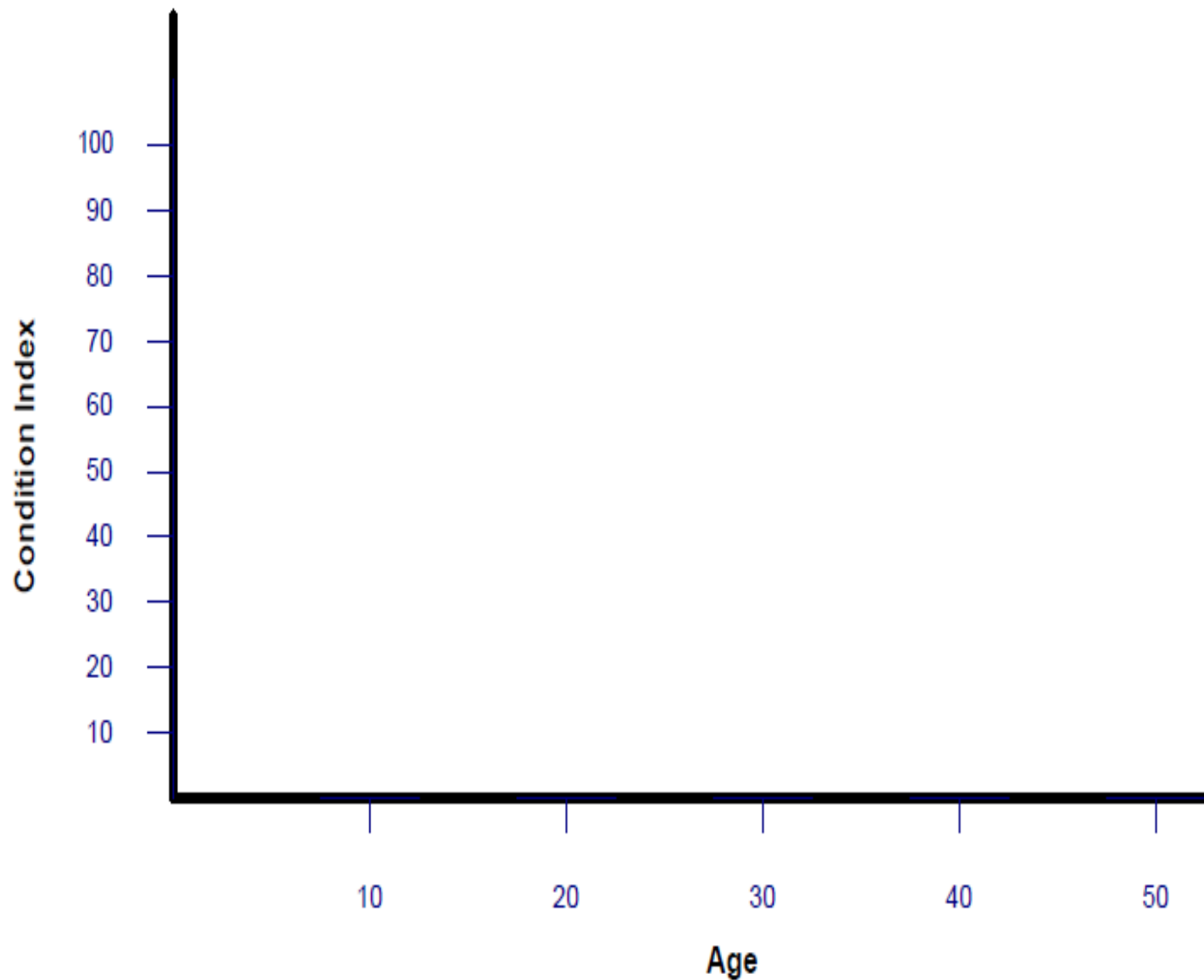
# Treatment Band Cost Range



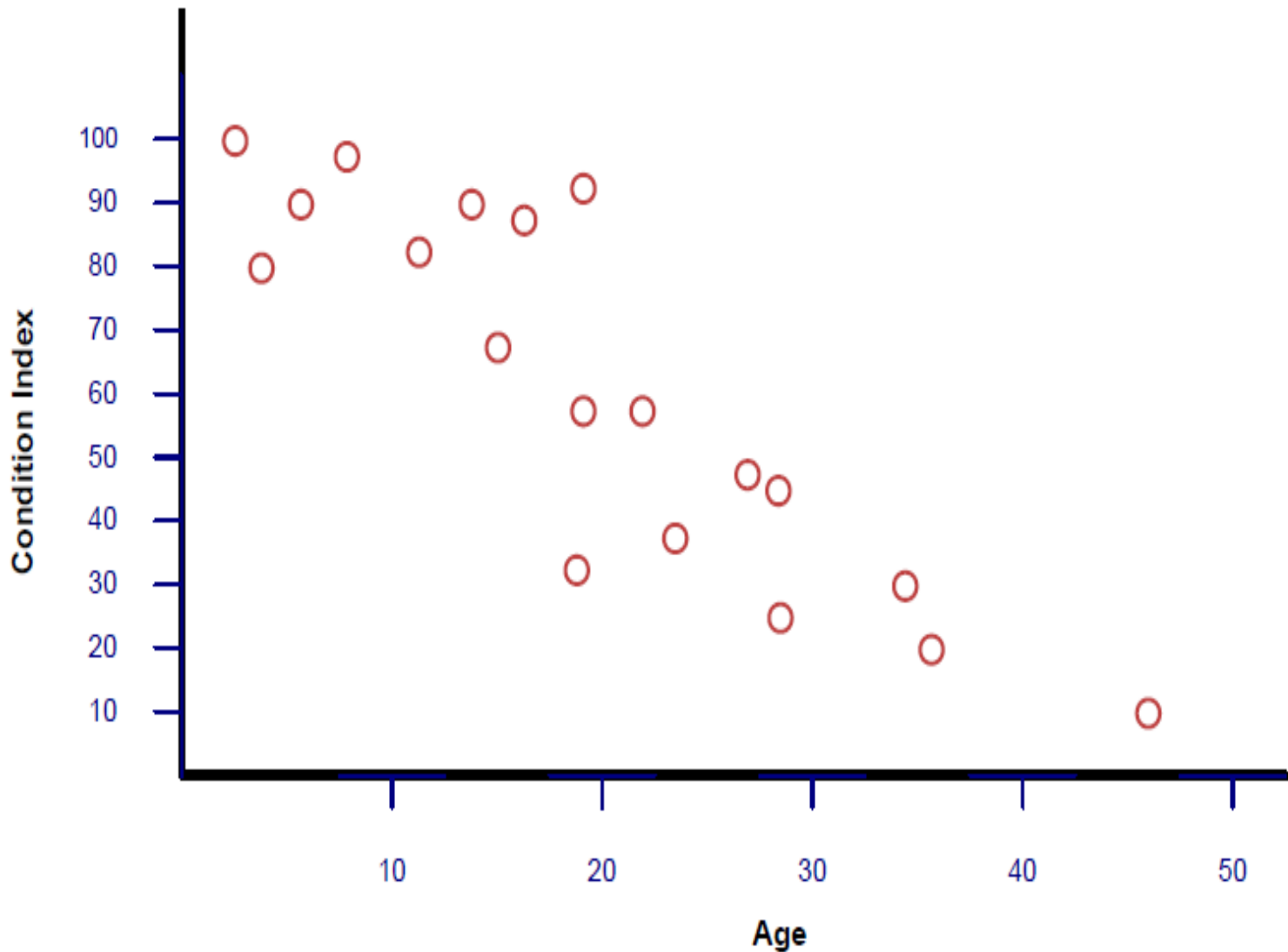
# Reduce Life Cycle Costs



# Creating a Performance Curves

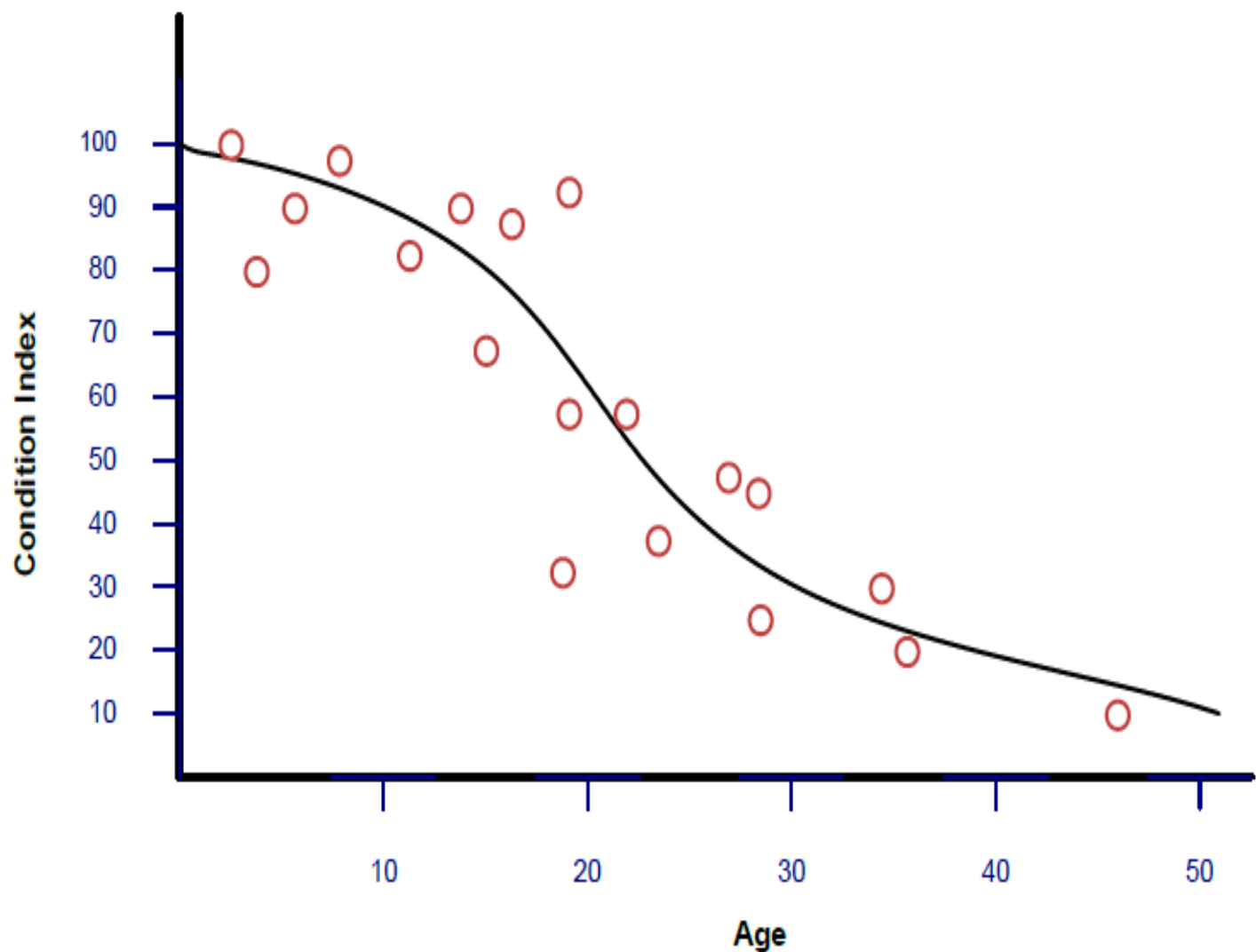


# Creating a Performance Curve



# Creating a Performance Curve

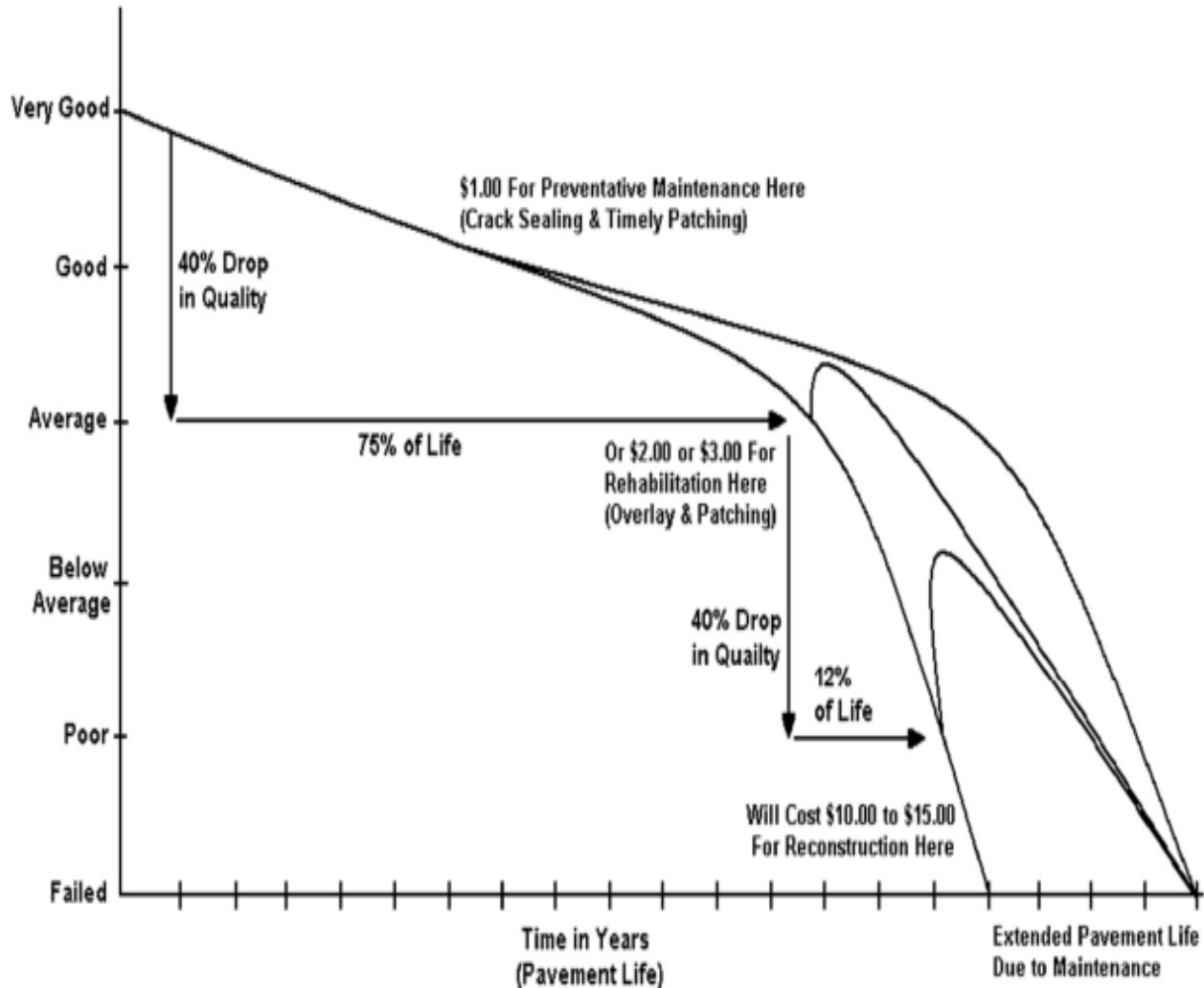
Generating a curve from median condition based on age





# WEST DES MOINES PAVEMENT MANAGEMENT SYSTEM

## How Proactive Maintenance Extends Pavement Life



\* Based on a graph from U.S. Army Corp of Engineers



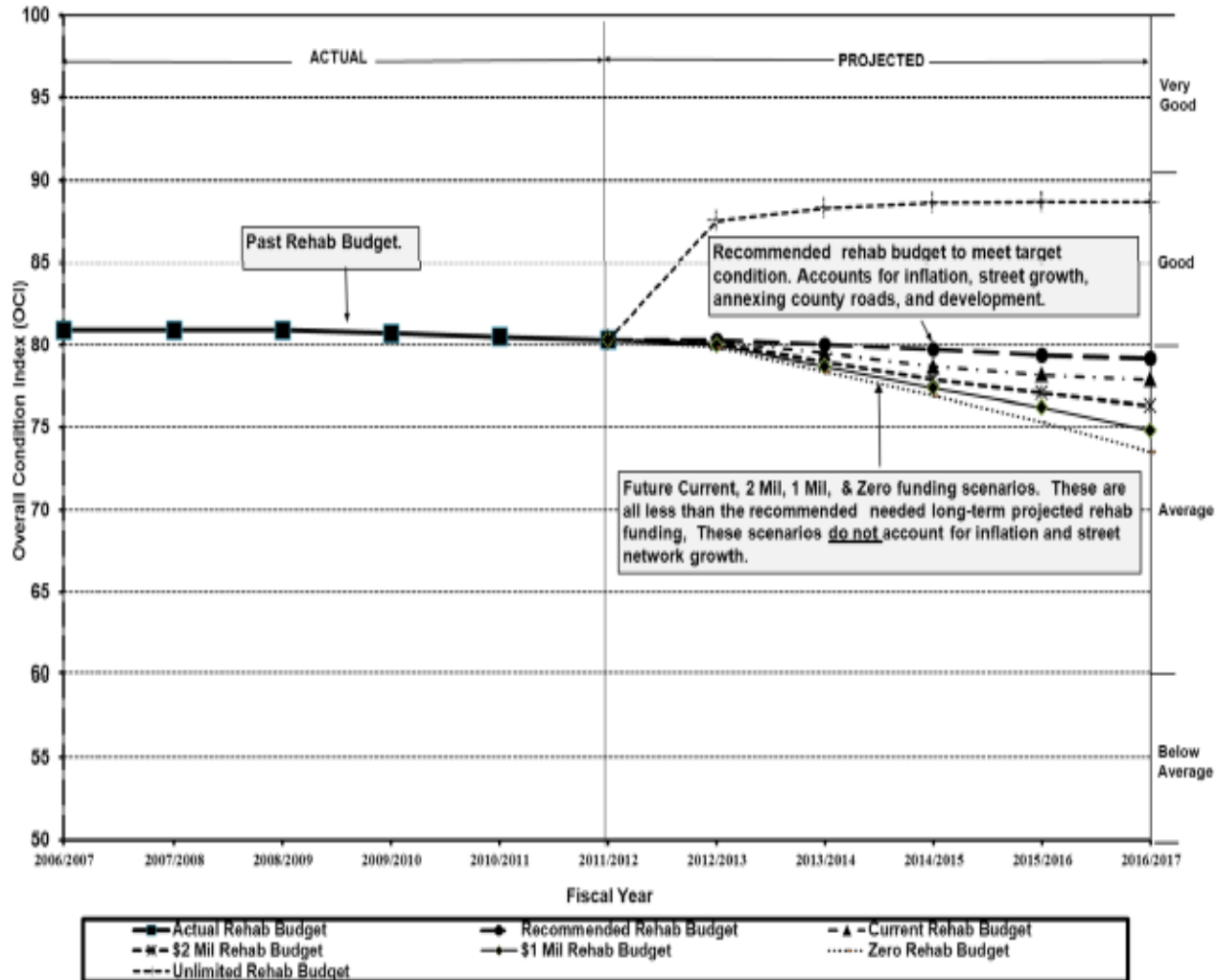




# WEST DES MOINES PAVEMENT MANAGEMENT SYSTEM

## Future OCI By Different Budget Scenarios

The City's Projected Street Network Condition Per Year  
(By Different Rehab Budget Scenarios)



# Department Wide Involvement

Enterprise Infrastructure Asset Management System (EIAMS) Project  
Pre-Implementation Phase

## 1.1 Team Assignments

The following individuals will participate as EIAMS team members. Each member's time commitment to this project is indicated as a percentage of time available over the duration of the project (4/16/13 – 12/31/13). Shaded resources are in the process of being verified.

ROLE	ASSIGNED	% AVAILABLE
Sponsor	Jacob Careaga	25%
Steering Committee – Design and Development		
Lead Subject Matter Expert (SME) – Executive		
Sponsor Delegate	Alicia Weaver	40%
Lead SME – Technical		
D&D Program Manager		
Steering Committee – Administrative Services	Carter Campbell	2%
Steering Committee – Fisheries	Chris Vitello	2%
Lead SME – Technical	Josh Jacob	50%
Lead SME – Operational	Jeff Leftwich Howard Thomas	25%
Dedicated Operational SME – Data Collection and Inventory	Don Arnold	50%
	Jim Aslakson	25%
	Steve Atkinson	50%
	Jeff Krumm	50%
	Linda Logan	75%
	Kent Fischer	25%
Dedicated Operational SME – Condition Assessment	Kenny Poore	5%
	Justin Fessler	25%
	Richard Grishow	
	David Posten	
	Mattheuw Prenger	
	Ronnie Thurston	
	Bob Ewigman	
Dedicated Operational SME – Maintenance Roles and Frequencies	John Hinkle	15%
	Eric McMillan	10%
	Ralph Adams	15%
	Mike Norris	25%
	Blaine Adams	
	Mitch Strother	
	Tim James Nathan Woodland Joe Garvey	

Enterprise Infrastructure Asset Management System (EIAMS) Project  
Pre-Implementation Phase

ROLE	ASSIGNED	% AVAILABLE
SME – Superintendents	Fred Craig	10%
	Michael Smith	5%
SME – Design Professionals	Dale Parsons	5%
	Bill Scheperle	
SME – CAD Services	Jack Quade	5%
SME – Survey Superintendent	Don Martin	5%
SME – Realty	Robyn Hilliard	5%
SME – Financial Services - CFO	Margie Mueller	2%
SME – Financial Services	Melanie Crane	5%
SME – Fleet Services	Jeff Arnold	5%
SME – HR	Glenda Verslues	2%
SME – Hatchery Manager - Fisheries	Rich Cook	5%
	James Civiello	
	Clint Hale	
SME – Facilities Maintenance	Jerry Beckett	5%
SME – Nature Centers	Linda Chorce	5%
SME – Outdoor Education Center	Eric Edwards	5%
SME – Federal Aid Coordinator	Doyle Brown	5%
SME – Forestry	Rich Blatz	5%
SME - Protection	Randy Doman	2%
SME – Policy Coordination – Resource Policies	Amy Buechler	5%
SME – Administrative Services – Business Policies	Dee Cook	5%
SME – GIS – Columbia	Craig Scroggins	5%
Matrix Group Business Expert (BE)	Alan Pennington	40%
RKV Project Manager	Suzanne Carlisle	100%
RKV Business Analyst (BA)	Cheryl Schroeder	100%
RKV Business Analyst (BA)	Ricky Nix	45%
Information Technology (IT) Program Manager	Lisa Lucas	5%
IT Application Development (AD) Lead	Kirk Keller 4/16-5/3	5%
	Joe Martin 5/3-12/31	
IT Infrastructure Lead	Todd Holt	5%
IT BA	Todd Hart	10%
Geographic Information Systems (GIS) Lead	Chris Wieberg	10%
Database Lead (DBA)	Fran Bock	5%
Technical Writer	TBD	TBD%

# EIAM DCI Team Accomplishments

- **Deliverables 4/16/13 – 8/30/13**
- Document Existing Data Sources
- Establish Asset Hierarchy (Network / System / Subsystem)
- Document Key Data Attributes for Asset Types
- Develop Documents to Support Future Data Processes
  - Checklists
  - Worksheets
  - Requirements for Interim Data Storage Location
- Establish Data Collection and Inventory Guide Template with Descriptions
- Establish Draft Data Collection and Inventory Guide (DCI)
- Establish Collection Plan Framework (Template)
- Establish Collection Plan for Runge Nature Center
- Establish Pre-Pilot Training and Test Plan for Runge Nature Center
- Perform Pre-Pilot Training for Runge Nature Center Test Plan – In Progress

# EIAM CA Team Accomplishments

- **Deliverables 4/16/13 – 8/30/13**
- Establish Condition Assessment Ratings by Asset Type
- Establish Group 1 – Condition Assessment Simple Ratings
- Establish Group 2 – Condition Assessment Detailed Ratings (Asset Specific)
- Establish Group 3 – Condition Assessment Specialized Ratings
- Establish Condition Assessment Procedure Template with Descriptions
- Establish Condition Assessment Training Procedure Guide
- Update Condition Assessment Training Procedure Guide – In Progress
- Perform Runge Pre-Pilot Test – In Progress

# EIAM Maint. Team Accomplishments

- **Deliverables 4/16/13 – 8/30/13**
- Establish guidance document for roles and responsibilities
- Establish Maintenance Task Roles
- Establish Maintenance Task Frequencies
- Establish Maintenance Task Roles / Frequencies for Assets in Hierarchy – In Progress

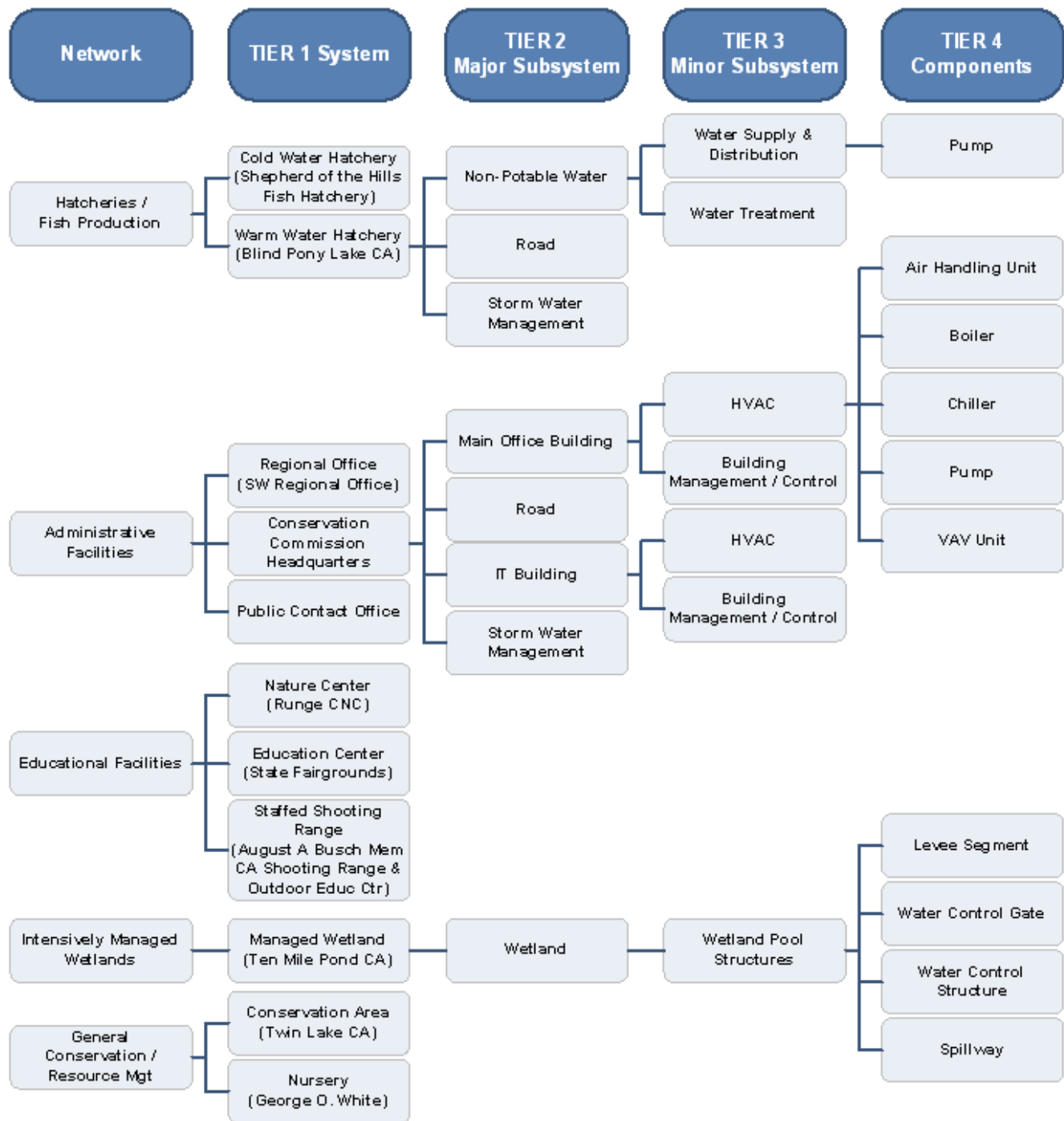
# EIAM File MGT Team

## Accomplishments

- **Deliverables 7/3/13 – 8/30/13**
- Establish File Management Procedures
- Develop Evaluation Criteria
- Develop Training Materials – In Progress
- Locating Existing Data Sources
- File Management Phase 1 Areas – In Progress
- Identify Missing Data Sources for File Management Phase 1 Areas – In Progress

### 3) Asset Hierarchy

The EIAMS is built around a four-tier asset hierarchy used to categorize the Department's assets. It works like a "taxonomy classification" that associates services, physical location, and functions. At the beginning of the hierarchy are five networks. Following the networks are four tiers that form a tree structure. An asset is defined by its location in the hierarchy. For example, a Water Supply & Distribution minor subsystem can fall under multiple Tier 2 major subsystems: Non-Potable Water and Potable Water. Similarly, a pump can fall under multiple Tier 3 minor subsystems: Water Supply & Distribution and HVAC. The attributes, maintenance tasks, and other information in the EIAMS can vary depending on where the asset falls in the hierarchy. The figure below provides a sampling of the Asset Hierarchy.





## Asset List

### Tier 2 Major Subsystem Non-Potable Water

#### Tier 3 Minor Subsystem Water Supply & Distribution

##### **Tier 4 Components:**

Well  
 Motor Controls (aka Pump Controls)  
 Variable Frequency Drive  
 Phase Converter  
 Pump  
 Pump Structure  
 Valve  
 Valve Structure  
 Intake Screen  
 Water Control Gate  
 Water Control Structure  
 Head Tank  
 Pipe Segment-Service (GIS only—not an asset)  
 Pipe Segment-Main  
 Diesel Power Unit  
 Hydrant  
 Ditch  
 Culvert  
 Irrigation Equipment

#### Tier 3 Minor Subsystem Water Treatment

##### **Tier 4 Components:**

Filter  
 Ultra Violet Disinfection Unit  
 Bulk Oxygen Tank  
 Oxygen Distribution System (GIS only—not an asset)  
 Oxygenator  
 Aeration Stack  
 Blower  
 Low Pressure Compressed Air Network (GIS only—not an asset)  
 Boiler  
 Chiller  
 Heat Pump  
 Solar Pond  
 Variable Frequency Drive  
 Phase Converter

### Tier 2 Major Subsystem Potable Water

#### Tier 3 Minor Subsystem Water Supply & Distribution

##### **Tier 4 Components:**

Well  
 Variable Frequency Drive  
 Pump  
 Motor Controls (aka Pump Controls)  
 Valve (GIS only—not an asset)  
 Pipe Segment-Service (GIS only—not an asset)  
 Pipe Segment-Main (GIS only—not an asset)  
 Hydrant  
 Meter  
 Fire Department Connection

#### Tier 3 Minor Subsystem Water Treatment

##### **Tier 4 Components:**

Chlorination System  
 Pressure Tank

### Tier 2 Major Subsystem Wetland

#### Tier 3 Minor Subsystem Wetland Pool Structures

##### **Tier 4 Components:**

Levee Segment  
 Water Control Gate  
 Water Control Structure  
 Pipe Segment  
 Culvert  
 Spillway  
 Agri-drain (GIS only — not an asset)  
 Ditch

#### Tier 3 Minor Subsystem Monitoring / Control

##### **Tier 4 Components:**

Sensor

### Tier 2 Major Subsystem Observation

#### Tier 3 Minor Subsystem Observation Structures

##### **Tier 4 Components:**

Platform  
 Blind  
 Tower

## Asset Worksheet

Tier 2 Major Subsystem	Tier 3 Minor Subsystem	Tier 4 Component
	<input type="checkbox"/> Cable-Based Communication Network <input type="checkbox"/> Two-Way Radio	<input type="checkbox"/> Tower
<hr/>		
<input type="checkbox"/> Exhibit Subsystem	<input type="checkbox"/> Aquarium	<input type="checkbox"/> Aquarium Structure <input type="checkbox"/> Bio Tower <input type="checkbox"/> Filtration System <input type="checkbox"/> Pump <input type="checkbox"/> Temperature Control Equipment <input type="checkbox"/> Ultra Violet Disinfection Unit
	<input type="checkbox"/> Exhibits	
<hr/>		
<input type="checkbox"/> Exterior Electrical Subsystem	<input type="checkbox"/> Electrical	<input type="checkbox"/> Exterior Lighting <input type="checkbox"/> Generator <input type="checkbox"/> Phase Converter <input type="checkbox"/> Resistive Load Bank <input type="checkbox"/> Transfer Switch <input type="checkbox"/> Transformer (MDC Owned) <input type="checkbox"/> Wind Generator
<hr/>		
<input type="checkbox"/> Fish Production Subsystem	<input type="checkbox"/> Effluent Management	<input type="checkbox"/> Pipe Segment-Main <input type="checkbox"/> Pollution Control Pond <input type="checkbox"/> Water Control Gate <input type="checkbox"/> Water Control Structure
	<input type="checkbox"/> Feeding	<input type="checkbox"/> Bulk Feed Storage Bin <input type="checkbox"/> Cooler / Freezer <input type="checkbox"/> Fish Feeding System
	<input type="checkbox"/> Indoor Production	

## Asset Worksheet

Tier 2 Major Subsystem	Tier 3 Minor Subsystem	Tier 4 Component
		<input type="checkbox"/> Egg Jar System <input type="checkbox"/> Production Tank <input type="checkbox"/> Raceway
	<input type="checkbox"/> Monitoring / Control	<input type="checkbox"/> Sensor
	<input type="checkbox"/> Outdoor Production	<input type="checkbox"/> Fish Ladder <input type="checkbox"/> Kettle <input type="checkbox"/> Pond Liner <input type="checkbox"/> Production Pond <input type="checkbox"/> Raceway
<hr/>		
<input type="checkbox"/> Fishing & Boating Access Subsystem	<input type="checkbox"/> Access Features	<input type="checkbox"/> Boat Ramp <input type="checkbox"/> Boat Slide <input type="checkbox"/> Buoys <input type="checkbox"/> Dock <input type="checkbox"/> Fish Cleaning Station <input type="checkbox"/> Fishing Platform <input type="checkbox"/> Jetty
<hr/>		
<input type="checkbox"/> Flood Protection Subsystem	<input type="checkbox"/> Levee Features	<input type="checkbox"/> Culvert <input type="checkbox"/> Diesel Power Unit <input type="checkbox"/> Levee Segment <input type="checkbox"/> Pipe Segment <input type="checkbox"/> Pump <input type="checkbox"/> Pump Structure <input type="checkbox"/> Spillway <input type="checkbox"/> Water Control Gate <input type="checkbox"/> Water Control Structure
<hr/>		
<input type="checkbox"/> Hazardous Material Subsystem		

## 1. Introduction

The Missouri Department of Conservation (MDC) is modernizing its asset management program to more effectively manage infrastructure asset lifecycles and make better informed decisions regarding how future investments of funds can have the greatest impact on service delivery.

An important part of effectively managing infrastructure assets is to ensure the Department utilizes a consistent approach to conducting and applying condition assessments on all infrastructure assets that are in compliance with the requirements outlined in the GASB Statement 34. Utilizing a consistent methodology to assess and record the condition of the Department's assets provides critical data for decision making, both on a project and system level. To address this need, these training procedures have been developed to assist in the consistent evaluation of the assets in the field.

This document is organized by rating scale type. Within each rating scale type, the assets for which its condition will be assessed utilizing the scale type are listed alphabetically. For ease of use, an alphabetical listing of all assets, their corresponding rating scale and document section can be found in Appendix A.

These training procedures consist of specific guidance on rating assets using one of the following three scale types.

- Simplified Rating Scale
- Asset Specific Rating Scale
- Specialized Rating Scale

Additional information related to the condition assessment of the assets included in this section can be found in the CA\_Consolidated\_Results Excel spreadsheet, including:

- Who conducts the condition assessment
- Frequency the condition assessment is to be conducted
- Equipment required to conduct assessment
- Training required to perform assessment
- Time estimate to complete actual condition assessment in field
- Total estimate to conduct condition assessment (Pre and Post field).

Key Questions to Relate Simplified and Asset Specific rating scale

- What is the age of the asset?
- Are replacement parts available? Are they hard to obtain?
- Does the asset qualify for efficiency Upgrade? Is the cost of operation comparable to new equipment?
- What is the maintenance activity on the Asset? Do you have maintenance records? Has scheduled maintenance been performed on this asset if applicable? Does the maintenance that has been performed on the asset more frequent than the normal scheduled routine maintenance?

## 2. Simplified Rating Scale

The Simplified Rating Scale demonstrates the basic approach that should be utilized when more defined rating elements are not required.



Rating	Description
5	<p><b>As New or Very Good Condition:</b> The asset has:</p> <ul style="list-style-type: none"> <li>• Only the prescribed, scheduled routine preventive maintenance required</li> <li>• Shows no appreciable signs of deterioration</li> <li>• Fully provides the services intended</li> <li>• Within first 1/3 of expected life</li> <li>• There are no issues with obtaining replacement parts or performing service or maintenance functions</li> <li>• Cost of operation comparable to new equipment</li> </ul>
4	<p><b>Good condition:</b> The asset has:</p> <ul style="list-style-type: none"> <li>• Minor deterioration, but no problems providing the intended service</li> <li>• No rectification or repairs required to satisfy elemental function of the asset</li> <li>• Minor maintenance required plus the prescribed, scheduled routine preventive maintenance</li> <li>• Within first 2/3 of expected life</li> <li>• There are no issues with obtaining replacement parts or performing service or maintenance functions</li> <li>• Cost of operation comparable to new equipment</li> </ul>
3	<p><b>Fair or Moderate Condition:</b> The asset has:</p> <ul style="list-style-type: none"> <li>• Significant or continuous non-scheduled maintenance required to maintain service</li> <li>• Detectable damage, but it is still working and providing the intended service (not failed)</li> <li>• Shown signs of defects but still supports the required function of the asset and it provides the intended service</li> <li>• Identified future major repairs or component replacement projected to be needed within the next 4-6 years</li> <li>• There are no issues with obtaining replacement parts or performing service or maintenance functions</li> <li>• Not exceeded its expected life by more than 10%</li> <li>• Cost of operation is greater than new equipment, but cost savings of replacement does not justify replacement with new equipment</li> </ul>
2	<p><b>Poor condition:</b> The asset has:</p> <ul style="list-style-type: none"> <li>• A significant renewal/upgrade/replacement projected to be needed within the next 1-3 years to maintain service</li> <li>• Projected as being within 1-3 years of needing complete replacement</li> <li>• Projected to be near failure, but serviceable condition is still retrievable with repair, renewal or partial replacement</li> <li>• Repair (rather than replacement) is an option that is still economically viable and possible. Repair may include partial replacement as an option to achieve</li> <li>• Started having issues with obtaining replacement parts or performing service or maintenance functions</li> <li>• Significantly higher operation costs than upgraded asset so replacement could be justified by lifecycle cost savings</li> </ul>
1	<p><b>Very Poor Condition or Failed:</b> The asset has reached a condition where:</p> <ul style="list-style-type: none"> <li>• There are safety issues that need to be addressed before the asset is placed back into service or the asset is unserviceable and complete replacement or disposal is required now</li> <li>• Repairs need to be made to address safety concerns or repairs are not economically viable (or possible)</li> <li>• Cannot obtain replacement parts or cannot perform service or maintenance functions</li> <li>• Significantly higher operation costs than upgraded asset so replacement is justified by lifecycle cost savings</li> </ul>

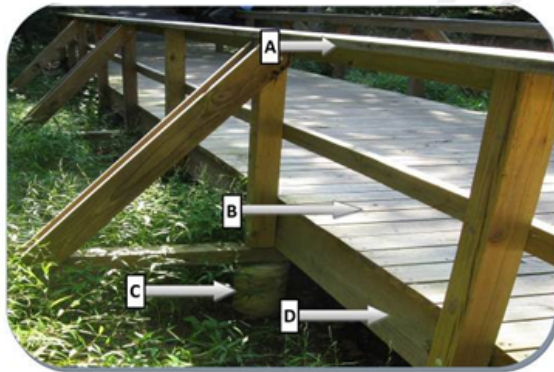
## 1.1 Bridge (Pedestrian)

### 1.1.1 Asset Details

The following table provides additional details for the asset.

Asset Description/Definition	Tier 2	Tier 3
A structure constructed to suspend or support a walkway or small vehicle ATV pathway over water bodies, steep ditches, or other obstacles that cannot be easily traversed.	Pedestrian Access	Pedestrian Access Segment
	Trail System	Trail Segment

Key Components to Assess Bridge Condition



A- Railing	C- Foundation
B- Decking	D- Frame

1. Railing – Inspect for wear from ATV and check for rot that may compromise the structural integrity. Inspect attachment of main rail posts to the frame for a loose connection.
2. Decking – Inspect for loose, rotten, or severely cracked boards.
3. Foundation – If foundation material consists of wood check for rot which may compromise the structural integrity. Inspect foundation for differential settlement and inclination due to stream overtopping. If foundation material consists of concrete check for spalling, cracks, and rusted or exposed steel.

4. Frame – Inspect for loose, rotten, or severely cracked boards.

### 1.1.2 Condition Assessment Details

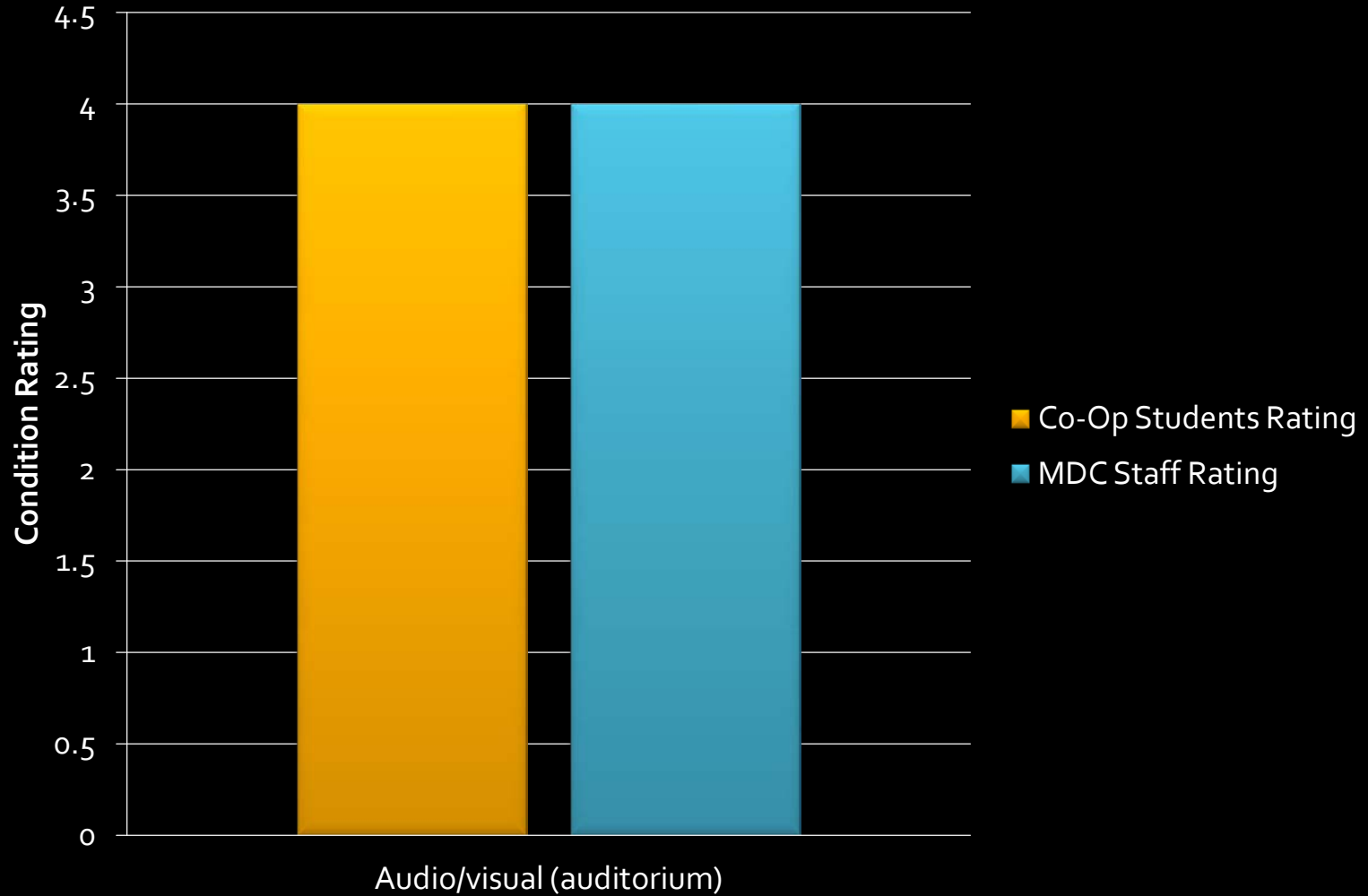
The following table provides details pertaining to the scheduling, preparation, and completion of the asset's condition assessment.

Condition Assessment Approach	Sampling
Sampling Approach Methodology	Beyond X percent of expected life
Number of People Required to Complete Assessment	1
Expected Life	20 years
Decay Curve Type	Straight Line
Estimated time for completion	30 minutes
Service Outage Required to Complete Assessment	NO
Special Considerations	

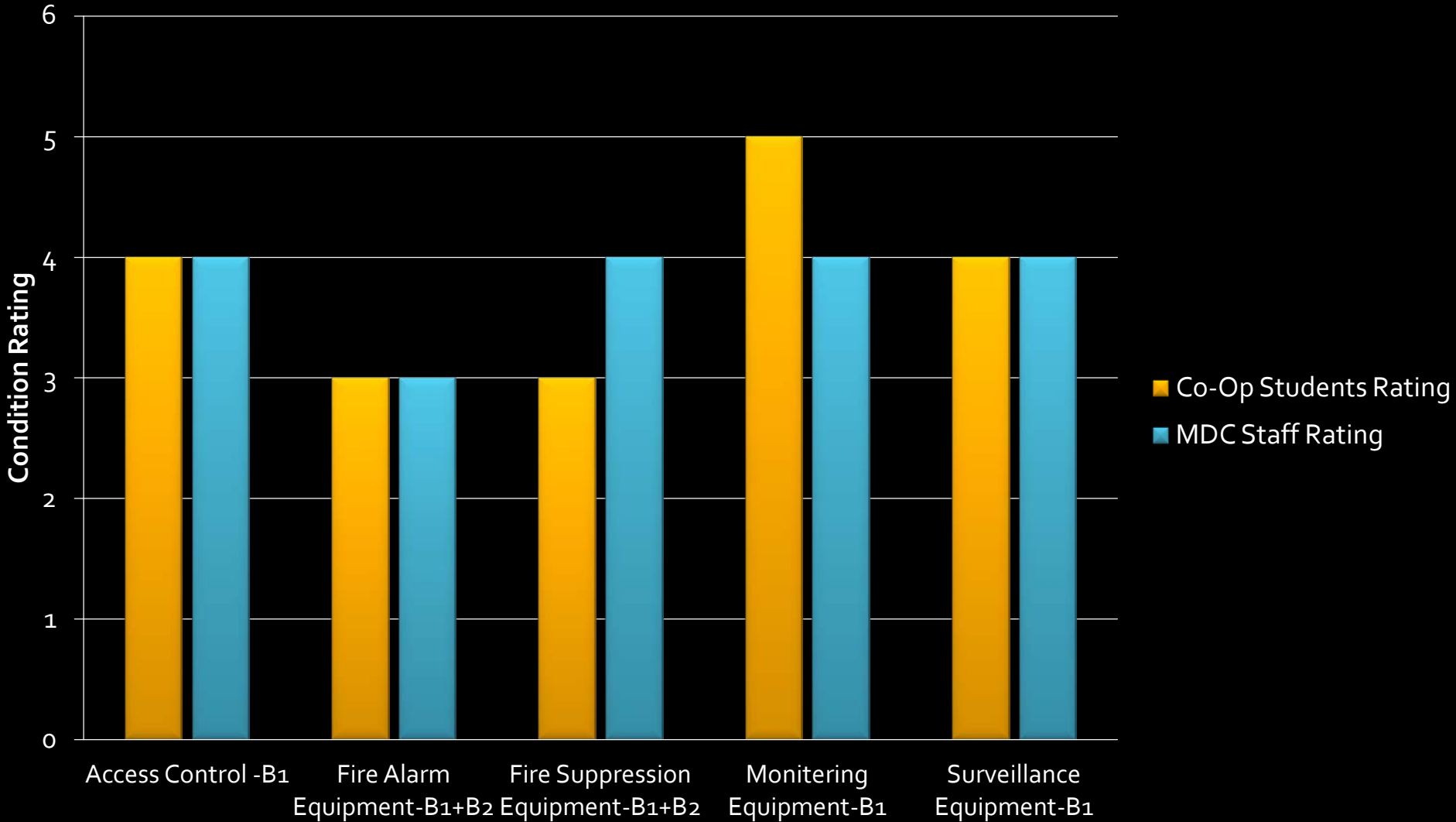
# Runge Pre-Pilot Results

Conducted August 2013

## Runge Audio Visual Condition Assessment

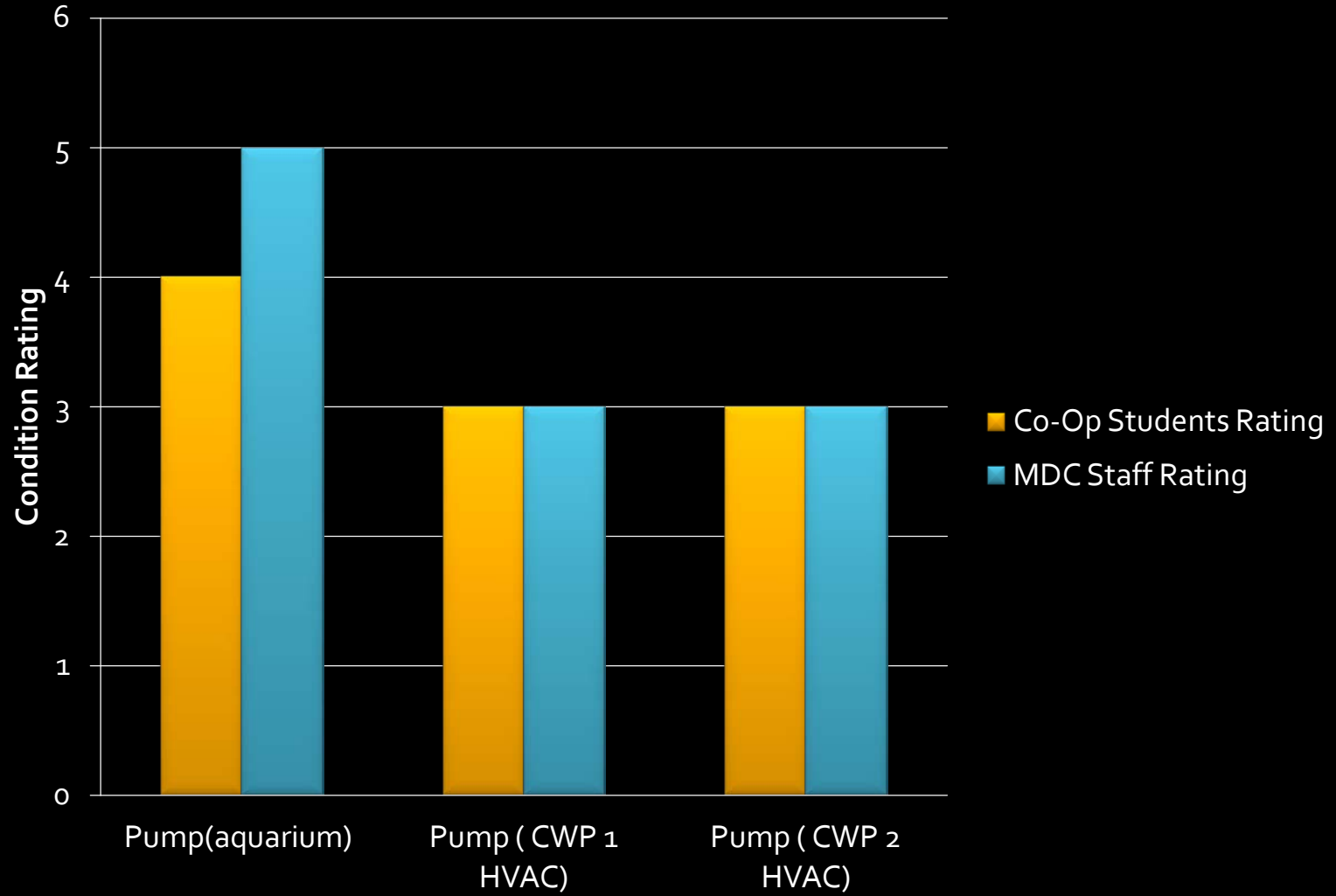


# Runge Safety Condition Assessment





## Runge Pump Condition Assessment



# Condition Assessment Summary

- 21 asset conditions tested by both trained teams (Missouri University of Science and Technology COOP Students and MDC Staff)
- 16 assets received the same rating by both teams
- 3 assets received a rating one point lower by the COOP Students
- 2 assets received a rating one point lower by the MDC Staff

# Condition Assessment Summary

- 76% of assets received the same ratings
- 24% of assets had ratings one point different
- This proved that a consistent repeatable condition rating system can be implemented to meet the GASB 34 requirement
- Guidelines and training documents were improved based on the results of the Runge Pre-Pilot. This is expected to yield an even better result at the Central Office Pre-Pilot.

# Communication & Coordination

**To:** <Area Manager Name and Title>

**From:** Jacob Careaga, Design and Development Division Chief  
<Managing Division Chief Name and Title>

**Date:** <6 months before data collection begins at the area>

**Subject:** EIAMS Data Collection and Condition Assessments at <Area Name>

In accordance with Missouri Revised Statutes Section 29.180, Missouri Department of Conservation must comply with generally accepted accounting principles (GAAP) and, as a public entity, with statements issued by the Governmental Accounting Standards Board (GASB). The GASB Statement 34 requires governmental entities to maintain a comprehensive inventory of infrastructure assets – including establishing targeted condition levels, conducting condition assessments, and funding a maintenance program designed to maintain the adopted condition levels. An annual report is required to demonstrate MDC compliance with the provisions outlined in GASB Statement 34.

# Communication & Coordination

Task	D&D Staff Involved	Area Staff Involved	Timeframe
Identify primary site contact for data collection and condition assessment effort		<ul style="list-style-type: none"> <li>Area Manager</li> </ul>	6 months before data collection begins
Provide initial communication to area staff		<ul style="list-style-type: none"> <li>Area Manager</li> </ul>	6 months before data collection begins
Identify area staff to participate in EIAMS Data Collection and Condition Assessment Orientation / Training		<ul style="list-style-type: none"> <li>Area Manager</li> </ul>	6 months before data collection begins
EIAMS Data Collection and Condition Assessment Orientation / Training	<ul style="list-style-type: none"> <li>Field Data Steward</li> <li>Office Data Steward</li> </ul>	<ul style="list-style-type: none"> <li>Construction Maintenance Supervisor</li> <li>Facility Maintenance</li> </ul>	3 months before data collection begins

# 32 Proposed Locations for Initial Inventory and Condition Assessment

Proposed Priority	Network	Area Name	County	MDC Region	Division	Area
1	Regional Office	<a href="#">Northwest Regional Office</a>	Buchanan	Northwest	Fisheries	9022
1	Wetland	<a href="#">Grand Pass CA</a>	Saline	Northwest	Wildlife	8010
2	Hatchery	<a href="#">Hunnewell Lake CA (Hatchery)</a>	Shelby	Northeast	Wildlife	5302
2	Regional Office	<a href="#">Northeast Regional Office</a>	Adair	Northeast	D&D	200002
3	Nature Center	<a href="#">Cape Girardeau Conservation Campus Nature Center</a>	Cape Girardeau	Southeast	O&E	3603
3	Regional Office	<a href="#">Southeast Regional Office</a>	Cape Girardeau	Southeast	PLS	9021
4	Education Center	<a href="#">Henges (Jay) Shooting Range and Outdoor Education Center</a>	St. Louis	St. Louis	O&E	3605
4	Nature Center	<a href="#">Powder Valley CNC</a>	Saint Louis	St. Louis	O&E	8709

# Summary

- Budget and staffing projections to level peaks and valleys associated with maintenance requirements and asset failure
- Assurances that we are keeping up with maintenance liability associated with the identified levels of service
- Realize reduction of infrastructure asset maintenance lifecycle costs through more efficient management



# Enterprise Infrastructure Asset Management (EIAMS)

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