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NIRSA 2012

WHY RECREATION
CENTERS GROW OLD



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NIRSA 2012

WHY RECREATION CENTERS GROW OLD

Aging

- Definition of aging?

To grow old:

“She is aging rapidly.”

- What causes aging?

- ▣ Environmental and biological interference
- ▣ Damage accumulation to DNA **causes aging**



Aging

- What causes aging in recreation centers?
 - Program changes
 - Operations & maintenance
 - Design



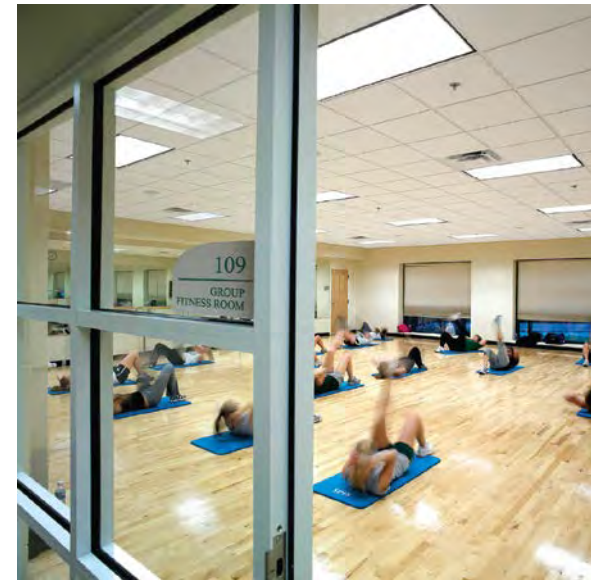
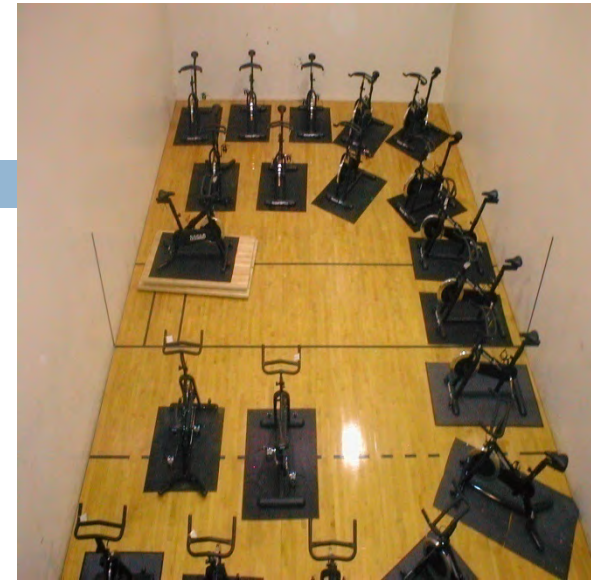
Program Changes

- Program changes due to
 - ▣ Demographic shifts
 - Female/male ratios
 - Older students
 - More residential students
 - ▣ Changing interests of new students
 - Adjustments to accommodate trends
 - Building for middle-schoolers
 - Shane Smith vs. NFL
 - ▣ Market forces affecting trends



Program Changes

- Typical/best example
 - ▣ Racquetball courts
 - Offices
 - Weight rooms
 - Climbing walls
 - Golf simulators
 - Training suites
 - Locker rooms
 - Fitness assessment suites
 - Pools?



Program Changes

- Requires flexibility in design and construction
 - Moving partitions for multi-purpose room
 - Non-load bearing walls between racquetball courts
 - Adjustments to front control desk
 - Changes to retail and sales areas
 - Growth or reduction in sales
 - Flatwire/wireless turnstiles
 - Fitness equipment changes in use
 - Mechanical controls
 - Signage

Program Changes

- Best laid plans DO NOT always work
- Requires funding & understanding
 - University administrators up-front about capital project cost not long-term maintenance/improvements
 - NO administrator will understand spending MORE money five years AFTER your new facility opens
 - Must change/educate administrators/students
 - Get back in funding line

Program Changes

- Funding opportunities
 - ▣ Preserve reserve & operations budget
 - ▣ Save FFE budget for rainy day
 - ▣ Hide resources for future work
- Funding sources - increase
 - Reserve maintenance budget
 - Faculty and staff memberships
 - Sales and services
 - Student fee inflationary increase
 - Student fee increase
 - Rentals and special events



Operations & Maintenance

- Services provided by
 - Campus Facilities
 - Custodial teams
 - Maintenance teams
 - Self contracted custodial employees
 - Student crews



Operations & Maintenance

- Facilities
 - ▣ Campus zones for work distribution
 - ▣ Supervisors not in the building or at the right time
 - ▣ NO CONTROL over personnel
 - ▣ Union issues
 - ▣ Assignment of personnel based on campus standard
 - Total square feet
 - Classroom building vs. recreation center
 - Visits per building should determine level of cleaning support (500/3500)
 - Budget cutbacks

Operations & Maintenance

□ Facilities

□ *Custodial Staffing Guidelines for Education Facilities*

- Group sets guidelines
- Levels 1 – 5
- Recreation centers level 5

□ Adjust crews responsibilities by facility level of use

- Light clean at night when busiest
- Deep cleaning early morning when slow
- Not everyone gets three crews

Operations & Maintenance

- Self contracted cleaning crews
 - Outside provider
 - Change over of crews
 - Complete control of assignments
 - Costs more
 - May not be allowed
- Student crews
 - Union issue
 - Supplements official crews' work
 - Disney standard



Operations & Maintenance

- Recreation staff issues
 - Facilities get old because staff is complacent
 - Living in the environment you miss details
 - Staff motivation critical
 - 1st year keep your head above water
 - 2nd - 5th excitement is still there fresh car smell
 - 6th and beyond must fight to maintain motivation
 - “Pick up the noodle” concept
 - Everyone responsible
 - Challenge with student workers
 - Empowerment factor

Operations & Maintenance

- Software support
 - ▣ Schedules maintenance based on systems
 - ▣ Predicts
 - Length of repair
 - Materials & parts needed
 - Vendors if required
 - Cost of work
 - Yearly repair cost
 - ▣ Does not integrate regular cleaning
 - ▣ Does not predict level of vandalism

Operations & Maintenance

Work Order List								
>WO No*	Equipment No*	Work Order Description	Assigned To	Scheduled*	Type	Status*	Priority*	Shift*
33	MIXER 03	PREVENTIVE WORK	SUN	2/15/2008	PM	0		
32	BUILDING 01 RM 105	REPLACE DEFECTIVE LIGHTS	EL	2/09/2008	SC	0		
31	MIXER 03	PREVENTIVE WORK	S	2/15/2008	PM	0		
30	MIXER 03	PREVENTIVE WORK	F	2/15/2008	PM	0		
29	MIXER 03	PREVENTIVE WORK	TH	2/15/2008	PM	0		
28	MIXER 03	PREVENTIVE WORK	W	2/15/2008	PM	0		
27	MIXER 03	PREVENTIVE WORK	T	2/15/2008	PM	0		
26	MIXER 03	PREVENTIVE WORK	M	2/15/2008	PM	0		
25	MIXER 02	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
24	MIXER 01	PREVENTIVE WORK	QL	2/15/2008	PM	0		
23	MIXER 01	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
22	ROUTINE	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
21	EQUIPMENT 02	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
20	EQUIPMENT 01	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
19	JAN01	PREVENTIVE WORK	SANT	2/15/2008	PM	0		
18	MACHINE 01	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
17	BUILDING 02 RM 305	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
16	BUILDING 01 RM 105	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
15	PROPERTY 01	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
14	TRUCK 02	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
13	PROPERTY 02	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1
12	CUST02-COMP01	PREVENTIVE WORK	DH	2/15/2008	PM	0		
11	TRUCK 01	PREVENTIVE WORK	MECH	2/15/2008	PM	0		1

Inventory List							
>Part Number*	Description*	Vendor*	Location*	Qty	Other Part Number*	Key Word*	OEM*
001 PAINT	PAINT, WHITE CEILING	JAG	PAINTING DEPT	-1		PAINT	HILL
002 PAINT	PAINT, RED INDOOR	JAG	PAINTING DEPT	3		PAINT	HILL
AIR CYLINDER 01	AIR CYLINDER, 30 PSI	G	AIR PARTS RM	0	Z6W103	AIR	BIMBA
AIR CYLINDER 02	AIR CYLINDER, 40 PSI	G	AIR PARTS RM	0		AIR	BIMBA
BEARING 1	BEARING, 30 X 40 X 10	BS	BEARING STOCK ROOM	20		BEARING	SKF
BEARING 2	BEARING, 40 X 50 X 11	BS	BEARING STOCK ROOM	30		BEARING	SKF
CASTER 01	CASTER 4" SWIVEL	PLC	BASEMENT	5	481-22	CASTER	COLSON
CASTER 02	CASTER 5" SWIVEL	PLC	BASEMENT	4	481-55	CASTER	COLSON
DRIVE MOTOR 01	DRIVE MOTOR/ GEAR BOX, GEAR RATIO 6.25:1 MOUNTING POS. 100 CODE EH MS0177 KG444TC172	PP	MOTOR ROOM	1	Z7GJ172DF8KASOX	MOTOR/ GEARBOX	GENERAL ELECTRIC
DRIVE MOTOR 02	DRIVE MOTOR/ GEAR BOX, GEAR RATIO 6.25:1 MOUNTING POS. 100 CODE EH MS0177 KG444TC172	PP	MOTOR ROOM	2		MOTOR/ GEARBOX	GENERAL ELECTRIC
EMERGENCY LIGHTS 01	REPLACEMENT BULB C403	EE	1 FLOOR STOCK RM	10		LIGHTS	PYREX
EMERGENCY LIGHTS 02	REPLACEMENT BULB L56	EE	1 FLOOR STOCK RM	10		LIGHTS	PYREX
ENVELOPES 01	ENVELOPE, #10 BOX OF 100	OFFICE	FRONT OFFICE	0		ENVELOPES	QUEEN
ENVELOPES 02	ENVELOPE, #20 BOX OF 100	OFFICE	FRONT OFFICE	2		ENVELOPES	QUEEN
FILTER 01	FILTER, LARGE	FC	FILTER ROOM	24		FILTER	NATIONAL

Operations & Maintenance

- Software support
 - Handles
 - Work orders
 - Personnel assignments
 - Billings
 - Schedules inspections based on system failure rates
 - Tracks warranties
 - Track asset depreciation
 - Life cycle costing
 - Predicts deferred maintenance with cost model
 - Planning for the future

Operations & Maintenance

Life Cycle Model Expenditure Projections By Year 007 - BUILDING A

Asset Code	Uniformat Code	Component Description	Qty	Units	2008 Replacement Cost	Year
007	B2030	HI - USE EXT. DOOR LOCKSET REPLACEMENT	1	EA	\$426	2008
Projected Component Replacement Cost for Asset No. 007 for 2008					\$426	

Asset Code	Uniformat Code	Component Description	Qty	Units	2010 Replacement Cost	Year
007	B2010	EXTERIOR POWER WASH AND STAIN REMOVAL	8,000	SF	\$1,867	2010
007	B3010	FLAT ROOFING SYSTEM (BUR); BAD WINTERS	5,500	SF	\$41,307	2010
007	B3020	VINYL FLOOR TILE UPGRADES (NO ACM)	1,000	SF	\$7,479	2010
007	D2010	DUAL-LEVEL DRINKING FOUNTAIN	2	EA	\$6,204	2010
007	D3020	WATER SUPPLY PIPING	5,188	SF	\$11,895	2010
007	D3040	COMPUTER PACKAGE UNIT - CHILLED WATER	10	TON	\$32,186	2010
007	D5040	EMERGENCY GENERATOR, 150 KW	.25	KW	\$10,852	2010
Projected Component Replacement Cost for Asset No. 007 for 2010					111,669	

Asset Code	Uniformat Code	Component Description	Qty	Units	2011 Replacement Cost	Year
007	D2010	PLUMBING FIXTURE COMPONENTS	5,188	SF	\$3,230	2011
Projected Component Replacement Cost for Asset No. 007 for 2011					\$3,230	

Asset Code	Uniformat Code	Component Description	Qty	Units	2012 Replacement Cost	Year
007	B3010	ROOF FLASHING AND SHEET METAL	100	LF	\$967	2012
007	C3010	INTERIOR PAINTING (DRYWALL PLASTER REPAIR INCLD)	6,750	SF	\$9,987	2012
007	D6010	ELECTRICAL SWITCHGEAR, 800A, 208V	1	EA	\$13,216	2012
Projected Component Replacement Cost for Asset No. 007 for 2012					\$24,170	

No Projected Component Replacement Cost for Asset No. 007 for 2013

Asset Code	Uniformat Code	Component Description	Qty	Units	2014 Replacement Cost	Year
007	B2030	HI - USE EXT. DOOR LOCKSET REPLACEMENT	1	EA	\$470	2014
007	C1020	LD - USE INT. DOOR LOCKSET REPLACEMENT	100	EA	\$15,021	2014
007	C3020	HI - USE CARPET REPLACEMENT	450	SF	\$24,593	2014
Projected Component Replacement Cost for Asset No. 007 for 2014					\$40,084	

Asset Code	Uniformat Code	Component Description	Qty	Units	2015 Replacement Cost	Year
007	C1020	INTERIOR DOOR REPLACEMENTS (LESS HARDWARE)	18	EA	\$30,921	2015
Projected Component Replacement Cost for Asset No. 007 for 2015					\$30,921	

Asset Code	Uniformat Code	Component Description	Qty	Units	2016 Replacement Cost	Year
007	B2030	LD - USE EXT. DOOR LOCKSET REPLACEMENT	18	EA	\$5,468	2016
Projected Component Replacement Cost for Asset No. 007 for 2016					\$5,468	

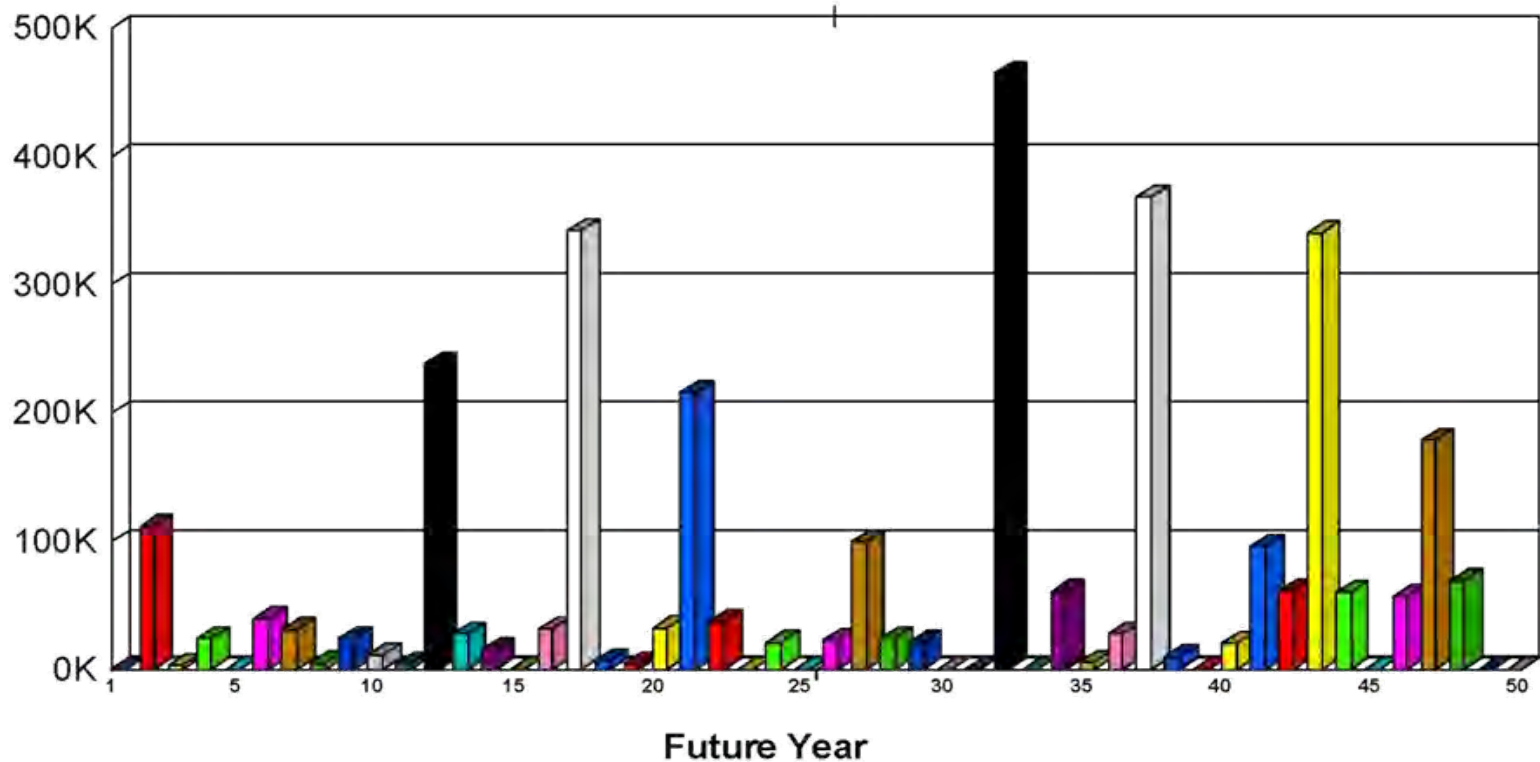
Asset Code	Uniformat Code	Component Description	Qty	Units	2017 Replacement Cost	Year
007	D2010	PLUMBING FIXTURES	5,188	SF	\$24,274	2017
Projected Component Replacement Cost for Asset No. 007 for 2017					\$24,274	

Asset Code	Uniformat Code	Component Description	Qty	Units	2018 Replacement Cost	Year
007	C3010	INTERIOR PAINTING (DRYWALL PLASTER REPAIR INCLD)	6,750	SF	\$11,247	2018
Projected Component Replacement Cost for Asset No. 007 for 2018					\$11,247	

Operations & Maintenance

Life Cycle Model Expenditure Projections

007 - BUILDING A



Average Annual Renewal Cost per SqFt **\$7.24**

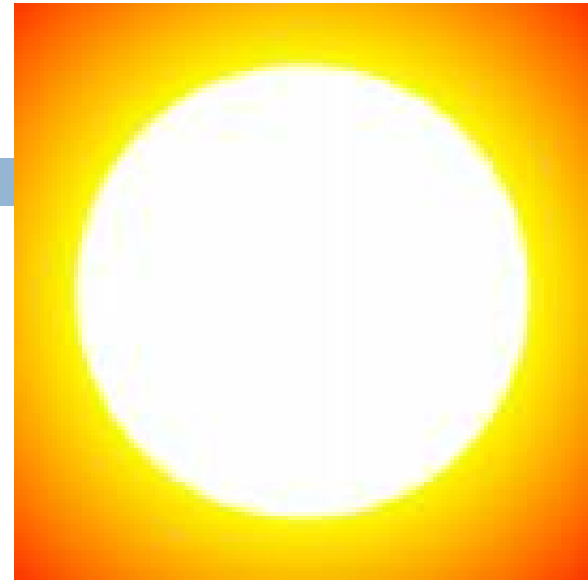
Design

- What causes aging
 - ▣ Weather
 - ▣ Atypical usage levels
 - ▣ Compromised design decisions



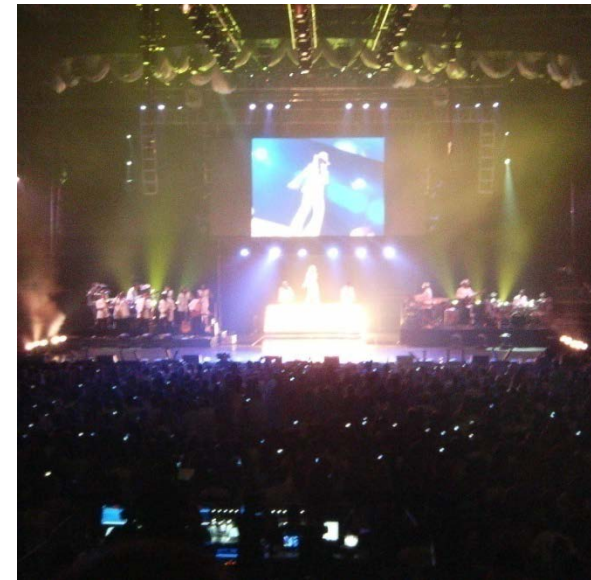
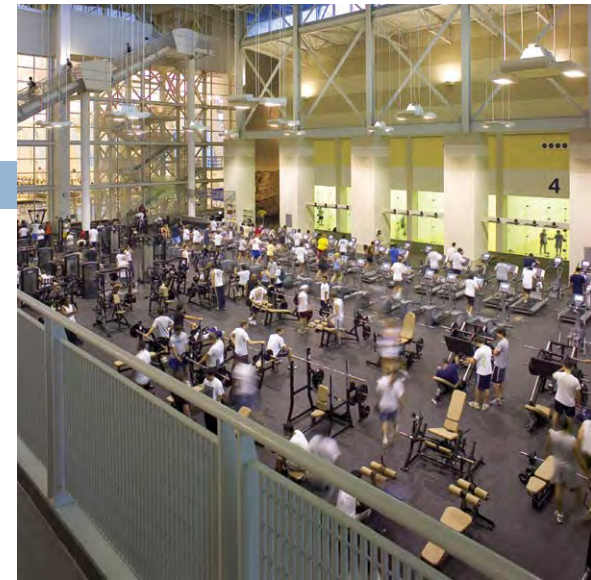
Design

- Weather
 - Temperature changes
 - Wind
 - Rain
 - Sun – UV
 - Airborne contamination
 - Dirt and snow



Design

- Atypical usage levels
 - ▣ Most used facility on campus
 - ▣ Extended hours of use
 - ▣ Extreme levels of use
 - ▣ Special Events
 - Planned & unanticipated
 - ▣ Community centers of campus

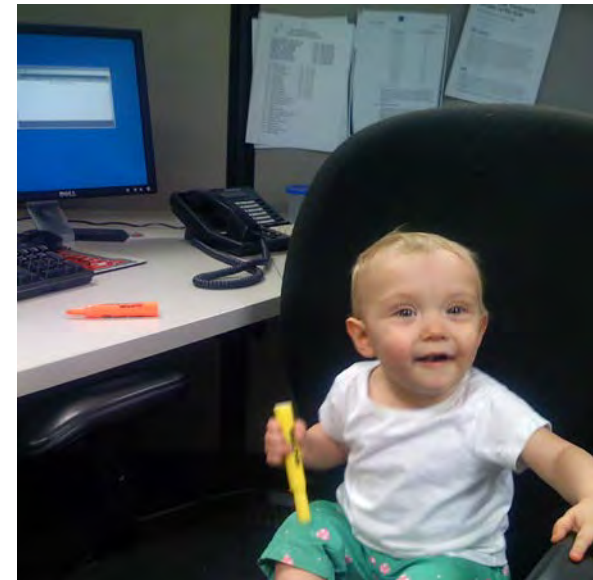


Design

- Compromised design decisions
 - ▣ Recreation directors that do not look to the future
 - ▣ Thinking only in real time
 - It's not just about intramurals
 - ▣ Requires time and effort
 - Touring existing facilities
 - ▣ Architects with no recreation experience
 - Learning on the (your) job
 - ▣ Customize design to campus (no cookie cutter design)

Design

- Compromised design decisions
 - ▣ Design for students who must operate your facility
 - ▣ Find an architect that has run a recreation center
 - Certified training program?



Design

- Compromised design decisions
 - Value engineering
 - Try to resist
 - Favorite examples
 - Storage decrease
 - Minimum HVAC
 - Equipment amounts & quality reduced
 - Finishes switched for less quality
 - No matter what anyone says it's "Cheaper vs. lasting longer"



Design

- Compromised design decisions
 - Floors
 - Walls
 - Ceilings
 - Things that move
 - Things that use water
 - Things people touch
 - Exterior issues



Design

□ Floors – Public spaces

- Types – tile, terrazzo, VCT, concrete, carpet

- Problems

- Cracking
- Hard to clean
- Failing grout

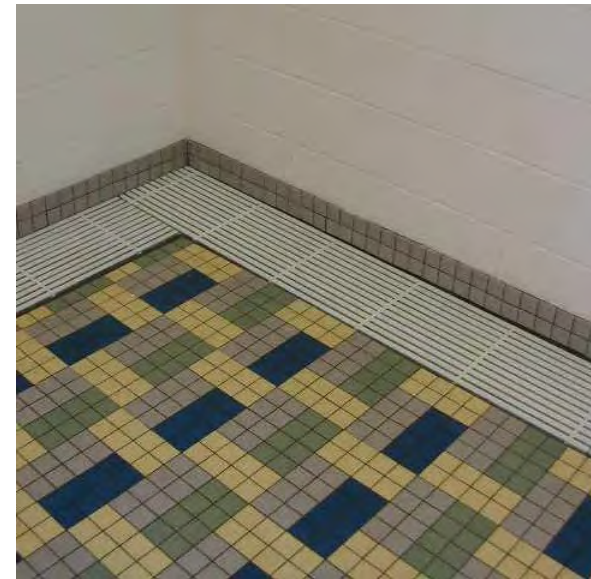
- Choices

- Terrazzo first
- Large tile/limited grout
- Adequate control joints
- Limit carpet or concrete



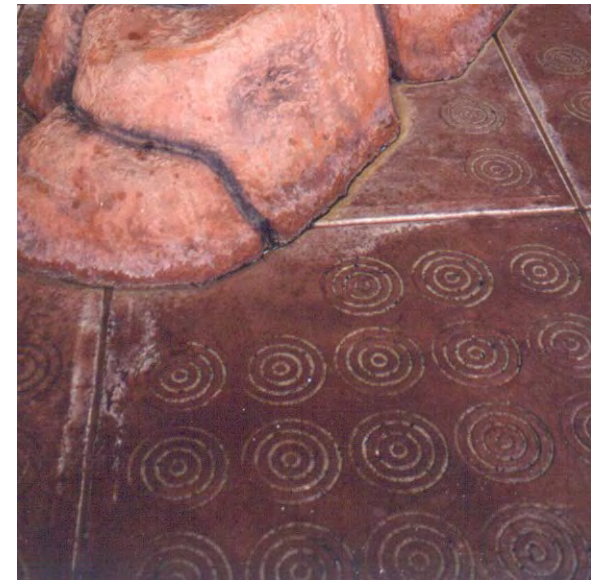
Design

- Floors – Restrooms, locker rooms, showers
 - ▣ Types – tile, synthetic, concrete
 - ▣ Problems
 - Cracking – tile & corners
 - Hard to clean
 - Failing grout
 - Too much grout
 - ▣ Choices
 - Terrazzo first
 - Large tile/limited grout
 - Corner guards



Design

- Floors – Pool decks
 - Types – tile, concrete, Kool deck
 - Problems
 - Cracking
 - Hard to clean – power washing
 - Failing grout
 - Too much grout
 - Surface wearing
 - Choices
 - Large tile format
 - Concrete with wearing pattern



Design

- Floors – Gyms, racquetball courts, multi-purpose rooms
 - ▣ Types – wood
 - ▣ Problems
 - Expansion and contraction
 - Wear and shoe damage
 - Special events damage
 - Catastrophic damage
 - ▣ Choices
 - Regular dusting
 - Regular chemical cleaning
 - Screening & sanding



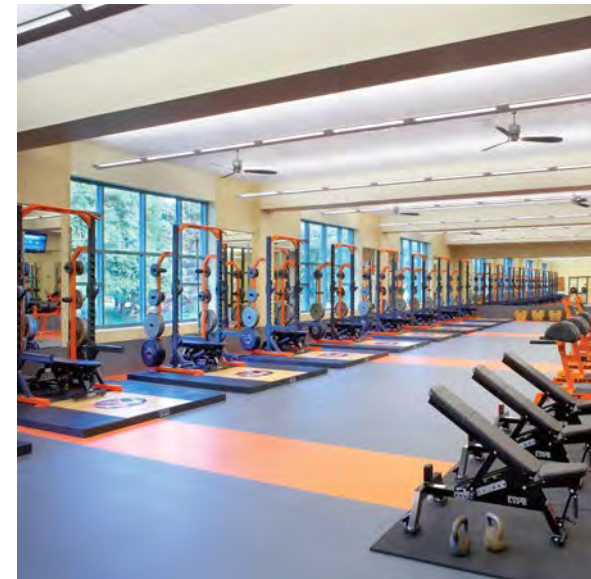
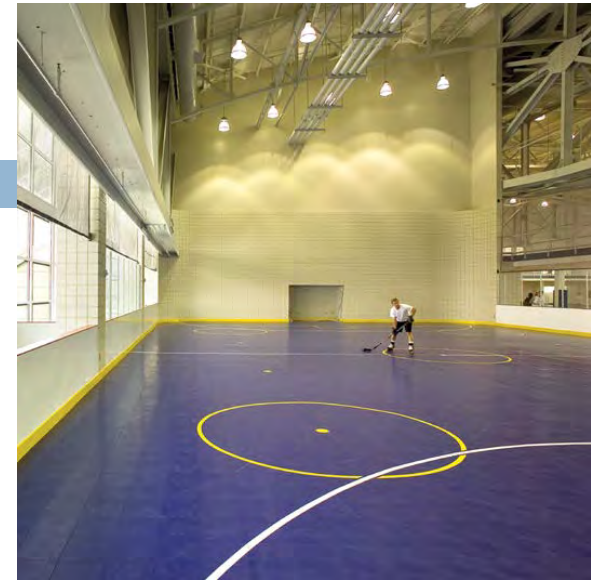
Design

- Floors – MAC courts, tracks, fitness rooms
 - Types – synthetic, PVC, carpet
 - Problems
 - Wear in high activity areas
 - Special events damage
 - Shoe marks
 - UV damage
 - Stains – blood/soda
 - Cracks/gaps – dirt accumulation
 - Gum



Design

- Floors – MAC courts, tracks, fitness rooms
 - Types – synthetic, PVC, carpet
 - Choices
 - Limit food and drinks
 - Careful color selection
 - Welded or continuous poured product
 - Limit use of carpet (anti-microbial)
 - Floor coverings for special events
 - Police shoe type



Design

- Walls – Masonry
 - Types – Brick, stone, painted, burnished, split face, integral color
 - Problems
 - Settling – cracks
 - Shoe marks
 - Cell damage
 - Oil & grease stains
 - Choices
 - Limit painted surfaces
 - Anti - graffiti sealant



Design

□ Walls – Drywall

□ Problems

- Expansion & contraction cracks
- Accidental damage
 - Corners and holes
 - Shoe marks

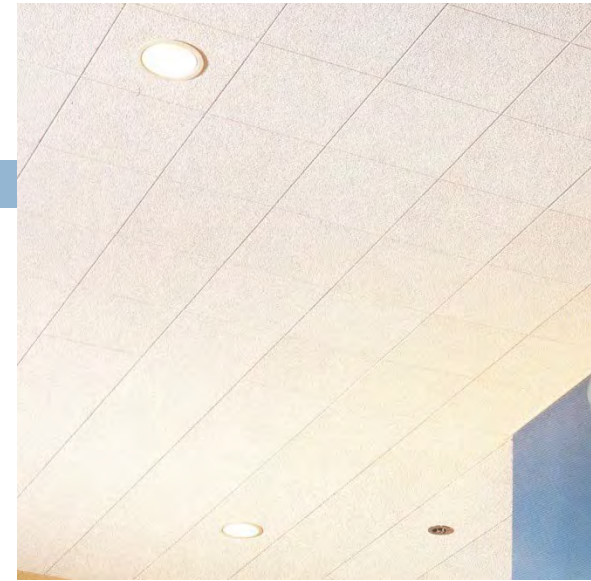
□ Choices

- Limited use in activity areas
- High locations only
- Reveals and expansion joints
- Corner guards



Design

- Ceilings
 - ▣ Types – Acoustical tile, open structure, Tectum
 - ▣ Problems
 - Dirt from return air
 - Damage from activities
 - Damage from water infiltration
 - ▣ Choices
 - Careful selection for use in activity spaces
 - Smooth texture selection



Design

- Things that move
 - Doors & hardware
 - Gym curtains
 - Basketball backstops
 - Lockers
 - Casework



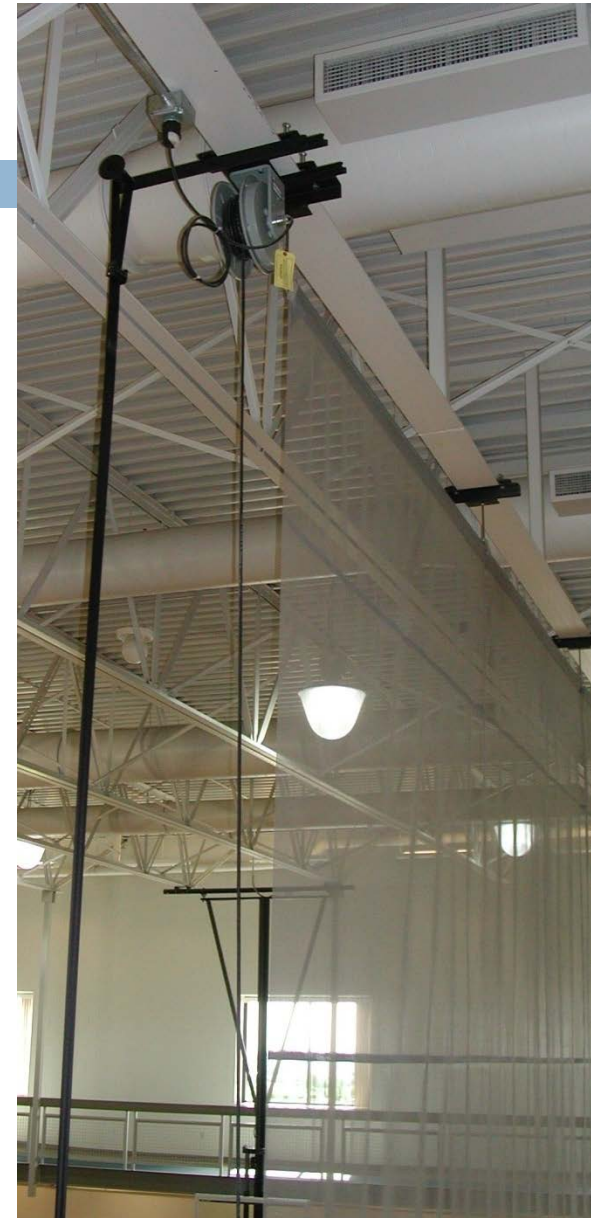
Design

- Things that move
 - Doors and hardware
 - Types – Solid wood, metal, glass, composite
 - Problems
 - Latches and hinges
 - Dents
 - Settling and binding
 - Constant repainting
 - Choices
 - Hardware choice
 - Continuous hinges
 - Solid wood
 - Push plates
 - Foot push plates



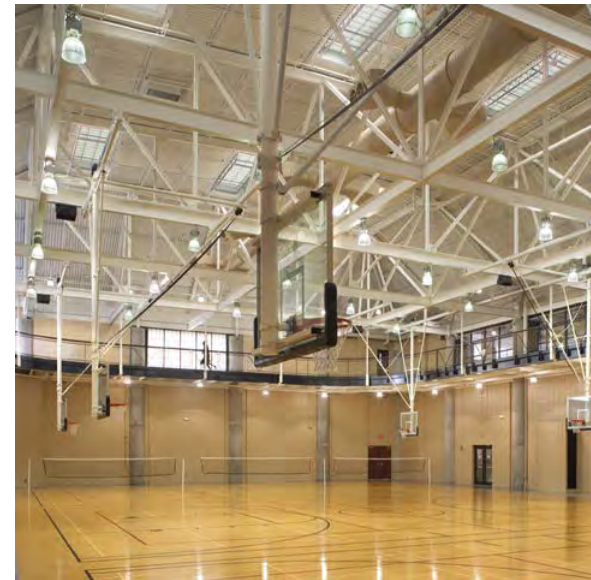
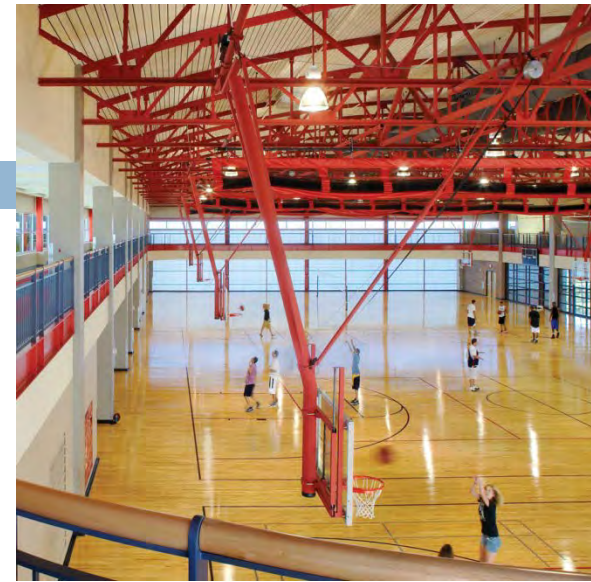
Design

- Things that move
 - Gymnasium curtains
 - Problems
 - Motor burnout
 - Grommet failure
 - Wire binding
 - Rips & cuts
 - Choices
 - Over sized motors
 - Quality vinyl
 - Limited mesh below 8'



Design

- Things that move
 - ▣ Basketball backstops
 - ▣ Problems
 - Motor burnout
 - Hinge binding
 - Belt slipping
 - Rim damage
 - Padding failure
 - ▣ Choices
 - No dunking
 - Research peer facilities



Design

- Things that move
 - Lockers
 - Problems
 - Hardware, hinges, hooks failure
 - Rusting
 - Coin collection problems
 - Wood locker shrinkage
 - Choices
 - Go with the old standard
 - Don't rely on income
 - Research peer facilities



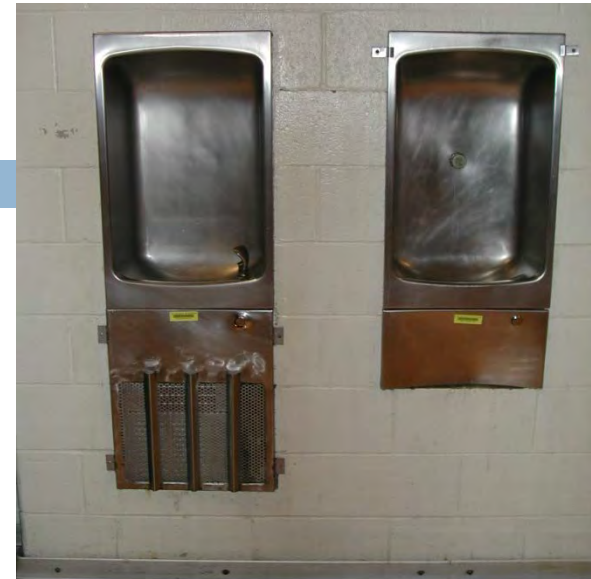
Design

- Things that move
 - Casework
 - Problems
 - Hardware & hinges failure
 - P-lam de-lamination
 - Draw glides failure
 - Case cabinet damage
 - Choices
 - Limit builder grade use
 - Non P-lam counter tops



Design

- Things that use water
 - ▣ Showers, sinks & toilets
 - ▣ Drinking fountains
 - ▣ Pools
 - ▣ Mechanical equipment
 - ▣ Fire protection systems



Design

- Things that use water
 - ▣ Showers, sinks and toilets
 - ▣ Problems
 - Valves!
 - Drain back-up
 - Soap dispenser failures
 - ▣ Choices
 - Easy access valves and supply
 - Regular inspection and maintenance



Design

- Things that use water
 - ▣ Drinking fountains
 - ▣ Problems
 - Electric motors
 - Knobs
 - Leaks
 - Vandalism
 - ▣ Choices
 - Drinking fountain vs. water cooler
 - Porcelain not metal in activity areas



Design

- Things that use water
 - Pools
 - Problems
 - Controller issues
 - Chemical issues
 - Leaks & water loss
 - Boilers & heating systems
 - Choices
 - Pool consultant
 - Keep it simple



Design

- Things that use water
 - ▣ Fire protection systems
 - ▣ Problems
 - Wrong application
 - Accidental damage
 - Intentional damage
 - ▣ Choices
 - Proper cage protection
 - No low hanging fruit



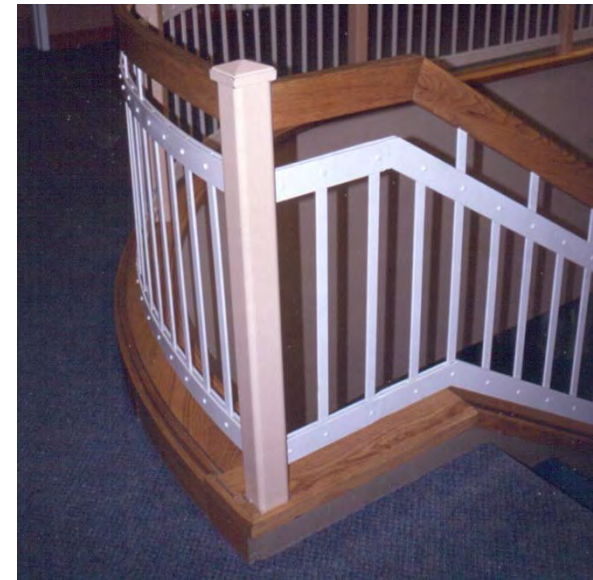
Design

- Things people touch
 - Handrails
 - Counter tops
 - Toilet partitions
 - Turnstiles



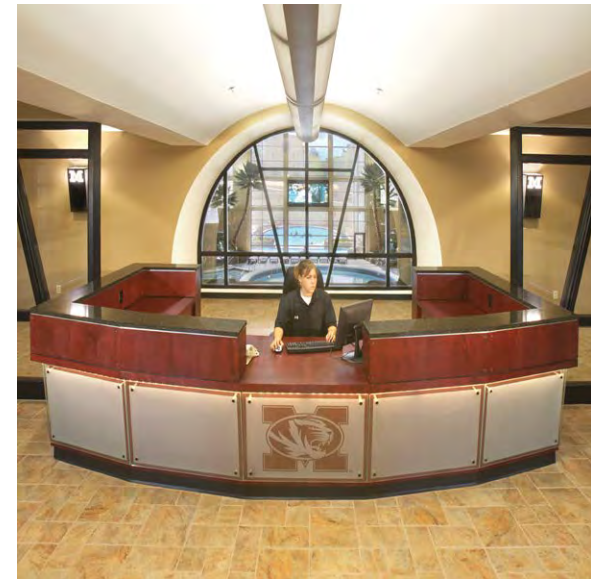
Design

- Things people touch
 - Handrails
 - Types – metal, glass, mesh, solid
 - Problems
 - Scratching
 - Bends & dents
 - Wobbly construction
 - Choices
 - Wood top rail
 - Heavy construction
 - Welded connections



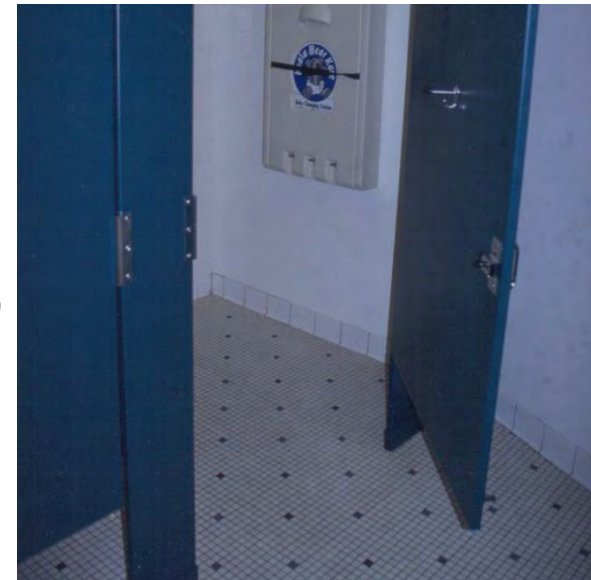
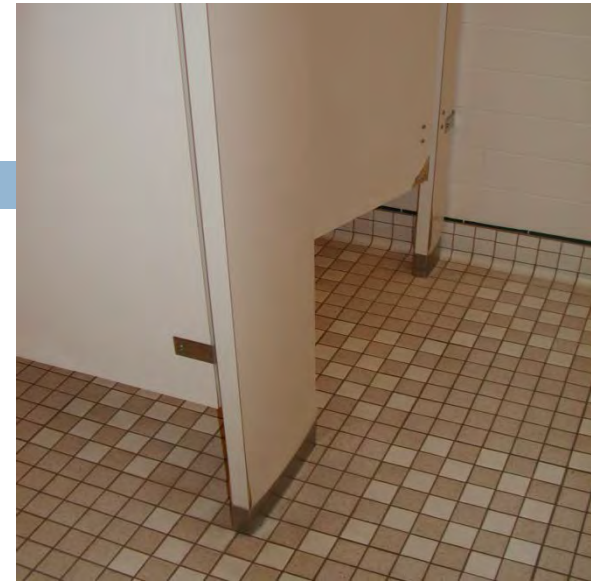
Design

- Things people touch
 - ▣ Counter tops
 - ▣ Types – P-lam, solid surface, stone, tile
 - ▣ Problems
 - Scratching
 - De-lamination
 - ▣ Choices
 - Scratch resistant material



Design

- Things people touch
 - ▣ Toilet partitions
 - ▣ Types –metal, phenolic, plastic
 - ▣ Problems
 - Rust
 - Dent
 - Bend
 - Fall apart (latches, hinges & hooks)
 - ▣ Choices
 - Ceiling hung
 - Phenolic



Design

- Things people touch
 - ▣ Control gates & turnstiles
 - ▣ Problems
 - Hinge failure
 - Floor mounting failure
 - Bio metrics software issues
 - ▣ Choices
 - Deep footing connection
 - Continuous hinges
 - Portable turnstiles
 - Wireless/Flatwire turnstiles



Design

- Exterior issues
 - Hardscape
 - Softscape
 - Walls
 - Windows
 - Roofs



Design

- Exterior issues - hardscape
 - Types – sidewalks, pavers, parking lots, site amenities
 - Problems
 - Settling
 - Chemical treatments
 - Expansion and contraction
 - Choices
 - Keep it simple approach
 - Limit snow removal chemicals/sand



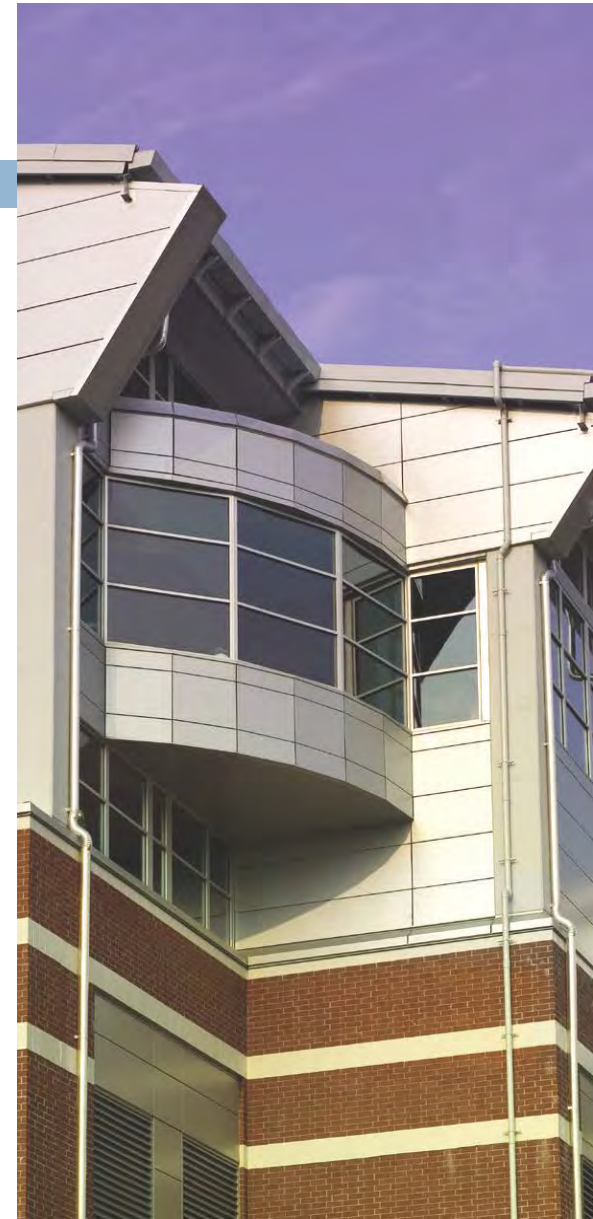
Design

- Exterior issues - softscape
 - ▣ Types – lawn, plantings, trees
 - ▣ Problems
 - Erosion
 - Path/foot wear
 - Incorrect plant selection
 - ▣ Choices
 - Minimize grading condition
 - Select appropriate plant material
 - Planting barriers
 - Aggressive maintenance



Design

- Exterior envelope – walls and windows
 - Types - varies
 - Problems
 - Settlement
 - Sealant failure
 - Window gasket failure
 - Effloresces
 - Choices
 - Careful & time tested systems
 - Third party exterior window consultant



Design

- Exterior envelope – roofs
 - Types – EPDM, built-up, metal
 - Problems
 - Coping failure
 - Storm damage
 - Faulty construction
 - Bad design
 - UV degradation
 - Penetrations and walking paths
 - Choices
 - Stay off the roof
 - Third party roof consultant



Special Thanks

- Michael Edwards – Georgia Tech
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- Scott Levin – Georgia State University



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Questions & Answers