

SESSION # CD-05

NOVEMBER 4, 2011 | 8:00 AM

# JUSTICE DESIGN FOR A NEW ECONOMY

**POETIC**  
**PRAGMATISM**

NOVEMBER 2-4, 2011  
LOS ANGELES, CA

**2011 Academy of Architecture Justice National Conference**

CELEBRATING CREATIVE, COST EFFECTIVE, AND FUNCTIONAL DESIGN FOR JUSTICE FACILITIES



SESSION # CD-05

NOVEMBER 4, 2011 | 8:00 AM

**BOB SCHWARTZ, AIA, LEED AP BD+C**

HOK, Group Vice President



**ERIC HACKMAN, AIA, LEED AP**

TOWER PINKSTER, Project Manager

TowerPinkster

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# THREE COUNTIES DOING MORE WITH LESS

KENT COUNTY  
Grand Rapids



MIDLAND COUNTY  
Midland

WASHTENAW COUNTY  
Ann Arbor

## ECONOMIC CLIMATE IN THE STATE OF MICHIGAN

- High unemployment & foreclosure rates
- Government expenditures driven down by declining resources
- Spending on local government much below the national median in almost every category
- Michigan plunges to the bottom in public infrastructure spending.
- Michigan local governments spend less per capita than national average
- Bottom 10 states in per capita income
- 48<sup>th</sup> in overall capital outlay expenditures
- Deferred maintenance allow minor problems to deteriorate into major reconstruction projects



## MIDLAND

NEW CONSTRUCTION

250 BEDS

EXPANDABLE TO 500

106,000 SF

\$ 21,220,000

DECEMBER 2009



## WASHTENAW

ADDITION

112 BEDS-INTAKE-COURTS

600 TOTAL BEDS (EXPAND TO 800)

78,300 SF

\$ 28,500,000

JUNE 2010



## KENT

ADDITION

REPLACE 512 BEDS

1,100 TOTAL BEDS

109,250 SF

\$ 24,000,000

DECEMBER 2012



## MIDLAND

DAYLIGHT HARVESTING

DOUBLE EXTERIOR WALL

EXPANDED FOAM INSULATION

DECENTRALIZED GEOTHERMAL

LOCAL MATERIALS

DIAMOND FINISH CONCRETE



## WASHTENAW

NEW CENTRAL PLANT

REPLACE AIR HANDLERS

LEED SILVER

WATER EFFICIENT LANDSCAPE

LOCAL MATERIALS

INDOOR COMFORT



## KENT

REPLACES INEFFICIENT HOUSING

DOUBLE EXTERIOR WALL

600 TOTAL BEDS

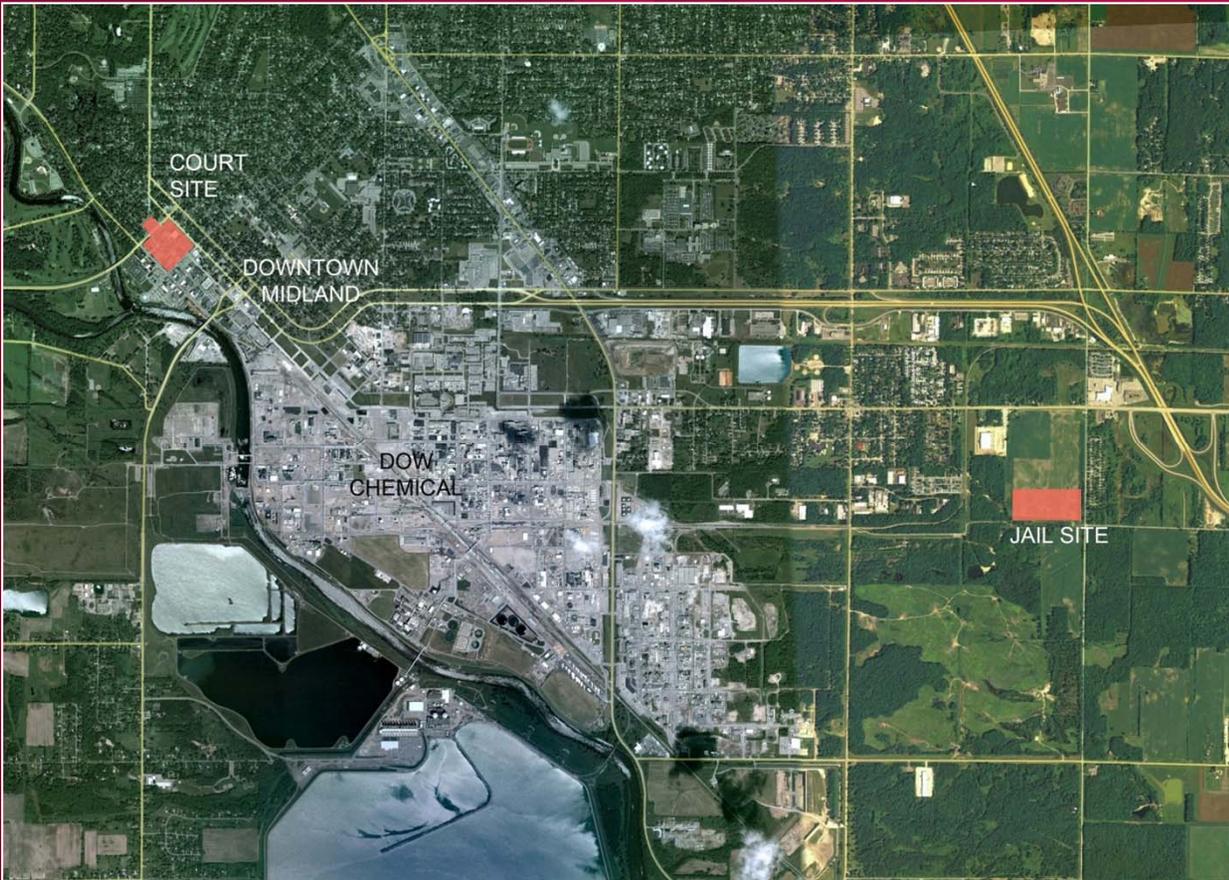
CENTRALIZED GEOTHERMAL

LOCAL MATERIALS

DIAMOND FINISH CONCRETE

## SIMILARITIES OF ALL THREE FACILITIES

- Borrowed light
- Horizontal rear service chase
- Maximized use of local building trades and materials with load-bearing masonry and precast concrete plank construction
- Video visitation
- Video arraignment
- Security electronics utilizing internet protocol
- Maximized disabled accessibility with all programs and services at dayroom level



## MIDLAND COUNTY JAIL

- Home to Dow Chemical
- Population: 83,629 (.9% Growth)
- Existing Conditions Require a new Detention Center
- Protracted Site Selection Process and Millage Issue lead to Approval in 2006.

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Space No.	Component	Total Departmental Gross Square Feet
1.0	Public Lobby Visitation	3,189
2.0	Administration	3,117
3.0	CPU/Booking/Transfers	10,319
4.0	Medical Clinic	2,288
5.0	Male-Special Management Housing	3,244
6.0	Trustee Housing - General Population	4,728
7.0	Male - General Population	28,505
8.0	Male Work Release/Detail	5,524
9.0	Female -General Population/Special Management	6,285
10.0	Security/Central Control	1,168
11.0	Inmate Program Services	3,881
12.0	Food and Laundry Services	6,830
13.0	Jail Staff Support	4,221
14.0	Jail Facility Support	6,193
	<b>Total Facility Space Requirements</b>	<b>89,493</b>
	Building Efficiency Factor @ .10	8,949
	Estimated Building Area GSF	98,442
	Building Support Factor @ .08 (M-E-P)	7,875
	<b>TOTAL BUILDING AREA</b>	<b>106,318</b>

## MIDLAND COUNTY JAIL

Space Requirements for the New Midland County Jail completed by Carter Goble Lee

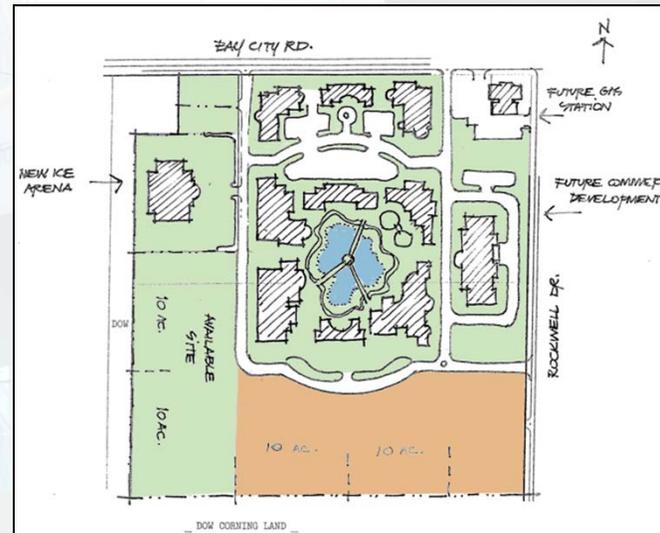
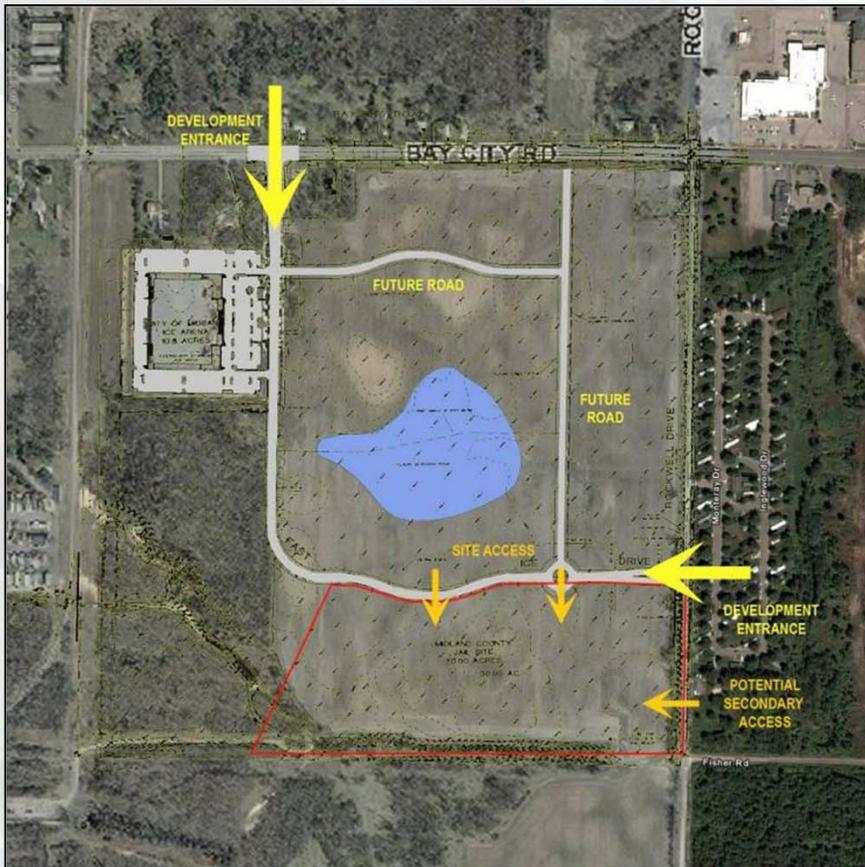


## MIDLAND COUNTY JAIL

### Midland County Jail Program Requirements Detention Center Bed Assignments and Classification

Classification Category	# Cells/Unit	# Beds/Unit	#Units	#Beds
Male Special Management	12	12	1	12
Male General Population	28	56	3	168
Male Trustees	1	20	1	20
Male Work Release/Work Detail	1	18	1	18
<b>Male Subtotal</b>	<b>42</b>		<b>6</b>	<b>218</b>
Female Population	20	32	1	32
<b>Female Subtotal</b>	<b>20</b>		<b>1</b>	<b>32</b>
<b>TOTAL POPULATION</b>			<b>7</b>	<b>250</b>

# MIDLAND COUNTY JAIL



**JAIL SITE**  
 • 30 Acres



# MIDLAND COUNTY JAIL

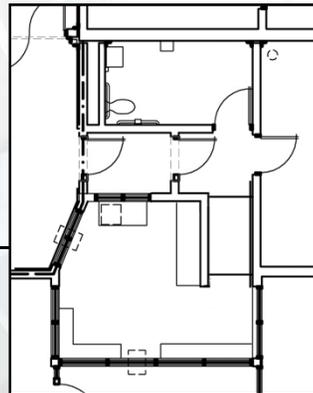


FIRST FLOOR PLAN  
0 5 10 25 FT  
NORTH

## KEY SUSTAINABLE ATTRIBUTES

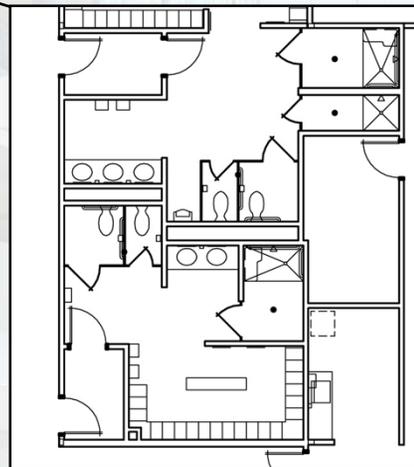
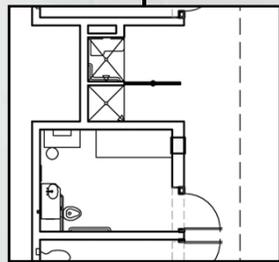
- Compact Floor Plan
- Rear Service Chases
- Daylight Harvesting
- Decentralized Ground Source Heat Pumps
- Ozone Laundry System

# MIDLAND COUNTY JAIL

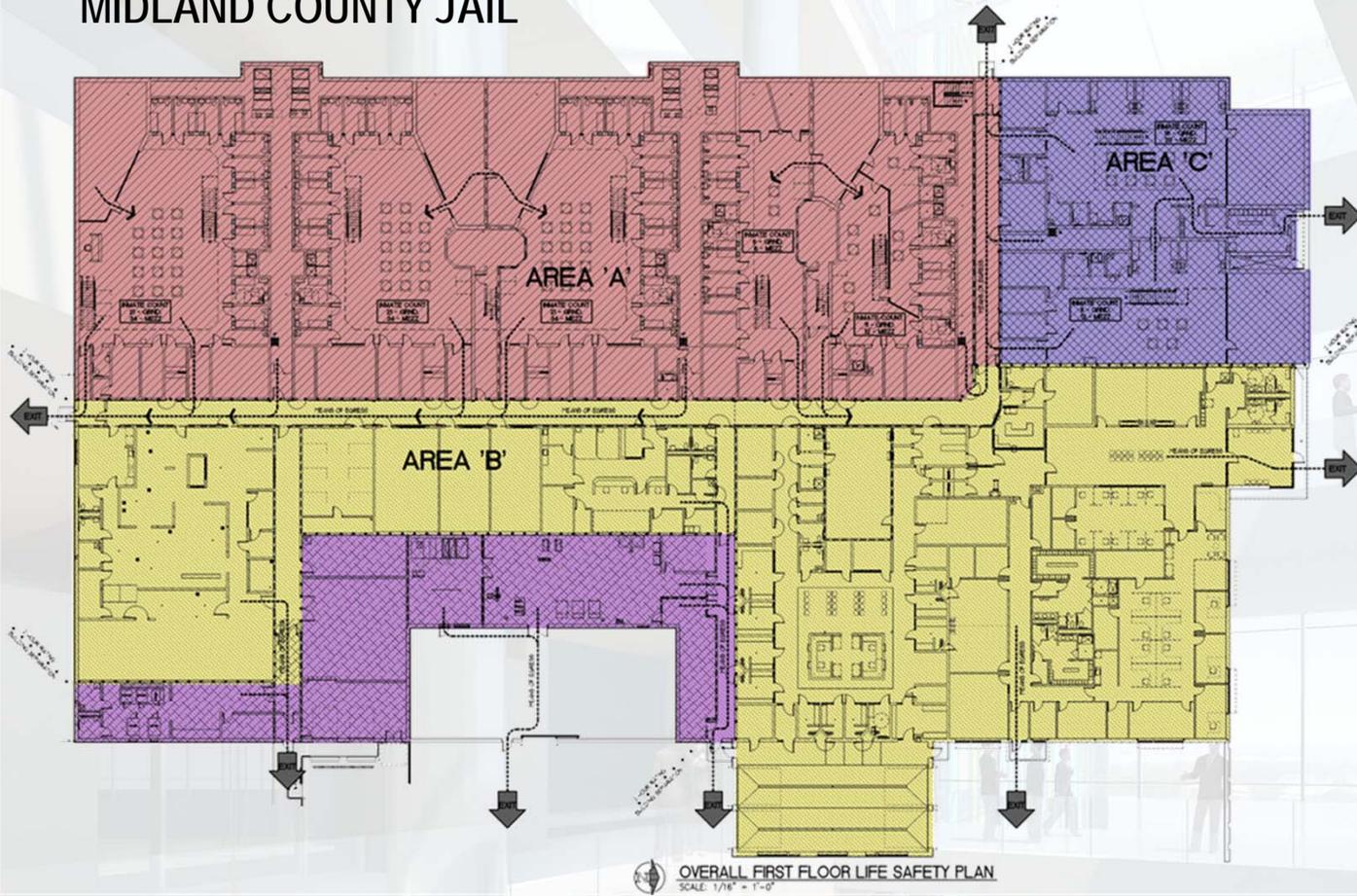


## KEY ACCESSIBILITY ATTRIBUTES

- All Programs and Services at Dayroom Level
- Wheelchair Ramp to Central Control
- Each Housing Unit has Accessible Cells/Beds



# MIDLAND COUNTY JAIL



## LIFE SAFETY PLAN

- 2 Hour Separation
- Reduce Fire Proofing
- Lengthen Travel Distances

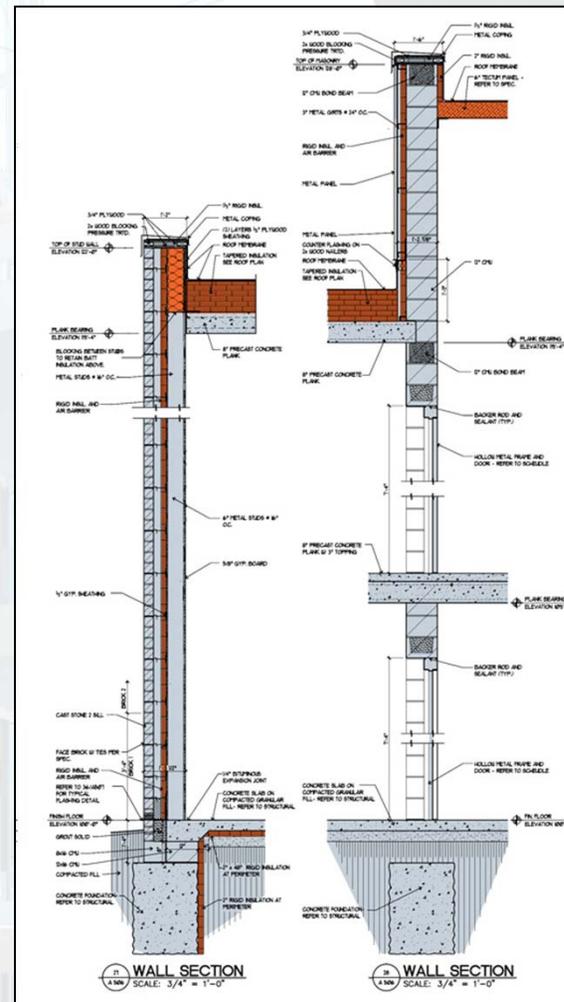
## AGENCY REVIEWS

- NFPA - State Fire Marshall
- MBC - City Officials
- Jail Standards - MDOC

# MIDLAND COUNTY JAIL

## Construction

- Rear Mechanical Chase Design – occupied spaces insulated by non-occupied space
- Foam Spray Insulation in walls (R-19)
- Minimum 5" roof insulation (R-35)
- Tectum Structural Insulated Roof Deck on Steel Joist
- Roof Steel 20' above floor to avoid the expense of fire proofing
- Rear of Cell as Secure Perimeter – allows for Stud construction at exterior wall.
- Economical Trenched footings



## MIDLAND COUNTY JAIL



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**PRAGMATISM**

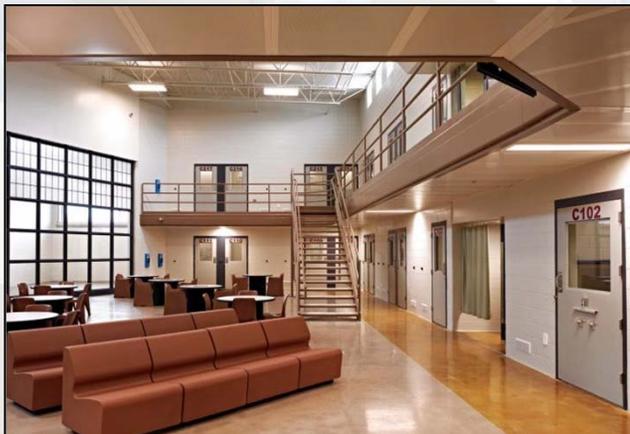
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# MIDLAND COUNTY JAIL



DIRECT SUPERVISION HOUSING UNIT



DIRECT SUPERVISION HOUSING UNIT



PODULAR REMOTE HOUSING UNIT

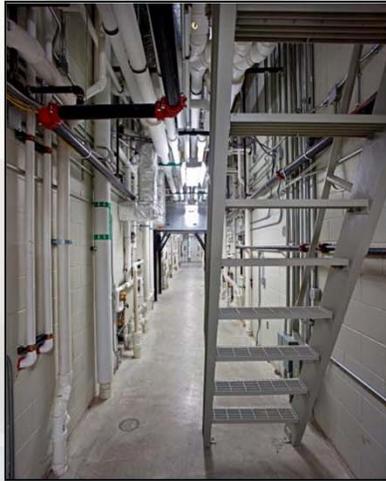


WORK RELEASE DORMITORY UNIT

Diamond Polished Concrete floors minimize cleaning



# MIDLAND COUNTY JAIL



REAR SERVICE CHASE



CHASE UTILITIES



COVERED EXERCISE  
AREA



VEHICLE SALLYPORT

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# MIDLAND COUNTY JAIL



PUBLIC LOBBY & COMMUNITY ROOM



VIDEO VISITATION



MAIN CORRIDOR



INTAKE CENTER

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## MIDLAND COUNTY JAIL

106,000 SF

\$/SF

Site	\$ 1,230,000	\$11.60
Foundation Slab and Structure	\$ 2,520,000	\$23.77
Masonry	\$ 2,270,000	\$21.42
General Trades / DEC	\$ 1,340,000	\$12.64
Exterior Finish (less brick)	\$ 1,200,000	\$11.32
Doors and Frames	\$ 800,000	\$7.55
Windows	\$ 620,000	\$5.85
Finishes	\$ 1,090,000	\$10.28
Mechanical	\$ 5,400,000	\$50.94
Fire Protection	\$ 410,000	\$3.87
Electrical	\$ 2,250,000	\$21.23
Security systems	\$ 970,000	\$9.15
Video Visitation System	\$ 210,000	\$1.98
Equipment	\$ 910,000	\$8.58
<b>Total Construction Cost</b>	<b>\$ 21,220,000</b>	<b>\$200.19</b>
Furnishings	\$ 810,000	\$7.64
Owners Soft Costs	\$ 2,470,000	\$23.30
<b>Project Cost</b>	<b>\$ 24,500,000</b>	<b>\$231.13</b>

## MIDLAND COUNTY JAIL

### ESTIMATED ANNUAL ENERGY SAVINGS

\$57,000 for a High Performance Building

25% better than a typical building

Electrical Usage - 131,000 KWH / Month (1.72 W/SF)

Natural Gas Usage - 3875 Ccf / Month

Current Energy Costs: \$185,000 per year

- \$1.75 per SF annually
- \$740 per bed annually



## MIDLAND COUNTY JAIL

### Schedule

- Programming Jan '07 – Apr '07
- Design Apr '07 – May '08
- Construction Oct '07 – Dec '09

### CM as Agent - Design/Bid/Build

### Bid Packages

- Site Clearing Fall '07
- Foundation Feb. '08
- Frames & Hardware April '08
- Remaining May '08
- Security Electronic July '08



## MIDLAND COUNTY JAIL

### LESSONS LEARNED

- Unpredictable bid climate during phased bid packages
  - *Project came in \$1.0 Million under budget*
- Coordination between light harvesting lighting controls and the security controls touch screen software
- The use of steel joist 20' above floor level proved to be cost effective by avoiding fireproofing the material and more expensive construction types



## WASHTENAW COUNTY JUSTICE COMPLEX

- County seat: Ann Arbor
- Home to the University of Michigan
- Part of the Detroit Metropolitan Area
- Population: 344,791 (6.8% Growth)

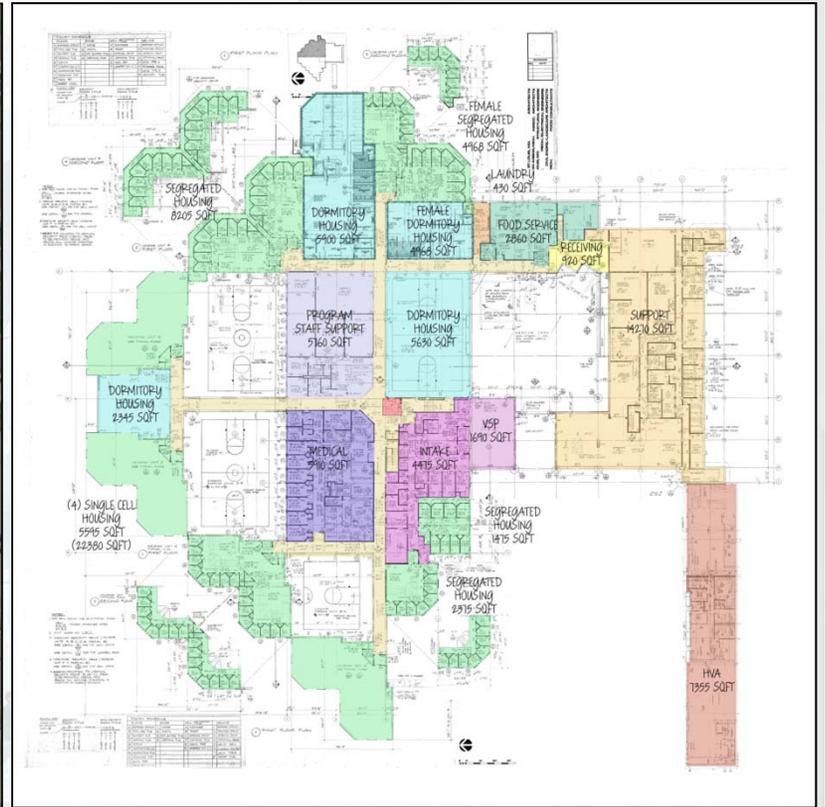


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# WASHTENAW COUNTY JUSTICE COMPLEX

## Total Project Summary

Component	Net Square Feet	Departmental Gross Factor	Total Gross Square Feet
<b>Jail Expansion</b>			
Central Support Areas	15,019	4,264	19,283
Housing Unit Addition	13,572	5,273	18,845
Mechanical/Electrical and Building Gross SF			7,035
<b>Jail Expansion Grand Totals</b>	<b>28,591</b>	<b>9,536</b>	<b>45,162</b>
<b>New District Court Building</b>			
Court Operations, Administration, Clerk of Court	18,633	5,826	24,459
Justice and Allied Agencies	3,095	913	4,008
Building Support	1,918	384	2,302
Mechanical/Electrical and Building Gross SF			8,800
<b>New Court Building Grand Totals</b>	<b>23,646</b>	<b>7,123</b>	<b>39,569</b>
<b>TOTAL PROJECT SQUARE FOOTAGES</b>	<b>52,237</b>	<b>16,659</b>	<b>84,731</b>

Source: Estimates by Carter Goble Lee, July 20, 2007.

- Total 600 Beds including 112 Bed Addition
- Support Core upgraded to support 800 bed capacity
- New 14<sup>th</sup> District Court

# WASHTENAW COUNTY JUSTICE COMPLEX

## Jail Expansion Space Allocation Summary

Code	Component	Net Square Feet	Departmental Gross Factor	Total Gross Square Feet
<b>JAIL CENTRAL SUPPORT AREAS</b>				
1.000	COURTS AND JAIL CENTRAL PUBLIC ENTRY	3,775	944	4,719
2.000	VEHICLE SALLY PORT	2,000	200	2,200
3.000	INTAKE/TRANSFER/RELEASE	6,950	2,430	9,380
4.000	CENTRAL CONTROL	460	161	621
5.000	SPECIAL MANAGEMENT CELL UNIT	810	324	1,134
6.000	RECEIVING/WAREHOUSE	1,024	205	1,229
Total Net Square Feet		15,019		
Total Grossing Factor			4,264	
Total Department Gross Square Feet				19,283
Mechanical/Electrical Spaces @ 3%				578
Building Gross Factor @ 15%				2,979
<b>Total Building Gross Square Feet Non-Housing</b>				<b>22,840</b>
<b>JAIL HOUSING AREAS - 112 OPERATIONAL BEDS</b>				
10.100	UNIT CENTER	1,562	469	2,031
10.200	POD 1 - 56 BEDS IN 14 QUAD CELLS	6,005	2,402	8,407
10.300	POD 2 - 56 BEDS IN 14 QUAD CELLS	6,005	2,402	8,407
Total Net Square Feet		13,572		
Total Grossing Factor			5,273	
Total Department Gross Square Feet				18,845
Mechanical/Electrical Spaces @ 3%				565
Building Gross Factor @ 15%				2,911
<b>Total Building Gross Square Feet Housing</b>				<b>22,321</b>
<b>TOTAL BGSF - JAIL EXPANSION</b>				<b>45,162</b>

Source: Estimates by Carter Goble Lee, July 20, 2007.



## WASHTENAW COUNTY JUSTICE COMPLEX



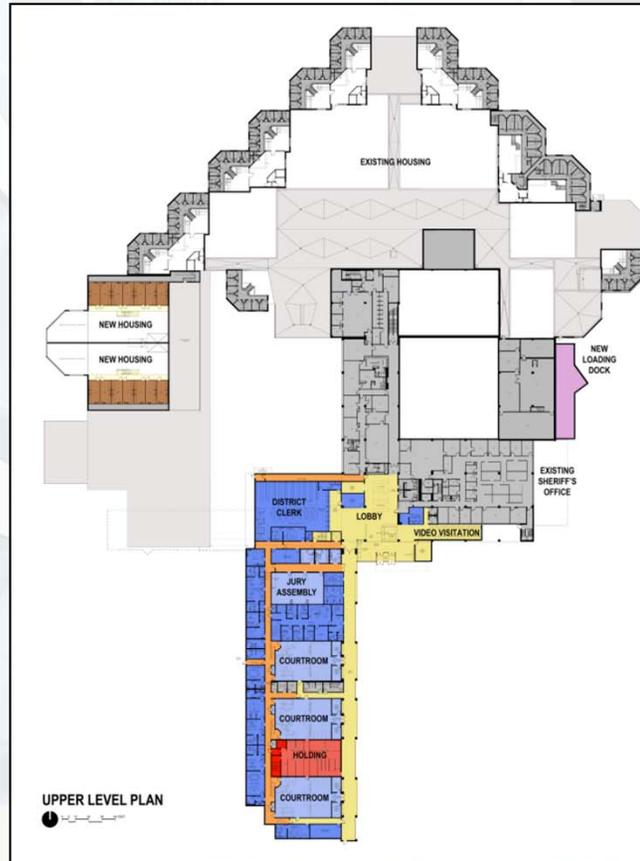
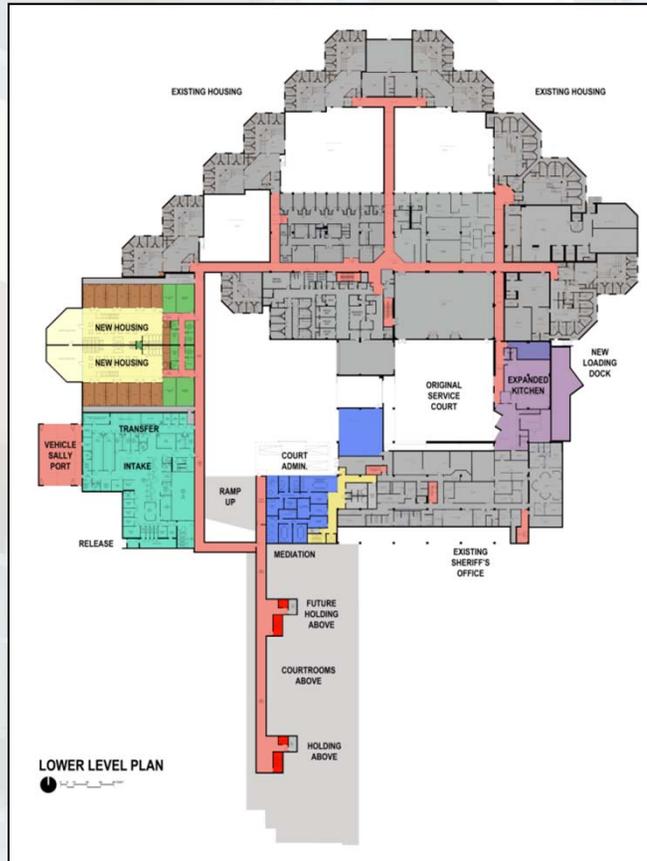
### Project Goals

- Operationally Efficient
- Easily Maintainable
- Low Energy Use

### Operational Objectives

- Reduce Inmate movement
- Secure Connection between Courts and Jail
- Separate Circulation Paths

# WASHTENAW COUNTY JUSTICE COMPLEX



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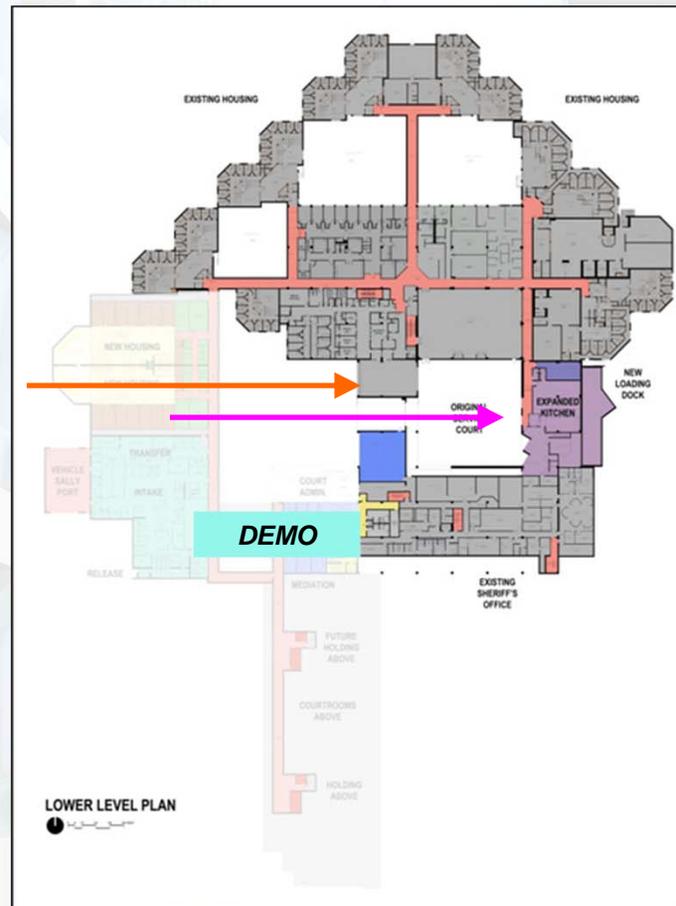
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## WASHTENAW COUNTY JUSTICE COMPLEX

### PHASE ONE

- Move Services to East Side
- Replace Kitchen
- Upgrade boilers, cooling towers and generator
- Demo Two Story Building
- Reroute site utilities

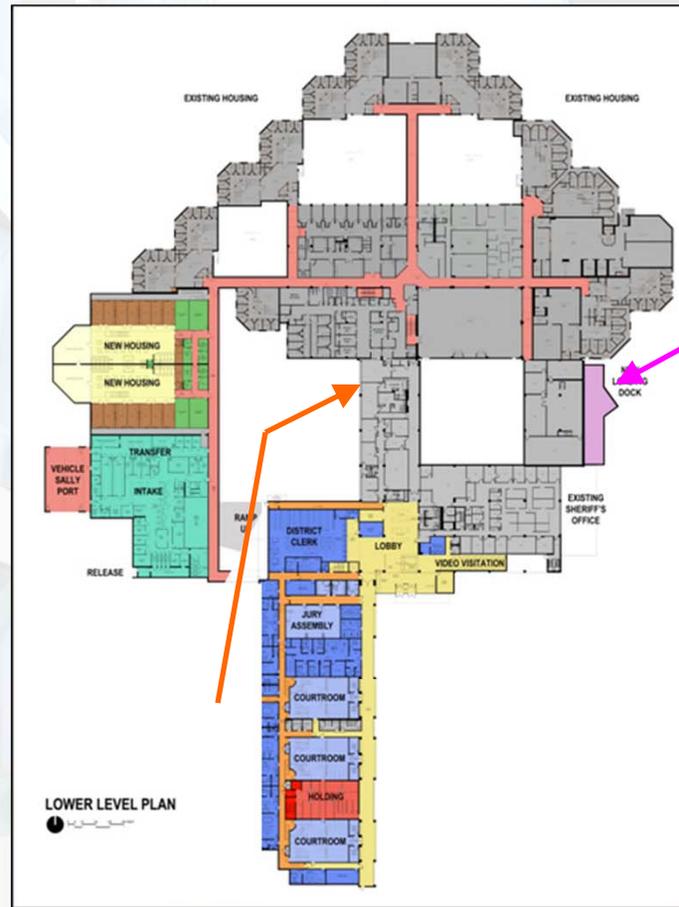




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## PHASE THREE

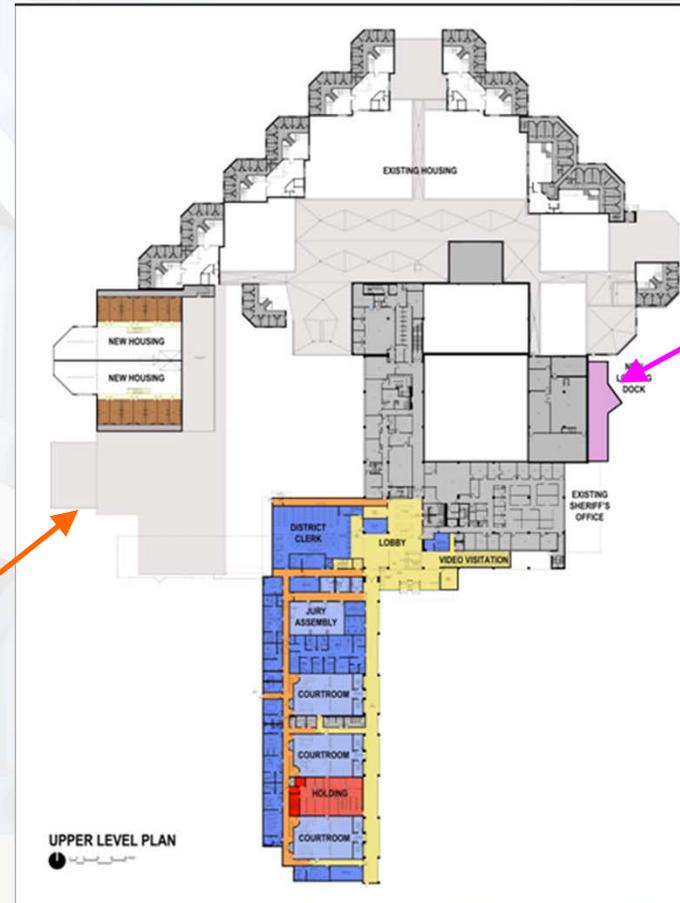
- Construct New Intake/Transfer/Release Center Housing
- Construct New Courts (upper level)



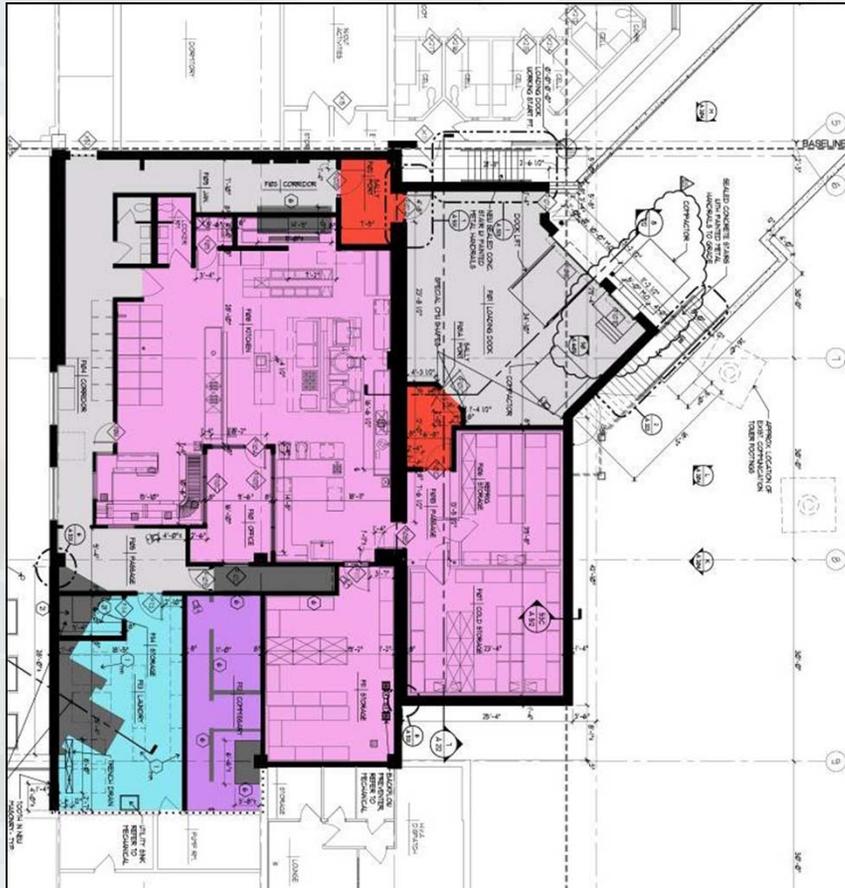
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### PHASE FOUR

- Utilize new ITR
- Move / Swing inmates through the new housing as existing housing AHUs are replaced



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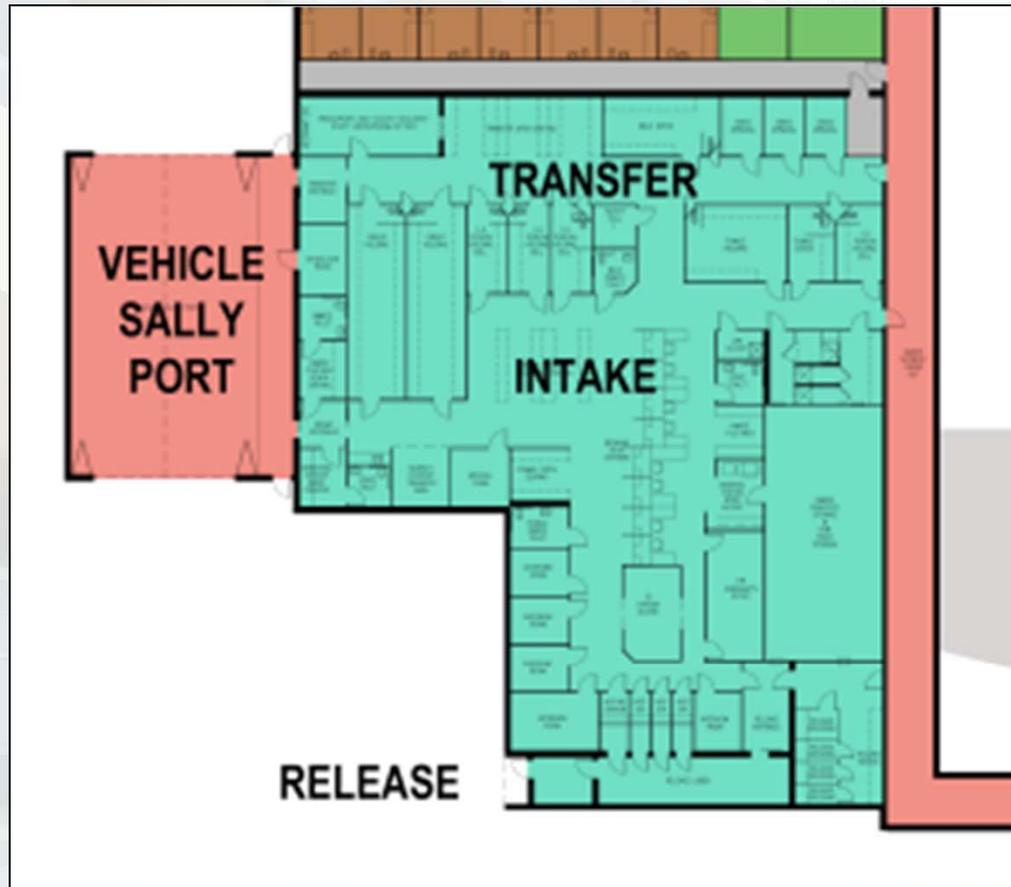


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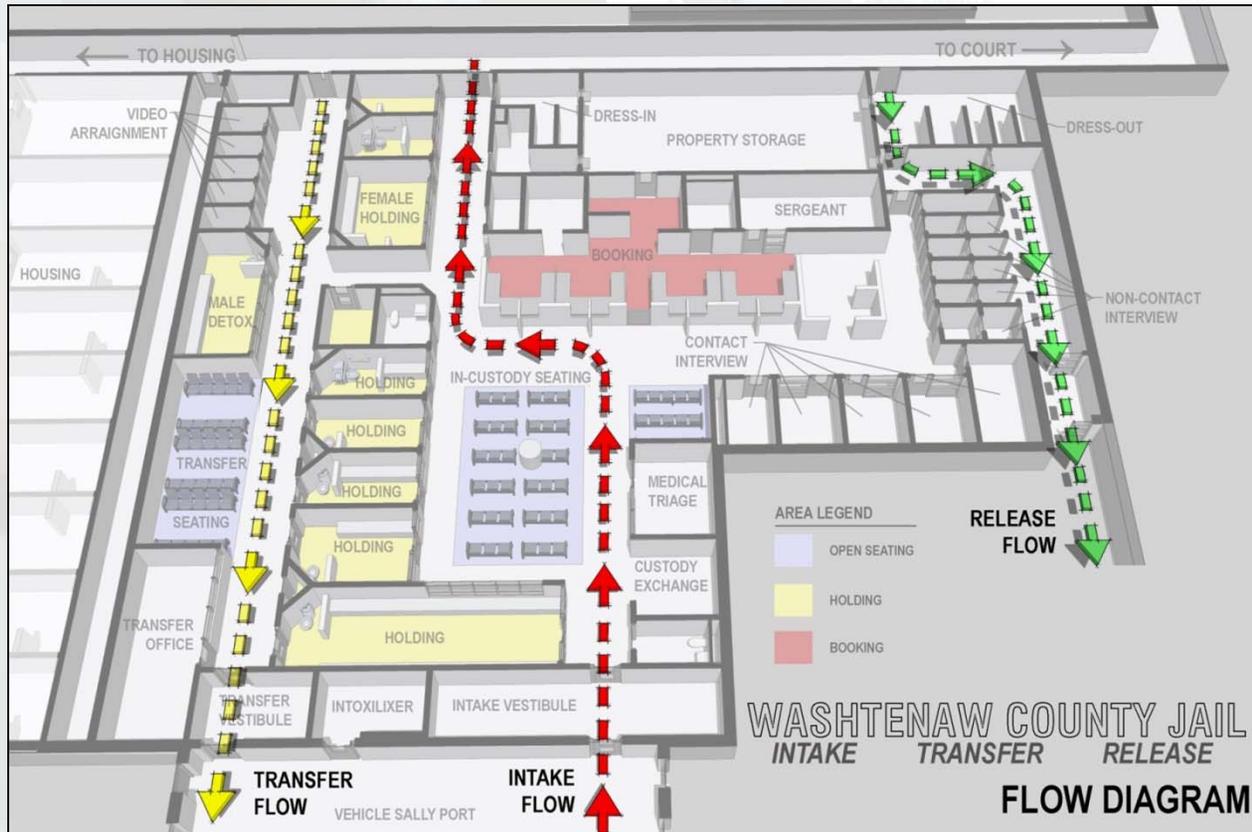


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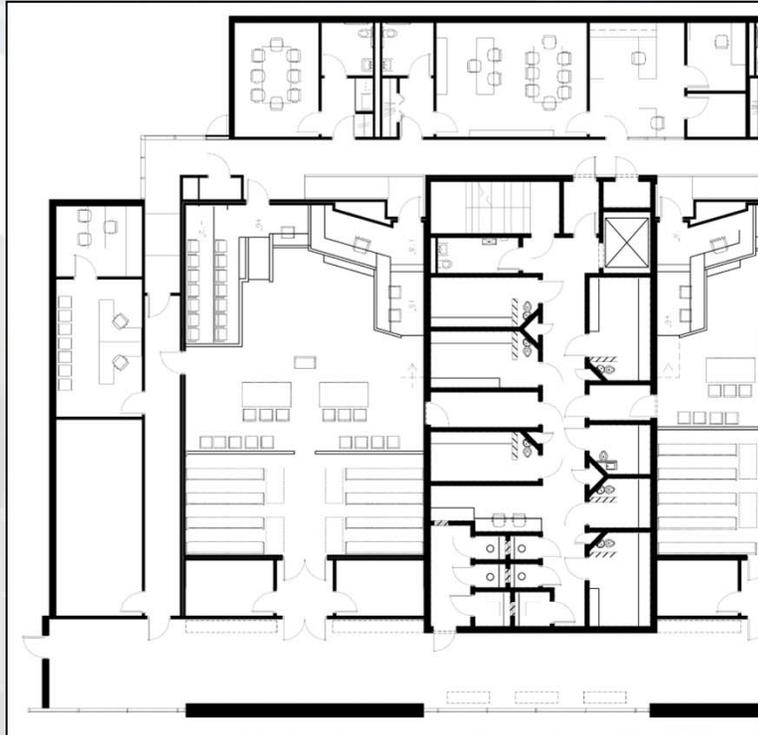


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## WASHTENAW COUNTY JUSTICE COMPLEX

### ACCESSIBILITY

- ADA & Michigan Standards
- Ramps to all Courtroom areas
- Ramps to Judges' Benches in Private Corridor
- All Inmate activities and programs on the Main Detention Level



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## WASHTENAW COUNTY JUSTICE COMPLEX

### JAIL COST

- 112 Beds and Intake Center addition
  - 40,000 SF
  - \$10,000,000
- Service Addition and Mechanical Upgrades
  - 3,300 SF
  - 8 New Air Handlers, Boilers, Chillers
  - \$5,000,000

### COURT COST

- Three Courtroom Addition and New Entry
  - 35,000 SF addition
  - 5,000 SF Renovation
  - \$13,500,000

## WASHTENAW COUNTY JUSTICE COMPLEX

### Previous Energy Consumption

- 2007 and 2008 Two Facilities
  - 149,190 SF
  - \$363,000
  - \$2.43 per SF

### Current Energy Consumption

- July 2010 – June 2011 Single Facility
  - 215,840 SF (additional 66,650 SF 30% increase)
  - \$417,400
  - \$1.93 per SF – 20% savings
- *includes improved air quality to the existing jail cells*

# WASHTENAW COUNTY JUSTICE COMPLEX



## 14A District Court LEED NC 2.2

### LEED Score Card

- Site – Alternative Transportation; Light Pollution Reduction
- Water – 30% Use Reduction
- Optimized Energy Performance 5 points (of 10)

Prerequisite		Yes			Total Possible Points	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Prereq 1	Construction Activity Pollution Prevention	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 1	Site Selection	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 2	Development Density & Community Connectivity	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 3	Brownfield Redevelopment	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 4.1	Alternative Transportation: Public Transportation Access	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 4.2	Alternative Transportation: Bicycle Storage & Changing Rooms	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 4.3	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 4.4	Alternative Transportation: Parking Capacity	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 5.1	Site Development: Protect or Restore Habitat	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 5.2	Site Development: Maximize Open Space	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 6.1	Stormwater Management: Quantity Control	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 6.2	Stormwater Design: Quality Control	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 7.1	Heat Island Effect: Non-Roof	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 7.2	Heat Island Effect: Roof	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 8	Light Pollution Reduction	1
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<b>14 Points Available</b>	<b>14</b>
<b>Water Efficiency</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Prereq 1	Water Use Reduction	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 1	Water Efficient Landscaping	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 2	Innovative Wastewater Technologies	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 3	Water Use Reduction (30% = 2 points; 35% = 3 points; 40% = 4 points)	2
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<b>5 Points Available</b>	<b>5</b>
<b>Energy &amp; Atmosphere</b>						
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Prereq 1	Fundamental Commissioning of the Building Energy Systems	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Prereq 2	Minimum Energy Performance	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Prereq 3	Fundamental Refrigerant Management	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 1	Optimize Energy Performance	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 2	On-Site Renewable Energy (1% = 1 Point, 3% = 2 Points; 5% = 3 Points; 7% = 4 Points; 9% = 5 Points; 11% = 6 Points; 13% = 7 Points)	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 3	Enhanced Commissioning	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Credit 4	Enhanced Refrigerant Management	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 5	Measurement & Verification	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 6	Green Power	1
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<b>17 Points Available</b>	<b>17</b>

# WASHTENAW COUNTY JUSTICE COMPLEX

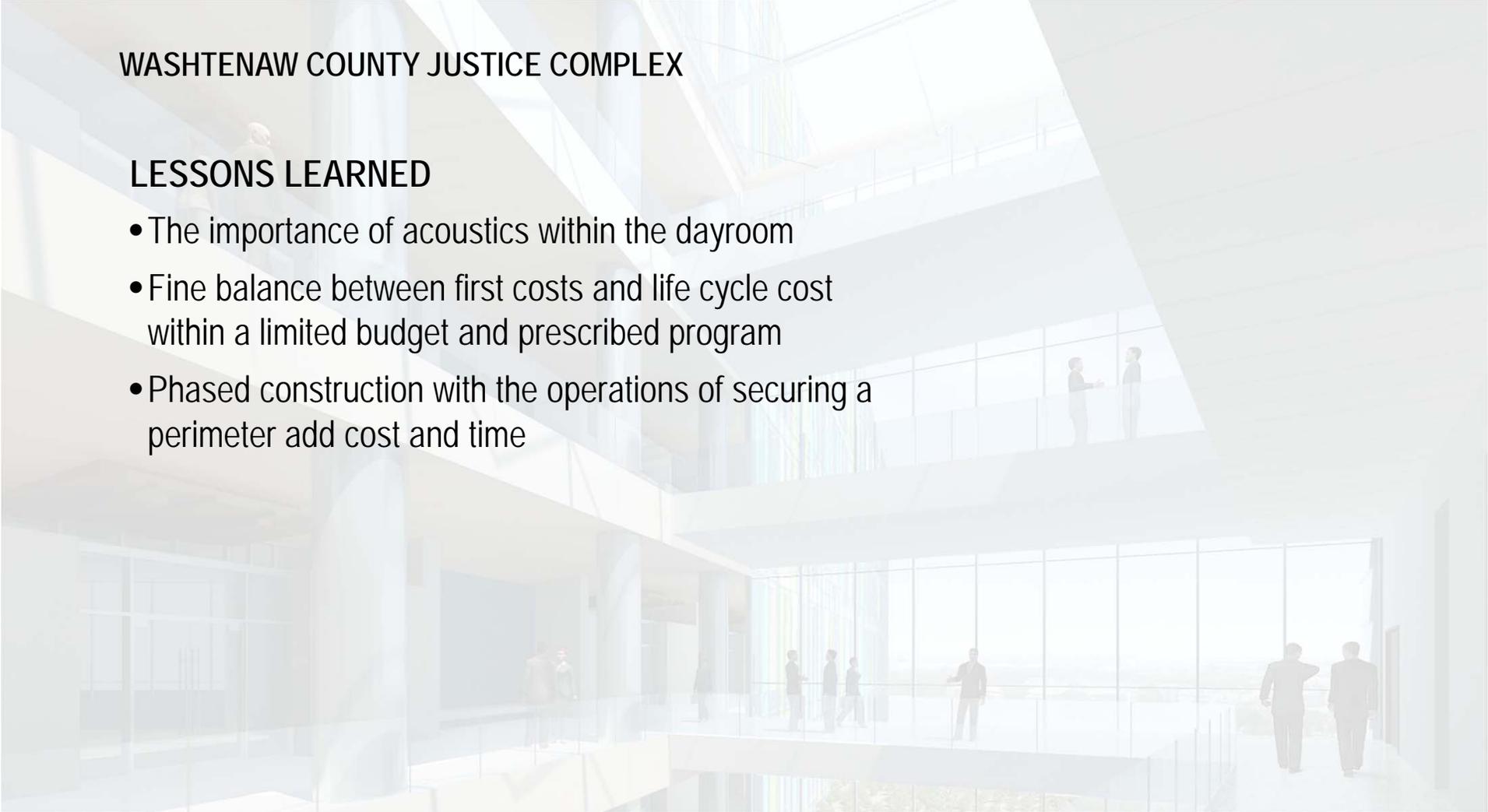


## 14A District Court LEED NC 2.2

### LEED Score Card

- Materials – 50% Waste Mgt.; Recycled Content & Regional Materials
- Indoor Environment – Low Emitting Materials; System Control; Thermal Comfort

Prerequisite	Yes			Total Possible Points
<b>Materials &amp; Resources</b>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Prereq 1	<b>Storage &amp; Collection of Recyclables</b>
<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 1.1	<b>Building Reuse: Maintain Existing Walls, Floors &amp; Roof</b> (55% = 1 Point; 75% = 2 Points; 95% = 3 Points)
<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 1.2	<b>Building Reuse: Maintain Existing Interior Nonstructure Elements</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 2	<b>Construction Waste Management</b> (50% = 1 Point; 75% = 2 Points)
<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 3	<b>Materials Reuse</b> (5% = 1 Point; 10% = 2 Points)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 4	<b>Recycled Content</b> (10% = 1 Point; 20% = 2 Points)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 5	<b>Regional Materials</b> (10% = 1 Point; 20% = 2 Points)
<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 6	<b>Rapidly Renewable Materials</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 7	<b>Certified Wood</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>		0	7
				<b>13 Points Available</b>
<b>Indoor Environmental Quality</b>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Prereq 1	<b>Minimum IAQ Performance</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	D	Prereq 2	<b>Environmental Tobacco Smoke (ETS) Control</b>
<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 1	<b>Outdoor Air Delivery Monitoring</b>
<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 2	<b>Increased Ventilation</b>
<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 3.1	<b>Construction IAQ Management Plan: During Construction</b>
<input type="checkbox"/>	<input type="checkbox"/>	C	Credit 3.2	<b>Construction IAQ Management Plan: Before Occupancy</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 4.1	<b>Low-Emitting Materials: Adhesives &amp; Sealants</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 4.2	<b>Low-Emitting Materials: Paints &amp; Coatings</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 4.3	<b>Low-Emitting Materials: Flooring Systems</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 4.4	<b>Low-Emitting Materials: Composite Wood &amp; Agrifiber Products</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	D	Credit 5	<b>Indoor Chemical &amp; Pollutant Source Control</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	D	Credit 6.1	<b>Controllability of Systems: Lighting</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	D	Credit 6.2	<b>Controllability of Systems: Thermal Comfort</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	D	Credit 7.1	<b>Thermal Comfort: Design</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	D	Credit 7.2	<b>Thermal Comfort: Verification</b>
<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 8.1	<b>Daylight &amp; Views: Daylight</b>
<input type="checkbox"/>	<input type="checkbox"/>	D	Credit 8.2	<b>Daylight &amp; Views: Views</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>		0	9
				<b>15 Points Available</b>
<b>Innovation &amp; Design Process</b>				
<input type="checkbox"/>	<input type="checkbox"/>	D/C	Credit 1.1	<b>Innovation in Design</b>
<input type="checkbox"/>	<input type="checkbox"/>	D/C	Credit 1.2	<b>Innovation in Design</b>
<input type="checkbox"/>	<input type="checkbox"/>	D/C	Credit 1.3	<b>Innovation in Design</b>
<input type="checkbox"/>	<input type="checkbox"/>	D/C	Credit 1.4	<b>Innovation in Design</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	Credit 2	<b>LEED Accredited Professional</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>		0	1
				<b>5 Points Available</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>		0	34
				<b>Total</b>
				<b>69</b>
Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52 points and above				



## WASHTENAW COUNTY JUSTICE COMPLEX

### LESSONS LEARNED

- The importance of acoustics within the dayroom
- Fine balance between first costs and life cycle cost within a limited budget and prescribed program
- Phased construction with the operations of securing a perimeter add cost and time

## KENT COUNTY CORRECTIONAL REPLACEMENT



- County seat: Grand Rapids
- Home to Amway, Herman Miller and Steelcase
- Population: 602,622 (4.9% Growth)
- Existing Capacity: 1,107 beds
- Replacement of antiquated detention beds
  - Building H Dormitories: 192 beds
  - Buildings L & M: 320 beds

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## KENT COUNTY CORRECTIONAL REPLACEMENT

Housing Unit	Number of Units	Number of Beds per Unit	Total Beds
Dormitory	3	64	192
Small Multi-Occupancy	3	32	96
Large Multi-Occupancy	2	64	128
Classification Orientation	1	96	96
<b>Total</b>			<b>512</b>

## KENT COUNTY CORRECTIONAL REPLACEMENT

Housing Unit	Number of Units	Number of Beds per Unit	Total Beds	Square Foot per Unit	Total Square Feet
Small Multi-Occupancy	3	32	96	12,043	36,130
Large Multi-Occupancy	2	64	128	12,043	24,086
Classification Orientation	1	88	88	17,072	17,072
Total	6		312		77,288
Building Gross @ 12%					9,275
<b>GRAND TOTAL BUILDING REQUIREMENT</b>					<b>86,563</b>

# KENT COUNTY CORRECTIONAL REPLACEMENT



EXISTING MASTER PLAN

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# KENT COUNTY CORRECTIONAL REPLACEMENT

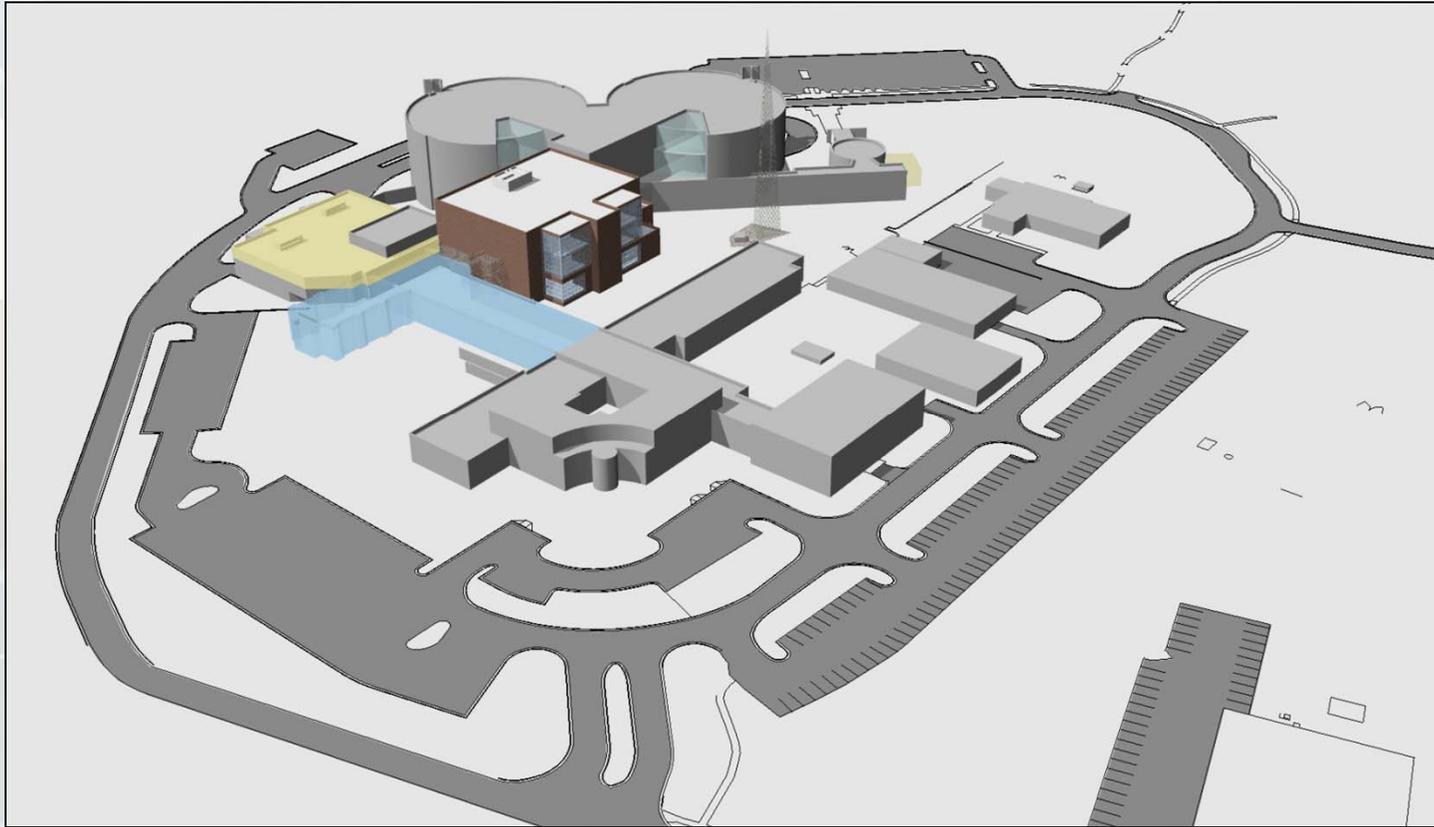


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# KENT COUNTY CORRECTIONAL REPLACEMENT



MASTER PLAN DIAGRAM

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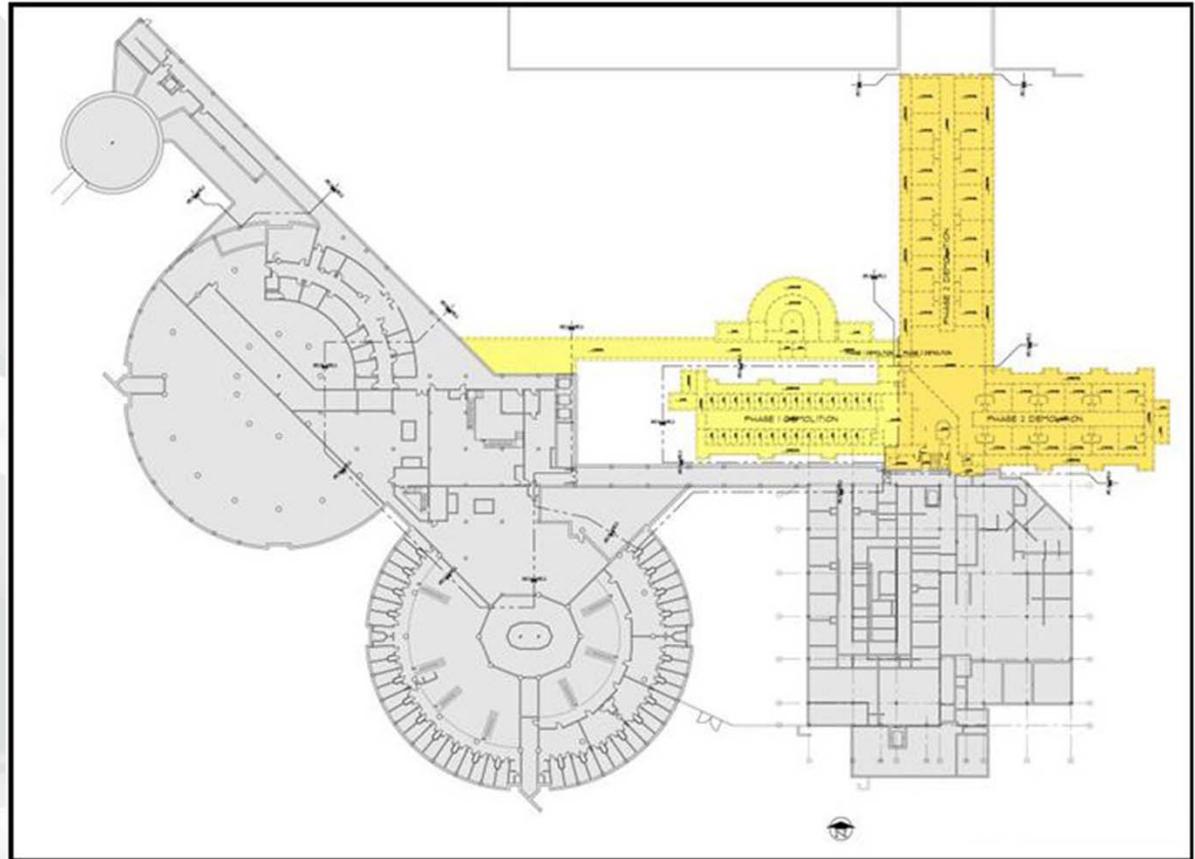
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# KENT COUNTY CORRECTIONAL REPLACEMENT

Existing housing to be replaced



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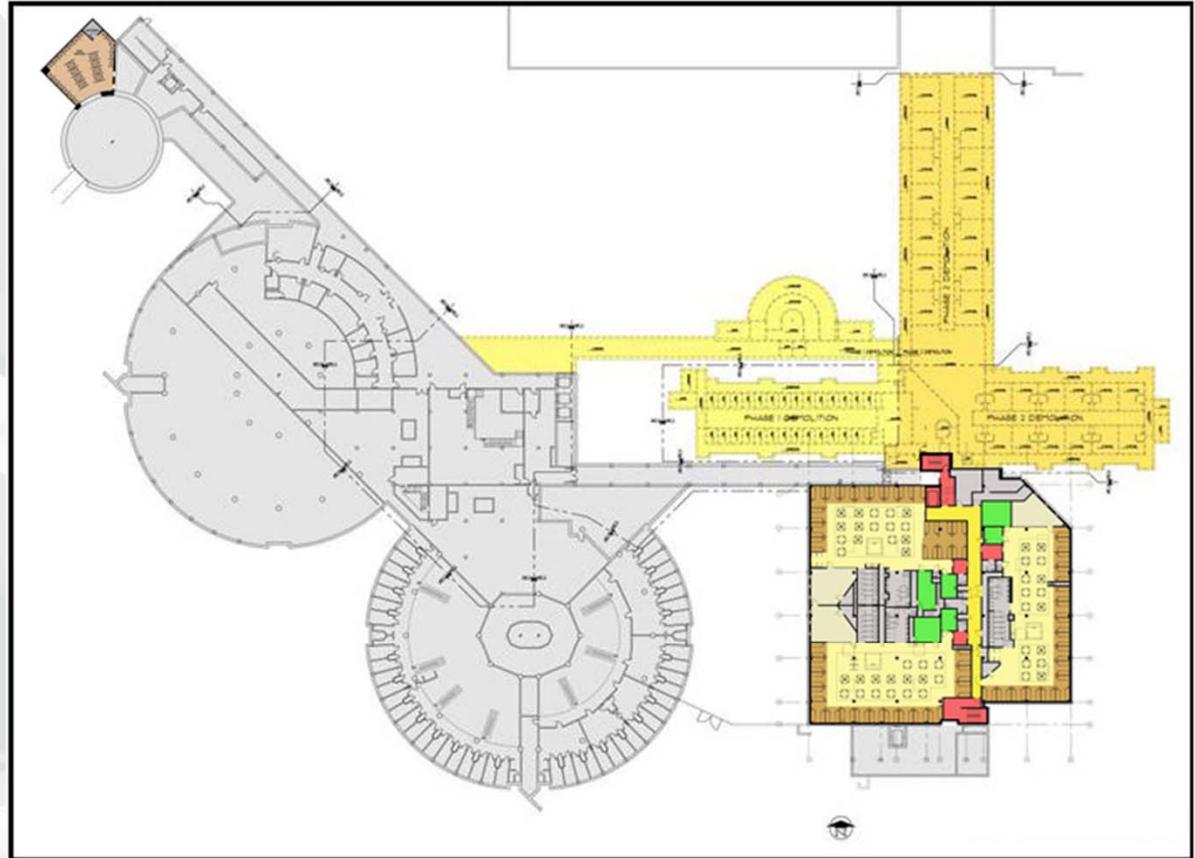
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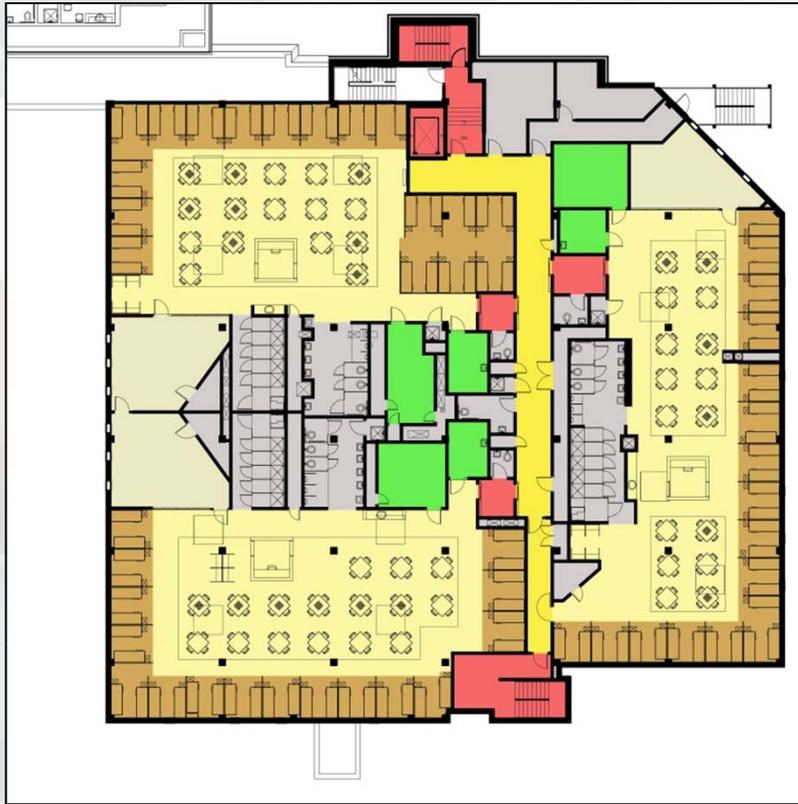
## KENT COUNTY CORRECTIONAL REPLACEMENT

### PHASE ONE

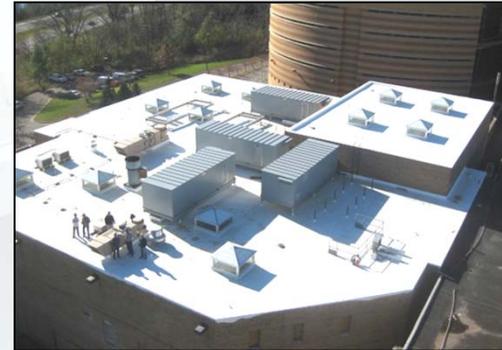
- Remodel H2 in to Dormitories (3) 64 beds
- Construct video visitation unit
- Install video visitation through out the existing jail



# KENT COUNTY CORRECTIONAL REPLACEMENT



H2 DORMITORY (192 BEDS)

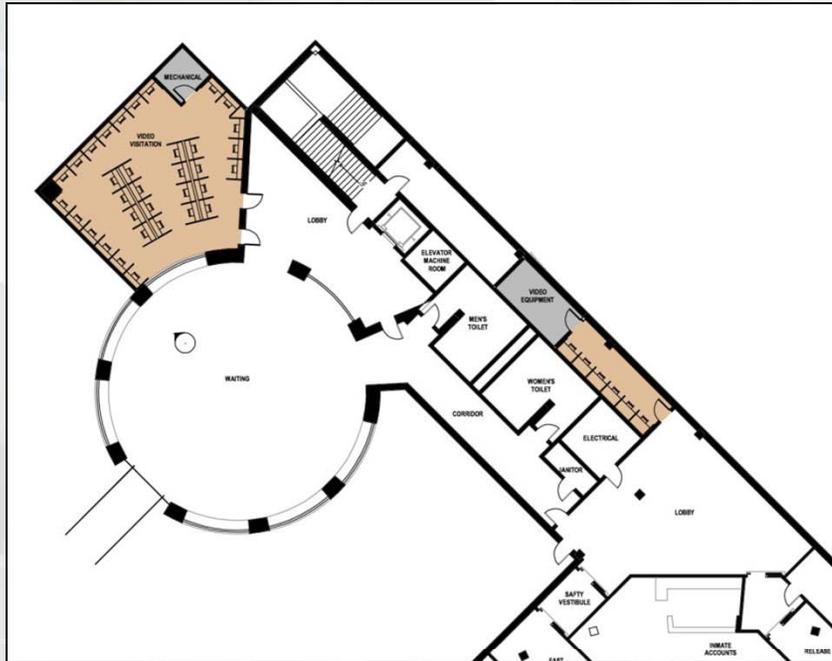


**POETIC PRAGMATISM**  
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# KENT COUNTY CORRECTIONAL REPLACEMENT



VIDEO VISITATION



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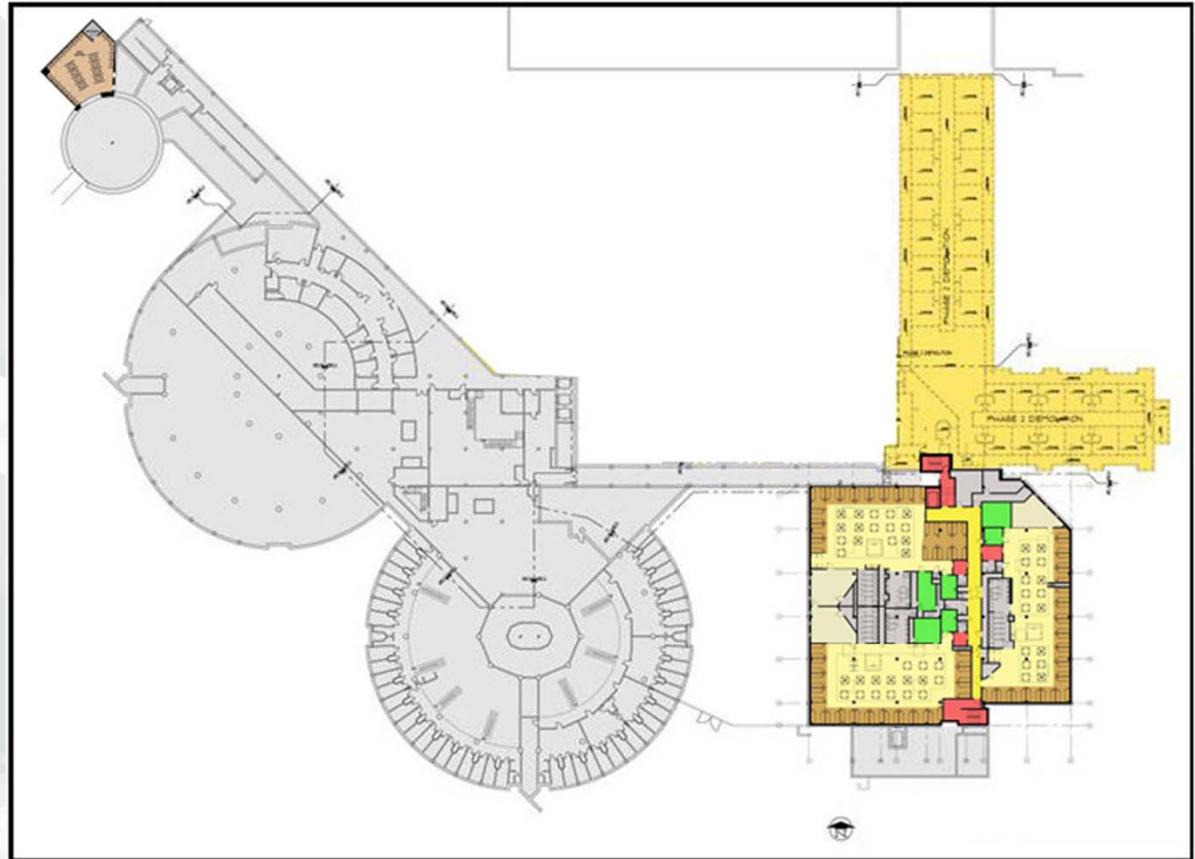
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## KENT COUNTY CORRECTIONAL REPLACEMENT

### PHASE TWO

- Move inmates to new dormitory beds
- Demolish portion of existing housing



# KENT COUNTY CORRECTIONAL REPLACEMENT



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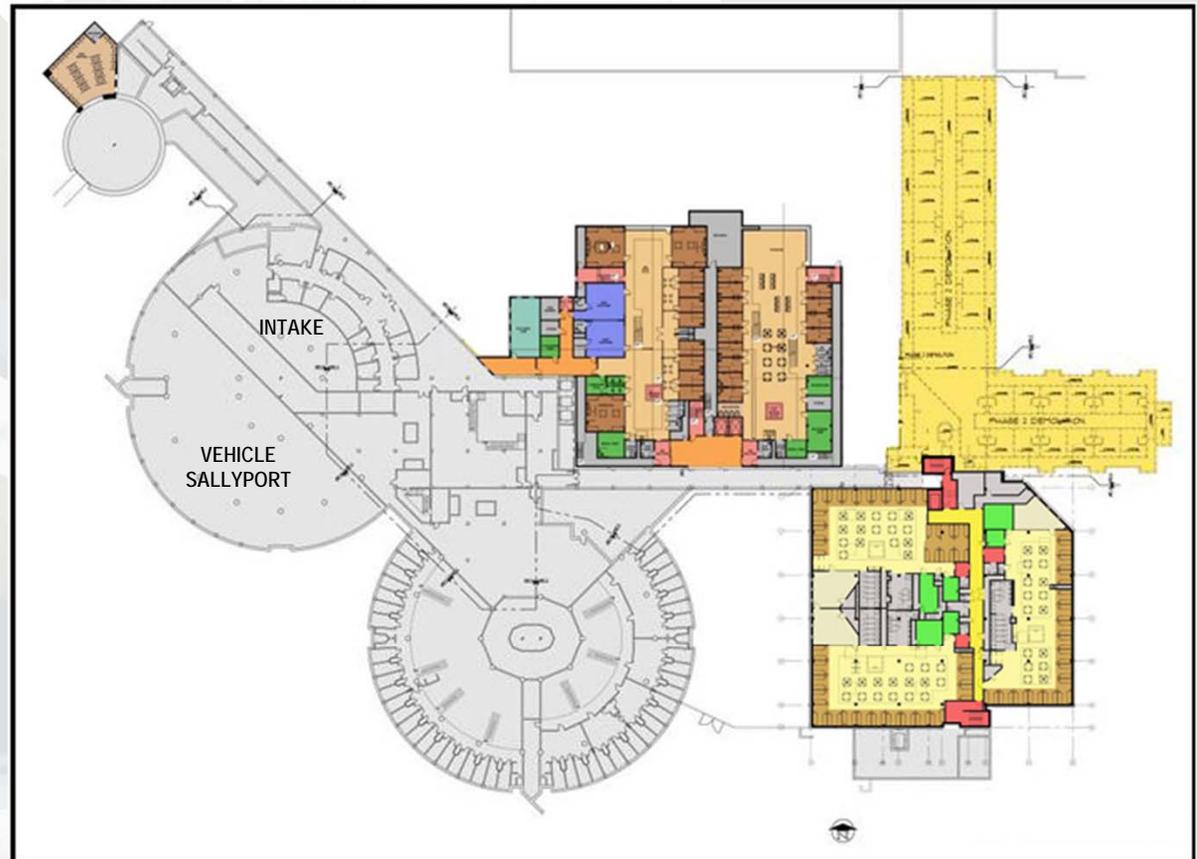


## KENT COUNTY CORRECTIONAL REPLACEMENT

### PHASE THREE

Construct new housing

- Classification Pod
- Two 64-bed 8 man cells
- Three 63-bed 2 man cells



# KENT COUNTY CORRECTIONAL REPLACEMENT



FIRST FLOOR PLAN

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# KENT COUNTY CORRECTIONAL REPLACEMENT



FIRST FLOOR MEZZANINE PLAN



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# KENT COUNTY CORRECTIONAL REPLACEMENT



SECOND AND THIRD FLOOR PLAN



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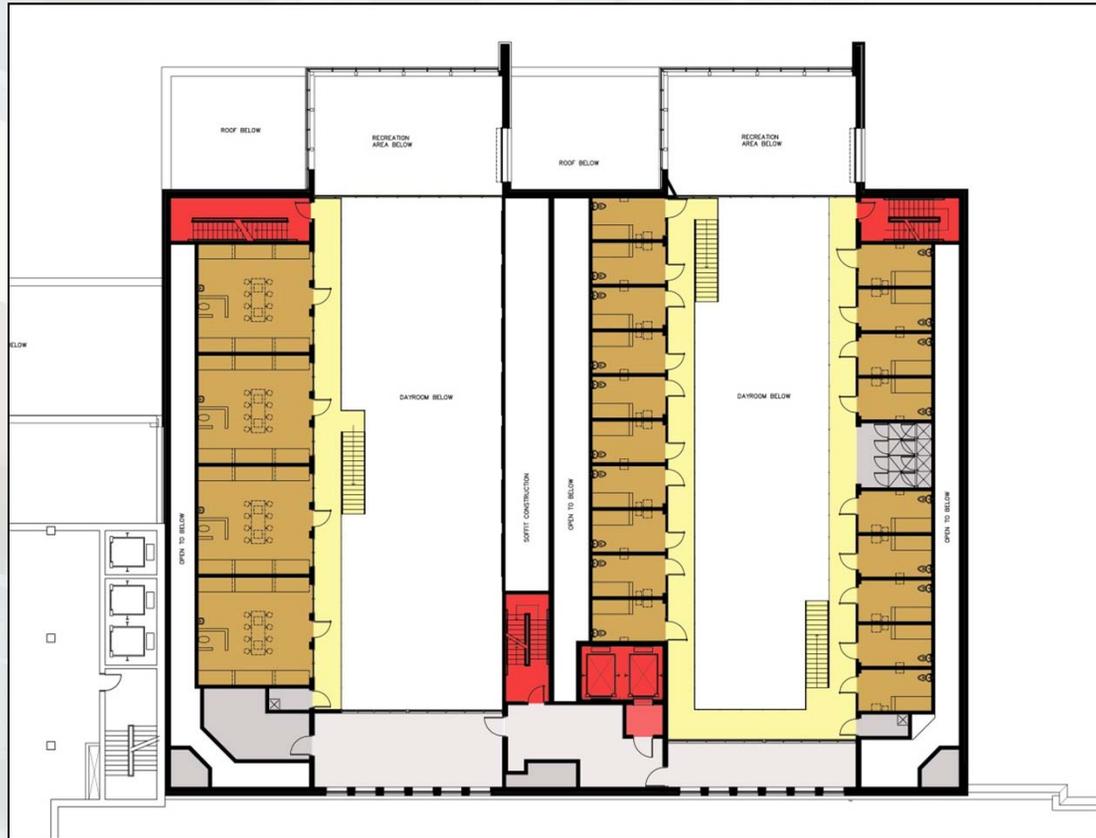
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# KENT COUNTY CORRECTIONAL REPLACEMENT



SECOND AND THIRD FLOOR MEZZANINE PLAN

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## KENT COUNTY CORRECTIONAL REPLACEMENT



BUILDING SECTION

### Key Attributes

- Loadbearing CMU with Precast Planks
- Rear Service Chases
- Extensive Daylighting
- Ground Source Heat Pumps

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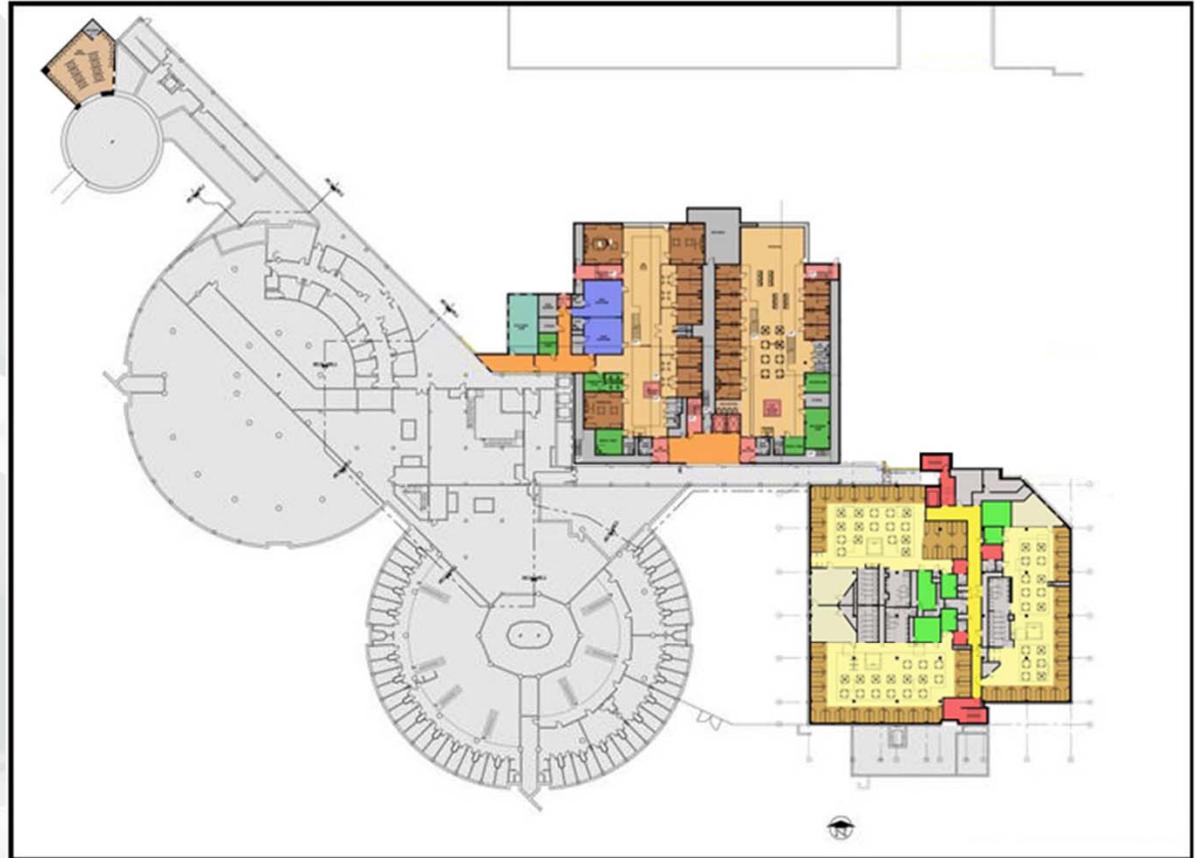
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## KENT COUNTY CORRECTIONAL REPLACEMENT

### PHASE FOUR

- Move inmates to new housing units
- Demolish remainder of 1950's housing units



## KENT COUNTY CORRECTIONAL REPLACEMENT



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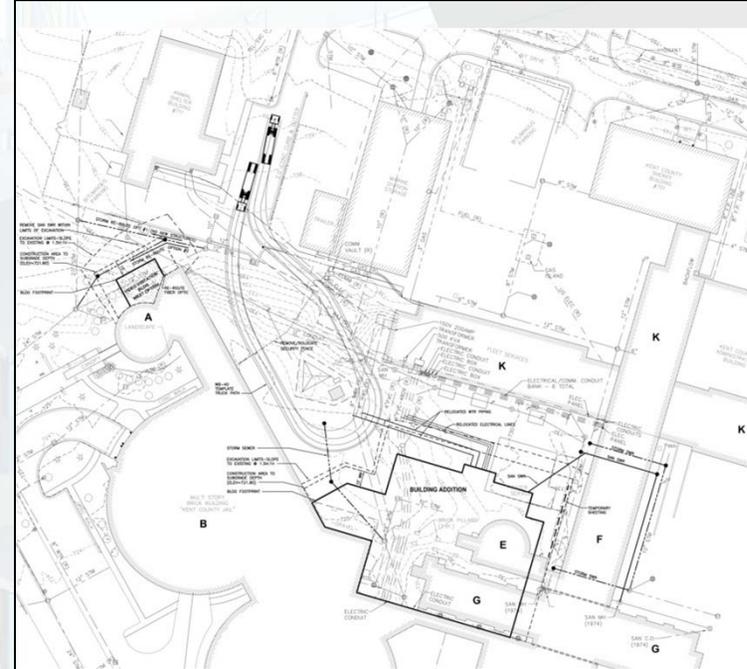
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## KENT COUNTY CORRECTIONAL REPLACEMENT



### SCHEDULE

- Key Dates: Start January 12, 2009
- Finish December 3, 2012 (1,421 days)

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## KENT COUNTY CORRECTIONAL REPLACEMENT

### SIZE

- 92,500 SF Addition
- 16,750 SF Renovation
- 60,000 SF Demolition

### COST

- 24 million Construction Cost

### Energy Use

- Projected to be less than \$2.00 per SF



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SESSION # CD-05

NOVEMBER 4, 2011 | 8:00 AM

# JUSTICE DESIGN FOR A NEW ECONOMY

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