

# **Middle River Regional Jail Community Based Corrections Plan Needs Assessment and Facility Planning Study**

## **Presentation to Jail Authority**

December 3, 2019

**MOSELEYARCHITECTS**

# Facility Overview

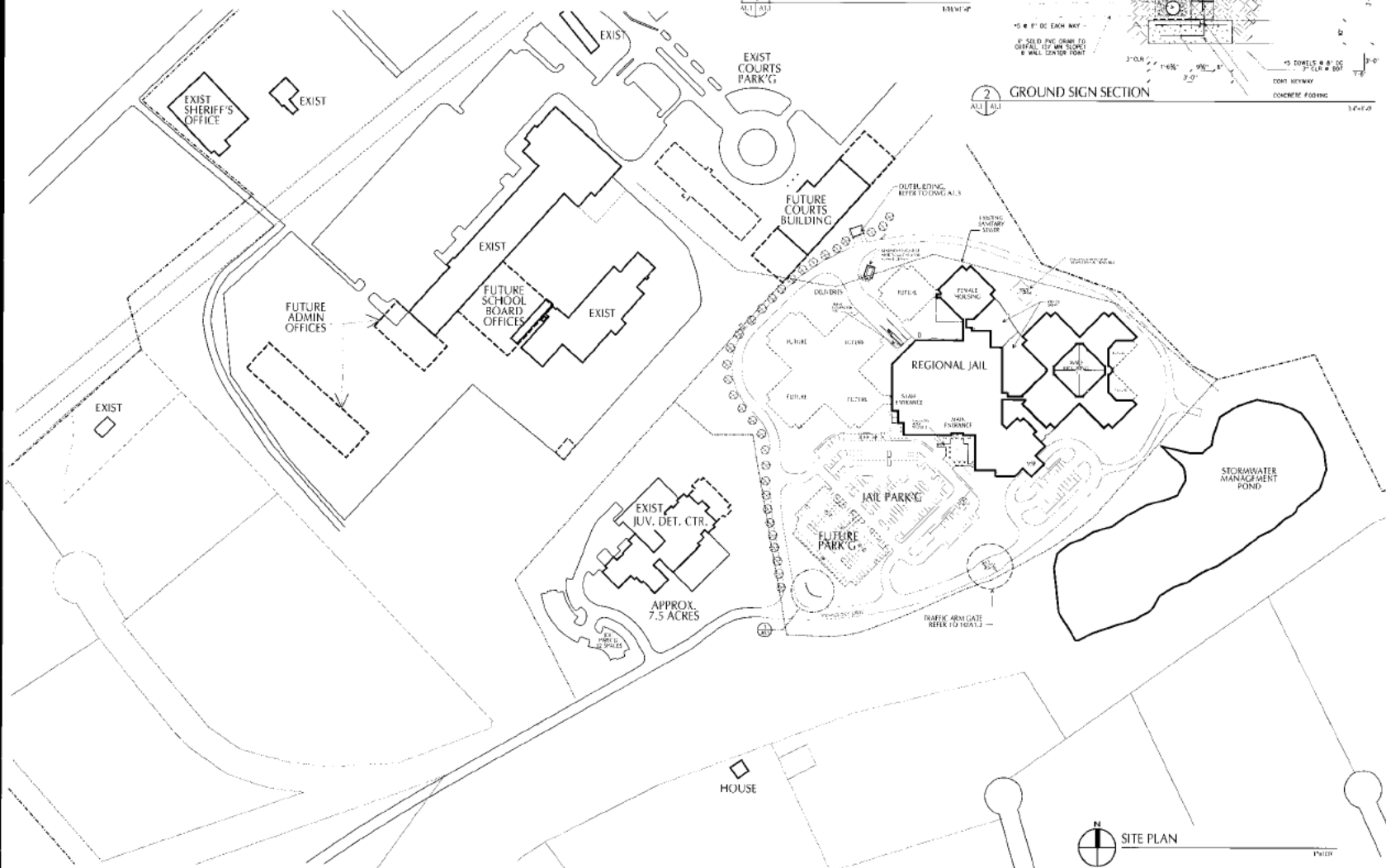
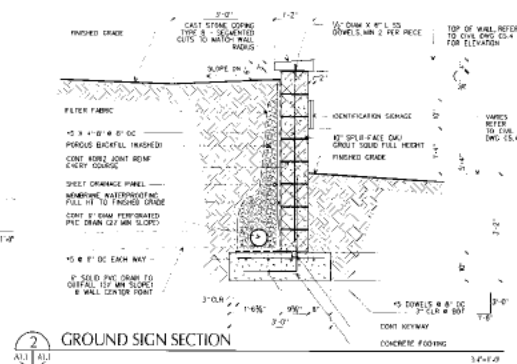
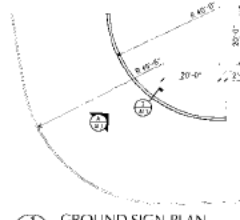
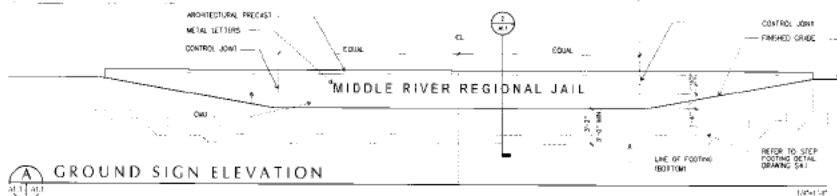
## Background

- Original DOC rated capacity of MRRJ = 396
- Original DOC rated capacity of Rockingham-Harrisonburg = 208
- Core space added for 50% expansion
- Recent inmate population = 854
- Populations have previously been above 1,000
- RFP envisioned 400 Community Custody beds
- Original Plan included approximately 30 beds for Community Custody, including Weekenders

## Current Bed Configuration (1,001 beds)

- 375 beds in General Population Dormitory housing
- 552 beds in General Population Cell Block housing
- 29 beds in Holding (Booking/Intake)
- 7 medical beds
- 38 beds in Segregation housing
- Dormitory housing and cell blocks being used for CC and work force
- Approximately 130 inmates in the community working and 50 inmates on workforce assignments
- Current ADP about 935
- Forecast for 2029 is 1283 ADP

NOTE: ELEVATION IS DRAWN PLAT ACTUAL.  
WALL IS THINER AS INDICATED ON DWG. A1.1



MIDDLE RIVER REGIONAL JAIL  
MIDDLE RIVER REGIONAL JAIL AUTHORITY  
VERONA, VIRGINIA

ARCHITECTS  
A PROFESSIONAL CORPORATION  
101 JEFFERSON PARKWAY, SUITE 200, VERONA, VIRGINIA 22690  
PHONE: (540) 738-1100 FAX: (540) 738-1101  
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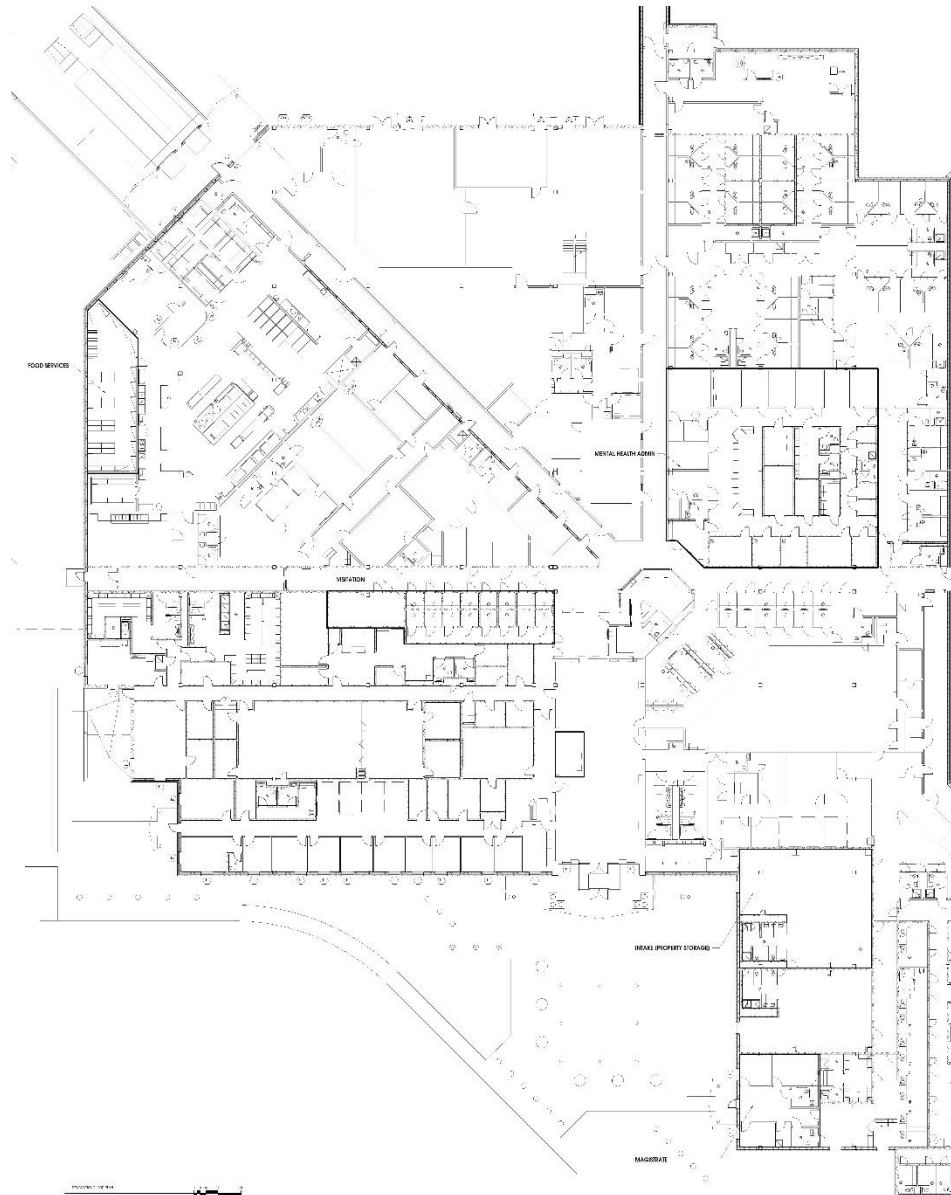
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DATE: 03/01/00  
DRAWN BY: J. L. JONES  
CHECKED BY: J. L. JONES  
DATE: 03/01/00  
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ARCHITECTURAL  
SITE PLAN

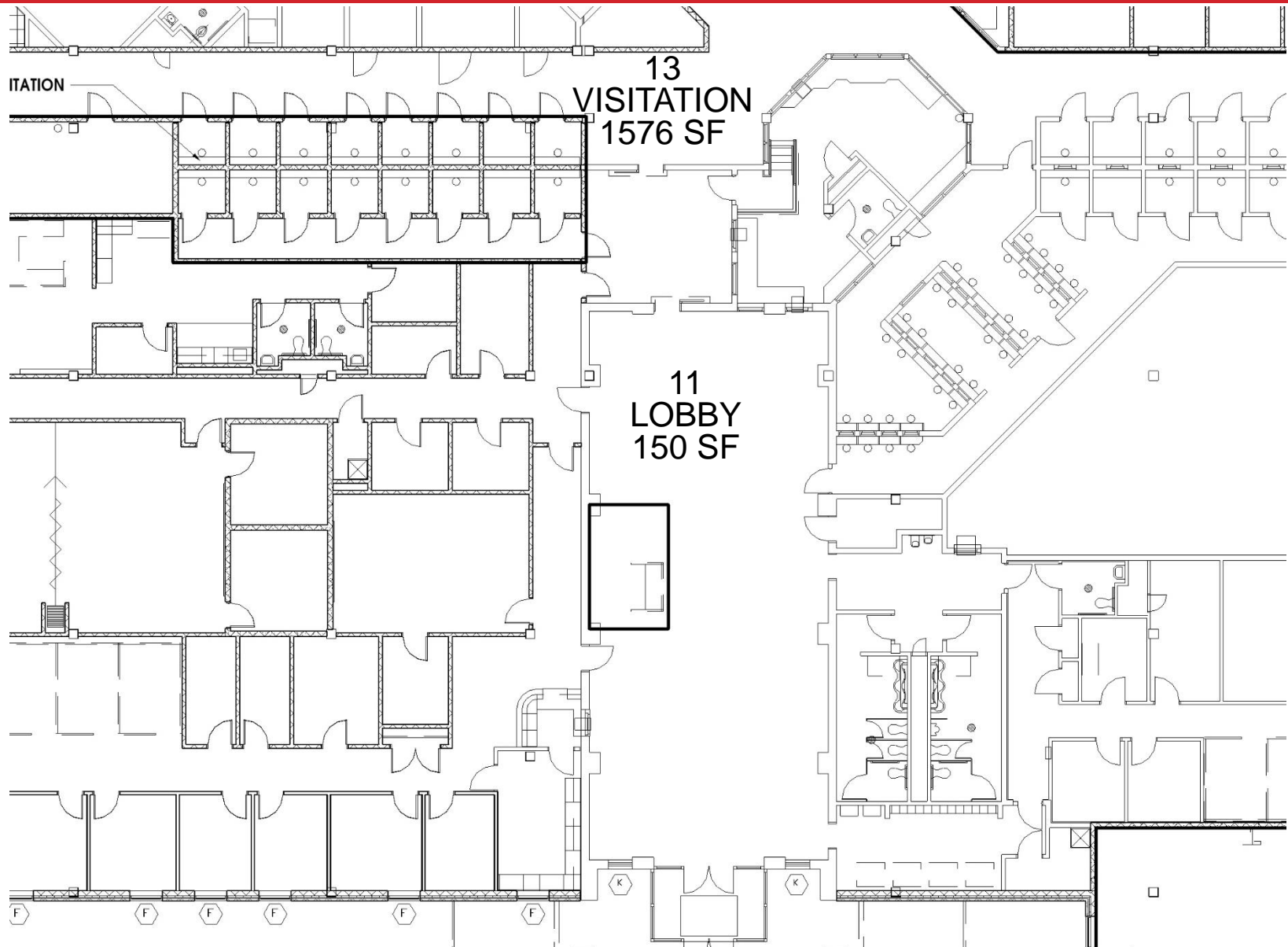
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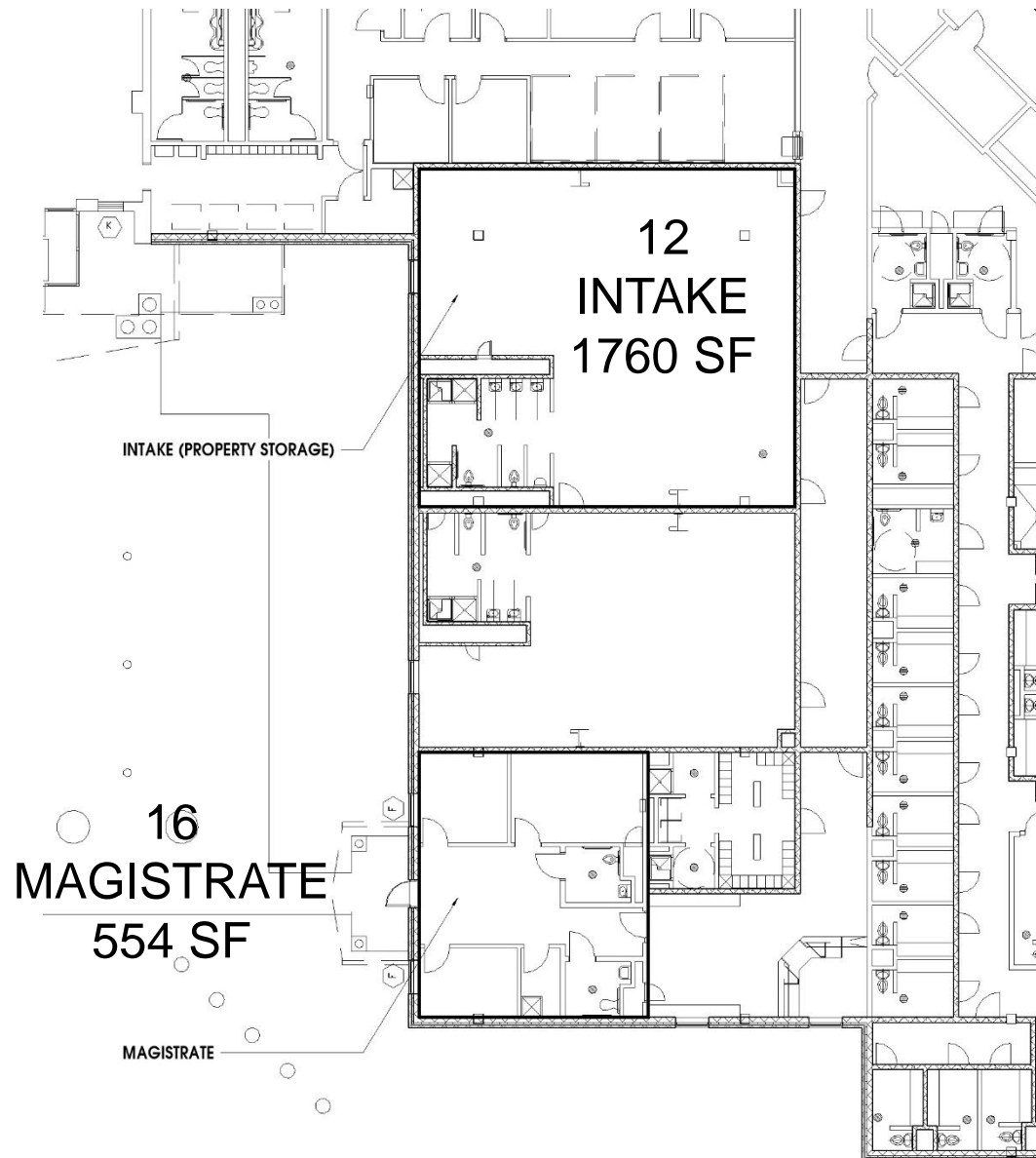
# Renovation



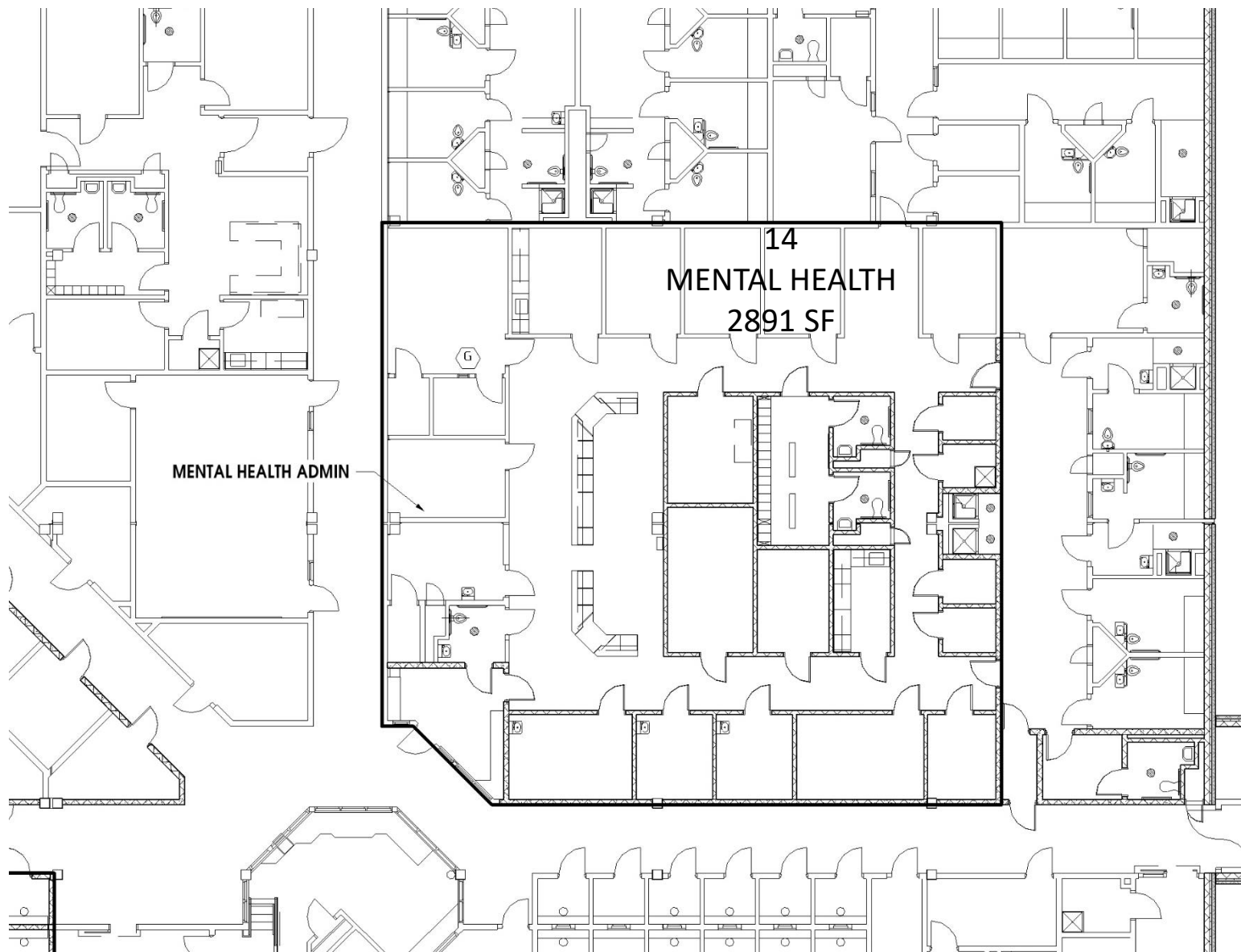
# Renovation



# Renovation



# Renovation

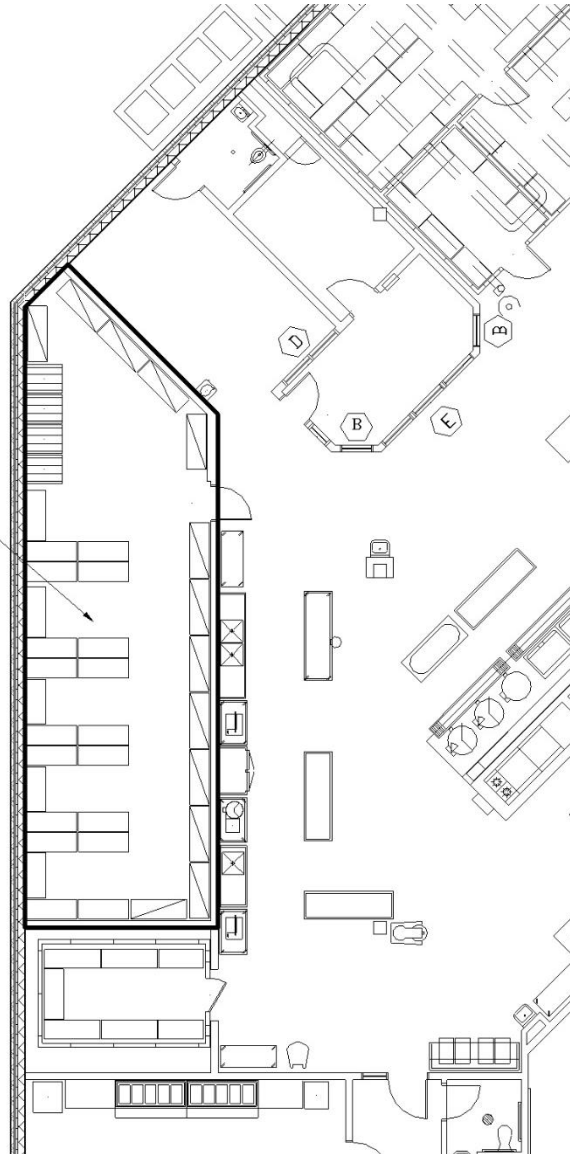




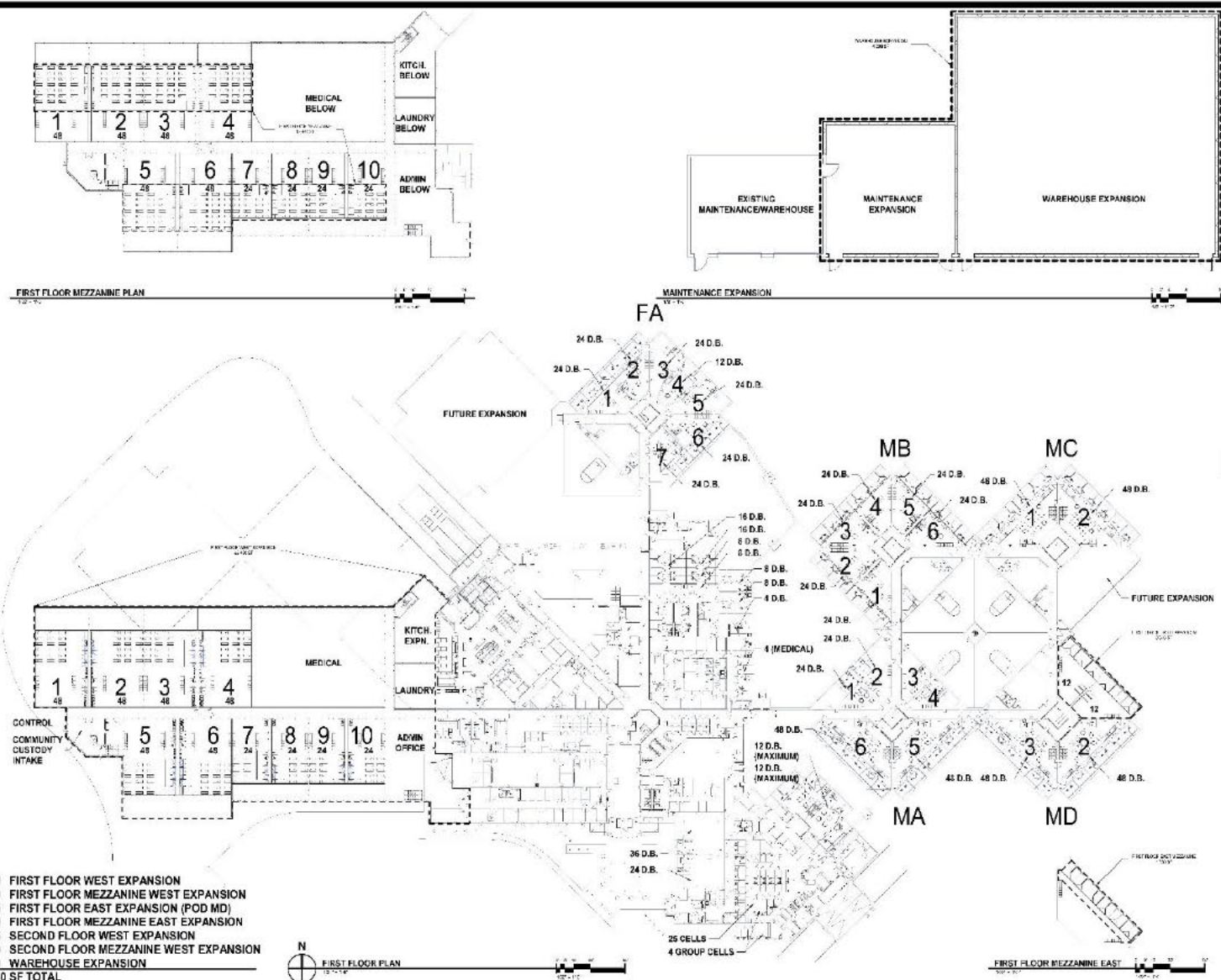
# Renovation

15  
FOOD SERVICES  
896 SF

FOOD SERVICES



# OPTION A



**MOSELEYARCHITECTS**

1000 BENTLEY AVENUE, SUITE 200  
 FARMERSVILLE, VA 22434  
 TEL: 540-821-1111  
 FAX: 540-821-1112

PROGRESS  
 PRINT NOT FOR  
 CONSTRUCTION

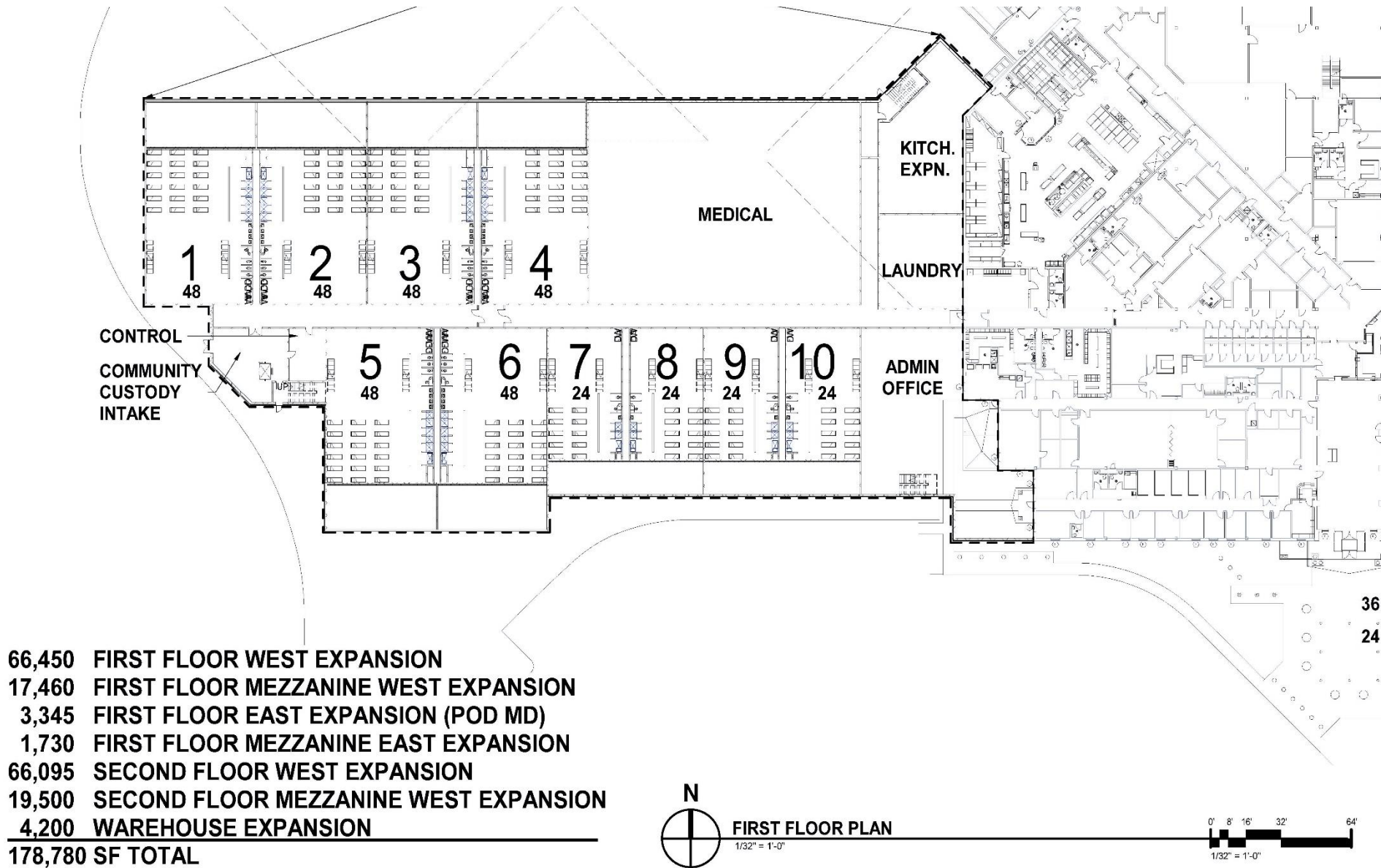
**MIDDLE RIVER REGIONAL JAIL - CBCP**

MIDDLE RIVER REGIONAL JAIL  
 350 TECHNOLOGY DR., STAUNTON, VA 24401

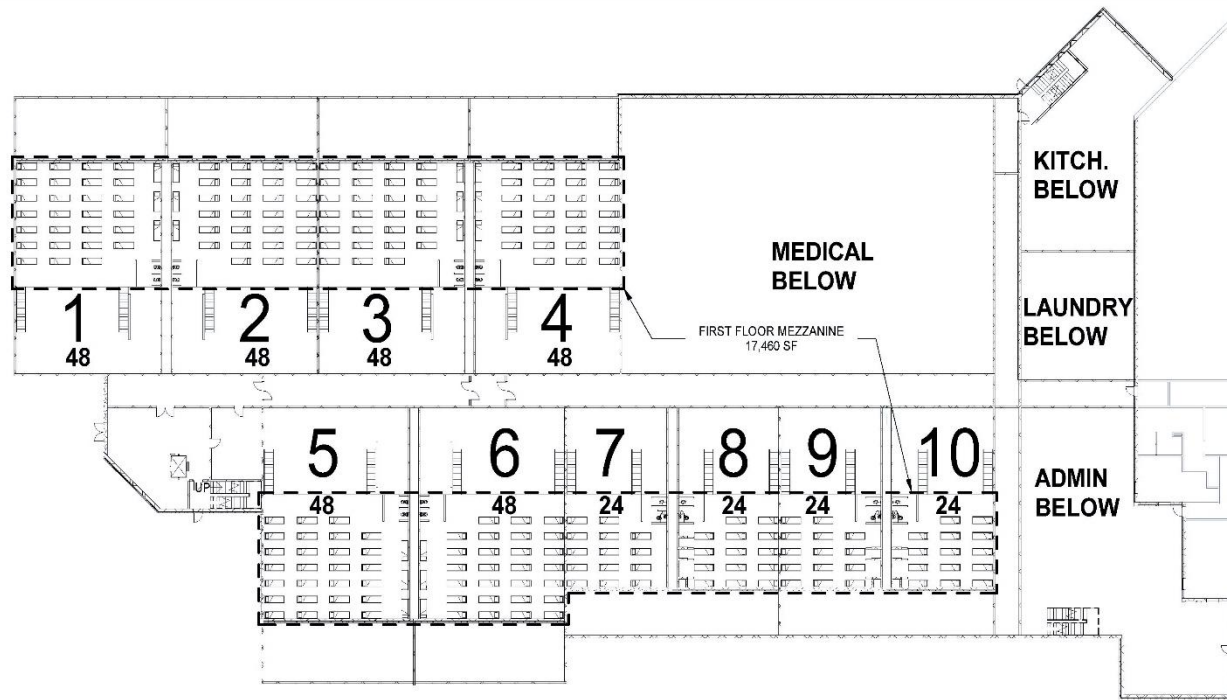
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BY	J. MOSELEY
CHECKED BY	J. MOSELEY
SCALE	AS SHOWN

FIRST FLOOR  
 P. 01

# OPTION A

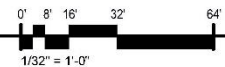


# OPTION A



**FIRST FLOOR MEZZANINE PLAN**

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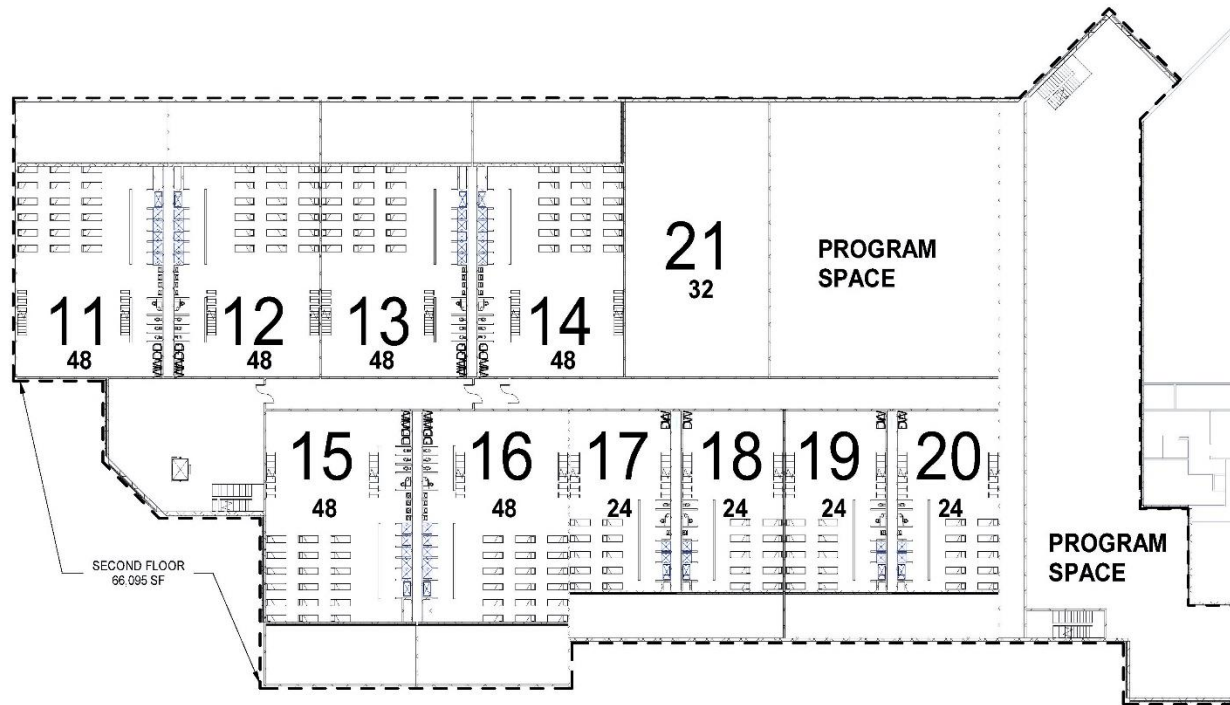


24 D.B.

24 D.B.

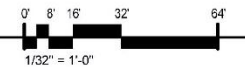
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# OPTION A



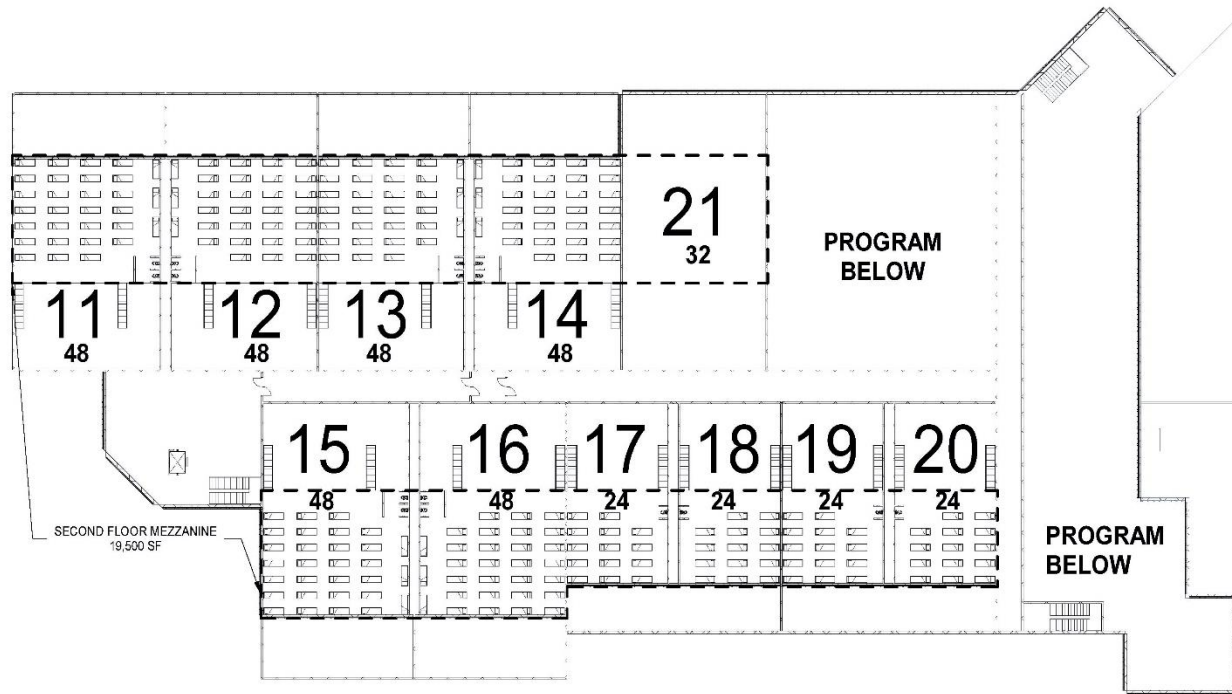
**SECOND FLOOR PLAN**

1/32" = 1'-0"



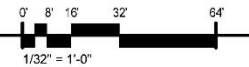


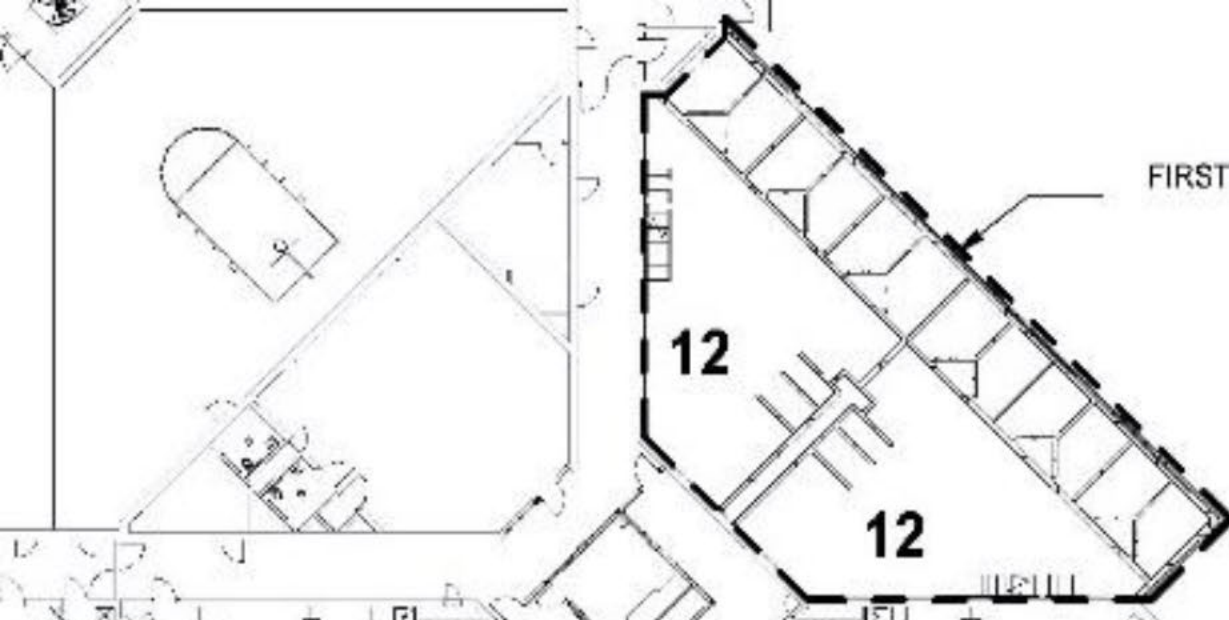
# OPTION A



**SECOND FLOOR MEZZANINE PLAN**

1/32" = 1'-0"





FIRST FLOOR EAST EXPANSION  
3,345 SF

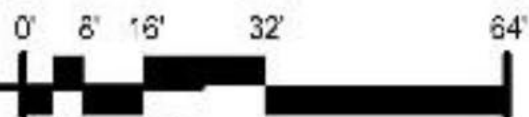
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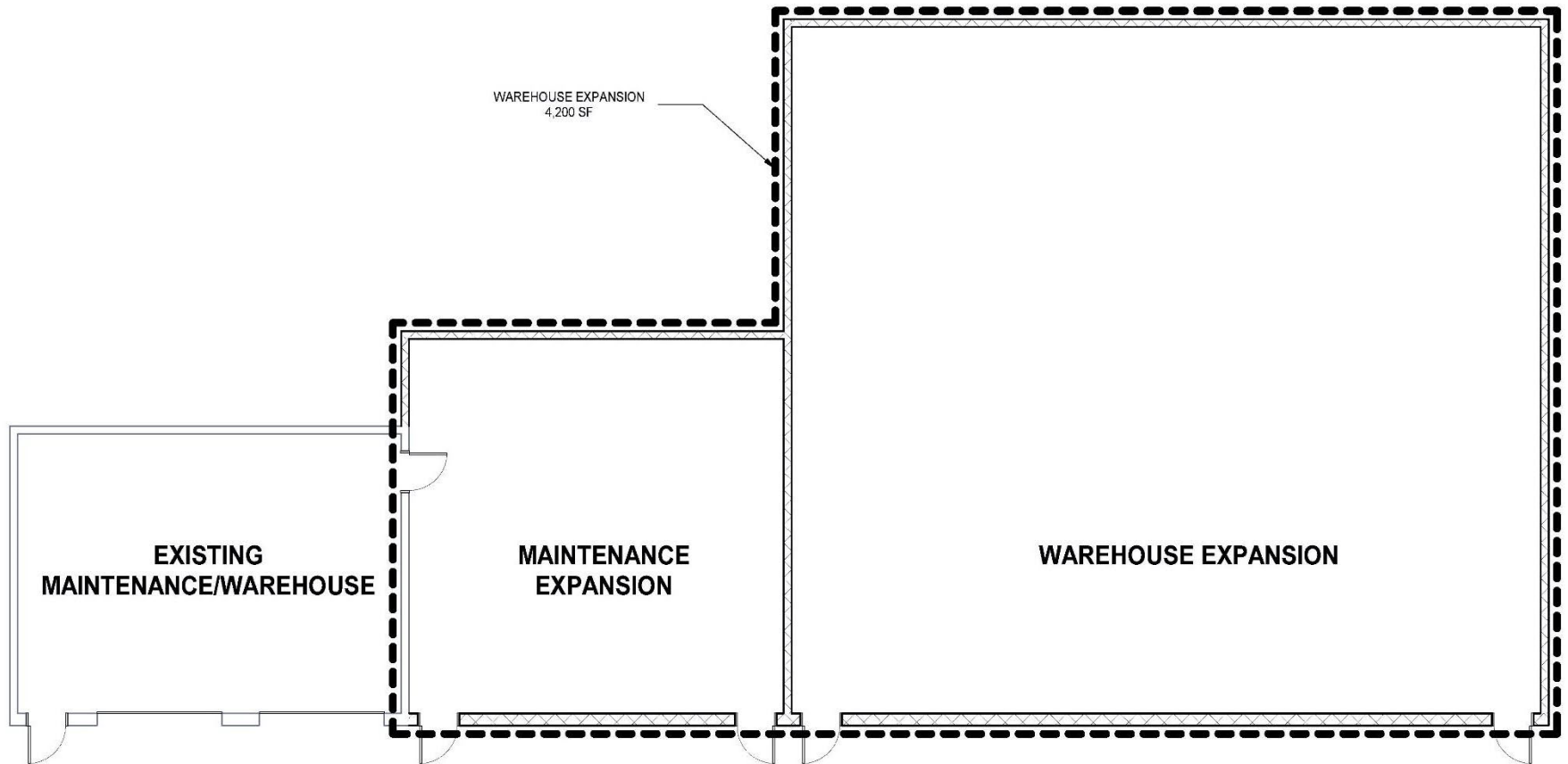
FIRST FLOOR EAST MEZZANINE  
1,730 SF

**FIRST FLOOR MEZZANINE EAST**

1/32" = 1'-0"



# OPTION A



**MAINTENANCE EXPANSION**

1/8" = 1'-0"





# OPTION B

**MOSELEYARCHITECTS**

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1000 N. 10TH ST., SUITE 100  
FARMINGTON, VA 22401  
TEL: 540-891-1000  
WWW.MOSELEYARCHITECTS.COM

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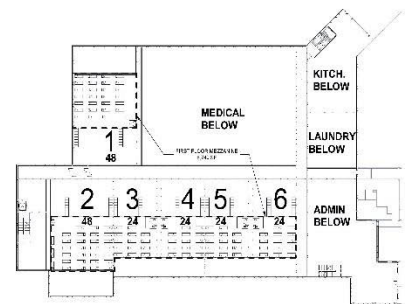
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350 TECHNOLOGY DR., STAUNTON, VA 24401

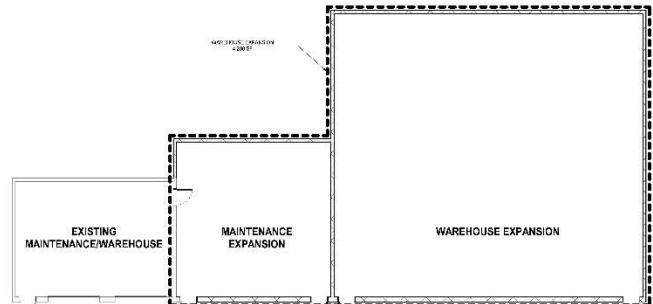
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DATE 01/15/10  
BY JTB

FIRST FLOOR  
PLAN

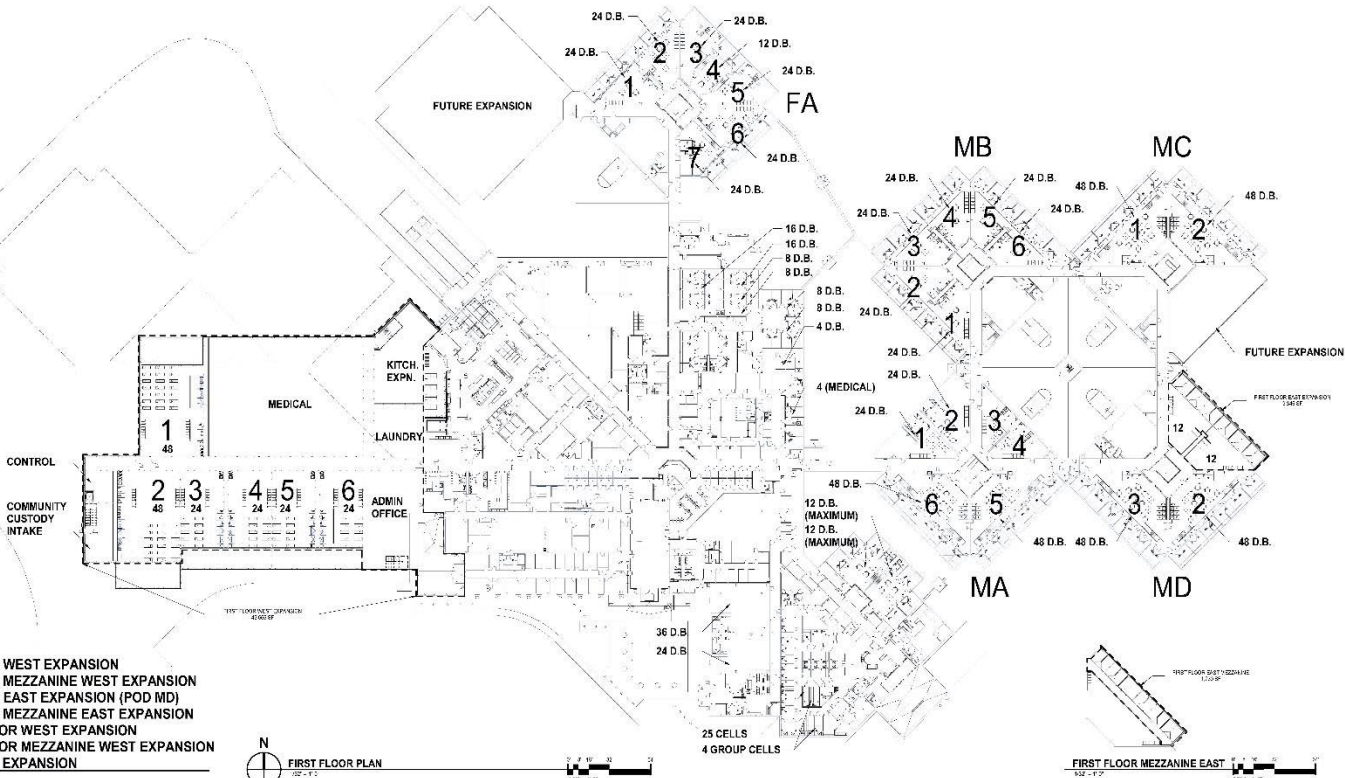
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FIRST FLOOR MEZZANINE PLAN



MAINTENANCE EXPANSION



FIRST FLOOR PLAN

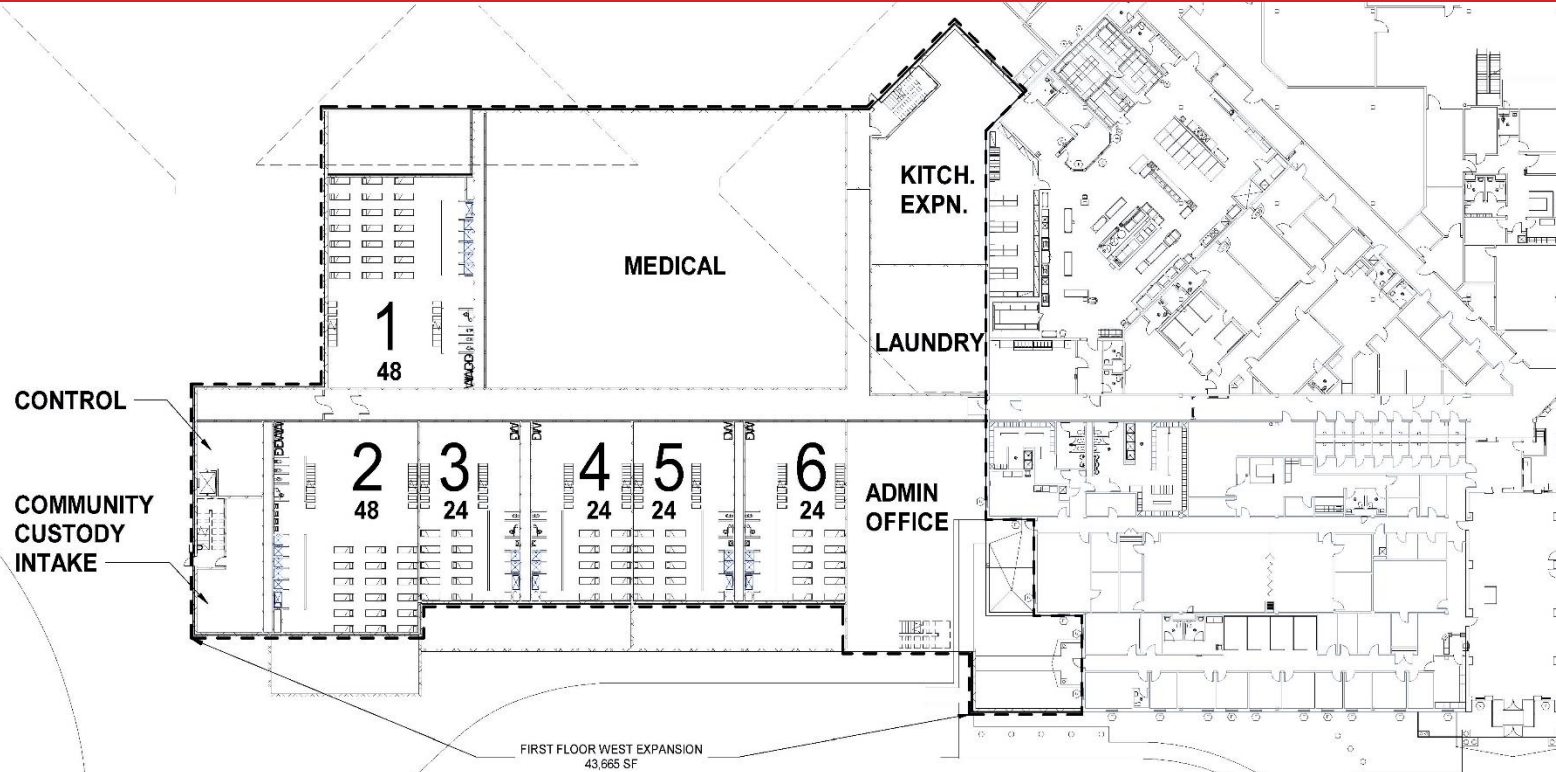


FIRST FLOOR MEZZANINE EAST



- 43,665 FIRST FLOOR WEST EXPANSION
- 8,740 FIRST FLOOR MEZZANINE WEST EXPANSION
- 3,345 FIRST FLOOR EAST EXPANSION (POD MD)
- 1,730 FIRST FLOOR MEZZANINE EAST EXPANSION
- 46,905 SECOND FLOOR WEST EXPANSION
- 10,350 SECOND FLOOR MEZZANINE WEST EXPANSION
- 4,200 WAREHOUSE EXPANSION
- 118,935 SF TOTAL

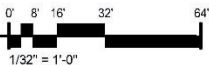
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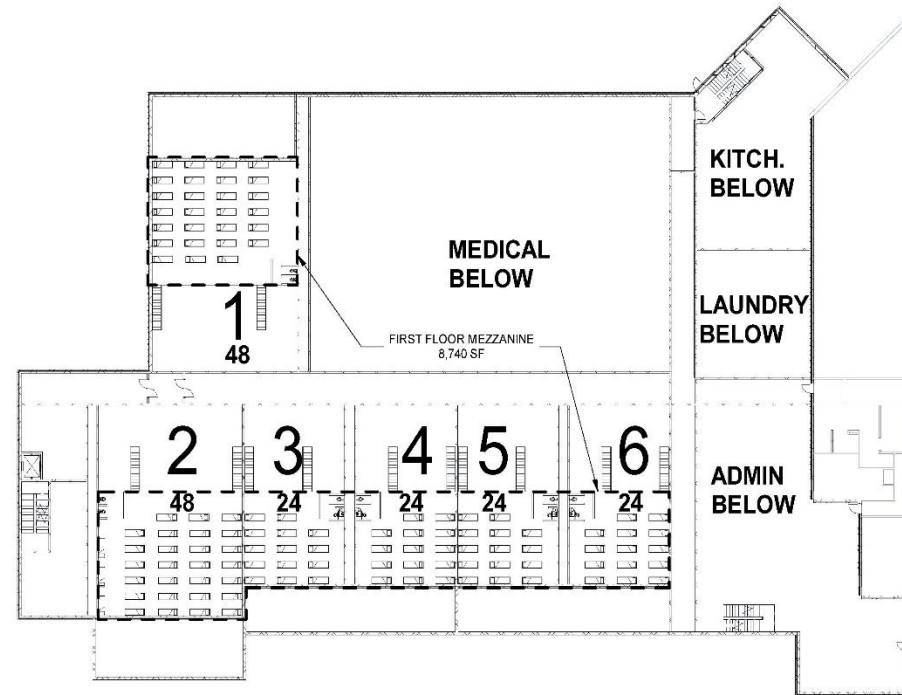
43,665	FIRST FLOOR WEST EXPANSION
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3,345	FIRST FLOOR EAST EXPANSION (POD MD)
1,730	FIRST FLOOR MEZZANINE EAST EXPANSION
46,905	SECOND FLOOR WEST EXPANSION
10,350	SECOND FLOOR MEZZANINE WEST EXPANSION
4,200	WAREHOUSE EXPANSION
<hr/>	
118,935 SF TOTAL	



**FIRST FLOOR PLAN**  
1/32" = 1'-0"

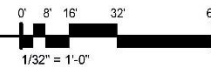


# OPTION B



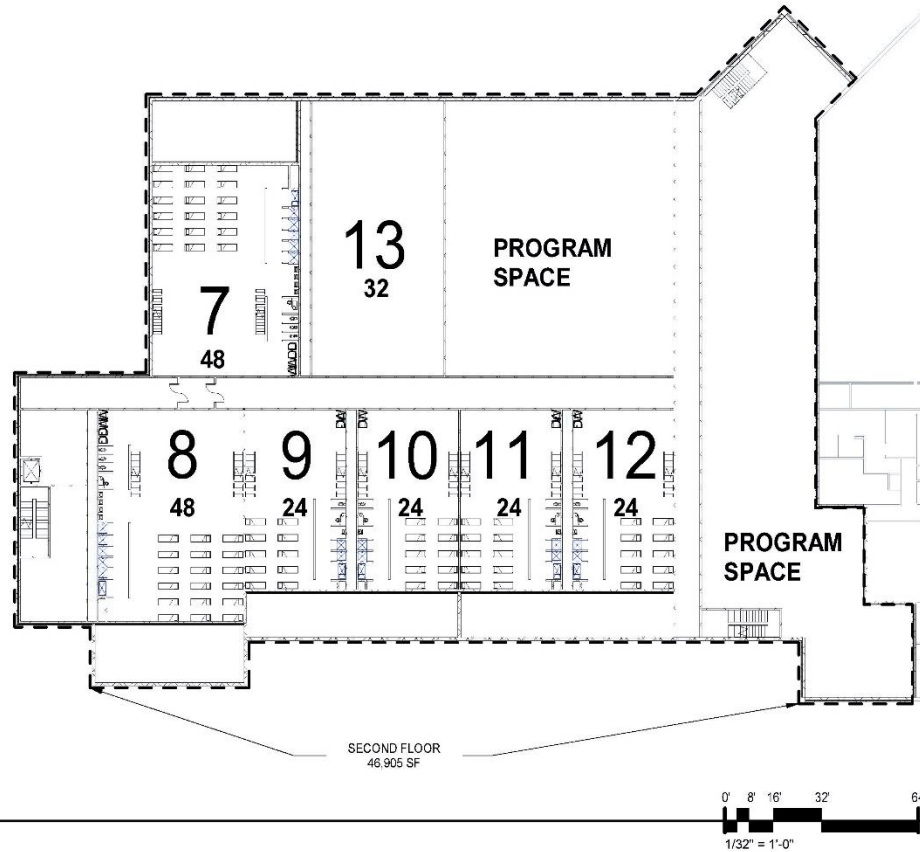
**FIRST FLOOR MEZZANINE PLAN**

1/32" = 1'-0"



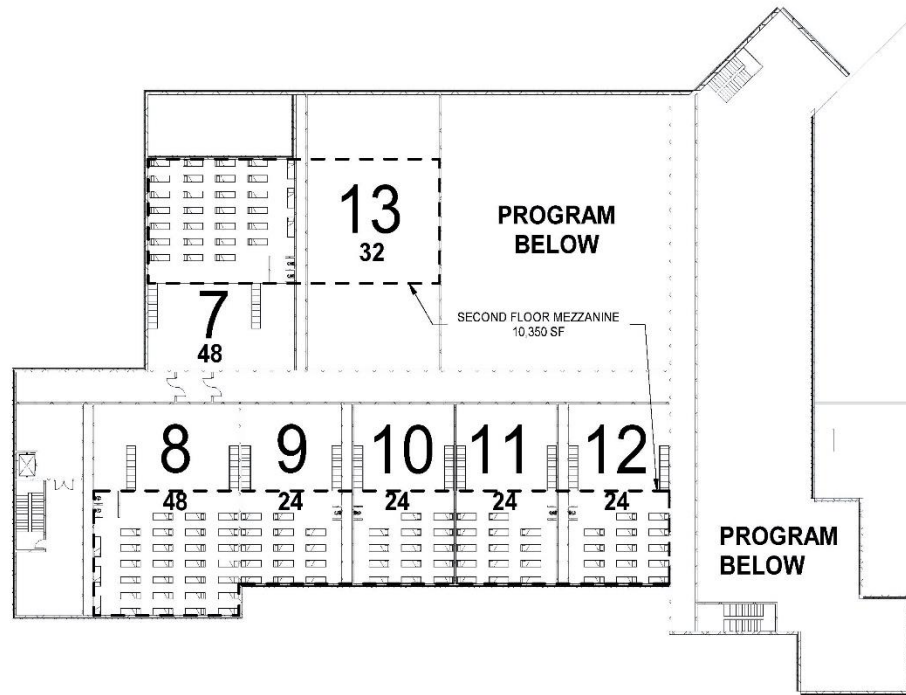
**FUTURE EXPANSION**

# OPTION B



SECOND FLOOR PLAN

# OPTION B

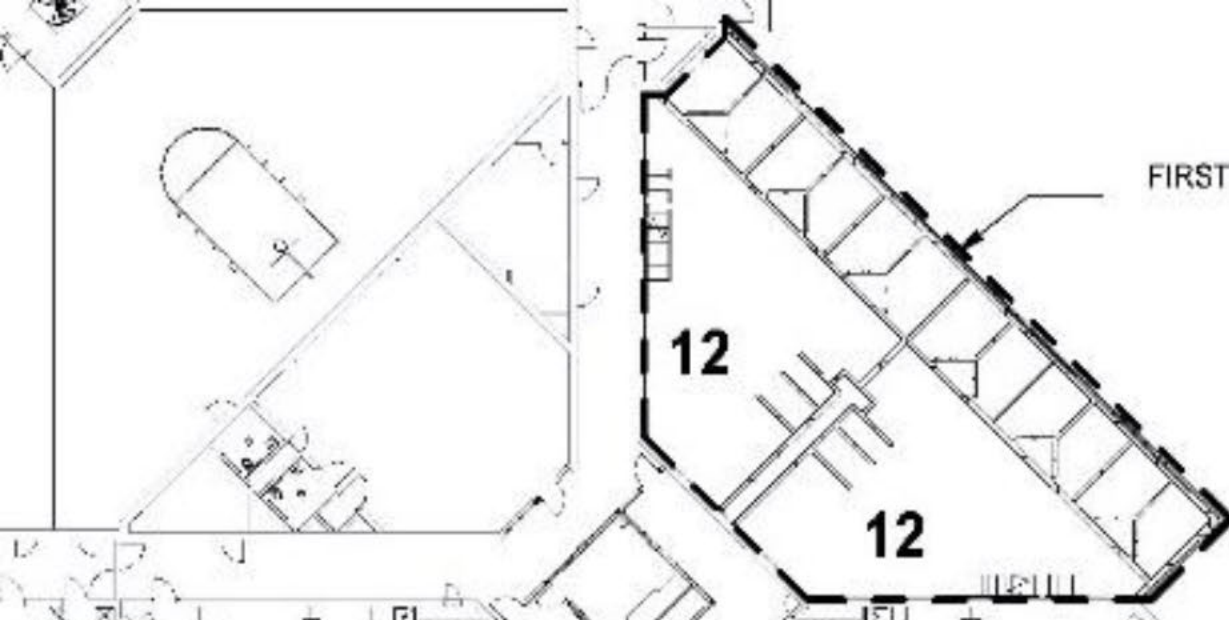


**SECOND FLOOR MEZZANINE PLAN**

1/32" = 1'-0"







FIRST FLOOR EAST EXPANSION  
3,345 SF

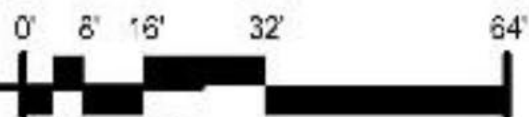
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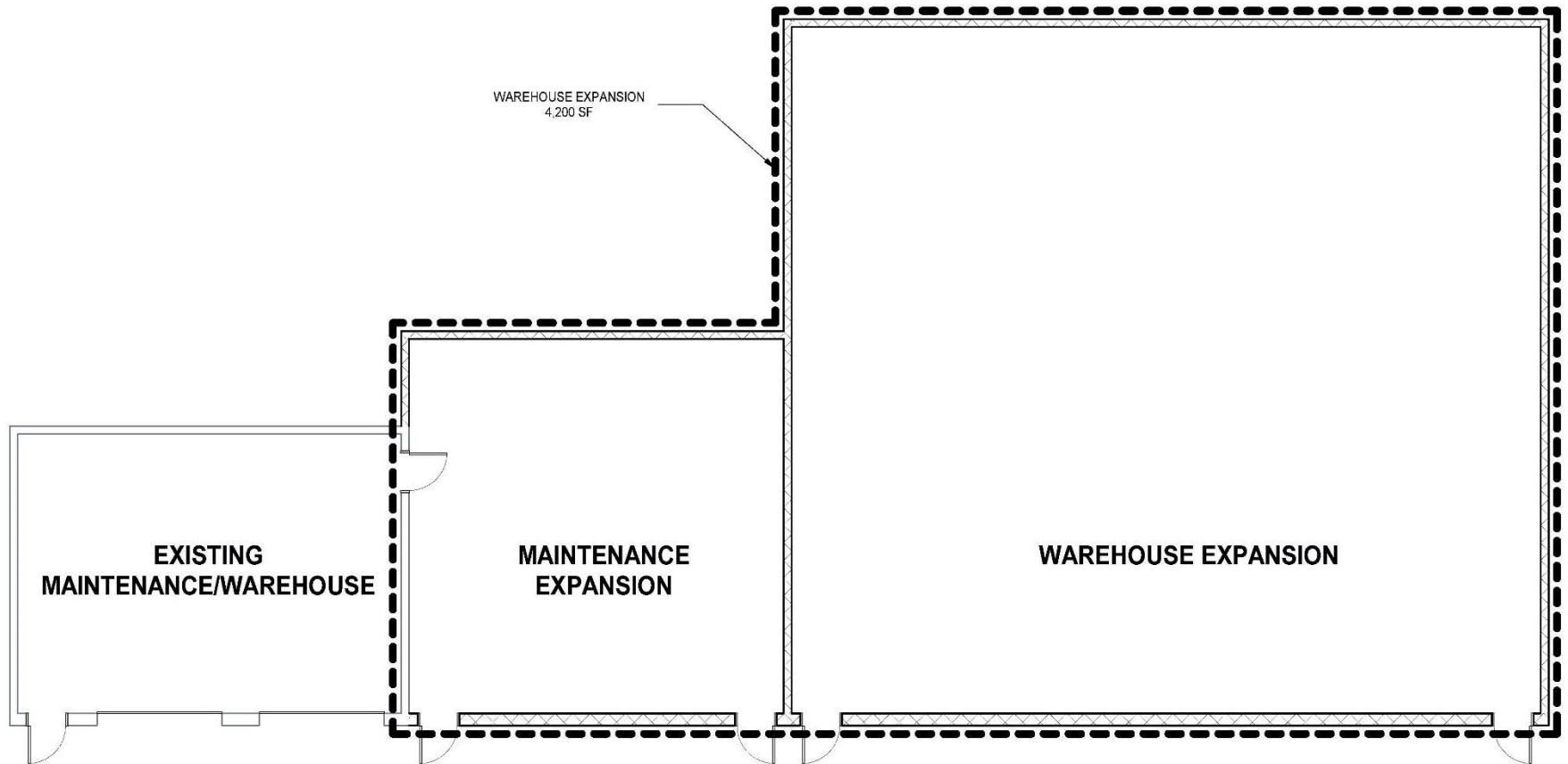
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1,730 SF

**FIRST FLOOR MEZZANINE EAST**

1/32" = 1'-0"

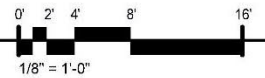


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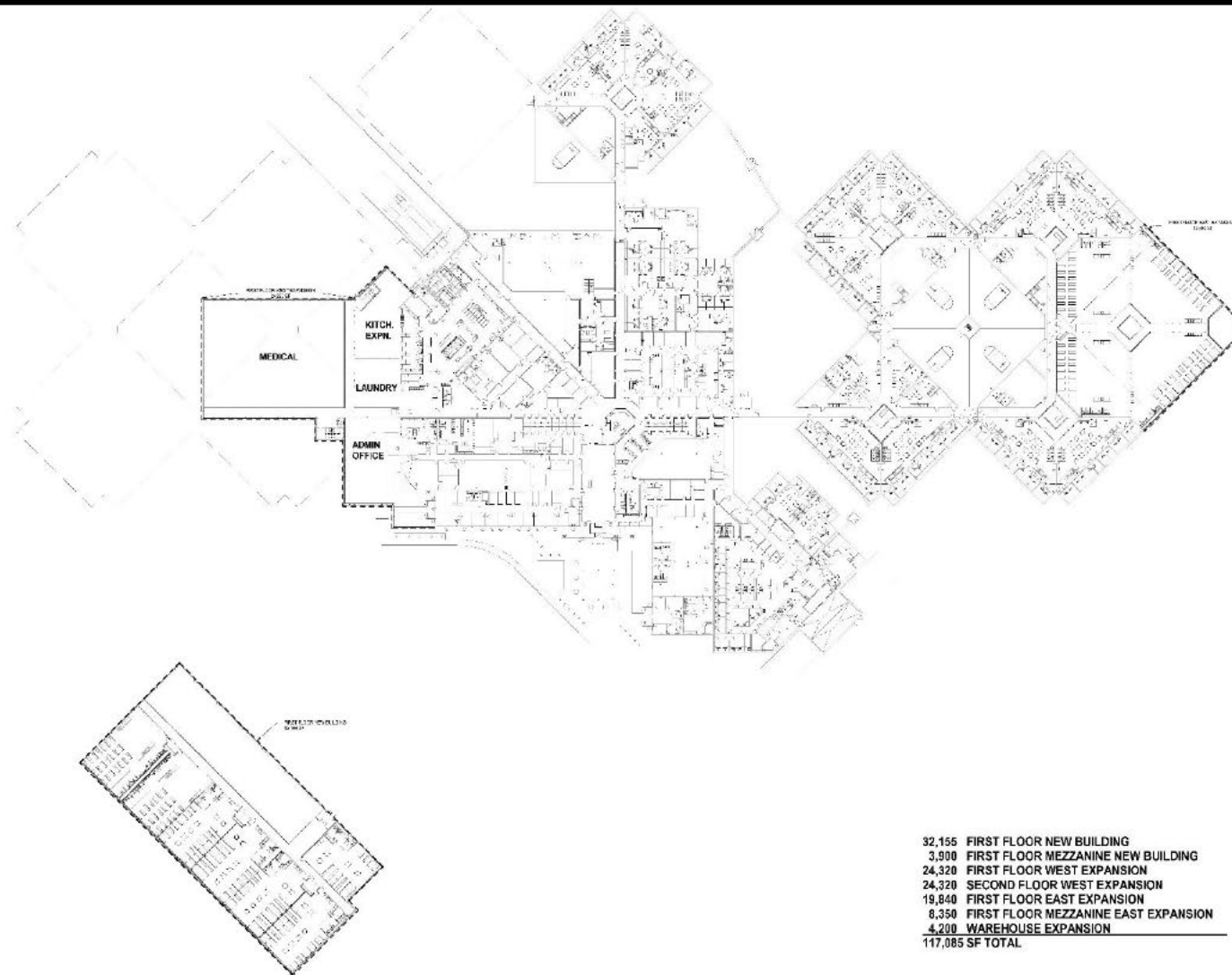


**MAINTENANCE EXPANSION**

1/8" = 1'-0"



# OPTION C



32,155	FIRST FLOOR NEW BUILDING
3,900	FIRST FLOOR MEZZANINE NEW BUILDING
24,320	FIRST FLOOR WEST EXPANSION
24,320	SECOND FLOOR WEST EXPANSION
19,840	FIRST FLOOR EAST EXPANSION
8,350	FIRST FLOOR MEZZANINE EAST EXPANSION
4,200	WAREHOUSE EXPANSION
<b>117,085 SF TOTAL</b>	



OVERALL PLAN OPTION C  
1/2" = 1' - 0"



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**MIDDLE RIVER REGIONAL JAIL - CBCP**  
MIDDLE RIVER REGIONAL JAIL  
350 TECHNOLOGY DR., STAUNTON, VA 24401

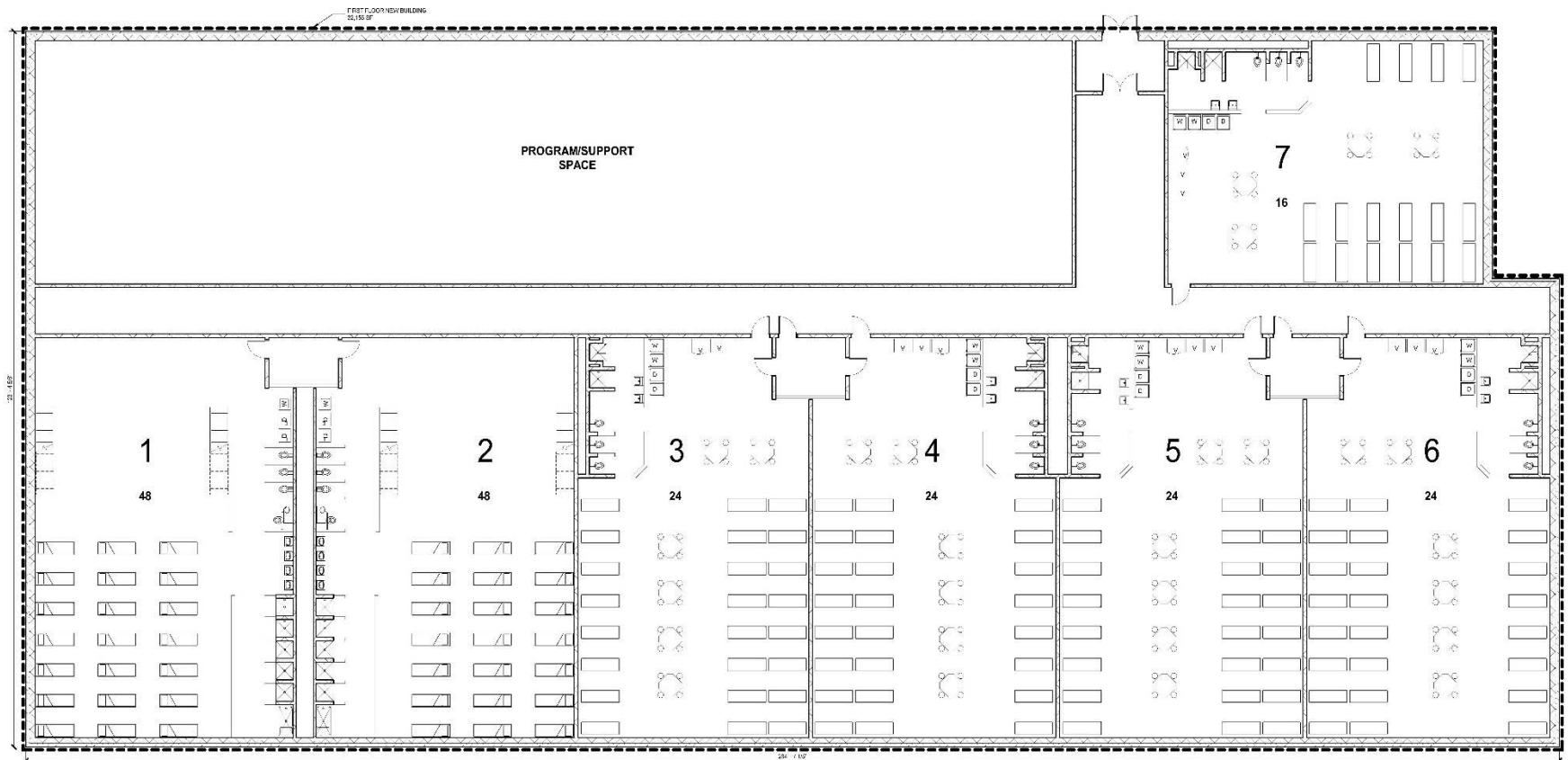
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BY	ARCHITECT
REV.	11.12.14.100

OPTION C

**A2.0.1**



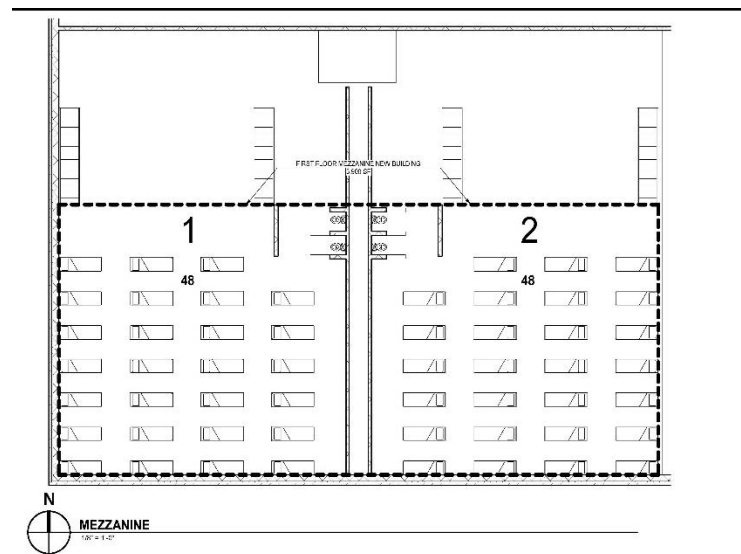
# OPTION C



N  
FIRST FLOOR PLAN  
1/8" = 1'-0"

3' 2' 1' 0'  
1/8" = 1'-0"

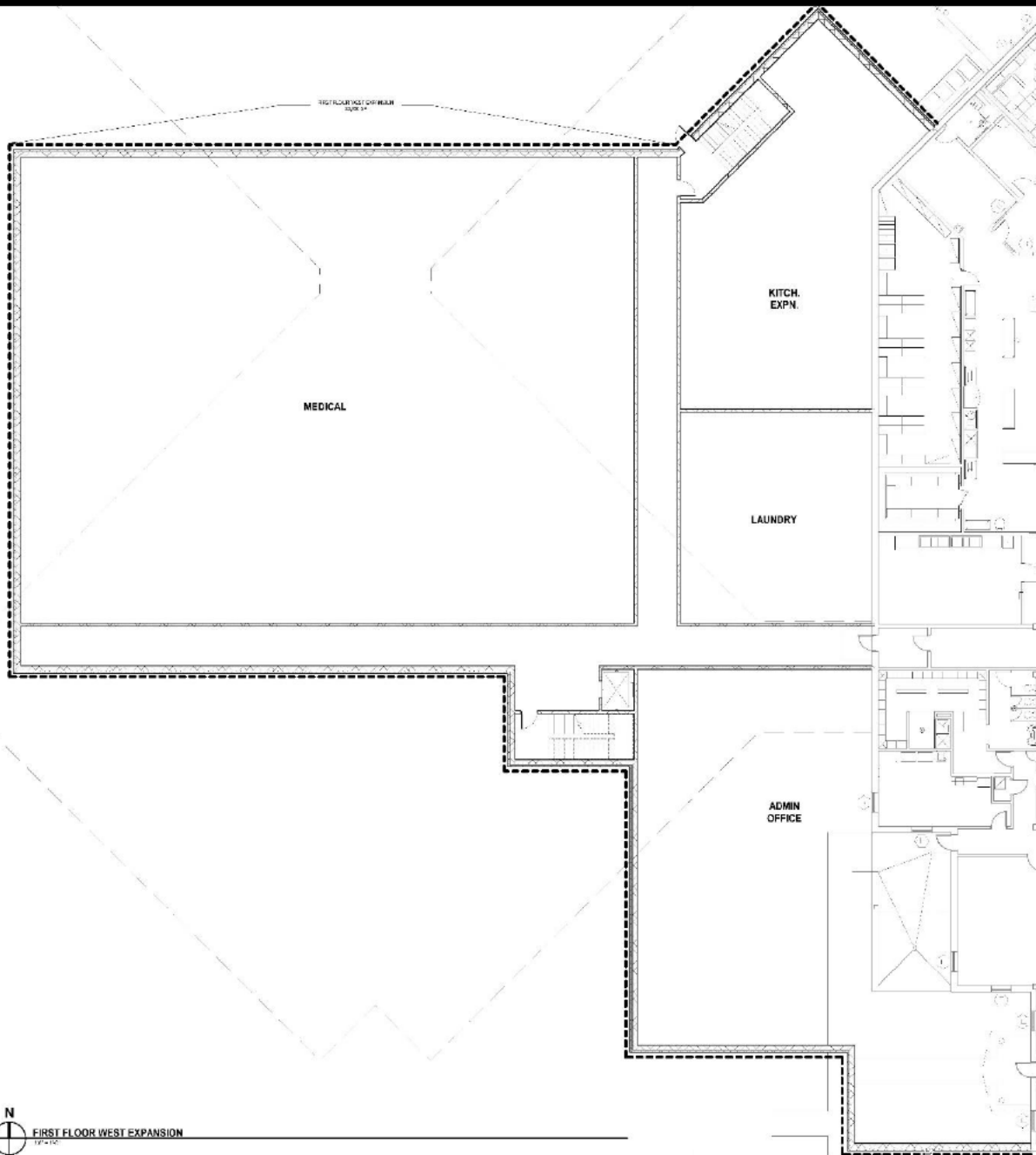
# OPTION C



10/20/16 11:20:31 AM



FIRST FLOOR WEST EXPANSION  
(1" = 1')



1/32" = 1'-0"

**MOSELEYARCHITECTS**

3223 S. RIVERVIEW STREET, SUITE 200  
FARMINGTON, CT 06030  
PHONE: 860.634.1234 FAX: 860.634.1235  
WWW.MOSELEYARCHITECTS.COM

PROGRESS  
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CONSTRUCTION

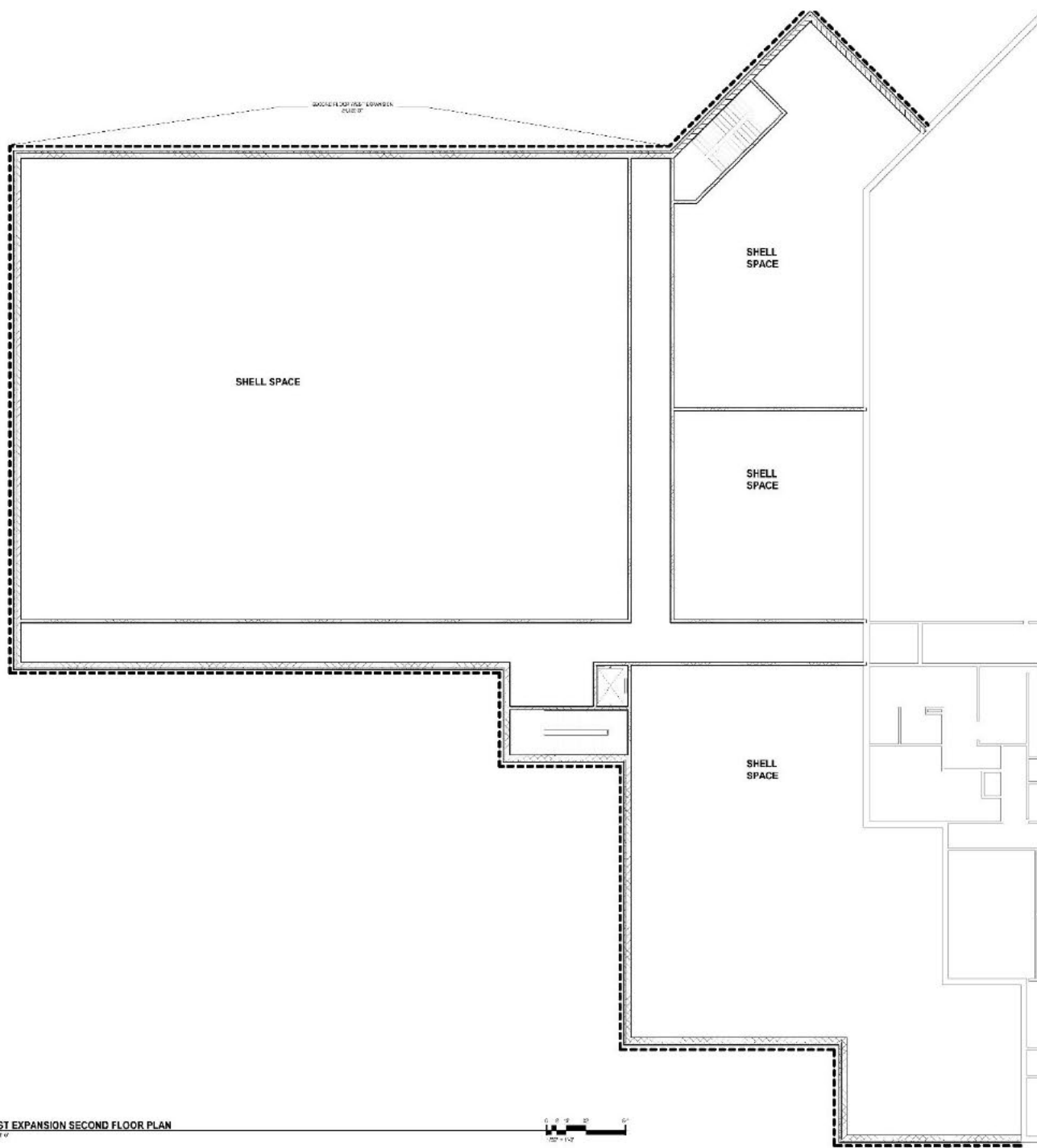
**MIDDLE RIVER REGIONAL JAIL - CBCP**

MIDDLE RIVER REGIONAL JAIL  
350 TECHNOLOGY DR., STAUNTON, VA 24401

PROJECT NO.	16-0000000000
DATE	10/20/16
BY	MOSELEY ARCHITECTS
CHECKED BY	
DATE	
BY	
CHECKED BY	
DATE	

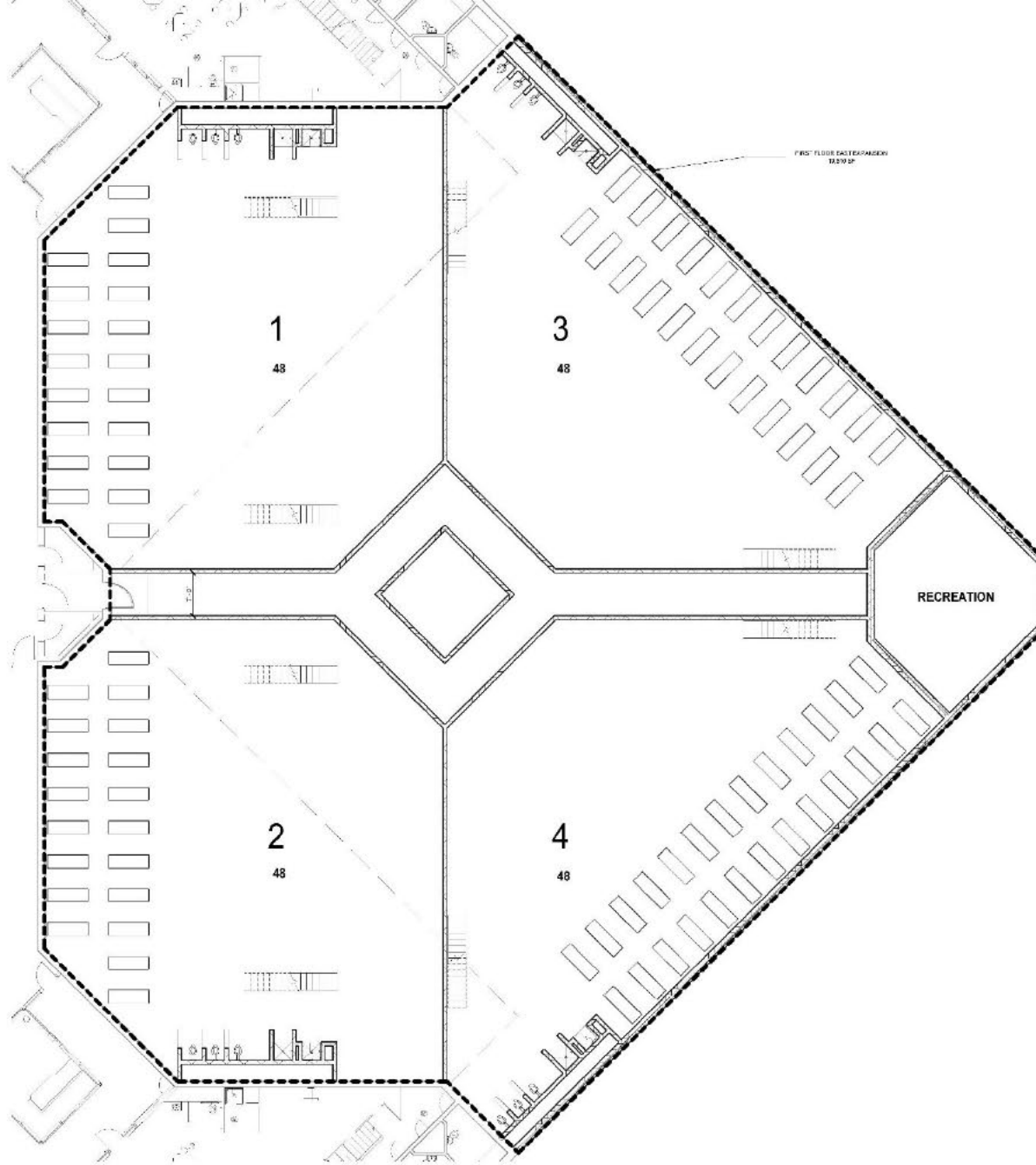
OPTION C WEST  
EXPANSION

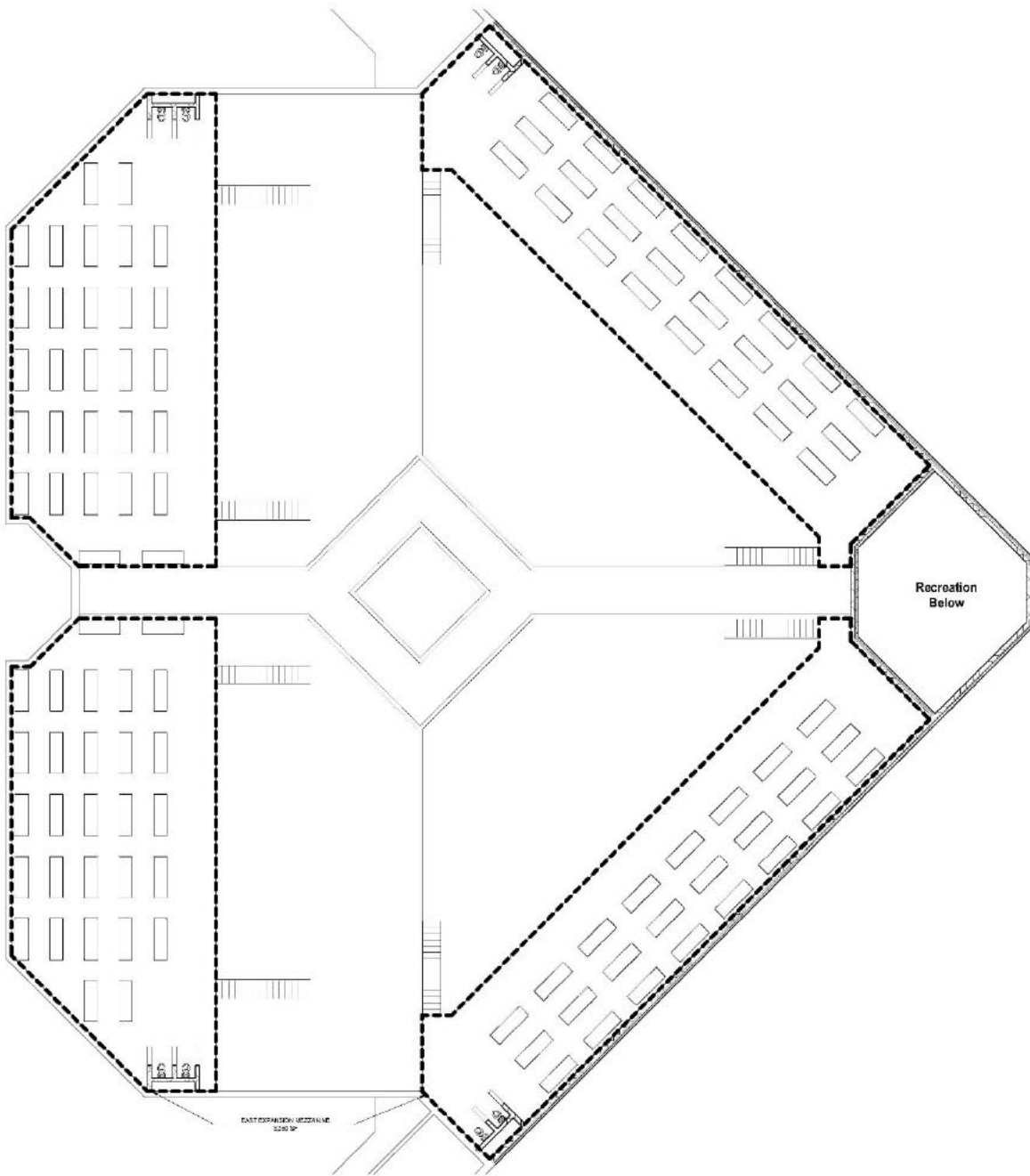
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WEST EXPANSION SECOND FLOOR PLAN



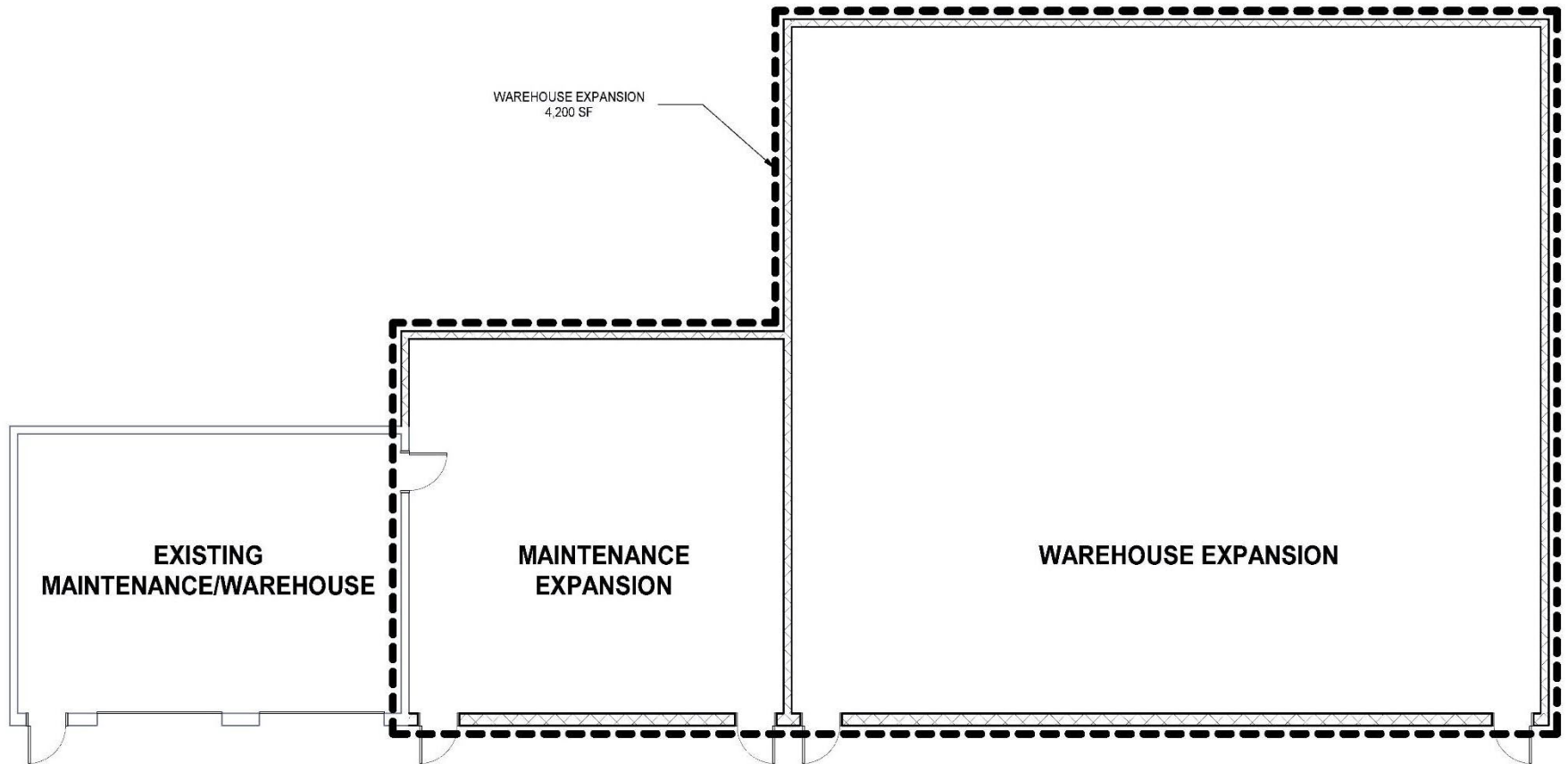




MEZZANINE PLAN  
1/8" = 1'-0"

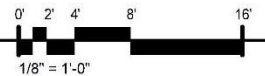


# OPTION C



**MAINTENANCE EXPANSION**

1/8" = 1'-0"



# MIDDLE RIVER REGIONAL JAIL 400 BED EXPANSION - COST ANALYSIS - OPTION A

refer to  
notes on  
following  
page

\*\*\*\*\*

11/14/2019

## VADOC PART I FORMULA

BY:

MEANS COSTS (2019 Const Cost Data)		311.50 PER SF	4
MARSHAL & SWIFT MULTIPLIER	X	1.0608	2
MEDIAN COST PER SQ FT	=	330.44 PER SF	
INFLATION (Nov 2019 to January 2023 -38 months)	**	42.26962385 PER SF	
INFLATED MEDIAN COST PER SQ FT		372.71 PER SF	
400 INMATES @ 400 SQ FT EA = 160,000 SF (use prog S X		139,949 SF	3
MEDIAN CONSTRUCTION COST :	=	\$52,160,227	
**4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 = 12.79%			
*****			

## PLANNING STUDY PROJECT ESTIMATE (EXCLUSIVE OF BONDS OR FINANCING)

### LOCALITY REQUESTED COST

### VADOC ELIGIBLE COST

## PART I - PROJECT CONSTRUCTION COSTS

BUILDING CONSTRUCTION COST	52,160,227
SITWORK (2.5 ACRES @ \$350,000/ACRE = \$875,000)	875,000
<b>PART I PROJECT CONSTRUCTION COSTS SUBTOTAL:</b>	<b>53,035,227</b>

## PART II - PROJECT SPECIFIC COSTS

~CREDIT FOR COST OF OUTDOOR RECREATION AREAS	-3,923,506	5
~CREDIT FOR COST OF MAINTENANCE & WAREHOUSE	-792,696	6
~GEN POP HOUSING - FUTURE BUNKING (program SF)	25,135,856	7
~EDUCATION-MULTI-PURPOSE - FUTURE BUNKING (prog SF)	721,564	8
WATER HEATER UPGRADE	1,000,000	9
LIGHTING UPGRADE	2,000,000	10
RENOVATION OF EXISTING JAIL - PUBLIC LOBBY	27,953	11
RENOVATION OF EXISTING JAIL - INTAKE (PROP STOR)	88,000	12
RENOVATION OF EXISTING JAIL - VISITATION	157,600	13
RENOVATION OF EXISTING JAIL - MENTAL HEALTH ADMIN	144,550	14
RENOVATION OF EXISTING JAIL - FOOD SERVICES	89,600	15
RENOVATION OF EXISTING JAIL - MAGISTRATE	27,700	16
UTILITY RELOCATION	400,000	17

## PART II PROJECT SPECIFIC COSTS SUBTOTAL:

25,076,622



**PART III - OTHER PROJECT COSTS**

A/E FEES (8% PART I + PART II CREDITS AND FUT BUNK)	5,934,116	
A/E FEES (12% PART II - PART II CREDITS AND FUT BUNK)	472,248	
CBCP / PLANNING STUDY	139,515	
VALUE ENGINEERING STUDY	50,000	
FF&E (\$20/SF) INCLUDING COST OF SERVICES	4,343,060	18
COMMUNICATIONS/DATA EQUIPMENT (\$1/SF)	139,949	
TEST BORINGS/TESTING/SPEC INSP (1% of Construction)	530,352	
SURVEY, TOPO & UTILITY LOCATOR	30,000	
PRINTING & REPRODUCTION	10,000	
PERMITS, FEES & CONNECTION CHARGES (1% of Construction)	521,602	
<b>PART III OTHER COSTS SUBTOTAL:</b>	<b>12,170,843</b>	
 CONTINGENCY (8% OF PART I AND PART II)	 6,248,948	
 <b>TOTAL CONSTRUCTION COSTS:</b>	 96,531,639	
 <b>TOTAL PROJECT COST :</b>	 \$96,531,639	\$0
 PER BED PROJECT COST @ 400 BEDS:	 \$241,329.10	

25% of \$96,531,639 is \$24,132,910

## Notes - Construction Cost Estimate

- 1 Cost from Costworks with RS Means data for dormitory (fourth quarter 2019) – refer to breakdown.
- 2 Marshall & Swift multipliers of 1.02 for fourth quarter 2019 to 11/19 and 1.04 for location of Winchester, VA (nearest Shenandoah Valley location)
- 3 Calculated based on a construction start date of June 2022; 14 months new construction. **Mid-Point of construction = January 2023** Inflation has been compounded per the following formula:  
 \*\*4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 =  
 $(1.04*1.04*1.0325*1.01)-1 = 12.279\%$   
 SF for Option A expansion: 209,326 SF as programed  
 400-bed expansion = 139,949 SF(+ 69,377 SF to increase to 800-bed rated capacity) = 209,326 SF  
 SF for Option B expansion: 120,454 SF  
 MC/MD Mental Health expansion = 3200+1600 = 4800 SF  
 Warehouse/Maintenance ((875+2992)x1.1) = 4254 SF  
 400-bed expansion = 111,400 SF  
 SF for Option C expansion: 54,004 SF  
 MC/MD expansion = 20,500\*1.5 = 22,550 SF  
 Warehouse/Maintenance ((875+2992)x1.1) = 4254 SF  
 Administration/Medical/Food Service/ Laundry = 19,000 SF
- 4 Cost from Costworks with RS Means data for jail (fourth quarter 2019) – refer to breakdown.
- 5 Credit is the square footage of the outdoor recreation yards (17,400 SF for Option A; 8,700 SF for Option B; 4,000 square feet for option C) x grossing factor (1.1) x Overall grossing actor (1.1) x expansion SF cost divided by 2 x -1
- 6 Credit is the square footage of the Maintenance/Warehouse (875+2992 square feet) x Overall grossing actor (1.1) x expansion SF cost divided by 2 x -1
- 7 Cost is 61,310 SF x 1.1 = 67,441 SF times the Inflated Median Cost Per Sq Ft
- 8 Cost is 1,760 SF SF x 1.1 = 1,936 SF times the Inflated Median Cost Per Sq Ft
- 9 Cost is 200,000 SF X \$5/SF
- 10 Cost is 200,000 SF X \$10/SF
- 11 Cost is 150 SF X half the value of Expansion Inflated Median Cost Per Sq Ft
- 12 Cost is 1760 SF X \$50/SF
- 13 Cost is 1576 SF X \$100/SF
- 14 Cost is 2891 SF X \$100/SF
- 15 Cost is 896 SF X \$100/SF
- 16 Cost is 554 SF X \$50/SF
- 17 Cost is for relocation of utilities west of the building
- 18 Option A: Cost is for (209,326 SF Expansion + 150 SF Lobby office +1760 SF Prop storage +1576 SF Visitation + 2891 SF Mental health office + 896 SF Food service + 554 SF Magistrate) x 20/SF  
 Option B: Cost is for (120,454 SF Expansion + 150 SF Lobby office +1760 SF Prop storage +1576 SF Visitation + 2891 SF Mental health office + 896 SF Food service + 554 SF Magistrate) x 20/SF



Costs in \$ per Square Foot of gross floor area calculated for a 3 story building with 12 story height.

Brick Veneer  
 Rigid Steel

Exterior Wall Type	S.F. Area	10000	15000	25000	40000	55000	70000	80000	90000	100000
& Structural System	L.F. Perimeter	260	320	400	476	575	620	684	721	772
Fiber Cement	Wood Frame	222.45	204.25	188.20	177.35	172.95	163.60	153.45	157.15	165.35
Stone Veneer	Wood Frame	251.10	227.90	205.35	190.05	184.10	173.10	177.45	175.60	174.45
Brick Veneer	Rigid Steel	233.35	212.20	191.90	178.30	172.95	168.60	157.10	155.45	164.50
Curtain Wall	Rigid Steel	248.30	224.90	202.15	186.60	180.60	175.55	173.80	171.95	170.65
Brick Veneer	Reinforced Concrete	253.60	230.35	207.90	192.50	186.50	181.50	173.90	177.95	176.65
Stone Veneer	Reinforced Concrete	282.15	253.00	225.40	205.50	196.00	191.30	193.25	185.70	185.35

#### Common Additives

Common Additives			\$ Total	\$512,884	Note: Totals include Overhead and Profit Fees of 25% and Architectural Fees of 7%.
Description	Qty	Unit	\$ Cost	Totals	
Carrels Hardwood, min	0.00	Ea.	740.00		
max	0.00	Ea.	1,925.00		
Closed Circuit Surveillance, One station					
Camera and monitor	100.00	Ea.	1,350.00	\$180,563	
For additional camera stations, add	0.00	Ea.	610.00		
Elevators, Hydraulic passenger, 2 stops					
2000# capacity	0.00	Ea.	73,500.00		
2500# capacity	0.00	Ea.	75,000.00		
3500# capacity	0.00	Ea.	81,000.00		
Additional stop, add	0.00	Ea.	3,500.00		
Emergency Lighting, 25 watt, battery operated					
Lead battery	0.00	Ea.	335.00		
Nickel cadmium	200.00	Ea.	555.00	\$148,463	
Furniture, min:	0.00	Student	2,800.00		
max	0.00	Student	5,350.00		
Intercom System, 25 station capacity					
Master station	1.00	Ea.	3,275.00	\$4,380	
Intercom outlets	60.00	Ea.	219.00	\$17,575	
Handset	10.00	Ea.	605.00	\$8,082	
Kitchen Equipment					
Broiler	0.00	Ea.	4,450.00		
Coffee urn, twin 6 gallon	0.00	Ea.	2,975.00		
Cooler, 6 ft. long	0.00	Ea.	3,775.00		
Dishwasher, 10-12 racks per hr.	0.00	Ea.	4,075.00		
Food warmer	0.00	Ea.	785.00		
Freezer, 44 C.F., reach-in	0.00	Ea.	5,475.00		
Ice cube maker, 50 lb. per day	0.00	Ea.	2,100.00		
Range with 1 oven	0.00	Ea.	3,250.00		
Laundry Equipment					
Dryer, gas, 15 lb. capacity	0.00	Ea.	1,050.00		
30 lb. capacity	20.00	Ea.	4,050.00	\$108,338	
Washer, 4 cycle	0.00	Ea.	1,325.00		
Commercial	20.00	Ea.	1,700.00	\$45,475	
Smoke Detectors					
Ceiling type	0.00	Ea.	251.00		
Duct type	0.00	Ea.	550.00		
TV Antenna, Master system, 12 outlet	0.00	Outlet	249.00		
30 outlet	0.00	Outlet	335.00		
100 outlet	0.00	Outlet	370.00		



Institutional 2019 US National Average Costs

Jail Union



Costs in \$ per Square Foot of gross floor area calculated for a 3 story building with 12' story height.

Face Block &amp; Concrete Block

Rigid Steel

Exterior Wall Type	S.F. Area	5500	12000	20000	30000	40000	60000	80000	100000	145000
& Structural System	L.F. Perimeter	310	330	400	490	530	590	680	760	920
Face Block and Concrete Block	Rigid Steel	529.20	422.25	376.15	353.30	338.05	321.80	314.75	310.25	304.25
Stucco and Concrete Block	Reinforced Concrete	570.80	413.85	357.75	344.30	328.65	313.40	305.35	301.85	295.85
Cast in Place Concrete	Rigid Steel	559.10	412.50	359.00	347.40	333.30	318.30	311.70	307.55	302.00
	Reinforced Concrete	560.70	404.05	350.60	339.05	324.90	309.90	303.30	299.15	293.55
	Rigid Steel	553.15	408.50	356.90	345.70	331.95	317.25	310.85	306.80	301.30
	Reinforced Concrete	544.75	401.15	358.45	337.30	323.55	308.85	302.45	298.40	292.90

## Common Additives

Common Additives			\$ Total	\$1,159,880	Note: Totals include Overhead and Profit Fees of 25% and Architectural Fees of 7%.
Description	Qty	Unit	\$ Cost	Totals	
Door System					
20 room	0.00	Ea	20,300.00		
50 room	0.00	Ea	48,300.00		
Closed Circuit Surveillance, One station					
Camera and monitor	200.00	Ea	1,350.00	\$361,125	
For additional camera stations, add	0.00	Ea	610.00		
Elevators, Hydraulic passenger, 2 stops					
1500# capacity	0.00	Ea	72,500.00		
2500# capacity	0.00	Ea	75,000.00		
3500# capacity	1.00	Ea	81,000.00	\$108,338	
Additional stop, add	2.00	Ea	8,500.00	\$22,738	
Emergency Generators, Complete system, gas					
15 KW	0.00	Ea	19,100.00		
70 KW	0.00	Ea	41,000.00		
85 KW	0.00	Ea	45,000.00		
115 KW	0.00	Ea	84,000.00		
170 KW	0.00	Ea	108,000.00		
Diesel, 50 KW	0.00	Ea	25,300.00		
100 KW	0.00	Ea	35,500.00		
150 KW	0.00	Ea	54,500.00		
350 KW	3.00	Ea	79,500.00	\$318,994	
Emergency Lighting, 25 watt, battery operated					
Nickel cadmium	300.00	Ea	555.00	\$222,694	
Flagpoles, Complete					
Aluminum, 20' high	0.00	Ea	1,925.00		
42' High	0.00	Ea	4,575.00		
70' High	0.00	Ea	11,900.00		
Fiberglass, 23' High	0.00	Ea	1,475.00		
32' 5" High	0.00	Ea	3,350.00		
52' High	0.00	Ea	7,225.00		
Laundry Equipment					
Folders, blankets, 4 sheets	0.00	Ea	77,000.00		
Ironers, 110" single roll	0.00	Ea	41,200.00		
Combination washer & extractor, 50#	6.00	Ea	15,700.00	\$125,963	
125#	0.00	Ea	39,200.00		
Safe, Office type, 1 hour rating					
30" x 18" x 18"	0.00	Ea	2,400.00		
60" x 36" x 18", double door	0.00	Ea	10,200.00		
Sound System					
Amplifier, 250 watts	0.00	Ea	2,075.00		
Speaker, ceiling or wall	0.00	Ea	240.00		
Trumpet	0.00	Ea	475.00		

Settings Estimator Unit Costs Assembly Costs Square Foot Models Residential Models

Costs are derived from a building model with basic components. Scope differences and local market conditions can cause costs to vary significantly.

Additives Clear Additives

Face Block &amp; Concrete Block / Rigid Steel

S.F. Qty 160000 194.54 Inst/S.F. 115.96 Totals S.F. 311.50

Material 31,125,600 Installation 18,713,000 Total 49,838,600

# MIDDLE RIVER REGIONAL JAIL 400 BED EXPANSION - COST ANALYSIS - OPTION B

refer to  
notes on  
following  
page

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11/8/2019

BY:

## VADOC PART I FORMULA

MEANS COSTS (2019 Const Cost Data)		311.50 PER SF	4
MARSHAL & SWIFT MULTIPLIER	X	1.0608	2
MEDIAN COST PER SQ FT	=	330.44 PER SF	
INFLATION (Nov 2019 to January 2023 -38 months)	**	42.26962385 PER SF	
INFLATED MEDIAN COST PER SQ FT		372.71 PER SF	3
400 INMATES @ 400 SQ FT EA = 160,000 SF;use actual \$ X		120,454 SF	
MEDIAN CONSTRUCTION COST :	=	\$44,894,157	
**4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 = 12.79%			

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## PLANNING STUDY PROJECT ESTIMATE (EXCLUSIVE OF BONDS OR FINANCING)

### LOCALITY REQUESTED COST

### VADOC ELIGIBLE COST

## PART I - PROJECT CONSTRUCTION COSTS

BUILDING CONSTRUCTION COST	44,894,157	
SITEWORK (2.5 ACRES @ \$350,000/ACRE = \$875,000)	875,000	
<b>PART I PROJECT CONSTRUCTION COSTS SUBTOTAL:</b>	<b>45,769,157</b>	

## PART II - PROJECT SPECIFIC COSTS

~CREDIT FOR COST OF OUTDOOR RECREATION AREAS	-1,961,753	5
~CREDIT FOR COST OF MAINTENANCE & WAREHOUSE	-792,696	6
WATER HEATER UPGRADE	1,000,000	9
LIGHTING UPGRADE	2,000,000	10
RENOVATION OF EXISTING JAIL - PUBLIC LOBBY	27,953	11
RENOVATION OF EXISTING JAIL - INTAKE (PROP STOR)	88,000	12
RENOVATION OF EXISTING JAIL - VISITATION	157,600	13
RENOVATION OF EXISTING JAIL - MENTAL HEALTH ADMIN	144,550	14
RENOVATION OF EXISTING JAIL - FOOD SERVICES	89,600	15
RENOVATON OF EXISTING JAIL - MAGISTRATE	27,700	16
UTILITY RELOCATION	400,000	17

**PART II PROJECT SPECIFIC COSTS SUBTOTAL:** 1,180,955

**PART III - OTHER PROJECT COSTS**

A/E FEES (8% PART I + PART II CREDITS)	3,441,177
A/E FEES (12% PART II - PART II CREDITS)	472,248
CBCP / PLANNING STUDY	139,515
VALUE ENGINEERING STUDY	50,000
FF&E (\$20/SF) INCLUDING COST OF SERVICES	2,565,614
COMMUNICATIONS/DATA EQUIPMENT (\$1/SF)	120,454
TEST BORINGS/TESTING/SPEC INSP (1% of Construction)	457,692
SURVEY, TOPO & UTILITY LOCATOR	30,000
PRINTING & REPRODUCTION	10,000
PERMITS, FEES & CONNECTION CHARGES (1% of Construction)	448,942
<b>PART III OTHER COSTS SUBTOTAL:</b>	<b>7,735,641</b>

CONTINGENCY (8% OF PART I AND PART II)	3,756,009
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<b>TOTAL CONSTRUCTION COSTS:</b>	<b>58,441,761</b>
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<b>TOTAL PROJECT COST :</b>	<b>\$58,441,761</b>	<b>\$0</b>
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PER BED PROJECT COST @ 400 BEDS:	\$146,104.40
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25% of \$58,441,761 is \$14,610,440

# MIDDLE RIVER REGIONAL JAIL 400 BED EXPANSION - COST ANALYSIS - OPTION C

11/18/2019

refer to  
notes on  
following  
page

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## VADOC PART I FORMULA

BY:

### Community Custody Facility

MEANS COSTS (2019 Const Cost Data)		193.61 PER SF	1
MARSHAL & SWIFT MULTIPLIER	X	1.0608	2
MEDIAN COST PER SQ FT	=	205.38 PER SF	
INFLATION (Nov 2019 to January 2023 - 38 months)	**	26.27230136 PER SF	
INFLATED MEDIAN COST PER SQ FT		231.65 PER SF	3
200 INMATES @ 250 SQ FT EA = 50,000 SF; use actual S X		40,000 SF	
MEDIAN CONSTRUCTION COST :	=	\$9,266,152	
**4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 =		12.79%	

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### Expansion of Existing Jail

MEANS COSTS (2019 Const Cost Data)		311.50 PER SF	4
MARSHAL & SWIFT MULTIPLIER	X	1.0608	2
MEDIAN COST PER SQ FT	=	330.44 PER SF	
INFLATION (Nov 2019 to January 2023 - 38 months)	**	42.26962385 PER SF	
INFLATED MEDIAN COST PER SQ FT		372.71 PER SF	
200 INMATES @ 400 SQ FT EA = 80,000 SF; use actual S X		54,004 SF	3
MEDIAN CONSTRUCTION COST :	=	\$20,127,656	
**4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 =		12.79%	

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## PLANNING STUDY PROJECT ESTIMATE (EXCLUSIVE OF BONDS OR FINANCING)

## LOCALITY REQUESTED COST

## VADOC ELIGIBLE COST

### PART I - PROJECT CONSTRUCTION COSTS

BUILDING CONSTRUCTION COST	29,393,807
SITWORK (2.0 ACRES @ \$350,000/ACRE = \$700,000)	700,000
<b>PART I PROJECT CONSTRUCTION COSTS SUBTOTAL:</b>	<b>30,093,807</b>

### PART II - PROJECT SPECIFIC COSTS

~CREDIT FOR COST OF OUTDOOR RECREATION AREAS	-901,955	5
~CREDIT FOR COST OF MAINTENANCE & WAREHOUSE	-792,696	6
WATER HEATER UPGRADE	1,000,000	9
LIGHTING UPGRADE	2,000,000	10
RENOVATION OF EXISTING JAIL - PUBLIC LOBBY	27,953	11
RENOVATION OF EXISTING JAIL - INTAKE (PROP STOR)	88,000	12
RENOVATION OF EXISTING JAIL - VISITATION	157,600	13
RENOVATION OF EXISTING JAIL - MENTAL HEALTH ADMIN	144,550	14
RENOVATION OF EXISTING JAIL - FOOD SERVICES	89,600	15
RENOVATION OF EXISTING JAIL - MAGISTRATE	27,700	16
UTILITY RELOCATION	100,000	17

<b>PART II PROJECT SPECIFIC COSTS SUBTOTAL:</b>	<b>1,940,752</b>
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**PART III - OTHER PROJECT COSTS**

A/E FEES (8% PART I Comm Cust Fac + Expansion)	2,215,932	
A/E FEES (12% PART I Sitework + PART II less credits)	520,248	
CBCP / PLANNING STUDY	139,515	
VALUE ENGINEERING STUDY	50,000	
FF&E (\$20/SF) INCLUDING COST OF SERVICES	2,036,614	18
COMMUNICATIONS/DATA EQUIPMENT (\$1/SF)	40,000	
TEST BORINGS/TESTING/SPEC INSP (1% of Construction)	300,938	
SURVEY, TOPO & UTILITY LOCATOR	30,000	
PRINTING & REPRODUCTION	10,000	
PERMITS, FEES & CONNECTION CHARGES (1% of Construction)	92,662	
<b>PART III OTHER COSTS SUBTOTAL:</b>	<b>5,435,909</b>	
 CONTINGENCY (8% OF PART I AND PART II)	 2,562,765	
 <b>TOTAL CONSTRUCTION COSTS:</b>	 40,033,233	
 <b>TOTAL PROJECT COST :</b>	 \$40,033,233	\$0
 PER BED PROJECT COST @ 400 BEDS:	 \$100,083.08	

25% of \$40,033,233 is \$10,008,308



# MIDDLE RIVER REGIONAL JAIL 400 BED EXPANSION - COST ANALYSIS - SUMMARY

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## VADOC PART I FORMULA

## OPTION A

## OPTION B

## OPTION C

### Community Custody Facility

MEANS COSTS (2019 Const Cost Data)			193.61 PER SF
MARSHAL & SWIFT MULTIPLIER	X		1.0608
MEDIAN COST PER SQ FT	=		205.38 PER SF
INFLATION (Nov 2019 to January 2023 - 38 months)	**		26.27230136 PER SF
INFLATED MEDIAN COST PER SQ FT			231.65 PER SF
SQUARE FOOTAGE	X		40,000 SF
MEDIAN CONSTRUCTION COST :	=		\$9,266,152
**4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 =			12.79%

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### Expansion of Existing Jail

MEANS COSTS (2019 Const Cost Data)		311.50 PER SF	311.50 PER SF	311.50 PER SF
MARSHAL & SWIFT MULTIPLIER	X	1.0608	1.0608	1.0608
MEDIAN COST PER SQ FT	=	330.44 PER SF	330.44 PER SF	330.44 PER SF
INFLATION (Nov 2019 to January 2023 - 38 months)	**	42.26962385 PER SF	42.26962385 PER SF	42.26962385 PER SF
INFLATED MEDIAN COST PER SQ FT		372.71 PER SF	372.71 PER SF	372.71 PER SF
200 INMATES @ 400 SQ FT EA = 80,000 SF; use actual S X		139,949 SF	120,454 SF	54,004 SF
MEDIAN CONSTRUCTION COST :	=	\$52,160,227	\$44,894,157	\$20,127,656
**4% to Nov 2020, 4% to Nov 2021, 3.25% to Nov 2022, 1% to Jan 2023 =		12.79%	12.79%	12.79%

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## PLANNING STUDY PROJECT ESTIMATE (EXCLUSIVE OF BONDS OR FINANCING)

## LOCALITY REQUESTED COST

## LOCALITY REQUESTED COST

## LOCALITY REQUESTED COST

### PART I - PROJECT CONSTRUCTION COSTS

BUILDING CONSTRUCTION COST	52,160,227	44,894,157	29,393,807
SITWORK	875,000	875,000	700,000
<b>PART I PROJECT CONSTRUCTION COSTS SUBTOTAL:</b>	<b>53,035,227</b>	<b>45,769,157</b>	<b>30,093,807</b>

### PART II - PROJECT SPECIFIC COSTS

~CREDIT FOR COST OF OUTDOOR RECREATION AREAS	-3,923,506	-1,961,753	-901,955
~CREDIT FOR COST OF MAINTENANCE & WAREHOUSE	-792,696	-792,696	-792,696
~GEN POP HOUSING - FUTURE BUNKING (program SF)	25,135,856		
~EDUCATION-MULTI-PURPOSE - FUTURE BUNKING (prog SF)	721,564		
WATER HEATER UPGRADE	1,000,000	1,000,000	1,000,000
LIGHTING UPGRADE	2,000,000	2,000,000	2,000,000
RENOVATION OF EXISTING JAIL - PUBLIC LOBBY	27,953	27,953	27,953
RENOVATION OF EXISTING JAIL - INTAKE (PROP STOR)	88,000	88,000	88,000
RENOVATION OF EXISTING JAIL - VISITATION	157,600	157,600	157,600
RENOVATION OF EXISTING JAIL - MENTAL HEALTH ADMIN	144,550	144,550	144,550
RENOVATION OF EXISTING JAIL - FOOD SERVICES	89,600	89,600	89,600
RENOVATON OF EXISTING JAIL - MAGISTRATE	27,700	27,700	27,700
UTILITY RELOCATION	400,000	400,000	100,000

## MIDDLE RIVER REGIONAL JAIL 400 BED EXPANSION - COST ANALYSIS - SUMMARY

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VADOC PART I FORMULA	OPTION A	OPTION B	OPTION C
<b>PART II PROJECT SPECIFIC COSTS SUBTOTAL:</b>	25,076,622	1,180,955	1,940,752
<b>PART III - OTHER PROJECT COSTS</b>			
A/E FEES (8% PART I Comm Cust Fac + Expansion)	5,934,116	3,441,177	2,215,932
A/E FEES (12% PART I Sitework + PART II less credits)	472,248	472,248	520,248
CBCP / PLANNING STUDY	139,515	139,515	139,515
VALUE ENGINEERING STUDY	50,000	50,000	50,000
FF&E (\$20/SF) INCLUDING COST OF SERVICES	4,343,060	2,565,614	2,036,614
COMMUNICATIONS/DATA EQUIPMENT (\$1/SF)	139,949	120,454	40,000
TEST BORINGS/TESTING/SPEC INSP (1% of Construction)	530,352	457,692	300,938
SURVEY, TOPO & UTILITY LOCATOR	30,000	30,000	30,000
PRINTING & REPRODUCTION	10,000	10,000	10,000
PERMITS, FEES & CONNECTION CHARGES (1% of Construction)	521,602	448,942	92,662
<b>PART III OTHER COSTS SUBTOTAL:</b>	12,170,843	7,735,641	5,435,909
 CONTINGENCY (8% OF PART I AND PART II)	 6,248,948	 3,756,009	 2,562,765
 <b>TOTAL CONSTRUCTION COSTS:</b>	 96,531,639	 58,441,761	 40,033,233
 <b>TOTAL PROJECT COST :</b>	 \$96,531,639	 \$58,441,761	 \$40,033,233
 PER BED PROJECT COST @ 400 BEDS:	 \$241,329.10	 \$146,104.40	 \$100,083.08
 25% of	 \$24,132,910	 \$14,610,440	 \$10,008,308

# Operating Costs – building based

## Cost summary

Historical operating cost for existing facility

	FY2018	FY2019
1. Electrical – Utility –	\$327,917	\$348,182
2. HVAC – Utility –	\$89,390	\$102,313
3. Plumbing/fire protection – Utility (water and sewer) –	\$197,118	\$386,541
4. Electrical – Maintenance –	Not included	Not included
5. HVAC – Maintenance –	Not included	Not included
6. <u>Plumbing/fire protection – Maintenance –</u>	<u>Not included</u>	<u>Not included</u>
TOTAL	\$617,715	\$837,036

# Operating Costs – building based

## Cost summary

Anticipated average increased operating costs for Option A.

1. Electrical – Utility –	\$305,700
2. HVAC – Utility –	\$89,390
3. Plumbing/fire protection – Utility (water and sewer) –	\$250,000
4. Electrical – Maintenance –	\$40,000
5. HVAC – Maintenance –	\$90,000
6. <u>Plumbing/fire protection – Maintenance –</u>	<u>\$30,000</u>
TOTAL	\$805,090

# Operating Costs – inmate based

## Cost summary

### B. OPERATING BUDGET

<i>Middle River Regional Jail Estimated Six Year Operating Budget 400 Bed Expansion</i>						
Budget Category	2024	2025	2026	2027	2028	2029
Personnel Services	\$10,193,570	\$10,448,410	\$10,709,620	\$10,977,360	\$11,251,794	\$11,533,089
Food Services	\$198,353	\$203,312	\$208,394	\$213,604	\$218,944	\$224,418
Health Services	\$353,403	\$362,238	\$371,294	\$380,577	\$390,091	\$399,843
Transportation	\$14,667	\$15,034	\$15,409	\$15,795	\$16,190	\$16,594
Direct Jail Support	\$421,150	\$431,679	\$442,471	\$453,533	\$464,871	\$476,493
Operating Capital	\$172,511	\$176,824	\$181,244	\$185,776	\$190,420	\$195,180
Contingency	\$58,004	\$59,454	\$60,941	\$62,464	\$64,026	\$65,626
New Building Operation	\$805,090	\$805,090	\$805,090	\$805,090	\$805,090	\$805,090
Total	\$12,216,749	\$12,502,041	\$12,794,464	\$13,094,199	\$13,401,426	\$13,716,335

Note: (1) All budget categories except personnel services and new building operation are based on reported inmate per day costs as provided by the Virginia Compensation Board and/or based on data provided by the MRRJ; no assumption is made about the funding sources for the budget categories (the State typically funds most of the Personnel Services category).

(2) Average daily population and per diem costs reported for FY 2018 data for the MRRJ form the basis for all figures (except Personnel and New Building Operation); figures are inflated for a projected increase of 165 average daily population (ADP) inmates in FY 2024 - the increase between the reported FY-18 ADP and the projected FY-24 ADP.

# Project Schedule

## **Project Planning, Design, and Construction Schedule**

Prepare/Submit CBCP Needs Assessment & Planning Study	December 31, 2019
Authority meetings about project and approval of project	January - April, 2020
Resolution from Authority members to BOC	May 1, 2020
Board of Corrections Approval CBCP Needs Assessment	May, 2020
Board of Corrections Approval of CBCP Planning Study	July – August, 2020
Application to Treasury Board for bonds for reimbursement	June, 2020
DOC submits to Department of Planning and Budget	Sept - Oct, 2020
Receive Governor approval for funding and inclusion in the budget bill	December 1, 2020
Receive Legislative approval (Legislative session)	June, 2021