

Commonwealth of Virginia, Department of Behavioral Health  
and Developmental Services

Forensics Unit Preplanning Study

**FINAL REPORT**

REVISION: 1.0

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PREPARED BY



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### Attachment 1

DBHDS – Secure Forensic Unit Site Location Evaluation Matrix

## 1. EXECUTIVE SUMMARY

### Project Introduction

The purpose of this study is to fulfill the requirements of the 2019 Virginia Acts of Assembly, Chapter 854, Item 310 CC.4 stating: “Also as part of the plan in paragraph CC.2., DBHDS, in consultation with the Department of General Services, shall address the feasibility of relocating forensic beds to state-owned property other than the current Central State Hospital location authorized in C-48.10. The analysis shall at a minimum address the issue of cost and timeline for construction.” Our team investigated five DBHDS designated test fit sites within the state and determined the original site identified in the “Preplanning Study – Central State Hospital Full Replacement 2018” report remains the best location for the new facility.

### Project Approach

#### Site Selection:

DBHDS, working in concert with the Department of Real Estate and Facilities Management (DREFM), evaluated 17 sites within the Commonwealth for a new forensic unit. Site evaluation included key features such as centrality of location, proximity to regional medical and education facilities, site availability and adaptation, proximity to current DBHDS facility for shared services, and regional employment availability. Based on this evaluation criteria, the following five sites, in addition to the Central State Hospital site, were recommended for test fit evaluation:

- Western State Hospital, Staunton, Virginia
- Catawba Hospital, Catawba, Virginia
- Central Virginia Training Center, Lynchburg, Virginia
- Powhatan Correctional Center, Goochland, Virginia
- James River Correctional Center, Goochland, Virginia

The “New Central State Hospital” site evaluation matrix is located in Section 4 - Site Evaluation and Test Fits. It provides further supporting evaluation selection criteria. The “New Central State Hospital” site evaluation matrix provides a summary review and recommendation of the key site features, but it does not represent a ranking or preference for the site.

#### Test Fit Site Selection Program:

The basis for this “Forensic Unit Test Fit – Five Sites” study is the information provided in the “Preplanning Study – Central State Hospital Full Replacement 2018,” prepared by HDR for the Virginia Department of Behavioral Health and Developmental Service.

A Conceptual Space Program was developed using the HDR 2018 Preplanning Study program for the Central State Hospital replacement. Several departments in the program are clearly identified as “Forensic” departments (Forensic Living Units, Forensic Mall, etc.). However, to create a freestanding Maximum Secure Forensic Hospital, several support departments are required. This includes departments such as Dietary, Administration,

Admitting, etc. To determine the approximate sizes for the support departments, a percentage of the total area of the HDR program was applied to each department and that square footage was used to create the Conceptual Space Program.

Using the Conceptual Space Program, a “Generic Hospital Model” was created that met the planning principals outlined in the HDR 2018 Preplanning Study. This hospital model was non-site specific.

All five of the identified campuses were visited and assessed. The most favorable site location on each campus was identified for the location of the freestanding Forensic Hospital. The Generic Hospital Model was site adapted to fit each of the preferred sites identified for the five campuses. In addition to the conceptual hospital plan, the site adaptations included: vehicular entries and circulation, parking for 200 cars, a maximum secure perimeter (double layered secure fencing), and a perimeter loop road.

Using the site test fits and site analysis, a Conceptual Cost Estimate was developed for each site and contains the following elements: building construction estimate using the information identified in the HDR 2018 Preplanning study and test fit, site-specific elements like length of roads and utilities required, secure perimeter fencing, and other features unique to the site.

Each of the sites were ranked according to cost and the aforementioned criteria. This ranking confirms that locating the secure forensic unit in Petersburg, VA, is the recommended option.

### **Operation and Staffing Evaluation:**

The current maximum security forensic facility at Central State Hospital has evolved into a comprehensive and fundamental therapeutic treatment program that supports individuals with severe mental illness from across Virginia. Patient care and support staff with knowledge and experience of the complexities for managing recovery programs for maximum security forensic patients are vital to the overall safety and success of its treatment program. Given the complexities of the Central State Hospital forensic program, operational and staffing considerations are critical to location and program development, which are essential evaluation criterion.

Financial data for Fiscal Year 2019 provided by DBHDS for the Central State Hospital secure forensic unit identifies an annual operating cost of \$20,515,625. This amount includes direct care and security cost, physicians cost, all non-direct operating costs (buildings and grounds, pharmacy, laundry, food services, etc.) and specialized medical care costs. For site evaluation comparisons, the first year annual operating cost if the forensic unit is located at Western State Hospital and Catawba Hospital would increase approximately 256 percent. If located at CVTC, Powhatan Correctional Center, or James River Correctional Center the annual operating costs would increase approximately 308 percent. Over a five-year period, this equates to an operating cost for the Commonwealth of Virginia of \$134,629,077 if located at Western State or Catawba Hospital, and \$187,638,478 if located at CVTC, Powhatan Correctional Center or James River Correctional Center. If the

program remains at the Petersburg campus, the operating cost for a five-year period would be \$102,578,125.

## Recommendation

After careful consideration of the options to find the optimal location for the secure forensic hospital within the Commonwealth of Virginia, it is the conclusion that the Central State Hospital campus in Petersburg, VA, remains the ideal location for the new hospital. This conclusion is based on the findings in first evaluating 17 proposed state-owned sites that was narrowed to six campuses including the Central State Hospital for careful analysis and consideration.

The ability of each campus to support the new 111-bed forensic behavioral healthcare hospital was evaluated. This analysis included such factors described within this report including: the ability to staff the facility, centrality to clients and their families and homes, the support of academic medicine and medical services within proximity, and the ease of fitting the ideal new facility on the campus. The outcome of this analysis indicated that the Central State Hospital campus in Petersburg, VA, was the best campus for this new facility scoring the highest of all the sites investigated.

The economic analysis of each campus provides the most conclusive criteria for the suitability of the Central State Hospital campus to provide the best value to Virginia residents.

This analysis evaluated the cost to build the new hospital building on the campuses, the site adaptations and improvement construction costs that would be required to support the new hospital, and the operational costs required to open and operate the new hospital. The accompanying chart summarizes these costs for each campus.

End of Year One Construction and Operational Cost Summary				
DBHDS Site	Building Construction Cost	Site/Infrastructure Construction Cost	Operational Costs First Year	Total Cost After First Year
Central State Hospital	\$126,960,000	\$3,562,000	\$20,515,625	\$151,037,625
Catawba Hospital - Option 2	\$116,358,000	\$14,952,000	\$52,566,577	\$183,876,577
Catawba Hospital - Option 1	\$116,358,000	\$18,620,000	\$52,566,577	\$187,544,577
Western State Hospital	\$113,996,000	\$21,678,000	\$52,566,577	\$188,240,577
Powhatan DOC	\$127,737,000	\$12,418,000	\$63,168,458	\$203,323,458
Central Virginia Training Center	\$127,737,000	\$26,907,000	\$63,168,458	\$217,812,458
James River DOC	\$127,737,000	\$48,873,000	\$63,168,458	\$239,778,458

Shared Services	Building construction cost reflect shared support services with adjacent DBHDS facility.
Stand Alone	Building construction cost are stand alone facilities with no DBHDS shared services.

It is the conclusion of this study that the Central State Hospital campus remains the best suited campus to locate the new secure forensic behavioral healthcare hospital.

## 2. CONCEPT SPACE PROGRAM

In order to appropriately size the 111-bed, freestanding secure forensic behavioral healthcare hospital the original space program from the December 1, 2018 “Preplanning Study, Central State Hospital Full Replacement 2018” report was utilized. The program components specific to the 111-bed secure forensic program were identified and extracted. Using those specific program elements, a new space program was generated as if this was a stand-alone facility.

The new concept space program is organized by department, identifies all spaces within the department, the number of spaces required and the specific square footage for each space. The total of all the spaces is tabulated for a total departmental net square footage (NSF) for the department and then an overall grossing factor of 1.6 was applied to get to a total building gross square footage (BGSF). This method is utilized for consistency purposes when comparing the sizes between this study and the December 1, 2018 Preplanning Study.

Typically, a program would be generated that tabulates the total NSF for each department and a departmental specific grossing factor is applied to get a specific departmental gross square footage (DGSF). All the departmental DGSF are then totaled and a building grossing factor is applied to get to a more accurate BGSF.

The following section is the Concept Space Program that is used for this planning study.

Program Summary

111 Patient Beds

April 25, 2019

Department	Proposed Net SF	NSF to DGSF Factor	Proposed Depart'l Gross SF	Comments
<b>Inpatient Units</b>				
22-Bed Unit - Long Term	8,748	1.60	13,997	
22-Bed Unit - Long Term	8,748	1.60	13,997	
25-Bed Unit - Long Term	8,748	1.60	13,997	
15-Bed Unit - Admissions	6,966	1.60	11,146	Org. 11,354
15-Bed Unit - Admissions	6,966	1.60	11,146	Org. 11,354
15-Bed Unit - Admissions	6,966	1.60	11,146	Org. 11,354
<b>New Construction IPU'S</b>				
<b>SUBTOTAL DGSF</b>			<b>75,427 DGSF</b>	
<b>Programs</b>				
Admissions	2,838	1.60	4,541	
Program Staff	5,556	1.60	8,890	
Visitation Suite	2,456	1.60	3,930	
Patient Dining	1,160	1.60	1,856	
Treatment Mall - Education Services	3,021	1.60	4,834	
Treatment Mall - Vocational Services	2,441	1.60	3,906	
Treatment Mall - Recreation Services	4,841	1.60	7,746	
Treatment Mall - Shared Resident Services	7,758	1.60	12,413	
<b>SUBTOTAL DGSF</b>			<b>48,114 DGSF</b>	
<b>Support Based on 300 beds</b>				
Public Lobby	990	1.60	1,584	0.37
Central Control & Security	1,491	1.60	2,386	0.37
Executive Administration	5,932	1.60	9,491	0.37
Human Resources	764	1.60	1,222	0.37
Staff Development	2,034	1.60	3,254	0.37
Kitchen	3,548	1.60	5,677	0.37
Transportation	716	1.60	1,146	0.37
Housekeeping	570	1.60	912	0.37
Material Management	4,594	1.60	7,350	0.37
Energy Plant	3,950	1.60	6,320	0.37
Medical / Dental Clinic	3,612	1.60	5,779	0.37
Pharmacy	2,060	1.60	3,296	0.37
Laundry	1,785	1.60	2,856	0.37
Maintenance / Building & Grounds	2,164	1.60	3,462	0.37
<b>SUBTOTAL DGSF</b>			<b>34,210</b>	<b>54,736 DGSF</b>
<b>New Construction Non-IPU</b>				
<b>SUBTOTAL DGSF</b>				<b>102,850 DGSF</b>
<b>New Construction Total</b>				<b>178,277 DGSF</b>
<b>Building Grossing Factor</b>				<b>1.00</b>
<b>SUBTOTAL BGSF</b>				<b>178,277 BGSF</b>
<b>TOTAL BGSF</b>				<b>178,277 BGSF</b>



**Patient Living Units - Maximum Secure: 22-Bed Unit**

560 SF/Bed

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. All private beds
- 2. 2-piece Ensuite washrooms; separate shower rooms within bed corridors

**1.00 BED ZONE**

1.01 Private Patient Room	19	130	2,470	100 sf unencumbered floor space.
1.02 Patient Room, ADA	3	150	450	100 sf unencumbered floor space.
1.03 Patient Toilet - En Suite	19	55	1,045	No Shower
1.04 Patient Toilet - En Suite ADA	3	80	240	Provide ADA Shower
1.05 Patient Shower - ADA	3	100	300	Single use; toilet;lav;shower stall roll-in type
1.06 Patient Shower - Non ADA	2	80	160	Single use; toilet;lav;shower stall
1.07 Tub Room	1	80	80	One Required Per FGI
<b>SUBTOTAL</b>			<b>4,745</b>	

**2.00 BED ZONE SUPPORT**

2.01 Day Room	22	35	770	Lounge seating, game table, TV viewing & space for playing Wii (35sf pp per FGI Guidelines used for both Social and Dining). Provide +-20sf storage closet or casework & small lockers below room divider counter for patient articles. 80% utilization =>23
2.02 Dining / Activity / Quiet Rm	22	15	330	Four or six-person dining tables when sepereted dinning is needed. (15sf pp for Planning)
2.03 Comfort / "Chill-Out" Quiet Rm	2	80	160	"Soft" room, acoustically isolated (80sf min. per FGI Guidelines)
2.04 Patient Toilet - ADA	1	55	55	Single use; toilet; lavatory; ADA.
2.05 Patient Toilet - Non-ADA	1	40	40	Single use; toilet; lavatory; non-ADA.
2.06 Patient Laundry Alcove	1	120	120	Full visual supervision & ability to lock. 2 washers & 2 dryers.
2.07 Galley	1	100	100	Refrig, micro, ice, counter. Ability to inhibit patient access. Room
2.08 Group Rm	1	250	250	Provide space for 12 patients (225 sf min. per FGI Guidelines)
2.09 Seclusion Rm	1	80	80	Adjacent to Nurse Station
2.10 Seclusion Vestible	1	80	80	Provide sound isolation
2.11 Seclusion Toilet/Shower	1	60	60	ADA
2.12 Exam/Physical Survey Rm/Consult.	1	120	120	Handwash sink, also doubles as a Consultation per 1 per 12 beds
2.13 Consult Rm.	1	100	100	Provide 1 per 12 beds per FGI Guidelines. Doubles as Visitation
2.14 Soiled Linen Cart Staging	1	20	20	Alcove - bed-linens only. Included as part of Unit support space
2.15 Phone / Video cubicles	4	12	48	Sound attenuated partial-height cubicles for privacy. 36" w. x 48" d.
2.16 Enclosed Patio	1	200	200	Weather protected
<b>SUBTOTAL</b>			<b>2,533</b>	

**Patient Living Units - Maximum Secure: 22-Bed Unit**

560 SF/Bed

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 TEAM CENTER</b>				
3.01 Nurse Station	1	200	200	May be connected to adjacent unit
3.02 Nurse Work Room	1	150	150	Away from patient areas - connected to N.S. via short, open corridor. Open workstations.
3.03 Medication Room	1	100	100	Provide direct access from N.S. & window to unit common area. May be shared with adjacent unit, 2 small refig. 1 pixus
3.04 Wheelchair Storage	0	20	0	Provided in core factor
3.05 Staff Toilet - Unisex	1	55	55	May be shared with adjacent unit
3.06 Conference Room	1	200	200	8 persons @ 25s.f. pp. Access off main unit entry corridor as well as staff
3.07 Staff Break Room	1	75	75	1 shared Break Room at 250sf for 3 units. See Program Staff.
SUBTOTAL			780	
<b>4.00 UNIT SUPPORT</b>				
4.01 Food Cart Recess/Charging Station	1	150	150	Verify size & power requirements w/ consultants. Locate near unit entry.
4.02 Housekeeping	1	80	80	Mop sink includes chem storage / Access to staff only
4.03 Housekeeping - Chemical closet	0	20	0	Provide as Housekeeping Above, Mop sink includes chem storage / Access to staff only
4.04 Unit / Medical Equipment Storage	1	100	100	
4.05 Clean Clothing / Linen Storage	1	80	80	Pass-through from shower room and access from staff-only corridor if possible.
4.06 Soiled Clothing / Linen Storage	1	80	80	Pass-through from shower room and access from staff-only corridor if possible.
4.07 Patient Property Room	1	20	20	Individual small lockers behind NS.22 lockers 12x12
4.08 Supply Storage	1	100	100	
4.09 Hazardous Waste Closet	0	20	0	Provide as Housekeeping Above, Mop sink includes chem storage / Access to staff only
4.10 Entry Sallyport	1	80	80	Living unit entry from main corridor.
4.11 IT Distribution Room	0	60	0	Included in grossing factors
SUBTOTAL			690	
TOTAL NET SQUARE FEET			x 8,748	Net Square Feet
DEPT GROSS SQUARE FEET			1.6	Grossing Factor
			<b>13,997</b>	<b>Departmental Gross Square Feet</b>

Notes:

1. Net square feet is the area inside a room, excluding walls, chases...
2. Department gross square feet includes corridors and wall thicknesses.

**Patient Living Units - Maximum Secure: 15-Bed Unit**

446 SF/Bed

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. All private beds
- 2. 2-piece Ensuite washrooms; separate shower rooms within bed corridors

**1.00 BED ZONE**

1.01 Private Patient Room	13	130	1,690	(Math Error on Org Program) 100 sf unencumbered floor space.
1.02 Patient Room, ADA	2	150	300	100 sf unencumbered floor space.
1.03 Patient Toilet - En Suite	13	55	715	No Shower
1.04 Patient Toilet - En Suite ADA	2	80	160	Provide ADA Shower
1.05 Patient Shower - ADA	2	100	200	Single use; toilet;lav;shower stall roll-in type
1.06 Patient Shower - Non ADA	2	80	160	Single use; toilet;lav;shower stall
1.07 Tub Room	1	80	80	One Required Per FGI
<b>SUBTOTAL</b>			<b>3,305</b>	

**2.00 BED ZONE SUPPORT**

2.01 Day Room	15	35	525	Lounge seating, game table, TV viewing & space for playing Wii (35sf pp per FGI Guidelines used for both Social and Dining). Provide +-20sf storage closet or casework & small lockers below room divider counter for patient articles. 80% utilization =>23
2.02 Dining / Activity / Quiet Rm	15	15	225	Four or six-person dining tables when sepereted dinning is needed. (15sf pp for Planning)
2.03 Comfort / "Chill-Out" Quiet Rm	2	80	160	"Soft" room, acoustically isolated (80sf min. per FGI Guidelines)
2.04 Patient Toilet - ADA	1	55	55	Single use; toilet; lavatory; ADA.
2.05 Patient Toilet - Non-ADA	1	40	40	Single use; toilet; lavatory; non-ADA.
2.06 Patient Laundry Alcove	1	80	80	Full visual supervision & ability to lock. 2 washers & 2 dryers.
2.07 Galley	1	100	100	Refrig, micro, ice, counter. Ability to inhibit patient access. Room
2.08 Group Rm	1	250	250	Provide space for 12 patients (225 sf min. per FGI Guidelines)
2.09 Seclusion Rm	2	80	160	Adjacent to Nurse Station
2.10 Seclusion Vestible	1	60	60	Provide sound isolation
2.11 Seclusion Toilet/Shower	1	80	80	ADA
2.12 Exam/Physical Survey Rm/Consult.	1	120	120	Handwash sink, also doubles as a Consultation per 1 per 12 beds
2.13 Consult Rm.	1	100	100	Provide 1 per 12 beds per FGI Guidelines. Doubles as Visitation
2.14 Soiled Linen Cart Staging	0	40	0	Alcove - bed-linens only. Included as part of Unit support space
2.15 Phone / Video cubicles	3	12	36	Sound attenuated partial-height cubicles for privacy. 36" w. x 48" d.
2.16 Enclosed Patio	1	200	200	Weather protected
<b>SUBTOTAL</b>			<b>2,191</b>	

**Patient Living Units - Maximum Secure: 15-Bed Unit**

446 SF/Bed

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 TEAM CENTER</b>				
3.01 Nurse Station	1	200	200	4 work areas
3.02 Nurse Work Room	1	150	150	Away from patient areas - connected to N.S. via short, open corridor.
3.03 Medication Room	1	100	100	Provide direct access from N.S. & window to unit common area.
3.04 Wheelchair Storage	0	20	0	Provided in core factor
3.05 Staff Toilet - Unisex	1	55	55	
3.06 Conference Room	1	200	200	8 persons @ 25s.f. pp. Access off main unit entry corridor as well as staff
3.07 Staff Break Room	1	75	75	1 shared Break Room at 250sf for 3 units. See Program Staff.
SUBTOTAL			780	
<b>4.00 UNIT SUPPORT</b>				
4.01 Food Cart Recess/Charging Station	1	150	150	Verify size & power requirements w/ consultants. Locate near unit entry.
4.02 Housekeeping	1	80	80	Mop sink includes chem storage / Access to staff only
4.03 Housekeeping - Chemical closet	0	20	0	Provide as Housekeeping Above, Mop sink includes chem storage / Access to staff only
4.04 Unit / Medical Equipment Storage	1	100	100	
4.05 Clean Clothing / Linen Storage	1	80	80	Pass-through from shower room and access from staff-only corridor if possible.
4.06 Soiled Clothing / Linen Storage	1	80	80	Pass-through from shower room and access from staff-only corridor if possible.
4.07 Patient Property Room	1	20	20	Individual small lockers behind NS. 15 lockers 12x12
4.08 Supply Storage	1	100	100	
4.09 Hazardous Waste Closet	0	20	0	Provide as Housekeeping Above, Mop sink includes chem storage / Access to staff only
4.10 Entry Sallyport	1	80	80	Living unit entry from main corridor.
4.11 IT Distribution Room	0	60	0	Included in grossing factors
SUBTOTAL			690	
TOTAL NET SQUARE FEET		x	6,966	Net Square Feet
DEPT GROSS SQUARE FEET			1.6	Grossing Factor
			<b>11,146</b>	<b>Departmental Gross Square Feet</b>

Notes:

1. Net square feet is the area inside a room, excluding walls, chases...
2. Department gross square feet includes corridors and wall thicknesses.

**Admissions**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Admissions**

1.01 Drive-thru vehicle garage	1	1,400	1,400	Receiving and Transport - Two vehicles side by side plus circulation. Handicap van accessible. Largest vehicle needs to be accommodated: 12 passenger bus with 2 wheelchairs in the back. Gun lockers. Waiting bench for officers. Property is handed off in garage.
1.02 Pedestrian Sallyport	1	120	120	Sized for gurney and escorts.
1.03 Patient Waiting Area	1	120	120	Accommodates 6
1.04 Processing Counter	1	140	140	Space for two staff
1.05 Search Room	0	64	0	Deleted by CSH
1.06 Patient Toilet	1	55	55	Next to resident waiting
1.07 Patient Shower	2	40	80	Outer dressing area
1.08 Patient Interview / Holding / Search	1	80	80	Fixed table and chairs
1.09 Exam Room	1	100	100	
1.10 Clothing Storage	1	120	120	Includes space for washer and dryer
1.11 Temporary Property Room	1	80	80	
1.12 Equipment Storage	1	100	100	
1.13 Clean Utility Room	1	60	60	
1.14 Soiled Utility Room	1	60	60	
1.15 Staff Toilet	0	55	0	
1.16 Medical Equipment	1	60	60	
1.17 Food Pantry	1	24	24	
1.18 Housekeeping	1	40	40	
1.19 Safe	1	10	10	
<b>SUBTOTAL</b>			<b>2,295</b>	

**2.00 Admissions Administration**

2.01 Admissions Nurse	1	80	80	
2.02 Admissions Clerk	1	80	80	
2.03 Intake Coordinator/Benefits/Social Wrk RN.	2	64	128	
2.04 Staff Toilet	1	55	55	
2.05 Staff Work Room	1	120	120	Deleted by CSH
2.06 Coffee Bar Area	1	40	40	Next to resident waiting
2.07 Admin. On Duty (AOD)	1	40	40	
<b>SUBTOTAL</b>			<b>543</b>	

TOTAL NET SQUARE FEET

2,838 Net Square Feet  
x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**4,541 Departmental Gross Square Feet**

Notes:

1. Net square feet is the area inside a room, excluding walls, chases...
2. Department gross square feet includes corridors and wall thicknesses.

**Program Staff**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

1

**1.00 Staff Offices**

1.01 Forensic Psychologist	0	100	0	
1.02 Treatment Psychologists	6	100	600	1 per unit
1.03 Therapsits	8	80	640	
1.04 Social Workers	6	100	600	1 per unit
1.05 Psychiatrists	6	100	600	1 per unit
1.06 SW Supervisor	8	100	800	
1.07 Psychology Supervisor	1	100	100	
1.08 Nurse Mang.	6	100	600	1 per unit
1.09 Nurse Cord.	2	100	200	
1.10 Primary Care Providers	2	100	200	
1.11 Behavior Team	3	64	192	
1.12 Psychology Assistants	2	64	128	
1.13 Students	4	64	256	
1.14 Students NP/PA & Shared	6	80	480	1 per unit
1.15 TDO Coordinators	0	100	0	Civil only
1.16 Social Work Assistants	0	100	0	Civil only
1.17 Social Work Floaters	2	80	160	
<b>SUBTOTAL</b>			<b>5,556</b>	

**2.00 Staff Support Areas**

2.01 Copy/Workroom	1	140	140	
2.02 Storage	1	80	80	
2.03 Breakroom	1	160	160	
2.04 Female Staff Toilet	1	160	160	
2.05 Male Staff Toilet	1	160	160	
2.06 Houskeeping	1	60	60	
2.07 Program & Unit Staff Break Room	1	250	250	Kitchennette.
<b>SUBTOTAL</b>			<b>1,010</b>	

**3.00 Patient Relations**

3.01 Director of Patient Relations/Reco	1	120	120	Confirm with CSH
3.02 PR Coordinator	1	100	100	Confirm with CSH
3.03 STEP Coordinator	1	100	100	Confirm with CSH
3.04 Work Program Spec.	2	64	128	Confirm with CSH
3.05 Peer Support	2	64	128	Confirm with CSH
3.06 Administrative Assistant	1	64	64	Confirm with CSH
3.07 Storage	1	100	100	Confirm with CSH
3.08 Large Storage	0	0	0	off-site warehouse storage
<b>SUBTOTAL</b>			<b>740</b>	

**Program Staff**

**4.00 Forensic Evaluation Team**

4.01 Supervisor	1	120	120	
4.02 Forensic Evaluators/Coordinators	4	100	400	
4.03 Administrative Assistant	5	64	320	
4.04 Post Doctoral Fellow	1	100	100	
4.05 Administrative Officer / Social Wc	2	80	160	
4.06 Evaluation Files Room	1	100	100	
4.07 Workroom	0	120	0	See Conference / Administrative Support Ctr
4.08 Evaluation Files Room	0	200	0	See Conference / Administrative Support Ctr
4.09 Coffee Bar	1	40	40	
SUBTOTAL			1,240	

TOTAL NET SQUARE FEET		5,556	Net Square Feet
	x	1.6	Grossing Factor

**DEPT GROSS SQUARE FEET** **8,890** **Departmental Gross Square Feet**

Notes:

1. Net square feet is the area inside a room, excluding walls, chases...
2. Department gross square feet includes corridors and wall thicknesses.

**Visitation Suite**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Resident Processing**

1.01 Resident Sallyport	1	100	100	
1.02 Resident Search	1	64	64	
1.03 Resident Toilet	1	55	55	ADA
1.04 Resident Waiting	1	120	120	Bench Seating
<b>SUBTOTAL</b>			<b>339</b>	

**2.00 Visitation**

2.01 Contact Visitation Room	1	400	400	20 persons
2.02 Small Contact Visitation Room	0	0	0	
2.03 Non-Contact Visit Booths - ADA	4	70	280	
2.04 Contact Visitation Attorney	4	120	480	Confirm "contact" with CSH
2.05 Multi-purpose Visitation	0	150	0	
2.06 Visitation Officer	1	64	64	Supervision / access control of special visit areas
2.07 Vending	1	48	48	
2.08 Staff Station	0	20	0	
<b>SUBTOTAL</b>			<b>1,272</b>	

**3.00 Visitor Entrance / Processing**

3.01 Visitor Sallyport/Search	1	120	120	
3.02 Lobby	0	200	0	Provide at main lobby
3.03 Search	0	64	0	
3.04 Security Station	0	25	0	Provide at main lobby
3.05 Visitor Toilet	1	55	55	ADA Unisex
<b>SUBTOTAL</b>			<b>175</b>	

**4.00 Judicial Suite**

4.01 Judicial Courtroom	1	320	320	Judge and Lawyer from outside, patient support (social worker), Family member. Security. Video.
4.02 Consult Office	1	120	120	
4.03 Family Waiting	1	120	120	
4.04 Patient Toilet	1	55	55	
4.05 Staff Toilet	1	55	55	
<b>SUBTOTAL</b>			<b>670</b>	

TOTAL NET SQUARE FEET 2,456 Net Square Feet  
x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET** 3,930 **Departmental Gross Square Feet**

Notes:  
 1. Net square feet is the area inside a room, excluding walls, chases...



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## Visitation Suite

2. Department gross square feet includes corridors and wall thicknesses.

**Patient Dining**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. Patient dining will occur on units via tray service - no centralized dining for patients
- 2. Staff dining capacity set at 60 seats

**1.00 Dining**

1.01 Patient Dining Hall	2	480	960	22 person serving 1 ward at a time; 15 nsf per person plus 100 nsf serving aisle and 50 nsf tray return/counter; railing to divide space into two areas. Max Security eats exclusively on the ward
1.02 Rethyerm/Serving Pantry	1	200	200	Serving two dining rooms; blind serving line; determine equipment needs for room size.
SUBTOTAL			1,160	
TOTAL NET SQUARE FEET			1,160	Net Square Feet
			1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>1,856</b>	<b>Departmental Gross Square Feet</b>

**Treatment Mall - Education Services**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Resident Education Areas**

1.01 Education Classroom / Multi.	1	500	500	15 residents +2 staff per classroom;
1.02 Storage - Education Classroom / Multi.	1	40	40	
1.03 Arts and Crafts - "Clean"	1	400	400	Abundant storage; adjacent to "Dirty" Arts and Crafts; Full glass between
1.04 Arts and Crafts - Material Storage	1	100	100	
1.05 Arts and Crafts - Project Storage	1	100	100	
1.06 Arts and Crafts - "Dirty"	1	200	200	Wet area; Abundant storage; adjacent to "Dirty" Arts and Crafts; Full glass between
1.07 Library	1	500	500	
1.08 Library Workroom	1	100	100	
1.09 Computer Room	1	200	200	Adjacent to Library with glass separation for sound isolation; Adjacent to Vocational Education Computer Lab.
1.10 Patient Toilet	2	55	110	
SUBTOTAL			2,250	

**2.00 Staff and Support**

2.01 Arts and Crafts Instructor Workspace	1	100	100	Between Dirty and Clean Arts and Crafts with Observation of both
2.02 Teachers Offices	4	64	256	Open Cubes
2.03 Teacher Supervisor	1	100	100	
2.04 Teacher Workroom	1	140	140	
2.05 Teacher Toilet	1	55	55	Unisex
2.06 Shared Education Storage	1	120	120	
SUBTOTAL			771	

TOTAL NET SQUARE FEET

3,021 Net Square Feet  
 x 1.6 Grossing Factor

DEPT GROSS SQUARE FEET

**4,834** Departmental Gross Square Feet

**Treatment Mall - Vocational Services**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Patient Vocational Areas**

1.01 Vocational Lab Large	0	800	0	Not in Max Secure
1.02 Vocational Lab Small	1	600	600	No exterior access
1.03 Vocational Classroom	1	400	400	Computer lab. Space for 10 patients. Includes computers
1.04 Computer Lab	0	240	0	
1.05 Patient Toilet	2	55	110	Single Occupant; Restricted access
1.06 Vocational Storage	1	80	80	Direct access from Vocational Lab
1.07 Greenhouse	1	180	180	Prefabricated structure directly connected to building
1.08 Greenhouse Storage	1	40	40	
1.09 Housekeeping Staging	0	200	0	Not in Max Secure
1.10 Search Area	1	60	60	Small sit down station; search area; metal detector
1.11 Queuing Area	0	0	0	Not in Max Secure
1.12 Recycling Area	0	0	0	Not in Max Secure
1.13 Secure Tool Storage	1	80	80	
1.14 "Threads" Clothing Laundry	1	200	200	Verify size and function with CSH
1.15 "Threads" Clothing Storage	1	120	120	Verify size and function with CSH
1.16 "Threads" Clothing Receiving	1	80	80	Verify size and function with CSH
<b>SUBTOTAL</b>			<b>1,950</b>	

**2.00 Staff and Support**

2.01 Vocational Staff Support	4	64	256	Open Cubes
2.02 Vocational Supervisor	1	100	100	
2.03 Staff Toilet	1	55	55	
2.04 Housekeeping	1	80	80	
2.05 IT Distribution Room	0	0	0	Included in Grossing Factor
<b>SUBTOTAL</b>			<b>491</b>	

TOTAL NET SQUARE FEET

2,441 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**3,906 Departmental Gross Square Feet**

**Treatment Mall - Recreation Services**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Patient Recreation Areas**

1.01 Gymnasium	1	3,120	3,120	Half court (42' x 50' plus 5' edge zone)
1.02 Stage/Multipurpose Room	1	200	200	
1.03 Resident Toilet	2	55	110	Single Occupant - Restricted access
1.04 OT Room	1	300	300	
1.05 Exercise / Weight Room	1	500	500	
<b>SUBTOTAL</b>			<b>4,230</b>	

**2.00 Staff and Support**

2.01 Recreation Support Staff	4	64	256	Open Cubes
2.02 Recreation Supervisor	1	100	100	
2.03 Staff Toilet	1	55	55	
2.04 Gymnasium Storage	1	120	120	Storage for chairs and equipment; directly accessible to Gym
2.05 Physical Therapy Storage	1	80	80	Directly accessible from PT rooms
<b>SUBTOTAL</b>			<b>611</b>	

TOTAL NET SQUARE FEET

4,841 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**7,746 Departmental Gross Square Feet**

**Treatment Mall - Shared Resident Services**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Patient Areas**

1.01 Therapy Mall	1	2,000	2,000	Break-out and community space
1.02 Group Therapy Rooms	8	256	2,048	12 residents and 2 staff
1.03 Mock Courtroom	1	300	300	
1.04 Market Store	1	500	500	
1.05 Multi-Denominational Worship	1	300	300	
1.06 Barber/Beautician	1	180	180	
1.07 Game Room	1	400	400	Foosball; ping pong; pool table; video games
1.08 Independent Living Skills Lab	1	550	550	Training program for ADL - efficiency apartment - Verify need with CSH
1.09 Music Therapy Room	1	400	400	8-10 people - "Soundproof"
1.10 Loop Area Large Group Room	0	256	0	
1.11 Loop Area Small Group Room	0	160	0	
1.12 Loop Area Computer Room	0	140	0	
1.13 Meditation Rooms	2	140	280	
1.14 Exam/Physical Survey Room	1	120	120	
1.15 Clothing Store	1	300	300	
<b>SUBTOTAL</b>			<b>7,378</b>	

**2.00 Staff and Support**

2.01 Market Store Storage	1	80	80	
2.02 Religious Storage	1	40	40	
2.03 Multi-purpose Storage	1	140	140	
2.04 Barber/Beautician Storage	0	40	0	Storage for chairs and equipment; directly accessible to Gym
2.05 Chaplain's Office	0	0	0	Directly accessible from PT rooms
2.06 Music Therapy Storage	1	120	120	Storage for chairs and equipment; directly accessible to Gym
2.07 Loop Area Staff Work Space	0	64	0	Directly accessible from PT rooms
<b>SUBTOTAL</b>			<b>380</b>	

TOTAL NET SQUARE FEET

7,758 Net Square Feet  
x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**12,413 Departmental Gross Square Feet**

**Public Lobby**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>1.00 Lobby</b>				
1.01 Vestibule	1	100	100	
1.02 Public Lobby	1	350	350	
1.03 Public Lockers	1	50	50	Open to the Lobby and Secure. Z Lockers Provide 30 (Reduced from 60)
1.04 Public Lobby Toilet - Male	1	55	55	ADA
1.05 Public Lobby Toilet - Female	1	55	55	ADA
1.06 Public Safety Screening	1	100	100	Walk-thru metal detector; package screening.
1.07 Public Safety Queuing Space	1	0	0	
1.08 Public Safety Station	1	80	80	1 People - Reception
1.09 Public Safety Office	1	100	100	Director
1.10 Reception Staff Station	0	200	0	
1.11 Staff Toilet	0	55	0	Unisex ADA - (Use public toilet)
1.12 Public Safety Storage	1	40	40	
1.13 Package Receiving Room	0	100	0	Moved to warehouse
1.14 Package / Mail Screening	0	80	0	Moved to Central Control
1.15 Gift Shop	0	100	0	Not in Max Secure?
1.16 Vending	1	60	60	
SUBTOTAL			990	

TOTAL NET SQUARE FEET 990 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET 1,584 Departmental Gross Square Feet**

Notes:

1. Net square feet is the area inside a room, excluding walls, chases...
2. Department gross square feet includes corridors and wall thicknesses.

**Central Control & Security**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Central Control**

1.01 Central Control Room	1	120	120	
1.02 Central Control Toilet	0	55	0	
1.03 Electronic Security/IT Headend	1	100	100	
1.04 Equipment Room	1	60	60	Protective gear storage
1.05 Sallyport Access	1	64	64	cc needs dedicated sallyport
1.06 Screening / X-Ray and Walk thru	1	100	100	
1.07 Queuing Space	0	80	0	
1.08 Package/Mail Screening	0	120	0	In receiving
1.09 Staff Lockers	1	100	100	40 Lockers. Z Lockers
1.10 Unisex Bathroom	1	55	55	At Staff Lockers
<b>SUBTOTAL</b>			<b>599</b>	

**2.00 Security Administration**

2.01 Forensic Security Director	1	120	120	
2.02 Administrative Assistant	1	64	64	
2.03 Work Room	1	120	120	In Secure Area 2 people
2.04 Office	0	120	0	
2.05 Interview / Conference Room	0	0	0	
2.06 Lieutenants Office (Shared)	2	64	128	
2.07 Equipment Storage	1	80	80	Radio equipment and general storage for Lieutenants
2.08 Surveillance Room	1	80	80	Reviewing Videos
2.09 Locksmith	0	140	0	
2.10 Shift Office	0	250	0	10-14 staff. Touch down spaces
2.11 Security Captains / Supervisors	2	100	200	Cubes. Secured Workroom for 3 staff
2.12 Special Mang. Tech. Supervisor	1	100	100	
2.13 File Storage	0	120	0	
<b>SUBTOTAL</b>			<b>892</b>	

TOTAL NET SQUARE FEET

1,491 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**2,386** Departmental Gross Square Feet



**Executive Administration**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. Offices will be reviews and confrimed CSH

**1.00 Executive Staff**

1.01 Director of Central State Hospital	1	150	150	
1.02 Assistant Direcor of Administration	1	120	120	
1.03 Clinical Director	0	120	0	
1.04 Director of Rehab	1	100	100	
1.05 Director of Social Work	0	120	0	
1.06 Director of Psychology	0	120	0	
1.07 Forensic Security Director	0	120	0	Moved to Central Control
1.08 Patient Relations Recovery Director	0	120	0	Moved to Patient Relations
1.09 Medical Director	1	100	100	
1.10 Chief Nurse Executive	1	100	100	
1.11 Assistant Chief Nurse Executive	0	100	0	
1.12 Executive Administrative Assistant	1	96	96	
1.13 Administrative Assistants	2	64	128	
1.14 Central Office Hoteling	0	100	0	
1.15 Internal Investigations	1	100	100	Need to have closed space
<b>SUBTOTAL</b>			<b>894</b>	

**2.00 Administrative Support**

2.01 Reception Area	1	80	80	
2.02 Shared/Large Conference Room	0	400	0	20 Person
2.03 Galley	0	80	0	Adjacent to conf room
2.04 Medium Conference Room	0	250	0	10 Person
2.05 Conference Room Storage	0	100	0	
2.06 Executive Conference Room	0	270	0	12 Person
2.07 Copy/Workroom	0	180	0	
2.08 Secure Supply Storage	0	120	0	
2.09 Administrative File Room	0	120	0	
2.10 Housekeeping	0	80	0	
2.11 Mail Room	0	120	0	
2.12 Female Staff Restrooms	0	200	0	?? Seems Excessive
2.13 Male Staff Restrooms	0	180	0	?? Seems Excessive
2.14 Adminsitrative Breakroom	0	300	0	
2.15 Lactation Room	1	80	80	
2.16 Trash/Recycling Holding	0	40	0	
2.17 IT Distribution Room	0	120	0	In Grossing Factor
2.18 Staff Toilet	0	55	0	Adjacent to Dir. Office
<b>SUBTOTAL</b>			<b>160</b>	

**Executive Administration**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 IT Administration</b>				
3.01 Director of IT	1	100	100	
3.02 Application Development	1	100	100	Open office cubicles for 2 staff plus work area
3.03 Tech Support	2	64	128	Open office cubicles for 2 staff plus work area
3.04 Storage	1	80	80	
3.05 Administrative Assistant / Telecom Cr	1	64	64	Workstation
3.06 Computer Lab / Training / Group Plar	0	240	0	Moved to staff development
SUBTOTAL			472	
<b>4.00 Health Information Management</b>				
4.01 HIM Supervisor	1	100	100	
4.02 Administrative Assistant	0	64	0	Deleted from program
4.03 Program Support Technician	1	64	64	
4.04 Medical Records Clerk	0	64	0	Moved to nurse stations
4.05 Transcriptionist	1	64	64	
4.06 Admission Clerk	1	64	64	
4.07 Physician Review Room	1	40	40	
4.08 Work Room	0	140	0	
4.09 Microfilm Room	0	100	0	
4.10 Statistics Storage	0	100	0	
4.11 Large Conference Room	0	400	0	
4.12 Records Archive	0	100	0	
4.13 Server Room	1	80	80	
4.14 Housekeeping	0	80	0	
4.15 Coffee Bar/ off corridor	0	40	0	
SUBTOTAL			412	
<b>5.00 Financial Services and Procurement</b>				
5.01 Reception Area	1	60	60	2 Persons
5.02 Director of Finance	1	100	100	
5.03 Administrative Assistant	1	64	64	
5.04 Supervisor	1	64	64	
5.05 Payroll Supervisor	1	64	64	
5.06 Payroll Technicians	1	64	64	
5.07 Timekeepers	1	64	64	
5.08 Timekeepers/Payroll File Room	1	64	64	
5.09 Buyer Supervisor	1	64	64	
5.10 Buyers (Procurement Officers)	1	64	64	
5.11 Cashiers	1	64	64	
5.12 Cost Accountant	1	64	64	
5.13 Accounting Manager	1	64	64	
5.14 Accounts Payable Supervisor	0	100	0	
5.15 Accounts Payable Technicians	1	64	64	
5.16 Reimbursement Technicians	1	64	64	
5.17 Safe	1	16	16	
5.18 Accounts Payable File Room	1	60	60	
5.19 Departmental Storage Room	0	50	0	
5.20 Work / Copy Area	0	60	0	
5.21 Medium Conference Room	0	250	0	10 Person
5.22 Coffee Bar	0	40	0	
SUBTOTAL			1,068	

**Executive Administration**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>6.00 Quality and Risk Management</b>				
6.01 Director of Risk and Quality Managen	1	100	100	
6.02 QA Support Technician	0	64	0	
6.03 Operations/EEOC Manager	1	64	64	
6.04 Risk Analysis	1	64	64	
6.05 Hospital Administrative Assistant	0	64	0	
6.06 Quality Manager	1	64	64	
6.07 Policy Coordinator	1	64	64	
6.08 Data Analyst	0	100	0	
6.09 Small Conference Room	0	150	0	6 Person
6.10 Work/Copy Area	0	120	0	
6.11 Coffee Bar	0	40	0	
6.12 Administrative Assistant	0	64	0	
SUBTOTAL			356	
<b>7.00 Administration Conference and Support Center</b>				
7.01 Conference Room - Large	1	600	600	Dividable into 2
7.02 Conference Room - Medium	1	250	250	
7.03 Conference Room - Small	2	120	240	
7.04 Work Room / Copy Center / Supplies	1	240	240	Central
7.05 Central Supply Storage	1	100	100	
7.06 Staff Break Room	1	300	300	All admin Staff
7.07 Toilets - Male	1	300	300	
7.08 Toilets - Female	1	400	400	
7.09 Trash Holding	1	60	60	
7.10 Housekeeping	1	80	80	
SUBTOTAL			2,570	
TOTAL NET SQUARE FEET			5,932	Net Square Feet
			x 1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>9,491</b>	<b>Departmental Gross Square Feet</b>

Notes:

1. Net square feet is the area inside a room, excluding walls, chases...
2. Department gross square feet includes corridors and wall thicknesses.

**Human Resources**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Human Resources Administration**

1.01 Regional HR Director	1	120	120	
1.02 Regional Assist HR Director	0	100	0	
1.03 Employment and Recruitment Manager	1	64	64	
1.04 Senior Recruiter	0	100	0	
1.05 Senior Recruiter/WP Analyst	0	100	0	
1.06 Worker Compensation Case Manager	1	64	64	
1.07 Employee Relations Analyst	0	100	0	
1.08 Employee Relations Specialist	1	64	64	
1.09 VSDP Coordinator	1	64	64	
1.10 Benefits Administrator	1	64	64	
1.11 Customer Service Supervisor	0	100	0	
1.12 Timekeeper	0	100	0	
1.13 Administrative Assistant	1	64	64	
<b>SUBTOTAL</b>			<b>504</b>	

**2.00 Human Resources Support**

2.01 Reception Room	1	80	80	2 persons
2.02 Interview Room / Conference	1	100	100	
2.03 Badging Room	1	80	80	
2.04 Workroom	0	120	0	
2.05 Records	0	200	0	Confirm Storage needs with CSH
2.06 Male Staff Toilet	0	160	0	Moved to central with admin support ctr.
2.07 Female Staff Toilet	0	160	0	Moved to central with admin support ctr.
2.08 Housekeeping	0	60	0	Moved to central with admin support ctr.
2.09 Supply Storage	0	120	0	Moved to central with admin support ctr.
2.10 Coffee Bar	0	40	0	Moved to central with admin support ctr.
<b>SUBTOTAL</b>			<b>260</b>	

TOTAL NET SQUARE FEET

764 Net Square Feet  
x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**1,222** Departmental Gross Square Feet

**Staff Development**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Staff Development**

1.01 Director of Training	1	120	120	
1.02 Nurse Educator	1	100	100	
1.03 Training Coordinator / Supervisor	1	64	64	
1.04 Mentors	0	64	0	
1.05 Admin Support	1	64	64	
1.06 Mentor Supervisor	1	96	96	
1.07 Workroom	0	140	0	Moved to central with admin support ctr.
1.08 File Room	0	100	0	
1.09 Supply Storage	0	80	0	Moved to central with admin support ctr.
1.10 Break Room	0	120	0	Moved to central with admin support ctr.
1.11 Male Staff Toilet	0	140	0	Moved to central with admin support ctr.
1.12 Female Staff Toilet	0	140	0	Moved to central with admin support ctr.
1.13 Housekeeping	0	60	0	Moved to central with admin support ctr.
1.14 IT Distribution Room	0	120	0	Included in grossing factor
<b>SUBTOTAL</b>			<b>444</b>	

**2.00 Training Space**

2.01 Training Pre-Function	0	400	0	
2.02 Training Classroom	0	400	0	20 Persons
2.03 Nurse Training Classroom	1	240	240	Nurse Lab
2.04 Computer Training Classroom	1	200	200	15 Computer stations
2.05 Multipurpose Room	1	1000	1,000	Dividable with sink and storage
2.06 Training Supply Storage	1	30	30	
2.07 Multipurpose Room Storage	1	60	60	
2.08 CPR Equipment Storage	1	60	60	
2.09 Physical Fitness Room	0	800	0	
2.10 Male Lockers/Showers/Toilet	0	320	0	
2.11 Female Lockers/Showers/Toilet	0	320	0	
2.12 Trash / Recycling Holding	0	40	0	Included in grossing factor
<b>SUBTOTAL</b>			<b>1,590</b>	

**Staff Development**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 Short-Term Housing</b>				
3.01 Student Bedroom	0	130	0	
3.02 Student Toilet/Shower	0	40	0	
3.03 Student Toilet/Shower ADA	0	60	0	
3.04 Computer Training Classroom	0	200	0	
3.05 Medical Officer of the Day Studio Apt.	0	300	0	Close to Admissions
3.06 Medical Officer of the Day Toilet/Shower ADA	0	60	0	
SUBTOTAL			0	
<b>4.00 Employee Health</b>				
4.01 Employee Health/Infection Control Office	0	100	0	Moved to Clinic
4.02 Exam/Interview	0	120	0	Moved to Clinic
4.03 Employee Health Files	0	0	0	Moved to Clinic
4.04 Admin Assit.	0	64	0	Moved to Clinic
SUBTOTAL			0	
TOTAL NET SQUARE FEET			2,034	Net Square Feet
			x 1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>3,254</b>	<b>Departmental Gross Square Feet</b>

**Kitchen**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Satellite Kitchen**

1.01 Receiving Dock	1	100	100
1.02 Dry Storage Room	1	200	200
1.03 Walk-in Cooler (Produce)	1	200	200
1.04 Walk-in Cooler (Dairy)	1	200	200
1.05 Walk-in Cooler (Trayed Food)	1	200	200
1.06 Walk-in Cooler (Bulk Food)	1	200	200
1.07 Walk-in Cooler (Canned Food)	1	200	200
1.08 Walk-in Freezer	1	200	200
1.09 Preparation Area	1	400	400
1.10 Tray Assembly Area	1	200	200
1.11 Cart Staging Area	1	100	100
1.12 Production Cooking	1	400	400
1.13 Dish Wash and Cart Wash	1	100	100
1.14 Pot Wash	1	60	60
1.15 Special Diets Preparation Room	0	325	0
1.16 Dietician Office	0	100	0
1.17 Director's Office	1	120	120
1.18 Mang. Office	1	100	100
1.19 Workstations / Food Service Supervisor	1	64	64
1.20 Workstations / Diet	1	64	64
1.21 Staff Toilet	2	55	110
1.22 Staff Lockers	2	75	150
1.23 Housekeeping	1	80	80
1.24 Retherm Docking Area	1	100	100
1.25 Break Room	0	250	0
SUBTOTAL			3,548

TOTAL NET SQUARE FEET

3,548 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**5,677 Departmental Gross Square Feet**

**Transportation**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. Vehicle support to be provided off-site

**1.00 Max Security Transport**

1.01 SST Supervisor	1	100	100	
1.02 SST Transport Officers	2	48	96	Open office
1.03 SST Transport Conference	0	250	0	
1.04 SST Equipment Room	1	80	80	Restraint Equipment
1.05 Staff Toilet	1	55	55	
1.06 Max Security Patient Staging	1	120	120	
1.07 Max Security Patient Toilet	1	55	55	
1.08 Max Security Patient Changing	1	50	50	
1.09 Max Security Holding	1	40	40	100 Lockers. Z Lockers
1.10 Sallyport	1	120	120	At Staff Lockers
<b>SUBTOTAL</b>			<b>716</b>	
<b>TOTAL NET SQUARE FEET</b>			<b>716</b>	<b>Net Square Feet</b>
			x <b>1.6</b>	<b>Grossing Factor</b>
<b>DEPT GROSS SQUARE FEET</b>			<b>1,146</b>	<b>Departmental Gross Square Feet</b>



**Housekeeping**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Housekeeping**

1.01 Director / Houskeeping - Laundry	1	100	100
1.02 Supervisor Office	0	100	0
1.03 Mang. Office	0	100	0
1.04 Supply distribution area	1	200	200
1.05 Toilet/Shower/Locker	2	75	150
1.06 Common Houskeeping large units	1	120	120
<b>SUBTOTAL</b>			<b>570</b>

TOTAL NET SQUARE FEET

570 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**912** Departmental Gross Square Feet

**Material Management**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Receiving**

1.01 Receiving Area	1	400	400	
1.02 Housekeeping	1	80	80	
1.03 Recycling/ Refuse Holding	1	200	200	
SUBTOTAL			680	

**2.00 Office Area**

2.01 Director of Warehouse	1	120	120	
2.02 Warehouse Supervisor	1	100	100	40 Persons
2.03 Receiving Specialist	2	64	128	Nurse Lab
2.04 Warehouse Control Specialist	3	64	192	25 Computer stations
2.05 Work/Copy Room	1	140	140	Dividable with sink and storage
2.06 Mail Room	1	200	200	
2.07 Break Room	1	180	180	
2.08 Staff Toilet	1	55	55	
SUBTOTAL			1,115	

**Material Management**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 Warehouse Area</b>				
3.01 Receiving Area	1	250	250	
3.02 High Bay Storage	0	5000	0	
3.03 Central Storage	1	1200	1,200	
3.04 Clothing Storage	1	250	250	
3.05 Volunteer Storage	0	500	0	
3.06 Patient Property Storage	1	500	500	
3.07 Medical Supplies Storage	1	250	250	
3.08 Oxygen Storage	1	60	60	
3.09 Staff Toilet/Shower	1	70	70	
3.10 Housekeeping	1	50	50	
3.11 Emergency Shower	1	9	9	
3.12 Climate Controlled Stor.	1	80	80	
3.13 Refig. Storage - Medical / Phy.	1	80	80	
SUBTOTAL			2,799	
TOTAL NET SQUARE FEET			4,594	Net Square Feet
		x	1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>7,350</b>	<b>Departmental Gross Square Feet</b>

**Energy Plant**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. 63% reduction of original 10,600 NSF

**1.00 Energy Plant**

1.01 Central Energy Plant	1	3,100	3,100	
1.02 Electrical Room	1	650	650	
1.03 Emergency Generator	0	1,800	0	Located outside
1.04 Equipment Storage	1	100	100	
1.05 Stationary Engineer / Control	1	100	100	
<b>SUBTOTAL</b>			<b>3,950</b>	
<b>TOTAL NET SQUARE FEET</b>			<b>3,950</b>	Net Square Feet
			x 1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>6,320</b>	<b>Departmental Gross Square Feet</b>

**Medical / Dental Clinic**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

- 1. Targeting a 60% reduction from original 6037 NSF

**1.00 Admin**

1.01 Audiology	0	300	0	
1.02 Audiology Workroom	1	140	140	
1.03 Radiology Workroom	1	140	140	
1.04 Sterile Procedure Processing	1	100	100	
1.05 Clinic Ortho/POD Treatment / Procedure	1	140	140	
1.06 Exam Room	1	140	140	
1.07 Clinic Treatment (OPHTHAL)	1	140	140	
1.08 Equipment Storage	1	100	100	
1.09 Clinic Waiting	1	80	80	
1.10 Clinical Support	0	110	0	
1.11 Dir. / Head Dr.	1	120	120	
1.12 Visiting Doctor's work space	1	64	64	
1.13 EH/IC Office	1	100	100	
1.14 EH/IC Tech	1	84	84	
1.15 EH/IC Treatment	1	140	140	
1.16 Medical Waste Storage	1	30	30	
1.17 Clean Storage	1	100	100	
1.18 Soiled Holding	1	100	100	
1.19 Patient Toilets	2	55	110	
1.20 Storage	1	30	30	
1.21 Sallyport	0	80	0	
SUBTOTAL			1,858	

**2.00 Dental Suite**

2.01 Dentist Dir.	1	100	100	
2.02 Dentist Treatment ADA	1	140	140	
2.03 Medical Gas	1	40	40	
2.04 X-Ray PANO	1	60	60	
2.05 Storage	1	50	50	
2.06 Dark Room Lab	1	40	40	
2.07 Lab Processing / Work	1	80	80	
2.08 Dental / Sterile	1	30	30	
2.09 Dental AA	1	30	30	
SUBTOTAL			570	

**Medical / Dental Clinic**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 Laboratory</b>				
3.01 Main Lab	1	400	400	
3.02 Micro Lab	0	120	0	
3.03 Lab Dir.	1	100	100	
3.04 Lab Tech	1	64	64	
3.05 File Storage	0	100	0	
3.06 Blood Draw	1	80	80	
3.07 Conf. / Break Room	0	100	0	
3.08 Lab SEC Workroom	0	80	0	
SUBTOTAL			644	
<b>4.00 Physical Therapy</b>				
4.01 Physical Therapy Activity Area	0	0	0	Located in Recreation services
SUBTOTAL			0	
<b>5.00 Neurology</b>				
5.01 NEURO TEST/BIO	1	120	120	
5.02 NEURO AA	1	80	80	
5.03 NEURO Dir.	1	100	100	
5.04 NEURO Test	1	80	80	
5.05 NEURO Test Observation	1	80	80	
5.06 NEURO Tech.	1	80	80	
5.07 Office / Post - Doc.	0	120	0	
5.08 Patient Toilet	0	55	0	
SUBTOTAL			540	
TOTAL NET SQUARE FEET			3,612	Net Square Feet
			x 1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>5,779</b>	<b>Departmental Gross Square Feet</b>

**Pharmacy**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Administration / Staff**

1.01 Dir Pharmacy	1	100	100	
1.02 Clinical Pharmacy Office	0	100	0	
1.03 Clinical Pharmacy Office	0	100	0	
1.04 Office Shared	1	200	200	
1.05 Flex Office	0	120	0	
1.06 Records / File Storage	1	100	100	
1.07 Open Office Area	1	400	400	
1.08 Conf. Break Room	0	285	0	
1.09 Staff Toilet	2	55	110	
1.10 Coffee Bar	0	40	0	
<b>SUBTOTAL</b>			<b>910</b>	

**2.00 Pharmacy Prep / Work**

2.01 Pick TAB Area	1	200	200	
2.02 Drug Control	1	100	100	
2.03 Emergency Cart Storage	1	100	100	
2.04 Pass Discharge	1	100	100	
2.05 PYXIS CCA/FLEX	1	120	120	
2.06 Unit Dose	1	100	100	
2.07 Bulk Storage	1	100	100	
2.08 Compound Area	1	80	80	
2.09 Computer Stations	1	120	120	
2.10 WTG Area	1	30	30	
2.11 Pharmacy / Doc. PYXIS Station	1	100	100	
<b>SUBTOTAL</b>			<b>1,150</b>	

TOTAL NET SQUARE FEET

2,060 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**3,296** Departmental Gross Square Feet

**Laundry**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Laundry**

1.01 Soiled Sort Area	1	500	500
1.02 Clean Sorting/Drying/Ironing	1	750	750
1.03 Distribution Area	1	200	200
1.04 Supervisor Office	1	100	100
1.05 Staff Toilet	1	55	55
1.06 Housekeeping	1	80	80
1.07 Laundry Storage	1	100	100
<b>SUBTOTAL</b>			<b>1,785</b>

TOTAL NET SQUARE FEET

1,785 Net Square Feet  
 x 1.6 Grossing Factor

**DEPT GROSS SQUARE FEET**

**2,856** Departmental Gross Square Feet



**Maintenance / Building & Grounds**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
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**Assumptions**

**1.00 Administration**

1.01 PPS Director	1	120	120	
1.02 Maintenance Supervisor	1	100	100	
1.03 Administrative Assistant	1	64	64	
1.04 Workroom	0	120	0	
1.05 Breakroom/Conference Room	1	150	150	
1.06 Files/Records	0	0	0	
1.07 Toilet/Shower/Locker	2	70	140	
1.08 Conference Room	0	150	0	
1.09 Plan Room	1	100	100	
SUBTOTAL			674	

**2.00 Workshops**

2.01 Carpentry	1	200	200	
2.02 Electrical	1	150	150	
2.03 Plumbing	1	150	150	
2.04 HVAC	1	150	150	
2.05 Hazardous Materials Collection	1	100	100	
2.06 General Storage	1	100	100	
2.07 Paint Shop	1	100	100	
2.08 Parts Inventory	0	0	0	In warehouse
2.09 Combustibles Storage	1	100	100	
2.10 Corporation Yard	0	0	0	
2.11 Forman	5	64	320	Open Work Sace
2.12 Welding Booth	1	120	120	
SUBTOTAL			1,490	

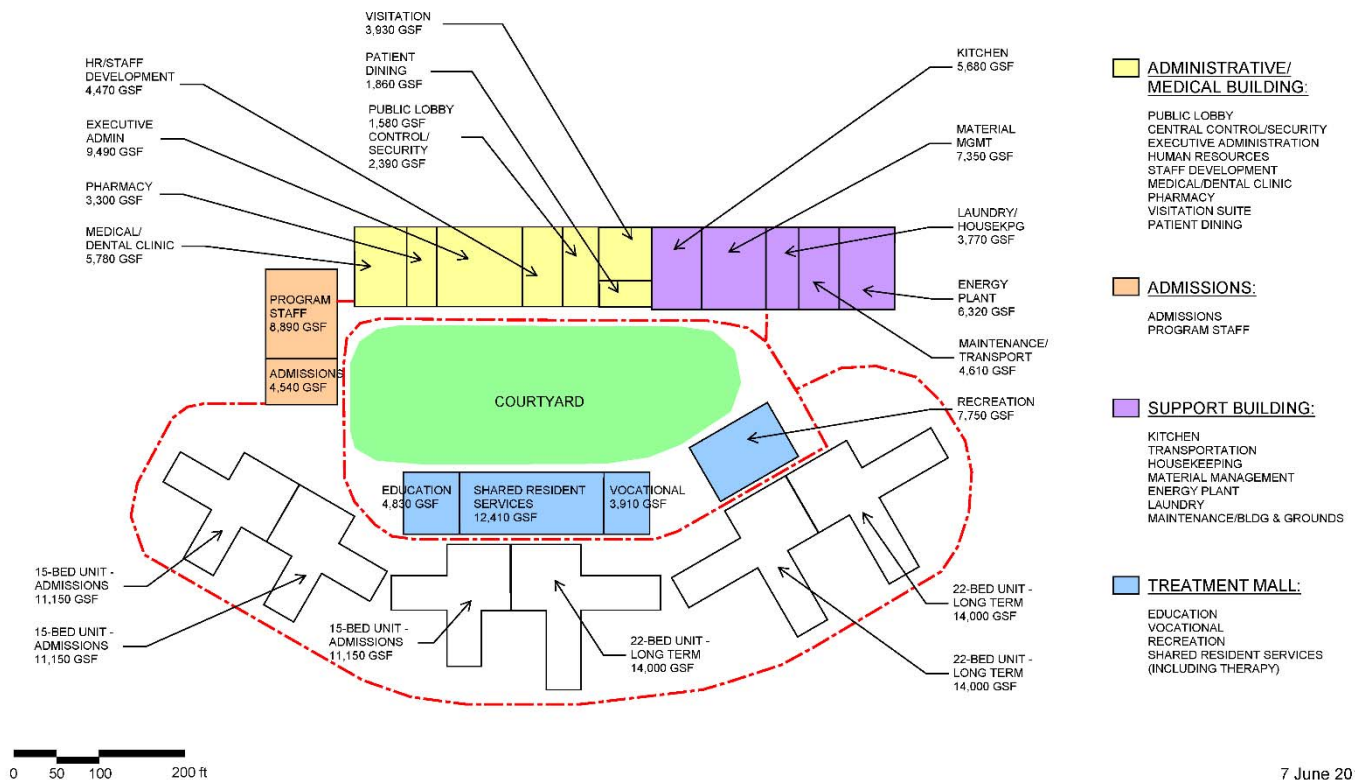
**Maintenance / Building & Grounds**

Element	Proposed Quantity	Proposed Net SF	Total Proposed Net SF	Comments
<b>3.00 Grounds</b>				
3.01 Grounds Equipment	0	300	0	In warehouse
3.02 Outdoor Storage / Grounds Yard	0	1000	0	Uncovered outdoor
SUBTOTAL			0	
TOTAL NET SQUARE FEET			2,164	Net Square Feet
			x 1.6	Grossing Factor
<b>DEPT GROSS SQUARE FEET</b>			<b>3,462</b>	<b>Departmental Gross Square Feet</b>

### 3. GENERIC HOSPITAL MODEL

We used the Concept Space Program to create a “Generic Hospital Model.” With this Generic Hospital Model, we can develop a high-level, ideal facility layout that represents a progressive, secure forensic behavioral healthcare hospital regardless of the site. The model was developed using the Departmental Gross Square Footage areas and shows typical departments and adjacencies between departments.

The diagram below represents the model. This model is used to “test fit” each site. Due to the specific circumstances and/or characteristics of each individual site, some site adaptation may occur. However, the basic model and size remain consistent.



7 June 2019

#### 4. SITES ANALYSIS AND TEST FITS

Six campuses are evaluated for the location of the proposed new 111-bed secure forensic behavioral healthcare hospital. All the campuses are existing Commonwealth of Virginia owned properties. The six campuses include:

- Central State Hospital
- Western State Hospital
- Catawba Hospital
- Central Virginia Training Center
- Powhatan Correctional Center
- James River Correctional Center

Each campus was visited, and potential site(s) were identified and evaluated. The outcome of the preliminary evaluations resulted in a preferred site location on each campus that potentially would fit the new 111-bed secure forensic behavioral healthcare hospital. For the Catawba Hospital two sites were tested.

The Central State Hospital site is included in this study and is part of the 2018 Central State Hospital Replacement Preplanning Study. We include the Central State Hospital site in this study as a basis for development of the test fit standalone forensic unit used for the remaining five campuses. Each test fit forensic facility includes living units, program space and support service matching that used for the 2018 study and modified by site based on the availability of support services from adjacent DBHDS facilities.

The current maximum security forensic facility at Central State Hospital has evolved into a unique therapeutic treatment program that supports individuals with severe mental illness from across the Commonwealth of Virginia. Given the complexities of the Central State Hospital forensic program, there are several site considerations that are essential when developing a program of this magnitude. For the test fit site evaluation the following benchmarks were tested:

- **Adjacent support services** - In the event of an emergency requiring the relocation of maximum security forensic patients, a secure, locked location in close proximity to the facility is needed. The current Central State Hospital's evacuation site is located eleven miles from the facility at the Riverside Regional Jail in Prince George County, Virginia. The ability to mobilize transportation options for patient relocation in a secure and efficient manner is essential. Local law enforcement staff work with Central State Hospital staff and are trained in assistance if relocation is required.
- **Adjacent medical services** - Securing external medical and clinical supports for maximum security forensic patients requires a productive working relationships with organizations and agencies with knowledge of the forensic population. Medical care

professionals trained in the safeguards needed to protect the patients, employees, and the public is critical. Central State Hospital has developed longstanding agreements with hospitals such as Hiram Davis Medical Center (HDMC) and Virginia Commonwealth University Medical Center (VCU) to provide needed external support services. VCU has a medical ward specially outfitted to support maximum security forensic patients while providing optimal care. HDMC on the Petersburg campus with Central State Hospital provides dental, x-ray, lab, and other general medical services for these patients. CSH also has access to two additional community hospitals in close proximity to the campus; 1) Southside Regional Hospital in Petersburg, and 2) John Randolph in Hopewell.

- **Subject Matter Experts** - Maximum security forensic programs require licensed staff with specialized knowledge, skills, and training as required by the Code of Virginia to provide evaluation services for individuals with criminal justice involvement. Additionally, other professional staff as well as patient care and support staff with knowledge and experience of the complexities for managing recovery programs for maximum security forensic patients are vital to the overall safety and success of a treatment program. The current program for maximum security forensic patients at Central State Hospital has evolved over many years to include employees who have developed a skill set to work with this special population. They have enhanced their skills over time through training and hands on experiences are a critical asset in the test fit site selection. Some key positions include the Forensic Services Department who have a productive relationship with law enforcement, jails, and court systems. Security, Direct Support Professionals, and Nursing staff who have garnered successful outcomes with this population. Social Services staff with conditional release responsibilities have good working relationships with local and regional Community Services Boards. Current Nursing levels at Central State Hospital are 100% filled.
- **Shared Services** - Shared administration services are desirable as indicated in the assessment matrix; however, there are concerns regarding a shared administration located in another facility not housed in the same building. This concern has to do with the staff response in the event of an emergency or catastrophic event. There must be an immediate response of staff who are cross-trained and have the ability to provide security and other support needs as identified. Shared administration in a separate facility is not optimal to provide the type of response required.

The physical description of the site, the utilities available for each site and a campus plan for each site are included in this section.



**DGS Forensic Unit Site Assessment Matrix**

DBHDS Facility	Test Fit Site Plan	Centrality of Location	Regional Support	Academic Support	Medical Support	Shared Services	Therapeutic Environment	Workforce Availability	Facility Assessment Rating
Central State Hospital	4.51	4.85	4.61	4.75	4.80	4.72	4.93	4.75	4.74
Western State Hos	3.57	3.40	2.70	3.98	3.36	3.92	4.25	3.78	3.62
Catawba Hospital 1	3.57	2.43	3.51	2.04	2.40	3.03	3.74	2.23	2.87
Catawba Hospital 2	3.29	2.43	3.51	2.04	2.40	3.03	3.74	2.23	2.83
Powhatan DOC	1.69	3.78	4.61	3.98	3.55	1.78	0.85	2.33	2.82
James River DOC	1.69	3.78	4.61	3.98	3.55	1.78	0.85	2.33	2.82
CVTC	1.88	2.81	2.88	2.33	2.40	1.78	3.40	2.43	2.49

**Assessment Rating System:**

- 0.0 to 1.0 - Not recommended for proposed functional operation, not a consideration.
- 1.1 to 2.0 - Unsatisfactory, constrained for proposed functional operation, limited acceptability.
- 2.1 to 3.0 - Conditional, marginal acceptance, easily dropped from consideration.
- 3.1 to 4.0 - Satisfactory, recommended for limited consideration based on proposed functional operation.
- 4.1 to 5.0 - Excellent, highly suited, recommended for consideration based on proposed functional operation.

**Matrix Categories:**

**1) Test Fit Site Plan:** The proposed site is sufficient distance from nearby residences, neighborhoods, and businesses, and the facility will be out of obvious view. The proposed site exhibits adequate space for the test fit model, parking, and minimal buffer (proposed 30 acres). Facility access route modifications are minimal. Site development costs are part of this category consideration. The proposed site has adequate utilities in good condition and adequate capacity to serve the facility. The proposed utilities are located within close proximity of the test fit site.

**2) Centrality of Location:** The proposed site is located with maximum consideration for forensic population and stakeholder regional proximity. The majority of the patients are transported to this facility by local law enforcement. We understand forty percent (40%) of all admissions come from Central Virginia and the Tidewater Regions. Easy access from a major interstate(s) proximate to Central and Tidewater Virginia is critical to minimize the impact on a limited local law enforcement resource. The provision of services to maximum security forensic patients is governed by the same regulations and standards of care as other behavioral health patients and therefore the local and regional Community Services Boards (CSB) and family involvement is critical to the DBHDS forensic program’s mission and treatment planning. Centrality of location is needed to support family engagement in recovery and facilitate CSBs involvement in service delivery.

**3) Regional Support:** The proposed site proximity to a metropolitan area with a population of more than 100,000 will attract professional staff experienced in forensic healthcare services and provide employment opportunities for spouses and family members.

**4) Academic Support:** DBHDS's vision is for the forensic program to be recognized as a center of excellence in the provision of forensic treatment and evaluation services, and for it to provide clinical and forensic training opportunities for academic institutions. The test fit site proximity to regional medical schools is important to allow participation by psychiatric residents, support academic partnerships, and maximize continued professional development for facility staff and their families.

**5) Medical Support:** Medical support facilities are in close proximity to the proposed test fit site and provide a secure patient area. The availability of professional staff provides community engagement opportunities.

**6) Shared Services:** The proposed test fit site has existing services and the ability to support the new facility. These services may include Human Resource Management, Fiscal Services, Procurement/General Services, Food Service, Buildings and Grounds, Pharmacy, Warehouse/Storage space, Laundry services, and Medical and Dental Services.

**7) Therapeutic Environment:** External regulatory requirements, the Joint Commission, human rights regulations, and federal standards dictate that all DBHDS facilities, including the forensic program, provide the same quality of care that an individual would receive in a private hospital. Regional support services are available for the selected location.

**8) Workforce Availability:** The surrounding area can adequately support the workforce needs as reflected in community unemployment rates from a reputable source. Regional public transportation is available.



## CENTRAL STATE HOSPITAL

### SITE

CSH is centrally located within the state to meet the needs of key stakeholders. The facility is close to Interstate 95, Interstate 85, and Route 1 in Dinwiddie County providing easy access to and from the site for visitors and employees. CSH currently receives patients requiring maximum security forensic services from all areas within the Commonwealth including the Central Virginia and Tidewater regions which make up approximately 40% of all admissions. This location affords families, Community Services Boards, and patient representatives an opportunity to visit and participate in their treatment planning and recovery.

The Virginia Department of Transportation (VDOT) Road and Bridge capital improvement planning budget includes discussion for the widening the US Rte 1 corridor from I-85 to the Petersburg City limits. There is no established date for this development; however, the planning for this work appears to be on the VDOT five year projects lists. The main access for the new hospital facility is planned to be the current CSH Albemarle Street entrance. The new project will increase the amount of traffic along Albemarle Street. VDOT Road and Bridge Standards will likely require modifications to the Albemarle Street and Rte 1 entrance due to this increase in traffic and proximity of the entrance to I-85. These modifications may require traffic signalization or relocation of the main entrance farther north along Rte 1 to accommodate site distance requirements and an expanded turning lane.

### UTILITIES

The CSH receives water from the Appomattox River Water Authority (ARWA) through a 10-inch watermain from the North Side of US Route 1 to Building 59. The State is responsible for maintaining this watermain in addition to their distribution system. This watermain and the majority of the existing water system is old and near its expected life span. Approximately 5,200 linear feet of watermain would need to be replaced from the ARWA connection to the proposed site. In order to reduce the amount of water utilities the State has to maintain it is recommended that the new facility is connected to the Dinwiddie County Water Authority (DCWA) distribution system. The DCWA has a watermain along Route 1 that is close in proximity to the proposed site. It is estimated approximately 2,800 linear feet of waterline will be required. The waterline could be installed with stub-outs for future connections to the neighboring parcels along Albemarle Street. It is anticipated that VDOT will require a casing pipe to be bore and jacked across State Route 1 for the waterline construction.

The existing CSH is served by gravity sewer and connects to the DCWA trunk sewer between the north east corner of the property and Route 1. The majority of the existing sanitary sewer system is old and in poor condition. The proposed CSH facility is capable of being served by gravity sewer. The recommended new gravity sewer alignment would be behind the existing Hiram W. Davis Hospital and follow an existing creek line to tie into the DCWA trunk sewer along Cattail Run Creek. The creek line behind Hiram Davis is a natural dividing line between the proposed parcels and potential future development of the site. A gravity sewer along the creek line will provide sewer service for the new facility and also provides the potential for sewer service for neighboring parcels. It is unlikely that future development would alter the

natural drainage of the site due to cost implications. The sewer line size will need to be confirmed during design to ensure it has capacity to provide service to the new facility and surrounding parcels. It is estimated approximately 4,200 linear feet of 12-inch to 15-inch sewer and associated manholes will be required for the sewer alignment. Each manhole along the sewer alignment will provide a potential connection point to provide sewer service to the neighboring parcels along the creek. A section of the sewer alignment will run through an existing forested area and wetlands. It is estimated approximately 1.6 acres of trees will need to be cleared for the sewer alignment. A delineation will need to be performed during the design phase to determine the wetland extents and project impacts. Sewer utility alignments are typically considered temporary impacts and permitted through the United States Army Corp of Engineers (USACE) under the Nationwide Permit 12.

An alternate option to installing gravity sewer is to construct a pump station to provide sewer service for the proposed facility. The station would be located behind the proposed facility and pump the wastewater through a force main to DCWA. The force main would run from the proposed site west along Albemarle Street then turn north along State Route 1 to tie into the DCWA trunk sewer on the north side of Cattail Run Creek. This alignment of following the roads will not divide the parcels and provide access in case of maintenance or repairs. It is estimated approximately 5,500 linear feet of 6-inch force main will be required. The force main size and capacity will need to be confirmed during the design phase. Some tree clearing may be required along Route 1 for the force main depending on the location of existing utilities. In addition, the alignment of the force main along State Route 1 will need to be coordinated with the VDOT regarding any future roadway expansion projects. The pump station will require a minimum of two (2) redundant pumps and a backup power source in accordance with Virginia Department of Environmental Quality Sewage Collection and Treatment Regulations. The pump station will require monitoring of alarms and regular maintenance of equipment to ensure operations.

However, almost all of the above infrastructure improvements will be required for the new 141-bed civil population hospital, and therefore would not be considered as site costs for the forensic hospital if located at Petersburg. Given the new 141-bed hospital construction, very minimal site improvements for the secure forensic unit are anticipated.

There is natural gas available on site along Seventh Avenue. A metering station is located near the intersection of Seventh Avenue and Albemarle Street. This station presents a conflict with the site layout of the proposed facility. The relocation of any gas utilities will need to be coordinated with Columbia Gas.

Dominion Energy provides power to Central State Hospital. There are three-phase power distribution lines located to the east of the Hiram W. Davis Medical Center. A connection to these lines would provide power to the new facility.



CSH concept plan from 2018 study

## WESTERN STATE HOSPITAL

### SITE

Western State Hospital (WSH), located near Staunton, Virginia, is the newest Department of Behavioral Health and Developmental Services (DBHDS) patient care facility in the Commonwealth of Virginia. The 66-acre site is in close proximity to the Interstate 64 and Interstate 81 corridor, and positioned within an hour and a half from the Richmond metropolitan area and two hours from Northern Virginia. WSH is within 36 miles of the University of Virginia Medical Center, the closest medical school, which may provide opportunities for training and professional development for facility staff and their families. WSH also has access to Augusta Health, a regional hospital for additional medical support if needed and the Commonwealth Center for Children and Adolescents, a DBHDS mental health facility which provides an opportunity for some shared services. WSH is centered on the site with some usable space along the eastern and western perimeters. The topography along the eastern perimeter of the site is steep and not suitable for new construction. A sewage pump station serving WSH is located within this area and presents a conflict for siting the new Forensic Unit.

The topography on the western side of the property is more favorable for the construction of a new building. The proposed placement of the Forensics Unit on the western portion of the site requires relocation of the main access road, relocation of a portion of the existing parking lot and requires additional space to accommodate new storm water management features. There is space on the western side of the site to accommodate the test fit building, parking area, and storm water controls provided the required support services are delivered by WSH. The western side of the site is in close proximity and within view of several residences along National Avenue and Valley Center Drive. Valley Center Drive currently ends in a cul-de-sac near the site. Review of the City of Staunton Geographic Information Systems (GIS) data indicates this road has an easement connecting to the old Western State Hospital property. The previous WSH property was sold to the City of Staunton Industrial Development Authority for regional industrial growth.

WSH is located approximately 135 miles northwest of CSH. This distance will place further burden on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters.





**WSH site looking west towards proposed test fit site.**

## **UTILITIES**

The City of Staunton provides water and sewer service to WSH and there is available capacity to support the addition of the Forensics Unit. A twelve inch watermain connects the hospital to the City of Staunton. Facility staff indicated this line has sufficient water pressure to supply the fire flow requirements without the need for a firepump or storage system. Approximately 400 linear feet of twelve and eight inch waterline would be required to connect the Forensics Unit to the WSH system. It is not feasible to serve the proposed site by gravity sewer. A new sewer pump station and an estimated 1,100 linear feet of 4"-6" force main would be required to convey wastewater to the City of Staunton's collection system. Shenandoah Electric Cooperative provides power to WSH and would provide power to the Forensics unit.







## CATAWBA HOSPITAL

### SITE

Catawba Hospital is located in Roanoke County and is a 30 minute drive from Roanoke, Virginia. The 647 acre site is accessible from Interstate 81 by taking Route 311 north and is the western most DBHDS facility studied. Catawba Hospital is within 23 miles of Virginia Tech Carilion School of Medicine, Blacksburg, Virginia, the closest medical school, which may provide opportunities for training and professional development for facility staff and their families. Catawba Hospital is an operating mental health hospital with undefined workforce availability for the addition of a maximum security unit and currently has a 20 percent vacancy rate for nursing and direct care staff. In addition to the 20% vacancy rate, Catawba is under consideration for adding 56 beds to address the civil state hospital census prior to the completion of a new maximum security forensic hospital. Thus, the community may not have sufficient work force to meet the needs of a 300 bed hospital.

A mountain ridge borders the north side of the property while a lower ridge line borders the southern edge of the property along Route 779, Catawba Creek Road. The facility was built to care for 270 patients and is currently appropriated to care for 110 patients. The majority of the property consists of steep topography; however, there are two sites identified that offer buildable space. The first site (Site Option 1) is located south of the existing boiler plant and support facilities. This location is not visible from Catawba Creek Road or the nearby residents. The second site (Site Option 2) is located is an open field near the main entrance to the hospital and is visible from Catawba Creek Road. It is expected rock excavation will be required for construction and utility work at either location. Due to its proximity to the southern ridge line, Site Option 1 will likely require more rock removal than Site Option 2. Both of these sites will be accessible from the Catawba Hospital drive. There is sufficient available space on site to provide a parking area as well as storm water control measures.



**Catawba Hospital Option 1 site looking west.**

Catawba Hospital is located approximately 175 miles west of CSH. This distance will place further burden on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters.



**Catawba Hospital Option 2 site looking west.**

## **UTILITIES**

Catawba Hospital and the adjacent on site facilities receive electrical service from two separate primary electrical utility providers. In the event of a main electrical service failure, the facility can manually transfer over to the second electrical source. Natural gas utilities are not available to the Catawba Hospital site and are not regionally available. The facility has its own well water treatment plant and sewage treatment plant. Both of these facilities are in good condition and have adequate additional capacity for the addition of a forensic unit. The hospital has two water ground storage tanks located on the north ridge with a total capacity of 275,000 gallons. Additional storage may be required for fireflow requirements for the new Forensics Unit. This would need to be evaluated during the design phase of the project. The facility staff indicated that their water and sewer infrastructure has been replaced and is in good condition. Approximately 600 LF of eight and twelve inch waterline and eight inch gravity sewer would be required to connect to the new facility to the existing infrastructure.





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## Conceptual Layout - Catawba Hospital Site Option 1







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## Conceptual Layout - Catawba Hospital Site Option 2





## CENTRAL VIRGINIA TRAINING CENTER

### SITE

The Central Virginia Training Center (CVTC) site has approximately 367 acres and is in Madison Heights, Virginia. The majority of the developable land on site is already occupied by the existing buildings. Many of the existing buildings on site are abandoned or scheduled to be abandoned in the near future and most have little or no historical significance. The facility is in close proximity to Routes 29 and Route 460 providing access to the facility for employees and visitors. CVTC is within eight miles of Liberty University, the closest medical school, which may provide opportunities for training and professional development for facility staff and their families. Virginia Tech Carilion School of Medicine and the University of Virginia Medical Center are two additional medical facilities within a sixty-mile radius that would be considered options for faculty and staff.

We understand that CVTC is scheduled to be decommissioned within the next two years and also understand the State is looking at options to lease the Lower Rapidan buildings on the North area of campus. With this understanding we believe the remaining CVTC site has significant resale value for economic development due to its proximity to Lynchburg and the southwest Virginia transportation region.

As a result of the planned closing the workforce availability for a maximum security forensic hospital may be available in part due to previous CVTC employees maintaining residence in the area; however, the remaining workforce would likely lack forensic services expertise and would require several years of training and development to ensure patient services and safety protocols are implemented according to established standards and regulations.

There is a landfill between the main campus and the James River that cannot be built upon. A selected site for the Forensics Unit is located in the central portion of the CVTC campus and based on the site topography, accessibility and proximity to usable utility systems. This site will require the demolition of multiple buildings including the building that houses the CVTC kitchen and storage facilities. In order to provide adequate parking for the new Forensics Unit, additional building demolition would be required. The site does have available space to implement stormwater control measures. The proposed Forensics Unit would be visible from and near Colony Road. This road serves as an access route to the nearby mobile home neighborhood located adjacent to the south east side of the property.



**CVTC campus site looking northeast.**

## **UTILITIES**

The primary electric service to CVTC comes down Colony Road from Route 210 and would be capable of providing electrical service to the Forensics Unit. The CVTC site is has natural gas service provided by Columbia Gas. The Albemarle County Service Authority (ACSA) provides water and sewer service to the CVTC campus and adjacent community areas. The facility has two elevated water storage tanks with a total combined capacity of 500,000 gallons and were observed to be in good condition. There is sufficient water and sewer capacity to support the addition of the Forensics Unit at this site; however, a recent utility infrastructure assessment report commissioned by the DBHDS identified most of the seventy year old water and wastewater systems were in poor or failing condition and provided an estimate for replacement of \$14,000,000.





## Conceptual Layout - Central Virginia Training Center Site





## POWHATAN CORRECTIONAL CENTER

### SITE

The Powhatan Correctional Center property is approximately 2,638 acres and operated by the Virginia Department of Corrections (VDOC). The site is located approximately 20 minutes from the intersection of Interstate 64 and Route 288 and roughly 35 minutes from Richmond, Virginia and is not located in close proximity of a DBHDS facility. The Deep Meadows Correctional Center is also located on the same property. A large portion of the 2,638 acres is used for farming in support of the VDOC Agribusiness dairy and food services program. We understand the Agribusiness is an essential component in the VDOC food services system and inmate training and the loss of any portion of this site would result in a significant increase in food costs. A detailed analysis provided by VDOC Agribusiness for milk production summarized the loss of 50 acres of crop land (used to grow dairy cattle feed) would increase milk prices by \$0.02 per serving or approximately \$500,000 annually. Both the Deep Meadows Correctional Facility and the Powhatan Correctional Center are located on the south side of this parcel. The fields near these two facilities were identified as a potential site for the Forensics Unit due to the topography, available utilities, and proximity to the main access road and adjacent to. The proposed site is within close proximity to residential houses and neighborhoods as well as the correctional facilities.

Powhatan Correctional Center is within 34 miles of Virginia Commonwealth University Medical School and 55 miles of the University of Virginia Medical Center, two medical schools, which may provide opportunities for training and professional development for facility staff and their families.

This facility would require administrative and support services independent of other DBHDS facilities due to its location with little to no opportunity for shared administrative or clinical services. The workforce availability for a maximum security forensic hospital in this area lacks forensic services expertise and would require several years of training and development to ensure safety and recovery services are implemented according to established standards and regulations.

### UTILITIES

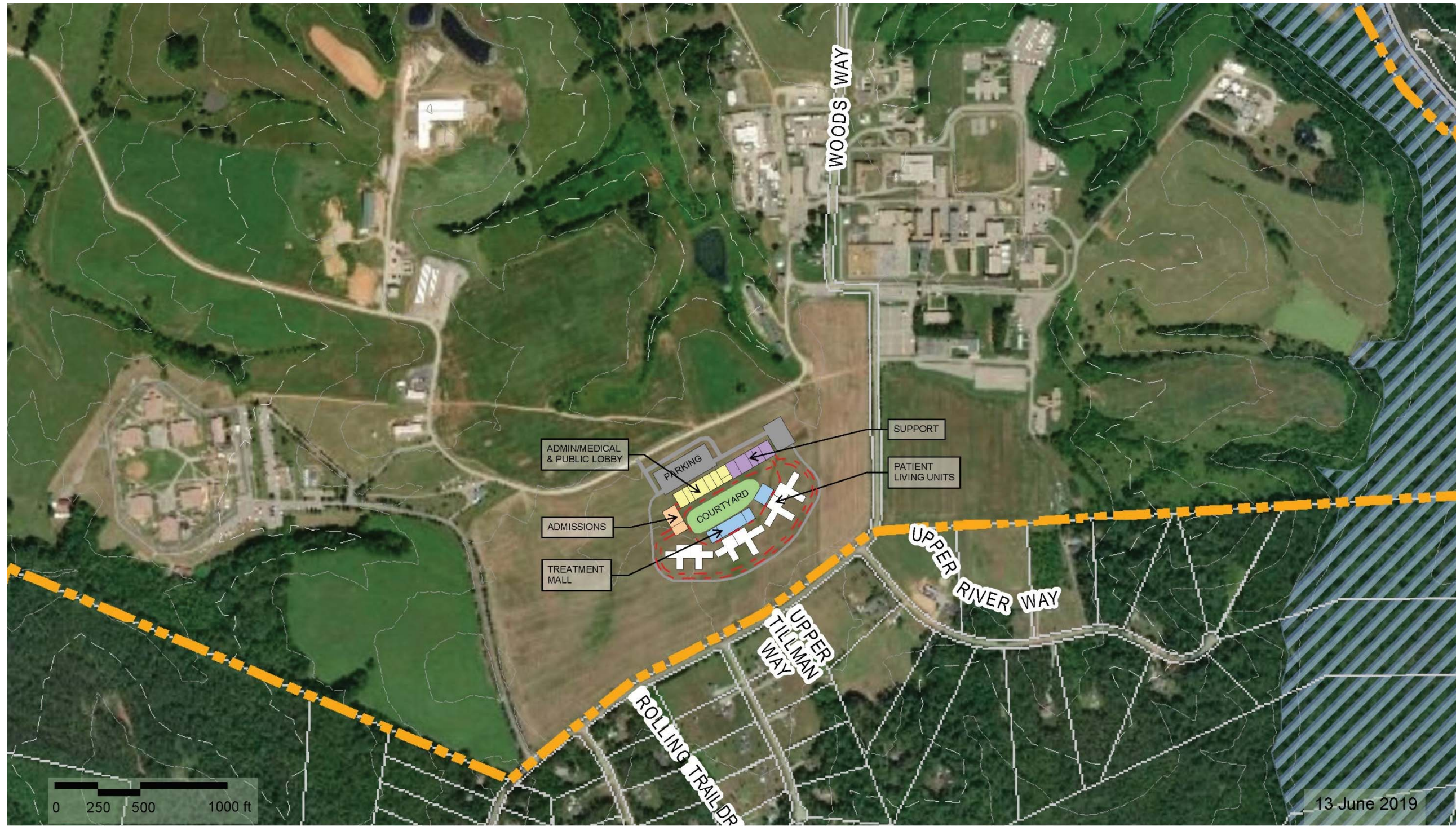
The Powhatan site does not have any natural gas utilities available. Dominion Power provides electric service to the existing facility and would provide power to the Forensics unit. The VDOC owns and operates a water treatment facility and sewage treatment facility. A 10" water main crosses under the James River and provides water to the Powhatan and Deep Meadows. The Powhatan facility has two elevated water storage tanks with a combined capacity of 375,000 gallons. Additional water storage may be required for fireflow requirements for the new Forensics unit. This would need to be evaluated during the design phase of the project. The water treatment plant is located on the James River correctional center property and has a capacity of 3 million gallons per day (GPD). VDOC staff indicated there is sufficient excess capacity to support a new Forensics unit. The wastewater treatment plant (WWTP) is located adjacent to the Powhatan Correctional

Center. This facility has a treatment capacity of approximately 365,000 GPD. VDOC staff indicated that approximately 80-90% of this capacity is being utilized. The addition of the Forensics unit may require adding additional wastewater treatment capacity. Due to the topography, it is likely the new Forensics unit would need a sewer pump station and force main to convey wastewater to the plant.



**Powhatan Correctional Center site looking east.**





Department of General Services  
Commonwealth of Virginia

## Conceptual Layout - Powhatan Correction Facility Site





## JAMES RIVER CORRECTIONAL CENTER

### SITE

The James River correctional center property has 903 acres and is located between Route 6 and the James River. The site is located approximately 20 minutes from the intersection of I-64 and Route 288 and roughly 35 minutes from Richmond, Virginia and is adjacent to the Powhatan Correctional Center. This property is owned and operated by the Virginia Department of Corrections (VDOC). There are several separate facilities in operation on this site including the Department of Corrections Academy, the VDOC Water Treatment Plant, VDOC work camp, VDOC horse farm, and a shooting range. The James River correctional center buildings are abandoned and no longer in use. There are a few houses on site that are leased to VDOC employees. In addition, there is a chapel next to the abandoned correctional center which has been designated as a historic building by Goochland County. VDOC staff also indicated there is a dump area on the property from an old National Guard training camp. The majority of the James River site has steep contours or is located within the flood plain. The existing facilities buildings, operations, and site conditions limits the number of potential locations for siting the Forensic Unit. A field on the eastern side of the property was identified as a potential site due to its topography. However, this location would require the construction of a new access road extending 1,600 feet from Route 6 to the proposed site. This location is also close to nearby residences. Similar to the Powhatan Correctional Center site the VDOC Agribusiness program relies on proposed site farm land for food source income. The Agribusiness financial loss is significant for the site.

Powhatan Correctional Center is within 34 miles of Virginia Commonwealth University Medical School and 55 miles of the University of Virginia Medical Center, two medical schools, which may provide opportunities for training and professional development for facility staff and their families.

This facility would require administrative and support services independent of other DBHDS facilities due to its location with little to no opportunity for shared administrative or clinical services. The workforce availability for a maximum security forensic hospital in this area lacks forensic services expertise and would require several years of training and development to ensure safety and recovery services are implemented according to established standards and regulations.

### UTILITIES

The James River site does not have any natural gas utilities available. Dominion Power provides electric service to the existing facility and would provide power to the Forensics unit. The VDOC owns and operates a water treatment facility on the James River site and a wastewater treatment plant at Powhatan across the river. The water treatment plant is located on the James River correctional center property and has a capacity of 3 million gallons per day (GPD). VDOC staff indicated there is sufficient excess capacity to support a new Forensics unit. The Powhatan WWTP has a capacity of approximately 365,000 GPD.

VDOC staff indicated that approximately 80-90% of this capacity is being utilized. The addition of the Forensics unit may require adding additional wastewater treatment capacity. The James River property has a 1M gallon elevated water storage tank off of Route 6. It is estimated this storage tank would have sufficient capacity to satisfy the fireflow requirements for the Forensics unit. This would need to be confirmed during the design phase of the project. The site identified as a potential location for the Forensics unit is at the eastern edge of the property. While this site has favorable topography it is the furthest away from the existing utilities. Approximately 7,000 LF of 10"-12" waterline would be required to connect the new facility to the water distribution system. This location would need a sewage pump station and between 8,000 -13,500 LF of 4-6" force main to convey the wastewater. In addition, the force main would need to be directionally drilled approximately 1,200 LF underneath the James River to route flow to the Powhatan WWTP.

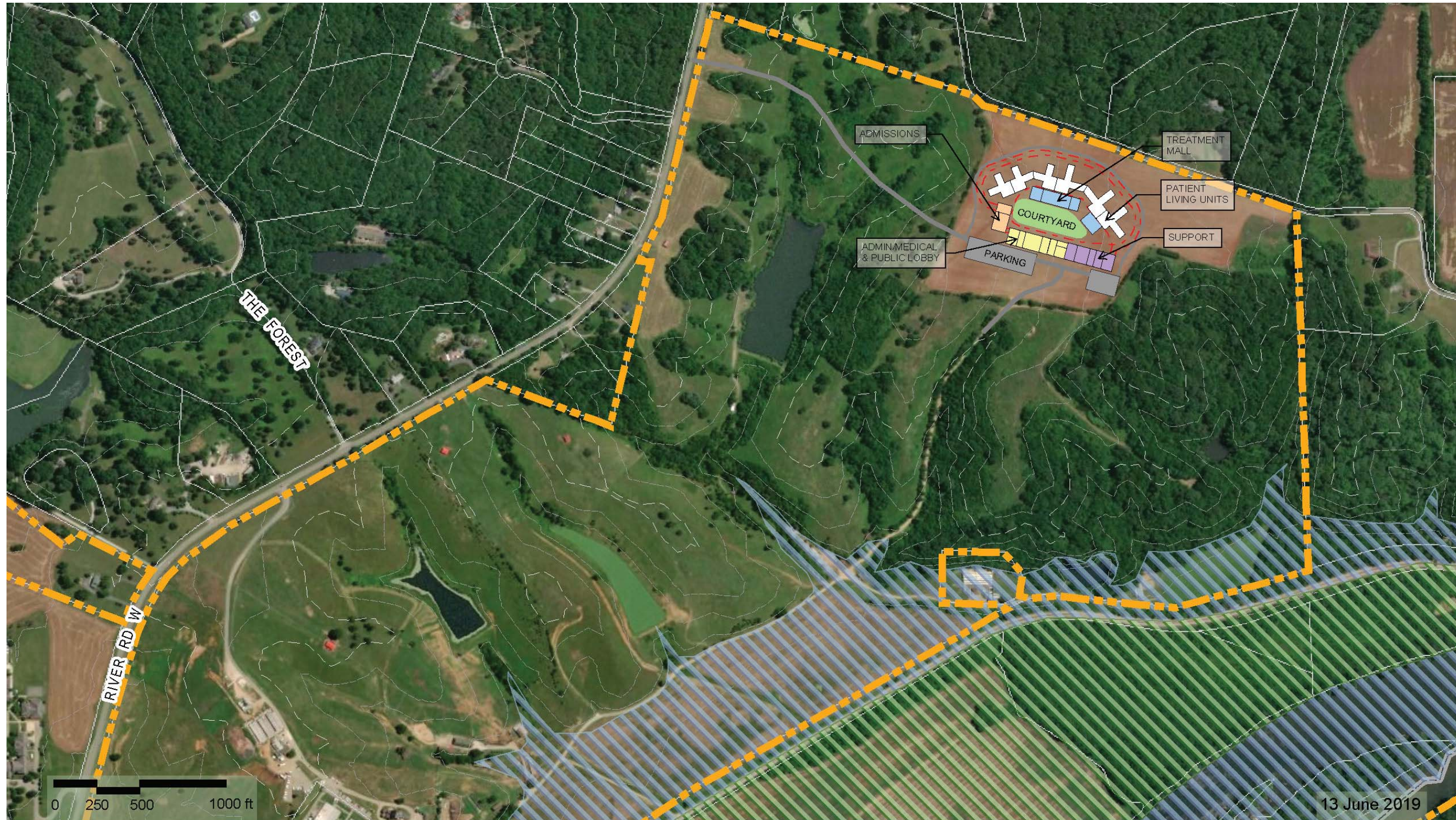


**James River Correctional Center looking site looking south.**



## James River Correctional Center Agribusiness Office





Department of General Services  
Commonwealth of Virginia

## Conceptual Layout - James River DOC Site





## 5. OPERATIONAL CONSIDERATIONS

### Central State Hospital

Central State Hospital, Virginia's current maximum security forensic hospital is centrally located to meet the needs of key stake holders. The facility is close to I-95, I-85, and Route 1 in Dinwiddie County providing easy access to and from the site for visitors and employees. CSH currently receives patients requiring maximum security forensic services from all areas within the Commonwealth including the Central Virginia and Tidewater regions which make up 40% of all admissions. This location affords families, CSBs, and patient representatives an opportunity to visit and participate in their treatment planning and recovery.

Central State Hospital is located 27 miles from Virginia Commonwealth University and 98 miles from the University of Virginia, two medical schools ensuring DBHDS clinical and forensic services have the opportunity to provide training and develop partnerships to foster continued professional development for facility staff and their families. CSH sits in a location that is within 30-45 minutes of a metropolitan area with a population greater than 100,000. Central State Hospital is located near Hiram Davis Medical Center with shared services for dental, clinical, and medical services which are challenging to find for this population in the general community. In addition, Central State Hospital has access to 3 additional community hospitals in close proximity to campus to include Southside Regional Hospital, Petersburg; John Randolph, Hopewell; and Virginia Commonwealth University, Richmond which has an admission area with safety features to support maximum security forensic patients.

Central State Hospital has demonstrated the ability to recruit and retain qualified staff who are willing to work with this special population. The available workforce includes direct support staff, professional staff, and security staff as well as subject matter experts in forensic services. These subject matter experts currently provide evaluation, treatment plan development and case management services to name a few. Central State Hospital has also ensured psychosocial rehabilitation services are provided in a safe and therapeutic environment as indicated by The Joint Commission, human rights, and federal standards. The CSH workforce has the expertise and skills necessary to ensure that individuals admitted to their maximum security forensic program are acknowledged as patients first and not inmates which supports the development of an environment that is safe and promotes recovery absent resemblance or direct comparison to a prison or criminal justice site.

CSH's close proximity to a metropolitan area of greater than 100,000 supports forensic subject matter experts' spouses and families to also find and maintain gainful employment, an important aspect of employee retention. Central State Hospital has been approved to be rebuilt on a 30 acre site on the Petersburg campus, which is the minimum property size necessary to develop a robust program necessary to meet the needs of maximum security forensic patients in the Commonwealth of Virginia.

### **Western State Hospital**

Western State Hospital, Staunton, Virginia is located close to I-64 and I-81 providing easy access to the facility for employees and visitors. Western State Hospital is within 36 miles of the University of Virginia, the closest medical school, which may provide opportunities for training and professional development for facility staff and their families. In addition, Augusta Health, a community hospital system is nearby for medical support. WSH is approximately 30-45 minutes of a metropolitan area with a population greater than 100,000. The facility is near the Commonwealth Center for Children and Adolescents, a DBHDS mental health facility which provides an opportunity for some shared services between the state facilities.

While Western State Hospital is an operating mental health hospital, the workforce availability for the addition of a maximum security forensic hospital is uncertain. The unemployment rate in February 2019 was 3% and WSH has a 10% nursing vacancy rate and a 25% psychiatry vacancy rate, two key components of a maximum security forensic treatment team.

Western State Hospital is located 133 miles northwest of Central State Hospital. This distance will place further burden on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters as 40% of maximum security forensic patients are from the Tidewater and Central Virginia regions.

### **Catawba Hospital**

Catawba Hospital, Catawba, Virginia is located near Route 311 and 15 minutes from I-81 providing access to the facility for employees and visitors. Catawba Hospital is within 23 miles of Virginia Tech Carilion School, Blacksburg, Virginia, the closest medical school, which may provide opportunities for training and professional development for facility staff and their families. CAT is approximately 30-45 minutes from a metropolitan area with a population greater than 100,000.

While Catawba is an operating mental health hospital, the workforce availability for the addition of a maximum security forensic hospital is uncertain. The nearest area to gather potential workforce members would be Roanoke, Virginia which had an unemployment rate in February 2019 of 3.1%; while CAT has a 20% nursing and direct care staff vacancy rate, a key component of a maximum security forensic treatment team.

Catawba is located 175 miles west of Central State Hospital. This distance will place further burden on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters as 40% of maximum security forensic patients are from the Tidewater and Central Virginia regions.

### **Central Virginia Training Center**

Central Virginia Training Center, Madison Heights, Virginia is located near Lynchburg, Virginia. The facility is in close proximity to Routes 29 and Route 460 providing access to the facility for employees and visitors. CVTC is within 8 miles of Liberty University, the closest medical school, which may provide opportunities for training and professional

development for facility staff and their families. In addition Virginia Tech Carilion Medical School and the University of Virginia are approximately 60 miles away. CVTC is within 30-45 minutes of a metropolitan area with a population greater than 100,000.

The facility will not be near an operating DBHDS facility to develop shared services as current CVTC operations for DD Services will close by June 2020. The workforce availability for a maximum security forensic hospital may be available in part due to previous CVTC employees maintaining residence in the area, however the remaining workforce lacks forensic services expertise and would require several years of training and development to ensure safety and recovery services are implemented according to established standards and regulations.

Central Virginia Training Center is located 110 miles west of Central State Hospital. This distance will place further burden on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters as 40% of maximum security forensic patients are from the Tidewater and Central Virginia regions.

### **Powatan Correctional Center**

Powatan Correctional Center, State Farm, Virginia is located approximately 15 minutes from I-64 providing easy access to the facility for employees and visitors. Powatan Correctional Center is within 34 miles of Virginia Commonwealth University Medical School and 55 miles of the University of Virginia, two medical schools, which may provide opportunities for training and professional development for facility staff and their families. PCC is approximately 30-45 minutes of a metropolitan area with a population greater than 100,000.

This facility would require administrative and support services independent of other DBHDS facilities due to its location with little to no opportunity for shared administrative or clinical services. The workforce availability for a maximum security forensic hospital in this area lacks forensic services expertise and would require several years of training and development to ensure safety and recovery services are implemented according to established standards and regulations.

Powatan Correctional Center is located 50 miles northwest of Central State Hospital. This location while central to Virginia will increase the distance of on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters from the Tidewater region. Forty percent of maximum security forensic patients are from the Tidewater and Central Virginia regions.

In addition, the existing facility is not appropriate for a maximum security forensic population as it is not conducive to a therapeutic environment necessary for treatment and recovery.

### **James River Correctional Center**

James River Correctional Center, State Farm, Virginia is located approximately 15 minutes from I-64 providing easy access to the facility for employees and visitors. James River Correctional Center is within 32 miles of Virginia Commonwealth University Medical

School and 53 miles of the University of Virginia, two medical schools, which may provide opportunities for training and professional development for facility staff and their families. JRCC is approximately 30-45 minutes of a metropolitan area with a population greater than 100,000.

This facility would require administrative and support services independent of other DBHDS facilities due to its location with little to no opportunity for shared administrative or clinical services. The workforce availability for a maximum security forensic hospital in this area lacks forensic services expertise and would require several years of training and development to ensure safety and recovery services are implemented according to established standards and regulations.

James River Correctional Center is located 53 miles northwest of Central State Hospital. This location while central to Virginia will increase the distance of on local law enforcement for transport, families and CSBs for visits and treatment planning, and patient representatives for legal and related matters from the Tidewater region. Forty percent of maximum security forensic patients are from the Tidewater and Central Virginia regions.

In addition, the existing facility is not appropriate for a maximum security forensic population as it is not conducive to a therapeutic environment necessary for treatment and recovery.



## 6. COMMUNITY IMPACT:

On a broader scale, the relocation of the secure forensic unit from Petersburg would have a very noticeable impact to the economy of Petersburg. As the second largest employer in Dinwiddie County, significantly reducing Central State Hospital's workforce by relocating these beds will have an immediate impact on the Dinwiddie labor market and economy, where contracting opportunities with area service providers, such as tradespersons, personnel agencies, and technical service providers would be lost. Central State Hospital employs a large number of City of Petersburg residents specifically, and therefore the Petersburg economy would also be negatively impacted. As a result of the personnel layoffs related to several hundred staff positions, the associated cost for doing so would be a significant burden to the Commonwealth. Furthermore, in order to retain sufficient staff willing to operate the closing facility, it would be necessary to pay incentives, similar to what was done for staff at the closing of the training centers, which will further increase the cost to the Commonwealth. Perhaps more importantly, the high risk of early attrition would become an unwanted liability for safe operation of the maximum security forensic unit.

## **7. SCHEDULE:**

The following project schedule outlines the planned design and construction duration for the forensic program at a site other than CSH. The schedule does not include staff training and relocation programs for patient transfer and start up.

REPLACE CENTRAL STATE HOSPITAL - ALTERNATE FORENSIC UNIT LOCATION SCHEDULE:

SCOPE	START DATE	DESIGN AND CONSTRUCTION																							
		FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
		2019		2020		2021		2022		2023		2024		2025		2024		2025							
		July-Sep	Oct-Dec.	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec.	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec.	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec.	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec.	Jan-Mar	Apr-Jun	July-Sep	Oct-Dec.	Jan-Mar	Apr-Jun
Year 2020 General Assembly Session Approval	7/1/2020					PROJ APP																			
<b>FORENSIC UNIT - ALTERNATE LOCATION</b>																									
A/E Selection	7/1/2020																								
Design	10/1/2020																								
Construction	1/1/2022																								

## 8. SITES CONCEPT COST ESTIMATES

A cost estimate for each site has been developed. For each site, the program area that has been developed for the freestanding 111-bed forensic behavioral health hospital of 178,277 Building Gross Square Feet (BGSF) was used. The cost of construction for the building was derived from the March 2019 HDR report at \$518.00/sf. This cost was utilized for consistency of comparison of all options related to the building(s).

For the Western State Hospital site, a building gross area of 159,098 BGSF area was used because the new facility can capitalize on the existing facility for food service, laundry service, warehouse, and pharmacy service which all have excess capacity in the existing facilities.

For the two Catawba sites, a building gross area of 162,394 BGSF area was used because the new facility can capitalize on the existing facility for food service and warehouse which have excess capacity in the existing facilities. Laundry will be outsourced to the Central State Hospital as with the other laundry needs for the Catawba campus.

In addition to the building cost, consistent site development costs were developed that are specific to the generic hospital concept design and the area immediately around the hospital building. These include security fencing, parking, perimeter road, lawns, etc. Also included in the cost estimate are site specific costs. These are items that are unique to each individual site and are mainly comprised of infrastructure elements that are required to support the new hospital. An example of one of these infrastructure elements is at the Western State Hospital site 1,100 linear feet of an 8” sanitary sewer line is required while for the Powhatan site 3,300 linear feet of the same size sanitary sewer line is required. Each of these unique requirements is identified, quantified and priced for each site. A ten percent contingency factor has been carried within all the estimates to account for unforeseen circumstances or unknowns.

DGS Forensic Unit Construction Cost Estimate Summary Matrix							
DBHDS Facility	Central State Hospital Forensic Unit	Catawba Hospital 2 Site	Catawba Hospital 1 Site	Western State Hospital Site	Powhatan DOC Site	CVTC Site	James River DOC Site
Cost Estimate Summary	\$130,522,000	\$131,310,000	\$135,220,000	\$135,672,000	\$140,155,000	\$154,644,000	\$171,610,000
CSH Site vs Test Fit Site Cost Increase		\$788,000	\$4,698,000	\$5,150,000	\$9,633,000	\$24,122,000	\$41,088,000
Test Fit Site Percent Increase		0.6%	3.5%	3.8%	6.9%	15.6%	23.9%

For comparison purposes, two methods of conceptual cost estimates were prepared for the forensic portion of the proposed New Central State Hospital (CSH) redevelopment. For the first comparison, the Building Gross Square Footage (BGSF) identified in the conceptual program (178,277 BGSF) was used to determine the percentage of the total BGSF for the redevelopment (428,589 BGSF). The percentage used is 41.6%. This percentage was applied to the total construction and site costs for the CSH redevelopment identified in the

March 2019 HDR report of \$233,072,100. Using this approach, the conceptual cost for the forensic behavioral health hospital portion of the CSH redevelopment is \$96,983,000 for comparison purposes.

A second method, using information excerpted from the March 2019 HDR report, develops a forensic behavioral health hospital cost of \$95,459,000 for a 184,280 BGSF. The information used included direct costs for maximum security areas and assumed cost for Support and some Programs areas based on the intended functions for each. This latter method was employed.

### Forensic Unit Cost Summary Data Extracted From The 2018 Preplanning Study CSH Full Replacement (March 12, 2019 Estimate)

**Living Unit:**

Max	76,963	SF	<b>\$366.85</b>	Cost/SF	<b>\$28,233,820.00</b>
Total	168,159	SF			
Percent Max	45.77%	%/Total			

**Programs:**

Max	51,077	SF	<b>337.82</b>	Cost/SF	<b>17,255,076.00</b>
Total	119,579	SF			
Percent Max	42.71%	%/Total			

**Support:**

Max	56,240	SF	<b>\$283.28</b>	Cost/SF	<b>\$15,931,667.20</b>
Total	140,852	SF			
Percent Max	39.93%	%/Total			

	Square Feet			Forensic Bare Cost
Total Bare Cost	<b>184,280</b>			<b>\$61,420,563</b>
		Forensic Cost/SF		155.42%
Escalated Construction Cost		<b>\$518.01</b>		<b>\$95,459,000</b>
Soft Costs (25% of Total Project Costs)				\$31,501,000
<b>Total Project Cost</b>				<b>\$126,960,000</b>

Summary						
<b>Central State Site</b>						
Total Building Cost	184,280	SF @	\$	689 / SF		\$ 126,960,000
Total Site Costs	184,280	SF @	\$	19 / SF		\$ 3,562,000
Total Project Cost	184,280	SF @	\$	708 / SF		\$ 130,522,000
<b>Catawba Site - Option #2</b>						
Total Building Cost	162,394	SF @	\$	717 / SF		\$ 116,358,000
Total Site Costs	162,394	SF @	\$	92 / SF		\$ 14,952,000
Total Project Cost	162,394	SF @	\$	809 / SF		\$ 131,310,000
<b>Catawba Site - Option #1</b>						
Total Building Cost	162,394	SF @	\$	717 / SF		\$ 116,358,000
Total Site Costs	162,394	SF @	\$	116 / SF		\$ 18,862,000
Total Project Cost	162,394	SF @	\$	833 / SF		\$ 135,220,000
<b>Western State Hospital Site</b>						
Total Building Cost	159,098	SF @	\$	717 / SF		\$ 113,996,000
Total Site Costs	159,098	SF @	\$	136 / SF		\$ 21,678,000
Total Project Cost	159,098	SF @	\$	853 / SF		\$ 135,672,000
<b>Powhatan Site</b>						
Total Building Cost	178,277	SF @	\$	717 / SF		\$ 127,737,000
Total Site Costs	178,277	SF @	\$	70 / SF		\$ 12,418,000
Total Project Cost	178,277	SF @	\$	786 / SF		\$ 140,155,000
<b>Central VA Site</b>						
Total Building Cost	178,277	SF @	\$	717 / SF		\$ 127,737,000
Total Site Costs	178,277	SF @	\$	151 / SF		\$ 26,907,000
Total Project Cost	178,277	SF @	\$	867 / SF		\$ 154,644,000
<b>James River DOC Site</b>						
Total Building Cost	178,277	SF @	\$	717 / SF		\$ 127,737,000
Total Site Costs	178,277	SF @	\$	246 / SF		\$ 43,873,000
Total Project Cost	178,277	SF @	\$	963 / SF		\$ 171,610,000

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes any costs associated with agribusiness by DOC
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs

Central State Hospital Building						
Item	Quantity	Unit Cost			Total Cost	
New Building	184,280 SF @	\$ 518 / SF	=	\$	95,458,883	
<b>Subtotal</b>	<b>184,280 SF @</b>	<b>\$ 518 / SF</b>			<b>\$ 95,459,000</b>	
	Escalation			0.0%	\$	-
<b>Total Building Construction Cost</b>	<b>184,280 SF @</b>	<b>\$ 518 / SF</b>			<b>\$ 95,459,000</b>	
	Soft Costs			33.0%	\$	31,501,470
<b>Total Building Project Cost</b>	<b>184,280 SF @</b>	<b>\$ 689 / SF</b>			<b>\$ 126,960,000</b>	

Central State Hospital Site <sup>1</sup>						
Item	Quantity	Unit Cost			Total Cost	
Tree Removal, Clear & Grub	7 Acre @	\$ 5,000 / Acre	=	\$	35,000	
Cut & Fill Est 4 Foot @ 7 Acres	45,173 CY @	\$ 12.00 / CY	=	\$	542,080	
Parking	75,000 SF @	\$ 10.00 / SF	=	\$	750,000	
Recreation Space	3 EA	\$ 55,000.00 / EA	=	\$	165,000	
Security Fence <sup>2</sup>	1,540 LF @	\$ 150 / LF	=	\$	231,000	
<b>Subtotal</b>	<b>184,280 SF @</b>	<b>\$ 9 / SF</b>			<b>\$ 1,723,000</b>	
	Escalation <sup>3</sup>			55.4%	\$	954,887
<b>Subtotal</b>	<b>184,280 SF @</b>	<b>\$ 15 / SF</b>			<b>\$ 2,678,000</b>	
	Contingency			0.0%	\$	-
<b>Total Site Construction Cost</b>	<b>184,280 SF @</b>	<b>\$ 15 / SF</b>			<b>\$ 2,678,000</b>	
	Soft Costs			33.0%	\$	883,740
<b>Total Site Project Cost</b>	<b>184,280 SF @</b>	<b>\$ 19 / SF</b>			<b>\$ 3,562,000</b>	

Central State Hospital Total						
Item	Quantity	Unit Cost			Total Cost	
Building & Site	184,280 SF @	\$ 527 / SF	=	\$	97,182,000	
<b>Subtotal</b>	<b>184,280 SF @</b>	<b>\$ 527 / SF</b>			<b>\$ 97,182,000</b>	
	Escalation				\$	954,887
<b>Subtotal</b>	<b>184,280 SF @</b>	<b>\$ 533 / SF</b>			<b>\$ 98,137,000</b>	
	Contingency (Site Costs Only)				\$	-
<b>Subtotal</b>	<b>184,280 SF @</b>	<b>\$ 533 / SF</b>			<b>\$ 98,137,000</b>	
	Soft Costs			33.0%	\$	32,385,210
<b>Total Project Cost</b>	<b>184,280 SF @</b>	<b>\$ 708 / SF</b>			<b>\$ 130,522,000</b>	

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report

- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes any costs associated with agribusiness by DOC
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs

**Notes:**

- 1) Given that the 141-civil bed replacement hospital will continue to be built in Petersburg, and will require site utility upgrades, demolition, storm retention, general landscaping, fire lane access and other site improvements regardless of the presence of the forensic unit facility, only the proportioned costs related to the forensic unit necessary for its operation apart from these are included in the above estimate.
- 2) Security Fence cost provided in the HDR Study, page 5, Item 15.
- 3) Escalation includes: Escalation, General Conditions, Overhead & Profit, Insurance & Bonds and Design Contingency.



Catawba Building- Option #2			
Item	Quantity	Unit Cost	Total Cost
New Building	162,394 SF @ \$	518 / SF	= \$ 84,121,716
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>518 / SF</b>	<b>\$ 84,122,000</b>
Escalation		4.0%	\$ 3,364,880
<b>Total Building Construction Cost</b>	<b>162,394 SF @ \$</b>	<b>539 / SF</b>	<b>\$ 87,487,000</b>
Soft Costs		33.0%	\$ 28,870,710
<b>Total Building Project Cost</b>	<b>162,394 SF @ \$</b>	<b>717 / SF</b>	<b>\$ 116,358,000</b>

Catawba Site - Option #2			
Item	Quantity	Unit Cost	Total Cost
Perimeter Security Fence- 14' High	4,500 LF @ \$	525 / LF	= \$ 2,362,500
Access Road-24' Wide	1,104 LF @ \$	240 / LF	= \$ 264,960
Service Road-12' Wide	1,910 LF @ \$	120 / LF	= \$ 229,200
Parking Allowance	75,000 SF @ \$	10 / SF	= \$ 750,000
Courtyard Allowance	40,000 SF @ \$	25 / SF	= \$ 1,000,000
Fine Grade/Seed Landscape Allowance	780,000 SF @ \$	2 / SF	= \$ 1,560,000
Water Line-10"	2,000 LF @ \$	150 / LF	= \$ 300,000
Sanitary Line-8"	600 LF @ \$	85 / LF	= \$ 51,000
Gas Line-4"	600 LF @ \$	55 / LF	= \$ 33,000
Storm Line-15"	600 LF @ \$	115 / LF	= \$ 69,000
Sanitary Pump Station	- EA @ \$	250,000 / EA	= \$ -
Storm BMP Basin	- EA @ \$	35,000 / EA	= \$ -
Storm Pump Station	- EA @ \$	110,000 / EA	= \$ -
Telecommunications	860 LF @ \$	235 / LF	= \$ 202,100
Power	860 LF @ \$	255 / LF	= \$ 219,300
Cut/Fill Site	61,600 CY @ \$	25 / CY	= \$ 1,540,000
Rock Allowance - Assume 35% Of Excavation @ Utilities	1,539 CY @ \$	100 / CY	= \$ 153,900
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>54 / SF</b>	<b>\$ 8,735,000</b>
Escalation		17.0%	\$ 1,484,950
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>63 / SF</b>	<b>\$ 10,220,000</b>
Contingency		10%	\$ 1,022,000
<b>Total Site Construction Cost</b>	<b>162,394 SF @ \$</b>	<b>69 / SF</b>	<b>\$ 11,242,000</b>
Soft Costs		33.0%	\$ 3,709,860
<b>Total Site Project Costs</b>	<b>162,394 SF @ \$</b>	<b>92 / SF</b>	<b>\$ 14,952,000</b>

Catawba Total - Option #2			
Item	Quantity	Unit Cost	Total Cost

Building & Site	162,394 SF @ \$	572 / SF	= \$	92,857,000
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>572 / SF</b>	<b>\$</b>	<b>92,857,000</b>
Escalation			\$	4,849,830
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>602 / SF</b>	<b>\$</b>	<b>97,707,000</b>
Contingency (Site Costs Only)			\$	1,022,000
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>608 / SF</b>	<b>\$</b>	<b>98,729,000</b>
Soft Costs		33.0%	\$	32,580,570
<b>Total Project Costs</b>	<b>162,394 SF @ \$</b>	<b>809 / SF</b>	<b>\$</b>	<b>131,310,000</b>

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs
- \* Program area does not include: Dietary, Laundry, Warehouse; Shared with Existing Campus

Catawba Building- Option #1			
Item	Quantity	Unit Cost	Total Cost
New Building	162,394 SF @	\$ 518 / SF	= \$ 84,121,716
<b>Subtotal</b>	<b>162,394 SF @</b>	<b>\$ 518 / SF</b>	<b>\$ 84,122,000</b>
Escalation		4.0%	\$ 3,364,880
<b>Total Building Construction Cost</b>	<b>162,394 SF @</b>	<b>\$ 539 / SF</b>	<b>\$ 87,487,000</b>
Soft Costs		33.0%	\$ 28,870,710
<b>Total Building Project Cost</b>	<b>162,394 SF @</b>	<b>\$ 717 / SF</b>	<b>\$ 116,358,000</b>

Catawba Site - Option #1			
Item	Quantity	Unit Cost	Total Cost
Perimeter Security Fence- 14' High	4,500 LF @	\$ 525 / LF	= \$ 2,362,500
Access Road-24' Wide	1,521 LF @	\$ 240 / LF	= \$ 365,040
Service Road-12' Wide	1,997 LF @	\$ 120 / LF	= \$ 239,640
Parking Allowance	75,000 SF @	\$ 10 / SF	= \$ 750,000
Courtyard Allowance	40,000 SF @	\$ 25 / SF	= \$ 1,000,000
Fine Grade/Seed Landscape Allowance	780,000 SF @	\$ 2 / SF	= \$ 1,560,000
Water Line-10"	600 LF @	\$ 150 / LF	= \$ 90,000
Sanitary Line-8"	500 LF @	\$ 85 / LF	= \$ 42,500
Gas Line-4"	600 LF @	\$ 55 / LF	= \$ 33,000
Storm Line-15"	600 LF @	\$ 115 / LF	= \$ 69,000
Sanitary Pump Station	- EA @	\$ 250,000 / EA	= \$ -
Storm BMP Basin	- EA @	\$ 35,000 / EA	= \$ -
Storm Pump Station	- EA @	\$ 110,000 / EA	= \$ -
Telecommunications	860 LF @	\$ 235 / LF	= \$ 202,100
Power	860 LF @	\$ 255 / LF	= \$ 219,300
Clear Site	655,000 SF @	\$ 6 / SF	= \$ 3,930,000
Rock Allowance - Assume 75% Of Excavation @ Utilities	1,574 CY @	\$ 100 / CY	= \$ 157,400
<b>Subtotal</b>	<b>162,394 SF @</b>	<b>\$ 68 / SF</b>	<b>\$ 11,020,000</b>
Escalation		17.0%	\$ 1,873,400
<b>Subtotal</b>	<b>162,394 SF @</b>	<b>\$ 79 / SF</b>	<b>\$ 12,893,000</b>
Contingency		10%	\$ 1,289,300
<b>Total Site Construction Cost</b>	<b>162,394 SF @</b>	<b>\$ 87 / SF</b>	<b>\$ 14,182,000</b>
Soft Costs		33.0%	\$ 4,680,060
<b>Total Site Project Costs</b>	<b>162,394 SF @</b>	<b>\$ 116 / SF</b>	<b>\$ 18,862,000</b>

Catawba Total - Option #1			
Item	Quantity	Unit Cost	Total Cost

Building & Site	162,394 SF @ \$	586 / SF	= \$	95,142,000
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>586 / SF</b>	<b>\$</b>	<b>95,142,000</b>
Escalation			\$	5,238,280
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>618 / SF</b>	<b>\$</b>	<b>100,380,000</b>
Contingency (Site Costs Only)			\$	1,289,300
<b>Subtotal</b>	<b>162,394 SF @ \$</b>	<b>626 / SF</b>	<b>\$</b>	<b>101,669,000</b>
Soft Costs		33.0%	\$	33,550,770
<b>Total Project Costs</b>	<b>162,394 SF @ \$</b>	<b>833 / SF</b>	<b>\$</b>	<b>135,220,000</b>

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs
- \* Program area does not include: Dietary, Laundry, Warehouse; Shared with Existing Campus

Western State Hospital Building						
Item	Quantity	Unit Cost	Total Cost			
New Building	159,098 SF @	\$ 518 / SF	=	\$	82,414,355	
<b>Subtotal</b>	<b>159,098 SF @</b>	<b>\$ 518 / SF</b>		<b>\$</b>	<b>82,414,000</b>	
	Escalation			4.0%	\$	3,296,560
<b>Total Building Construction Cost</b>	<b>159,098 SF @</b>	<b>\$ 539 / SF</b>			<b>\$ 85,711,000</b>	
	Soft Costs			33.0%	\$	28,284,630
<b>Total Building Project Cost</b>	<b>159,098 SF @</b>	<b>\$ 717 / SF</b>			<b>\$ 113,996,000</b>	

Western State Hospital Site						
Item	Quantity	Unit Cost	Total Cost			
Perimeter Security Fence- 14' High	4,500 LF @	\$ 525 / LF	=	\$	2,362,500	
Access Road-24' Wide	1,960 LF @	\$ 240 / LF	=	\$	470,400	
Service Road-12' Wide	1,150 LF @	\$ 120 / LF	=	\$	138,000	
Parking Allowance	75,000 SF @	\$ 10 / SF	=	\$	750,000	
Courtyard Allowance	40,000 SF @	\$ 25 / SF	=	\$	1,000,000	
Fine Grade/Seed Landscape Allowance	780,000 SF @	\$ 2 / SF	=	\$	1,560,000	
Relocate Existing Parking Allowance	70,500 SF @	\$ 10 / SF	=	\$	705,000	
Water Line-10"	200 LF @	\$ 150 / LF	=	\$	30,000	
Sanitary Line-8"	1,100 LF @	\$ 85 / LF	=	\$	93,500	
Gas Line-4"	200 LF @	\$ 55 / LF	=	\$	11,000	
Storm Line-15"	200 LF @	\$ 115 / LF	=	\$	23,000	
Sanitary Pump Station	1 EA @	\$ 250,000 / EA	=	\$	250,000	
Storm BMP Basin	1 EA @	\$ 35,000 / EA	=	\$	35,000	
Storm Pump Station	1 EA @	\$ 110,000 / EA	=	\$	110,000	
Telecommunications	2,610 LF @	\$ 225 / LF	=	\$	587,250	
Power	2,610 LF @	\$ 230 / LF	=	\$	600,300	
Cut/Fill Site	83,000 CY @	\$ 25 / CY	=	\$	2,075,000	
Rock Allowance - Assume 50% Of Excavation @ Utilities	2,633 CY @	\$ 100 / CY	=	\$	263,300	
Retaining Wall Allowance	12,800 SF @	\$ 125 / SF	=	\$	1,600,000	
<b>Subtotal</b>	<b>159,098 SF @</b>	<b>\$ 80 / SF</b>		<b>\$</b>	<b>12,664,000</b>	
	Escalation			17.0%	\$	2,152,880
<b>Subtotal</b>	<b>159,098 SF @</b>	<b>\$ 93 / SF</b>		<b>\$</b>	<b>14,817,000</b>	
	Contingency			10%	\$	1,481,700
<b>Subtotal</b>	<b>159,098 SF @</b>	<b>\$ 102 / SF</b>		<b>\$</b>	<b>16,299,000</b>	
	Region Area Factor-Stanton VA			0.0%	\$	-
<b>Total Site Construction Cost</b>	<b>159,098 SF @</b>	<b>\$ 102 / SF</b>		<b>\$</b>	<b>16,299,000</b>	
	Soft Costs			33.0%	\$	5,378,670

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**Total Site Project Cost    159,098 SF @ \$    136 / SF            \$ 21,678,000**

**Western State Hospital Total**

Item	Quantity	Unit Cost	Total Cost
Building & Site	159,098 SF @ \$	598 / SF	= \$ 95,078,000
<b>Subtotal</b>	<b>159,098 SF @ \$</b>	<b>598 / SF</b>	<b>\$ 95,078,000</b>
	Escalation		\$ 5,449,440
<b>Subtotal</b>	<b>159,098 SF @ \$</b>	<b>632 / SF</b>	<b>\$ 100,527,000</b>
	Contingency (Site Costs Only)		\$ 1,481,700
<b>Subtotal</b>	<b>159,098 SF @ \$</b>	<b>641 / SF</b>	<b>\$ 102,009,000</b>
	Soft Costs	33.0%	\$ 33,662,970
<b>Total Project Costs</b>	<b>159,098 SF @ \$</b>	<b>853 / SF</b>	<b>\$ 135,672,000</b>

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs
- \* Program area does not include: Dietary, Laundry, Warehouse; Shared with Existing Campus



Powhatan Building			
Item	Quantity	Unit Cost	Total Cost
New Building	178,277 SF @ \$	518 / SF	= \$ 92,349,269
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>518 / SF</b>	<b>\$ 92,349,000</b>
Escalation		4.0%	\$ 3,693,960
<b>Total Building Construction Cost</b>	<b>178,277 SF @ \$</b>	<b>539 / SF</b>	<b>\$ 96,043,000</b>
Soft Costs		33.0%	\$ 31,694,190
<b>Total Building Project Cost</b>	<b>178,277 SF @ \$</b>	<b>717 / SF</b>	<b>\$ 127,737,000</b>

Powhatan Site			
Item	Quantity	Unit Cost	Total Cost
Perimeter Security Fence- 14' High	4,500 LF @ \$	525 / LF	= \$ 2,362,500
Access Road-24' Wide	1,160 LF @ \$	240 / LF	= \$ 278,400
Service Road-12' Wide	1,993 LF @ \$	120 / LF	= \$ 239,160
Parking Allowance	75,000 SF @ \$	10 / SF	= \$ 750,000
Courtyard Allowance	40,000 SF @ \$	25 / SF	= \$ 1,000,000
Fine Grade/Seed Landscape Allowance	780,000 SF @ \$	2 / SF	= \$ 1,560,000
Water Line-10"	500 LF @ \$	150 / LF	= \$ 75,000
Sanitary Line-8"	3,300 LF @ \$	85 / LF	= \$ 280,500
Gas Line-4"	500 LF @ \$	55 / LF	= \$ 27,500
Storm Line-15"	500 LF @ \$	115 / LF	= \$ 57,500
Sanitary Pump Station	1 EA @ \$	250,000 / EA	= \$ 250,000
Storm BMP Basin	- EA @ \$	35,000 / EA	= \$ -
Storm Pump Station	- EA @ \$	110,000 / EA	= \$ -
Telecommunications	890 LF @ \$	240 / LF	= \$ 213,600
Power	890 LF @ \$	260 / LF	= \$ 231,400
Rock Allowance - Assume 5% Of Excavation @ Utilities	262 CY @ \$	100 / CY	= \$ 26,200
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>41 / SF</b>	<b>\$ 7,352,000</b>
Escalation		17.0%	\$ 1,249,840
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>48 / SF</b>	<b>\$ 8,602,000</b>
Contingency		10%	\$ 735,200
<b>Total Site Construction Cost</b>	<b>178,277 SF @ \$</b>	<b>52 / SF</b>	<b>\$ 9,337,000</b>
Soft Costs		33.0%	\$ 3,081,210
<b>Total Site Project Cost</b>	<b>178,277 SF @ \$</b>	<b>70 / SF</b>	<b>\$ 12,418,000</b>

Powhatan Total			
Item	Quantity	Unit Cost	Total Cost
Building & Site	178,277 SF @ \$	559 / SF	= \$ 99,701,000

<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>559 / SF</b>	<b>\$ 99,701,000</b>
	Escalation		\$ 4,943,800
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>587 / SF</b>	<b>\$ 104,645,000</b>
	Contingency (Site Costs Only)		\$ 735,200
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>591 / SF</b>	<b>\$ 105,380,000</b>
	Soft Costs	33.0%	\$ 34,775,400
<b>Total Project Cost</b>	<b>178,277 SF @ \$</b>	<b>786 / SF</b>	<b>\$ 140,155,000</b>

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes any costs associated with agribusiness by DOC
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs

Central VA Building				
Item	Quantity	Unit Cost	Total Cost	
New Building	178,277 SF @	\$ 518 / SF	=	\$ 92,349,269
<b>Subtotal</b>	<b>178,277 SF @</b>	<b>\$ 518 / SF</b>		<b>\$ 92,349,000</b>
	Escalation		4.0%	\$ 3,693,960
<b>Total Building Construction Cost</b>	<b>178,277 SF @</b>	<b>\$ 539 / SF</b>		<b>\$ 96,043,000</b>
	Soft Costs		33.0%	\$ 31,694,190
<b>Total Building Project Cost</b>	<b>178,277 SF @</b>	<b>\$ 717 / SF</b>		<b>\$ 127,737,000</b>

Central VA Site				
Item	Quantity	Unit Cost	Total Cost	
Perimeter Security Fence- 14' High	4,500 LF @	\$ 525 / LF	=	\$ 2,362,500
Access Road-24' Wide	653 LF @	\$ 240 / LF	=	\$ 156,720
Service Road-12' Wide	1,910 LF @	\$ 120 / LF	=	\$ 229,200
Maintain Existing Access Road	1,161 LF @	\$ 120 / LF	=	\$ 139,320
Parking Allowance	75,000 SF @	\$ 10 / SF	=	\$ 750,000
Courtyard Allowance	40,000 SF @	\$ 25 / SF	=	\$ 1,000,000
Fine Grade/Seed Landscape Allowance	780,000 SF @	\$ 2 / SF	=	\$ 1,560,000
30% of \$14M Infrastructure Number For Utilities	1 LS @	\$ 4,200,000 / LS	=	\$ 4,200,000
Water Line-10"	- LF @	\$ 150 / LF	=	\$ -
Sanitary Line-8"	- LF @	\$ 85 / LF	=	\$ -
Gas Line-4"	0 LF @	\$ 55 / LF	=	\$ -
Storm Line-15"	- LF @	\$ 115 / LF	=	\$ -
Sanitary Pump Station	- EA @	\$ 250,000 / EA	=	\$ -
Storm BMP Basin	- EA @	\$ 35,000 / EA	=	\$ -
Storm Pump Station	- EA @	\$ 110,000 / EA	=	\$ -
Telecommunications	715 LF @	\$ 235 / LF	=	\$ 168,025
Power	715 LF @	\$ 255 / LF	=	\$ 182,325
Existing 2 Story Buildings Removal	2,868,130 CF @	\$ 1.25 / CF	=	\$ 3,585,163
Clear/Grub Site	780,000 SF @	\$ 2 / SF	=	\$ 1,560,000
Rock Allowance - Assume 35% Of Excavation @ Utilities	370 CY @	\$ 100 / CY	=	\$ 37,000
<b>Subtotal</b>	<b>178,277 SF @</b>	<b>\$ 89 / SF</b>		<b>\$ 15,930,000</b>
	Escalation		17.0%	\$ 2,708,100
<b>Subtotal</b>	<b>178,277 SF @</b>	<b>\$ 105 / SF</b>		<b>\$ 18,638,000</b>
	Contingency		10%	\$ 1,593,000
<b>Total Site Construction Cost</b>	<b>178,277 SF @</b>	<b>\$ 113 / SF</b>		<b>\$ 20,231,000</b>
	Soft Costs		33.0%	\$ 6,676,230
<b>Total Site Project Cost</b>	<b>178,277 SF @</b>	<b>\$ 151 / SF</b>		<b>\$ 26,907,000</b>

Central VA Total			
Item	Quantity	Unit Cost	Total Cost
Building & Site	178,277 SF @ \$	607 / SF	= \$ 108,279,000
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>607 / SF</b>	<b>\$ 108,279,000</b>
Escalation			\$ 6,402,060
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>643 / SF</b>	<b>\$ 114,681,000</b>
Contingency (Site Costs Only)			\$ 1,593,000
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>652 / SF</b>	<b>\$ 116,274,000</b>
Soft Costs		33.0%	\$ 38,370,420
<b>Total Project Cost</b>	<b>178,277 SF @ \$</b>	<b>867 / SF</b>	<b>\$ 154,644,000</b>

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs

James River DOC Building			
Item	Quantity	Unit Cost	Total Cost
New Building	178,277 SF @ \$	518 / SF	= \$ 92,349,269
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>518 / SF</b>	<b>\$ 92,349,000</b>
Escalation		4.0%	\$ 3,693,960
<b>Total Building Construction Cost</b>	<b>178,277 SF @ \$</b>	<b>539 / SF</b>	<b>\$ 96,043,000</b>
Soft Costs		33.0%	\$ 31,694,190
<b>Total Building Project Cost</b>	<b>178,277 SF @ \$</b>	<b>717 / SF</b>	<b>\$ 127,737,000</b>

James River DOC Site			
Item	Quantity	Unit Cost	Total Cost
Perimeter Security Fence- 14' High	4,500 LF @ \$	525 / LF	= \$ 2,362,500
Access Road-24' Wide	2,964 LF @ \$	240 / LF	= \$ 711,360
Service Road-12' Wide	1,963 LF @ \$	120 / LF	= \$ 235,560
Parking Allowance	75,000 SF @ \$	10 / SF	= \$ 750,000
Courtyard Allowance	40,000 SF @ \$	25 / SF	= \$ 1,000,000
Fine Grade/Seed Landscape Allowance	780,000 SF @ \$	2 / SF	= \$ 1,560,000
Water Line-10"	7,000 LF @ \$	150 / LF	= \$ 1,050,000
Sanitary Line-8"	10,500 LF @ \$	85 / LF	= \$ 892,500
Gas Line-4"	10,500 LF @ \$	55 / LF	= \$ 577,500
Storm Line-15"	10,500 LF @ \$	115 / LF	= \$ 1,207,500
Sanitary Pump Station	1 EA @ \$	250,000 / EA	= \$ 250,000
Storm BMP Basin	- EA @ \$	35,000 / EA	= \$ -
Storm Pump Station	- EA @ \$	110,000 / EA	= \$ -
Telecommunications	2,520 LF @ \$	215 / LF	= \$ 541,800
Power	2,520 LF @ \$	230 / LF	= \$ 579,600
Fill Site	500,000 CY @ \$	25 / CY	= \$ 12,500,000
Rock Allowance - Assume 50% Of Excavation @ Utilities	17,552 CY @ \$	100 / CY	= \$ 1,755,200
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>146 / SF</b>	<b>\$ 25,974,000</b>
Escalation		17.0%	\$ 4,415,580
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>170 / SF</b>	<b>\$ 30,390,000</b>
Contingency		10%	\$ 2,597,400
<b>Total Site Construction Cost</b>	<b>178,277 SF @ \$</b>	<b>185 / SF</b>	<b>\$ 32,987,000</b>
Soft Costs		33.0%	\$ 10,885,710
<b>Total Site Project Cost</b>	<b>178,277 SF @ \$</b>	<b>246 / SF</b>	<b>\$ 43,873,000</b>

James River DOC Total			
Item	Quantity	Unit Cost	Total Cost

Building & Site	178,277 SF @ \$	664 / SF	=	\$ 118,323,000
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>664 / SF</b>		<b>\$ 118,323,000</b>
Escalation				\$ 8,109,540
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>709 / SF</b>		<b>\$ 126,433,000</b>
Contingency (Site Costs Only)				\$ 2,597,400
<b>Subtotal</b>	<b>178,277 SF @ \$</b>	<b>724 / SF</b>		<b>\$ 129,030,000</b>
Soft Costs		33.0%		\$ 42,579,900
<b>Total Project Cost</b>	<b>178,277 SF @ \$</b>	<b>963 / SF</b>		<b>\$ 171,610,000</b>

**Assumptions & Exclusions:**

- \* Estimate is based on information provided June 2019
- \* Estimate building cost per SF generated from HDR Report
- \* Estimate excludes all hazardous material abatement & removal, contaminated soil remediation
- \* Estimate excludes off-site municipality infrastructure upgrades
- \* Estimate excludes any costs associated with agribusiness by DOC
- \* Estimate excludes sales tax
- \* Estimate unit prices are fully burdened unless otherwise noted. Includes GC/GR, OH&P, Bonds/Permits/Insurance, Soft Costs



## 9. OPERATIONAL COSTS

The Virginia Department of Behavioral Health and Developmental Services developed an operational cost model for this study that considers all of the staffing costs that would be required if the new State 111-bed forensic behavioral healthcare hospital was located in one of three different campus conditions. Those campus conditions are:

- Stand Alone – built on another State campus with no potential for shared services. This includes the following three campuses:
  - Central Virginia Training Center campus
  - Powhatan DOC campus
  - James River DOC campus
- Built at another State hospital campus where some services that are required already exist and have capacity to support the additional 111 beds. This includes the following two campuses:
  - Western State Hospital campus
  - Catawba State Hospital campus
- Remains at the Central State Hospital campus

Nine different operational cost categories were considered – all related to staffing costs. These costs are either known costs, costs based on a similar sized facility, or anticipated expenses. All the costs are calculated using 2019 staffing plans or budget items. They include:

1. **Direct Care:** Nursing, security and psychiatric techs – any staffing on that works on a unit. This is based on the FY 2019 budget for Central State Hospital operating plan excluding turnover reduction calculations.
2. **Physician Costs:** Physician costs are based on the FY 2019 budget for Catawba State Hospital which has a similar size – 110 beds and a similar component of physicians.
3. **Non-direct Care Costs:** Includes all staffing costs not included in physician or direct-care costs. This includes pharmacy, therapists, food service, etc. and is based on the Catawba State Hospital FY 2019 projected costs.
4. **Staffing increases** at existing campuses where shared services can be utilized, i.e. food service. This is based on the Catawba State Hospital “scaling” of infrastructure staffing for the additional 111 beds.
5. **Budget Offsets:** Line item transfers from the Central State Hospital budget to another campus budget.
6. **Special Hospitalizations:** Projected estimate of costs for special hospitalizations anticipating that forensic patients include individuals that require a high usage of medical care.
7. **Layoff Costs:** Costs associated with the layoff of staff currently located at the Central State Hospital if the forensic hospital is relocated from this campus. This would be a one-time, first year cost.

8. **Training Costs:** Costs associated with the training of new staff if the forensic hospital is relocated from the Central State Hospital campus. This would be a one-time, first year cost.
9. **Concurrent Operation:** The existing secure forensic unit will be required to operate concurrently with the development and implication of a new maximum security forensic location for a period of up to twelve months. The required concurrent operation will include annual facility and staff cost for costs for this transition.

The following chart represents the cost for each of the three campus option types. The costs represent FY 2019 budgets for the hospitals and do not include the market level salary actions. The calculation includes a projection for this amount.

1. Nursing, security and psychiatric techs, everyone that works the floor. This is based on CSH operating plan excluding turnover reduction calculation
2. Physician costs- This is based on Catawba's FY 2019 budget as they are a 110 bed facility and should have a similar complement of doctors required
3. Non direct care costs: Includes all operation and maintenance staffing costs not included in items 1 and 2 above as based on Catawba Hospital FY 2019 project costs.
4. This is based on Catawba's scaling of infrastructure at Catawba Hospital for additional beds.
5. Projected guess for cost of special hospitalization. The Max Forensic unit does have a lot of individuals in need of medical care
6. The FY 2019 budgets for the hospitals do not include the market level salary actions. This calculation includes a projection for this amount.
7. Costs associated for concurrent operation of the existing secure, forensic unit and a site other than CSH. Cost include program coordination, facility operation, staff relocation and travel, and patient services fo

	Maximum Forensic Direct Care and Security CSH 111 Beds 1	Physician Costs 2	All Non Direct Care Stand Alone Facility 3	If Added at WSH or Catawba 4	CSH Budget Offset 5	Layoff Costs	Training Costs	Special Hospitalization 6	Concurrent Operational Cost 7	Total
Stand Alone	\$17,064,140	\$2,451,485	\$14,224,397		(\$3,622,516)	\$9,757,813	\$1,777,515	\$1,000,000	\$20,515,625	\$63,168,458
WSH/Catawba	\$17,064,140	\$2,451,485		\$3,622,516	(\$3,622,516)	\$9,757,813	\$1,777,515	\$1,000,000	\$20,515,625	\$52,566,577
CSH	\$17,064,140	\$2,451,485						\$1,000,000		\$20,515,625

**DBHDS - SECURE FORENSIC UNIT LOCATION EVALUATION**

LOCATION		DBHDS OPERATIONAL CHARACTERISTICS				DREFM COMMENTS	INFRASTRUCTURE CHARACTERISTICS		
		Resources:	Location:	Acreage:	Consider Further?		Power	Water/Sanitary / Storm:	Gas:
1	DBHDS Petersburg Complex (Existing CSH)	Work Force available locally - Direct Care and Professional staff Adjacent to DBHDS facility Shared admin and support	Dinwiddie County, VA Proximate to I-95, I-85 and Rte 1 Closest Medical Schools: VCU - 27 miles, 35 minutes UVA - 98 miles, 1 hr 43 min Is within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 500 acres	Yes	<b>Pro:</b> Good Accessibility Central Location Proximity to DBHDS Site (Hospital) Infrastructure to be updated with the building of the new hospital  <b>Con:</b> None	Good Accessibility	Aged and in failing condition, requires upgrade.	Good Accessibility
2	DBHDS Burkville (Existing VCBR location)	Local work force saturated - 3 state facilities within 1 mile Adjacent to DBHDS facilities	Nottoway County, VA Proximate to Rtes 360 and 460 No major interstates Closest Medical School: VCU - 55 miles, 1 hr 10 min Is within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 120 acres	No. Staffing issues at existing facilities due to limited availability. Water and sewer resources maxxed out.				
3	DJJ Culpeper Juvenile Justice Facility				No. Occupied by DOC as Coffeewood Correctional Center. Security Level 2 institution for male inmates				
4	DBHDS Western State Hospital (new site)	Work force availability uncertain - Unemployment rate in Feb 2019 was 3%; WSH has a 10% nursing vacancy rate and 25% psychiatric vacancy rate Adjacent to DBHDS facility	Staunton, Virginia Proximate to I-64 and I-81 Closest Medical Schools: UVA - 36 miles, 41 minutes Is within 30-45 minutes of metropolitan area with population greater than 100,000	Uncertain if could site on existing WSH property. Old site was purchased by Staunton.	Yes, but need to evaluate work force and land availability.	<b>Pro:</b> Good Accessibility Proximity to DBHDS Site (Hospital) New Infrastructure  <b>Con:</b> Eastern portion of the property appears to have topography challenges.	Good Accessibility	Good Accessibility	Good Accessibility
5	DBHDS Central VA Training Center - Lynchburg	Work force available locally. Not proximate to DBHDS facility (CVTC scheduled to close) Dedicated admin and support services staff required	Lynchburg, Virginia Proximate to Rtes 29 and 460 Closest medical schools: Liberty U: 8 miles, 16 minutes VaTech Carillion: 60 mi, 75 min Uva - 63 miles, 67 min Is within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 550 acres. Would require demolition of existing structures.	Yes.	<b>Pro:</b> None  <b>Con:</b> DBHDS Facility is Closing County would like to see an Economic Redevelopment Potential Historic Buildings and Demolition Expense Environmental Issues (BRES has copies of Phase I and II) Must maintain water and road access for neighboring trailer park Water and Sewer systems are failing	Good Accessibility	Aged and in failing condition, requires upgrade.	Good Accessibility
6	DOC Southampton Boot Camp	Work force saturated Not proximate to a DBHDS facility - would require dedicated admin and support services staff	Located off of Rte 308 -nearest major highway is Rte 58. Closest medical school: Eastern VA Medical School: 65 mi, 1 hr 11 mi Is NOT within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 2600 acres. Existing facilities are not adequate for this program.	No. Insufficient labor market; not centrally located so difficult for law enforcement officers to reach; no nearby metropolitan area or medical school.				
7	Danville	Availability of professional staff problematic Site of SVMHI would not support 2 facilities, so would have to have separate admin and support services staff.	Approximately 75 miles to nearest Interstate (I-81) Closest medical school: VaTech Carillion: 78 mi, 99 min Is NOT within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 19 acres. Would have to identify another site for facility.	No. Not centrally located so difficult for law enforcement officers to reach; new site would have to be identified and would require separate admin and support from SVMHI; no nearby metropolitan area or medical school				
8	Catawba Hospital	Work force would have to come from Roanoke area, which in Feb, 2019 had unemployment rate of 3.1%; Catawba has a 20% vacancy rate for nursing and direct care staff	Located near Rte 311 in Catawba. Approximate 15 miles and 20 minutes from nearest interstate (I-81) Closest medical school: VaTech Carillion - 18 mi, 26 min Within 30-45 minutes of Roanoke	Approximately 670 acres	Yes due to General Assembly interest in this site. However, it is not centrally located so difficult for law enforcement officers to reach and is difficult to reach during inclement weather due to location	<b>Pro:</b> Adjacent to DBHDS Hospital  <b>Con:</b> Not Centrally located and not easily accessible Abuts residential development Challenging topography Potential Utility concerns- aging water and sewer systems	Good Accessibility	Good Accessibility	Not available for this site.
9	DBHDS Southwestern VA Mental Health Institute - Marion	Work force problematic. Is rural area with 2 state facilities on site.	Located near I-81. No nearby medical school. Closest metropolitan area with population greater than 100,000 is Bristol TN, which is 43 miles away.	Approximately 110 acres	No. Sufficient workforce not available; not centrally located - difficult for law enforcement officers to reach without overnight stay; no nearby medical school				

**DBHDS - SECURE FORENSIC UNIT LOCATION EVALUATION**

LOCATION		DBHDS OPERATIONAL CHARACTERISTICS			DREFM COMMENTS		INFRASTRUCTURE CHARACTERISTICS		
10	DOC Nottoway Correctional Work Center	Local work force saturated - 3 state facilities within 1 mile Adjacent to DBHDS facilities	Nottoway County, VA Proximate to Rtes 360 and 460 No major interstates Closest Medical School: VCU - 55 miles, 1 hr 10 min Is within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 2 acres	No. Staffing issues at existing facilities due to limited availability. Water and sewer resources maxxed out. Insufficient land.				
11	Staunton Correctional Center				No - this site has been sold and is being privately developed.				
12	DOC Brunswick Medium Security Work Center	Poor recruitment potential - limited workforce. Not proximate to DBHDS facility would require independent administration and support services	Located near Rte 58 in Lawrenceville, VA. Approximately 21 miles, 27 minutes from I-85; 19 miles, 24 minutes from I-95. Closest medical school - VCU 70 miles, 1 hr 10 minutes is NOT within 30 - 45 minutes of metropolitan area with population greater than 100,000	Existing facilities are not appropriate for this population and would need to be demolished.	No. Poor recruitment potential. Limited workforce. Not centrally located - difficult for law enforcement offers to reach. No nearby medical school or metropolitan area. Not proximate to DBHDS facility.				
13	<b>Powhatan</b>	Not proximate to DBHDS facility. Would require independent administration and support services	Located in State Farm, Virginia, approximately 10 miles, 16 minutes from I-64. Closest medical schools: MCV - 34 miles, 45 minutes UVA - 55 miles, 65 minutes Within 30-45 minutes of metropolitan area with population greater than 100,000	Existing facilities are not appropriate for this population and would need to be demolished.	<b>Yes</b> - but politically is probably a hard sell. Would require independent administrative and support services.	<b>Pro:</b> Centrally located Land is fairly flat and developable <b>Con:</b> No DBHDS proximity Abuts residential properties Unknown utility age, condition and capacity	Accessible	Accessible	Accessible
14	DOC Dinwiddie Correctional Center	Not proximate to DBHDS facility	Located on Cox Road in Dinwiddie County, proximate to Rte 460.	Approximately 186 acres. Facility was decommissioned in 1996. Buildings are badly deteriorated and need to be demolished. Has no reliable water source - would require additional wells and water treatment plant.	No. There are other sites in the Petersburg area that are more centrally located, on public water/sewer system, that are adjacent to a DBHDS facility, and have local bus service to accommodate staff transportation.				
15	DOC White Post Correctional Center	Not proximate to DBHDS facility. Would require independent administration and support services.	Located off of Rte 522 on Ray of Hope Road near White Post, VA. Approximately 5 miles, 10 minutes from I-81 and 7 miles, 9 minutes from I-66. Not within 30-45 minutes of metropolitan area with population greater than 100,000. Is within approximately 1 hour of western NoVA suburbs	Would require construction of new facilities.	No. Not centrally located - difficult for law enforcement officers to reach. Not proximate to DBHDS facility or medical school.				
16	DOC James River Correctional Center	Not proximate to DBHDS facility. Would require independent administration and support services	Located off Rte 6 in State Farm, Virginia, approximately 7 miles, 11 minutes from I-64. Closest medical schools: MCV - 32 miles, 40 minutes UVA - 53 miles, 60 minutes Within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 1,200 acre site. Existing facilities are not appropriate for this population and would need to be demolished.	<b>Yes</b> - but politically is probably a hard sell. Would require independent administrative and support services.	<b>Pro:</b> Centrally located <b>Con:</b> No DBHDS proximity Demolition Expense Conservation Easement could impact or delay development Some potential site locations could be impacted by flooding Unknown utility age, condition and capacity	Accessible	Accessible	Accessible
17	DOC Pulaski Correctional Center	Not proximate to DBHDS facility. Would require independent administration and support services. In Feb, 2019 unemployment rate was 3%	Located on Rte 11 between Radford and Dublin, VA, approximately 5 miles, 10 minutes from I-81. Closest medical school: VaTech Carillion - 54 miles, 1 hr Within 30-45 minutes of metropolitan area with population greater than 100,000	Approximately 54 acres	No. Not centrally located. Low unemployment rate indicates would be hard to staff. Not proximate to DBHDS facility.				

Notes: **Political and Cost Considerations:** centrality of location important to minimize transportation burden for law enforcement

**State of the Art Care/Forensic Speciality:** Reasonable distance to a medical school for psychiatric residency and academic partnerships

**Recruitment/Retention of Professional Staff:** Proximity to metropolitan area with population greater than 100,000 to attract professional staff and provide employment opportunities for families

**Administrative Efficiencies:** Proximity to DBHDS facility to share administrative and support services

**Site Requirements:** 30 acre site considered minimum

Unemployment rates taken from FRED Economic Data: Economic research from the Federal Reserve Bank of St. Louis