STATE OF MICHIGAN

GRETCHEN WHITMER
GOVERNOR

DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET
LANSING

MICHELLE LANGE
ACTING DIRECTOR

June 1, 2022

MEMORANDUM

TO: Members of the House and Senate Appropriations Committee
Members of the Joint Capital Outlay Subcommittee

FROM: Maria Tyszkiewicz, DTMB Budget Director

SUBJECT: Consolidated, Comprehensive, State-of-the-art Laboratory Project Report

This memorandum is in response to Capital Outlay Sec. 226 as included within Public Act No. 9 of 2022 which requests for a new comprehensive state public health and environmental science laboratory to be investigated. The funding appropriation is to be used for the planning and design of a consolidated, comprehensive, state-of-the-art laboratory to improve laboratory capacity for public health and safety.

Subsection 226 of the public act requires the following:

The department shall submit all the following to the house and senate appropriations committees and the joint capital outlay subcommittee:

(a) Program statements and schematic planning documents, including a comparative assessment of building new laboratories, expanding existing laboratories, renovating existing laboratories, or repurposing another state-owned building.
(b) A summary of bid results.
(c) A progress report no later than June 1, 2022, and every 6 months thereafter.

In response to each subsection, the Department of Technology, Management & Budget (DTMB) / State Facilities Administration (SFA) / Design & Construction Division (DCD) provides the following:

(a) Please find the attached report 'State of Michigan Preliminary Concept, Cost, and Risk Assessment for the Consolidated Laboratory Project' which provides a detailed summary of the preliminary findings should the legislature choose to move forward with full funding for the project.

(b) There are no current bid results to report, as bidding will not take place until direction and full funding is appropriated for the project to move forward. At which time DCD will solicit for the services of Architect/Engineer and

Construction Management firms. DCD was able to utilize an existing procurement contract with established hourly rates to facilitate the completion of the report with the firm KPMG. They were able to achieve the completion of the report with the tight time constraints for an amount not to exceed $750,000.00.

(c) Upon authorization to move forward with either of the two options noted in the report for the proposed Consolidated State Laboratory, bi-annual reports will continue to be provided. DCD would request that in the interim of full project funding, that the division be authorized to issue the solicitations and contract with both an Architect/Engineer and Construction Management firms with the balance of the current appropriations.

Please feel free to reach out to me to discuss if you have any questions and/or concerns.

Cc:

Lisa Shoemaker, State Budget Office
Ryan Fink, State Budget Office
Brian Kennedy, State Budget Office
Bree Anderson, DTMB Legislative Liaison
Phillip Jeffery, DTMB Chief Financial Officer
Michael Turnquist, DTMB State Facilities Administration
Adam Lach, Director, DTMB Design and Construction

State of Michigan
Preliminary Concept, Cost, and Risk Assessment for the Consolidated Laboratory Project

Department of Technology, Management and Budget

Report Date: June 1, 2022

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EXECUTIVE SUMMARY

- The State of Michigan through the Department of Technology, Management and Budget ("DTMB") undertook a preliminary concept, programming, cost, and risk assessment of building a new consolidated laboratory:
    - The program includes the Departments of Health and Human Services ("MDHHS"); Environment, Great Lakes and Energy ("MDEGLE"); Labor and Economic Opportunity ("MDLEO"); and Agriculture and Rural Development ("MDARD").
    - This facility replaces aging and functionally obsolete laboratories, including the Biosafety Level 3 ("BSL-3") laboratory operated by MDHHS and collocated with MDEGLE.
- The State intends to use federal Coronavirus State and Local Fiscal Recovery Funds ("SLFRF") from the American Recovery Plan Act ("ARPA") to fund the cost of capital construction. These funds must be obligated by December 31, 2024 and expended by December 31, 2026.
- Due to the size and specialized requirements of such a facility, including the requirements of a BSL-3 laboratory, DTMB identified two options that were initially anticipated to meet schedule requirements driven by the SLFRF funding expenditure deadlines. The two Options are:
    - Option 1 is a LEED Gold greenfield option at the Secondary Complex in Dimondale, Michigan:
        - The estimated cost inclusive of the construction cost estimate and additional soft costs and reservations for Option 1 is $309.6 million in year-of-expenditure ("YOE") dollars.
        - This includes the cost of the lab facility estimated at $247.7 million as well as utility plant upgrades and a new tunnel to connect to the Secondary Complex's existing Cogeneration Utility Plant which is estimated at $61.9 million ($41.6 million in construction costs and $20.3 million in soft costs and reservations).
        - The estimated occupancy date for Option 1 is June 2026, which meets the deadlines for the SLFRF funding requirements.
        - Based on DTMB Building Operations Division ("BOD") estimates, first-year O&M cost for the new consolidated laboratory is approximately at $10.8 million in YOE dollars. Furthermore, connecting to the Cogeneration Plant reduces annual O&M and utility costs by an estimated $1.1 million in YOE dollars, helping offset the increased capital investment.
    - Option 2 is a LEED Gold addition and renovation to the existing MDHHS and MDEGLE Laboratory in Lansing, Michigan including a 4-level underground parking structure.
        - The estimated cost inclusive of the construction cost estimate and additional soft costs and reservations for Option 2 is $267.4 million YOE dollars.
        - The estimated occupancy date for Option 1 is February 2028, which is beyond the end of 2026 deadline to expend SLFRF funds.
        - BOD estimates first-year annual O&M expenditures for the newly renovated consolidated laboratory are estimated at $11.3 million in YOE dollars, including third party utility costs.
- DTMB's Building Operations Division ("BOD") will provide ongoing facilities maintenance and manage the new consolidated laboratory. The annual cost of such services will be allocated by BOD and funded through the respective Departments' general fund budgets.
- Several key risks should be considered related to the foregoing options including, but not limited to:
    - Inflation and escalation in the current environment may require increased contingency to manage the risk of cost increases due to supply chain and workforce scarcities.
    - Schedule and the risk of delays should be factored into the State's selection of a preferred option. Option 2 requires a two-phase construction approach which is anticipated to extend beyond the SLFRF deadline of December 31, 2026.
    - To meet the schedules in this laboratory report, the SLFRF funds should be appropriated as soon as possible and no later than October 1, 2022.
    - Departmental budgets for ongoing facilities maintenance will need to be increased after the laboratory is open for occupancy.

INTRODUCTION

The State of Michigan (the "State") is considering two options to deliver a new consolidated laboratory facility (the "Project") that leverages American Rescue Plan Act ("ARPA") funding to upgrade facilities for the departments of Health and Human Services ("MDHHS"); Environment, Great Lakes and Energy ("MDEGLE"); Labor and Economic Opportunity ("MDLEO"); and Agriculture and Rural Development ("MDARD").

KPMG LLP ("KPMG") was engaged to help the Department of Technology, Management and Budget ("DTMB") conduct an options analysis for the delivery of the new consolidated laboratory facility, focusing on both qualitative considerations and initial quantitative results. KPMG subcontracted with Hellmuth, Obata, and Kassabaum ("HOK"), a premier architectural/engineering ("A/E") firm with strong credentials in scientific facilities, to support this effort. HOK provided preliminary programming and conceptual design and associated cost estimates for two Options: (1) a new consolidated laboratory located at the Secondary Complex in Dimondale, Michigan; and (2) an expanded and refurbished consolidated laboratory at the current State of Michigan Environmental Laboratory located near the intersection of Martin Luther King Jr. Boulevard and West Sheridan Road in Lansing, Michigan.

On February 16, 2022, House Bill 5523 ("HB-5523") was signed into law as Public Act 9 of 2022 which dedicated $10 million of funding[1] from the State's federal Coronavirus State and Local Fiscal Recovery Funds ("SLFRF") as part of ARPA to undertake a revised program and planning for the consolidated laboratory facility which was put on hold in 2018. KPMG and HOK helped with initial draft program development, technical inputs and preliminary cost analysis based on the initially defined program in 2015 and ultimately reflected only a new laboratory at the Secondary Complex for MDHHS and the Department of Environmental Quality ("MDEQ", now called MDEGLE). HB-5523 also referenced a consolidated laboratory to expand the program from MDHHS and MDEGLE to also include MDLEO and MDARD; therefore, the analysis herein factors in a consolidated laboratory for the four (4) respective departments based on each of the two considered options.

The DTMB State Facilities Administration, Design and Construction, Real Estate and Building Operations divisions reviewed both private facilities and the existing state-owned building portfolio within the Lansing area for potential building adaptive reuse options. Due to the size and specialized requirements of such a facility, including the requirements of a Biosafety Level 3 ("BSL-3") laboratory, DTMB determined that adaptive reuse is not optimal and that the two identified options under consideration in this analysis provide the best approach for the State programmatically based on overall cost effectiveness and schedule requirements driven by the SLFRF funding expenditure deadlines.

[1] https://www.house.mi.gov/hfa/PDF/Supplementals/22h5523s1_Supplemental_Summary_House_Amendment_to_Senate_Passed.pdf

CAPITAL FUNDING

The State's intention now is to potentially fund the capital costs of the consolidated laboratory facility through SLFRF funds. The State is eligible to receive $6.5 billion of SLFRF funds from the Federal government which is available in two tranches with the first having been received in May 2021 and the second tranche approximately 12 months later.

The US Treasury released the Final Rule[2] which took effect on April 1, 2022 which requires states to obligate SLFRF dollars by December 31, 2024 and expend SLFRF dollars by December 31, 2026. This analysis assumes that if the State proceeds with the laboratory project, the Michigan Department of Treasury ARPA Support team will undertake the required written justification and regular reporting to the US Treasury to facilitate the use of the State's SLFRF funds on the consolidated laboratory project.

PROJECT SCOPE

DELIVERY APPROACH

DTMB plans to procure an Architecture/Engineering ("A/E") firm to be Architect of Record as well as a Construction Manager ("CM") who will coordinate closely with DTMB, the A/E, and the respective user departments in the design development and competitively bid out construction packages based on market conditions to meet the scheduled deadline for project completion. DTMB has significant experience utilizing this approach to deliver capital construction.

PROGRAMMED AREA

KPMG and HOK were asked to consider two options for a new consolidated facility which will house the State's MDHHS, MDEGLE, MDLEO, and MDARD laboratory operations. The space required for each Department and their shared spaces is calculated on a net square foot ("NSF") basis while the overall consolidated lab facility inclusive of department space, penthouse, central utility plant (as applicable), corridors, bathrooms, stairs and elevators, and loading dock in support of the whole building is calculated on a gross square foot ("GSF") basis.

As part of this update, the KPMG/HOK team conducted two rounds of programming user group meetings with the four departments and DTMB. The purpose of the meetings was to review/confirm the results of the 2018 study and understand changes in lab operations and staffing in the ensuing four years (2018 to 2022), including the impacts of COVID-19 on workload and staffing requirements. The outcome of the programming meetings is an updated space program that serves as the basis of the conceptual design and cost estimates for Option 1: Greenfield site and Option 2: Addition/Renovation of Existing Lab building. Below are key takeaways:

1. The updated estimated assignable program is 176,955 NSF. This is an increase of 19,356 NSF over the 2018 program.
2. The current overall size of the building is programmed at 305,800 GSF which includes space for building circulation, toilets and building service, as well as a new Central Utility Plant and rooftop mechanical penthouse. In 2018, the overall size of the building was 233,649 GSF. This represents a 31% increase in the overall size. The overall building efficiency or net-to-gross ratio[3] for the proposed new building is 58% which is appropriate for this building typology.
3. Program changes for each department include removal of spaces no longer needed (e.g. MDARD greenhouse, reduction in some lab support spaces, reduction in MDLEO training space) as well as additions to accommodate needed growth in certain labs and the warehouse, as well as projected growth in staffing over the next 5 years.

[2] https://www.govinfo.gov/content/pkg/FR-2022-01-27/pdf/2022-00292.pdf

[3] The build efficiency ratio is calculated by dividing the net rentable square footage by the gross usable square footage.

Department	Programmed Area Net Square Footage			
	Overall	Laboratory	Office	Warehouse
MDLEO	8,375	7,480	895	0
MDHHS	72,015	47,245	13,250	11,520
MDEGLE	45,530	35,450	4,650	5,430
MDARD	34,440	26,660	4,230	3,550
Ancillary*	16,395	0	10,325	6,070
Total Net Square Feet	**176,755**	**116,835**	**33,350**	**26,570**

* Ancillary includes Department shared spaces such as conference rooms, break rooms, building support, etc.

Figure 1: Consolidated Laboratory Programmed Area

The detailed breakdown of programmed area by department is in Appendix A: Net Assignable Square Footage by Department.

OPTION 1 OVERVIEW: NEW GREENFIELD FACILITY

1. New greenfield site at the State of Michigan Secondary Complex.
2. Estimated 305,800 GSF building with 3 stories (4 including penthouse).
3. Facility will be served from the existing Cogeneration Plant that currently serves the State of Michigan Secondary Complex:
    - Cogeneration Plant capacity will be increased to accommodate the new facility.
    - Redundancy will be added to increase plant resiliency and serve the 24/7/365 requirements.
    - An underground tunnel loop will extend to the new facility to provide dual feeds.
4. Site improvements include a new roadway connecting the building to Davis Highway to the north and Crowner Drive to the south, a detention basin, security fencing and gates, and landscaping around the building and surface parking.
5. Program is approximately 66% laboratory space, 19% office space, and 15% warehouse space.
6. 440 surface parking spaces[4] (1 spot for each of the 340 employees and 100 visitor spots).

OPTION 2 OVERVIEW: ADDITION/RENOVATION OF EXISTING LAB

1. Addition and renovation to existing State of Michigan Environmental Laboratory.
2. Estimated 291,000 gross square foot building (including penthouse):
    - Design GSF for Option 2 will be approximately 15,000 GSF less due to a smaller penthouse.
    - Scope for Option 2 does not include adding a penthouse over the existing lab building.
3. 4 stories (plus underground parking) – An underground parking structure is required for Option 2 due to the lack of available surface area at the site for sufficient parking after the addition is built.
4. Site improvements include a relocated detention basin, security fencing gates, and landscaping around the building and parking lot.
5. Program is 2/3rd lab (66% laboratory space, 19% office space, 15% warehouse space).
6. Utilities will be provided by existing service providers; however, a new Central Utility Plant will be added to support the addition and upgrade the mechanical, engineering, and plumbing ("MEP") infrastructure of the existing lab building including redundancy requirements.
7. 440 structured parking spaces[5] (1 spot for each of the 340 employees and 100 visitor spots)

[4] Local zoning would typically require a more parking spaces (~640); however, as this is a State property/building, DTMB has indicated that they have the ability to determine the required parking based on need

[5] Existing site is limited in space; to meet the projected 440 space parking requirement the site necessitates a structured parking and/or underground parking beneath the new addition unless the State were to acquire additional land or an alternative site for surface parking

PROJECT GOALS AND OBJECTIVES

DTMB defined goals and objectives for the Project which were considered to help prioritize decision making the consolidated lab's delivery approach.

	Consolidated Lab Project Goals and Objectives
1	**Construct state of the art facility that consolidates physically separated laboratory facilities into one consolidated location**
2	**Initial concept and programming process includes input from Departments as key stakeholders to new facility**
3	**Facility provides operational efficiencies in utilizing shared spaces where possible (e.g., training and conference rooms, storage, loading docks, etc.)**
4	**Facility that targets LEED Gold certification with a minimum goal of LEED Silver**
5	**SLFRF capital funding use is expended by December 31, 2026 to meet Federal requirements**

Figure 2: Project Goals and Objectives

PROGRAM AND CONCEPT

OPTION 1: NEW GREENFIELD FACILITY

Option 1 is a new building on a greenfield site at the Secondary Complex in Dimondale. The parcel is 115.96 acres with three existing built structures (Transportation Warehouse) totaling approximately 107,000 square feet ("SF") with an additional two acres of surface improvements (parking and roadway). The parcel is generally flat with little vegetation. The parcel is bounded on the south by high tension power lines (Consumers Power Fee Strip), on the west by Interstate Highway I-69, and on the south with a State of Michigan "Energy Center" and a portion of Crowner Road.

The greenfield option is envisioned as an approximately 305,800 GSF, 3-story primary structure with a rooftop penthouse. The current concept includes two primary bars of lab and office space running parallel with a courtyard, warehouse, central utility plant, and shared auxiliary spaces centrally located between the two bars allowing for central access to shared spaces and straightforward distribution of utilities and materials from the central utility plant and warehouse, respectively.

The new lab building will be connected to the existing Cogeneration Plant to provide a continuous and uninterrupted source of utilities. A new underground tunnel will be constructed to provide dual utility feeds to the building. The existing plant will be upgraded to provide increased resiliency and redundancy to satisfy the project requirements of the lab building as well as increasing overall plant capacity. The upgrades to the Cogeneration Plant will need to be further verified during subsequent phases of the project in order to minimize single points of failure. Preliminarily, the following upgrades are expected to be required at minimum:

1. Modify existing double-ended switchgear to increase capacity and provide dual, redundant power feeds to the new facility.
2. Modify incoming electrical service to the Energy Center from Consumers' substation so that the two incoming services originate from two different busses, not one.
3. Upgrade to automatic switchover for main-tie-main arrangement at the Energy Center with closed transition when switching back to the primary feed after it is restored.
4. Replacement of existing water-cooled, centrifugal chiller.

5. Addition of steam boiler.
6. Addition of plate and frame heat exchanger for waterside economizer system.
7. Modifications to cooling towers and condenser water piping to allow for N+1 equipment during winter months.
8. Replacement of chilled water piping mains in Cogeneration Plant.
9. Extension of tunnels to provide redundant, dual piping feeds to the Facility from the Cogeneration Plant. Upsize piping mains where required in re-used portions of the existing tunnel system.
10. Addition of redundant chiller for ice-making system.
11. Upgrades to Building Automation System to provide the following:
    a. Addition of automatic equipment switchover in case of equipment failure.
    b. Addition of duplicate sensors where sensors are critical to plant operation and needed to eliminate single points of failure.
    c. Addition of redundant, hot-swappable DDC controllers.
    d. Consideration should be given to the addition of a central plant optimization software.
12. Incorporate supervised control panel-mounted override switches to allow plant operators to switch between automated or manual operation of control valves. Also furnish control valves with integral manual gear-operator override as last resort.
13. Include a manual by-pass with valve and isolation valves on each side of control valves to allow for removal and replacement of control valves without system shutdown.
14. Provide means for a source of temporary cooling and heating while upgrades are occurring, service to current Cogeneration Plant customers must be maintained during the upgrades. Additionally, include provisions (power, water, drain and system piping connections) for temporary (rental) cooling and heating equipment as a last resort back-up in event equipment failures prevent installed systems from supplying cooling and heating to satisfy the system loads.
15. Provide plant N+ 1 stand-by equipment modifications necessary to ensure plant can supply uninterrupted 100 percent design load in event of equipment failure.
16. Small 2,000 – 3,000 GSF addition/expansion to existing Cogeneration building to accommodate new equipment/boilers.

Per DTMB's Capital Outlay Design Manual, the design for Option 1 will consider the energy efficiency of all materials used in the construction, alteration, repair, or rebuilding. Sustainable design principles should be used in the design and construction of capital outlay-supported projects. While LEED certification is not required, the expectation is that the design of the project will have a target of LEED Gold.

The proposed site of the greenfield option allows for the building to have direct access from Davis Highway with a roadway connection to other state facilities south of the site. The size of the proposed site allows for enough surface parking to meet anticipated requirements.

CONSIDERATIONS FOR OPTION 1: GREENFIELD

1. Existing labs remain fully operational during construction of the new facility.
2. Project can be done in one phase resulting in a 24-month construction schedule compared to a two phase 44-month construction schedule in Option 2.
3. The open site should not pose construction staging / laydown space challenges for the selected CM and contractor.
4. There are overhead power lines that run the length of the southern property line of the parcel. Some of the testing equipment utilized by the State is sensitive to electrical interference. While an earlier 2017 Site Due Diligence Report did not flag any specific concerns with electro-magnetic interference, consideration should be given as the design develops to locate the facility as far from sources of electro-magnetic interference as possible.
5. There is nearby rail and automobile traffic. Some of the testing equipment utilized by the State is sensitive to vibration. While an earlier 2017 Site Due Diligence Report did not flag any specific concerns with

vibration from the railway or interstate highway, consideration should be monitored as the design develops to locate the facility as far from sources of vibration as possible with the potential inclusion of vibration reducing construction techniques.

6. Due to the sensitive nature of the operations envisioned for the new facility (confidential information, caustic chemicals, infectious pathogens, etc.), security for the new facility is of paramount concern. Careful measures should be followed when identifying preferred sites to allow for the introduction of security including items such as controlled vehicular and pedestrian access to the site, minimum setbacks from built structures for vehicular traffic and secure perimeter provisions for exterior bulk gas storage (currently planned to be in the utility yard).
7. Option 1 potentially allows DTMB to repurpose the current State of Michigan Environmental Laboratory or consider a fee simple disposition or long-term lease to a third party, with the possibility of creating revenue to the State.[6]
8. Upgrades to the Cogeneration Plant for increased capacity and redundancy will benefit the rest of the buildings on the State of Michigan Secondary Complex site.
9. Consideration will be needed for temporary utilities during portions of the Cogeneration Plant upgrades to ensure continuity of operations from the plant during construction.
10. The return on investment should be further studied between utilizing the Cogeneration Plant versus building a stand-alone, dedicated central utility plant for the new facility. This will need to be further vetted during the design portions of the project.

OPTION 2: ADDITION/RENOVATION OF EXISTING LAB

Option 2 is an addition/renovation of the existing State of Michigan Environmental Laboratory. The parcel is a rectangular shape roughly 7.5 acres in size and is located near the intersection of Martin Luther King Jr. Boulevard and West Sheridan Road in Lansing, Michigan. The site contains both open space as well as an existing parking lot located south and west of the Environmental Laboratory. The parcel is generally flat and slopes downward to the north and west boundary. The parcel is bounded on the three sides by various private industrial businesses and on the east by Jones Lake.

The addition/renovation option is organized in an "L" shape with two wings linked by a central shared auxiliary support zone. The existing building is 3 levels with a floor-to-floor height of 13'-8". The new wing addition is proposed to be 4 stories with a floor-to-floor height of 16'-0" plus a penthouse. It is envisioned that the two wings will align on level 2 with level 1 of the new addition set 2'-4" below level 1 of the existing structure and level 3 of the new addition set 2'-4" above level 3 of the existing structure. Two new passenger elevators and two new service elevators are included as part of the addition to accommodate movement of materials and people to various levels of the facility. The new primary entrance to the building is envisioned to be the link between the new and existing wings.

A small two-story addition and minor renovations are currently underway at the existing facility to accommodate near term MDHHS needs. When complete the overall current structure is estimated to be approximately 105,000 GSF. To meet the projected need of the consolidated lab facility, this option proposes a second addition of approximately 185,000 GSF which would include lab, office warehouse and central utility plant space plus an underground parking structure of 133,000 GSF to accommodate 355 parking spaces. The total size of the Addition/Renovation option with underground parking is estimated to be 424,000 GSF.

The new building addition and the renovation of existing facilities is anticipated to occur in two phases. The first phase would include the 185,000 GSF addition and a 133,000 GSF underground garage. This first phase will provide lab/office swing space as well as the utility, warehouse, and parking capacity to serve the entire program of the site. The fit out of the addition will include all program spaces currently located in the existing MDHHS building.

[6] A valuation analysis was performed in the prior business case and DTMB should consider updating the analysis based on current market conditions

The existing MDHHS building will remain operational throughout Phase 1 construction. Once phase 1 is complete, the program and occupants of MDHHS will move to their new space in the addition. At this point the existing structure can be taken offline to begin phase 2. In phase 2, the existing MDHHS building will undergo significant renovation abandoning existing mechanical, electrical, and plumbing systems that are past their useful life or without capacity to serve the lab renovation. The lab will instead be connected to the central utility plant constructed as part of Phase 1. Once phase 2 is complete the remaining program will move to the site.

Per DTMB's Capital Outlay Design Manual, the design for Option 2 will consider the energy efficiency of all materials used in the construction, alteration, repair, or rebuilding. Sustainable design principles should be used in the design and construction of capital outlay-supported projects. While LEED certification is not required, the expectation is that the design of the project will have a target of LEED Gold.

Considerations for Option 2: Addition / Renovation

1. Due to the constraints of the site, parking requirements cannot be met with surface parking. 4 levels of underground parking are required for this option as currently programmed.
2. The existing lab building has a floor-to-floor height of 13'-8" which is lower than the current standard of 16'-0" for new facilities of this type. As the building is renovated, this will likely result in ceiling heights that are below the current standard for labs.
3. Project phasing will mean the site will be under construction for a longer 44-month duration. The underground parking will need to first be constructed before the addition. After the addition is completed, the operations will need to be moved from the existing facility to the addition before renovation of the existing facility can begin.
4. The longer construction schedule does not meet the requirements to expend the SLFRF funding before December 31, 2026 potentially requiring the State to appropriate additional funding from non-SLFRF sources.
5. While the construction logistics team will be asked to minimize disruption to current operations in the existing MDHHS building, there inevitably will be period disruptions to current operations and the site as the new addition is constructed.
6. The new addition will be built in the current parking lot so temporary parking accommodations will need to be made during construction of the addition in Phase 1. There could be an agreement with a neighboring site for use of their parking lot, street parking, and/or a parking shuttle from an offsite parking location.
7. The constrained site may present construction staging /laydown space challenges for the selected CM and contractors.
8. There is nearby rail and automobile traffic. Some of the testing equipment utilized by the State is sensitive to vibration, special consideration should be paid to locate the facility as far from sources of vibration as possible with the potential inclusion of vibration reducing construction techniques.
9. Due to the sensitive nature of the operations envisioned for the new facility (confidential information, caustic chemicals, infectious pathogens, etc.), security for the new facility is of paramount concern. Careful measures should be followed when identifying preferred sites to allow for the introduction of security including items such as controlled vehicular and pedestrian access to the site, minimum setbacks from built structures for vehicular traffic and secure perimeter provisions for exterior bulk gas storage (currently planned to be in the utility yard).

Supporting plans and diagrams for both Options are located in Appendix B: Site Plans and Appendix C: Building Blocking Plans.

CAPITAL COST ESTIMATE

HOK contracted with CCS International, Inc. ("CCS"), a cost estimating firm, to develop the construction cost estimate for the two consolidated laboratory options based on the space requirements and operational needs that the HOK and KPMG team received from interviews and programming workshops with the Departments. Additional soft costs and reservations were added to the construction cost estimate to help estimate the anticipated total project cost.

	Option 1: Greenfield	Option 2: Addition/Renovation
Construction		
1. Hard Construction Costs	$122,616,838	$129,439,276
2. LEED Gold Costs	$5,517,758	$5,824,767
Subtotal	$128,134,596	$135,264,043
3. Design and Construction Contingency (20%)	$25,626,919	$27,052,809
Lab Subtotal	$153,761,515	$162,316,852
4. Cogeneration Plant Upgrades and Tunnel	$32,000,000	N/A
5. Cogeneration Contingency[7] (30%)	$9,600,000	N/A
Cogen Subtotal	$41,600,000	N/A
6. Cogeneration CUP Space Savings	($2,040,176)	N/A
Pre-Escalation Total	$193,261,038	$162,316,852
7. Escalation	$23,307,281	$22,626,969
Construction Costs	**$216,568,319**	**$184,943,821**
Design, Construction Management, Closeout		
8. A/E Fee (8%)	$17,325,466	$14,795,506
9. CM General Conditions (4%)	$8,662,733	$7,397,753
10. Contractor Overhead and Profit (8%)	$17,325,466	$14,795,506
11. DTMB/SFA/DCD Fee (2%)	$4,331,366	$3,698,876
12. Building Commissioning	$775,000	$725,000
13. Existing Equipment Move and Calibration (3%)	$5,098,541	$4,579,306
Reservations		
14. Furnitures, Fixtures, and Equipment Allowance (10%)	$16,995,136	$17,045,136
15. Signage	$850,000	$950,000
16. Delivery and Commercial Risk Contingency (10%)	$21,656,832	$18,494,382
Total Project Costs	**$309,588,858**	**$267,425,286**

Figure 3: Capital Cost Estimate Summary (YOE$)

The consolidated laboratory is estimated to have a total project cost, inclusive of all hard costs, soft costs, and risk costs of $309.6 million (YOE$) in Option 1 and $267.4 million (YOE$) in Option 2.

[7] 30% is assumed which is the upper end of the contingency range at this early stage of the project

1. Hard Construction Costs

The CCS reports on base construction cost estimates are located in Appendix – D: Construction Cost Estimates.

Option 1: New Greenfield Facility

Based on the programming discussions with the Departments, HOK and their contracted cost estimator, CCS, derived the amount of NSF each Department would need in terms of dedicated space, ancillary (shared work) space, and for the building how much NSF would be needed for the penthouse and central utility plant space, and core (non-work) space. The GSF for the entire consolidate laboratory is the sum of the NSF for each of the individually calculated spaces.

Using the NSF for each space, HOK and CCS detailed the required components that composed of each space and priced them out individually to determine the **Raw Cost** of each space in 2022 dollars. The cost estimate in this **Section 1) Hard Construction Costs** for Option 1 does not include the costs to connect new consolidated laboratory to the Cogeneration Plant. These costs were estimated by HOK and are included in the following **Sections 4) Cogeneration Plant Upgrades and Tunnel, 5) Cogeneration Contingency**, and **6) Cogeneration CUP Space Savings**, respectively.

Dedicated Space Cost Center and Ancillary Cost Center

Through program workshops and interviews with the DTMB and the Departments, the Program and Concept for the consolidated laboratory defined the required square foot ("SF") that each Department would need to meet their current needs as well as anticipated growth within the respective Departments. Ancillary spaces include shared conference/meeting space, break room, offices and workspaces, and loading dock. The Warehouse space has been distributed across the allocation of space by Department for MDARD, MDEGLE, and MDHHS based on their anticipated needs for preparedness and stock. The space required for meeting space, conference rooms, and break areas was calculated based on the overall headcount for the facility based on benchmarked ratios for science facilities. Once the total meeting space count and sizes were determined we allocated them across each floor as shared distributed resources for the facility rather than any one department.

Penthouse and Central Utility Plant ("CUP") Cost Center

The size and estimated cost for the rooftop penthouse and the CUP were developed based on HOK's experience with projects of similar size and program mix as well as the anticipated performance requirements expected of the building mechanical systems.

Core Spaces Cost Center

Core Spaces account for corridors, bathrooms, stairs and elevators, and loading dock in support of the whole building. These spaces are not part of Department's square footage but are part of the area required to make a functional building.

Sitework Cost Center

Site work includes anticipated scope outside the building including parking, roadwork, dock apron space, detention basin, and landscaping.

Cost Center	Space SF	Raw Cost	Raw Cost / SF
Dedicated Space – MDLEO	8,375	$3,550,435	$423.93
Dedicated Space – MDHHS	72,016	$29,356,988	$407.65
Dedicated Space – MDEGLE	45,529	$18,378,471	$403.67
Dedicated Space – MDARD	34,440	$14,443,460	$419.38
Ancillary	16,395	$5,791,846	$353.27
Penthouse & CUP	42,000	$15,095,470	$359.42
Core Spaces	87,045	$30,712,794	$352.84
Sitework	N/A	$5,287,373	N/A
Total Lab Construction	**305,800**	**$122,616,838**	**$400.97**

Figure 4: Greenfield Construction Cost Estimate (2022$)

Option 2: Addition/Renovation of Existing Lab

The cost estimate for Option 2 differs from Option 1 given that Option 2 will be at the existing State of Michigan Environmental Laboratory and will not need to incur the cost to build a tunnel to connect to the Cogeneration Plant. In addition, Option 2 will require the construction of an underground parking garage prior to constructing the addition to the existing lab due to the site constraints to accommodate adequate surface level parking for the expanded lab facility. Once the addition is completed, staff would move into the new part of the facility before renovation on the existing lab could begin.

Dedicated Space Cost Center and Ancillary Cost Center

The assumptions for GSF for each Department remained the same as Option 1 but the Raw Cost per SF is slightly lower in Option 2 due to part of the new consolidated facility now being renovated instead of an entire facility being newly constructed.

Penthouse and CUP Cost Center

The GSF for the Penthouse and CUP in Option 2 is 15,000 GSF less than Option 1 due to the penthouse not expanding over the existing lab building and only being located over the addition.

Core Spaces Cost Center

The assumptions for GSF for Core Spaces remained the same as Option 1 but the Raw Cost per SF is slightly lower in Option 2 due to part of the new consolidated facility now being renovated instead of an entire facility being newly constructed.

Sitework Cost Center

Sitework costs in Option 2 are substantially lower due to work being performed in a smaller area on the site of the new addition. An additional category has been added for Earthwork to account for the sublevel work required for the underground parking structure.

Garage Cost Center

Garage costs reflect the 355 spaces that will need to be included in the underground parking structure.

Earthwork Cost Center

Earthwork costs reflect the anticipated site preparation required to construct a 4-level underground parking structure prior to construction of the addition to the existing lab.

Cost Center	Space SF	Raw Cost	Raw Cost / SF
Dedicated Space – MDLEO	8,375	$3,368,587	$402.22
Dedicated Space – MDHHS	72,016	$28,114,047	$390.39
Dedicated Space – MDEGLE	45,529	$16,623,831	$365.13
Dedicated Space – MDARD	34,440	$12,878,781	$373.95
Ancillary	16,395	$5,157,855	$314.60
Penthouse & CUP	27,200	$9,378,318	$344.79
Core Spaces	87,045	$28,803,361	$330.90
Sitework	N/A	$2,508,032	N/A
Total Lab Construction	**291,000**	**$106,832,812**	**$367.12**
Garage	133,125	$15,765,704	$118.43
Earthwork	N/A	$6,840,760	N/A
Total Lab and Garage Construction	**424,125**	**$129,439,276**	**$305.19**

Figure 5: Addition/Renovation Construction Cost Estimate (2022$)

2. LEED Gold Costs

The analysis assumes a 4.5% cost for LEED Gold certification to meet the State's priority for LEED status on the new consolidated laboratory. For the State's consideration, CCS estimates that a LEED Silver certification would be a 1.5% cost which would reduce construction cost $3.7 million for Option 1 and $3.9 million for Option 2. Inclusive of additional soft costs and reservations, the total project cost for LEED Silver would decrease $7.1 million for Option 1 and $7.6 million for Option 2.

The capital cost estimate for LEED Silver is located in Appendix E: LEED Silver Capital Cost Estimate Summary.

The increased investment for LEED Gold from LEED Silver may provide an operational and lifecycle return on investment ("ROI") driven by enhanced energy, water, and other savings. As design progresses and costs related to investments in upgrading the cogeneration plant and estimated annual utility costs are better understood/forecasted, we recommend a more fulsome ROI analysis is undertaken. However, at this early stage and as a potential benchmark for ROI, a study was undertaken by the City of Edmonton[8] on its new building construction that found that LEED Gold offered a net financial, social, environmental impact over LEED Silver but specific buildings generated unique results.

As discussed later in the report, the utility rate savings for Option 1 being connected to the Cogeneration Plant compared to the standalone central utility plant in Option 2 was provided by DTMB and helps determine a potential ROI for the plant upgrades and tunnel, a similar analysis would need to be undertaken by the State in order to determine the ROI of increased LEED investment.

3. Design and Construction Contingency

The analysis assumes a 20.0% construction and design contingency. Given the early stage of the project design and the current volatile construction market, CCS/HOK recommend holding a 20% contingency.

4. Cogeneration Plant Upgrades and Tunnel

In Option 1, the new consolidated laboratory will be connected to the existing State Cogeneration Plant. New underground tunnels will be constructed to provide dual utility feeds to the building. The cost estimate for the plant upgrades and tunnel is sourced from the 2018 study in which a connection to the Cogeneration Plant was assessed and an estimate was developed to provide:

[8] https://www.edmonton.ca/sites/default/files/public-files/documents/PDF/Edmonton_LEED_SROI.pdf

1. A continuous and uninterrupted source of utilities to the consolidated laboratory.
2. Increased the redundancy/resiliency in the Cogeneration Plant to meet the program requirements for the consolidated laboratory.

That 2018 estimate and scope of work was revisited for this update to the preliminary concept study to confirm the previous assumptions and to incorporate investments that have taken place in the last 4 years (e.g. new steam boiler and other equipment). The updated estimate has been escalated to 2022 dollars and includes an additional $1 million allowance for potential expansion of the Cogeneration building to accommodate a new boiler and other equipment.

The increased investment required under Option 1 for the Cogeneration Plant upgrades and tunnel extension is forecasted to yield a lower utility rate for the annual operations of the facility compared to the stand-alone central utility plant in Option 2. Under Option 1, DTMB's Building Operations Division ("BOD") forecasts that the utility rate will be $2.59/SF in 2022 dollars compared to $5.17/SF if the consolidated laboratory is served from a stand-alone central utility plant. During the design phase, this will need to be further studied to verify the long-term ROI. This is further discussed in the Operation and Routine Maintenance Costs section.

5. Cogeneration Contingency

Based upon the early stage of scoping for the equipment and work needed to connect Option 1 to the Cogeneration Plant, a range of 20% to 30% contingency is assumed. The capital cost estimate table in **Figure 3** includes the upper range of the contingency at 30% which is $9.6 million compared to $6.4 million at 20%.

6. Cogeneration CUP Space Savings

Due to the increased investment for the equipment and tunnel to connect Option 1 to the Cogeneration Plant, there will not be as much CUP space needed in the laboratory building. HOK estimates that there will be a 5,000 SF reduction in the 10,000 SF space for the CUP.

7. Escalation Allowance

The analysis for Option 1 assumes a 12.06% escalation factor. The escalation percentage has been determined based on current/projected market conditions and an assumed mid-point of construction of December 2024.

The analysis for Option 2 assumes a 13.94% escalation factor. The escalation percentage has been determined based on current/projected market conditions and an assumed mid-point of construction of September 2026.

8. A/E Fee

The A/E fee of 8% for the Project was estimated by HOK and based off the 2018 conceptual programing and cost estimate and covers the cost of A/E services from schematic design through construction administration.

9. CM General Conditions

The CM General Conditions of 4% for the Project was estimated by CCS based on similar projects and the anticipated delivery method.

10. General Contractor ("GC") Overhead and Profit

The GC Overhead and Profit of 8% for the Project was estimated by CCS based on similar projects and the anticipated delivery method.

11. DTMB/SFA/DCD Fee

The analysis provides for the 2.0% fee for DTMB, State Facilities Administration ("SFA"), and Design and Construction Division ("DCD") which are included in all DTMB's contracts for the administration, professional management and direction of new facilities and capital projects. The services provided include contract procurement, project management, direction of contractors and consultants, complete construction oversight, cost and budget analysis, problem solving and technical consultation.

12. Building Commissioning

A lump sum allocation is included to address building commissioning and a technical professional service to verify that the as-constructed facility is performing in accordance with the contractual expectation.

13. Existing Equipment Move and Calibration

The 2018 conceptual programming and cost estimate included a 3% allocation which addresses the cost to disconnect, inactivate, secure, decontaminate, package, transport, mount, rig, secure-connect, re-charge, test, calibrate, and re-certify and prepare for use select elements of existing equipment, furniture, scientific equipment and devices to the new facility. The 3% is only applied to the laboratory building and not the cogeneration upgrades and tunnel in Option 1 or garage in Option 2.

14. Furnitures, Fixtures, and Equipment ("FFE") Allowance

The 2018 conceptual programming and cost estimate included a 10% FFE allowance to cover lab furniture and equipment which has been carried over to this analysis. This allowance is only applied to the laboratory construction and not the cogeneration plant upgrades and tunnel. For Option 2, the 10% FFE allowance for Option 1 is used plus an additional $50,000 for the garage.

15. Signage

The 2018 conceptual programming and cost estimate included a lump sum allocation to address the cost of signage in and around the new building.

16. Delivery and Commercial Risk Contingency

A risk register was developed to identify and document principal risk items that could impact the Project's schedule or cost and would help inform the preferred delivery method for the consolidated laboratory. These risks range from design and construction activities related to scope and cost overruns to geotechnical and environmental issues. Key areas for potentially optimizing risk allocation include design interface, scope creep, scope gap between contractors, cost overruns, owner directed changes, and inflation.

Due to the early conceptual phase of the program and concept for the consolidated laboratory, the risk register is preliminary and more risks as well as the ability to quantify and assign the individual risks to the proper party to best manage them will be further defined as the project continues to develop and advance. For the purposes of this update to the preliminary concept study, the risks identified to the Project help inform additional capital cost contingency which should be added to construction cost estimate and to the Base Schedule to form Risk-Adjusted Schedule for the Project. Risk adjusted costs and schedule will support the State in determining the optimal allocation of SLFRF dollars for construction of the consolidated laboratory and confirm that the Project will be completed by the December 31, 2026 deadline to expend SLFRF dollars.

To account for potential cost risks identified in the risk register such as the current escalation and supply and demand issues in the labor and materials market, an additional 10% in delivery risk was added to the Base Cost

Estimate. The entire industry has seen construction bids have been consistently coming in higher than estimates over the past year and are expected to continue in the short term and additional contingency should be included to account for uncertain market conditions. The Associated General Contractors ("AGC") released a construction inflation alert[9] in February 2022 that presents empirical data that supports holding a further risk contingency for these factors.

[9] https://www.agc.org/sites/default/files/users/user21902/Construction%20Inflation%20Alert%20Cover%20-%20Feb%202022_000.pdf

Risk Type	Issue Description	Risk (Cause & Effect)	Option 1: New Consolidated Facility	Option 2: Addition/Renovation Facility and Parking Structure
			Preliminary Mitigation Strategy	Preliminary Mitigation Strategy
Funding	Delay in Legislature Approval	Legislature does not approve the consolidated lab by the end of the fiscal year on 9/30 (to help meet funding deadlines earlier approval would help facilitate compliance and mitigate risks of the State having to provide additional State funds for expired SLFRF funds for work extending beyond the December 31, 2026.)	DTMB to maintain frequent communications with State budget office for status updates and stress inflationary implications for delays	DTMB to maintain frequent communications with State budget office for status updates and stress inflationary implications for delays
Design	Constructability of Design	Design at conceptual phase	A/E to advance design on identified site to meet Department needs and facility criteria (i.e., parking, loading docks, etc.	Existing footprint but additional considerations will be needed if the parking structure is underground
Design	Cogeneration Plant Connection Scope	Understanding of upgrades and tunnel needed to connect Cogeneration Facility to lab in Option 1 is early stages	A/E to prioritize discussions with State to understand Cogen Plant and usage for new laboratory to better define investment needed	N/A
Design	Design interfaces and quality issues	Design oversights may cause additional costs and delays during design, construction, and operations phases	A/E and CM have close coordination with Departments to ensure all design needs are considered and included	A/E and CM have close coordination with Departments to ensure all design needs are considered and included
Design	Definition of Scope	Evolving project definition leads to design related scope creep	A/E and CM have close coordination with Departments to ensure all design needs are considered and included	A/E and CM have close coordination with Departments to ensure all design needs are considered and included
Design	Departments not responding or slow to respond	Design process takes longer because Departments are not responding to A/E and CM or Department of Licensing and Regulatory Affairs ("DLARA") plan review could be delayed	DTMB to escalate for resolution to ensure cooperation of Departments	DTMB to escalate for resolution to ensure cooperation of Departments
Design	Interface Risk between A/E and CM	Disagreements occur between the A/E and CM on design and construction approaches	DTMB to set up communications and dispute resolution process to efficiently resolve issues	DTMB to set up communications and dispute resolution process to efficiently resolve issues
Construction	Cost overruns, schedule delays	On a complex project there are many unforeseen situations beyond those identified specifically in this risk register that can arise during construction, causing delays and cost overruns	CM to help identify and mitigate risks	CM to help identify and mitigate risks
Construction	Definition of Scope	Owner directed changes lead to costly construction overruns	A/E and CM to coordinate with State to align needs during design and limit change orders	A/E and CM to coordinate with State to align needs during design and limit change orders
Construction	Materials inflation	Materials price escalation increases project costs	CM to help identify major materials needed for construction and identify alternatives or advance early materials procurements	CM to help identify major materials needed for construction and identify alternatives or advance early materials procurements
Construction	Labor Inflation and Competition	Labor escalation and competition for labor increases project costs	Sufficient allocated contingency	Sufficient allocated contingency
Utilities	Coordination and Delays	Coordination and delays with utility relocation	Minor risk due to limited area of work and known site conditions	Minor risk due to limited area of work and known site conditions
Utilities	Unknown Utilities	Damage to unknown utilities	Minor risk due to limited area of work and known site conditions	Minor risk due to limited area of work and known site conditions

Figure 6: Preliminary Risk Register

Design and Construction Schedule

Through conversations with DTMB, HOK and KPMG developed a Base Design and Construction Schedule for the Options 1 and 2, respectively. DTMB plans to procure an A/E firm and CM firm to advance the consolidated laboratory design and bid out the construction packages. The CM will be responsible for coordinating with the Departments such that the design process includes all necessary operational requirements.

Each Base Design and Construction Schedule was reviewed against the Delivery and Commercial Risks and Risk Register to determine a Risk-Adjusted Design and Construction Schedule which factors in potential risks to the Project.

The full Design and Construction Schedules are below in **Figure 9** and **Figure 10**.

Option 1: New Greenfield Facility

The Base Design and Construction Schedule for Option 1 shows that there are nearly 9 months of available float between the estimated Project Closeout and the Federal requirement to expend the SLFRF funds for the Project by the end of 2026.

To account for potential Delivery and Commercial Risks, it is recommended that the design phase should be extended 1 month as significant coordination will be required between the Departments, A/E, and CM to finalize a design that meets all of the goals and objectives for the new facility. In addition to the extension of the design phase, it is also recommended that 2 additional months of construction duration is added to help account for unforeseen delays both in site work and constructability of the project, as well potential shortages in the labor market or long delays in materials procurement.

	Base Schedule	Risk-Adjusted Schedule
Completion of Lab Design	12/8/23	1/5/24
Start of Construction	12/11/23	1/9/24
Completion of Construction	12/11/25	3/12/26
Project Closeout	3/11/26	6/11/26

Figure 7: Greenfield Design and Construction Schedule Milestones

Option 2: Addition/Renovation of Existing Lab

The key schedule differences between the Greenfield facility option and the addition/renovation of the existing lab is a four level underground parking garage which must be completed prior to building the addition. Then after the addition is completed, staff must be relocated from the existing building to the addition before renovations on the existing building can begin. This two-phased approach, which assumes an early bid package for the garage, **will likely exceed** the end of 2026 deadline by 10 months.

To account for potential Delivery and Commercial Risks, it is recommended that the design phase should be extended 1 month as significant coordination will be required between the Departments, A/E, and CM to finalize a design that meets all of the goals and objectives for the new facility. In addition to the extension of the design phase, it is also recommended that 3 additional months of construction duration is added to help account for unforeseen delays both in site work and constructability of the project, as well potential shortages in the labor market or long delays in materials procurement.

	Base Schedule	Risk-Adjusted Schedule
Completion of Lab Design	12/8/23	1/5/24
Start of Phase 1 Construction	12/11/23	1/9/24
Completion of Phase 1 Construction	6/12/26	9/11/26
Start of Phase 2 Construction	9/14/26	12/14/26
Completion of Phase 2 Construction	7/16/27	11/19/27
Project Closeout	10/29/27	2/25/28

Figure 8: Addition/Renovation Design and Construction Schedule Milestones

Under the Risk-Adjusted Schedules, Option 1 still meets the criteria of expended SLFRF funds by the end of 2026, but the amount of float in the schedule has reduced from 9 months to 6 months. Option 2 has been extended by a total of 4 months and is estimated for completion 14 months past the 2026 deadline to expend funding.

Additional Schedule Considerations

The schedule for each option assumes close coordination between design team and CM from the beginning and identification of multiple bid packages to accelerate the delivery schedule. If the State of Michigan agrees to issuing major civil, foundations, and steel early in the design development phase, the schedule can likely be shortened by 2 or more months for each Option.

If an alternate off-site parking resource is identified and on-site underground structural parking is removed from Option 2, the overall schedule could be shortened by approximately 10 months.

Estimated construction schedules above will need to be confirmed/validated with the selected CM at the beginning of the design phase.

Key Takeaways:

- Option 1 Risk-Adjusted Design and Construction schedule estimates completion by June 2026, **6 months prior** to the end of 2026 deadline to expend SLFRF funds.
- Option 2 Risk-Adjusted Design and Construction schedule estimates completion by October 2027, **14 months after** the end of 2026 deadline to expend SLFRF funds.
- Option 2 is longer due to a two phased construction because the underground parking structure must be built before the addition, then operations need to move from the existing building to the addition before renovation can begin on the existing lab.

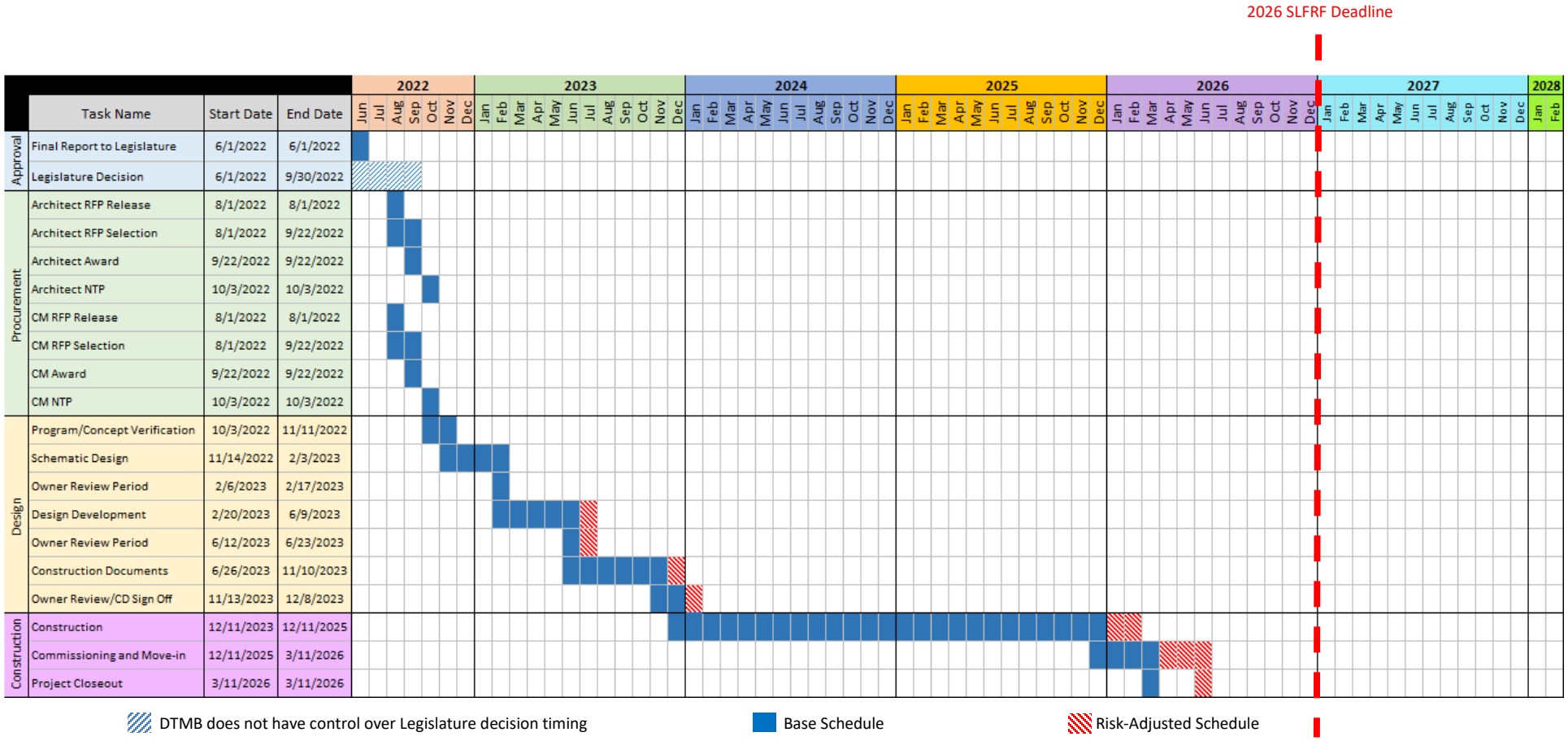
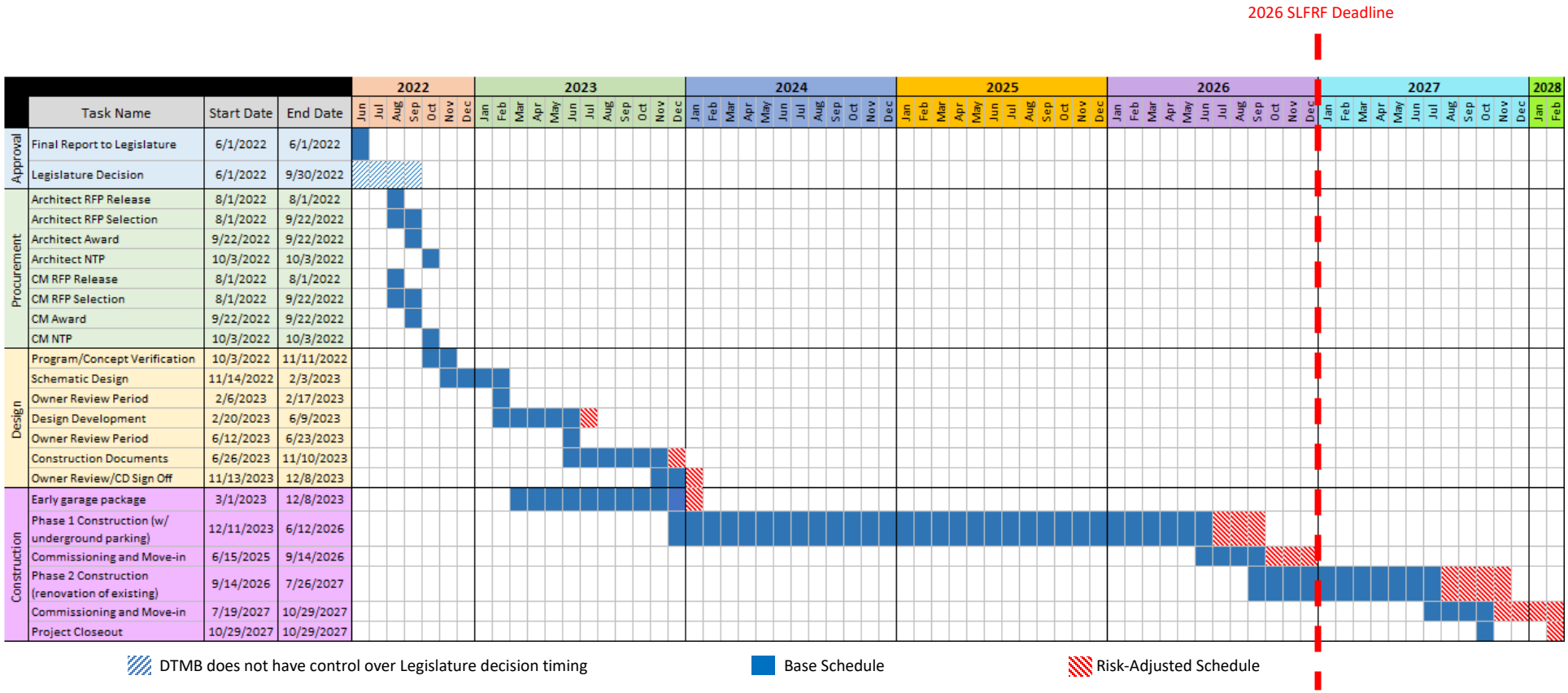


Figure 9: Greenfield Design and Construction Schedule



	Task Name	Start Date	End Date
Approval	Final Report to Legislature	6/1/2022	6/1/2022
	Legislature Decision	6/1/2022	9/30/2022
Procurement	Architect RFP Release	8/1/2022	8/1/2022
	Architect RFP Selection	8/1/2022	9/22/2022
	Architect Award	9/22/2022	9/22/2022
	Architect NTP	10/3/2022	10/3/2022
	CM RFP Release	8/1/2022	8/1/2022
	CM RFP Selection	8/1/2022	9/22/2022
	CM Award	9/22/2022	9/22/2022
	CM NTP	10/3/2022	10/3/2022
Design	Program/Concept Verification	10/3/2022	11/11/2022
	Schematic Design	11/14/2022	2/3/2023
	Owner Review Period	2/6/2023	2/17/2023
	Design Development	2/20/2023	6/9/2023
	Owner Review Period	6/12/2023	6/23/2023
	Construction Documents	6/26/2023	11/10/2023
	Owner Review/CD Sign Off	11/13/2023	12/8/2023
Construction	Early garage package	3/1/2023	12/8/2023
	Phase 1 Construction (w/ underground parking)	12/11/2023	6/12/2026
	Commissioning and Move-in	6/15/2025	9/14/2026
	Phase 2 Construction (renovation of existing)	9/14/2026	7/26/2027
	Commissioning and Move-in	7/19/2027	10/29/2027
	Project Closeout	10/29/2027	10/29/2027

Figure 10: Addition/Renovation Design and Construction Schedule

Operation and Routine Maintenance Costs

Current Operations

DTMB's BOD currently manages the operations and routine maintenance for the State Lab which houses MDHHS and MDEGLE while MDLEO and MDARD manage their own facility operations and maintenance. Each Department provided their operations and maintenance based on the most recent year of data available.

These current costs for the Departments only reflect the assigned dedicated space for the respective Departments and does not include the shared and common spaces in the buildings that the Departments are operating in. The estimates for the new lab include both assigned dedicated space and shared and common spaces.

Department	Dedicated Lab SF	Total Cost / SF
MDLEO	11,382	$31.29
MDHHS in State Lab	56,493	$36.09
MDEGLE in State Lab	42,112	$36.09
MDARD	52,800	$12.23
Total	**162,787**	**$28.02**

Figure 11: Current Department Operation and Maintenance Costs

Option 1 Consolidated Laboratory Operation Costs

Routine operation and maintenance responsibilities under both Options 1 and 2 will be managed by BOD, thus their baseline costs are generally consistent to reflect similar standards. An estimate is not included in this analysis to move personnel into the new laboratory but the project costs include moving of equipment and having all FFE in the new building. BOD has reviewed the initial program and concept for the consolidated laboratory and based on their experience managing the North Complex Joint Lab and State Police Forensic Lab, BOD estimates the building rate to be $28.92/SF in 2022 dollars. This rate is similar to the average $28.02/SF that the Departments currently operate at.

Since the new facility will be connected to the Cogeneration Plant in Option 1, BOD expects utility costs to decrease $2.58/SF from the $5.17/SF that is included in the $28.92/SF building rate estimate. This brings the building rate estimate for Option 1 down to $26.34/SF.

In order to adjust the operating costs from current year to 2027 dollars to reflect the anticipated opening of the consolidated laboratory, BOD suggests to use a 6.0% annual inflation factor to account for the recent high inflation rate of labor. Applying a 6.0% annual inflation factor to the $26.34/SF building rate in 2022 will escalate the number to $35.25/SF in 2027 dollars.

As shown in **Figure 12** and **Figure 13**, each Department has dedicated space in both Options totaling 160,360 SF. The remaining facility space which covers communal areas, the penthouse and central utility plant, and other common areas is allocated to each Department based on the proportion of their dedicated space. The shared space allocated to each Department is added to the dedicated space to determine the annual cost to each Department.

Department	Option 1		
	Dedicated Lab SF ($35.25/SF)	Shared Lab SF ($35.25/SF)	Annual Cost (2027$)
MDLEO	8,375	7,596	$562,960
MDHHS	72,016	65,316	$4,840,797
MDEGLE	45,529	41,293	$3,060,377
MDARD	34,440	31,236	$2,315,004
Total	**160,360**	**145,441**	**$10,779,137**

Figure 12: Option 1 First Year Consolidated Lab Operating Costs (2027$)

The first year of annual cost for Option 1 is estimated at $10.8 million in 2027 dollars. For comparison, if Option 1 did not use the Cogeneration Plant connection which saves 50% on the utility rate, the first year cost would be $11.8 million. The increased capital investment for the connection to the Cogeneration Plant offers an annual savings of $1.1 million.

Option 2 Consolidated Laboratory Operation Costs

Option 2 is estimated at the full $28.92/SF in 2022 dollars since it is not connected to the Cogeneration Plant. Applying a 6.0% annual inflation factor to the $28.92/SF building rate in 2022 will escalate the number to $38.70/SF in 2027 dollars. The Shared Lab space in Option 2 is lower than in Option 1 due to a 15,000 SF smaller Penthouse and CUP in the new construction due to use of parts of the existing lab. For the garage operations and maintenance, BOD provided a cost estimate of $0.49/SF in 2022 dollars based on the rate Maximus develops for cost estimating for State planning. This number has been escalated to 2027 dollars to be consistent with other operating cost forecasts.

Department	Option 2			
	Dedicated Lab SF ($38.70/SF)	Shared Lab SF ($38.70/SF)	Garage SF ($0.66/SF)	Annual Cost (2027$)
MDLEO	8,375	6,823	6,953	$592,738
MDHHS	72,016	58,669	59,785	$5,096,909
MDEGLE	45,529	37,091	37,797	$3,222,300
MDARD	34,440	28,057	28,591	$2,437,480
Total	**160,360**	**130,640**	**133,125**	**$11,349,426**

Figure 13: Option 2 First Year Consolidated Lab Operating Costs (2027$)

Operating Cost Comparison

A summary comparison of each Department's current annual cost is shown below next to their projected first year annual cost in the new lab facility under each Option. All numbers are shown on a 2027-dollar basis.

Department	Option 1 First Year Annual Cost (2027$)	Option 2 First Year Annual Cost (2027$)
MDLEO	$562,960	$591,563
MDHHS	$4,840,797	$5,086,806
MDEGLE	$3,060,377	$3,215,913
MDARD	$2,315,004	$2,432,648
Total	**$10,779,137**	**$11,326,931**

Figure 14: Department Operating Cost Comparison (2027$)

Key Takeaways:

- The average cost of the Departments' current operations is $28.02/SF which is comparable to BOD's forecasted $26.34/SF in Option 1 and $28.92/SF in Option 2 for the new lab facility.
- On a 2027 dollar basis, the operating cost for the new lab will be $10.8 million in Option 1 and $11.3 million in Option 2.
- The increased capital investment for Option 1 to be connected to the Cogeneration Plant reduces annual operating costs by $1.1 million.

LIFECYCLE COSTS

HOK and KPMG were not tasked with conducting an analysis on the lifecycle costs of the consolidated laboratory. BOD will manage the operations and routine facility maintenance of the Project and will include the consolidated laboratory in its annual request to State Legislature for major lifecycle expenditures when needed. Major lifecycle expenditures include items such as roof replacements, heat exchanger or chiller replacements for the central utility plant and other costly capital renewal items. The State Legislature funds lifecycle expenditures through money allocated from the general fund. BOD has indicated that the annual lifecycle expenditure request for the facilities BOD manages usually exceeds the available funding.

To manage lifecycle costs, a major maintenance reserve fund may be useful, especially given the importance of this Project. The State should consider a 2% reserve as a percentage of capital expenditures be set aside as a major maintenance reserve fund. The 2% is based on other states who have begun to adopt this practice; for example, the State of Nebraska now requires the university system to reserve 2% of new capital projects annually for existing capital renewal expenditures. Then on an annual basis, an additional 2% of annual operating expenses be added to the major maintenance reserve fund. The combination of the seed money from the capital set aside and the annual contributions will provide an ample reserve fund to cover capital renewal for the Project.

Key Takeaways:

- BOD will use the capital appropriations process to fund capital renewal.
- However, given the specialized nature of this facility it may be prudent to establish a major maintenance reserve account.

APPENDIX A: NET ASSIGNABLE SQUARE FOOTAGE BY DEPARTMENT

Net Assignable Square Footage by Department

Department: 01 - DLEO

Sub-Department: 01 - OHL

Sub-Sub Department: 01 - ANALYTICAL CHEMISTRY

Room Function #	Room Number	Room Name	Area Programmed
01.01.001	01.01.001	SPECTROSCOPY LAB, INORGANIC CHEMISTRY	1,260.00
01.01.004	01.01.004	METALS LAB, INORGANIC CHEMISTRY	280.00
01.01.005	01.01.005	CHROMOTOGRAPHY LAB, ORGANIC CHEMISTRY	2,180.00
01.01.016	01.01.016	STAGING ALCOVE	100.00
01.01.018		XRD ROOM	200.00

Sub-Sub Department: 01 - ANALYTICAL CHEMISTRY

Count 5 **4,020.00**

Sub-Sub Department: 02 - INSTRUMENT CALIBRATION AND MAINTENANCE

Room Function #	Room Number	Room Name	Area Programmed
01.01.002	01.01.002	INSTRUMENTATION LAB, DRY ELECTRONICS LABS	550.00
01.01.006	01.01.006	CALIBRATION LAB, DRY ELECTRONICS LAB	640.00
01.01.007	01.01.007	SOUND LAB, DRY ELECTRONICS LAB	300.00
01.01.008	01.01.008	WIND TUNNEL LAB, DRY ELECTRONICS LAB	300.00
01.01.009	01.01.009	MACHINE SHOP, DRY ELECTRONICS LAB	400.00
01.01.014	01.01.014	RECEIVING & STAGING	120.00
01.01.015	01.01.015	ALCOVE	100.00
01.01.017	01.01.011	AMBIENT EQUIPMENT STAGING/ STORAGE, AMBIENT	440.00

Sub-Sub Department: 02 - INSTRUMENT CALIBRATION AND MAINTENANCE

Count 8 **2,850.00**

Sub-Sub Department: 03 - LAB SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
01.01.003	01.01.003	SAMPLE STORAGE, AMBIENT	310.00
01.01.010	01.01.010	CHEMICAL STAGING/STORAGE, AMBIENT	210.00
01.01.012	01.01.012	GAS CYLINDER ALCOVES, AMBIENT	25.00
01.01.013	01.01.013	CYLINDER STORAGE	65.00

Sub-Sub Department: 03 - LAB SUPPORT

Count 4 610.00

Sub-Department: 01 - OHL

Count 17 7,480.00

Sub-Department: 02 - EDUCATION

Sub-Sub Department: 01 - TRAINING

Room Function #	Room Number	Room Name	Area Programmed
01.02.001	01.02.001	CET LIBRARY, TRAINING	0.00
01.02.002	01.02.002	REFERENCE LIBRARY, TRAINING	0.00

Sub-Sub Department: 01 - TRAINING

Count 2 0.00

Sub-Department: 02 - EDUCATION

Count 2 0.00

Sub-Department: 04 - OFFICE

Sub-Sub Department: 01 - OFFICE

Room Function #	Room Number	Room Name	Area Programmed
01.04.001	01.04.001	OFFICE	90.00
01.04.023	01.04.023	WORKSTATION	48.00
01.04.024	01.04.024	WORKSTATION	48.00
01.04.025	01.04.025	WORKSTATION	48.00
01.04.026	01.04.026	OFFICE, ADMIN	48.00
01.04.027	01.04.027	WORKSTATION	48.00
01.04.028	01.04.028	WORKSTATION	48.00
01.04.029	01.04.029	WORKSTATION	48.00
01.04.030	01.04.030	OFFICE, ADMIN	48.00
01.04.031	01.04.031	WORKSTATION, LAB	64.00
01.04.032	01.04.032	WORKSTATION, LAB	64.00
01.04.033	01.04.033	WORKSTATION, LAB	64.00

Sub-Sub Department: 01 - OFFICE

Count 12 666.00

Sub-Sub Department: 02 - OFFICE SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
01.04.034	01.04.034	SATELLITE/COPY	20.00
01.04.035	01.04.035	FILES, OPEN	45.00
01.04.036	01.04.036	SECURED FILE STORAGE	100.00
01.04.037	01.04.037	SUPPLY STORAGE	64.00

Sub-Sub Department: 02 - OFFICE SUPPORT

Count 4 **229.00**

Sub-Department: 04 - OFFICE

Count 16 **895.00**

Department: 01 - DLEO

Count 35 **8,375.00**

Department: 02 - DHHS

Sub-Department: 01 - INFECTIOUS DISEASE

Sub-Sub Department: 01 - MICROBIOLOGY

Room Function #	Room Number	Room Name	Area Programmed
02.01.001	02.01.001	BSL-3 MICRO, TB & MICROBIOLOGY	260.00
02.01.002	02.01.002	BSL-3 VESTIBULE ENTRANCE, TB & MICROBIOLOGY	50.00
02.01.004	02.01.004	BSL-3 STERILIZER MEDIA PREP, MICROBIOLOGY	180.00
02.01.007	02.01.007	POST AMPLIFICATION MOLECULAR SHARED, TB & MICROBIOLOGY	315.00
02.01.011	02.01.011	OPEN LAB BACTERIOLOGY, TB & MICROBIOLOGY	2,325.00
02.01.012	02.01.012	WALK-IN ENVIRONMENTAL (COLD), TB & MICROBIOLOGY	120.00
02.01.018	02.01.018	EXTRACTION 2 MOLECULAR SHARED	260.00
02.01.019	02.01.019	WALK-IN ENVIRONMENTAL ROOM (COLD), TB & MICROBIOLOGY	120.00
02.01.020	02.01.020	BSL-3 TB, TB & MICROBIOLOGY	220.00
02.01.021	02.01.021	BSL-3 TB, TB & MICROBIOLOGY	220.00
02.01.022	02.01.022	BSL-3 TB PROCESSING, TB & MICROBIOLOGY	450.00
02.01.023	02.01.023	BSL-2 TB, TB & MICROBIOLOGY	205.00
02.01.024	02.01.024	BSL-2 TB, TB & MICROBIOLOGY	280.00
02.01.025	02.01.025	EXTRACTION 1 MOLECULAR SHARED, TB & MICROBIOLOGY	260.00
02.01.026	02.01.026	BSL-3 SELECT AGENT	355.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.01.027	02.01.027	MASTER MIX MOLECULAR SHARED, TB & MICROBIOLOGY	260.00
02.01.057	02.01.057	REFIRGERATOR FREEZER ALCOVE, MICROBIOLOGY	640.00
02.01.059	02.01.059	TEMPLATE ADDITION MOLECULAR SHARED, TB & MICROBIOLOGY	315.00
02.01.060	02.01.060	BSL-3 VESTIBULE SELECT AGENT, TB & MICROBIOLOGY	55.00
02.01.062	02.01.062	BSL-3 VESTIBULE EXIT, TB & MICROBIOLOGY	40.00
02.01.073	02.01.073	WORKSTATIONS IN LAB (25), TB & MICROBIOLOGY	930.00
02.01.075	02.01.075	SATELLITE/ COPY, MICRO TB IN LAB	25.00
02.01.081	02.01.081	PANTHER PIT, MICROBIOLOGY	210.00
02.01.082	02.01.082	MEDIA ROOM	100.00
02.01.084	02.01.084	PCR OPEN LAB, TB & MICROBIOLOGY	780.00
02.01.085	02.01.085	BSL-3 MICRO VESTIBULE	60.00
02.01.086	02.01.086	BSL-3 TB VESTIBULE	25.00
02.01.108		BSL-3 SELECT AGENT	355.00
02.01.111	02.01.060 (Copy)	BSL-3 VESTIBULE SELECT AGENT	55.00
Sub-Sub Department: 01 - MICROBIOLOGY			
Count 29			**9,470.00**

Sub-Sub Department: 02 - VIROLOGY

Room Function #	Room Number	Room Name	Area Programmed
02.01.029	02.01.029	WALK-IN ENVIRONMENTAL ROOM (COLD), SEROLOGY	125.00
02.01.030	02.01.030	WALK-IN ENVIRONMENTAL ROOM (COLD), SEROLOGY	125.00
02.01.031	02.01.031	MASTER MIX VIROLOGY MOLECULAR SHARED, SEROLOGY	260.00
02.01.032	02.01.032	BSL-3 RABIES, SEROLOGY	315.00
02.01.033	02.01.033	BSL-3 VIROLOGY, SEROLOGY	315.00
02.01.034	02.01.034	EXTRACTION AUTOMATED MOLECULAR SHARED, SEROLOGY	260.00
02.01.035	02.01.035	EXTRACTION MANUAL MOLECULAR SHARED, SEROLOGY	260.00
02.01.037	02.01.037	CELL CULTURE CELL, SEROLOGY	155.00
02.01.040	02.01.040	CELL CULTURE VIRAL, SEROLOGY	155.00
02.01.043	02.01.043	FREEZER ROOM	100.00
02.01.044	02.01.044	AUTOCLAVE, SEROLOGY	280.00
02.01.055	02.01.055	OPEN LAB, VIROLOGY	2,310.00
02.01.058	02.01.058	BSL-3 VESTIBULE IN RABIES VIROLOGY, SEROLOGY	40.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.01.063	02.01.063	OPEN LAB ANALYTIC MOLECULAR SHARED, TB MICROBIOLOGY & VIROLOGY	930.00
02.01.065	02.01.065	BSL-3 SELECT AGENT, SEROLOGY	360.00
02.01.066	02.01.066	BSL-3 VESTIBULE SELECT AGENT, SEROLOGY	50.00
02.01.067	02.01.067	BSL-3 RABIES DARK ROOM	100.00
02.01.068	02.01.068	DARK ROOM, SEROLOGY	70.00
02.01.069	02.01.069	TEMPLATE ADDITION MOLECULAR SHARED, SEROLOGY	315.00
02.01.070	02.01.070	POST AMPLIFICATION MOLECULAR SHARED, SEROLOGY	315.00
02.01.072	02.01.072	WORKSTATIONS IN LAB (20), SEROLOGY	865.00
02.01.074	02.01.074	BSL-3 VESTIBULE OUT RABIES VIROLOGY	35.00
02.01.076	02.01.076	SATELLITE/ COPY, VIROLOGY IN LAB	25.00
02.01.077	02.01.077	EMERGING PATHOGEN ROOM	210.00
02.01.078	02.01.078	UNKNOWN BSL-3, CENTRAL ACCESSIONING DHHS	555.00
02.01.080	02.01.080	COBAS, VIROLOGY	210.00
02.01.083	02.01.083	FREEZER ROOM	100.00
02.01.087	02.01.087	BSL-3 CORRIDOR	60.00
02.01.088	02.01.088	BSL-3 CORRIDOR	290.00
02.01.109		VECTOR BORNE LAB, BSL-2	440.00
02.01.110		LIQUID HANDLER, VIROLOGY	220.00
Sub-Sub Department: 02 - VIROLOGY			
Count 31			**9,850.00**

Sub-Sub Department: 03 - BIOINFORMATICS

Room Function #	Room Number	Room Name	Area Programmed
02.01.090		BIOINFORMATICS CORE	0.00
02.01.091		WORKSTATION, BIOINFORMATICS	48.00
02.01.092		WORKSTATION, BIOINFORMATICS	48.00
02.01.093		WORKSTATION, BIOINFORMATICS	48.00
02.01.094		WORKSTATION, BIOINFORMATICS	48.00
02.01.095		WORKSTATION, BIOINFORMATICS	48.00
02.01.096		WORKSTATION, BIOINFORMATICS	48.00
02.01.097		WORKSTATION, BIOINFORMATICS	48.00
02.01.098		WORKSTATION, BIOINFORMATICS	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.01.099		WORKSTATION, BIOINFORMATICS	48.00
02.01.100		WORKSTATION, BIOINFORMATICS	48.00
02.01.101		WORKSTATION, BIOINFORMATICS	48.00
02.01.102		WORKSTATION, BIOINFORMATICS	48.00
02.01.104		OFFICE, BIOINFORMATICS	80.00
02.01.105		OFFICE, BIOINFORMATICS	80.00
02.01.106		OFFICE, BIOINFORMATICS	80.00
02.01.107		CONFERENCE ROOM, BIOINFORMATICS	250.00
Sub-Sub Department: 03 - BIOINFORMATICS			
Count 17			**1,066.00**
Sub-Department: 01 - INFECTIOUS DISEASE			
Count 77			**20,386.00**

Sub-Department: 02 - CHEMISTRY AND TOXICOLOGY

Sub-Sub Department: 02 - NEWBORN SCREENING

Room Function #	Room Number	Room Name	Area Programmed
02.02.002	02.02.002	STORAGE, NEWBORN SCREENING	500.00
02.02.003	02.02.003	MOLECULAR PRE-AMPLIFICATION, NEWBORN SCREENING	640.00
02.02.004	02.02.004	MOLECULAR POST-AMPLIFICATION, NEWBORN SCREENING	1,000.00
02.02.005	02.02.005	SPECIMEN PROCESSING AREA, (OPEN LAB) NEWBORN SCREENING	1,075.00
02.02.006	02.02.006	METABOLIC/ENDOCRINE LAB, NEWBORN SCREENING	4,200.00
02.02.022	02.02.022	REAGENT PREP, NEWBORN SCREENING	315.00
02.02.023	02.02.023	WALK-IN ENVIRONMENTAL ROOM (COLD), NEWBORN SCREENING	300.00
02.02.032	02.02.032	SATELLITE/ COPY, NBS IN LAB	25.00
02.02.041	02.02.41	CORRIDOR	0.00
Sub-Sub Department: 02 - NEWBORN SCREENING			
Count 9			**8,055.00**

Sub-Sub Department: 03 - ANALYTICAL CHEMISTRY AND TOXICOLOGY

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.02.007	02.02.007	OPEN LAB, ANALYTICAL CHEMISTRY	4,875.00
02.02.008	02.02.042	WALK-IN ENVIRONMENTAL ROOM (COLD) ORGANIC, ANALYTICAL CHEMISTRY	120.00
02.02.010	02.02.010	ORGANIC BIO PREP CLEAN ROOM, ANALYTICAL CHEMISTRY	860.00
02.02.012	02.02.012	TM BIO PREP CLEAN ROOM, ANALYTICAL CHEMISTRY	640.00
02.02.014	02.02.014	ICP INSTRUMENT LAB, ANALYTICAL CHEMISTRY	700.00
02.02.015	02.02.015	FISH HANDLING OPEN LAB, FISH LAB	430.00
02.02.017	02.02.017	WALK-IN ENVIRONMENTAL ROOM (COLD) TM, ANALYTICAL CHEMISTRY	120.00
02.02.018	02.02.018	WALK-IN ENVIRONMENTAL ROOM (FREEZER) TM, ANALYTICAL CHEMISTRY	120.00
02.02.020	02.02.041	WALK-IN ENVIRONMENTAL ROOM (FREEZER) ORGANIC, ANALYTICAL CHEMISTRY	120.00
02.02.021	02.02.021	TM CLEAN ROOM, ANALYTICAL CHEMISTRY	1,100.00
02.02.024	02.02.043	ORGANIC ENV PREP, ANALYTICAL CHEMISTRY	1,300.00
02.02.025	02.02.025	VOC CLEAN ROOM, ANALYTICAL CHEMISTRY	625.00
02.02.026	02.02.026	TM ENV PREP, ANALYTICAL CHEMISTRY	1,300.00
02.02.027	02.02.027	FREEZER ALCOVE, ANALYTICAL CHEMISTRY	415.00
02.02.028	02.02.011	WALK-IN ENVIRONMENTAL ROOM (COLD) FISH	75.00
02.02.029	02.02.013	WALK-IN ENVIRONMENTAL ROOM (FREEZER) FISH	125.00
02.02.030	02.02.030	LOW LEVEL ENVIRONMENTAL PREP	425.00
02.02.031	02.02.031	CHILLER CLOSET, ANALYTICAL CHEM	175.00
02.02.033	02.02.033	SATELLITE/COPY, AC AND TOX IN LAB	25.00
02.02.034	02.02.034	UNKNOWN CHEMISTRY, CENTRAL ACCESSIONING DHHS	210.00
02.02.036	02.02.044	GOWNING VESTIBULE 1, ANALYTICAL CHEM	80.00
02.02.037	02.02.037	GOWNING VESTIBULE 2, ANALYTICAL CHEM	135.00
02.02.038	02.02.038	VESTIBULE, TM CLEAN ROOM	30.00
02.02.039	02.02.039	VESTIBULE, VOC CLEAN ROOM	25.00
02.02.040	02.02.010	VESTIBULE, ORGANIC BIO PREP CLEAN ROOM	45.00
02.02.042	02.02.42	CORRIDOR	0.00
02.02.043		LIQUID HANDLER, CHEMISTRY	220.00
02.02.045		TM WATER TESTING	400.00
Sub-Sub Department: 03 - ANALYTICAL CHEMISTRY AND TOXICOLOGY			
Count 28			**14,695.00**
Sub-Department: 02 - CHEMISTRY AND TOXICOLOGY			
Count 37			**22,750.00**

Net Assignable Square Footage by Department

Sub-Department: 03 - EDUCATION

Sub-Sub Department: 01 - TRAINING

Room Function #	Room Number	Room Name	Area Programmed
02.03.001	02.03.001	TRAINING CLASSROOM, TRAINING	870.00
02.03.002	02.03.002	TRAINING LAB, TRAINING	1,280.00
02.03.005	02.03.005	PREP AND PRINTING AND AV CLASSROOM, TRAINING	100.00
02.03.006	02.03.006	STORAGE TRAINING LAB, TRAINING	100.00
02.03.007	02.03.007	TRAINING MOCK BSL-3 LAB	210.00
Sub-Sub Department: 01 - TRAINING			
Count 5			2,560.00
Sub-Department: 03 - EDUCATION			
Count 5			2,560.00

Sub-Department: 04 - SUPPORT

Sub-Sub Department: 01 - CENTRAL ACCESSIONING

Room Function #	Room Number	Room Name	Area Programmed
02.04.001	02.04.001	SAMPLE PROCESSING, CENTRAL ACCESSIONING DHHS	1,500.00
02.04.003	02.04.003	UNKNOWN RECEIVING, CENTRAL ACCESSIONING DHHS	0.00
02.04.007	02.04.007	WALK-IN ENVIRONMENTAL ROOM (COLD)	110.00
02.04.008	02.04.008	NIGHT DROP VESTIBULE, CENTRAL ACCESSIONING	110.00
02.04.009	02.04.009	SHIPPING DROP OFF PICK UP, CENTRAL ACCESSIONING	105.00
02.04.012	02.04.012	SATELLITE/ COPY, DASH IN LAB	25.00
02.04.019	02.04.019	UNKNOWN BSL-3 VESTIBULE, CENTRAL ACCESSIONING DHHS	80.00
02.04.021		FREEZER ROOM	400.00
Sub-Sub Department: 01 - CENTRAL ACCESSIONING			
Count 8			2,330.00

Sub-Sub Department: 02 - CENTRAL SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
02.04.005	02.04.005	CENTRAL GLASS WASH, DHHS	390.00
02.04.010	02.04.010	CENTRAL MEDIA PREP, DHHS	220.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.04.011	02.04.011	CENTRAL DECONTAMINATION, DHHS	225.00
02.04.013	02.04.013	GAS CYLINDER STORAGE - INERT, DHHS	40.00
02.04.014	02.04.014	SOLVENT STORAGE, DHHS	155.00
02.04.015	02.04.015	CHEMICAL WASTE, DHHS	300.00
02.04.016	02.04.016	GAS CYLINDER STORAGE - FLAMMABLE, DHHS	40.00
02.04.017	02.04.017	GAS CYLINDER STORAGE - OXIDIZERS, DHHS	40.00
02.04.018	02.04.018	BIOHAZARDOUS WASTE, DHHS (MEDICAL WASTE)	160.00
Sub-Sub Department: 02 - CENTRAL SUPPORT			
Count 9			**1,570.00**
Sub-Department: 04 - SUPPORT			
Count 17			**3,900.00**

Sub-Department: 05 - QUALITY ASSURANCE

Sub-Sub Department: 01 - QA LAB

Room Function #	Room Number	Room Name	Area Programmed
02.05.001	02.05.001	QA LAB, QUALITY ASSURANCE	210.00
02.05.002	02.06.158	WORKSTATION	0.00
Sub-Sub Department: 01 - QA LAB			
Count 2			**210.00**
Sub-Department: 05 - QUALITY ASSURANCE			
Count 2			**210.00**

Sub-Department: 06 - OFFICE

Sub-Sub Department: 01 - OFFICE

Room Function #	Room Number	Room Name	Area Programmed
02.06.001	02.06.001	OFFICE BOL DIRECTOR	225.00
02.06.002	02.06.002	OFFICE BOL ADMIN	90.00
02.06.003	02.06.003	OFFICE BOL REGULATORY STAFF	90.00
02.06.004	02.06.004	OFFICE BOL REGULATORY STAFF	90.00
02.06.005	02.06.005	OFFICE BOL REGULATORY STAFF	90.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.06.006	02.06.006	OFFICE H & S OFFICER, HEALTH AND SAFETY	150.00
02.06.007	02.06.007	OFFICE MANAGER, LSS LAB SYSTEMS SECTION	90.00
02.06.008	02.06.008	OFFICE MANAGER, QA/DASH	90.00
02.06.009	02.06.009	OFFICE SUPERVISOR, QA/DASH-ACCESSIONING	90.00
02.06.010	02.06.010	OFFICE ADMIN, INFECTIOUS DISEASE	90.00
02.06.011	02.03.011	OFFICE DIVISION DIRECTOR, INFECTIOUS DISEASE	90.00
02.06.012	02.06.012	OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.013	02.06.013	OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.014	02.06.014	OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.015	02.06.015	OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.016	02.06.016	OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.017		OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.018	02.06.018	OFFICE DIVISION DIRECTOR, CHEMISTRY & TOXICOLOGY	90.00
02.06.019	02.06.019	OFFICE ADMIN, CHEMISTRY & TOXICOLOGY	90.00
02.06.020	02.06.020	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.021	02.06.021	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.022	02.06.022	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.023	02.06.023	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.024	02.06.024	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.025	02.06.025	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.026	02.06.026	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.027	02.06.027	OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.029	02.06.069	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.030	02.06.030	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.031	02.06.031	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.032	02.06.032	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.033	02.06.033	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.034	02.06.034	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.035	02.06.035	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.036	02.06.036	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.037	02.06.037	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.038	02.06.038	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.039	02.06.039	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.06.040	02.06.040	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.041	02.06.041	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.042	02.06.042	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.043	02.06.043	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.044	02.06.044	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.045	02.06.045	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.046	02.06.046	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.047	02.06.047	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.048	02.06.048	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.049	02.06.049	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.050	02.06.050	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.051	02.06.051	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.052	02.06.052	WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.053	02.06.053	WORKSTATION CONTRACTOR, CHEMISTRY & TOXICOLOGY	48.00
02.06.054	02.06.054	WORKSTATION CONTRACTOR, CHEMISTRY & TOXICOLOGY	48.00
02.06.055	02.06.055	WORKSTATION CONTRACTOR, CHEMISTRY & TOXICOLOGY	48.00
02.06.056	02.06.056	WORKSTATION CONTRACTOR, CHEMISTRY & TOXICOLOGY	48.00
02.06.057	02.06.057	WORKSTATION CONTRACTOR, CHEMISTRY & TOXICOLOGY	48.00
02.06.058	02.06.058	WORKSTATION STUDENT, CHEMISTRY & TOXICOLOGY	48.00
02.06.059	02.06.059	WORKSTATION STUDENT, CHEMISTRY & TOXICOLOGY	48.00
02.06.060	02.06.060	WORKSTATION STUDENT, CHEMISTRY & TOXICOLOGY	48.00
02.06.061	02.06.061	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.062	02.06.062	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.063	02.06.063	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.064	02.06.064	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.065	02.06.065	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.066	02.06.066	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.067	02.06.067	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.068	02.06.068	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.069	02.06.069	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.070	02.06.070	WORKSTATION TECHNICIAN, CHEMISTRY & TOXICOLOGY	48.00
02.06.071	02.06.071	WORKSTATION STUDENT, LSS LAB SYSTEMS SECTION	48.00
02.06.072	02.06.072	WORKSTATION STUDENT, LSS LAB SYSTEMS SECTION	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.06.073	02.06.073	WORKSTATION STUDENT, LSS LAB SYSTEMS SECTION	0.00
02.06.074	02.06.074	WORKSTATION STUDENT, LSS LAB SYSTEMS SECTION	0.00
02.06.075	02.06.075	WORKSTATION VISITING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.076	02.06.076	WORKSTATION VISITING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.077	02.06.077	WORKSTATION IT CONTRACTOR, LSS LAB SYSTEMS SECTION	48.00
02.06.078	02.06.078	WORKSTATION IT CONTRACTOR, LSS LAB SYSTEMS SECTION	48.00
02.06.079	02.06.079	WORKSTATION IT CONTRACTOR, LSS LAB SYSTEMS SECTION	48.00
02.06.080		WORKSTATION IT CONTRACTOR, LSS LAB SYSTEMS SECTION	48.00
02.06.081	02.06.081	WORKSTATION TRAINING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.082	02.06.082	WORKSTATION TRAINING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.083	02.06.083	WORKSTATION TRAINING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.084	02.06.084	WORKSTATION TRAINING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.085	02.06.085	WORKSTATION TRAINING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.086	02.06.086	WORKSTATION TRAINING LABORATORIAN, LSS LAB SYSTEMS SECTION	48.00
02.06.087	02.06.087	WORKSTATION, QA/DASH	48.00
02.06.088	02.06.088	WORKSTATION, QA/DASH	48.00
02.06.089	02.06.089	WORKSTATION, QA/DASH	48.00
02.06.090	02.06.090	WORKSTATION, QA/DASH	48.00
02.06.136	02.06.136	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.137	02.06.137	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.138	02.06.138	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.139	02.06.139	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.140	02.06.140	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.141	02.06.141	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.142	02.06.142	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.145	02.06.145	WORKSTATION, QA/DASH	48.00
02.06.146	02.06.146	WORKSTATION, QA/DASH	48.00
02.06.147	02.06.147	WORKSTATION, QA/DASH	48.00
02.06.148	02.06.148	WORKSTATION, QA/DASH	48.00
02.06.149	02.06.149	WORKSTATION, QA/DASH	48.00
02.06.150	02.06.150	WORKSTATION, QA/DASH	48.00
02.06.151	02.06.151	WORKSTATION, QA/DASH	48.00
02.06.152	02.06.152	WORKSTATION, QA/DASH	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.06.153	02.06.153	WORKSTATION, QA/DASH	48.00
02.06.154	02.06.154	WORKSTATION, QA/DASH	48.00
02.06.155	02.06.155	WORKSTATION, QA/DASH	48.00
02.06.156	02.06.156	WORKSTATION LABORATORIAN, BOL SUITE - QA/DASH	48.00
02.06.157	02.06.157	WORKSTATION LABORATORIAN, BOL SUITE - QA/DASH	48.00
02.06.158	02.06.158	WORKSTATION LABORATORIAN, GLASSWASH	48.00
02.06.159	02.06.159	WORKSTATION WAREHOUSE	0.00
02.06.160	02.06.160	WORKSTATION WAREHOUSE	0.00
02.06.185	02.06.185	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.186	02.06.186	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.187	02.06.187	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.188	02.06.188	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.189	02.06.189	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.190	02.06.190	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.191	02.06.191	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.192	02.06.192	WORKSTATION SHARED, INFECTIOUS DISEASE	48.00
02.06.194		OFFICE MANAGER, CHEMISTRY & TOXICOLOGY	90.00
02.06.195		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.196		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.197		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.198		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.199		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.200		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.201		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.202		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.203		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.204		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.205		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.206		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.207		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.208		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.209		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.210		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.06.211		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.212		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.213		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.214		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.215		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.216		WORKSTATION LABORATORIAN, ANALYTICAL CHEMISTRY	48.00
02.06.217		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.218		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.219		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.220		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.221		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.222		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.223		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.224		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.225		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.226		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.227		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.228		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.229		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.230		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.231		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.232		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.233		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.234		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.235		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.236		WORKSTATION LABORATORIAN, NEWBORN SCREENING	48.00
02.06.237		OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.238		OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.239		OFFICE MANAGER, INFECTIOUS DISEASE	90.00
02.06.241		OFFICE DIVISION DIRECTOR, OPERATIONS DIRECTOR	90.00
02.06.242		OFFICE SUPERVISOR, QA/DASH-DATA CODING	90.00
02.06.243		WORKSTATION IT CONTRACTOR, LSS LAB SYSTEMS SECTION	48.00
02.06.244		WORKSTATION IT CONTRACTOR, LSS LAB SYSTEMS SECTION	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
02.06.245		WORKSTATION, QUALITY CONTROL	48.00
02.06.246		WORKSTATION, QUALITY CONTROL	48.00
02.06.250		WORKSTATION OUTREACH STAFF	48.00
02.06.251		WORKSTATION OUTREACH STAFF	48.00
02.06.252		WORKSTATION OUTREACH STAFF	48.00
02.06.253		WORKSTATION OUTREACH STAFF	48.00
Sub-Sub Department: 01 - OFFICE			
Count 176			**9,837.00**

Sub-Sub Department: 02 - OFFICE SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
02.06.143	02.06.143	SATELLITE/ COPY, INFECTIOUS DISEASE DIVISION	20.00
02.06.144	02.06.144	LOCKERS (45 TOTAL), INFECTIOUS DISEASE	95.00
02.06.163	02.06.163	LIMS SERVER ROOM, DHHS	155.00
02.06.164	02.06.164	SATELLITE/ COPY, CHEMISTRY & TOX DIVISION	25.00
02.06.165	02.06.165	SATELLITE/ COPY, ADMIN BOL	25.00
02.06.166	02.06.166	FILES, INFECTIOUS DISEASE	20.00
02.06.172	02.06.0172	FILES, CHEMISTRY & TOXICOLOGY	40.00
02.06.173	02.06.173	FILES, CHEMISTRY & TOXICOLOGY	40.00
02.06.174	02.06.174	FILES, CHEMISTRY & TOXICOLOGY	30.00
02.06.175	02.06.175	FILES, ADMIN	40.00
02.06.177	02.06.177	SATELLITE/ COPY, QA/DASH	48.00
02.06.178	02.06.178	FILES, ADMIN	40.00
02.06.179	02.06.179	FILES, ADMIN	30.00
02.06.180	02.06.180	FILES, INFECTIOUS DISEASE	55.00
02.06.183	02.06.183	SATELLITE/ COPY, NBS SECTION	25.00
02.06.184	02.06.184	SATELLITE/ COPY, DASH DATA CODING OFFICE	25.00
02.06.247		SATELLITE/ COPY, QUALITY CONTROL	48.00
02.06.248		FILES, QUALITY CONTROL	60.00
02.06.249		FILES, HEALTH AND SAFETY	30.00
Sub-Sub Department: 02 - OFFICE SUPPORT			
Count 19			**851.00**

Sub-Department: 06 - OFFICE

Count 195 10,688.00

Sub-Department: 07 - WAREHOUSE

Room Function #	Room Number	Room Name	Area Programmed
02.07.001	02.07.001	WAREHOUSE, DHHS	4,685.00
02.07.002	02.07.002	WALK-IN ENVIRONMENTAL ROOM (COLD)	500.00
02.07.003	02.07.003	WORKSTATION	64.00
02.07.004	02.07.004	WORKSTATION	64.00
02.07.005	02.07.005	HEALTH & SAFETY SUPPLY STORAGE, DHHS	115.00
02.07.006	02.07.006	OUTREACH K-12 & CHEM THREAT SUPPLY STORAGE	115.00
02.07.008	02.07.007	OUTREACH K-12 & CHEM THREAT SUPPLY STORAGE	665.00
02.07.009		WALK-IN ENVIRONMENTAL ROOM (COLD)	250.00
02.07.010		WAREHOUSE, DHHS	5,000.00
02.07.011		WORKSTATION	64.00

Sub-Department: 07 - WAREHOUSE

Count 10 11,522.00

Department: 02 - DHHS

Count 343 72,016.00

Department: 03 - DEGLE

Sub-Department: 01 - ORGANIC UNIT

Sub-Sub Department: 02 - ORGANIC

Room Function #	Room Number	Room Name	Area Programmed
03.01.011	03.01.011	SOIL ENVIRONMENTAL EXTRACTION LAB, ORGANIC	1,750.00
03.01.012	03.01.012	SOIL EXTRACTION LAB - SILICA GEL, ORGANIC	110.00
03.01.014	03.01.014	AIR VOLATILES, ORGANIC	1,500.00
03.01.023	03.01.023	GC/ECD LABORATORY	1,615.00
03.01.024	03.01.024	DW EXTRACTIONS	1,250.00
03.01.025	03.01.025	SEMI VOLATILE/ HPLC/ DRO	2,800.00
03.01.027	03.01.027	STORAGE/ CYLINDER STORAGE	200.00
03.01.028	03.01.028	CONTROLLED TEMPERATURE ROOM	400.00
03.01.029	03.01.029	VOLATILES LAB - INSTRUMENT REPAIR, VOLATILES	210.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
03.01.030	03.01.030	VOLATILES LAB, VOLATILES	4,100.00
03.01.032	03.01.032	PFAS EXTRACTION LAB	400.00
03.01.033	03.01.033	WATER EXTRACTION LAB, ORGANIC	1,560.00
03.01.034	03.01.034	AIR VOLATILES - PREP & STORAGE	1,000.00
03.01.035	03.01.035	ANTE ROOM	70.00
03.01.036	03.01.036	ANTE ROOM	70.00
03.01.037	03.01.037	ANTE ROOM	50.00
03.01.038	03.01.038	FILE STORAGE - ORGANIC UNIT SECOND FLOOR	200.00
03.01.039	03.01.032 A	PFAS LABORATORY	2,000.00
03.01.040		N2 GENERATOR ROOM	200.00
Sub-Sub Department: 02 - ORGANIC			
Count 19			**19,485.00**
Sub-Department: 01 - ORGANIC UNIT			
Count 19			**19,485.00**

Sub-Department: 02 - INORGANIC CHEMISTRY

Room Function #	Room Number	Room Name	Area Programmed
03.02.001	03.02.001	INORGANIC CHEMISTRY	2,500.00
03.02.002	03.02.002	METALS CHEMISTRY LAB, INORGANIC CHEMISTRY	2,820.00
03.02.003	03.02.003	PREP LAB, INORGANIC CHEMISTRY	1,900.00
03.02.005	03.02.005	TRACE LEVEL MERCURY LAB, INORGANIC CHEMISTRY	560.00
03.02.006	03.02.006	FILTER LAB, INORGANIC CHEMISTRY	330.00
03.02.007	03.02.007	STORAGE, INORGANIC CHEMISTRY	440.00
03.02.008	03.02.008	INORGANIC COLD ROOM	220.00
03.02.010	03.02.010	TRACE LEVEL MERCURY LAB - ENTRY, INORGANIC CHEMISTRY	52.00
03.02.011	03.02.011	BACTERIOLOGY LAB, DRINKING WATER	1,015.00
03.02.012	03.02.012	PCR - AMPLIFICATION, DRINKING WATER	100.00
03.02.013	03.02.013	PCR - REAGENT PREP, DRINKING WATER	135.00
03.02.014	03.02.014	PCR - SAMPLE PREP, DRINKING WATER	313.00
03.02.015	03.02.015	CONTROLLED TEMPERATURE ROOM - INCUBATOR	50.00
03.02.016	03.02.016	CONTROLLED TEMPERATURE ROOM - INCUBATOR	50.00
03.02.017	03.02.017	VESTIBULE	70.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
03.02.018	03.02.018	ANTE ROOM	70.00
Sub-Department: 02 - INORGANIC CHEMISTRY			
Count 16			10,625.00

Sub-Department: 03 - OFFICE
Sub-Sub Department: 01 - OFFICE

Room Function #	Room Number	Room Name	Area Programmed
03.03.001	03.03.001	OFFICE	120.00
03.03.002	03.03.002	OFFICE	120.00
03.03.003	03.03.003	OFFICE	120.00
03.03.004	03.03.004	OFFICE	120.00
03.03.006	03.03.006	CUSTOMER SERVICE REPORTING	416.00
03.03.010	03.03.010	WORKSTATION	48.00
03.03.011	03.03.011	WORKSTATION	48.00
03.03.012	03.03.012	WORKSTATION	48.00
03.03.013	03.03.013	WORKSTATION	48.00
03.03.014	03.03.014	WORKSTATION	48.00
03.03.015	03.03.015	WORKSTATION	48.00
03.03.016	03.03.016	WORKSTATION	48.00
03.03.017	03.03.017	WORKSTATION	48.00
03.03.018	03.03.018	WORKSTATION	48.00
03.03.019	03.03.019	WORKSTATION	48.00
03.03.020	03.03.020	WORKSTATION	48.00
03.03.021	03.03.021	WORKSTATION	48.00
03.03.022	03.03.022	WORKSTATION	48.00
03.03.023	03.03.023	WORKSTATION	48.00
03.03.024	03.03.024	WORKSTATION	48.00
03.03.025	03.03.025	WORKSTATION	48.00
03.03.026	03.03.026	WORKSTATION	48.00
03.03.028	03.03.028	WORKSTATION	48.00
03.03.029	03.03.029	WORKSTATION	48.00
03.03.030	03.03.030	WORKSTATION	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
03.03.031	03.03.031	WORKSTATION	48.00
03.03.032	03.03.032	WORKSTATION	48.00
03.03.033	03.03.033	WORKSTATION	48.00
03.03.034	03.03.034	WORKSTATION	48.00
03.03.035	03.03.035	WORKSTATION	48.00
03.03.036	03.03.036	WORKSTATION	48.00
03.03.037	03.03.037	WORKSTATION	48.00
03.03.038	03.03.038	WORKSTATION	48.00
03.03.039	03.03.039	WORKSTATION	48.00
03.03.040	03.03.040	WORKSTATION	48.00
03.03.041	03.03.041	WORKSTATION	48.00
03.03.042	03.03.042	WORKSTATION	48.00
03.03.043	03.03.043	WORKSTATION	48.00
03.03.044	03.03.044	WORKSTATION	48.00
03.03.045	03.03.045	WORKSTATION	48.00
03.03.046	03.03.046	WORKSTATION	48.00
03.03.047	03.03.047	WORKSTATION	48.00
03.03.048	03.03.048	WORKSTATION	48.00
03.03.049	03.03.049	WORKSTATION	48.00
03.03.050	03.03.050	WORKSTATION	48.00
03.03.051	03.03.051	WORKSTATION	48.00
03.03.052	03.03.052	WORKSTATION	48.00
03.03.053	03.03.053	LAB CERTIFICATION PROGRAM	200.00
03.03.061	03.03.061	OFFICE - LAB DIRECTOR	200.00
03.03.062	03.03.062	OFFICE	120.00
03.03.064		OFFICE	120.00
03.03.065		WORKSTATION	48.00
03.03.066		WORKSTATION	48.00
03.03.067		WORKSTATION	48.00
03.03.068		WORKSTATION	48.00
03.03.069		WORKSTATION	48.00
03.03.070		WORKSTATION	48.00
03.03.071		WORKSTATION	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
03.03.072		WORKSTATION	48.00
03.03.073		WORKSTATION	48.00
03.03.074		WORKSTATION	48.00
03.03.075		WORKSTATION	48.00
03.03.076		WORKSTATION	48.00
Sub-Sub Department: 01 - OFFICE			
Count 63			**4,128.00**

Sub-Sub Department: 02 - OFFICE SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
03.03.054	03.03.054	FILE STORAGE	300.00
03.03.055	03.03.055	SATELLITE/ COPY	45.00
03.03.056	03.03.056	FILES, OPEN	40.00
03.03.057	03.03.057	FILES, OPEN	40.00
03.03.058	03.03.058	FILES, OPEN	40.00
03.03.060	03.03.060	FILES, OPEN	60.00
Sub-Sub Department: 02 - OFFICE SUPPORT			
Count 6			**525.00**
Sub-Department: 03 - OFFICE			
Count 69			**4,653.00**

Sub-Department: 04 - SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
03.04.006	03.04.006	BOTTLE PREP AND KITTING - TEST KITS	2,200.00
03.04.012	03.04.012	DEGLE SAMPLE RECEIVING	2,120.00
03.04.018	03.05.008	COLD ROOM - DRINKING WATER	200.00
03.04.019	03.05.007	COLD ROOM - ENVIRONMENTAL SAMPLES	218.00
03.04.020	03.04.020	AFTER HOURS RECEIVING	100.00
03.04.021		DRIVE THROUGH DROP OFF	500.00
Sub-Department: 04 - SUPPORT			

Count 6 5,338.00

Sub-Department: 05 - WAREHOUSE

Room Function #	Room Number	Room Name	Area Programmed
03.05.001	03.05.001	WAREHOUSE STORAGE - FILLEY 28/31	3,040.00
03.05.002	03.05.002	DRY CHEMICAL STORAGE	210.00
03.05.003	03.05.003	SOLVENT STORAGE FILLEY AND 09A	1,158.00
03.05.004	03.05.004	MOBILE TRAILER	700.00
03.05.005	03.05.005	CYLINDERS	120.00
03.05.006	03.05.006	HAZARDOUS WASTE STORAGE - INORGANIC	100.00
03.05.010	03.05.010	HAZARDOUS WASTE STORAGE - ORGANIC	100.00

Sub-Department: 05 - WAREHOUSE

Count 7 5,428.00

Department: 03 - DEGLE

Count 117 45,529.00

Department: 04 - DARD

Sub-Department: 01 - CHEMISTRY

Sub-Sub Department: 01 - FERTILIZER TESTING

Room Function #	Room Number	Room Name	Area Programmed
04.01.001	04.01.001	DRUG VAULT	150.00
04.01.013	04.01.013	FOOD CHEMISTRY	500.00
04.01.015	04.01.015	SAMPLE STORAGE	210.00
04.01.016	04.01.016	SAMPLE RECEIVING AND EXTRACTION	835.00
04.01.028	04.01.028	ANALYSIS ROOM	716.00
04.01.029	04.01.029	LAB STORAGE	615.00
04.01.031	04.01.014	MICROSCOPE ROOM	100.00

Sub-Sub Department: 01 - FERTILIZER TESTING

Count 7 3,126.00

Sub-Sub Department: 02 - FUEL

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
04.01.002	04.01.002	OXYGENATE/ SULFUR	600.00
04.01.003	04.01.003	CAN CLEANING ROOM	280.00
04.01.004	04.01.004	DISTILLATION LAB	1,245.00
04.01.005	04.01.005	ENGINE ROOM	1,165.00
04.01.006	04.01.006	FIRE SUPPRESSION SYSTEM	50.00
04.01.007	04.01.007	FUEL STORAGE	1,160.00
04.01.008	04.01.008	CAN STORAGE - EXTERNAL	100.00
04.01.030	04.01.030	CO2 CYLINDER CLOSET	10.00
Sub-Sub Department: 02 - FUEL			
Count 8			**4,610.00**

Sub-Sub Department: 03 - ANIMAL DISEASE TESTING

Room Function #	Room Number	Room Name	Area Programmed
04.01.009	04.01.009	SAMPLE RECEIVING & TESTING	840.00
04.01.010	04.01.010	ABSL-3	200.00
04.01.011	04.01.011	SAMPLE DISPOSAL	210.00
Sub-Sub Department: 03 - ANIMAL DISEASE TESTING			
Count 3			**1,250.00**

Sub-Sub Department: 05 - FOOD AND FEED SAFETY

Room Function #	Room Number	Room Name	Area Programmed
04.01.032	04.03.001	INSTRUMENT ROOM (ICP-MS)	620.00
04.01.033	04.03.003	WET CHEMISTRY	620.00
04.01.034	04.03.004	WEIGHING ROOM	425.00
04.01.035	04.03.007	GRINDING ROOM	615.00
Sub-Sub Department: 05 - FOOD AND FEED SAFETY			
Count 4			**2,280.00**

Sub-Sub Department: 04 - HEMP TESTING

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
04.01.036		SAMPLE RECEIVING	300.00
04.01.037		GRINDING ROOM	80.00
04.01.038		ANALYSIS LAB	400.00
04.01.039		DRYING ROOM	100.00
04.01.041		STABILITY TESTING LAB, HEMP	200.00
Sub-Sub Department: 04 - HEMP TESTING			
Count 5			**1,080.00**

Sub-Sub Department: 06 - LIQUOR TESTING

Room Function #	Room Number	Room Name	Area Programmed
04.01.040		INSTRUMENTATION LAB	100.00
Sub-Sub Department: 06 - LIQUOR TESTING			
Count 1			**100.00**
Sub-Department: 01 - CHEMISTRY			
Count 28			**12,446.00**

Sub-Department: 02 - PESTICIDES

Sub-Sub Department: 02 - PESTICIDES

Room Function #	Room Number	Room Name	Area Programmed
04.02.010	04.02.010	SAMPLE EXTRACTION, FEDERAL PROGRAM	615.00
04.02.011	04.02.011	HOMOGENIZATION	200.00
04.02.012	04.02.012	SAMPLE EXTRACTION, STATE PROGRAM	615.00
04.02.013	04.02.013	PDP ANALYSIS ROOM, FEDERAL PROGRAM	940.00
04.02.014	04.02.014	FILES/ STORAGE	210.00
04.02.016	04.02.016	FORMULATION	425.00
04.02.017	04.02.017	STANDARDS PREPARATION	210.00
04.02.019	04.02.019	EPA FORMULATION SAMPLE STORAGE	100.00
04.02.021	04.02.021	PE ANALYSIS ROOM, STATE PROGRAM	940.00
Sub-Sub Department: 02 - PESTICIDES			
Count 9			**4,255.00**

Sub-Department: 02 - PESTICIDES

Count 9 4,255.00

Sub-Department: 03 - PLANT PATHOLOGY

Sub-Sub Department: 01 - PLANT PATHOLOGY

Room Function #	Room Number	Room Name	Area Programmed
04.03.009	04.02.002	PLANT PATHOLOGY MAIN LAB	1,000.00
04.03.010	04.02.004	PLANT SAMPLE PROCESSING / TRIAGE	425.00
04.03.011	04.02.005	CONTROLLED TEMPERATURE ROOM	70.00

Sub-Sub Department: 01 - PLANT PATHOLOGY

Count 3 1,495.00

Sub-Sub Department: 02 - GREENHOUSE

Room Function #	Room Number	Room Name	Area Programmed
04.03.012	04.02.025	GROWTH CHAMBERS	1,064.00
04.03.013	04.02.026	GREENHOUSE - ZONE#1	0.00
04.03.014	04.02.027	GREENHOUSE	0.00

Sub-Sub Department: 02 - GREENHOUSE

Count 3 1,064.00

Sub-Department: 03 - PLANT PATHOLOGY

Count 6 2,559.00

Sub-Department: 04 - MICROBIOLOGY

Sub-Sub Department: 01 - MICROBIOLOGY

Room Function #	Room Number	Room Name	Area Programmed
04.04.001	04.04.001	PCR AMPLIFICATION	800.00
04.04.002	04.04.002	AUTOCLAVE ROOM, FOOD AND DAIRY MICROBIOLOGY	513.00
04.04.003	04.04.003	MEDIA PREP ROOM, FOOD AND DAIRY MICROBIOLOGY	615.00
04.04.004	04.04.004	ENVIRONMENTAL ROOM - REFRIGERATOR, FOOD AND DAIRY MICROBIOLOGY	200.00
04.04.005	04.04.005	DAIRY LAB, FOOD AND DAIRY MICROBIOLOGY	615.00
04.04.006	04.04.006	MICROBIOLOGY LAB, FOOD AND DAIRY MICROBIOLOGY	1,245.00
04.04.007	04.04.007	SUPPLY STORAGE, FOOD AND DAIRY MICROBIOLOGY	210.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
04.04.008	04.04.008	MICROBIOLOGY SAMPLE PROCESSING, FOOD AND DAIRY MICROBIOLOGY	840.00
04.04.009	04.04.009	PCR REAGENT PREP- MASTER MIX - MICROBIOLOGY	625.00
04.04.011	04.04.011	ENVIRONMENTAL ROOM - REFRIGERATOR, FOOD AND DAIRY MICROBIOLOGY	200.00
04.04.012	04.04.012	WALK IN INCUBATOR	50.00
04.04.013	04.04.013	PCR EXTRACTION - SAMPLE PREP	220.00
04.04.014	04.04.014	WHOLE GENOME SEQUENCER	200.00
04.04.015	04.04.015	DAIRY CHEMISTRY LAB	200.00
04.04.017		FOOD AND DAIRY DIVISION STORAGE	200.00
04.04.018		FOOD AND DAIRY DIVISION STORAGE	50.00
Sub-Sub Department: 01 - MICROBIOLOGY			
Count 16			**6,783.00**

Sub-Sub Department: 02 - CANNABIS TESTING

Room Function #	Room Number	Room Name	Area Programmed
04.04.016		CANNABIS TESTING	0.00
Sub-Sub Department: 02 - CANNABIS TESTING			
Count 1			**0.00**
Sub-Department: 04 - MICROBIOLOGY			
Count 17			**6,783.00**

Sub-Department: 05 - OFFICE

Sub-Sub Department: 01 - OFFICE

Room Function #	Room Number	Room Name	Area Programmed
04.05.001	04.05.001	OFFICE	90.00
04.05.002	04.05.002	WORKSTATION	64.00
04.05.003	04.05.003	WORKSTATION	64.00
04.05.004	04.05.004	WORKSTATION	64.00
04.05.005	04.05.005	WORKSTATION	64.00
04.05.006	04.05.006	WORKSTATION	64.00
04.05.007	04.05.007	WORKSTATION	64.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
04.05.008	04.05.008	WORKSTATION	64.00
04.05.009	04.05.009	WORKSTATION	64.00
04.05.010	04.05.010	WORKSTATION	64.00
04.05.011	04.05.011	WORKSTATION	64.00
04.05.012	04.05.012	WORKSTATION	64.00
04.05.013	04.05.013	WORKSTATION	64.00
04.05.014	04.05.014	WORKSTATION	48.00
04.05.015	04.05.015	WORKSTATION	48.00
04.05.016	04.05.016	WORKSTATION	48.00
04.05.017	04.05.017	WORKSTATION	48.00
04.05.018	04.05.018	WORKSTATION	48.00
04.05.019	04.05.019	WORKSTATION	48.00
04.05.020	04.05.020	WORKSTATION	48.00
04.05.036	04.05.036	WORKSTATION	48.00
04.05.037	04.05.037	WORKSTATION	48.00
04.05.038	04.05.038	WORKSTATION	48.00
04.05.039	04.05.039	WORKSTATION	48.00
04.05.040	04.05.040	WORKSTATION	48.00
04.05.041	04.05.041	WORKSTATION	48.00
04.05.042	04.05.042	WORKSTATION	48.00
04.05.043	04.05.043	WORKSTATION	48.00
04.05.044	04.05.044	WORKSTATION	48.00
04.05.045	04.05.045	WORKSTATION	48.00
04.05.046	04.05.046	WORKSTATION	48.00
04.05.047	04.05.047	WORKSTATION	48.00
04.05.048	04.05.048	WORKSTATION	48.00
04.05.049	04.05.049	WORKSTATION	48.00
04.05.050	04.05.050	WORKSTATION	48.00
04.05.051	04.05.051	WORKSTATION	48.00
04.05.052	04.05.052	WORKSTATION	48.00
04.05.053	04.05.053	WORKSTATION	48.00
04.05.054	04.05.054	WORKSTATION	48.00
04.05.055	04.05.055	WORKSTATION	48.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
04.05.056	04.05.056	WORKSTATION	48.00
04.05.057	04.05.057	WORKSTATION	48.00
04.05.058	04.05.058	WORKSTATION	48.00
04.05.059	04.05.059	WORKSTATION	48.00
04.05.060	04.05.060	WORKSTATION	48.00
04.05.061	04.05.061	WORKSTATION	48.00
04.05.062	04.05.062	WORKSTATION	48.00
04.05.063	04.05.063	WORKSTATION	48.00
04.05.064	04.05.064	WORKSTATION	48.00
04.05.065	04.05.065	WORKSTATION	48.00
04.05.066	04.05.066	WORKSTATION	48.00
04.05.067	04.05.067	WORKSTATION	48.00
04.05.068	04.05.068	WORKSTATION	48.00
04.05.069	04.05.069	WORKSTATION	48.00
04.05.070	04.05.070	WORKSTATION	48.00
04.05.075		WORKSTATION	48.00
04.05.076		WORKSTATION	48.00
04.05.077		WORKSTATION	48.00
04.05.078		WORKSTATION	48.00
04.05.079		WORKSTATION	48.00
04.05.080		WORKSTATION	48.00
04.05.081		WORKSTATION	48.00
04.05.082		HOTELLING	48.00
04.05.083		HOTELLING	48.00
04.05.084		HOTELLING	48.00
04.05.085		HOTELLING	48.00

Sub-Sub Department: 01 - OFFICE

Count 66 **3,402.00**

Sub-Sub Department: 02 - OFFICE SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
04.05.071	04.05.071	SATELLITE/ COPY	70.00

Room Function #	Room Number	Room Name	Area Programmed
04.05.072	04.05.072	FILES	60.00
04.05.073	04.05.073	FILES	40.00
04.05.074	04.05.074	FILES	10.00
04.05.086		CLU / CSC FILE AND COPIER	650.00
Sub-Sub Department: 02 - OFFICE SUPPORT			
Count 5			830.00
Sub-Department: 05 - OFFICE			
Count 71			4,232.00

Sub-Department: 06 - SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
04.06.005	04.06.005	RECEIVING	615.00
Sub-Department: 06 - SUPPORT			
Count 1			615.00

Sub-Department: 07 - WAREHOUSE

Room Function #	Room Number	Room Name	Area Programmed
04.07.001	04.07.001	WAREHOUSE STORAGE	3,150.00
04.07.002	04.07.002	BULK GAS CYLINDER STORAGE - FLAMMABLE	100.00
04.07.003	04.07.003	BULK GAS CYLINDER STORAGE - OXIDIZERS	100.00
04.07.004	04.07.004	BULK SOLVENT STORAGE	100.00
04.07.005	04.07.005	CYLINDER STORAGE	100.00
Sub-Department: 07 - WAREHOUSE			
Count 5			3,550.00
Department: 04 - DARD			
Count 137			34,440.00

Department: 05 - ANCILLARY

Sub-Department: 01 - BUILDING SUPPORT

Sub-Sub Department: 03 - SUPPORT

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
05.01.003	05.01.003	RECEIVING DOCK, BULK	200.00
05.01.004	05.01.004	RECEIVING DOCK, BULK	200.00
05.01.005	05.01.005	RECEIVING DOCK, BULK	200.00
05.01.006	05.01.006	TRASH DOCK, BULK	200.00
05.01.007	05.01.007	RECYCLING DOCK, BULK	200.00
05.01.008	05.01.008	STAGING AREA, BULK	250.00
05.01.009	05.01.009	LAB COAT DELIVERY, SHARED (LAUNDRY SERVICE)	100.00
05.01.010	05.01.010	DOCK, BULK STAGING	1,000.00
05.01.011	05.01.011	BREAK ROOM	1,380.00
05.01.022	05.01.022	STORAGE ROOM	120.00
05.01.023	05.01.023	STORAGE ROOM	120.00
05.01.024	05.01.024	STORAGE ROOM	120.00
05.01.025	05.01.025	STORAGE ROOM	120.00
05.01.037	05.01.037	BREAK ROOM PER FLOOR	100.00
05.01.038	05.01.038	BREAK ROOM PER FLOOR	100.00
05.01.039	05.01.039	BREAK ROOM PER FLOOR	100.00
05.01.040	05.01.040	BREAK ROOM PER FLOOR	100.00
05.01.042	05.01.042	RECEIVING DOCK, BULK	200.00
05.01.049	05.01.049	JANITOR CLOSET, SHARED	150.00
05.01.058	05.01.058	BREAK ROOM PER FLOOR	100.00

Sub-Sub Department: 03 - SUPPORT

Count 20 **5,060.00**

Sub-Sub Department: 02 - AMENITIES

Room Function #	Room Number	Room Name	Area Programmed
05.01.012		QUIET ROOM	100.00
05.01.029	05.01.029	LOBBY/ WAITING AREA	500.00
05.01.030	05.01.030	SHOWER/ CHANGE ROOM - MEN	100.00
05.01.031	05.01.031	SHOWER/ CHANGE ROOM - WOMEN	100.00
05.01.041	05.01.041	UNISEX TOILET ROOM	64.00
05.01.050	05.01.050	UNISEX TOILET ROOM	64.00
05.01.059		MOTHERS ROOM	100.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
05.01.060		MOTHERS ROOM	100.00
05.01.061		MOTHERS ROOM	100.00
Sub-Sub Department: 02 - AMENITIES			
Count 9			**1,228.00**

Sub-Sub Department: 01 - MECHANICAL

Room Function #	Room Number	Room Name	Area Programmed
05.01.013	02.01.013	SERVER ROOM	100.00
05.01.047	05.01.047	FACILITY MAINTENANCE SHOP	200.00
Sub-Sub Department: 01 - MECHANICAL			
Count 2			**300.00**

Sub-Sub Department: 04 - WAREHOUSE

Room Function #	Room Number	Room Name	Area Programmed
05.01.036	05.01.036	FACILITY MANAGEMENT SUPPORT	2,000.00
05.01.045	05.01.045	INCINERATOR, WAREHOUSE	300.00
05.01.056	05.01.056	WAREHOUSE MECHANICAL ROOM	400.00
Sub-Sub Department: 04 - WAREHOUSE			
Count 3			**2,700.00**
Sub-Department: 01 - BUILDING SUPPORT			
Count 34			**9,288.00**

Sub-Department: 02 - OFFICE SUPPORT

Sub-Sub Department: 02 - OFFICE SUPPORT

Room Function #	Room Number	Room Name	Area Programmed
05.02.001	05.02.001	LARGE CONFERENCE ROOM - 50P	950.00
05.02.002	05.02.002	LARGE CONFERENCE ROOM - 50P	950.00
05.02.004	05.02.004	MEDIUM CONFERENCE ROOM - 10P-15P	315.00
05.02.005	05.02.055	MEDIUM CONFERENCE ROOM - 10P-15P	315.00

Net Assignable Square Footage by Department

Room Function #	Room Number	Room Name	Area Programmed
05.02.006	05.02.006	MEDIUM CONFERENCE ROOM - 10P-15P	315.00
05.02.007	05.02.007	MEDIUM CONFERENCE ROOM - 10P-15P	315.00
05.02.008	05.02.008	MEDIUM CONFERENCE ROOM - 10P-15P	315.00
05.02.009	05.02.009	MEDIUM CONFERENCE ROOM - 10P-15P	315.00
05.02.010	05.02.010	MEDIUM CONFERENCE ROOM - 10P-15P	315.00
05.02.022	05.02.022	SMALL CONFERNCE ROOM	125.00
05.02.023	05.02.023	SMALL CONFERNCE ROOM	125.00
05.02.024	05.02.024	SMALL CONFERNCE ROOM	125.00
05.02.025	05.02.025	SMALL CONFERNCE ROOM	125.00
05.02.026	05.02.026	SMALL CONFERNCE ROOM	125.00
05.02.027	05.02.027	SMALL CONFERNCE ROOM	125.00
05.02.028	05.02.028	SMALL CONFERNCE ROOM	125.00
05.02.029	05.02.029	LARGE CONFERENCE ROOM - 20P	500.00
05.02.030	05.02.030	WINTER COAT CLOSET, PER FLOOR	50.00
05.02.031	05.02.031	WINTER COAT CLOSET, PER FLOOR	50.00
05.02.032	05.02.032	WINTER COAT CLOSET, PER FLOOR	50.00
05.02.033	05.02.033	WINTER COAT CLOSET, PER FLOOR	50.00
05.02.039	05.02.039	FURNITURE STORAGE	312.00

Sub-Sub Department: 02 - OFFICE SUPPORT

Count 22 **5,992.00**

Sub-Sub Department: 01 - OFFICE

Room Function #	Room Number	Room Name	Area Programmed
05.02.034	05.02.034	WORKSTATION, FACILITY MAINTENANCE	64.00
05.02.035	05.02.035	WORKSTATION, FACILITY MAINTENANCE	64.00
05.02.036	05.02.036	WORKSTATION, FACILITY MAINTENANCE	64.00
05.02.037	05.02.037	WORKSTATION, FACILITY MAINTENANCE	0.00
05.02.038	05.02.038	WORKSTATION, FACILITY MAINTENANCE	0.00
05.02.041	05.02.042	WORKSTATION, JANITOR	64.00
05.02.042	05.02.041	WORKSTATION, JANITOR	64.00
05.02.043	05.01.015	BOL LIMS IT WORK ROOM	375.00
05.02.044	05.02.044	DOCK MANAGER, DOCK	120.00

Net Assignable Square Footage by Department

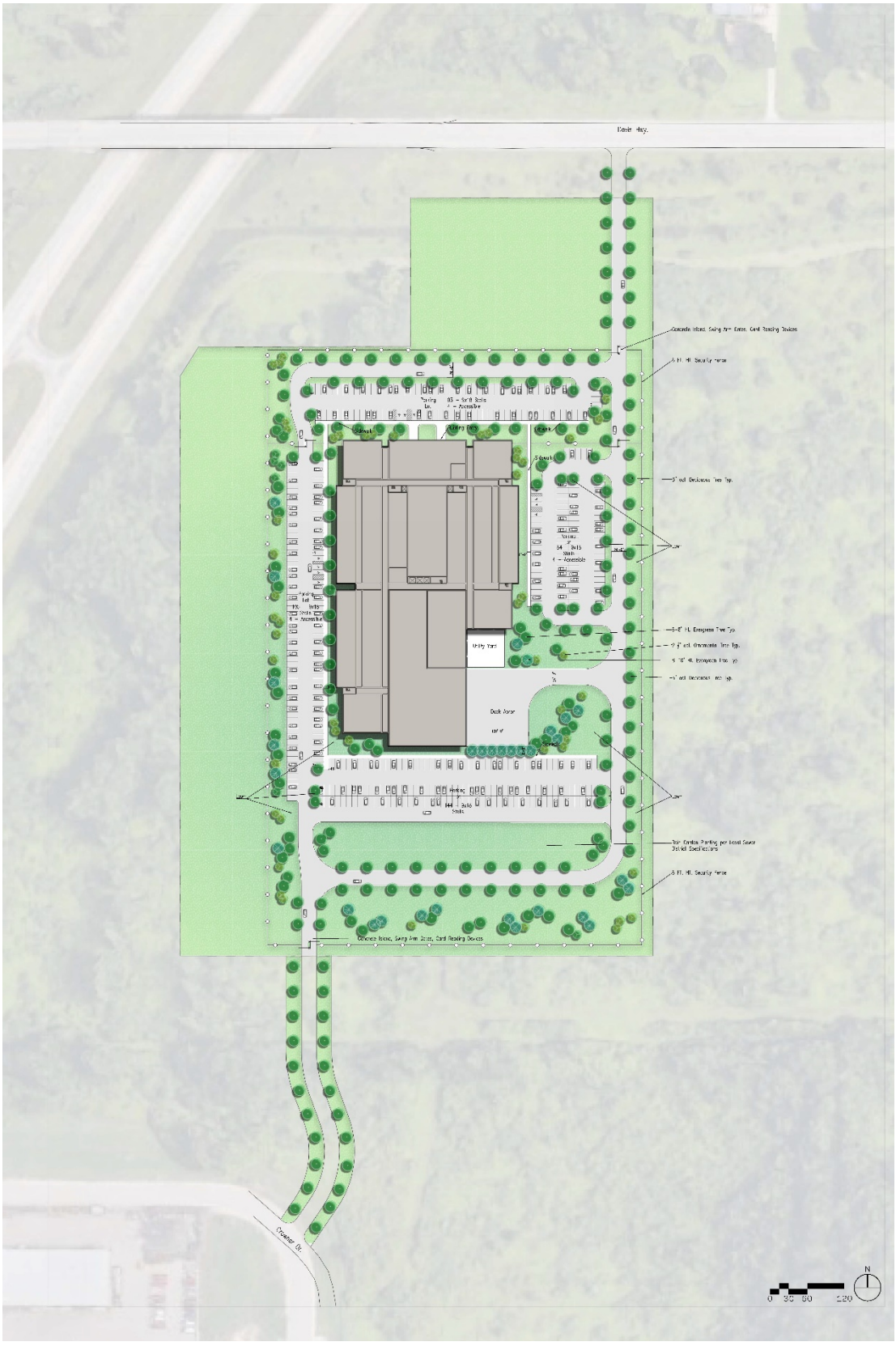
Room Function #	Room Number	Room Name	Area Programmed
05.02.045		BREAK ROOM, JANITOR	150.00
Sub-Sub Department: 01 - OFFICE			
Count 10			**965.00**
Sub-Department: 02 - OFFICE SUPPORT			
Count 32			**6,957.00**

Sub-Department: 03 - LAB SUPPORT
Sub-Sub Department: 01 - SHARED

Room Function #	Room Number	Room Name	Area Programmed
05.03.013	05.03.013	SECURE STORAGE, SHARED	150.00
Sub-Sub Department: 01 - SHARED			
Count 1			**150.00**
Sub-Department: 03 - LAB SUPPORT			
Count 1			**150.00**
Department: 05 - ANCILLARY			
Count 67			**16,395.00**
Grand Total			
Count 699			**176,755.00**

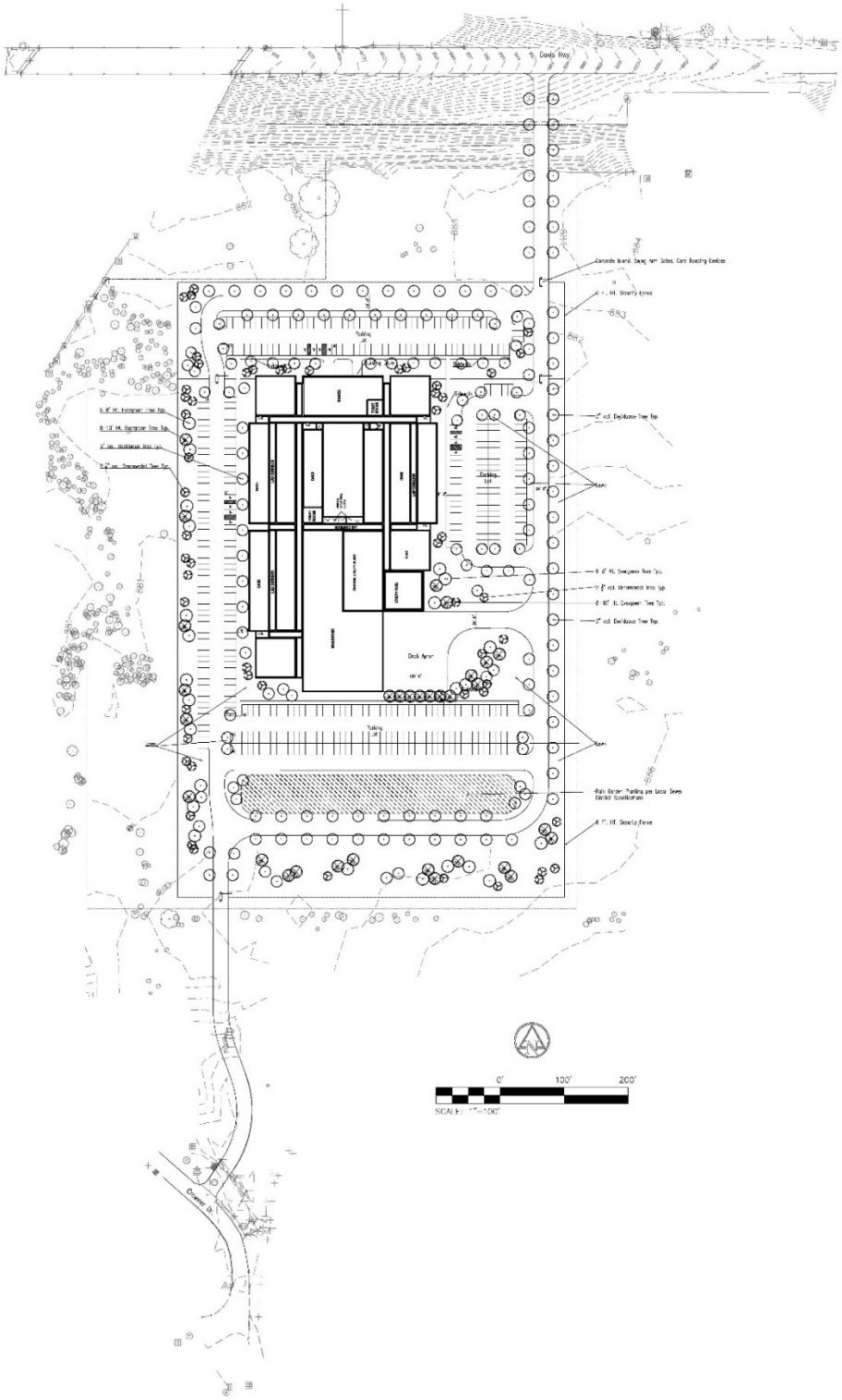
APPENDIX B: SITE PLANS

B-1: GREENFIELD STUDY PLAN

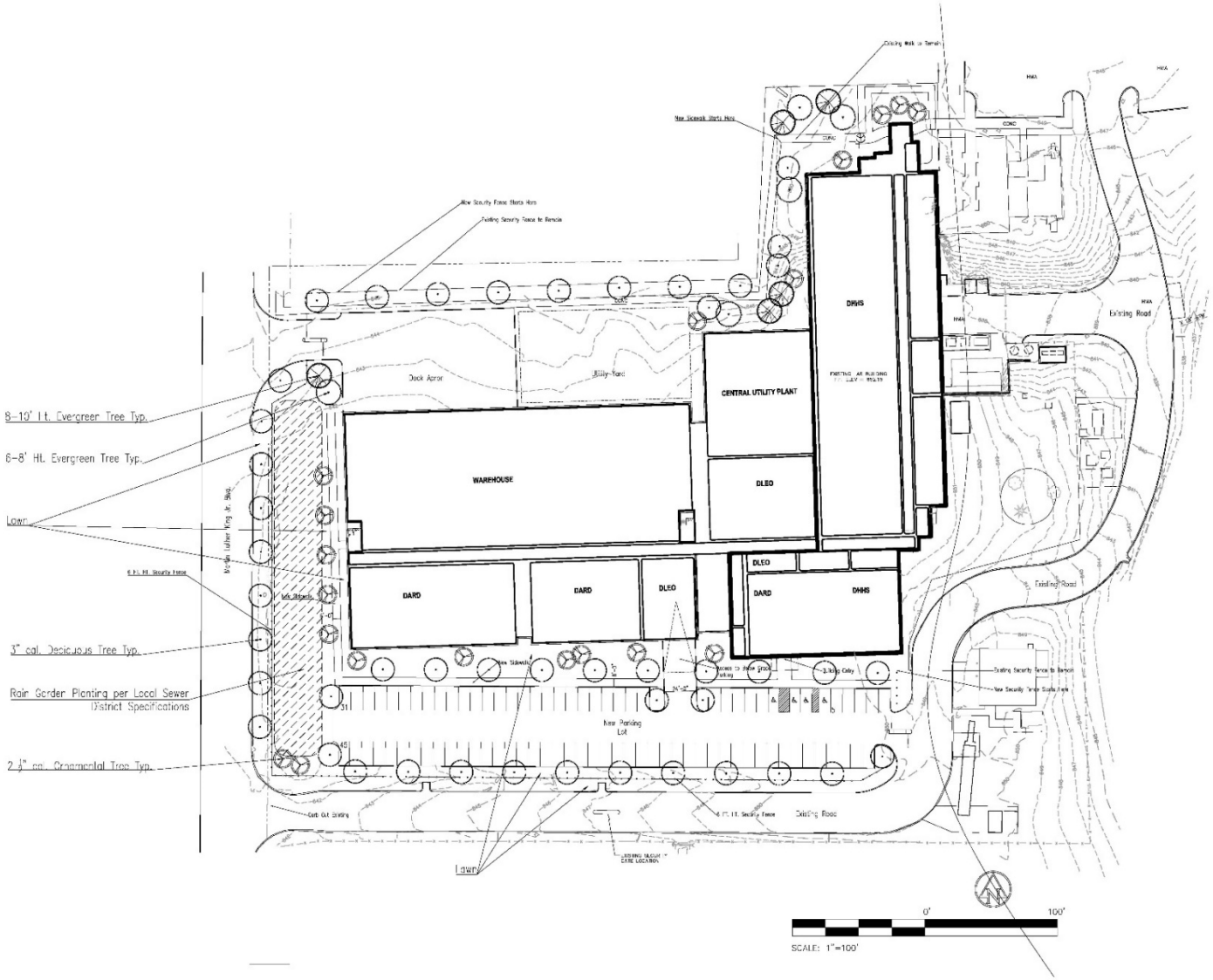


B-2: Addition/Expansion Study Plan

B-3: GREENFIELD LANDSCAPE PLAN

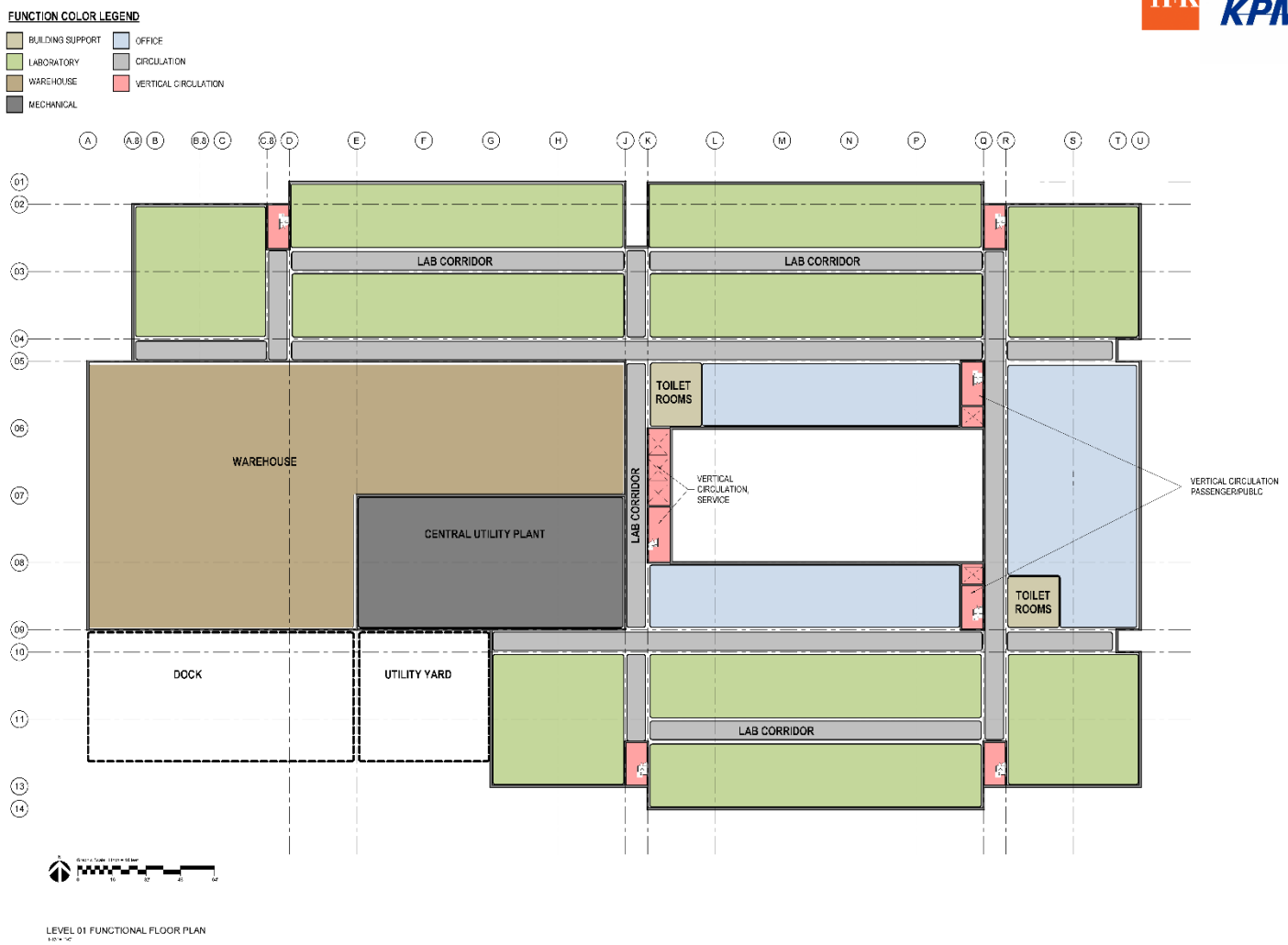


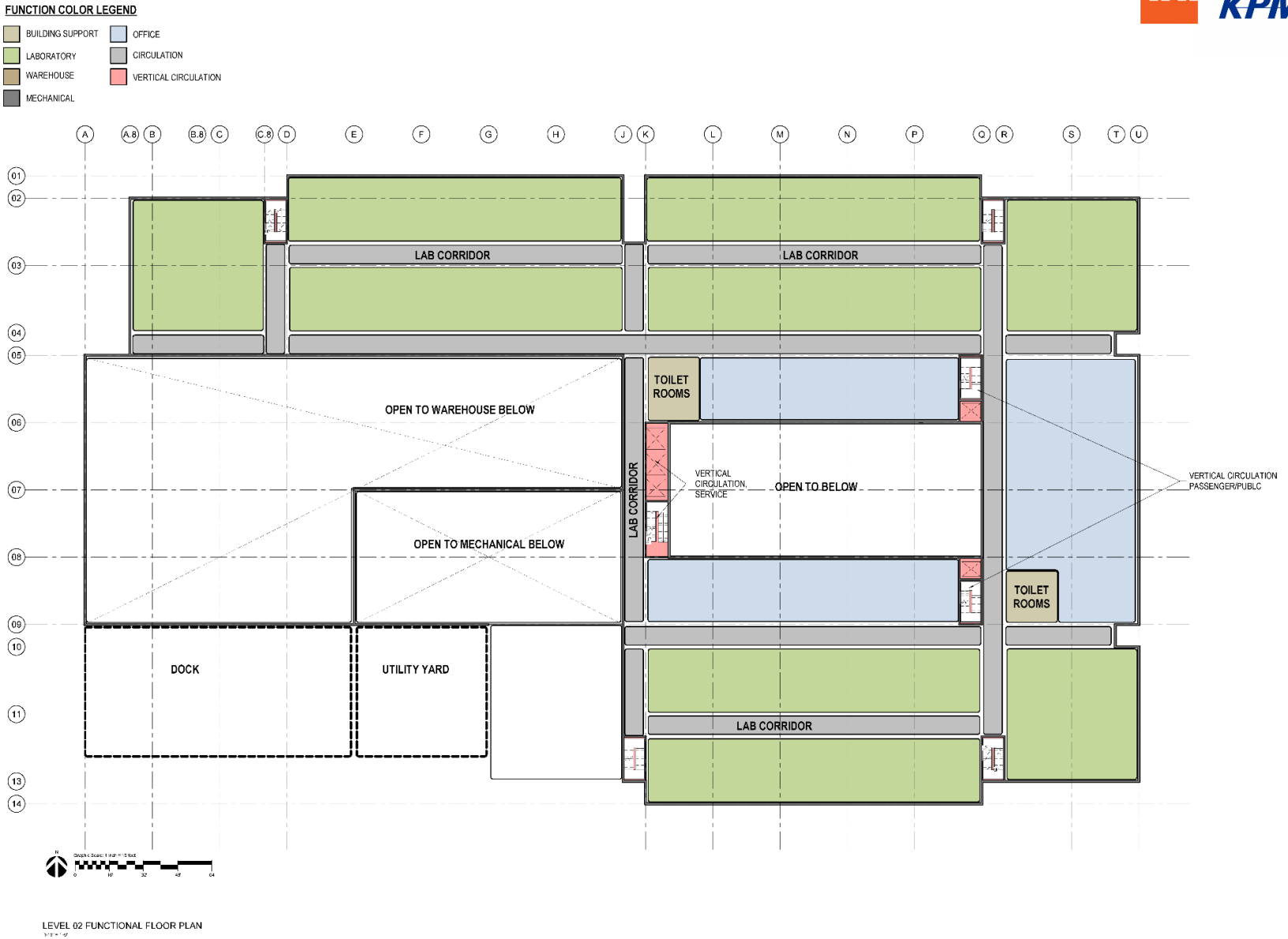
B-4: ADDITION/RENOVATION LANDSCAPE PLAN



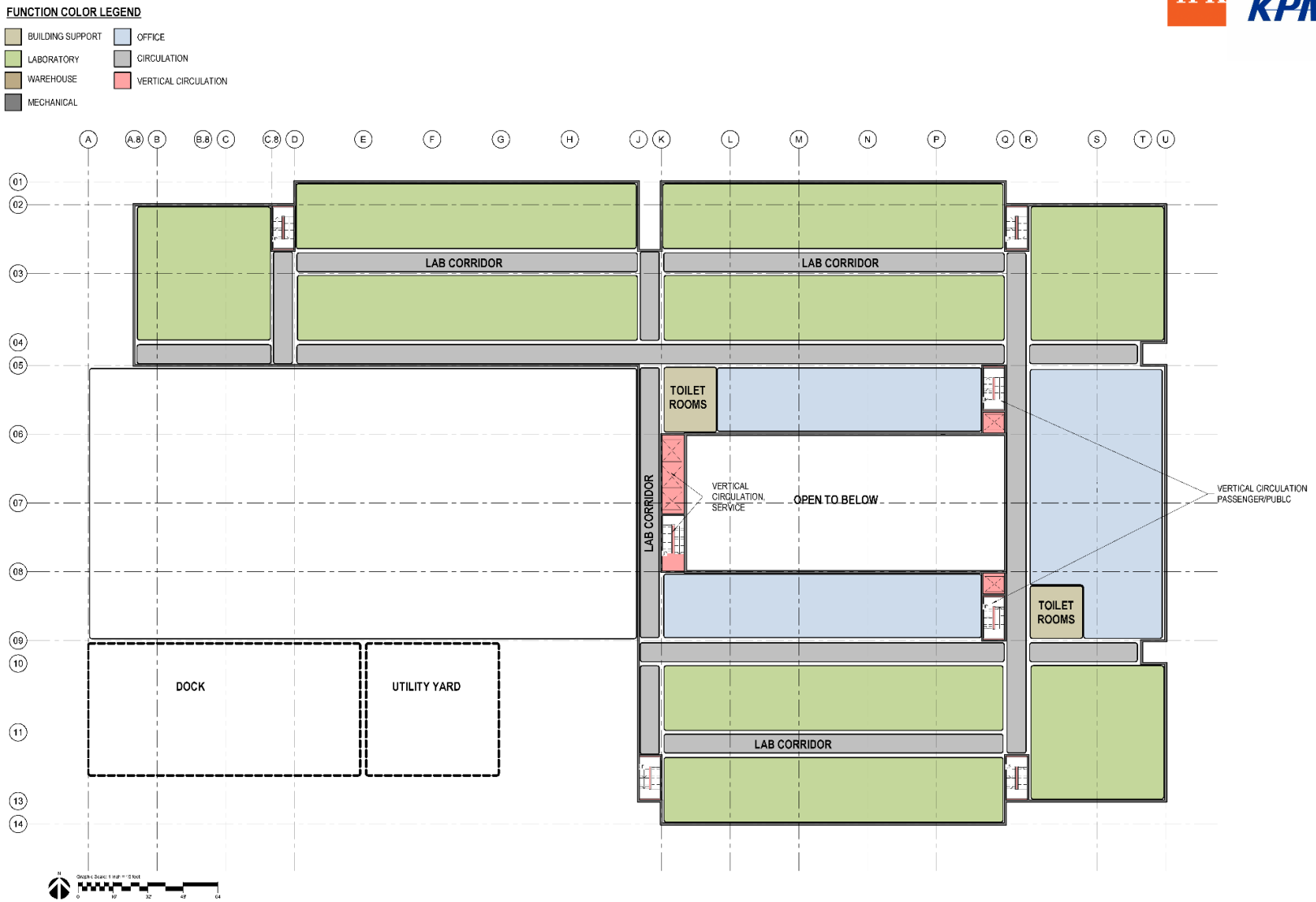
APPENDIX C: BUILDING BLOCKING PLANS

C-1: GREENFIELD DIAGRAMS



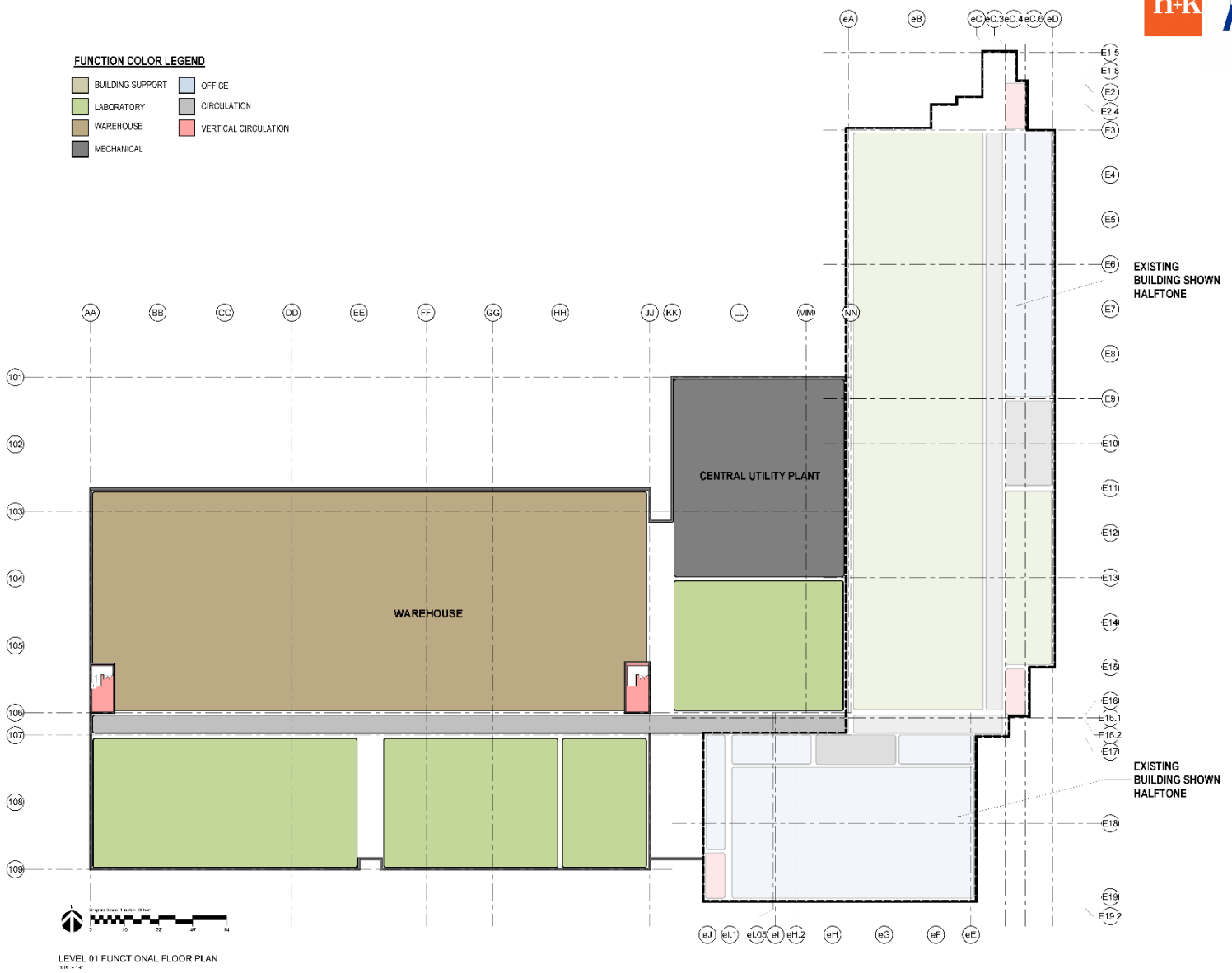


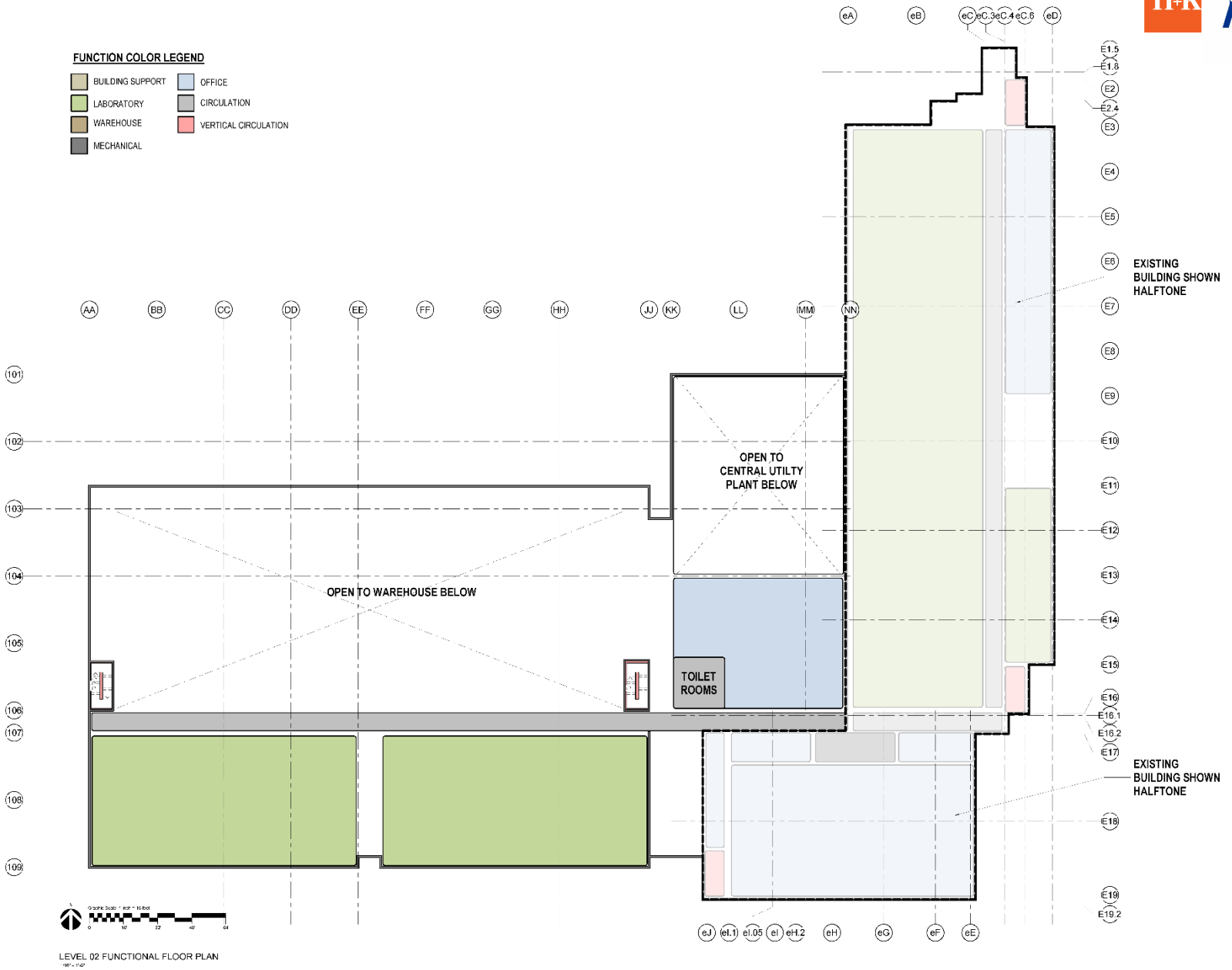
LEVEL 02 FUNCTIONAL FLOOR PLAN

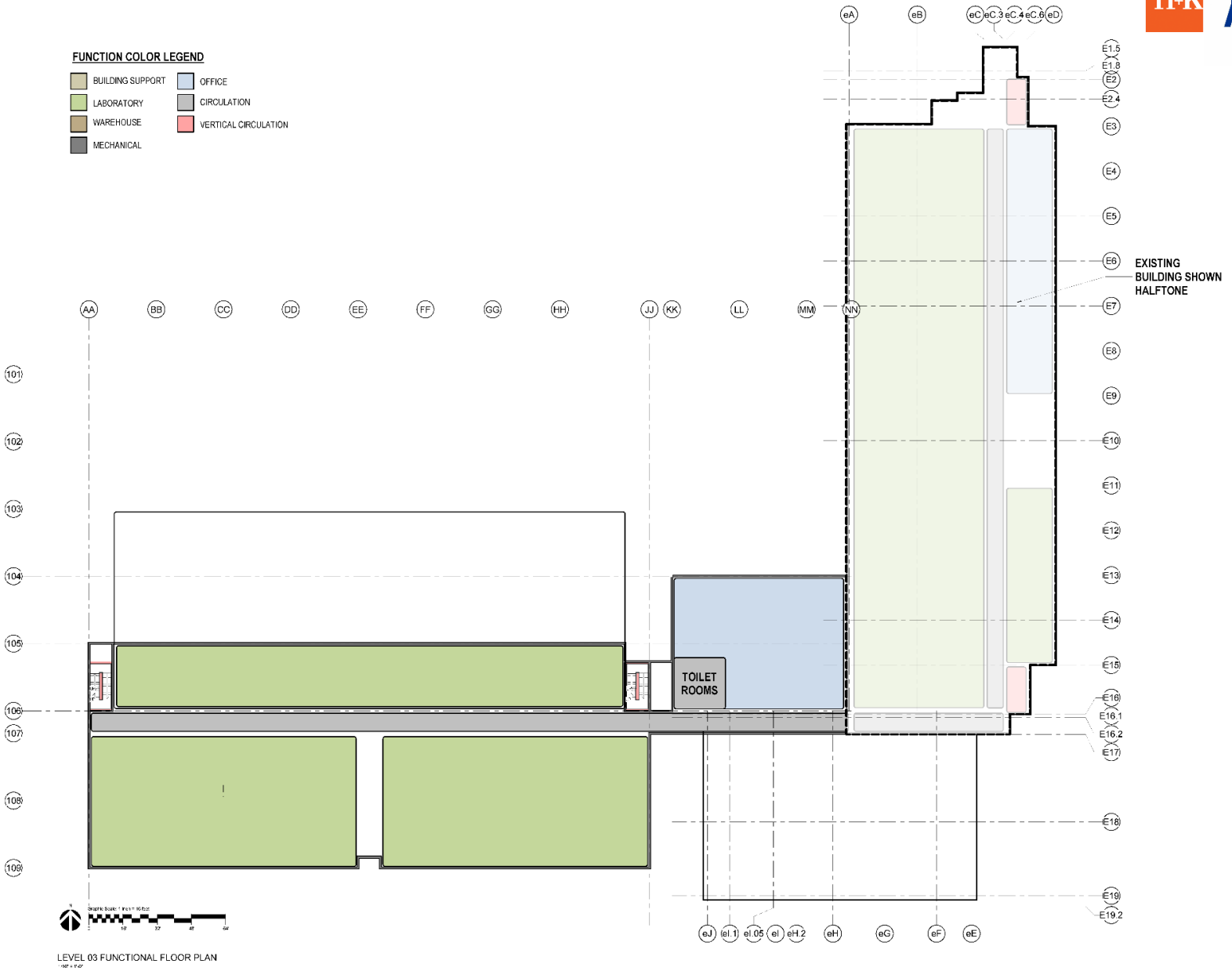


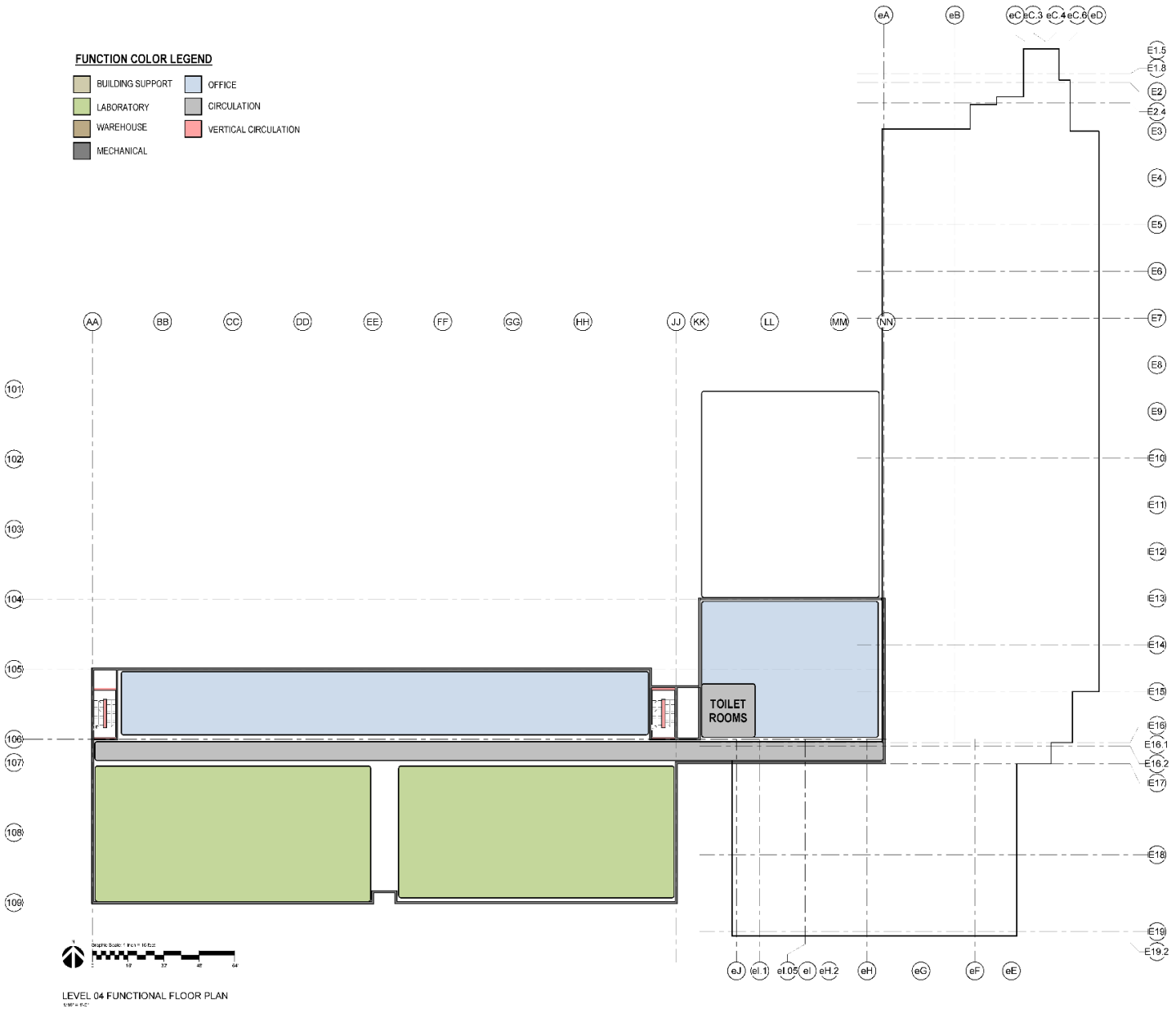
LEVEL 03 FUNCTIONAL FLOOR PLAN

C-2: ADDITION/RENOVATION DIAGRAMS




FUNCTION COLOR LEGEND
BUILDING SUPPORT
LABORATORY
WAREHOUSE
MECHANICAL
OFFICE
CIRCULATION
VERTICAL CIRCULATION
OPEN TO CENTRAL UTILTY PLANT BELOW
OPEN TO WAREHOUSE BELOW
TOILET ROOMS
EXISTING BUILDING SHOWN HALFTONE
EXISTING BUILDING SHOWN HALFTONE
LEVEL 02 FUNCTIONAL FLOOR PLAN


FUNCTION COLOR LEGEND
BUILDING SUPPORT
LABORATORY
WAREHOUSE
MECHANICAL
OFFICE
CIRCULATION
VERTICAL CIRCULATION
EXISTING BUILDING SHOWN HALFTONE
TOILET ROOMS
LEVEL 03 FUNCTIONAL FLOOR PLAN


FUNCTION COLOR LEGEND
BUILDING SUPPORT
LABORATORY
WAREHOUSE
MECHANICAL
OFFICE
CIRCULATION
VERTICAL CIRCULATION
TOILET ROOMS
LEVEL 04 FUNCTIONAL FLOOR PLAN

APPENDIX D: CONSTRUCTION COST ESTIMATES

D-1: OPTION 1: NEW GREENFIELD FACILITY

State of Michigan Consolidated Lab - Option 1 Greenfield

5/24/2022

	Space GSF	Raw Cost	Raw Cost/SF	LEED Silver 1.50%	Subtotal	Contingency 20.00%	Escalation 12.06%	Total Cost	Total Cost/SF
DLEO	8,375	$3,550,435	$ 423.93	$53,257	$3,603,692	$720,738	$521,526	**$4,845,956**	$ 578.62
DHHS	72,016	$29,356,988	$ 407.65	$440,355	$29,797,343	$5,959,469	$4,312,271	**$40,069,083**	$ 556.39
DEGLE	45,529	$18,378,471	$ 403.67	$275,677	$18,654,149	$3,730,830	$2,699,628	**$25,084,607**	$ 550.96
DARD	34,440	$14,443,460	$ 419.38	$216,652	$14,660,112	$2,932,022	$2,121,611	**$19,713,746**	$ 572.41
ANCILLARY	16,395	$5,791,846	$ 353.27	$86,878	$5,878,723	$1,175,745	$850,769	**$7,905,237**	$ 482.17
PENTHOUSE & CUP	42,000	$15,095,470	$ 359.42	$226,432	$15,321,902	$3,064,380	$2,217,386	**$20,603,668**	$ 490.56
CORE SPACES	87,045	$30,712,794	$ 352.84	$460,692	$31,173,486	$6,234,697	$4,511,427	**$41,919,611**	$ 481.59
SITEWORK		$5,287,373	$ -	$79,311	$5,366,683	$1,073,337	$776,666	**$7,216,687**	
Total Construction Costs	305,800	$122,616,838	$ 400.97	$1,839,253	$124,456,091	$24,891,218	$18,011,285	**$167,358,594**	$ 547.28
Cost per GSF					$406.99			$547.28	

CCS™
WE TAKE ON YOUR VALUES.

NOTE:
Gold LEED certification would add a cost factor of 4.5% in lieu of the Silver LEED at 1.5%

1815 South Meyers Road
Suite 1070
Oakbrook Terrace, IL 60181
630.678.0808
www.CCSdifference.com

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield 4

GROSS AREA: 305800 SF 5/24/2022

COST SUMMARY

DESCRIPTION	TOTAL COST		RATE/SF	% of Total
01 - FOUNDATIONS	$500,850		$1.64	0%
011 - Standard Foundations	$500,850	$1.64		
012 - Special Foundations	$0	$0.00		
02 - SUBSTRUCTURE	$1,097,250		$3.59	1%
021 - Slab on Grade	$1,097,250	$3.59		
022 - Basement Excavation	$0	$0.00		
023 - Basement Walls	$0	$0.00		
03 - SUPERSTRUCTURE	$16,052,100		$52.49	10%
031 - Floor Construction	$9,895,600	$32.36		
032 - Roof Construction	$5,197,500	$17.00		
033 - Stair Construction	$959,000	$3.14		
04 - EXTERIOR CLOSURE	$6,462,195		$21.13	4%
041 - Exterior Walls	$2,416,425	$7.90		
042 - Exterior Doors & Windows	$4,045,770	$13.23		
05 - ROOFING	$4,242,950		$13.87	3%
06 - INTERIOR CONSTRUCTION	$13,399,615		$43.82	8%
061 - Partitions	$6,873,838	$22.48		
062 - Interior Finishes	$5,806,167	$18.99		
063 - Specialties	$719,610	$2.35		
07 - CONVEYING SYSTEMS	$1,125,000		$3.68	1%
08 - MECHANICAL	$51,487,777		$168.37	31%
081 - Plumbing	$10,121,772	$33.10		
082 - HVAC	$36,819,388	$120.40		
083 - Fire Protection	$1,760,248	$5.76		
084 - Special Systems - Lab Gas	$2,786,369	$9.11		

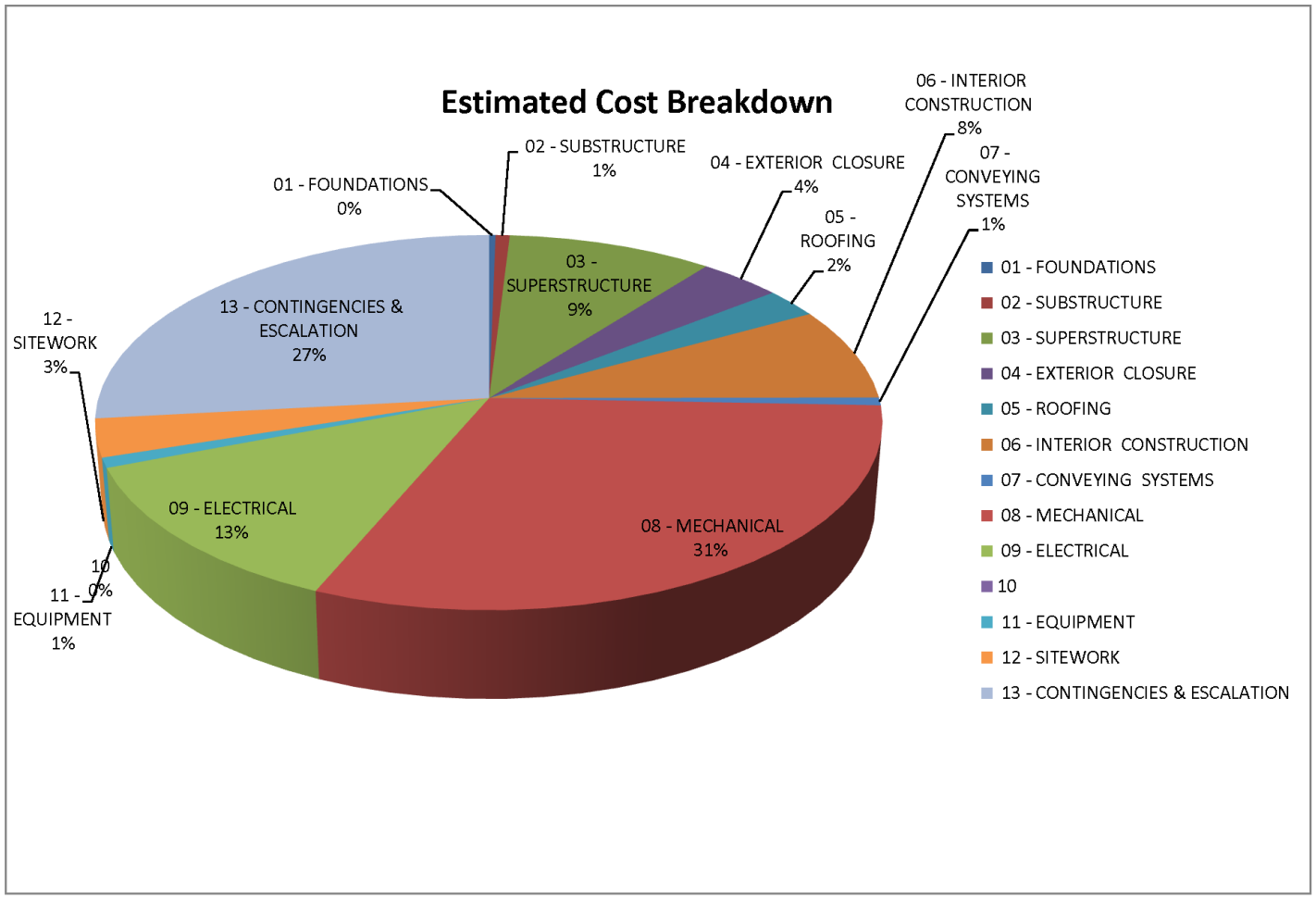
PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield 5

GROSS AREA: 305800 SF **5/24/2022**

COST SUMMARY

DESCRIPTION	TOTAL COST		RATE/SF	% of Total
09 - ELECTRICAL		$21,308,144	$69.68	13%
091 - Service & Distribution	$6,062,485	$19.83		
092 - Lighting & Power	$8,316,537	$27.20		
093 - Special Systems	$6,929,122	$22.66		
10			$0.00	0%
NET BUILDING CONSTRUCTION COST	**$115,675,882**			
11 - EQUIPMENT		$1,439,595	$4.71	1%
111 - Fixed & Movable Equipment - Allowance	$1,439,595	$4.71		
112 - Furnishings	$0	$0.00		
113 - Special Construction	$0	$0.00		
12 - SITEWORK		$5,501,357	$17.99	3%
121 - Site Preparation	$482,874	$1.58		
122 - Site Improvements	$4,292,680	$14.04		
123 - Site Utilities	$725,719	$2.37		
124 - Off-site Work	$0	$0.00		
NET PROJECT CONSTRUCTION COST	**$122,616,833**			
13 - CONTINGENCIES & ESCALATION		$44,741,756	$140.30	27%
SILVER LEED @ 1.5%	$1,839,253	$6.01		
CONTINGENCY @ 20%	$24,891,218	$81.40		
ESCALATION @ 12.06%	$18,011,285	$58.90		
TOTAL PROJECT CONSTRUCTION COST	**$167,358,589**		**$547.28**	


Estimated Cost Breakdown
01 - FOUNDATIONS 0%
02 - SUBSTRUCTURE 1%
03 - SUPERSTRUCTURE 9%
04 - EXTERIOR CLOSURE 4%
05 - ROOFING 2%
06 - INTERIOR CONSTRUCTION 8%
07 - CONVEYING SYSTEMS 1%
08 - MECHANICAL 31%
09 - ELECTRICAL 13%
10 0%
11 - EQUIPMENT 1%
12 - SITEWORK 3%
13 - CONTINGENCIES & ESCALATION 27%
01 - FOUNDATIONS
02 - SUBSTRUCTURE
03 - SUPERSTRUCTURE
04 - EXTERIOR CLOSURE
05 - ROOFING
06 - INTERIOR CONSTRUCTION
07 - CONVEYING SYSTEMS
08 - MECHANICAL
09 - ELECTRICAL
10
11 - EQUIPMENT
12 - SITEWORK
13 - CONTINGENCIES & ESCALATION

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield — **Core and Shell** — 7

Lansing, MI

5/24/2022

SHELL COST : **$284.53**

DESCRIPTION	ITEM	QUANTITY	UNIT	UNIT PRICES	TOTAL
	STRUCTURE				
NA	Basement excavation	0	CY	$95.00	$0
Foundations & SOG	Mass Excavation	4278	CY	$15.00	$64,170
Balanced site	Mass Fill	4278	CY	$35.00	$149,730
Foundations	Foundation Wall & Footing	711	LF	$350.00	$248,850
Column footings using 992 SF size bays	Column Footing	144	EA	$1,750.00	$252,000
6" SOG on Grade	Slab on Grade	115500	SF	$9.50	$1,097,250
NA	Basement Wall w/ Footing	0	LF	$1,470.00	$0
Structural Steel Structure with Metal Deck and Concrete Topping	Elevated Floor Structure	190300	SF	$52.00	$9,895,600
Structural Steel Structure with Metal Deck	Roof Structure	115500	SF	$45.00	$5,197,500
Metal Pan Stairs @ Stair Towers	Stairs	7	EA	$137,000.00	$959,000
	ENVELOPE				
Brick with Metal Stud Back-up & Metal Panel Wall System	Exterior Enclosure	32219	SF	$75.00	$2,416,425
Storefront and Curtain Wall Systems	Window Wall	29302	SF	$135.00	$3,955,770
4 Main Drs, 2 Roof Drs @ PH, 4 Mech Dr and 5 Exit Dr	Exterior Doors	15	EA	$6,000.00	$90,000
Not in Scope	Exterior Demolition	0	LS	$0.00	$0
TPO Mechanically Fastened on Insulation & 1,000Sf of Pavers	Roofing	115500	SF	$36.00	$4,158,000
Not in Scope	Skylight	0	SF	$0.00	$0
Metal Coping	Roof Edge	1699	LF	$50.00	$84,950
	CONVEYING SYSTEMS				
4 - Passenger, 1 Freight	Elevators etc.	5	EA	$225,000.00	$1,125,000
	MECHANICAL				
	Plumbing	305800	SF	$25.00	$7,645,000
	H.V.A.C	305800	SF	$87.50	$26,757,500
	Fire Protection	305800	SF	$5.25	$1,605,450
	Special Mechanical				
	ELECTRICAL				
	Service & Distribution	305800	SF	$19.83	$6,062,485
	Lighting & Power	305800	SF	$27.20	$8,316,537
	Special Systems	305800	SF	$22.66	$6,929,122
				TOTAL CORE /SHELL COST	**$87,010,339**
				RATE/SF	**$284.53**

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield — **(Cost Incl. Core and Shell)** — **8**

(Excl. Markups and Sitework)

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DLEO													
Break Room					$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Building Support					$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Classroom					$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Conference Rm					$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Controlled Environ Rm					$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$0	
Greenhouse					$0.00	$0.00	$0	$0.00	$0.00	$45.00	$0.00	$0	
Lab Storage	1050	210	5	29	$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$6,473	$451,513
Lab Support					$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Laboratory	6310	631	10	50	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$58,590	$2,656,736
Laboratory BSL-3					$196.00	$0.00	$3,700	$11.00	$8.00	$85.00	$0.00	$0	
Loading Dock	120	120	1	22	$193.00	$0.00	$2,500	$2.00	$2.00	$15.00	$0.00	$3,679	$46,849
Office	186	62	3	16	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$2,859	$81,939
Office Support	229	38	6	12	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$853	$102,847
Warehouse					$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$0	
Workstation - Open	480	60	8	15	$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$23,616	$210,552

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield | **(Cost Incl. Core and Shell)** | 9

(Excl. Markups and Sitework)

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DHHS													
Break Room													
Building Support													
Classroom	870	870	1	59	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$517	$294,042
Conference Rm	250	250	1	32	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$238	$89,134
Controlled Environ Rm	2330	179	13	27	$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$2,674	$806,543
Greenhouse													
Lab Storage	1735	193	9	28	$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$11,581	$751,084
Lab Support	945	236	4	31	$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$18,725	$417,807
Laboratory	31490	606	52	49	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$304,071	$13,289,714
Laboratory BSL-3	10095	288	35	34	$196.00	$0.00	$3,700	$11.00	$8.00	$85.00	$0.00	$164,668	$4,449,653
Loading Dock													
Office	3510	98	36	20	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$34,880	$1,421,897
Office Support	976	49	20	14	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$2,939	$418,764
Warehouse	10580	2116	5	92	$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$5,386	$3,318,045
Workstation - Open	9235	57	161	15	$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$475,081	$4,100,305

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield — **(Cost Incl. Core and Shell)** — 10

(Excl. Markups and Sitework)

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DEGLE													
Break Room													
Building Support													
Classroom													
Conference Rm													
Controlled Environ Rm	818	273	3	33	$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$743	$274,301
Greenhouse													
Lab Storage	1768	354	5	38	$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$6,796	$737,647
Lab Support	300	150	2	24	$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$9,285	$139,461
Laboratory	33630	1019	33	64	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$199,109	$13,847,346
Laboratory BSL-3													
Loading Dock													
Office	1420	178	8	27	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$8,039	$532,671
Office Support	1141	143	8	24	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$1,513	$424,282
Warehouse	3860	1287	3	72	$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$2,112	$1,222,936
Workstation - Open	2592	49	53	14	$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$156,191	$1,199,828

State of Michigan Consolidated Lab - Option 1 Greenfield

PARAMETER COSTING MODEL
(Cost Incl. Core and Shell)
(Excl. Markups and Sitework)

11

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DARD													
Break Room													
Building Support													
Classroom													
Conference Rm													
Controlled Environ Rm	120	60	2	15	$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$304	$47,368
Greenhouse													
Lab Storage	400	100	4	20	$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$4,980	$184,313
Lab Support	615	615	1	50	$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$4,852	$254,670
Laboratory	25713	459	56	43	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$323,771	$11,051,036
Laboratory BSL-3													
Loading Dock													
Office	90	90	1	19	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$966	$36,895
Office Support	1040	173	6	26	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$1,218	$379,837
Warehouse	3150	3150	1	112	$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$1,543	$981,788
Workstation - Open	3312	52	64	14	$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$188,690	$1,507,553

State of Michigan Consolidated Lab - Option 1 Greenfield

PARAMETER COSTING MODEL
(Cost Incl. Core and Shell)
(Excl. Markups and Sitework)

12

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
Ancillary													
Break Room	2030	290	7	34	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$7,459	$722,478
Building Support	4658	311	15	35	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$2,096	$1,636,228
Classroom													
Conference Rm	5480	343	16	37	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$4,466	$1,918,137
Controlled Environ Rm													
Greenhouse													
Lab Storage	150	150	1	24	$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$1,268	$66,164
Lab Support													
Laboratory													
Laboratory BSL-3													
Loading Dock	2350	294	8	34	$193.00	$0.00	$2,500	$2.00	$2.00	$15.00	$0.00	$30,058	$815,857
Office	120	120	1	22	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$979	$47,121
Office Support	912	101	9	20	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$1,535	$350,850
Warehouse													
Workstation - Open	695	695	1	53	$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$3,238	$235,010

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 1 Greenfield — **(Cost Incl. Core and Shell)** — **13**

(Excl. Markups and Sitework)

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
Penthouse & CUP													
Penthouse	32000	5333	6	146	$223.00	$0.00	$2,500	$3.00	$2.00	$50.00	$0.00	$0	$11,075,419
Central Utility Plant	10000	1667	6	82	$223.00	$0.00	$2,500	$3.00	$2.00	$100.00	$0.00	$0	$4,020,051

PARAMETER COSTING MODEL
(Cost Incl. Core and Shell)
(Excl. Markups and Sitework)

State of Michigan Consolidated Lab - Option 1 Greenfield 14

5/24/2022

Shell Cost **$284.53**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
Core Spaces													
Vertical Circulation - Stairs	8,330	1190	7	69	$223.00	$0.00	$2,500	$7.00	$5.50	$15.00	$0.00	$3,748	$2,728,059
Vertical Circulation Elev	4471.2	894	5	60	$542.00	$0.00	$2,500	$0.00	$0.00	$15.00	$0.00	$2,012	$1,516,386
Mechanical Chases	15,693	1962	8	89	$223.00	$0.00	$2,500	$3.00	$2.00	$15.00	$0.00	$7,062	$4,964,973
Restrooms	5,792	483	12	44	$466.00	$0.00	$2,500	$23.00	$5.50	$25.00	$0.00	$44,606	$2,278,544
Circulation/Corridors	52,759	6595	8	162	$290.00	$0.00	$3,500	$38.00	$8.75	$25.00	$0.00	$23,742	$19,224,832

GROSS SF 305,800

SUB TOTAL BUILDING COST		$117,329,465
SITE PREPARATION		$268,974
SITE IMPROVEMENTS		$4,292,680
SITE UTILITIES		$725,719
NET PROJECT COST		$122,616,838
SILVER LEED	1.50%	$1,839,253
CONTINGENCY	20.00%	$24,891,218
ESCALATION	12.06%	$18,011,285
TOTAL PROJECT CONSTRUCTION COST		**$167,358,594**

State of Michigan Consolidated Lab - Option 1 Greenfield					15 5/24/2022
SITE PREPARATION					
DESCRIPTION	**QUANTITY**	**UM**		**UNIT COST**	**ESTIMATED COST**
Clear & Grub Site	2,410	CY	$	30.00	$72,291
Site Grading in including disposal off site	2,410	CY	$	35.00	$84,339
Demo Trees	15	EA	$	1,000.00	$15,000
Erosion Control Fence	4,922	LF	$	2.00	$9,844
Construction Fence	3,750	LF	$	10.00	$37,500
Unforeseen Soil Conditions Allowance	1	LS		$50,000.00	$50,000
TOTAL					**$268,974**

State of Michigan Consolidated Lab - Option 1 Greenfield				16 5/24/2022		
SITE IMPROVEMENTS						
DESCRIPTION	**QUANTITY**	**UM**		**UNIT COST**		**ESTIMATED COST**
Asphalt Paving Lot	155,823	SF	$	7.00	$	1,090,761.00
Parking Lot Markings	155,824	SF	$	1.00	$	155,824.00
HD Asphalt Paving	56,175	SF	$	12.00	$	674,100.00
Concrete Sidewalk	11,878	SF	$	10.00	$	118,780.00
Curb/Gutter	8,951	LF	$	22.00	$	196,922.00
Concrete Apron / Drive	3,320	SF	$	18.00	$	59,760.00
Concrete Island @ Security Gates	3	EACH	$	12,500.00	$	37,500.00
Security Fence	3,320	LF	$	25.00	$	83,000.00
Security Fence Gates - 14 foot Auto	6	EACH	$	12,500.00	$	75,000.00
Security Fence Man Gate @ Sidewalks	2	EACH	$	4,500.00	$	9,000.00
Grass / Sod Areas	524,793	SF	$	2.00	$	1,049,586.00
Lawn Irrigation	183678	SF	$	1.25	$	229,596.94
Landscape Allowance	1	LS	$	100,000.00	$	100,000.00
Deciduous Tree	186	EACH	$	1,750.00	$	325,500.00
Evergreen Tree 6-8 feet	4	EACH	$	950.00	$	3,800.00
Evergreen Tree 8-10 feet	31	EACH	$	1,250.00	$	38,750.00
Ornamental Tree	56	EACH	$	800.00	$	44,800.00

TOTAL	**$4,292,680**

State of Michigan Consolidated Lab - Option 1 Greenfield				17 5/24/2022
SITE UTILITIES				
DESCRIPTION	**QUANTITY**	**UM**	**UNIT COST**	**ESTIMATED COST**
Site Electrical Utilities	1	LSUM	$300,217.00	$300,217
Site Electrical Lighting and Control	1	LSUM	$225,502.00	$225,502
Domestic Water	1	LSUM	$25,000.00	$25,000
Fire Water	1	LSUM	$30,000.00	$30,000
Sanitary	1	LSUM	$45,000.00	$45,000
Storm	1	LSUM	$100,000.00	$100,000
TOTAL				**$725,719**

D-2: Option 2: Additional/Renovation of Existing Lab

3

State of Michigan Consolidated Lab - Option 2 Addition

5/25/2022

	Space BGSF	Raw Cost	Raw Cost/SF	LEED Silver 1.50%	Subtotal	Contingency 20.00%	Escalation 13.94%	Total Cost	Total Cost/SF
DLEO	8,375	$3,368,587	$ 402.22	$50,529	$3,419,116	$683,823	$571,950	**$4,674,889**	$ 558.20
DHHS	72,016	$28,114,047	$ 390.39	$421,711	$28,535,758	$5,707,152	$4,773,462	**$39,016,371**	$ 541.77
DEGLE	45,529	$16,623,831	$ 365.13	$249,357	$16,873,189	$3,374,638	$2,822,547	**$23,070,374**	$ 506.72
DARD	34,440	$12,878,781	$ 373.95	$193,182	$13,071,963	$2,614,393	$2,186,678	**$17,873,033**	$ 518.96
ANCILLARY	16,395	$5,157,855	$ 314.60	$77,368	$5,235,223	$1,047,045	$875,748	**$7,158,015**	$ 436.60
CORE SPACES	87,045	$28,803,361	$ 330.90	$432,050	$29,235,411	$5,847,082	$4,890,500	**$39,972,993**	$ 459.22
PENT + CUP	27,200	$9,378,318	$ 344.79	$140,675	$9,518,993	$1,903,799	$1,592,337	**$13,015,129**	$ 478.50
Total Bldg. Construction Costs	291,000	$104,324,780	$ 358.50	$1,564,872	$105,889,652	$21,177,930	$17,713,221	**$144,780,803**	$ 497.53
SITEWORK		$2,508,032	$ -	$37,620	$2,545,652	$254,565	$140,011	**$2,940,228**	
Total Construction Costs	291,000	$106,832,812	$ 367.12	$1,602,492	$108,435,304	$21,432,496	$17,853,232	**$147,721,031**	$ 507.63
Cost / GSF					$372.63			$507.63	
GARAGE	133,125	$15,765,704	$ 118.43	$236,486	$18,997,799	$3,799,560	$3,177,952	**$25,975,310**	
EARTHWORK		$6,840,760	$ -	$102,611	$8,243,171	$0	$0	**$8,243,171**	
	424,125							$181,939,512	

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NOTE:
Gold LEED certification would add a cost factor of 4.5% in lieu of the Silver LEED at 1.5%

1815 South Meyers Road
Suite 1070
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630.678.0808
www.CCSdifference.com

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition 4

SHELL COST : $264.06

GROSS AREA: 291000 SF 5/25/2022

COST SUMMARY

DESCRIPTION	TOTAL COST		RATE/SF	% of Total
01 - FOUNDATIONS	$447,600		$1.54	0%
011 - Standard Foundations	$397,600	$1.37		
012 - Special Foundations	$50,000	$0.17		
02 - SUBSTRUCTURE	$10,253,600		$35.24	6%
021 - Slab on Grade	$603,440	$2.07		
022 - Basement Excavation	$6,840,760	$23.51		
023 - Basement Walls	$2,809,400	$9.65		
03 - SUPERSTRUCTURE	$16,324,756		$56.10	9%
031 - Floor Construction	$12,938,276	$44.46		
032 - Roof Construction	$3,112,480	$10.70		
033 - Stair Construction	$274,000	$0.94		
04 - EXTERIOR CLOSURE	$6,558,852		$22.54	4%
041 - Exterior Walls	$2,513,082	$8.64		
042 - Exterior Doors & Windows	$4,045,770	$13.90		
05 - ROOFING	$2,371,670		$8.15	1%
06 - INTERIOR CONSTRUCTION	$11,049,020		$37.97	6%
061 - Partitions	$5,341,528	$18.36		
062 - Interior Finishes	$5,275,001	$18.13		
063 - Specialties	$432,490	$1.49		
07 - CONVEYING SYSTEMS	$675,000		$2.32	0%
08 - MECHANICAL	$52,546,666		$180.57	29%
081 - Plumbing	$10,200,027	$35.05		
082 - HVAC	$37,345,420	$128.33		
083 - Fire Protection	$1,710,564	$5.88		
084 - Special Systems - Lab Gas	$3,290,655	$11.31		

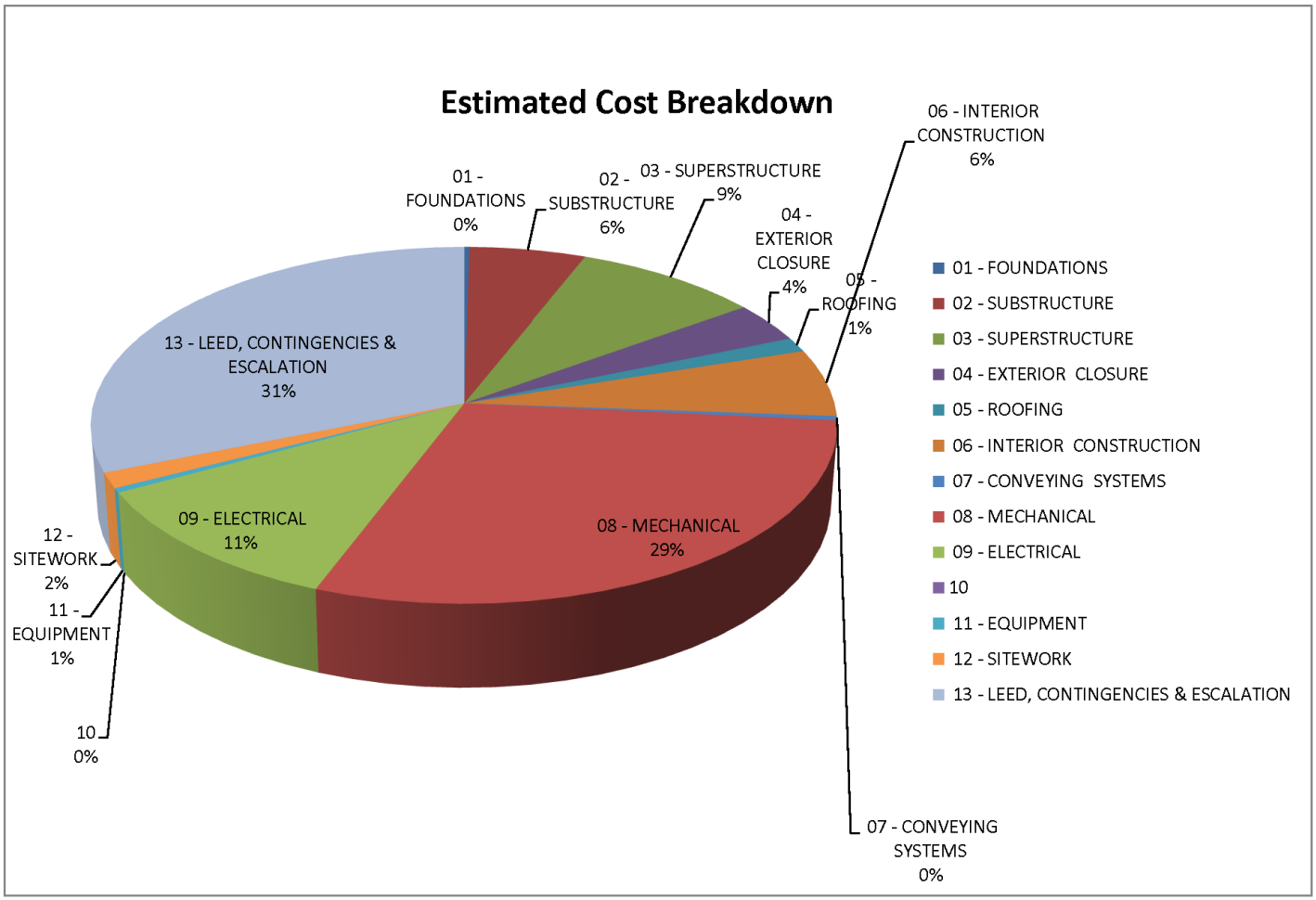
PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition 5

GROSS AREA: 291000 SF **5/25/2022**

COST SUMMARY

DESCRIPTION	TOTAL COST		RATE/SF	% of Total
09 - ELECTRICAL		$20,276,880	$69.68	11%
091 - Service & Distribution	$5,769,075	$19.83		
092 - Lighting & Power	$7,914,036	$27.20		
093 - Special Systems AV/IT	$6,593,769	$22.66		
10			$0.00	0%
NET BUILDING CONSTRUCTION COST	**$120,504,043**			
11 - EQUIPMENT		$719,315	$2.47	0%
111 - Fixed & Movable Equipment	$719,315	$2.47		
112 - Furnishings	$0	$0.00		
113 - Special Construction	$0	$0.00		
12 - SITEWORK		$2,508,032	$8.62	1%
121 - Site Preparation	$826,060	$2.84		
122 - Site Improvements	$956,253	$3.29		
123 - Site Utilities	$725,719	$2.49		
124 - Off-Site Work	$0	$0.00		
NET PROJECT CONSTRUCTION COST	**$123,731,390**			
13 - LEED, CONTINGENCIES & ESCALATION		$55,997,653	$100.73	31%
SILVER LEED @ 1.5%	$2,166,035			
GC OH&P @ 12%	$0			
CLOSEOUT COSTS @ 6%	$0	$0.00		
CONTINGENCY @ 20%	$29,313,667	$100.73		
ESCALATION @ 13.94%	$24,517,951			
TOTAL PROJECT CONSTRUCTION COST	**$179,729,044**		**$617.63**	


Estimated Cost Breakdown
01 - FOUNDATIONS 0%
02 - SUBSTRUCTURE 6%
03 - SUPERSTRUCTURE 9%
04 - EXTERIOR CLOSURE 4%
05 - ROOFING 1%
06 - INTERIOR CONSTRUCTION 6%
07 - CONVEYING SYSTEMS 0%
08 - MECHANICAL 29%
09 - ELECTRICAL 11%
10 0%
11 - EQUIPMENT 1%
12 - SITEWORK 2%
13 - LEED, CONTINGENCIES & ESCALATION 31%
01 - FOUNDATIONS
02 - SUBSTRUCTURE
03 - SUPERSTRUCTURE
04 - EXTERIOR CLOSURE
05 - ROOFING
06 - INTERIOR CONSTRUCTION
07 - CONVEYING SYSTEMS
08 - MECHANICAL
09 - ELECTRICAL
10
11 - EQUIPMENT
12 - SITEWORK
13 - LEED, CONTINGENCIES & ESCALATION

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition — **New Core and Shell** — 7

Lansing, MI

5/25/2022

SHELL COST : **$264.06**

DESCRIPTION	ITEM	QUANTITY	UNIT	UNIT PRICES	TOTAL
	STRUCTURE				
Parking garage	Garage mass excavation	72008	CY	$95.00	$6,840,760
Foundations & SOG	Mass Excavation	2353	CY	$15.00	$35,295
Balanced site	Mass Fill	2353	CY	$35.00	$82,355
Foundations	Foundation Wall & Footing	711	LF	$350.00	$248,850
Column footings using 992 SF size bays	Column Footing	85	EA	$1,750.00	$148,750
6" SOG on Grade	Slab on Grade	63520	SF	$9.50	$603,440
Parking garage	Concrete Foundation Wall w/ Footing	1277	LF	$2,200.00	$2,809,400
Structural Steel Structure with Metal Deck and Concrete Topping	Elevated Floor Structure	248813	SF	$52.00	$12,938,276
Structural Steel Structure with Metal Deck	Roof Structure	63520	SF	$49.00	$3,112,480
Metal Pan Stairs @ Stair Towers	Stairs	2	EA	$137,000.00	$274,000
	ENVELOPE				
Brick with Metal Stud Back-up & Metal Panel Wall System	Exterior Enclosure	32219	SF	$78.00	$2,513,082
Storefront and Curtain Wall Systems	Window Wall	29302	SF	$135.00	$3,955,770
4 Main Drs, 2 Roof Drs @ PH, 4 Mech Dr and 5 Exit Dr	Exterior Doors	15	EA	$6,000.00	$90,000
Select exterior walls	Exterior Demolition	1	LS	$20,000.00	$20,000
TPO Mechanically Fastened on Insulation & 1,000Sf of Pavers	Roofing	63520	SF	$36.00	$2,286,720
Not in Scope	Skylight	0	SF	$0.00	$0
Metal Coping	Roof Edge	1699	LF	$50.00	$84,950
	CONVEYING SYSTEMS				
2 - Passenger, 1 Freight	Elevators etc.	3	EA	$225,000.00	$675,000
	MECHANICAL				
	Plumbing	291000	SF	$25.00	$7,275,000
	H.V.A.C	291000	SF	$87.50	$25,462,500
	Fire Protection	291000	SF	$5.25	$1,527,750
	Special Mechanical	291000	SF	$2.75	
	ELECTRICAL				
	Service & Distribution	291000	SF	$19.83	$5,769,075
	Lighting & Power	291000	SF	$27.20	$7,914,036
	Special Systems	291000	SF	$22.66	$6,593,769
			TOTAL CORE /SHELL COST		**$91,261,258**
			RATE/SF		**$264.06**

State of Michigan Consolidated Lab - Option 2 Addition

PARAMETER COSTING MODEL
(Cost Incl. Core and Shell)
(Excl. Markups and Sitework)

5/25/2022

Shell Cost **$264.06**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DLEO													
Break Room	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Building Support	4004	334	12	37	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	$1,319,124
Classroom	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Conference Rm	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Controlled Environ Rm	0		0		$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$0	
Greenhouse	0		0		$0.00	$0.00	$0	$0.00	$0.00	$45.00	$0.00	$0	
Lab Storage	0		0		$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Lab Support	0		0		$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Laboratory	3965	159	25	25	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$141,159	$1,833,624
Laboratory BSL-3	0		0		$196.00	$0.00	$3,700	$11.00	$8.00	$85.00	$0.00	$0	
Loading Dock	0		0		$193.00	$0.00	$2,500	$2.00	$2.00	$15.00	$0.00	$0	
Office	406	27	15	10	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$14,058	$215,839
Office Support	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Warehouse	0		0		$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$0	
Workstation - Open	0		0		$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition — **(Cost Incl. Core and Shell)** — 9

(Excl. Markups and Sitework)

5/25/2022

Shell Cost $264.06

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DHHS													
Break Room													
Building Support													
Classroom	0		0		$184.00	$1.50	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Conference Rm	0		0		$184.00	$1.50	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Controlled Environ Rm	0		0		$196.00	$1.50	$2,500	$9.00	$8.00	$0.00	$0.00	$0	
Greenhouse													
Lab Storage	0		0		$184.00	$1.50	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Lab Support	0		0		$192.00	$1.50	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Laboratory	72016	1600	45	80	$213.00	$1.50	$4,000	$11.00	$8.00	$88.75	$0.00	$283,282	$28,114,047
Laboratory BSL-3	0		0		$196.00	$1.50	$3,700	$11.00	$8.00	$85.00	$0.00	$0	
Loading Dock													
Office	0		0		$184.00	$1.50	$3,450	$7.00	$5.50	$25.00	$0.00	$0	
Office Support	0		0		$184.00	$1.50	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Warehouse	0		0		$193.00	$1.50	$2,499	$2.00	$2.00	$15.00	$0.00	$0	
Workstation - Open	0		0		$103.00	$1.50	$2,500	$7.00	$5.50	$25.00	$0.00	$0	

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition — **(Cost Incl. Core and Shell)** — 10

(Excl. Markups and Sitework)

5/25/2022

Shell Cost **$264.06**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DEGLE													
Break Room													
Building Support	16700	1392	12	75	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	$5,231,576
Classroom			0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Conference Rm			0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Controlled Environ Rm	0		0		$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$0	
Greenhouse	0												
Lab Storage	0		0		$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Lab Support	0		0		$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Laboratory	25633	583	44	48	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$256,835	$10,317,056
Laboratory BSL-3	0												
Loading Dock	0												
Office	3196	320	10	36	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$10,688	$1,075,199
Office Support	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Warehouse	0		0		$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$0	
Workstation - Open	0		0		$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition — **(Cost Incl. Core and Shell)** — 11

(Excl. Markups and Sitework)

5/25/2022

Shell Cost **$264.06**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
DARD													
Break Room													
Building Support	11988	1499	8	77	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	$3,748,391
Classroom	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Conference Rm	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Controlled Environ Rm	0		0		$196.00	$0.00	$2,500	$9.00	$8.00	$0.00	$0.00	$0	
Greenhouse													
Lab Storage	0		0		$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Lab Support	0		0		$192.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Laboratory	19450	347	56	37	$213.00	$0.00	$4,000	$11.00	$8.00	$85.00	$0.00	$320,953	$8,144,967
Laboratory BSL-3													
Loading Dock													
Office	2962	370	8	38	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$8,733	$985,423
Office Support	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Warehouse	0		0		$193.00	$0.00	$2,499	$2.00	$2.00	$15.00	$0.00	$0	
Workstation - Open	0		0		$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	

State of Michigan Consolidated Lab - Option 2 Addition

PARAMETER COSTING MODEL
(Cost Incl. Core and Shell)
(Excl. Markups and Sitework)

12

5/25/2022

Shell Cost **$264.06**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
Ancillary													
Break Room	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Building Support	1550	97	16	20	$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$698	$566,988
Classroom													
Conference Rm	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Controlled Environ Rm													
Greenhouse													
Lab Storage	0		0		$184.00	$0.00	$2,500	$9.00	$8.00	$85.00	$0.00	$0	
Lab Support													
Laboratory	0												
Laboratory BSL-3													
Loading Dock	0		0		$193.00	$0.00	$2,500	$2.00	$2.00	$15.00	$0.00	$0	
Office	2400	400	6	40	$184.00	$0.00	$3,450	$7.00	$5.50	$25.00	$0.00	$6,630	$795,223
Office Support	0		0		$184.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	
Warehouse	12445	1556	8	79	$193.00	$0.00	$2,499	$2.00	$2.00	$25.00	$0.00	$6,600	$3,795,643
Workstation - Open	0		0		$103.00	$0.00	$2,500	$7.00	$5.50	$25.00	$0.00	$0	

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition — **(Cost Incl. Core and Shell)** — **13**

(Excl. Markups and Sitework)

5/25/2022

Shell Cost **$264.06**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
Penthouse & CUP													
Penthouse	17200	1720	10	83	$223.00	$0.00	$2,500	$3.00	$2.00	$50.00	$0.00	$0	$5,697,844
CUP	10000	1667	6	82	$10.00	$0.00	$2,500	$2.00	$0.00	$100.00	$0.00	$0	$3,680,474
Parking Garage	133126	19018	7	276	$0.00	$0.00	$0	$0.00	$0.00	$20.00	$0.00	$0	$37,815,165
	0		1		$0.00	$0.00	$0	$0.00	$0.00	$0.00	$0.00	$0	

PARAMETER COSTING MODEL

State of Michigan Consolidated Lab - Option 2 Addition — **(Cost Incl. Core and Shell)** — 14

(Excl. Markups and Sitework)

5/25/2022

Shell Cost **$264.06**

SPACE	TOTAL N.S.F.	AVE S.F.	NO. OF SPACES	PTN. LENGTH	PTN $/LF	DEMO $/SF	DOOR $/SPACE	FLOOR $/SF	CLG $/SF	MECH $/SF	ELECT $/SF	EQUIP SPECIAL	TOTAL COST
Core Spaces													
Vertical Circulation - Stairs	8,900	1271	7	71	$223.00	$0.00	$2,500	$7.00	$5.50	$15.00	$0.00	$4,005	$2,727,179
Vertical Circulation Elev	9500	1900	5	87	$542.00	$0.00	$2,500	$0.00	$0.00	$15.00	$0.00	$4,275	$2,903,572
Mechanical Chases	18,500	1233	15	70	$223.00	$0.00	$2,500	$3.00	$2.00	$15.00	$0.00	$8,325	$5,535,001
Restrooms	14,745	819	18	57	$466.00	$0.00	$2,500	$23.00	$5.50	$25.00	$0.00	$69,635	$5,275,106
Circulation/Corridors	35,400	2529	14	101	$290.00	$0.00	$3,500	$38.00	$8.75	$25.00	$0.00	$15,930	$12,362,503

SUB-TOTAL

GROSS SF 424086

SUB TOTAL BUILDING COST		$142,139,945
SITE PREPARATION		$580,386
SITE IMPROVEMENTS		$956,253
SITE UTILITIES		$725,719
NET PROJECT COST		$144,402,303
SILVER LEED	1.50%	$2,166,035
G.C.O.H & P	0.00%	$0
CLOSEOUT COSTS	0.00%	$0
CONTINGENCY	20.00%	$29,313,667
ESCALATION	13.94%	$24,517,951
TOTAL PROJECT CONSTRUCTION COST		**$200,399,956**

State of Michigan Consolidated Lab - Option 2 Addition 15 5/25/2022

SITE PREPARATION

DESCRIPTION	QUANTITY	UM		UNIT COST	ESTIMATED COST
Clear & Grub Site	6,588	CY	$	30.00	$197,630
Site Grading in including disposal off site	4,596	CY	$	35.00	$160,862
Storm Water detention Basin	969	CY	$	32.00	$30,999
Erosion Control Fence	1,695	LF	$	2.00	$3,390
Construction Fence	1,695	LF	$	10.00	$16,950
Unforeseen Soil Conditions Allowance	1	LS		$50,000.00	$50,000
Demo Trees		EA	$	1,000.00	
Demo Asphalt Paving	6,991	SY	$	11.61	$81,168
Demo Concrete Curb & Gutter	1,948	LF	$	8.52	$16,597
Demo Concrete Sidewalk	716	SY	$	21.99	$15,738
Demo Fencing	342	LF	$	20.62	$7,052

TOTAL **$580,386**

State of Michigan Consolidated Lab - Option 2 Addition 16 5/25/2022

SITE IMPROVEMENTS

DESCRIPTION	QUANTITY	UM		UNIT COST		ESTIMATED COST
Asphalt Paving Lot	24,699	SF	$	7.00	$	172,893.00
Parking Lot Markings	24,699	SF	$	1.00	$	24,699.00
HD Asphalt Paving	2,626	SF	$	12.00	$	31,512.00
Concrete Sidewalk	6,777	SF	$	10.00	$	67,770.00
Curb/Gutter	1,102	LF	$	22.00	$	24,244.00
Concrete Apron / Drive	11,189	SF	$	18.00	$	201,402.00
Concrete Island @ Security Gates	1	EACH	$	12,500.00	$	12,500.00
Security Fence	879	LF	$	25.00	$	21,975.00
Security Fence Gates - 14 foot Auto	4	EACH	$	12,500.00	$	50,000.00
Security Fence Man Gate @ Sidewalks	2	EACH	$	4,500.00	$	9,000.00
Grass / Sod Areas	54,793	SF	$	2.00	$	109,586.00
Lawn Irrigation	19178	SF	$	1.25	$	23,971.94
Landscape Allowance	1	LS	$	100,000.00	$	100,000.00
Deciduous Tree	46	EACH	$	1,750.00	$	80,500.00
Evergreen Tree 6-8 feet	5	EACH	$	950.00	$	4,750.00
Evergreen Tree 8-10 feet	5	EACH	$	1,250.00	$	6,250.00
Ornamental Tree	19	EACH	$	800.00	$	15,200.00

TOTAL	**$**	**956,252.94**

State of Michigan Consolidated Lab - Option 2 Addition				17 5/25/2022
SITE UTILITIES				
DESCRIPTION	**QUANTITY**	**UM**	**UNIT COST**	**ESTIMATED COST**
Site Electrical Utilities	1	LSUM	$300,217.00	$300,217
Site Electrical Lighting and Control	1	LSUM	$225,502.00	$225,502
Domestic Water	1	LSUM	$25,000.00	$25,000
Fire Water	1	LSUM	$30,000.00	$30,000
Sanitary	1	LSUM	$45,000.00	$45,000
Storm	1	LSUM	$100,000.00	$100,000
TOTAL				**$725,719**

APPENDIX E: LEED SILVER CAPITAL COST ESTIMATE SUMMARY

	Option 1: Greenfield	Option 2: Addition/Renovation
Construction		
1. Hard Construction Costs	$122,616,838	$129,439,276
2. LEED Silver Costs	$1,839,253	$1,941,589
Subtotal	$124,456,091	$131,380,865
3. Design and Construction Contingency (20%)	$24,891,218	$26,276,173
Lab Subtotal	$149,347,309	$157,657,038
4. Cogeneration Plant Upgrades and Tunnel	$32,000,000	N/A
5. Cogeneration Contingency (30%)	$9,600,000	N/A
Cogen Subtotal	$41,600,000	N/A
6. Cogeneration CUP Space Savings	($2,040,176)	N/A
Pre-Escalation Total	$188,907,133	$157,657,038
7. Escalation	$22,782,200	$21,977,391
Construction Costs	**$211,689,333**	**$179,634,429**
Design, Construction Management, Closeout		
8. A/E Fee (8%)	$16,935,147	$14,370,754
9. CM General Conditions (4%)	$8,467,573	$7,185,377
10. Contractor Overhead and Profit (8%)	$16,935,147	$14,370,754
11. DTMB/SFA/DCD Fee (2%)	$4,233,787	$3,592,689
12. Building Commissioning	$775,000	$725,000
13. Existing Equipment Move and Calibration (3%)	$4,952,171	$4,447,843
Reservations		
14. Furnitures, Fixtures, and Equipment Allowance (10%)	$16,507,237	$16,557,237
15. Signage	$850,000	$950,000
16. Delivery and Commercial Risk Contingency (10%)	$21,168,933	$17,963,443
Total Project Costs	**$302,514,328**	**$259,797,527**