

FACILITY SUMMARY

The table below represents the history of needs assessments and planning studies focused on the programmatic space needs for the VDL, comparing occupied space to future programmatic space needs.

Space Type*	2012 Occupied NSF	2013 Needs Assessment NSF	2014 Occupied NSF	2014 Planning Study NSF	Current Study		
					2018 Occupied NSF	2018 Full Program	2018 Budget Based
Common Space				4,726		5,270	2,820
Administration	3,591	5,770	2,979	1,886	1,983	2,300	300
Information Technology	816	1,056	810	1,068	995	1,056	-
Bacteriology	5,546	6,892	6,009	6,595	6,196	6,465	6,465
Serology	3,000	4,075	3,017	4,415	3,275	4,445	-
PhAST	7,672	8,553	6,155	7,137	10,233		
Toxicology and Nutrition	4,021	5,277	4,059	5,350	-		
Pathology/Necropsy	8,017	12,565	7,942	12,130	9,844	14,126	14,126
BSL-3 Diagnostic Facility	3,484	6,220	3,244	2,184	2,586	2,684	-
Molecular & Viral Diagnostics	6,403	11,400	12,338	11,535	11,460	12,803	-
Histology	1,334	3,973	1,643	2,692	1,692	3,333	3,333
Research	9,229	18,857	9,377	14,598	11,004	15,198	5,000
Shared Lab Functions	731	1,218	1,311	645	2,746	795	795
Materials Receiving and Handling	-	-	-	3,998	-	3,998	3,998
Mailroom and Sample Receiving	664	3,000	663	4,167	2,316	4,167	4,167
Dirty Corridor	-	6,337	-	-	-	-	-
Analytical Chemistry	-	-	-	-	-	10,300	-
Building Support	-	-	-	-	-	800	800
Total Net Square Feet (NSF)	54,508	95,193	59,577	83,126	64,330	87,740	41,804
NSF/GSF Ratio		55%		55%		63%	57%
Total Gross Square Feet (GSF)		173,078		151,138		139,270	73,340

The program breakdown above is for the VDL program spaces only. An 8,000 GSF heating and cooling plant is needed to support the new building. Total project GSF including the heating and cooling plant as follows:

- 2018 Full Building Program total with Plant = 147,270 gsf
- 2018 Budget Based Program total with Plant= 81,340 gsf

PROGRAM SPACE ANALYSIS SUMMARY

Over a two-month period, the data from the 2014 Planning Study was carefully analyzed and compared to the current programmatic needs for the VDL and the ISU space inventory data base. The following is a list of several operational and programming changes that were identified through this verification study:

- Operational efficiencies implemented after the 2014 study instituted significant changes to processes and overall process flow, impacting the amount of space allocated to the materials and sample receiving, processing, handling and storage.
- Staffing levels have increased to support and maintain the VDL's quality assurance and client services as caseloads continue to increase.
- On-going and anticipated replacement of existing instrumentation needs to be accommodated; additional square footage will be needed to support robotic instrumentation.
- The area allocated to common space was expanded to incorporate institutional guidelines for shared spaces like lactation facilities and gender-neutral restrooms, as well as collaboration areas designed to facilitate informal interaction between faculty, staff and students.

COST AND SCHEDULE SUMMARY

The estimated project costs developed for each option include design and construction, fixed and moveable equipment, utility extensions, and project contingency costs in project 2022 dollars, which is the projected midpoint of construction.

COST SUMMARY

	Full Building Program	Budget Based Program
2022 Adjusted Costs		
Net Building Area (NSF)	87,740	41,804
Gross Building Area (GSF)	139,270	73,340
Construction \$/GSF	555	555
Construction Cost		
Building Construction (GSF x Construction \$/GSF)	77,232,000	40,671,000
Heating & Cooling Plant Equipment and Construction	5,613,000	3,680,000
Incinerator Equipment (enclosure Incl In const cost)	1,809,000	1,809,000
Site Development/Utilities	6,351,000	6,351,000
Design Build Professional Fees	5,352,000	2,927,000
Design Build Contract	96,358,000	55,438,000
Construction Cost Outside of DB Contract	3,860,000	2,172,000
Construction Contingency	4,833,000	2,787,000
Construction Total	105,051,000	60,396,000
Total Construction Cost \$/GSF	746	817
Non-Construction Costs		
Furniture	3,633,000	2,090,000
Instructional Technology	819,000	471,000
Air Quality Emissions	250,000	250,000
Equipment	4,681,000	4,681,000
Other Project Costs	11,691,000	7,138,000
Non-Construction Costs Total	21,073,000	14,630,000
Total Project Cost	126,124,000	75,026,000
Total Project Cost \$/GSF	906	1,023

Notes:

1. The Gross Building Area (GSF) above is for the VDL program spaces only. An 8,000 GSF heating and cooling plant is needed to support the new building. Total project GSF including the heating and cooling plant as follows:
 2018 Full Building Program total with Plant = 147,270 gsf
 2018 Budget Based Program total with Plant = 81,340 gsf
2. Non-Construction Costs-Equipment; Costs include stand-alone lab equipment. Lab sections in the budget based program have the greatest equipment need in a new facility. Lab equipment needs identified by VDL.
3. Non-Construction Costs-Instructional Technology; Costs includes purchase and installation of media equipment. Examples: projectors, displays/monitors, Audio Visual equipment.
4. Non-Construction Costs-Air Quality Emissions; ISU operates under a Title V Operating Permit issued by the Iowa DNR. Air quality modeling is required any time ISU adds a permitted emission unit. The VDL project will require installation of several emission units that likely will require construction permits. These will include the incinerator, a large diesel generator, and gas-fired boilers. Other campus emissions units may also need modifications to allow installation of the new emissions units. ISU will need to modify the ISU Title V Operating Permit to incorporate the equipment installed as-part of the VDL project or any existing equipment modified to ensure compliance. Costs for Air Quality Emissions will be similar in both a budget based program and full building program.

EXPANSION OPTIONS