SOUTH DAKOTA DEPARTMENT OF HEALTH

2022 ARPA Capital Construction Project (SB 58)
South Dakota Department of Health – Public Health Laboratory Building

Presentation to the Senate Health and Human Services Committee
January 26, 2022

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Presentation Overview

- ARPA Capital Projects Fund
- Purpose of a State Public Health Laboratory
- Need for a New Laboratory Building
- Proposed Construction and Renovation Project

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ARPA Capital Project Fund Requirements

1. Capital assets to enable work, education, and health monitoring
2. Address a critical need made apparent by the COVID-19 public health emergency
3. Address a critical need of the community (State) to be served

The Public Health Laboratory Construction Project meets all criteria.

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What is a Public Health Laboratory?

- Part of the National Laboratory Response Network
- First to implement new testing methods targeted at public health emergencies
- Coordinate efforts with partners to reduce preventable risks (e.g., foodborne illness, drug overdose, environmental threats)
- State's principal laboratory for highly specialized testing
- Performs reference testing, diagnostic testing and disease surveillance

State public health laboratories (PHLs) are part of a national laboratory system that serve as the first line of response to emerging natural and man-made threats to the health of the nation's population.

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What is a Public Health Laboratory?

- Communicates and coordinates with private sector laboratories in support of public health
- Ensures the availability, quality, and reporting of laboratory testing performed in the private sector
- Expands laboratory testing capacity in each state when necessary (e.g., Ebola, Zika, SARS-CoV-2, opioids, hemp, medical cannabis, etc.)
- Provides training for public health and clinical laboratory personnel on biosafety, best practice standards, packaging and handling of samples/specimens, and other critical laboratory processes

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Public Health Laboratory (PHL) Building, Pierre, SD

- Constructed in 1995
- 36,500 sq. ft. facility designed only for laboratory operations
- Currently occupied by 31 laboratory staff and 60 other DOH staff
- $7.1M bond issued in 1995
  - General Funds – Annual bond payments $660,000/year
  - $13.4 M total General Funds – bond payoff 2014

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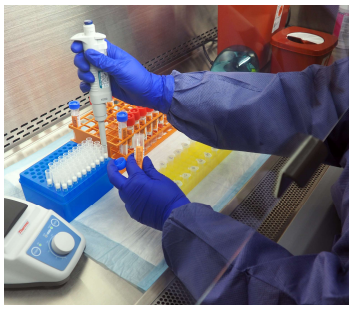
Science and Technology Advancements

Productivity, safety, and technology – focus of modern laboratory design

- Highly repetitive and manual tasks transition to new generations of laboratory instruments and automation
- SDPHL workforce:
  - FY 2011 – 28 FTE
  - FY 2023 – 31 FTE



Manual Specimen Handling (1995)

Automated Specimen Handling (2022)

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Science and Technology Advancements

Safety:
Complex safety infrastructure required for laboratory testing

Biological Safety Cabinet

Steam Sterilizer

Chemical Fume Hood

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Science and Technology Advancements

Technology:
Information technology (IT) – key component laboratory instruments

High-Throughput Instruments for COVID, HIV, STD, and Hepatitis Testing

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Science and Technology Advancements

Technology:
Highly specialized testing capability

Infectious Disease Surveillance

Drinking Water Testing

Substances of Abuse Detection

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Science and Technology Advancements

Technology:
Advanced molecular diagnostics:

Molecular Diagnostics

Next Generation Sequencing

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Modern Laboratory Design

Impact on Safety:

- Safe storage of all supplies, including infectious agents
- Management of biological, chemical, and radiological waste
- Infection prevention using negative pressure rooms, biological safety cabinets, chemical fume hoods, pass-through steam sterilizers, and no-touch faucets

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Modern Laboratory Design

Impact on Safety:

- Modular, flexible design that allows configuration and reconfiguration depending upon testing needs
- Separation of staff from testing agents and instruments
- Overhead utilities that keep laboratory workspaces and walkways clear and safe

Current SDPHL Design with Co-located Laboratory and Administrative Workspaces

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Laboratory Building Limitations Made Apparent by the COVID-19 Public Health Emergency

- Public health laboratory testing infrastructure strained
- COVID-19 testing surged significantly
- Over twenty new instruments required
- PHL Building overflowing with items required for pandemic response

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Capital Construction Project

- Building assessment conducted in summer 2021
  - Structurally sound building with significant laboratory limitations
  - Insufficient space for Public Health Laboratory:
    - Current Laboratory Space: 19,974 sq. ft.
    - Needed Laboratory Space: 45,443 sq. ft.
- DOH staff in 4 different locations – 160 Pierre-based DOH staff

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Capital Construction Project Goals

- Construct a new Public Health Laboratory facility
- Renovate the existing Public Health Laboratory Building
- Consolidation of DOH Central Office and Laboratory
- Site: Existing PHL Building property at the corner of 4th Street and Governor's Drive
- Total project will provide 92,406 total net sq. ft.

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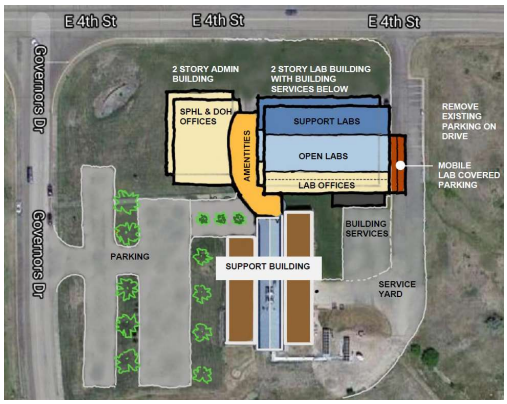
Proposed New Construction and Renovation



Conceptual Design

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Public Health Laboratory Construction Project

ARPA Capital Project Fund

New Laboratory and Department of Health Construction:

- Estimated Cost[1]: $69.6M
- Cost Breakdown: $55.6M new construction and renovation
  $14M additional expenses[2]

Funding:

- 100% Federal Funding - ARPA Capital Projects Fund

Extraordinary and Historic Federal Funding Opportunity

[1]Cost estimate provided 2021
[2]Architectural design, site preparation, furniture, building commissioning, movement of scientific equipment

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