

New Mexico Department of Agriculture Preliminary Space Needs Assessment

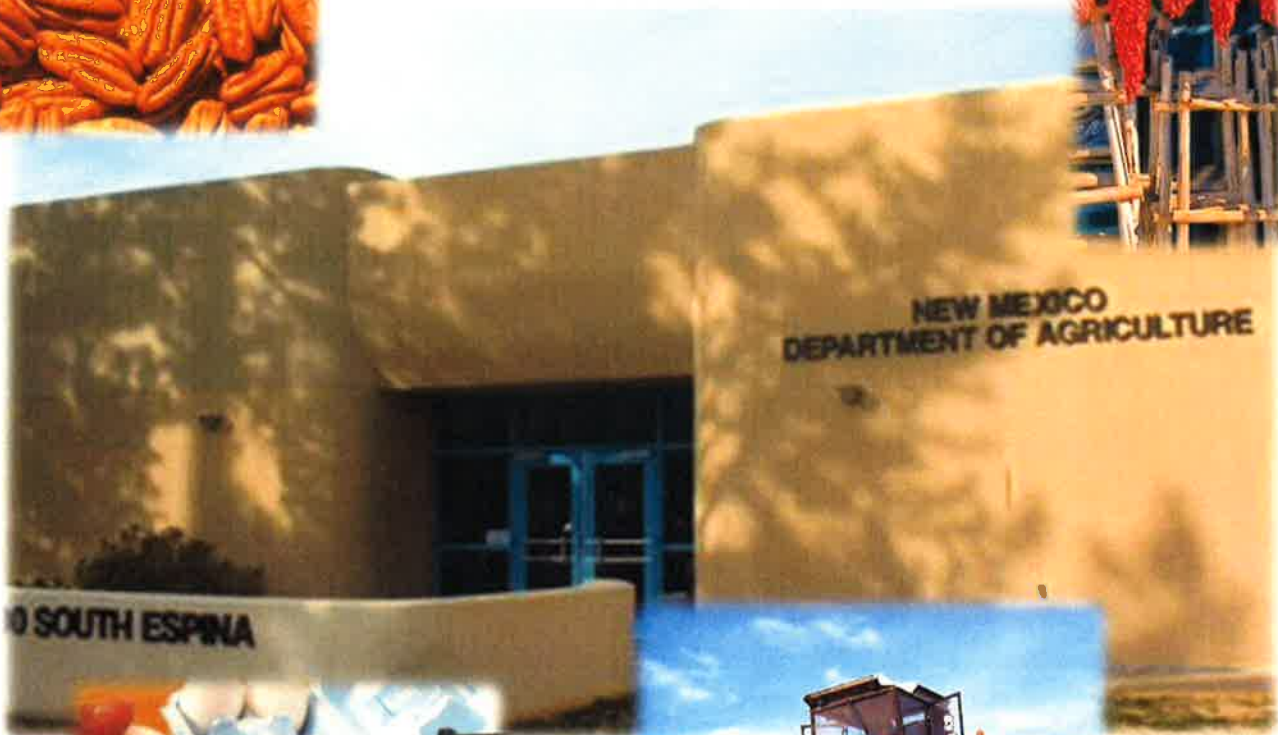


Table of Contents

New Mexico Department of Agriculture (NMDA) Overview and Summary	1
New Mexico Department of Agriculture (NMDA).....	7
Agriculture & Environmental Services (AES)	10
Agriculture Programs & Resources (APR).....	14
Biosecurity	16
Dairy.....	17
Information Technology & Communications (ITC).....	18
Marketing	22
Standards & Consumer Services (SCS).....	26
Laboratory Requirements	28

Mission:

NMDA promotes food protection, a uniform and fair market place, and global marketing and economic development, supports beneficial use of natural resources, and works cooperatively with public and private sector entities. The agency:

- Ensures a safe and secure food supply and a uniform and fair market place.
- Protects natural resources and the environment.
- Promotes marketing and trade domestically and internationally.
- Works cooperatively with all levels of government and tribal entities; private industry; and the public.

FOOD AND FIBER; YESTERDAY, TODAY AND TOMORROW

Values:

Our policies, procedures, and standards provide guidance for application of the values stated below in our daily life and work as members of this community.

Professionalism: NMDA is committed to carrying out its vision and mission by providing the highest quality services to the food and agriculture industry and the public.

Service: NMDA supports the well-being of its constituents and the public through efficient and effective use of its resources.

Leadership: NMDA provides a visionary, innovative, and responsive environment to serve.

Current Conditions

The Las Cruces NMDA building houses multiple divisions and functions including Agricultural Programs & Resources, Agricultural & Environmental Services, Marketing & Development, Standards & Consumer Services, Information Technology & Communications, the Directors Office and the Support Services Division, as well as the Chemistry, Seed, Petroleum and Metrology laboratories. The Las Cruces location includes space for offices, employee cubicles, an employee lounge, meeting rooms and storage space for equipment, records, and vehicles. The majority of the NMDA services are located in the Las Cruces main office.

NMDA Quick Facts	
Staff	131 Fulltime 13 Students
In House Staff	96
Inspection Staff	48

The ADO functions as the primary location for the Dairy Division, Organic Program and provides support to inspection staff and industry located in and around the Albuquerque area. Establishment of an easily accessible and identifiable district office serving Albuquerque and Northern New Mexico would provide a professional presence for NMDA and assist in better serving industry in that part of the state; provide support to inspection staff in terms of workspace and technical capabilities; facilitate stronger working relationships between staff assigned to that part of the state; create a site to perform immediate initial analysis for samples increasing responsiveness to industry when needed.

The spatial requirements of the various divisions are not being met by the current square footage available, the layout of the spaces and the adjacencies to other divisions. The administrative spaces also have similar issues. The laboratories have fit into spaces which are undersized and not supplied with the current standards for heating, air conditioning, ventilation, or power requirements. The building does not reflect any type of flexibility or organizational structure used today in the design of similar buildings. Storage, with required various environmental conditions, for many of the divisions is also not up to current codes or standards. There is a safety component which also needs to be addressed throughout the entire building based on current standards.



The 28,000 square foot building currently occupied by NMDA is not large enough to house all of its personnel and equipment. Currently the Southwest Border Food Protection and Emergency Preparedness Center is situated at another location. The facility also lacks adequate conference room, office, and laboratory, storage, and break room space.

NMDA protects New Mexico agriculture and the food supply through inspections, laboratory diagnostics, and advice for policy formulation. NMDA is actively engaged with industry in the development and implementation of federal and state policies and regulations.

NMDA must be supplied with the tools necessary to fulfill this mission. Important consideration should be given to both the renovation and expansion of the current undersized and antiquated facility.



Meeting Space:

There is a significant shortage of meeting spaces throughout the Las Cruces building. There is a high demand for small (3-5 people) and large (10-20 people) meeting spaces. The ADO and PGS also lack adequate meeting spaces.

Lab Space:

Lab space has become antiquated over the years and the need for a secure, separate space from the main offices is ever more pressing. In addition the current size and lack of expandability of the existing areas leaves little area for personnel and equipment greatly needed to offer new analyzing capabilities for the services currently offered to New Mexico residents and industry. The ADO and PGS lack any laboratory services and the addition of labs in the areas would greatly benefit consumers with analytical work, as well as prep areas for samples being sent to Las Cruces.

Parking:

The fenced parking area in Las Cruces does not have enough spaces to accommodate the fleet and large testing units. The ADO and PGS lack secured lots altogether for vehicles and equipment.

Affinities:

We found that almost every division working in the main NMDA building has tight affinities with at least one or more other divisions, and that working out of the same building is extremely useful for these relationships and continuity of services.

Infrastructure:

Infrastructure is becoming increasingly problematic for both the ADO and PGS in terms of speed and reliability of communications. Primarily in regards to data streaming and security when contacting the main Las Cruces office, being able to network within the data ring in the Albuquerque area would solve many of these issues. The "Data Ring" is an NMSU owned fiber network that is available in Albuquerque. This connection allows for areas within the data ring to appear on the NMSU network. This connection would allow for faster and secure data connectivity between the ADO, NMSU and NMDA. The Data Ring connection would also remove third party connections (Comcast, Century Link, etc...) and give NMSU/NMDA greater authority and ownership of the connection without having to deal with the third party providers.

In regards to PGS there is no "Data Ring" in Portales, but exploring an area closer to Eastern New Mexico State University (ENMU) Campus would allow the facility to tap into the fiber network that is available in that area. This connection would then allow PGS to appear on the NMSU network. This connection would allow for faster and secure data connectivity between PGS, NMSU and NMDA. The Data Ring connection would again remove third party connections (Comcast, Century Link, etc...).

Albuquerque District Office (ADO):

We would like to see a larger, easily accessible, professional facility to serve the needs of both the public and staff in Albuquerque and Northern New Mexico.

NMDA request:	Current Needs:
Sufficient workspace for all NMDA inspection staff to sit and plug in; access network; prepare reports/samples – at a minimum twice the current area.	
One smaller and one large conference room space – for meetings with industry and coworkers or for supervisors from main office to meet with Eastside staff, or all ADO staff to meet. Potential use by other constituent agencies. Larger about the size of library conference room at main office.	Larger Conference Room ≈ 500 ft ₂ Smaller Conference Room minimum 10×10 ≈ 100 ft ₂
Equipment storage area for inspection supplies utilized by multiple inspectors – traps, safety equipment, sampling containers and supplies, etc.	≈ 50 ft ₂ With shelving.
Adequate public reception/waiting/greeting area.	
Outside secure area for vehicles and equipment.	
Data communications closet.	Controlled access for secure storage, IT communication and data equipment.

Justification:

Establishment of an easily accessible and identifiable district office serving Albuquerque and Northern New Mexico would provide a professional presence for NMDA and assist in better serving industry in that part of the state; provide support to inspection staff in terms of workspace and technical capabilities; facilitate stronger working relationships between staff assigned to that part of the state rather than a ‘lone ranger’ attitude; create a site to perform immediate initial analysis for samples increasing responsiveness to the industry when needed.

Agriculture & Environmental Services (AES)

Duties/Functions:

The Division of Agricultural and Environmental Services consists of three sections and their associated laboratories. The Division has a wide range of responsibilities under eleven state statutes, including the Bee Act, Commercial Feed Law, Commercial Seed Law, Fertilizer Act, Pest Control Act, Plant Protection Act, and Pesticide Control Act.

- The Entomology and Nursery Industries Section works to prevent the introduction and spread of new plant pests that may pose a threat to New Mexico's agricultural and horticultural industries; to assure horticultural products available to the consumer are healthy and free of pests; and to provide phytosanitary certification services for exporters of plants and plant products.
- The Feed, Seed and Fertilizer Section regulates the manufacture and distribution of commercial feed, fertilizers, and soil conditioners within the state through annual registration of these products and a regular sampling program.
- The Pesticide Compliance Section works to promote safe use of agricultural, horticultural, and structural pesticides and ensure compliance with pesticide law. Activities include applicator certification and licensing, worker protection and safety, pesticide registration, protection of water and endangered species from pesticides, and tip/complaint investigation.
- The laboratories in the Division analyze official pesticide, feed, seed and fertilizer samples collected by inspectors and samples submitted by the public.

Existing Space (Las Cruces):

- 6 private offices \approx 759 ft₂
- 18 cubical (some of the cubical spaces are shared by more than one employee).

Agriculture Programs & Resources (APR)

Duties/Functions:

The Agricultural Programs and Resources Division monitors, investigates, analyzes, and disseminates information to influence policy decisions affecting the viability of agriculture and the sustainability of New Mexico’s natural resources. Staff provides technical and administrative resources and planning assistance to soil and water conservation districts and the agricultural industry.

Existing Space (Las Cruces):

≈ 1156 ft₂

- ≈ 876 ft₂ office space
 - ≈ 549 ft₂ private
 - ≈ 327 ft₂ cubical
- ≈ 110 ft₂ GIS lab
- ≈ 170 ft₂ remaining space for storage, equipment and thoroughfares.

APR request:	Current Needs:	Anticipated:
Adequate offices for supervisors, based on current division structure.	8 private offices. minimum 10×12 ≈ 960 ft ₂	2 additional private offices for future growth. minimum 10×12 ≈ 240 ft ₂
Adequate space for remaining office staff.	Staff offices.	2 additional staff offices for future students/co-op/interns. minimum 10×10 ≈ 200 ft ₂
Space needs to accommodate filing systems, office equipment, supplies, etc.	≈ 400 ft ₂	
Dedicated Geographic Information System (GIS) Lab: Minimum two stations and all supporting technology such as printers and supplies.	≈ 120 - 150 ft ₂	
Conference Room Area with Technology for Remote Communication: Space for at least 10-12 staff.	≈ 150 ft ₂	
Storage needs: Document storage and other, currently renting a storage unit from NMSU.	≈ 150 ft ₂	

Biosecurity

Duties/Functions:

The NMDA’s office of biosecurity strives to protect New Mexico agriculture’s critical infrastructure through planning, training and when necessary assisting in the response to all hazard events. This is largely done through a partnership with the Southwest Border Food Protection and Emergency Preparedness Center. Additional partnerships between NMDA and other organizations include the National Center for Biomedical Research and Training at Louisiana State University, the Center for Agriculture and Food Safety at the University of Tennessee as well as the United States Attorney’s Office, the Federal Bureau of Investigation, Customs and Border Protection and our state and local partners.

Existing Space (Las Cruces):

Currently housed off site.

Biosecurity Request:	Current Needs:	Anticipated:
Departmental Operations Center (DOC)	DOC Area. 20×20 ≈ 400 ft ₂	
Adequate space for staff.	4 staff offices (2 at each end of DOC area). 10×10 ≈ 400 ft ₂	

Information Technology & Communications (ITC)

Duties/Functions:

The Information Technology & Communications Division monitors and supports all NMDA’s server systems, small systems, backup services, centralized folders, network infrastructure and security.

Existing Space (Las Cruces):

- ≈ 1266 ft₂
- ≈ 143 ft₂ private office space
- ≈ 228 ft₂ server room
- ≈ 14 ft₂ electrical closet
- ≈ 881 ft₂ remaining space for cubicles, storage, equipment and thoroughfares

ITC request:	Current Needs:	Anticipated:
Office for Manager/Director.	10×13 ≈ 130 ft ₂	
Adequate space for office staff.	4 staff offices. 10×11 ≈ 440 ft ₂	Future intern 10×11 ≈ 110 ft ₂
System Tech area needs space to unpack and build PCs, sometimes two or three at a time, with a work bench included.	10×13 ≈ 130 ft ₂	
Workspace for student to unpack and build PCs, sometimes two or three at a time, with a work bench in area.	10×11 ≈ 110 ft ₂	
Server room: Area needs to be fireproof, have no water going through it, and its own cooling unit to maintain temperature. This room is also used to house outdated equipment going to property.	20×12 ≈ 2400 ft ₂	
PO’s, equipment tracking, filing cabinet space, office, supplies, etc.	10×10 ≈ 100 ft ₂	
Secure Storage: Used to house our software cabinet, spare parts (monitors, keyboards, mice, speakers, etc...), and equipment checkout. This area will also need ability to have shelving along the walls. These are high dollar items and need to be stored securely. Currently items are stored under desk and electrical closet.	20x20 shelving	

Albuquerque District Office (ADO):

Currently network switches are located on top of a file cabinet.

ITC request:	Current Needs:	Anticipated:
Secured network area with temperature control.	4x6 ≈ 24 ft ₂	



Marketing and Development

Duties/Functions:

Marketing and Development is responsible for a wide range of duties, including:

- State, national, and international market development and expansion for New Mexico agricultural products including processed foods, fiber, wine, produce, nuts, livestock, and nursery products;
- Coordinating commodity promotions;
- Specialty crop development;
- Quality inspections for produce;
- Market news;
- Agricultural statistics;
- Licensing of produce brokers and packers; and
- Organic certification for farmers, ranchers, and processors/handlers.

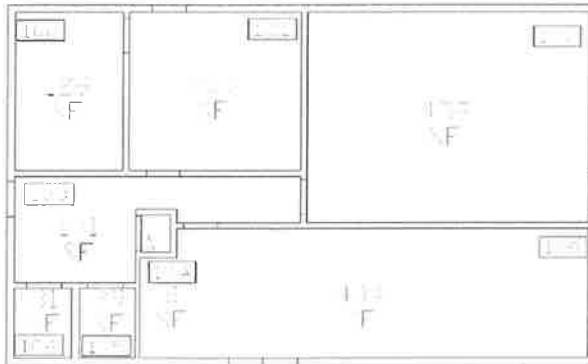
Existing Space (Las Cruces):

≈ 3149 ft₂

Marketing request:	Current:	Anticipated:
Division Director	Private office.	
Adequate space for Specialists.	4 Specialists staff offices.	1 additional Specialists.
Office space for Administrative staff.	2 Administrative spaces.	1 Administrative space.
Remote staff workspace – with full office capabilities including access to NMDA network.	Area for visiting staff. (Fruit & Vegetable)	
Space for students.	1 student space.	
Adequate space for intern.		Intern space
Conference Room:	Meet with clients; office staff.	
Media Room:	w/equipment (micro-phones, cameras, backdrop)	
Prep Kitchen:	triple sink, range, fridge, freezer, eat-in area, prep counter, dishwasher	
Storage Area:	Equipped with commercial shelving and staging area (for gift basket making, prepping area for events), w/access from office & outside to a loading dock for trailers & pickups.	
Reception Area:	Located next to display of NM food products.	
Men's and Women's bathrooms:	ADA compliant restrooms with showers.	
Separate storage building:	Need to consolidate existing 4 storage units on campus.	
Parking:	Space for concession and utility trailers.	

Albuquerque District Office (ADO):

Inspector/ Certifier Needs:		
Organic Program Request:	Current:	Anticipated:
Adequate space for Inspector/Certifiers.	2 offices.	
Accommodations for visiting Inspector/Certifier and Program Coordinator.	One office/workstation.	
Filing Area:	Three vertical file cabinets; work table (spreading out maps & files); two-three visitor chairs; bookshelf; supply cabinet.	
Storage:	20 lateral feet for lateral file cabinets (10 years of file storage required).	
Communication:	Reliable and fast data/phone system in order to move the Organic Program in efficient digital/online system as well as allow industry reliable access to the Organic Program.	
Advisor Needs:		
Organic Program Request:	Current:	Anticipated:
Adequate space for Advisor.	Advisors work space and room to accommodate up to two visitors. Area needs to include room for one file cabinet and two bookshelves, table for workspace.	
Space for volunteers.	Accommodations for volunteers to assist with mail-outs, data entry, etc.	
Storage area for organic promotional materials, GWT/TTT materials, educational materials.	Metal shelving 12x16 ≈ 192 ft ₂	
Conference Area:	Space for a conference table and chairs that would accommodate at least 6 people and has a telephone for conference calls and can conference up to 4 callers and be audible to all parties. Chalkboard on one wall.	
Amenities:	Kitchen area that would include a fridge, sink with counter for dish rack, stove or microwave, counter for preparing food, cupboard space.	
Additional Amenities:	Bike rack	



Standards & Consumer Services (SCS)

Duties/Functions:

Standards and Consumer Services responsibilities include the enforcement of the Weights and Measures Law, Egg Grading Act, Dairy Act, Weighmaster Act, Pinon Nut Act, New Mexico Chile Advertising Act, Petroleum Product Standards Act and the rules adopted under it.

Standards and Consumer Services houses the Metrology Laboratory which maintains custody of New Mexico standards of weights and measures and the Petroleum Laboratory which analyzes all petroleum product samples collected by field staff for compliance with quality standards established in the Petroleum Products Standards Act.

Petroleum Lab

This facility analyzes all petroleum product samples collected by field staff for compliance with quality standards established in the Petroleum Products Standards Act. Samples are collected weekly by all petroleum standards inspectors and shipped to the lab for analysis. This lab is a state-of-the-art facility capable of analyzing in excess of 10,000 samples per year. Currently the laboratory is performing approximately 24,000 analyses on 6,650 samples per year. For safety, this lab should also be located in a separate building away from office space.

Existing Space (Las Cruces):

SCS request:	Current Needs:	Anticipated:
Office space for supervisors.	3 private offices	
Area for four administrative work stations, student work stations, conference area, printing/ copying, filing cabinets.	50x50 ≈ 2500 ft ₂	
Inspector training area: Sink, Electric outlets media, white board.		
Petroleum Lab to include at least 2 exits, water, distilled water, temperature/ humidity control in the RON/MON engine room, straight pipes outside for exhaust, special electric wiring . Area would also include office space, storage, filing, supplies, work station for student, engine room, refrigerated room.	60x60 ≈ 3600 ft ₂	
Metrology Lab drive through unloading area.	Overhead multi directional crane. 70x25 ≈ 1750 ft ₂	
Metrology lab: Needs to be on first floor. Water, 50 gallon/minute, distilled water, Need Temperature, humidity control - Humidity 40-60%. All rooms need isolated pads. Area would also include office space, storage, filing, storage supplies, work station for student.	95x40 ≈ 3800 ft ₂	
Need secure parking area for Large Capacity test unit, trailers, and test units (Consumer Service and Petroleum).		

State Chemist & State Seed Laboratory Requirements

The current State Chemist Laboratory and State Seed Laboratory are antiquated and bordered on multiple sides by non-laboratory personnel and office staff. Infrastructure support for new and upgraded equipment is problematic. A safe and secure laboratory facility separate from the main offices is needed.

Equipment

GC: 2 (1)	GC/MS: (1)	LC: 3
LC/MS/MS: 1	ICP/MS: 1	Nitrogen Cubes: 2
Refrig/Freezers: 6	Fat Digestor: 1 (1)	Fiber Digestor: 1 (1)
Ovens: 2	Bench Germinators: 2	Microwave Digest: 1 (1)
Furnace: 1	UV/Vis Spec: 1	Mycotoxin Reader: 1
Autoclave: (1)	Lab Grade Dishwasher: (1)	Walk-In Germinator: (3)
qPCR: 1	Auto-Titrator: (1)	Seed Lab Workstations: (3)
Grinders: 3	Centrifuge: 3	Shaker/Waterbath: 2
Riffeler: 1	Gamet: 1	Boerner: 2
Hoods:		
Acid Digestion: 1	Fat Extraction: 1	
General Service: 6	Biosafety Hood: (1)	

Numbers in parenthesis represent equipment anticipated as being needed over the next 5 years or equipment which should be included in a new building/facility. These are based upon our projection of the direction and focus of sampling and testing over the next 10 years.

Facility Design Requirements

1. Sample Storage

Feed: 1	Fertilizer: (1)	Seed: 1
Cannabis: (1)	Pesticides: 1	Petroleum: 1

Each needs to be secure and separate. Fertilizer, Cannabis, Petroleum, Seed, and Pesticide storage areas must be separated from each and all other storage areas to eliminate the possibility of fire, explosion, or deflagration. Feed and pesticide storage each need a refrigerator/freezer. Pesticide storage should be vented. Numbers in parenthesis represent equipment anticipated as being needed over the next 5 years or equipment which should be included in a new building/facility. These are based upon our projection of the direction and focus of sampling and testing over the next 10 years.



4. Laboratory Grade Dishwasher

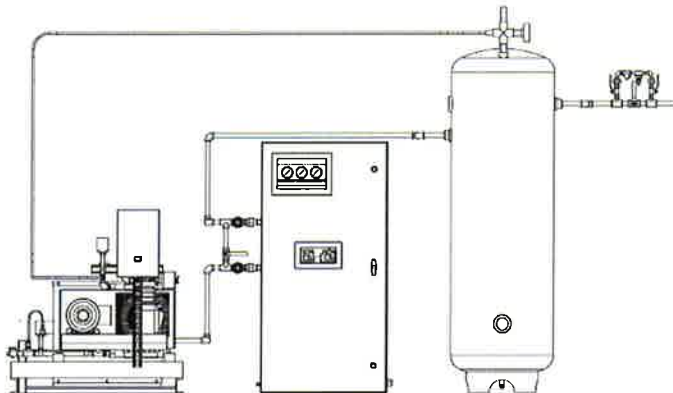
A laboratory dishwasher will save both on manpower and on water consumption. Laboratory dishwashers are specially designed to accommodate narrow-necked glassware.



5. Purity Stations



6. Nitrogen Generator (Housed Outside with Reservoir Tank)



Basic design of a nitrogen generation system showing the compressor, purifier, and storage reservoir.

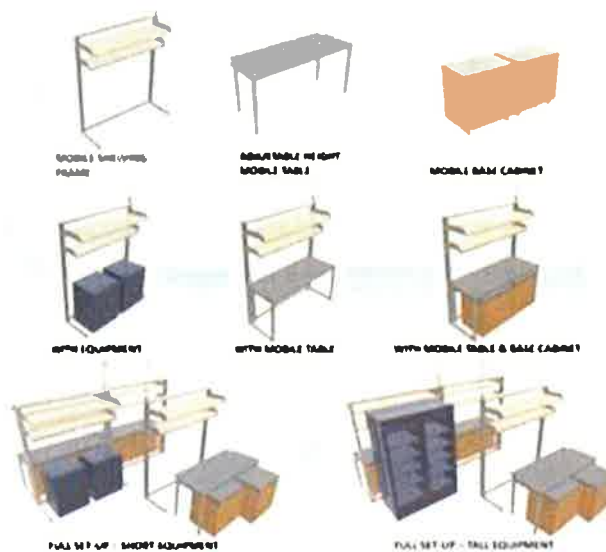
Purified nitrogen gas is used by a variety of laboratory instruments. Nitrogen can be supplied by either compressed gas cylinders or by a generator system. A nitrogen generator system is a cost effective means of producing the required gas and lowering the number of cylinders purchased and stored on-site. For

- (b)) A negative pressure differential should exist between the amount of air exhausted from the laboratory and the amount supplied to the laboratory to prevent uncontrolled chemical vapors from leaving the laboratory.
- (c) Local exhaust ventilation devices should be appropriate to the materials and operations in the laboratory.
- (d) The air in chemical laboratories should be continuously replaced so that concentrations of odoriferous or toxic substances do not increase during the workday.
- (e) Laboratory air should not be recirculated but exhausted directly outdoors.

10. Controlled access

The laboratories have hazardous chemicals, hazardous conditions, and regulatory samples (which require sample control and chain-of-custody). As a result, controlled access to the laboratories and storage areas is a requirement.

11. Modular, stainless steel workstations (casework) with lockable wheels



Modular and moveable casework allows for needed flexibility in the lab and makes adaptation to the needs of future work simpler and more cost efficient. “Casework truly works like a kit of parts with the ability to add or subtract casework easily by the research team.” – Watch, Daniel; *Trends in Lab Design*, 2009.

- The center of the spray pattern shall be located at least 16 inches from any obstruction
- **Valves**
 - Activate in one second or less
 - Stay-open valve (no use of hands)
 - Valve remains on until the user shuts it off
- **Installation**
 - Emergency Shower shall be located in an area that requires no more than ten seconds to reach. **Consult a medical professional to determine the appropriate distance for harsh acids and caustics (high hazard=closer distance).* [This is generally considered to be 55 feet without obstructions.]
 - Shower location shall be in a well-lit area and identified with a sign
 - Shower shall be located on the same level as the hazard

ANSI/ISEA Z358.1-2009 gives the following for Eye/Face Wash Stations:

- **Heads**
 - Positioned 33"-45" from floor
 - 6" from wall or nearest obstruction
 - Large heads to cover both eyes and face or regular size eye wash heads plus a face spray ring
 - Three gallons per minute (GPM) for 15 minutes
- **Valves**
 - Activate in one second or less
 - Stay-open valve (leaving hands free)
- **Installation**
 - Eye/face wash shall be located in an area that requires no more than ten seconds to reach. **Consult a medical professional to determine the appropriate distance for harsh acids and caustics (high hazard=closer distance.)* [This is generally considered to be 55 feet without obstructions.]
 - The location of the eye/face wash station shall be in a well-lit area and identified with a sign
 - Eye/face wash stations shall be on the same level as the hazard

16. Double doors

At least one set of double doors are necessary in the laboratory to allow installation of large pieces of equipment.

From: *Laboratory Design*, May/June 2014, http://digital.labdesignnews.com/labdesignnews/may_june_2014

Separating or enclosing the ovens and furnaces in a laboratory space reduces the amount of heat injected into the room improving efficiency of HVAC with the corresponding energy savings. Additionally, the exhaust is more readily captured and vented. This enhances employee protection and safety.

21. Clean Lab

A 'clean' lab is required for performing microbiological or molecular work. This lab will need to be separate from laboratory space where dust and particulates are generated. The qPCR, Biosafety Hood or flowbench, and one Freezer (-80 °C) will be located in this space.

22. Grinding Room & Seed Prep Room

Both the grinding and seed preparation room will need to have large exhaust designed to capture and exhaust the 'dust' and particulates generated during normal operations. These rooms will need to be separated from other laboratory spaces to limit contamination into the other work areas.

23. Seed Laboratory Lighting

"Every effort should be made to provide maximum window space with northern exposure for the analysts who test seeds for purity. Southern and western exposure must be avoided." - From the USDA Agriculture Handbook # 30

24. Walk-In Germinator/Growth Room

Walk-in germinators/growth room provide environmentally stable and energy efficient areas for germination and controlled plant growth. Walk-in germinators are manufactured and sold as installable components.



25. General Storage:

Staffing

Current staffing for the State Chemist Laboratory and State Seed Laboratory is 6 FTE personnel and 3 students (each 0.5 FTE). The projection for staffing over the next 10 years is to increase by 1 FTE professional and 1 student (or intern).

Currently:

State Chem Lab is approximately 2430 ft² for laboratory and office space. Comparison is to 2260 ft² requested. Storage is currently 300 ft², asking for 650 ft².

State Seed Lab is approximately 850 ft² for laboratory and office space. Comparison to 1050 ft² requested.

Preliminary Estimate

Based on the Conceptual Programming Study done in 2009 by the "SMITHGROUP", we are estimating at least \$27,000,000.00 to accomplish these necessary lab moves and office space renovations for the safety and continuing efficient operations of NMDA to accomplish our overall mission.