DEVENS ENTERPRISE COMMISSION

Received By Devens Enterprise Commission MAR 10 2025

DEVENS REGIONAL ENTERPRISE ZONE
PERMIT APPLICATION LEVEL 2

DEC NO. D25-002
DATE: 3/10/25
FEE: $104,232
Paid 3/12/25
Clk # 691

==========

ESTIMATED COST OF CONSTRUCTION / IMPROVEMENTS $9,200,000

OWNER VERANOVA, LP
ADDRESS 25 PATTON ROAD
CITY/STATE/ZIP DEVENS MA 01434
PHONE (978) 784-5000
FAX _____

_____
SIGNATURE

_____
Type or print name and title

APPLICANT THE CARDINAL GROUP USA, LLC
ADDRESS 30 CORPORATE DR., SUITE 130
CITY/STATE/ZIP BURLINGTON, MA 01803
PHONE (978) 989-3870
FAX _____

BWS, AGENT FOR VERANOVA
SIGNATURE

BRIAN WALSH, PROJECT DIRECTOR
Type or print name and title

If appropriate, attach a separate sheet with the name(s), address(es), and telephone/fax numbers for the project engineer, attorney, or other "development team" personnel.

SITE / LOCATION / STREET 25 PATTON ROAD DEVENS, MA

LOT SIZE / TOTAL PARCEL / ZONING DISTRICT: _____

==========

STATEMENT OF PROPOSED WORK OR ACTIVITY: INTERIOR RENOVATION OF LAB SPACE

==========

SCOPE OF WORK (pick the actions that best fit your project or application)

___ Site Plan
___ Wetlands NOI
___ Minor amendment or modification of an approved plan
___ Historic District renovations/addition/alternations
X Other (Specify) INTERIOR RENOVATION OF EXISTING SPACE

___ Reconsideration
___ Zoning Variance

Explain work to be performed: See Attached Narrative and A01-00

Comments from Notifying Agencies: _____

LEVEL TWO UNIFIED PERMIT –
CHECKLIST FOR DETERMINATION OF COMPLETENESS
[Devens Enterprise Commission Rules and Regulations 2024]

Name of applicant and project: Veranova, LP HPAPI Manufacturing

Date of Issuance of this DOC: MARCH 10, 2025

List Regulatory Components of this Unified Permit: _____

Signature of LUA or Authorized Agent: _____

1. Submission Requirements

☒ (a) A completed Permit application form.

☐ (b) The required Administrative, Processing, and Peer Review Fee.

☒ (c) One (1) original and three (3) copies* of the application, supporting plans (no larger than 24"x36") and materials and one (1) digital (PDF) copy of the full submission. ***Copies shall not contain any plastic binders or covers.***

☒ (d) A List of Abutters, certified if abutters are not located in Devens and a sketch plan showing the proximity of the abutters to the site.

N/A ☐ (e) Drainage calculations prepared by an Engineer complying with 974 CMR 3.04(4).

N/A ☐ (f) Request for Determination of Applicability (RFD) or a Notice of Intent (NOI) shall be submitted in accordance with Article XII of the By-Laws and 974 CMR 4.06.

N/A ☐ (g) Copies of all existing easements, covenants, restrictions and Institutional Controls applying to the lot.

N/A ☐ (h) Soil suitability tests and analysis.

N/A ☐ (i) A list of Waivers requested by the applicant, identified as Waivers of Submission and Plan Form and Contents requirements or Design Standards, with the applicable section of the Regulations clearly identified or a statement that no waivers are being requested.

N/A ☐ (j) Copy of any variance applying to the land, granted or filed concurrently with the Site Plan.

N/A ☐ (k) A narrative demonstrating compliance with the Reuse Plan and By-Laws meeting the specifications of 974 CMR 1.02.

N/A ☐ (l) If proposed by the applicant, a plan for the phasing of the construction of the required improvements, including a description, schedule, and plan showing the location of each phase.

N/A ☐ (m) A written statement of compliance with the Devens Open Space and Recreation Plan (DOSRP) and the Devens Main Post Trails report dated July 2001, to determine the effects, if any, of proposed development on resource areas, proposed trail rights-of-way, active and passive recreation areas, and other amenities included in the DOSRP.

N/A ☐ (n) If an applicant proposes parking lot construction phasing, a written statement demonstrating that the portion to be constructed is sufficient for the needs of the users of the proposed structure, comparing the number of spaces required by the By-Laws to the number the applicant believes are adequate, written certification that no building or permanent accessory structure will be placed on the area reserved for additional parking spaces, and a draft covenant that the parking will be built when the DEC determines it is required.

N/A ☐ (o) An estimate of the number of vehicle trips daily and for the morning and evening peak periods (trip generation rates shall be based on the ITE "Trip Generation Manual" most recent edition, and if applicable, data about similar developments in Massachusetts) and a description of traffic mitigation measures proposed including traffic management plans, trip reduction methods, and car/vanpooling preferential parking, etc. Refer to the Devens Transportation Management Initiative Overview for full details and parking/trip reduction guidance.

☒ (p) An erosion and sedimentation plan. See plan C30-10, bsw

N/A ☐ (q) A landscaping maintenance and water management plan.

☒ (r) A narrative demonstrating compliance with the Industrial Performance Standards.

N/A ☐ (s) A copy of the LEED Green Building Rating System Project Checklist with the Location and Transportation, Sustainable Sites, and Water Efficiency Categories completed: https://www.usgbc.org/resources/leed-v4-building-design-and-construction-checklist .

N/A ☐ (t) Building elevations or perspectives of those portions of the building visible from public ways and residential and open space zoning districts showing the general appearance, massing, building materials, proposed colors, and relationship to abutting premises and, prior to the public hearing, the design review letter from Mass Development.

N/A ☐ (u) Building design review materials and if located within the Viewshed District, viewshed impact analysis.

N/A ☐ (v) All Slope Resource Areas as identified in 974 CMR 3.06 Appendix B Figures (13) Figure M within the proposed plan area shall be shown on the site plan.

N/A ☐ (w) Climate change mitigation, adaptation and greenhouse gas emissions mitigation measures in accordance with the requirements of 974 CMR 4.11.

☒ (x) A completed copy of the Devens Project Checklist for Reducing Embodied Carbon (highlighted rows only) – see Appendix 2. A final copy of this competed checklist (all rows) will be required prior to issuance of a Certificate of Occupancy.

☒ (y) All project submittals subject to DEC review shall require the stamp and signature of a registered Professional Engineer in the Commonwealth of Massachusetts certifying that the project complies with the requirements of 974 CMR 3.04(4), Stormwater Management Design Standards, and 974 CMR 4.08, General: Stormwater Management

2. Surveying and Drafting Plan Requirements

☒ (a) Site plans shall be 24"x36" and at a scale of 1" = 40' unless alternate size is approved by the Director. All Site Plans must also conform to the Registry of Deeds requirements for recording.

☒ (b) The names and addresses of the record owner of the land and the applicant and the name, seal, and address of the designer, Engineer, Surveyor, and Registered Landscape Architect who made the plan, all of which shall appear in the lower right-hand corner.

☒ (c) The name of the development, scale, date of plan, and legend.

N/A ☒ (d) A locus plan indicating the general location of the site in relation to all adjacent and nearby roads, railroads, and waterways.

N/A ☒ (e) Ties from the development site to the nearest town and county bounds if within 1000 feet of the site. Bearings and curve data/distances of all lot lines, names of all adjoining property owners as they appear in the most recent tax list, and the location of easements, rights-of-way, and public and private ways.

N/A ☐ (f) Devens Lot number of the site, if available.

N/A ☐ (g) Topography for the entire site in two-foot intervals with contours and principal elevations of significant existing and proposed features related to the National Geodetic Vertical Datum (NGVD) of 1929. Existing contours shall be shown as dashed lines and, along with all other existing features, shall be screened. Proposed contours are to be shown as solid lines.

N/A ☐ (h) A space for the DEC's endorsement of the Site Plan by a majority of the members of the DEC on the front sheet and space for the chairperson or designee to sign all other sheets.

N/A ☐ (i) Lines of existing abutting Streets and Roads showing drainage and driveway locations and curb cuts.

N/A ☐ (j) Surveyed property lines showing distances and monument locations, all existing and proposed Easements, Rights-of-Way, utilities and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed.

3. Administrative Plan Requirements

N/A ☐ (a) Zoning district(s) and any boundary of zoning districts within the site, along any existing or proposed lot line, or within 50 feet.

N/A ☐ (b) The location, dimensions (including height), and general use of all existing and proposed buildings and structures to remain, including ground coverage, gross floor area, open area uses, and other facilities and improvements. Location of buildings existing on the site to be developed and on adjacent land under the same ownership within 500 feet of the lot line, indicating whether existing buildings are to be retained, modified or removed. See Appendix 1 for table template.

N/A ☐ (c) A statement noting the area of the site, the percentage of the site to be covered by impervious surfaces (such as buildings and parking areas), the area to be devoted to open space, the area to be paved for parking, driveways, loading spaces, and sidewalks, the number of proposed parking spaces and the number required by the By-Laws, the number of employees expected per shift, and the gross floor area of each proposed (commercial, industrial, office, or other) use. This data shall be tabulated to show the relationship of the required versus the proposed quantities. See Appendix 1 table template.

N/A ☐ (d) Existing and proposed front, side, and rear setback dimensions.

N/A ☐ (e) Parking lots and loading docks, showing driveway entrances and exits designed for safe ingress and egress, curb cuts, layout of parking spaces, aisles, off-street loading facilities, pedestrian walks, bicycle racks or storage facilities, handicap ramps, and representative cross-sections of service and parking areas and driveways.

N/A ☐ (f) Existing and proposed landscape features such as fences, walls, planting areas, wooded areas, and walks. Scattered trees to be preserved shall also be shown as well as all "specimen trees" (trees exceeding a minimum caliper of twelve inches) within 100 feet of existing or proposed lot lines have been identified and indicated on the plan. All existing landscape features, especially existing trees and woodland to remain are shown on ALL site plan sheets. Planting details setback, screens, and other landscaped areas including quantities, species, and spacing of plantings, shown at sufficient scale to illustrate clearly the landscaping design. Plans for walks, walls, and fences including dimensions, materials, and finishes. Landscaping Plans, Irrigation Design plans, Planting Plans, Planting Detail sheets, and Planting Specifications shall be prepared by a Landscape Architect registered in the Commonwealth of Massachusetts and shall bear the seal and signature of the Registered Landscape Architect who prepared them.

N/A ☐ (g) Planting Plans shall indicate the locations of proposed Street, Road and site lighting, even if site lighting is shown elsewhere on a separate plan and designed by separate consultant. Planting plans shall also include details and locations for walks, walls, and fences including dimensions, materials, and finishes.

N/A ☐ (h) Quantities, species, and spacing of plantings in lot setback areas, screens, parking and loading areas, and other landscaped areas shall be shown at a minimum scale of 1"=40'. Detail plans for areas such as landscape treatments adjacent to buildings, tree clusters or shrub beds, landscaped islands in parking areas, or other densely landscaped areas shall be shown at a scale of 1"=20'.

N/A ☐ (i) If an irrigation system is proposed, the Submission shall include an irrigation plan complying with 974 CMR 8.09(11) showing the complete layout and of all components, complete schematic diagrams of all systems, a functional and sequential description of all systems, and irrigation details for installation of all components, including but not limited to piping, valves, valve boxes, sprinkler heads, backflow preventers, automatic control systems, pumps, meters, associated cabinets, and all appurtenances as needed.

☒ (j) Proposed means of fire equipment access.

N/A ☐ (k) Proposed traffic circulation systems, including the volume and proposed direction of traffic flows into, out of, and within the site for both vehicles and pedestrians for an average day and for peak hours.

N/A ☐ (l) Location and dimensions (including height) of all storage facilities for equipment, material, and other like items. Location of all underground and aboveground fuel, combustible, and flammable liquid storage tanks greater than 250 gallons.

N/A ☐ (m) Location and dimensions (including height) of facilities for garbage, rubbish, recycling, and other waste collection and disposal. Location and dimensions (including height) of facilities for garbage, rubbish, recycling, composting and other waste collection and disposal. **Note: Applicants should be aware of MA waste ban materials and plan for storage/reuse accordingly.** Info. on waste ban items can be found at http://goo.gl/Qrea5

N/A ☐ (n) Garage and pedestrian entrances and exits. NO CHANGE

N/A ☐ (o) Maximum size vehicle, including trailers, expected to use the site after construction, by length, width, height, and American Association of State Highway and Transportation Officials (AASHTO) designation. NO CHANGE

N/A ☐ (p) Location and dimensions (including height) of existing and/or proposed free-standing signs and the manner of illumination. All proposed signs shall conform with Article XIII of the By-Laws and 974 CMR 6.00: Sign Control as most recently amended.

N/A ☐ (q) Existing and proposed public and private utilities, above and below grade, along with their type, size, and class

N/A ☐ (r) If the project is to be phased, a plan for the phasing of the construction of the required improvements, including a description, schedule, and plan of affected areas

N/A ☐ (s) Any additional details that may be pertinent or required by the Director during the scoping or Pre-Permitting sessions

4. Industrial Performance Standards Plan Requirements.

☐ (a) The site lighting information shall be provided on the Site Plan, including types of fixtures, heights, wattage, foot candle output directly under the light source, foot

candle output at the lot line, and a photometric layout/diagram showing direction and intensity of outdoor lighting.

N/A ☐ (b) Notes shall be provided on the Site Plan stating:

(1) Existing or proposed use will not generate electromagnetic interference to any sensitive receptor. Interference with the Harvard-Smithsonian radio telescope (1400-1720 MHz) is specifically prohibited.

(2) Proposed or existing use will not cause pronounced, multiple patterns of noise or vibration nuisance to, or interfere with, any sensitive receptor.

(3) Either "A Massachusetts Department of Environmental Protection (DEP) air quality permit application has been made" or "A DEP air quality permit is not required."

N/A ☐ (c) Locations or uses deemed by the Director to be sensitive receptors in any given area of impact may be subject to field identification of the receptor and/or special documentation or field data that helps to clarify the existence or absence of subject impacts. This documentation and data includes existing secondary data and studies, limited field testing by the applicant, or in the worst case scenario, retention of additional professional consultants to conduct further testing. Specifications for any additional information will be identified by the Director during the pre-permitting conference and shall be incorporated in the Site Plan.

☒ (d) A Copy of the completed Industrial Performance Standards Checklist shall be included: http://www.devensec.com/forms/Industrial_Performance_Standards_Checklist.pdf .

5. Wetlands/Water Resources/Flood Plain Plan Requirements.

N/A ☐ (a) All Resource Areas as defined by 974 CMR 4.06, including existing natural features (ponds, brooks, wetlands, etc.), Federal Emergency Management Agency (FEMA) flood plain elevations on and/or adjacent to the lot, Flood Insurance Rate Map (FIRM) panel number, zone designation, and base flood elevation.

☒ (b) Erosion, siltation, and dust control measures before and during construction, in accordance with 974 CMR 3.02(3)(e). See C30-10 Plan

N/A ☐ (c) Location of all private wells on or within 200 feet of the boundaries of the property, if any

N/A ☐ (d) Location of all public and community water supply wells on or within 1,000 feet of the boundaries of the property, if any.

N/A ☐ (e) Proposed conservation restrictions and easements.

N/A ☐ (f) For any site plan that stores fuel, combustible and flammable liquids, as defined by 42 U.S.C. section 6901-6922i, G.L. c. 148, and 527 CMR 9.00, compliance with 974 CMR 4.09 and an addendum to the DSPCC and the location of on-site materials and equipment for spill response in accordance with its specific DSPCC are required.

6. Schedule:

Transmitted to Nitsch and other consultants
Pre-Permitting conference
Date of Determination of Completeness
Mail to Towns (30-day comment period begins)
Advertisements
Notification of abutters
Public hearing
End of 30-day comment period
Tentative vote

7. Notes/Comments

Appendix 1:

Zoning Conformance Summary

Address:	25 Patton Rd, Devens, MA 01434
Parcel ID:	009.0-0004-0500.0
Primary Zoning District:	C, 4 - Innovation & Tech. Business
Overlay District(s):	
Use:	981

Dimensional Requirements

Criteria	Required		Existing	Proposed	Change	Zoning Compliance
Lot Area (AC)		(Min.)	19.12	19.12	0	
Total Land Area Disturbed (SF)				1,975		
Total Impervious Cover (SF)		(Max.)	265,000	267,000	2,000	
Total Impervious Cover (% of Parcel)		(Max.)	32%	32 %	0 %	
Building Impervious (SF)			80,000	80,000	0	
Building Impervious (% of Lot)			9.6 %	9.6 %	0 %	
Pervious Pavement/Pavers (SF)			0	0	0	
Total Hardscape (Impervious + Pervious)(SF)			265,000	267,000	2,000	
Percent of Hardscape in Pervious Pavement/Pavers (SF)			0%	0 %	0 %	
Open Space (SF)			222,000	222,000	0	
Lot Frontage (FT)		(Min.)	315	315	0	
Front Yard Setback (FT)	25	(Min.)	280	280	0	
Side Yard Setback (FT)	10	(Min.)	350	350	0	
Rear Yard Setback (FT)	25	(Min.)	520	520	0	
Building Height (FT)		(Max.)	41	41	0	
FAR Coverage		(Max.)	.55	.55	0.0	

Parking and Traffic Summary

Criteria	Required		Existing	Proposed	Change	Zoning Compliance
Parking Spaces		(Max.)	250	250	0	
Reserve Parking Spaces (If applicable)			10	10	0	
Total Spaces		(Max.)	260	260	0	
Compact Spaces		(Max.)	0	0	0	
Electric Vehicle/Hybrid Plug-in Spaces	5%	(Min.)	0	0	0	
Electric Vehicle/Hybrid Preferred Spaces	5%	(Min.)	0	0	0	
Ride Share (Car/Vanpool) Spaces	5%	(Min.)	0	0	0	
Handicap Spaces		(Min.)	8	8	0	
ADT			225	225	0	
Total Employee Count			215	215	0	
Number of Employee Shifts			N/A	N/A	N/A	
Employee Count by Shift (###/###/###/etc)			N/A	N/A	N/A	

Building Area and Use

Criteria	Existing	Proposed	Change	FAR by Use	Zoning Compliance
Gross Floor Area:					
Total (SF)	118680	118680	Ø		
Commercial (SF)					
Industrial/Light Industrial/ Distribution (SF)					
Office (SF)					
Other (Specify) (SF)					

Refer to Sheet A01-00
for Table Expanded to meet

Appendix 2: Devens Project Checklist for Reducing Embodied Carbon

Devens Project Checklist for Reducing Embodied Carbon

A Worksheet for Project Teams

DEC Version 1
Last Updated: March 20, 2023

Introduction

Embodied carbon refers to the greenhouse gas emissions arising from the manufacturing, transportation, installation, maintenance, and disposal of building materials. There are many ways for project teams to collaborate to reduce embodied carbon on projects using siting, design, construction, or procurement strategies. This worksheet is meant to help design and construction teams learn about strategies and identify the best solutions for reducing embodied carbon on their projects.

To learn more about embodied carbon, measuring embodied carbon, or strategies to reduce embodied carbon, read more here.

Strategies to Reduce Embodied Carbon

This worksheet provides a checklist for project teams to ensure they have considered strategies that may be relevant for their projects. The strategies are organized into types of strategies, beginning with process and tools and also including:

Using the Checklist

On the following sheet, there is a list of embodied carbon reduction strategies with a brief description, followed by two sets of checkboxes with empty rows.

At the Schematic Design phase (prior to submission of Unified Permit), complete the highlighted rows and identify which strategies you intend to use by checking the checkbox in Column E and insert a brief explanation in Column F about how the project may incorporate the strategy into the project and any necessary special considerations. If you feel that a strategy is already included on the project / integral to the project program and requirements, you can select 'Already included' instead of 'Will pursue'.

Upon construction completion (prior to CO), identify which strategies you used by checking the checkbox in Column H and insert a brief explanation in Column I about how the project incorporated this strategy. If the project aimed to use this strategy but was not able to, indicate which challenges prevented implementation.

Questions? Contact
Email the Devens Enterprise Commission (neilangus@devensec.com)

CARDINAL

March 10, 2025

Neil Angus, FAICP, CEP, LFA, LEED AP
Director / Land Use Administrator
Devens Enterprise Commission
33 Andrews Parkway
Devens, MA 01434

Re: 25 Patton Road, Devens MA Level 2 Permit Submission
Narrative of Construction

Dear Mr. Angus,

The Cardinal Group USA, LLC (Cardinal) is submitting this application for review of the Unified Permit for a Level 2 project as determined in our pre-permitting meetings. Cardinal is submitting this application as an authorized agent on behalf of Veranova, LP (Veranova). We are submitting the applicable elements of the Level 2 Permit Submission, and have included the list of chemicals that are being proposed by Veranova. Veranova has informed Cardinal Group that a revision to their Chemical Storage permits as part of this proposed interior renovation project.

The proposed scope of services is to fit out space in two of the three buildings that are on the Veranova campus. The buildings in which work will occur are Building 1 and Building 3. In Building 1 we will be revising existing office space to a new Research and Development laboratory. In Building 3 we will be converting existing shell spaces (unused areas) into two production spaces with a separate area dedicated to mechanical and electrical support spaces for the new manufacturing area. The work areas in Building 1 is going to be approximately 1800 s.f. and the work area in Building 3 will be approximately 7,500 s.f.

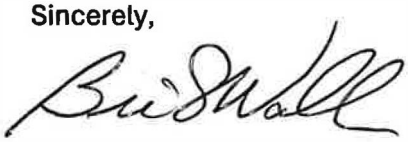
Building 3 will require the installation of a code compliant storage vessel for emergency release of Fire Protection system in the production space to contain the fire fighting foam and any chemicals that are present during the process of production in the two Kilo Suites. This work does involve a small area of sitework to install this empty storage vessel in the area outside Building 3. Building 3 also provides a new exterior slab on grade to install a piece of mechanical equipment to provide Heating Hot Water and Chilled Water to the new Air Handling equipment on the roof of Building 3.

Veranova has stated that this project does not require any DEP Air Quality permitting, and the engineering team has stated there is no code requirement for containment of the new exterior slab on grade.

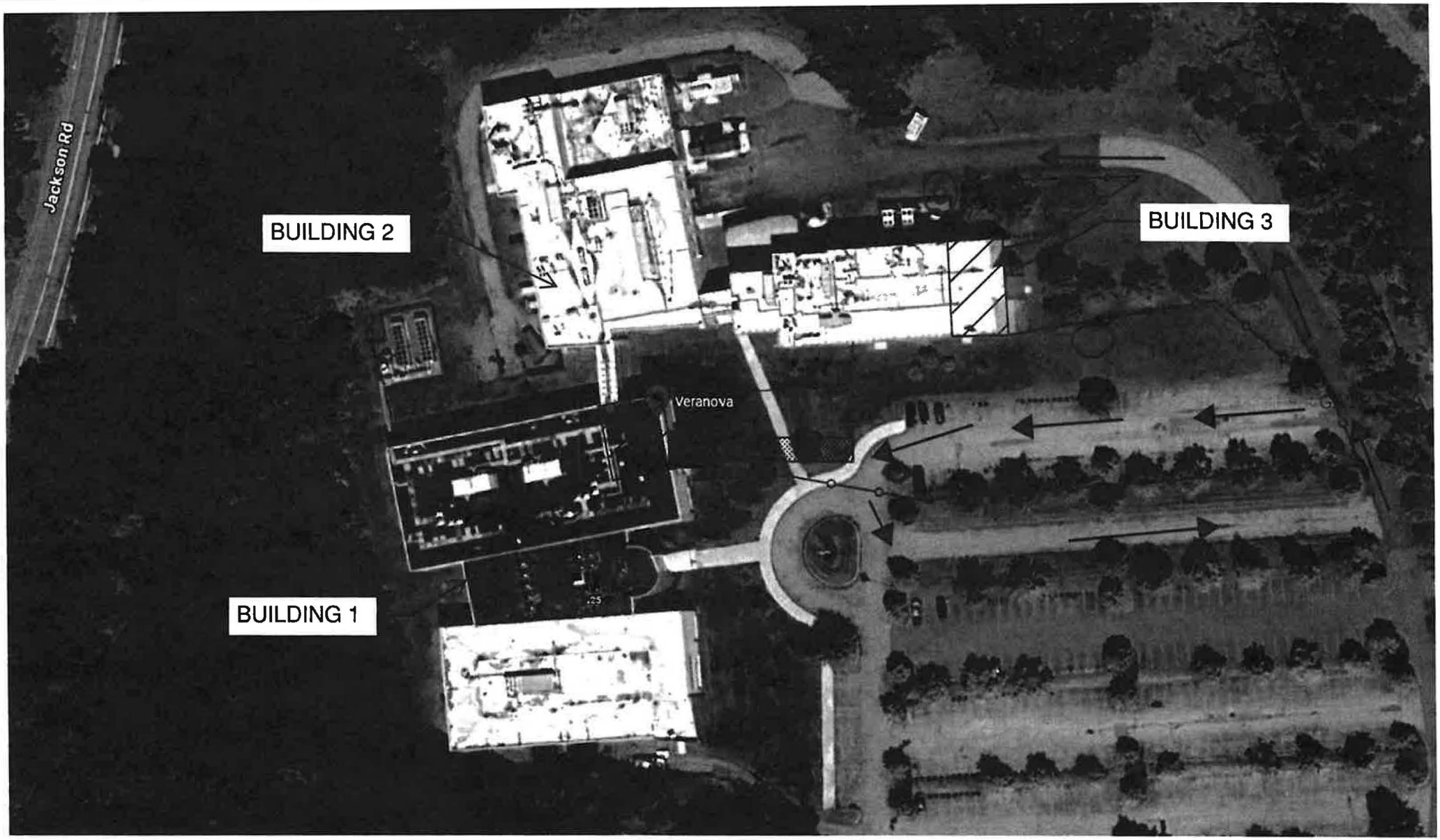
We feel that we have provided the required elements of the Level 2 unified permit application, and look forward to your response to our request.

CARDINAL

Sincerely,



Brian Walsh
Project Director
The Cardinal Group USA, LLC.



VERANOVA FIRE EQUIPMENT ACCESS PLAN - 25 Patton Road, Devens, MA

Construction Fencing

Fire Equipment Path

Work Areas inside Building

Initial Construction Control Document

To be submitted with the building permit application by a
Registered Design Professional
for work per the tenth edition of the
Massachusetts State Building Code, 780 CMR, Section 107

Project Title: Veranova - HPAPI Manufacturing **Date:** 6 March 2025

Property Address: 25 Patton Road, Devens, MA 01434

Project: Check (x) one or both as applicable: New construction **(x) Existing Construction**

Project description: Interior fit-out shell space in two buildings on the same campus (Veranova). Building 1 will house a new High Potent API (HPAPI) Process Research & Development (PRD) Lab. Building 3 will house two new one Kilo Scale HPAPI Manufacturing Suites.

I, **Sal A. Capobianco**, MA Registration Number: **34343** Expiration date: **30 June 2024**, am a ***registered design professional***, and I have prepared or directly supervised the preparation of all design plans, computations and specifications concerning[1]:

Architectural	**(x)**	**Structural**	Mechanical
Fire Protection		Electrical	Other:

for the above named project and that to the best of my knowledge, information, and belief such plans, computations and specifications meet the applicable provisions of the Massachusetts State Building Code, (780 CMR), and accepted engineering practices for the proposed project. I understand and agree that I (or my designee) shall perform the necessary professional services and be present on the construction site on a regular and periodic basis to:

1. **Review**, for conformance to this code and the design concept, shop drawings, samples and other submittals by the contractor in accordance with the requirements of the construction documents.
2. **Perform** the duties for registered design professionals in 780 CMR Chapter 17, as applicable.
3. **Be present** at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the work and to determine if the work is being performed in a manner consistent with the approved construction documents and this code.

Nothing in this document relieves the contractor of its responsibility regarding the provisions of 780 CMR 107.

When required by the building official, I shall submit field/progress reports (see item 3.) together with pertinent comments, in a form acceptable to the building official.

Upon completion of the work, I shall submit to the building official a **'Final Construction Control Document'**.

Enter in the space to the right a "wet" or electronic signature and seal:

6 March 2025

Phone number: 781-907-9000 **Email: sacapobianco@sgh.com**

Building Official Use Only

Building Official Name: **Permit No.:** **Date:**

Note 1. Indicate with an 'x' project design plans, computations and specifications that you prepared or directly supervised. If 'other' is chosen, provide a description.

Enter in the space to the right a "wet" or electronic signature and seal:

Digitally signed by James A. Quinn
Date: 2025.03.05 17:22:29-05'00'

Phone number: 973-818-6251Email: jim.quinn@crbgroup.com

Building Official Use Only

Permit No.: **Date:**

Building Official Name:

Note 1. Indicate with an 'x' project design plans, computations and specifications that you prepared or directly supervised. If 'other' is chosen, provide a description.

Version 01_01_2018

Initial Construction Control Document

To be submitted with the building permit application by a **Registered Design Professional** ***for work per the tenth edition of the Massachusetts State Building Code, 780 CMR, Section 107***

Project Title: Veranova - HPAPI Manufacturing **Date:** March 6th, 2025

Property Address: 25 Patton Rd, Devens, MA 01434

Project: Check (x) one or both as applicable: **New construction** **[X] Existing Construction**

Project description: Interior fit out of shell space in two buildings on the same campus (Veranova). Building 1 will house a new High Potent API (HPAPI) Process Research & Development (PRD) Lab. Building 3 will house a two new one Kilo Scale HPAPI Manufacturing Suites.

I, James A. Quiinn, MA Registration Number: 49658 Expiration date: 6/30/26, am a ***registered design professional***, and I have prepared or directly supervised the preparation of all design plans, computations and specifications concerning[1]:

Architectural	**Structural**	**Mechanical**
Fire Protection	**Electrical**	**X Other: Plumbing**

for the above named project and that to the best of my knowledge, information, and belief such plans, computations and specifications meet the applicable provisions of the Massachusetts State Building Code, (780 CMR), and accepted engineering practices for the proposed project. I understand and agree that I (or my designee) shall perform the necessary professional services and be present on the construction site on a regular and periodic basis to:

1. **Review**, for conformance to this code and the design concept, shop drawings, samples and other submittals by the contractor in accordance with the requirements of the construction documents.
2. **Perform** the duties for registered design professionals in 780 CMR Chapter 17, as applicable.
3. **Be present** at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the work and to determine if the work is being performed in a manner consistent with the approved construction documents and this code.

Nothing in this document relieves the contractor of its responsibility regarding the provisions of 780 CMR 107.

When required by the building official, I shall submit field/progress reports (see item 3.) together with pertinent comments, in a form acceptable to the building official.

Upon completion of the work, I shall submit to the building official a **'Final Construction Control Document'**.

Enter in the space to the right a "wet" or electronic signature and seal:

Ryan Keith
Digitally signed by Ryan Keith
Date: 2025.03.05 20:40:43-05'00'

Phone number: (508) 944-3420 **Email:** ryan.keith@crbgroup.com

Building Official Use Only

Building Official Name: **Permit No.:** **Date:**

Note 1. Indicate with an 'x' project design plans, computations and specifications that you prepared or directly supervised. If 'other' is chosen, provide a description.

Version 01_01_2018

Initial Construction Control Document

To be submitted with the building permit application by a **Registered Design Professional** *for work per the tenth edition of the Massachusetts State Building Code, 780 CMR, Section 107*

Project Title: Veranova - HPAPI Manufacturing **Date:** March 6th, 2025

Property Address: 25 Patton Rd, Devens, MA 01434

Project: Check (x) one or both as applicable: **New construction** **[X] Existing Construction**

Project description: Interior fit out of shell space in two buildings on the same campus (Veranova). Building 1 will house a new High Potent API (HPAPI) Process Research & Development (PRD) Lab. Building 3 will house a two new one Kilo Scale HPAPI Manufacturing Suites.

I, Ryan Keith, MA Registration Number: 57539 Expiration date: 06/30/2026, am a ***registered design professional***, and I have prepared or directly supervised the preparation of all design plans, computations and specifications concerning[1]:

Architectural	**Structural**	**Mechanical [X]**
Fire Protection	**Electrical**	**Other:**

for the above named project and that to the best of my knowledge, information, and belief such plans, computations and specifications meet the applicable provisions of the Massachusetts State Building Code, (780 CMR), and accepted engineering practices for the proposed project. I understand and agree that I (or my designee) shall perform the necessary professional services and be present on the construction site on a regular and periodic basis to:

1. **Review**, for conformance to this code and the design concept, shop drawings, samples and other submittals by the contractor in accordance with the requirements of the construction documents.
2. **Perform** the duties for registered design professionals in 780 CMR Chapter 17, as applicable.
3. **Be present** at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the work and to determine if the work is being performed in a manner consistent with the approved construction documents and this code.

Nothing in this document relieves the contractor of its responsibility regarding the provisions of 780 CMR 107.

When required by the building official, I shall submit field/progress reports (see item 3.) together with pertinent comments, in a form acceptable to the building official.

Upon completion of the work, I shall submit to the building official a **'Final Construction Control Document'**.

Initial Construction Control Document

To be submitted with the building permit application by a
Registered Design Professional ***for work per the tenth edition of the Massachusetts State Building Code, 780 CMR, Section 107***

Project Title: Veranova - HPAPI Manufacturing **Date:** March 6th, 2025

Property Address: 25 Patton Rd, Devens, MA 01434

Project: Check (x) one or both as applicable: **New construction** **[X] Existing Construction**

Project description: Interior fit out of shell space in two buildings on the same campus (Veranova). Building 1 will house a new High Potent API (HPAPI) Process Research & Development (PRD) Lab. Building 3 will house a two new one Kilo Scale HPAPI Manufacturing Suites.

I Steven J. Southard MA Registration Number: 51498 Expiration date: 6/30/2026 , am a ***registered design professional***, and I have prepared or directly supervised the preparation of all design plans, computations and specifications concerning[1]:

Architectural	**Structural**	**Mechanical**
Fire Protection X	**Electrical**	**Other:**

for the above named project and that to the best of my knowledge, information, and belief such plans, computations and specifications meet the applicable provisions of the Massachusetts State Building Code, (780 CMR), and accepted engineering practices for the proposed project. I understand and agree that I (or my designee) shall perform the necessary professional services and be present on the construction site on a regular and periodic basis to:

1. **Review**, for conformance to this code and the design concept, shop drawings, samples and other submittals by the contractor in accordance with the requirements of the construction documents.
2. **Perform** the duties for registered design professionals in 780 CMR Chapter 17, as applicable.
3. **Be present** at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the work and to determine if the work is being performed in a manner consistent with the approved construction documents and this code.

Nothing in this document relieves the contractor of its responsibility regarding the provisions of 780 CMR 107.

When required by the building official, I shall submit field/progress reports (see item 3.) together with pertinent comments, in a form acceptable to the building official.

Upon completion of the work, I shall submit to the building official a **'Final Construction Control Document'**.

Enter in the space to the right a "wet" or electronic signature and seal:

Phone number: (603) 647-8700 **Email: ssouthard@sfceng.com**

Building Official Use Only

Permit No.: **Date:**

Building Official Name:

Note 1. Indicate with an 'x' project design plans, computations and specifications that you prepared or directly supervised. If 'other' is chosen, provide a description.

Initial Construction Control Document

To be submitted with the building permit application by a **Registered Design Professional** *for work per the tenth edition of the Massachusetts State Building Code, 780 CMR, Section 107*

Project Title: Veranova - HPAPI Manufacturing **Date:** March 6th, 2025

Property Address: 25 Patton Rd, Devens, MA 01434

Project: Check (x) one or both as applicable: **New construction** **[X] Existing Construction**

Project description: Interior fit out of shell space in two buildings on the same campus (Veranova). Building 1 will house a new High Potent API (HPAPI) Process Research & Development (PRD) Lab. Building 3 will house a two new one Kilo Scale HPAPI Manufacturing Suites.

I, Nick J Safina, MA Registration Number: 8790 Expiration date: 08/31/2025, am a ***registered design professional***, and I have prepared or directly supervised the preparation of all design plans, computations and specifications concerning[1]:

[XX]Architectural	Structural	Mechanical
Fire Protection	Electrical	Other:

for the above named project and that to the best of my knowledge, information, and belief such plans, computations and specifications meet the applicable provisions of the Massachusetts State Building Code, (780 CMR), and accepted engineering practices for the proposed project. I understand and agree that I (or my designee) shall perform the necessary professional services and be present on the construction site on a regular and periodic basis to:

1. **Review**, for conformance to this code and the design concept, shop drawings, samples and other submittals by the contractor in accordance with the requirements of the construction documents.
2. **Perform** the duties for registered design professionals in 780 CMR Chapter 17, as applicable.
3. **Be present** at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the work and to determine if the work is being performed in a manner consistent with the approved construction documents and this code.

Nothing in this document relieves the contractor of its responsibility regarding the provisions of 780 CMR 107.

When required by the building official, I shall submit field/progress reports (see item 3.) together with pertinent comments, in a form acceptable to the building official.

Upon completion of the work, I shall submit to the building official a **'Final Construction Control Document'**.

Enter in the space to the right a "wet" or electronic signature and seal:

Phone number: 781.518.4098 **Email: nick.safina@crbgroup.com**

Building Official Use Only

Building Official Name: **Permit No.:** **Date:**

Initial Construction Control Document

To be submitted at completion of construction by a

Registered Design Professional

for work per the ninth edition of the

Massachusetts State Building Code, 780 CMR, Section 107

Project Title: Veranova - HPAPI Manufacturing **Date: March 6th, 2025**

Property Address: 25 Patton Rd, Devens, MA 01434

Project: Check (x) one or both as applicable: **New construction** **X Existing Construction**

Project description: Interior fit out of shell space in two buildings on the same campus (Veranova). Building 1 will house a new High Potent API (HPAPI) Process Research & Development (PRD) Lab. Building 3 will house a two new one Kilo Scale HPAPI Manufacturing Suites.

I, Randolph W. Marshall MA Registration Number: 58326, Expiration date: 30 June 2026 , am a ***registered design professional,*** and I have prepared or directly supervised the preparation of all design plans, computations and specifications concerning:

Architectural	**Structural**	**Mechanical**
Fire Protection	**X Electrical**	**Other:**

for the above named project. I, or my designee, have performed the necessary professional services and was present at the construction site on a regular and periodic basis. To the best of my knowledge, information, and belief the work proceeded in accordance with the requirements of 780 CMR and the design documents approved as part of the building permit and that I or my designee:

1. **Review**, for conformance to this code and the design concept, shop drawings, samples and other submittals by the contractor in accordance with the requirements of the construction documents.
2. **Perform** the duties for registered design professionals in 780 CMR Chapter 17, as applicable.
3. **Be present** at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the work and to determine if the work was performed in a manner consistent with the construction documents and this code.

Nothing in this document relieves the contractor of its responsibility regarding the provisions of 780 CMR 107.

When required by the building official, I shall submit field/progress reports (see item 3.) together with pertinent comments, in a form acceptable to the building official.

Upon completion of the work, I shall submit to the building official a **'Final Construction Control Document'**.

Enter in the space to the right a "wet" or electronic signature and seal:

06 Mar 2025

Phone number: 215-801-7005 **Email: randy.marshall@crbgroup.com**

Building Official Use Only

Building Official Name: **Permit No.:** **Date:**

SFC ENGINEERING

March 6, 2025

RE: Tier I, Construction Documents
25 Patton Rd, Devens, MA 01434

SFC Engineering Partnership, Inc. (SFC) is providing Tier I Construction Documents in accordance with 780 CMR 107.1.2 and 901.2.1. The purpose of this document is to provide sufficient information to completely describe each of the fire protection systems under the responsible charge of SFC Engineering Partnership, Inc. for which a permit is being applied.

Project Introduction

SFC Engineering Partnership, Inc. (SFC) is providing this report to outline the fire protection scope of work required to accommodate Veranova's new HPAPI Manufacturing spaces. The Veranova Campus is broken into three (3) building areas. The scope of work pertinent to this project is located in the following areas of two (2) buildings:

- Building 1 – Level 2
  - Existing shell space being reconfigured to expand a Process R&D Lab
- Building 3 – Level 2
  - Existing shell space being reconfigured to house two new Kilo rooms and support spaces used as part of HPAPI Manufacturing space. This space will utilize ignitable liquids as part of their process. Both Kilo room #1 and #2 are considered hazardous occupancies (group H-2).
- Building 3 – Level 3
  - Existing space being reconfigured to locker rooms and utility spaces

This narrative provides information on the design of the automatic sprinkler system. SFC's involvement in the project is limited to design of the sprinkler system modifications required to support the renovation.

Building Description

IBC Building "Use" Groups	• Building 1 = Group B, Accessory S-1 & A-3 • Building 3 = Group F-1 (separated) & H-2 (separated)
Building height	• Building 1 = 30 feet • Building 3 = 40 feet
Number of stories above grade plane	• Building 1 = 2 stories • Building 3 = 3 stories
Number of stories below grade plane	• Building 1 = 0 stories • Building 3 = 0 stories

• Building Area (Approximately)	• Building 1 Total Area = 80,535 SF gross. o Renovated area = 1,737 SF • Building 3 Total Area = 38,145 SF gross. o Renovated area = 7,513 SF
Construction Type	• Building 1 = IIB • Building 3 = IIA
Hazardous Materials	• Building 1 = Work area is understood to be under MAQ. • Building 3 = Work area on the 2nd floor will exceed MAQ quantities in IBC Tables 307.1(1) and 307.1(2)
Site access	Patton Road
Suppression System	• Building 1 = Fully Sprinklered • Building 3 = Fully Sprinklered
Standpipe System	• Building 1 = Class I manual wet standpipe • Building 3 = Class I manual foam (AFFF) standpipe
Fire Alarm System	• Building 1 = Provided • Building 3 = Provided

Codes and Standards

The codes and standards applicable to this project shall be those in effect at the time of bid and those versions currently acceptable to the Authority Having Jurisdiction (AHJ). All fire protection system design work must comply with the following regulatory codes and standards as per the requirements of 780 CMR:

Massachusetts State Building Code 780 CMR – 10th Edition

- 2021 International Building Code (IBC) with amendments

NFPA Standards

- NFPA 11-2019 - Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems
- NFPA 13-2019 – Standard for the Installation of Sprinkler Systems
- NFPA 16-2019 - Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems

Factory Mutual Datasheets:

- 7-32 – Ignitable Liquid Operations
- 7-78 – Industrial Exhaust Systems
- 4-12 – Foam Extinguishing Systems

M.G.L., Chapter 148

- Section 26G Sprinkler Systems

527 CMR 1.00: Massachusetts Fire Safety Code (NFPA 1-2021 with amendments)

- Chapter 11 Building Services
- Chapter 13 Fire Protection Systems

Requirements for 780 CMR 901.2.1 are listed in bold and a response to each item is included below.

- **Each system shall be described in a narrative report, which contains:**
  - **design methodology for the protection of the occupancy and hazards in accordance with 780 CMR and applicable NFPA Standards;**

    All three (3) buildings on Veranova's campus are fed by a central existing fire pump. The existing fire pump specifications are the following:

    - Rated Horsepower = 60 HP
    - Rated GPM = 1,250 GPM
    - Rated Pressure = 50 psi

    Downstream of the fire pump the campus sprinkler system is currently zoned as follows:

    - 6" building 1 wet system riser
    - 6" building 2 wet system riser
    - 6" building 2 water-foam system riser
    - 6" building 3 water-foam system riser

    Building 1 contains an existing combination wet sprinkler/standpipe system. An existing class I manual wet standpipe is present in egress stairwells. The area in scope on this building and floor are fed from wet system floor control valve that is located in the stairwell.

    Building 3 is currently only served only by a single foam-water system. The system currently serves all standpipes and all sprinklers in the building from an existing AR-AFFF foam bladder tank located in the fire pump room. At the completion of the project, a portion of Building 3 will be provided with wet sprinkler protection and the new Kilo rooms will be provided with new AR-SFFF suppression.

    The building is insured by Factory Mutual Global (FM). As a result, all relevant FM global datasheets apply to this project along with the applicable NFPA standards.

    The sprinkler system will provide sprinkler coverage throughout the work areas mentioned above, except where omission is permitted by NFPA 13, NFPA 11, and NFPA 16. The installation and design of the sprinkler system will be completed in compliance with NFPA 11, NFPA 13, NFPA 16 and 527 CMR. Preliminary hydraulic calculations have been performed to validate the available water supply. Shop drawings and hydraulic calculation will be developed by the sprinkler contractor and submitted to the registered design professional for review and approval.

  - **sequence of operation of all fire protection systems and operations; and**

    The automatic sprinkler system will continue to be monitored by the building's fire alarm system. If any valve is actuated such that it is not in the full open position, the provided tamper switch will send a supervisory signal to the Fire Alarm Control Unit (FACU). All newly installed valve supervisory, waterflow, and pressure switches will be monitored by the fire alarm system (fire alarm design is by others).

- Wet Sprinkler and Foam-Water: If a sprinkler fuses due to a fire, the flow switch will actuate. Upon activation of the flow switch, an alarm signal will be sent to the FACU which will broadcast the alarm signal throughout the building and initiate the fire alarm systems alarm sequence.
- Dry Sprinkler: The dry clapper valve holds water back due to compressed air within the piping network. If a sprinkler fuses due to a fire, the pressure will drop in the piping network allowing the dry clapper valve to fill the piping network with water. The flow switch will actuate. Upon activation of the flow switch, an alarm signal will be sent to the FACU which will broadcast the alarm signal throughout the building and initiate the fire alarm systems alarm sequence. The piping network is monitored for off-normal air pressure which is considered a supervisory signal at the FACU.
- Single Interlock Preaction Sprinkler: An electronically activated solenoid valve holds water back due to compressed air within the piping network. The room is provided with combination smoke/heat detection. The activation of the smoke signal results in fire alarm condition at the FACU. The activation of the heat signal releases the electronic solenoid and permits water to flood the piping network. If a sprinkler fuses due to a fire, the flow switch will actuate. Upon activation of the flow switch, an alarm signal will be sent to the FACU which will broadcast the alarm signal throughout the building and initiate the fire alarm systems alarm sequence. The piping network is monitored for off-normal air pressure which is considered a supervisory signal at the FACU.

o **testing criteria to be used for final system acceptance.**

Wet Sprinkler

The sprinkler equipment will undergo an acceptance test, to be performed by an approved testing company; this may be the installing contractor. The sprinkler system will be tested in accordance with Chapter 28 of NFPA 13-2019. Each new wet sprinkler zone is to be tested at 200 psi for 2 hours. Once the test is complete, the testing company will complete and sign the Contractor's Material and Test Certificate for Aboveground Piping. The company will then submit said documentation to the building owner and SFC for review prior to submission to Devens Fire Department.

Dry Sprinkler

All piping shall be hydrostatically tested at 200 psi for 2 hours or at 50 psi in excess of the maximum static pressure where the maximum static pressure exceeds 150 psi. After the hydrostatic test, an air leakage test shall be conducted by pressurizing the system with 40 psi of air and measuring pressure loss over 24 hours. A drop of more than 1.5 psi shall be considered a failure.

Trip testing of the dry pipe valve shall be performed to ensure proper operation. The following steps shall be taken:

- The system will be trip-tested by introducing water into the system to verify operation.
- The time to deliver water to the most remote outlet shall be recorded and compared to design requirements.
- The Contractor's Material and Test Certificate for Aboveground Piping shall be completed and submitted to the building owner and SFC for review prior to submission to Devens Fire Department.

Preaction Sprinkler

The preaction sprinkler system will undergo an acceptance test, performed by an approved testing company, which may be the installing contractor. Testing shall be conducted in accordance with Chapter 25 of NFPA 13-2013 and NFPA 72-2013 (for detection components).

All piping shall be hydrostatically tested at 200 psi for 2 hours or at 50 psi in excess of the maximum static pressure where the maximum static pressure exceeds 150 psi.

Preaction system functional testing shall include the following:

- Supervisory Air Pressure Test: The system shall be pressurized to 40 psi of air and monitored for 24 hours. A drop of more than 1.5 psi shall be considered a failure.
- Control Panel and Alarm Verification: The preaction system's control panel and associated alarms shall be tested to ensure proper activation of the valve upon heat detection.
- Trip Test: The system shall be trip-tested by simulating a fire condition using detection devices. The system must open and flood the piping network without the operation of a sprinkler.

The Contractor's Material and Test Certificate for Aboveground Piping shall be completed and submitted to the building owner and SFC for review prior to submission to Devens Fire Department. Additionally, NFPA 72 Test Reports and Record of Completion are required.

Foam-Water Sprinkler

The sprinkler system will undergo an acceptance test, to be performed by an approved testing company; this may be the installing contractor. All piping, including foam concentrate lines and the system piping, shall be hydrostatically tested at 200 psi or at 50 psi in excess of the maximum static pressure where the maximum static pressure exceeds 150 psi. The pressure shall be maintained for 2 hours. Bladder tanks shall not be included in pressure tests. Foam flow tests shall include:

- A minimum flow test for wet pipe systems equal to the flow of the most remote (4) sprinklers.
- Full-flow testing of the proportioning system and discharge device shall be required to properly evaluate the proportioning system.
- The foam concentrate induction rate of a proportioner, expressed as a percentage of the foam solution flow (water plus foam concentrate), shall be within minus 0 percent to plus 30 percent of the manufacturer's listed concentration, or plus 1 percentage point, whichever is less.

The concentration of the foam solution sample shall be verified by one of the following measurement devices:

- Digital refractometer
- Digital electric conductivity
- Listed digital flow meters (total flow and foam concentrate)
- Other means acceptable to the AHJ

- **Building and site access for firefighting or rescue vehicle(s) and personnel or both.**

  The Veranova campus is located off Patton Rd. An access road provides access to the rear of the building where the fire pump is located. The existing building and site access will not be affected as part of this project.

- **Fire hydrant(s) location and water supply information.**

  No new fire hydrants will be installed as part of this project. Existing fire hydrants will remain.

- **Type/description and design layout of the automatic sprinkler system(s).**

  Ignitable Liquid Classification:

  The HPAPI manufacturing spacings will be utilizing non-polar and polar solvents as part of their manufacturing process. The following fuel list was provided to SFC as design input:

  - Acetone
  - Methanol
  - Tetrahydrofuran
  - Dichloromethane
  - n-Heptane
  - Ethyl Acetate
  - 2-propanol
  - Ethanol
  - Dimethylformamide
  - Tert butyl methyl ether
  - Diisopropyl ethyl amine
  - Acetonitrile

  Per NFPA 30 a class IB liquid is defined as the following:

  - Class IB (NFPA 30)
  - Flash point of all liquids intended to be used = Less than 73 deg F
  - Boiling point of all liquids intended to be used = higher than 100 deg F
  - The storage of ignitable liquids not actively utilized in a closed system process is not permitted.

  The fuels listed above meet the definition of a class IB flammable liquid. The flammable liquids are strictly used for handling and processing only. The storage of ignitable liquids not actively utilized in a closed system process is not permitted in the renovation space.

  Due to some of the fuels being classified as polar solvent, an alcohol resistant – synthetic film forming foam (AR-SFFF) is required to be utilized. Soldberg ReHealing 3x3 SP=100 3% concentration foam is the basis of design due to it being FM approved.

Sprinkler Zoning:

Sprinkler zoning within the project scope shall be accomplished via the zones as follows:

Building Number	Level	Zone	Protected area	Control Valve Location
1	2	Existing Wet sprinkler	PRD lab renovation area	Bldg. 1 – Level 2 Stairwell
1	2	Ductwork sprinkler	Hazardous Exhaust Ductwork	Bldg.1 – Level 2 Tech space
3	2	Foam-Water #1	Kilo Rm #1 and support rooms surrounded by the 1 hr. fire barrier	Bldg.3 – Level 3
3	2	Foam-Water #2	Kilo Rm #2 and support rooms surrounded by the 1 hr. fire barrier	Bldg.3 – Level 3
3	2	Wet sprinkler #1	Reconnects to existing piping flushed of AR-AFFF foam in the shell space.	Bldg. 3 – Level 2 Stairwell
3	3	Wet sprinkler #2	Reconnects to existing piping flushed of AR-AFFF foam in the shell space.	Bldg. 3 – Level 2 Stairwell
3	3	Preaction System #1	Serves IDF Room	Bldg.3 – Level 3
3	3	Ductwork sprinkler	Hazardous Exhaust Ductwork	Bldg.3 – Level 3

Sprinkler Coverage:

Reference the sprinkler plans for the exact location of hazard classifications and zones. The sprinkler design criteria for the corresponding room shall meet the following criteria:

- Ignitable Liquid Process Areas (Kilo Rm #1 & #2)
  - Design Basis
    - Ignitable Liquid Operations FM Data Sheet 7-32
      - Table 2.4.3
  - Foam-water sprinkler protection
  - Design Density = 0.4 GPM/SF
    - The design density was increased from FM Table 2.4.3 (0.3 GPM/SF) to Solberg's most recent FM testing data with Isopropyl Alcohol (IPA).
    - This density is FM approved.
  - Sprinkler K-factor = K11.2
  - Hydraulic Design Area = Entire Area Bounded by 1 hr. Fire Barrier
  - Maximum Sprinkler Coverage = 100 SF
    - Maximum on-line sprinkler spacing = 10'
  - Outside Hose Stream = 500 GPM
- Ignitable Liquid Process Areas (New PRD Lab)

- Design Density = 0.3 GPM/SF (New PRD Lab)
- Sprinkler K-factor = K11.2
- Hydraulic Design Area = Renovation space
- Sprinkler Coverage Max Spacing = 100 SF
- Outside Hose Stream = 500 GPM

- Hazard Category 1 (HC-1)
  - Design Density = 0.1 GPM/SF
  - Sprinkler K-factor = K5.6
  - Hydraulic Design Area = 1,500 SF (Quick response reduction is not permitted)
  - Sprinkler Coverage Max Spacing = 225 SF
  - Outside Hose Stream = 250 GPM
- Hazard Category 2 (HC-2)
  - Design Density = 0.2 GPM/SF
  - Sprinkler K-factor = K8.0
  - Hydraulic Design Area = 2,500 SF (Quick response reduction is not permitted)
  - Sprinkler Coverage Max Spacing = 130 SF
  - Outside Hose Stream = 250 GPM

All modifications will be installed in accordance with the 2019 edition of NFPA 13. Coverage throughout the building will be adjusted as needed to comply with NFPA 13, 527 CMR, and 780 CMR.

Foam-water design:

Wet – Foam Sprinkler System Criteria:

The ignitable liquids processing areas in building 3 level 2 will be protected by a foam-water sprinkler system. The system shall meet the following specifications:

- System Configuration:
  - Bladder foam tank feeding both foam-water system valves #1 and #2.
  - Locate the Bladder foam tank within 50 ft of the foam-water system valves.
  - Each foam-water system valve shall be provided with a 6" Solberg Wide Range Proportioner.
  - Reference detail on sheet F60-01 for bladder foam tank and foam-water system valve configuration.
- Foam Type:
  - Alcohol resistant low expansion synthetic fluorine free foam (AR-SFFF)
  - Estimated Quantity = 700 gallons
  - Concentration = 3%
  - A reserve foam supply is required to be located onsite unless the foam manufacturer can re-fill the foam within 24 hours after discharge.
- System Hydraulics:
  - The contractor shall provide hydraulic calculations to size branch lines and mains.

- Friction loss characteristics for foam-solution piping shall be considered the same as if piping were carrying water per NFPA 16 § 7.10.2.5.1. Utilize a C-factor of 120 for black steel piping.

Automatic sprinkler system(s) control equipment location.

The fire pump and sprinkler service entrance for all three (3) buildings is located in building 2 on level 1. The fire pump room access is from a double door directly to the exterior of the building.

- **Type/description and design layout of the automatic standpipe system(s).**

  Existing standpipes are located in exit stairs. The standpipe system is a Class I manual standpipe. There is no scope to alter the standpipe system as part of this project.

- **Standpipe system hose valve(s) type and location.**

  Existing 2-1/2" fire department valves are provided on each existing standpipe. There is no scope to alter the standpipe system as part of this project.

- **Fire department connection type(s) and location.**

  The existing fire department connection will not be altered as part of this project. A new sign will be added outside at the FDC in accordance with NFPA 16 that states specifically: FIRE DEPARTMENT CONNECTION. THIS FIRE DEPARTMENT CONNECTION FEEDS A FOAM-WATER SPRINKLERS SYSTEM. FOR FIRES INVOLVING FOAM-WATER SYSTEM ACTIVATION DO NOT PUMP AT PRESSURES EXCEEDING 100 PSI UNTIL FOAM LIQUID SUPPLY IS EXHAUSTED. IF INCIDENT IS CONTROLLED BY FOAM BLANKET, DO NOT DESTROY FOAM BLANKET BY EXCESSIVE APPLICATION OF WATER.

- **Type/description and design layout of the fire protective signaling system(s).**

  SFC is not responsible for designing the fire alarm system and is not the registered design professional overseeing this work.

- **Fire protective signaling system(s) control equipment and remote annunciator.**

  SFC is not responsible for designing the fire alarm system and is not the registered design professional overseeing this work.

- **Type/description and design layout of the smoke control or exhaust system(s).**

  There is no scope to alter the existing smoke control system as part of SFC's scope in this project.

- **Smoke control or exhaust system(s) control equipment location.**

  There is no scope to alter the existing smoke control system as part of SFC's scope in this project.

- **Building life safety system features (auxiliary functions) required to be integrated as part of the fire protective signaling system(s).**

  SFC is not responsible for designing the fire alarm system and is not the registered design professional overseeing this work.

- **Type/description and design layout of the fire extinguishing system(s).**

  See items **d.** and **f.** for automatic sprinkler/standpipe system(s) description and design layout. No other fire extinguishing system is included in scope of work.

tt. Fire extinguishing system(s) control equipment location.

See item **e.** and **g.** for automatic sprinkler/standpipe system(s) control equipment/valve location. No other fire extinguishing equipment is included in scope of work.

- **Fire protection system(s) equipment room location.**

  See item **e.** for automatic sprinkler system(s) control equipment location. No other fire protection systems are included in scope of work.

- **Fire protection system(s) equipment identification and operation signs.**

  Fire protection system identification and operating signs are to be provided in accordance with NFPA 13.

- **Fire protection system(s) alarm/supervisory signal transmission method and location.**

  SFC is not responsible for designing the fire alarm system and is not the registered design professional overseeing this work.

- **Fire command center location.**

  No fire command center is proposed for this project.

- **Type/description and location of any emergency alarm system.**

  SFC is not responsible for designing the fire alarm system and is not the registered design professional overseeing this work.

- **Type/description and location of any alternative fire suppression system or protection.**

  There are no alternative suppression systems.

- **Type/description and location of any carbon monoxide protection.**

  Carbon monoxide detection is not included in SFC's scope of work for this project.

- **Emergency responder radio coverage type/location.**

  No emergency responder radios are proposed for this project.

Sincerely,
SFC ENGINEERING PARTNERSHIP, INC.

Steven J. Southard, P.E.
Vice President – Fire Protection Engineering

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Product Name
(4S)-4-Ethyl-7,8-dihydro-4-hydroxy-1H-pyrano[3,4-*f*]indolizine-3,6,10(4H)-trione
2-Chloroethyl isocyanate, 97+%
2-Chloroethylamine Hydrochloride
SSPH·2Et3N
tert-butyl (4-(3-(3-fluoro-3-methylbutyl)ureido)phenyl)carbamate
SGD-5277
RSM4278.E Lots
RSM4278.E Lots
RSM4278.EP
RSM4278.C Lots **Potent 4**
RSM4278.C Lots
C210428005-SM4
3-(Maleimido)propionic acid N-hydroxysuccinimide ester, SM4 **Potent 4**
ADENOSINE-2-THIOL
4-((S)-2-((S)-2-acetamido-3-methylbutanamido)propanamido)phenyl)-2-(((4-nitrophenoxy)carbonyl)oxy)ethyl)carb
Exatecan Mesylate (Potent 5)
****1-(6-Amino-1,3-benzodioxol-5-yl)-2-chloroethanone (POTENT 4 MATERIAL)
4,6-DIMETHYL-2-METHYLSULFONYL PYRIMIDINE - 11514
RSM329P
4,6-DIMETHYL-2-METHYLSULFONYL PYRIMIDINE
Benzofuroxan
3-Aminopropionic acid
Dibenzocyclooctyne-N-hydroxysuccinimidyl ester
Dibenzocyclooctyne-N-hydroxysuccinimidyl ester, 97%
S)-2-(2-(2-Aminoacetamido)acetamido)-3-phenylpropanoic acid, 99%
(S)-2-(2-(2-Aminoacetamido)acetamido)-3-phenylpropanoic acid, 99% (Retain)
(S)-2-(2-(2-Aminoacetamido)acetamido)-3-phenylpropanoic acid, 99%
2-(2-fluoropropan-2-yl)isonicotinic acid
N-Methyl-4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)picolinamide
AR 10886: 6-Aminoisoquinoline **Respirator**
AR13513: DBMPA acid Respirator
AR13513: DBMPA acid Respirator
AR13528
AR13528 (***N*** -Boc-1-aminomethylbenzotriazole) Respirator
2-Chloropyridine-4-boronic acid (Potent 4)
3-Bromo-4-methylaniline (Potent 4)
3-Bromo-4-methylaniline (Potent 4)
2-amino-6-fluoro-4-(2-methoxyethoxy)benzonitrile
2-amino-6-fluoro-4-(2-methoxyethoxy)benzonitrile
2-((tert-butoxycarbonyl)amino)-2-methylpropanoic acid
O-benzyl-N-(tert-butoxycarbonyl)-D-serine
benzyl 1-(methylsulfonyl)spiro[indoline-3,4'-piperidine]-1'-carboxylate
Cyclopropanecarboxaldehyde **(Potent 4)**

VERNOVA - HPAPI Manufacturing Product List
Level 2 DEC Submission - 3/10/25

Fmoc-β-alanine
[(E)-3-(p-Tolyl)acrylic acid] Potent 3
[(E)-3-(p-Tolyl)acrylic acid] Potent 3
Maleic acid
Cyanamide
Maleic Anhydride
7-Ethyl-10-Hydroxycamptothecin (Potent 5, handle in glove box)
7-Ethyl-10-Hydroxycamptothecin
Thebaine
Chloromethyl butyrate
301P-022
Ethanol, Anhydrous
Ethanol, denatured
Ethanol
2,3-Dichlorobenzaldehyde
p-Toluenesulfonic acid monohydrate
Acetonitrile, ACS Reagent Grade, 99.5% - 10041
Acetonitrile
ACN
1-Methylimidazole, redistilled
1-Methylimidazole, 99%-13627
1-Methylimidazole
Ethylbenzene, Reagent Grade, 99% - 11750
Ethylbenzene
Ethylbenzene, Reagent Grade, 99% - 11750
Ethylbenzene
Hydrobromic acid, 48% - 12545
Hydrobromic Acid
White High Density Polyethylene Pails with Gasketed White Lids
White High Density Polyethylene Pails with Gasketed White Lids (8927P)
White High Density Polyethylene Pails with Gasketed White Lids - 18017
N-Hydroxysuccinimide
Glass Bottle, Type I, Clear
****Chlorotrimethylsilane, 98%
Tert-Butyl Alcohol - 13709
Phosphorus oxychloride, reagent (No sampling required)
Diisopropyl azodicarboxylate
Citric acid monohydrate, 99%, ACS Reagent Grade - 11045
Citric acid monohydrate, ACS, 99.0-102.0%
Citric acid monohydrate
Citric acid monohydrate, 99%, ACS Reagent Grade - 11045
Citric acid monohydrate, 99%, ACS Reagent Grade
Citric acid monohydrate, 99%, ACS Reagent Grade
27-inch OD 5-micron, 03-5/1 Nitex Nylon Nutsche Filter Cloth - 19066

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Filter, Membrane, Spiral element, Koch part #8383868 SPIRAL,3838-SR3D-30

Bag, Autoclave, Tyvek Steam Component -19088

Bag, Autoclave, Tyvek Steam Component

Needles, Disposable Single Use - 19101

Needles, Dispoable, Single Use

Cesium carbonate, 99% - 10883

Cesium carbonate, 99% - 10883

Cesium Carbonate, 99% Metals Basis

Sodium carbonate- 15474

Tetrabutylammonium fluoride solution, 1.0 M in tetrahydrofuran - 15829

Tetrabutylammonium fluoride solution, 1.0 M in tetrahydrofuran

Tetrabutylammonium fluoride solution, 1.0 M in tetrahydrofuran - 15829

(S)-1-(4-Chlorophenyl)ethylamine

1-[3-(Dimethylamino)propyl]-3-ethylcarbodiimide hydrochloride, 98% - 11471

N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide powder

tert-Butyldimethylsilyl Chloride (CAS No. 18162-48-6) - 10756

tert-Butyldimethylsilyl Chloride

tert-Butyldimethylsilyl Chloride (CAS No. 18162-48-6) - 10756

tert-Butyldimethylsilyl Chloride

Filter, Cartridge, Fulflo Wound Depth Polypropylene-19010

Sand, −50-70 mesh particle size

Sand white quartz, -50 +70 mesh particle size

Sand, −50-70 mesh particle size

Mixed Heptanes, technical/commercial grade - 12415

Mixed Heptane (704S)

HEPTANE, TECHNICAL / COMMERCIAL GRADE

Mixed Heptanes, technical/commercial grade - 12415

Mixed Heptanes, technical/commercial grade - 12415

Mixed Heptane (704S)

Mixed Heptanes, technical/commercial grade - 12415

Mixed Heptane (704S)

Mixed Heptane

Mixed Heptanes, technical/commercial grade - 12415

Mixed heptane

Mixed Heptanes, technical/commercial grade - 12415

n-Heptane, 99%

n-Heptane, 99% (704P)

n-heptane

n-Heptane, 99%

n-Heptane

(R)-(+)-4-Benzyl-2-oxazolidinone

Sodium Bicarbonate, ACS Reagent - 15433

Carboy, sterile, 4 L HDPE - Biotainer[REG] by Nalgene

Carboy, sterile, polycarbonate - Biotainer[REG] by Nalgene

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Carboy, sterile, 4 L HDPE - Biotainer

5% Palladium on carbon, Type 37

Potassium carbonate, anhydrous 99%

Potassium Carbonate, anhydrous 99% (644P)

Potassium Carbonate, anhydrous 99%

Sodium Triacetoxyborohydride

Sodium triacetoxyborohydride, 95%-15685

Filter, Cloth, 33 - 19067

Bag, Sterile, Sampling, White Write On Block (15 x 20in)

Wide Mouth Bottle, HDPE

Drum, HDPE, 30gal, Closed Head - 18021

Drum, HDPE, 30gallon, Closed Head - 81121

Drum, HDPE, 30 Gallon, Closed Head (5908P)

Drum, HDPE, 5 Gallon, Closed Head (5907P)

Drum, HDPE, 5gal, Closed Head - 81126

Drum, HDPE, 5gal, Closed Head - 19087

Drum, HDPE, 5gal, Closed Head - 19087

Anisole

Anisole, 99%

Bottle, Glass, Amber, USP Type III - 18020

Bottle, Glass Amber, USP Type III (5427P)

Bottle, Glass, Amber, USP Type III - 18020

Bottle, Glass, Amber, USP Type III

Bottle, Glass, Amber, USP Type III - 18020

Bottle, Glass, Amber, USP Type III - 18020

Bottle, Glass, Amber, USP Type III

Bottle, Glass, Amber, USP Type III - 18020

Bottle, Glass, Amber, USP Type III - 18020

FILTER,BACKER, 40.5 inch diameter

FILTER, BACKER, 28.5 in. diameter

Cyclopentyl methyl ether, 99.9+%

Filter, Cartridge, Quick Pack, 1 micron, 20 inches long - 19017

Filter, Cartridge, CTG-Klean, 1um, 20 in. - 42319

Filter, CTG-Klean, 0.2um

Bag, Polyethylene (Food Grade) (4547P)

Bag, Polyethylene (Food Grade) (4547P)

Bag, Polyethylene (Food Grade)

Filter Cartridge, Quick pack, 1.0 um, 10 in- 19055

Filter Cartridge, CTG-Klean, 1.0 um, 10 in. - 41147

Tetrabutylammonium fluoride solution 75 wt. % in H2O

Filter, Cartridge, Cuno CTG-Klean, LifeASSURE

Filter, Cartridge, CTG-Klean, 0.2 micron, 10-19039

tert-Butyl methyl ether, 98% - 13651

t-Butyl methyl ether, 99%

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

tert-Butyl methyl ether, 99% - 13651

tert-Butyl methyl ether

TBME

Sodium Nitrite, ACS Reagent - Commercial Use

Drum, HDPE, 20 Gallon, Open Head - 18018

Drum, HDPE, 20 Gallon, Open Head

Drum, HDPE, 20 Gallon, Open Head - 81115

Drum, HDPE, 55 gallon, Closed Head (3807P)

Drum, HDPE, 55 gallon, Closed Head - 18022

Drum, HDPE, 55 gallon, Closed Head

Tricyclohexylphosphonium tetrafluoroborate

Triethylammonium acetate buffer, 1.0 M in H2O

Tri-tert-butylphosphonium tetrafluoroborate

Riboflavin

Purity Flash Cartridges, C18 Spherical Silica Gel, Premium Rf, 100A, 20-45um, 1080g

Purity Flash Cartridges, C18 Spherical Silica Gel, Premium Rf, 100A, 20-45um, 1080g

Ammonium hydroxide solution, ACS reagent, 28.0-30.0% as NH3

Ammonium hydroxide, 28% solution

Ammonium Hydroxide solution

Sodium hydroxide, (Pellets) - 15545

Sodium Hydroxide, solid

Sodium hydroxide

Lithium hydroxide monohydrate

1-Butanol, ACS Reagent grade, 99% (302P)

1-Butanol, ACS Reagent Grade, 99% - 10741

1-Propanol, ACS grade, 99.5+%

Purity Flash Cartridges, C18 Spherical Silica Gel, Premium Rf, 100A, 20-45um

Purity Flash Cartridges, C18 Spherical Silica Gel, Premium Rf, 100A, 20-45um

N,N-Diisopropylethylamine, 99% (synonym: N-Ethyldiisopropylamine) - 11392

N,N-Diisopropylethylamine, 99%

N,N-Diisopropylethylamine, 99%

N,N-Diisopropylethylamine, 99% (synonym: N-Ethyldiisopropylamine) - 11392

N,N-Diisopropylethylamine

N,N-Diisopropylethylamine

N,N-Diisopropylethylamine, 99% (synonym: N-Ethyldiisopropylamine) - 11392

N,N-Diisopropylethylamine, 99%

Citric Acid 99.5% ACS Reagent Grade- 11044

Citric Acid 99.5% ACS Reagent Grade- 11044

Citric Acid 99.5% ACS Reagent Grade- 11044

2930.Z

2,6-Di-tert-butyl-4-methylphenol, (BHT) - 11274

2,6-Di-tert-butyl-4-methylphenol

Sodium acetate, anhydrous, 99.0% min

Sodium acetate, anhydrous, 99.0% min

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Sodium acetate, anhydrous, 99.0% min

Sodium acetate, anhydrous, 99.0% min

Sodium acetate, anhydrous, 99.0% min

Sodium acetate, anhydrous, 99.0% min

Sodium acetate

Sodium acetate, anhydrous, 99.0% min

Sodium acetate

4-Methyl-2-pentanone

MIBK

MIBK

4-Methyl-2-pentanone

4-Methyl-2-pentanone

4-Methyl-2-pentanone

4-Methyl-2-pentanone

4-Methyl-2-pentanone

4-Methyl-2-pentanone

4-Methyl-2-pentanone

4-Methyl-2-pentanone (MIBK)

NatraSorb® packets

Trifluoroacetic Acid (274P)

Trifluoroacetic acid, >/=99%

Trifluoroacetic acid, >/=99%

N-methylsulfamoyl chloride

N-Carbobenzoxyhydroxylamine

Sulfuric acid, reagent - 15756

Sulfuric acid, reagent - 15757

Sulfuric acid, reagent - 15756

Sulfuric Acid

Sulfuric Acid, ACS Reagent, 95-98%

Sulfuric Acid, ACS Reagent, 95-98% (Sulfuric Acid, 95%-Commercial Use)

Pyridine Hydrochloride 98.0+%

Pyridine Hydrochloride 98.0+%

Sodium metabisulfite, ACS,Reagent Grade - 15562

Potassium Hydroxide, pellets

Potassium Hydroxide, pellets

Sodium Hydroxide, 50% solution - 15551

Sodium Hydroxide, solution

Sodium Hydroxide, solution

Sodium Hydroxide, 50% solution

Sodium Hydroxide, 50% solution

1, 4-Dioxane (261P)

Filter, cloth, 33-in OD, 12-micron, PTFE

Filter, cloth, 45-in OD, 12-micron, PTFE

Filter, cloth, 45" OD, 12-micron, PTFE

VERNOVA - HPAPI Manufacturing Product List
Level 2 DEC Submission - 3/10/25

Sodium Chloride, Crystal, ACS Reagent - 15480
Sodium Chloride, Crystal, ACS Reagent - 15480
Sodium Chloride (257P)
Sodium Chloride, Crystal, ACS Reagent - 15480
Sodium Chloride, Crystal, ACS Reagent - 15480
Sodium Chloride, Crystal, ACS Reagent - 15480
Sodium Chloride, Crystal, ACS Reagent - 15480
Sodium chloride
Sodium chloride
Sodium Chloride
Triethylamine, 99+% - 16027
Triethylamine, 99+% - 16027
Triethylamine (255P)
Triethylamine, 99+% - 16027
Triethylamine
Triethylamine, 99+% - 16027
Triethylamine
Triethylamine
Palladium hydroxide
Palladium hydroxide
Palladium hydroxide
2-((tert-Butyldimethylsilyl)oxy)ethanol
N-Acetyl-L-cysteine
N-Acetyl-L-cysteine
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
Ammonium chloride, ACS Reagent - 10304
2-CHLOROETHYL METHYL SULFIDE, 97%-10934
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel
Silica Gel
Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica gel, 60 angstrom, 230-400 mesh - 15339

VERNOVA - HPAPI Manufacturing Product List
Level 2 DEC Submission - 3/10/25

Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel
Silical Gel
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica gel, 60 angstrom, 230-400 mesh - 15339
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel
Silica Gel
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel, Premium Rf, 60A, 20-45um
Silica Gel
Silica Gel
Silica Gel
Silica Gel
Silica Gel
Hydrogen gas , Grade 5.0 - 12592
Hydrogen gas , Grade 5.0 - 12592
Hydrogen gas , Grade 5.0 - 12592
Potassium 2-ethylhexanoate
Advantec Hydrophobic PTFE Membranes with Support
Amberchrom CG-161s Resin, 35 micron - 12884
Amberchrom CG-161s Resin, 35 micron - 12884
AMBERCHROM CG-161s Resin, 35 micron
AMBERCHROM CG-161s Resin, 35 micron
1.0 N Hydrochloric Acid standard solution in water
Hydrochloric acid, Commercial grade 34-39% solution - 12554
Hydrochloric acid, Commercial grade 34-39% solution - 12554
HYDROCHLORIC ACID, 1.0N, STANDARD SOLUTION
Hydrochloric acid, Commercial grade 34-39% solution - 12554
Hydrochloric acid, Commercial grade 34-39% solution

VERNOVA - HPAPI Manufacturing Product List
Level 2 DEC Submission - 3/10/25
HYDROCHLORIC ACID, 1.0N, STANDARD SOLUTION
HYDROCHLORIC ACID, 1.0N, STANDARD SOLUTION
Hydrochloric acid
4-(Dimethylamino)pyridine, 99% (Synonym: DMAP) - 11468

4-(Dimethylamino)pyridine
4-(Dimethylamino)pyridine, 99% (Synonym: DMAP) - 11468
4-(Dimethylamino)pyridine
4-(Dimethylamino)pyridine,99%
4-(Dimethylamino)pyridine,99%
4-(Dimethylamino)pyridine,99%
Piperidine (217P)
Piperidine
Acetone, 99.5% ACS reagent grade - 10039
Acetone, 99.5% ACS reagent grade - 10039
Acetone
N,N-dimethylaminophosphoryl dichloride - 11461
N,N-dimethylaminophosphoryl dichloride
Pyridine
Pyridine
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
5in Teflon Membrane Capsule Filters 0.22 micron
Cleaning Solution, Alkaline, Kochkleen 222 - 19147
Kochkleen 222 Cleaning Agent
Molecular sieves, 4 Å, beads, 8-12 mesh
Molecular sieves, 4 Å, beads, 8-12 mesh
Potassium hydrogen carbonate, 99% (1859P)
Potassium hydrogen carbonate, 99% - 14830
Potassium hydrogen carbonate, 99% - 14830
1-Hydroxybenzotriazole hydrate, 98% - 12639

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

1-Hydroxybenzotriazole hydrate wetted with not less than 20 wt. % water

1-Hydroxybenzotriazole hydrate, 98% - 12639

1-Hydroxybenzotriazole hydrate, 98% - 12639

1-Hydroxybenzotriazole hydrate

Tetrahydrofuran, Anhydrous - 15857

Tetrahydrofuran, Anhydrous - 15857

Tetrahydrofuran, Anhydrous - 15857

Tetrahydrofuran, Reagent Grade - 15858

Tetrahydrofuran, Reagent Grade - 15858

Tetrahydrofuran, Reagent Grade - 15858

Tetrahydrofuran, Reagent Grade - 15858

Tetrahydrofuran, spectrophotometric grade, ≥99.5%, inhibitor-free

Tetrahydrofuran, spectrophotometric grade, ≥99.5%, inhibitor-free

Tetrahydrofuran

Tetrahydrofuran

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone (1828S)

2-BUTANONE, TECH GRADE (METHYL ETHYL KETONE, MEK)

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone (1828S)

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone, Technical Grade for project 435 - 13656

2-Butanone

2-Butanone (1828S)

2-Butanone (1828S)

2-Butanone (1828S)

2-Butanone (1828S)

2-Butanone (1828S)

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

MEK (2-Butanone)

MEK (2-Butanone)

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

2-Butanone

MEK

MEK

2-Butanone

Oxalic acid anhydrous

Oxalic acid

Diethylamine (181P)

3-Hydroxy propionitrile

Palladium (II) Acetate crystal, Pd-111

Palladium (II) Acetate Crystal

n-Butyllithium solution, 2.5 M solution in hexanes - 10771

n-Butyllithium solution, 2.5 M solution in hexanes - 10771 (No sampling required per CISPro)

n-Butyllithium solution, 2.5 M solution in hexanes - 10771

Methanesulfonic Acid, 98% - 13500

Methanesulfonic Acid, 98% - 13500

Methanesulfonic Acid, 98% - 13500

Methanesulfonic Acid, 98% - 13500

METHANESULFONIC ACID

METHANESULFONIC ACID

METHANESULFONIC ACID

METHANESULFONIC ACID

Ethyl Acetate

Ethyl Acetate

Ethyl Acetate

Ethyl acetate

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Ethyl Acetate (ACS Reagent Grade) - 11714

Ethyl Acetate (ACS Reagent Grade) - 11714

Ethyl Acetate, ACS Reagent Grade, ≥99.5%

Ethyl Acetate, ACS Reagent Grade, ≥99.5%

Ethyl Acetate, ACS Reagent Grade, ≥99.5%

Ethyl Acetate, ACS Reagent Grade, ≥99.5%

Toluene, ACS Grade

Toluene

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine

2,6-Lutidine

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine, redistilled 99+%

2,6-Lutidine, redistilled 99+%

2,6-Lutidine, redistilled 99+%

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine, redistilled 99+% - 13384

2,6-Lutidine, redistilled 97.5%

2,6-Lutidine

2,6-Lutidine

2,6-Lutidine, redistilled 97.5%

N,N'-Diisopropylcarbodiimide, 99%

N,N'-Diisopropylcarbodiimide, 99%

N,N'-Diisopropylcarbodiimide, 99%

N,N'-Diisopropylcarbodiimide, 99%

Polyethylene bag, pharma grade

Polyethylene Bag, pharma grade

Polyethylene Bag, pharma grade

NITROGEN GAS, Cylinder or Bulk, NF Grade, or Grade 5 - 14260

NITROGEN GAS, Cylinder or Bulk, NF Grade, or Grade 5 - 14260

Acetic anhydride, Reagent grade - 10026

Isopropyl acetate - 12948

Isopropyl acetate - 12948

Isopropyl acetate - 12948

Isopropyl acetate

Isopropyl acetate

Isopropyl acetate - 12948

Isopropyl acetate

Isopropyl acetate

Hexamethylenetetramine

Hexamethylenetetramine

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Sodium sulfite - 15658

Sodium sulfite - 15658

Irradiated Tryptic Soy Agar with Lecithin and Polysorbate 80 (TSA)

Irradiated Tryptic Soy Agar with Lecithin and Polysorbate 80 (TSA

Irradiated Sabouraud Dextrose Agar with Lecithin and Polysorbate 80 (SDA)

Irradiated Sabouraud Dextrose Agar with Lecithin and Polysorbate 80 (SDA)

Dichloroacetic acid, 99%

Dichloroacetic acid

Dichloroacetic acid

Dichloroacetic acid

Dichloroacetic acid, 99%

GORE® LYOGUARD® Freeze-Drying Trays-19065

2-Ethoxy-1-ethoxycarbonyl--1,2-dihydroquinoline

2-Ethoxy-1-ethoxycarbonyl--1,2-dihydroquinoline

2-Ethoxy-1-ethoxycarbonyl--1,2-dihydroquinoline

Serepta Crude (COA release)

200L Standard Flexel® 3D bag for drum with silicone & TPE tubes without bottom drain

Filter, Cloth, 45-in. OD, 20um, Polypropylene

Filter, Cloth, 45-in. OD, 20um, Polypropylene-42570

Filter, Cloth, 45-in. OD, 20um, Polypropylene-42570

Filter, Cloth, 45-in. OD, 20um, Polypropylene-42570

Hydrogen chloride, 5 to 6 M in 2-Propanol

2-Methyltetrahydrofuran, 99%

2-Methyltetrahydrofuran, 99%

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid

Ethylenediaminetetraacetic acid, ACS, 99.4+%

Ethylenediaminetetraacetic acid

4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium chloride

4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium chloride hydrate, 97+%

1-Methyl-2-pyrrolidinone

Potassium tert-butoxide (>/= 95%) - 14841

Potassium tert-butoxide (>/= 95%) - 14841

Potassium t-butoxide

Filter Cartridge, fluoropolymer 0.2 micron absolute, 10"

Filter Cartridge, fluoropolymer 0.2 micron absolute, 10

Methylacetoacetate, 99% - 13561

Methyl Acetoacetate

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Oxalyl chloride, 98% - 14551

Oxalyl chloride, 98% - 14551

Oxalyl chloride, 98% - 14551

Oxalyl chloride, 98% - 14551

Oxalyl chloride, 98%

Oxalyl chloride, 98%

Oxalyl chloride, 98% - 14551

(+)-Sodium L-ascorbate, >= 99.0%

(+)-Sodium L-ascorbate, >= 99.0%

Sodium L-ascorbate

Sodium L-ascorbate

Sodium L-ascorbate

Tri-n-butylamine, 99% - 16137

Tri-n-butylamine, 99%

Tributylamine

Tri-n-butylamine

Triethyl phosphate, 96%-16034

Triethyl phosphate, 96%-16034

Triethyl phosphate, 96%-16034

USP Type I Clear Glass Bottle

Borosilicate USP Type I Clear Glass Bottle

Borosilicate USP Type I Clear Glass Bottle, 1L

Borosilicate USP Type I Clear Glass Bottle, 1L

Glass

Sodium Periodate, 98% - 15601

Sodium Periodate, 98% - 15601

Lithium amide, powder, 94%

Lithium amide, powder, 94%-13299

Lithium amide, powder, 94%-13299

Lithium amide, powder, 94%-13299

Lithium amide, powder, 94%-13299

Tyvek Tubing, Continuous Form, 16”

Tyvek Tubing, Continuous Form, 16"

Tyvek Tubing, Continuous Form, 16”

Tyvek Tubing, Continuous Form, 16”

DrumQuik PRO Dip-tube

DrumQuik PRO Coupler, 1/2" Stainless Steel Spring

N,N-Dimethylformamide (ACS Reagent grade) - 11499

N,N-Dimethylformamide (ACS Reagent grade) - 11499

N,N-Dimethylformamide, 99.8%, anhydrous - 11498

N,N-Dimethylformamide, 99.8%, anhydrous - 11498

N,N-Dimethylformamide, 99.8%, anhydrous - 11498

N,N-Dimethylformamide, 99.8%, anhydrous - 11498

N,N-Dimethylformamide, 99.8%, ACS Reagent (1162P)

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

LDPE antistatic bag

Dimethyl sulfoxide - 11529

Dimethyl sulfoxide - 11529

Lithium bis(trimethylsilyl)amide solution, 1.0 M in THF

Lithium bis(trimethylsilyl)amide solution, 1.0 M in THF

Lithium bis(trimethylsilyl)amide solution, 1.0 M in tetrahydrofuran

Copper(II) sulfate pentahydrate, ACS reagent

Copper(II) sulfate pentahydrate

Copper(II) sulfate pentahydrate, ACS reagent

Copper(II) sulfate pentahydrate, ACS reagent

N,N-Dimethylformamide dimethyl acetal

N,N-Dimethylformamide dimethyl acetal

Tubing, Polyethylene, Bag (Food Grade), 20-inch wide, 6-mil - 14818

Tubing, Polyethylene, Bag (Food Grade), 20-inch wide, 6-mil - 14818

Tubing, Polyethylene, Bag (Food Grade), 12-inch wide, 6-mil - 14817

Tubing, Polyethylene, Bag (Food Grade), 12-inch wide, 6-mil - 14817

2-Propanol , ACS reagent, 99.5+% - 14937

Isopropanol

Isopropanol

Isopropanol

Isopropanol

Isopropanol

2-propanol

2-propanol

Sodium sulfate, 99+% - 15648

Sodium sulfate, 99+% - 15648

Sodium sulfate, 99+% - 15648

Sodium sulfate, 99+% - 15648

Sodium sulfate

Sodium sulfate

Methanol, ACS Reagent Grade, 99% - 13507

Methanol, ACS Reagent Grade, 99% - 13507

Methanol, ACS Reagent Grade, 99% - 13507

Methanol, ACS Reagent Grade, 99% - 13507

Methanol

Methanol, ACS Reagent Grade, 99% - 13507

Methanol, ACS Reagent Grade, 99% - 13507

Methanol

Methanol

Methanol, ACS Reagent Grade, 99.5%

Methanol, ACS Reagent Grade, 99% - 13507

Methanol, ACS Reagent Grade, 99% - 13507

Methanol

Methanol, ACS Reagent Grade, 99.5% - 13507

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

Methanol, ACS Reagent Grade, 99.5% - 13507

Methanol

Methanol, ACS Reagent Grade, 99.5%

Methanol

45 inch OD 5 micron, 03-5/1 Nylon - 19103

Filter, cloth 45" OD, 20-micron, 03-20/14, Nylon - 19105

Filter, cloth 45" OD 20-micron, 03-20/14, Nylon - 19105

1,8-Diazabicyclo[5.4.0]undec-7-ene, 98+% (For project 435) (Synonym: DBU) - 11243

1,8-Diazabicyclo[5.4.0]undec-7-ene, 98+% (For project 435) (Synonym: DBU) - 11243

WFI Quality Water - 16797 Do not sample. Released on CoA

WFI Quality Water - 16797

Water

Water

WFI Quality Water - 16797

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Anhydrous. 99+%

Dichloromethane (Methylene Chloride), Anhydrous. 99+%

Dichloromethane (Methylene Chloride), Anhydrous, 99+%, stabilized with Amylene

Dichloromethane (Methylene Chloride), Anhydrous, 99+%, stabilized with Amylene

Dichloromethane (Methylene Chloride), Anhydrous, 99+%, stabilized with Amylene

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane

Dichloromethane

Dichloromethane

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Anhydrous, 99+% - 11315

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6%

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane, ACS Reagent, contains Amylene stabilizer

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6%

Dichloromethane (Methylene Chloride), Reagent grade 99.6%, stabilized with Amylene

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

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Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
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Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6%
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane, ACS Reagent, contains Amylene stabilizer
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6%
Dichloromethane (Methylene Chloride), Reagent grade 99.6%, stabilized with Amylene
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11313
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11313
DCM
Dichloromethane
Dichloromethane
DCM
Dichloromethane
Dichloromethane
Dichloromethane
Dichloromethane
Dichloromethane (Methylene Chloride)
Dichloromethane (Methylene Chloride)
DCM
Dichloromethane (Methylene Chloride)
Dichloromethane (Methylene Chloride)
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314
Dichloromethane (Methylene Chloride), Reagent grade 99.6%
Dichloromethane (Methylene Chloride), Reagent grade 99.6%

VERNOVA - HPAPI Manufacturing Product List

Level 2 DEC Submission - 3/10/25

DCM

Dichloromethane (Methylene Chloride), Reagent grade 99.6% - 11314

Dicholormethane

Dichloromethane

Hydrogen peroxide, 30% w/w-12613

Hydrogen Peroxide (25-29 %w/w) - 12612

Carbon, Activated (DARCO G-60) -10851

Carbon, Activated (DARCO G-60) -10851

Carbon, Activated (DARCO G-60) -10851

4-Nitrophenyl chloroformate

4-Nitrophenyl chloroformate (1025P)

4-Nitrophenyl chloroformate

4-Nitrophenyl chloroformate

4-Nitrophenyl chloroformate

4-Nitrophenyl chloroformate

Acetic acid, glacial 99.7% - 10008

Acetic acid, glacial 99.7% - 10008

Acetic acid, glacial

Acetic acid, glacial

Acetic acid, glacial

Acetic acid, glacial 99.7% - 10008

Acetic acid, glacial

Acetic acid, glacial 99.7% - 10008

Acetic acid, glacial 99.7% - 10008

Acetic acid, glacial, 99.7%

NatraSorb® packets

Filter, Cloth, 3

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Bottle, Amber type III, Precleaned

Client#: 1948080 INTEGPRO13

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/27/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: William Maxwell
USI Insurance Services LLC 1787 Sentry Pkwy W., Veva 16 Suite 300 Blue Bell, PA 19422	PHONE (A/C, No, Ext): - FAX (A/C, No): E-MAIL ADDRESS: william.maxwell@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : National Fire Insurance Co. of Hartford	20478
INSURER B : Continental Insurance Company	35289
INSURER C : Convex Insurance UK Limited	NONAIC
INSURER D : Valley Forge Insurance Company	20508
INSURER E :	
INSURER F :	

INSURED
The Cardinal Group USA, LLC
721 Arbor Way, Ste 100
Blue Bell, PA 19422

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [X] LOC [ ] OTHER:			7018270163	06/01/2024	06/01/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$1,000,000 $1,000,000 $15,000 $1,000,000 $2,000,000 $2,000,000 $
D	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [X] HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY			BUA7018279610	06/01/2024	06/01/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$1,000,000 $ $ $ $
B	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [X] RETENTION $10000			CUE7011776179	06/01/2024	06/01/2025	EACH OCCURRENCE AGGREGATE $	$10,000,000 $10,000,000 $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		WC718273886 WC718273645	06/01/2024 06/01/2024	06/01/2025 06/01/2025	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
C	Professional Liability			B0146LDUSA2405264	06/01/2024	06/01/2025	10,000,000 each claim 10,000,000 Aggregate 500,000 Ret. Per Claim	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The General Liability, Automobile Liability and Umbrella Liability policies include an automatic Additional Insured endorsement that provides Additional Insured status to Veranova, L.P., only when there is a written contract that requires such status, and only with regard to work performed by or on behalf of the named insured. The General Liability policy contains a special endorsement with Primary and Noncontributory wording, when required by written contract. The General Liability, Automobile Liability, Umbrella Liability (See Attached Descriptions)

CERTIFICATE HOLDER

Veranova, L.P.
25 Patton Road
Devens, MA 01434

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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DESCRIPTIONS (Continued from Page 1)

and Workers Compensation policies provide a Blanket Waiver of Subrogation when required by written contract, except as prohibited by law.

Industrial Performance Standards Checklist for Newly Proposed Projects

All projects within the Devens Regional Enterprise Zone (DREZ) must comply with the Devens Enterprise Commission (DEC) Industrial Performance Standards (IPS) under 974 CMR 4.00. This checklist is intended to assist Applicants in determining at the time of submittal, or ideally before submittal, if their project may or may not involve development and/or activities that may impact sound, vibration, air quality, or lighting within the DREZ.

Site layout, building(s) design/orientation, traffic patterns, location of outdoor equipment and numerous other project components can impact sound, vibration, air quality, and lighting within the DREZ. By identifying any potential IPS concerns early on in the review process, Applicants can design their projects to ensure compliance with the IPS at all times and avoid potential future violations of the IPS and costly mitigation after the fact.

Please note, if a project requires an air permit from the Massachusetts Department of Environmental Protection (DEP), the Applicant will need to initiate permitting through the DEP office as well. Even if a project requires a DEP air permit, the proponent still must demonstrate compliance with the DEC IPS.

Please circle the correct answer to each question in this checklist. Please note that by circling "NO", the Applicant is not relieved of demonstrating compliance with the IPS requirements. If "NO" is circled and a potential concern is identified during the review process, it could temporarily suspend the approval process timeline until the concern is adequately addressed. If "YES" is answered, please explain and provide any supporting studies, modelling files, or information to aid the DEC in their evaluation of the project.

Project Name Veranova LP HPAPI Manufacturing

Does the proposed project and associated activities involve any potential increases in sound, vibration, air quality, odor, dust, lighting and/or electromagnetic interference that are covered under the DEC Industrial Performance Standards?

YES	(NO)

If you answered yes, will the Applicant demonstrate compliance directly or will the project proponent employ an expert to demonstrate compliance? Please provide pertinent contact information of the responsible official:

_____

_____

_____

_____

Industrial Performance Standards Checklist for Newly Proposed Projects cont...

Noise

Does the proposed project have the ability to increase sound?	YES	NO
1. Will the increase in sound plus background sound exceed 974 CMR 4.05 (3)a?	YES	NO
2. Will the total sound plus background sound exceed 974 CMR 4.05 (3)b?	YES	NO
3. Will the increase in sound create pure tones that will exceed 974 CMR 4.05 (3)c and/or 974 CMR 4.05 (3)d7?	YES	NO
4. Will the increase in sound create impulsive sounds that will exceed 974 CMR 4.05 (3)d1-6 and/or 974 CMR 4.05 (3)d8?	YES	NO
5. Are there procedures and controls proposed to reduce sound during earth removal per 974 CMR 4.07(10)?	YES	NO
Checklist Options to Demonstrate Sound Compliance		
6. Have all of your potential sound sources been identified?	YES	NO
7. Will spreadsheet calculations of the potential increase in sound be provided?	YES	NO
8. Will sound modeling of the proposed project be provided?	YES	NO
9. Will the facility submit a protocol describing the potential sound monitoring, metrics, and modeling as required?	YES	NO
10. Does the project propose to collect background sound data (typically 7-days worth of valid data is sufficient)?	YES	NO
11. If the facility intends to collect background sound data will it include other qualifying weather data such as wind speed, wind direction, sky conditions, etc.?	YES	NO
12. Is mitigation to reduce the overall sound profile proposed?	YES	NO
13. Is sound mitigation to be assumed when calculations or modeling is performed? (modelling files are required to be submitted to the DEC)	YES	NO
14. Is compliance monitoring proposed to demonstrate that the project meets the estimated increases in sound?	YES	NO
15. Have increases in sound with respect to traffic been considered?	YES	NO

Industrial Performance Standards Checklist for Newly Proposed Projects cont...

Vibration

Does the proposed project have the ability to increase vibration?	**YES**	**NO**
16. Will the increase in vibration exceed 974 CMR 4.05 (4)a??	**YES**	**NO**
Checklist Options to Demonstrate Vibration Compliance		
17. Have all of the potential vibration sources been identified?	**YES**	**NO**
18. Will spreadsheet calculations of the potential increase in vibration be provided?	**YES**	**NO**
19. Will the proponent provide vibration modeling of the proposed project?	**YES**	**NO**
20. Does the project propose to collect background vibration data?	**YES**	**NO**
21. Is mitigation proposed to reduce the overall vibration profile?	**YES**	**NO**
22. Is vibration mitigation to be assumed when the calculations or modeling performed?	**YES**	**NO**
23. Is compliance monitoring proposed to demonstrate that the project meets the estimated increases in vibration as proposed?	**YES**	**NO**

Industrial Performance Standards Checklist for Newly Proposed Projects cont...

Air Quality

	YES	NO
Does the proposed project have the ability to create air, visible, and/or odor emissions?		
24. Will the proposed project meet the air quality standards in 974 CMR 4.02(3)	YES	NO
25. Are there procedures and controls proposed to minimize impacts during earth removal per 974 CMR 4.07(7)?	YES	NO
26. Will the proposed project require a MassDEP air quality permit per 974 CMR 4.02 (1)	YES	NO
If the project will require an air permit, then the proponent should set up a meeting with the regional MassDEP office to determine air permitting requirements, and answer the following:		
27. Will the proposed project submit a Limited Plan Approval application?	YES	NO
28. Will the proposed project submit a Non-Major Comprehensive Plan Approval application?	YES	NO
29. Will the proposed project submit a Major Comprehensive Plan Approval application?	YES	NO
30. Will the proposed project be a Title V source?	YES	NO
31. Will the proposed project be a PSD source?	YES	NO
Checklist Options to Demonstrate Air Quality Compliance		
32. Have you identified all of your potential air, visible and/or odor sources?	YES	NO
33. Will there be any visible emissions?	YES	NO
34. Will there be any dust emissions?	YES	NO
35. Will there be any odor emissions?	YES	NO
36. Will there be any potential increases in air, odor or dust emissions within the DREZ that will impact any internal or external receptors?	YES	NO
37. Will the project proponent provide spreadsheet calculations of the potential increase in air and/or odor emissions within the DREZ to demonstrate how the increase will not impact any internal or external receptors?	YES	NO

Commonwealth of Massachusetts
Division of Occupational Licensure
Board of Building Regulations and Standards

Construction Supervisor

CS-082908 Expires: 04/03/2026

MITCHELL J SALKOVITZ
333 MAIN STREET
WEST NEWBURY MA 01985

Commissioner

Construction Supervisor
Unrestricted - Buildings of any use group which contain less than 35,000 cubic feet (991 cubic meters) of enclosed space.

Failure to possess a current edition of the Massachusetts State Building Code is cause for revocation of this license.
Contact OPSI: (617) 727-3200 or visit www.mass.gov/dpl/opsi