

Commonwealth Fusion Systems Campus - Building 4

111 Hospital Road
Devens, Massachusetts

PREPARED FOR



Commonwealth Fusion Systems
111 Hospital Road
Devens, Massachusetts

PREPARED BY



1 Cedar Street
Providence, RI 02903-1023

September 2025

DEVENS ENTERPRISE COMMISSION**DEVENS REGIONAL ENTERPRISE ZONE
PERMIT APPLICATION LEVEL 2**

DEC NO.

DATE:

September 25, 2025

FEE:

ESTIMATED COST OF CONSTRUCTION / IMPROVEMENTS

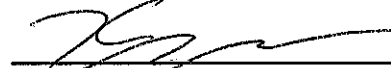
\$ 28.2 MOWNER Commonwealth Fusion SystemsAPPLICANT Commonwealth Fusion SystemsADDRESS 111 Hospital RoadADDRESS 117 Hospital RoadTOWN/STATE Devens, MATOWN/STATE Devens, MAPHONE 781-583-3100PHONE 781-583-3100

FAX

FAX



SIGNATURE

DAVID M. TRESSLER, Chief Legal
Type or print name and title Officer

SIGNATURE

Kyle Metzroth
Type or print name and title Project Manager

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 North side of Building CFS-2 on the CFS CampusLOT SIZE / TOTAL PARCEL / ZONING DISTRICT: 35.7 ac / Revised Lot 3 (Lot 2A and 3) within the
Innovation and Technology Business District and Aquifer Water Resource Protection Overlay

STATEMENT OF PROPOSED WORK OR ACTIVITY: Phase 2 of campus master plan including
construction of CFS-4 FLiBe Thermal Loop and annex buildings with associated equipment pads,
circulation drives, site utilities and stormwater management system.

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

- ☒ Site Plan ☐ Reconsideration
☐ Wetlands NOI ☐ Zoning Variance
☐ Minor amendment or modification of an approved plan
☐ Historic District renovations/addition/alternations
☐ Other (Specify) _____

Explain work to be performed: Site clearing and grading, installation of utility and drainage infrastructure,
construction of site walls, foundations, buildings and equipment pads, roadway paving and
ancillary site improvements.

Comments from Notifying Agencies: _____

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Attachment A: Project Graphics

- Environmental Constraints Map
- FEMA Map

Attachment B: Certified List of Abutters and Abutters Map

Attachment C: Stormwater Report (bound separately)

Attachment D: Soils Management Plan (bound separately)

Attachment E: Geotechnical Summary Memorandum

Attachment F: Traffic Impact and Access Study

Attachment G: Checklist - Industrial Performance Standards

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Attachment I: Water Resource Protection Memorandum

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A. Project Description and Development Team

Commonwealth Fusion Systems (CFS) has grown its' presence at Devens to more than 700 employees and is now advancing the second phase of development of its' corporate campus at 111-125 Hospital Road in Devens, MA. The initial development phase - nearly complete - involved construction of the first two buildings on the central landscaped quad, and installation of underground utility and roadway infrastructure. CFS-1, completed in Q1 of 2023 presently houses CFS's corporate offices with R&D and manufacturing space while CFS-2 contains the demonstration tokamak fusion machine that is under assembly and expected to be operational by the end of the year.

The second phase of the campus similarly consists of two new building sites designated CFS-3 and CFS-4.

- CFS-3 will contain office, R&D and manufacturing space. Just as CFS partnered with King Street Properties to develop and own the CFS-1 manufacturing facility, CFS is under contract with an external development partner to develop and own the CFS-3 building, within which CFS will initially manufacture the super conductor magnets to be used in ARC, the world's first commercial application of electric energy producing fusion energy. The CFS-3 site will include a 600-space parking garage structure in addition to ~45 new surface parking spaces.
- **CFS-4 – the subject of this Unified Permit application** - will be a highly specialized research facility consisting of industrial equipment, tanks, pumps, controls and buildings organized on large structural reinforced concrete pads. The function and purpose of CFS-4 is to conduct heat transfer experiments and research. The science of turning steam into electricity is well understood, but the science of harnessing the tremendous heat energy produced by a fusion reaction to generate the steam, is not. Large industrial gas-fired furnaces at CFS-4 will source heat to a "FLiBe" thermal loop of molten salts composed of Fluoride (F), Lithium (Li), and Beryllium (Be), and heat will be released from the loop through air cooled heat exchange systems.

CFS plans to phase the implementation of the CFS-4/FTL facility based on both CFS R&D goals and infrastructure limitations. The basic phases of project deployment are as follows:

- Phase 1, initial deployment in April 2027: the facility will be initially built and deployed with only a single fired heater (out of a maximum of three) based on limitations in natural gas infrastructure.

- Phase 2, starting no earlier than April 2028: deployment of the remainder of the natural gas heaters and operation of the facility at full capacity.
- Phase 3, starting no earlier than April of 2029 and ending in approximately 2033: Operation for targeted testing only.

The campus property has also grown. Commonwealth Fusion Systems exercised an option to acquire the 13-acre Oak Street parcel at 105 Hospital Road and recently merged the land into the CFS-owned property at 111 Hospital Road while concurrently creating a new 14.1-ac parcel (125 Hospital Road) for Pivotal.

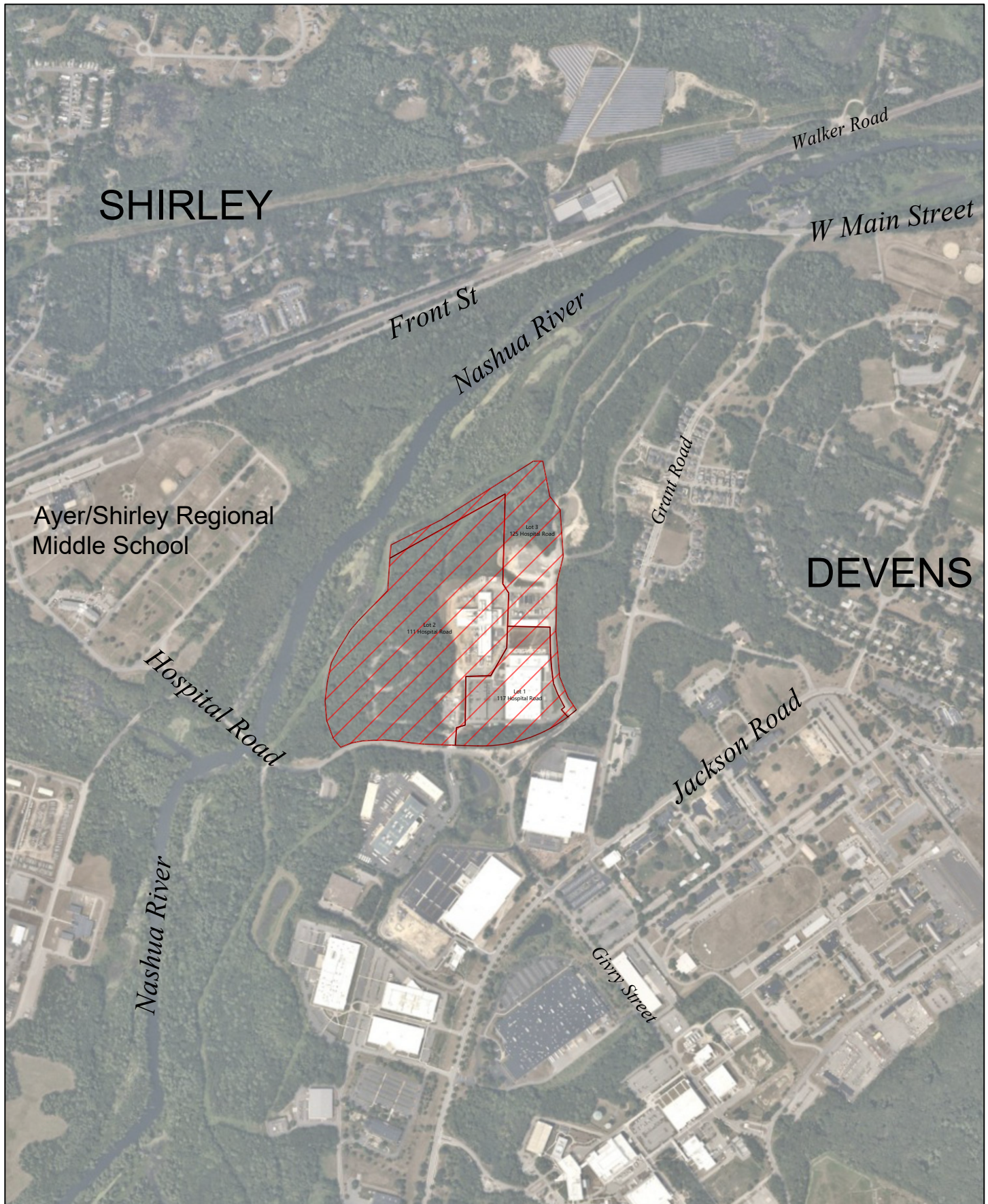
Design and construction of the CFS-3 and CFS-4 building sites are on independent schedules and are being permitted separately under different applicants, but again – similar to Phase 1- both building sites will share access, utilities and amenities to function together within the framework of the CFS unified campus masterplan. Reciprocal easements will be created and or modified between all property owners, i.e. CFS and Pivotal.

Development Team

Applicant	Commonwealth Fusion Systems 117 Hospital Road Devens MA Contact: Kyle Metzroth Phone: 513-509-7835
Lead Architect	Jacobs 120 St. James Avenue 5 th Floor Boston, MA 02556 Contact: John Jackson Phone: 617-250-4954
Civil Engineering, Survey, Transportation	VHB 1 Cedar Street, Suite 400 Providence, RI 02903 Contact: Curtis Quitzau Phone: 617-607-2197
Geotechnical Engineer	GZA Geo Environmental, Inc. 249 Vanderbilt Avenue Norwood, MA 02062 Contact: Mike Ostrowski Phone: 781.278.5887

Development Team (continued)

Noise/Vibration Consultant	Cavanaugh Tocci 327 F Boston Post Road Sudbury, MA 01776 Contact: Gregory C. Tocci Phone: (978)-639-4102
Environmental Engineer	Boston Environmental Corporation 203 Spark Street Brockton, MA 02302 Contact: Michael Toomey Phone: 508-897-8062



Project Location



0 500 1000 2000 Feet



Commonwealth Fusion Systems
Campus Building 4 Locus Map
111 Hospital Road
Devens, MA

Figure 1

B. Administrative, Processing, and Peer Review Fee

The administrative, processing and peer review fees will be paid by the Applicant directly to the Devens Enterprise Commission (the "DEC") in accordance with an agreed upon fee schedule. Applicant will provide a preliminary construction cost estimate and calculation of the Level 2 Permit filing fee.

C. Project Plans

A full set of site drawings of the Project are provided as part of this Unified Permit Application. A drawing list has been incorporated on the cover sheet of the site drawings.

D. List of Abutters

As required, the following list of abutters for the property located at 111 Hospital Road Spruce Street (Map/Lot 018.0-0007-0200.0) was generated by the Devens Community Property Viewer GIS on September 15, 2025, Certification Pending. Refer to **Attachment B – 300 feet Abutters List Report and Abutter Map**.

United States of America/Oxbow
Department of the Interior
Fish & Wildlife Service, Federal
Parcel Federal Parcel 1C
Sudbury, MA 01776

MDFA
99 High Street, 11th Floor
Boston, MA 02110

MDFA/Stormwater
99 High Street, 11th Floor
Boston, MA 02110

MDFA/Vacant
99 High Street, 11th Floor
Boston, MA 02110

MDFA/Vacant
99 High Street, 11th Floor
Boston, MA 02110

MDFA
99 High Street, 11th Floor
Boston, MA 02110

MDFA/Hospital Rd Sub Station
99 High Street, 11th Floor
Boston, MA 02110

Stage Realty LLC
500 Clark Road
Tewksbury, MA 01876

MDFA/Vacant
99 High Street, 11th Floor
Boston, MA 02110

MDFA/Open Space Area
99 High Street, 11th Floor
Boston, MA 02110

MDFA
99 High Street, 11th Floor
Boston, MA 02110

MDFA/Vacant
99 High Street, 11th Floor
Boston, MA 02110

United States of America
Department of the Interior
Fish & Wildlife Service, Federal Parcel 1
73 Weir Hill Road
Sudbury, MA 01776

Pivotal Devens LLC 231
Royal Palm Way
Palm Beach, FL 33480575

Mack, Devens Development11, LLC
Attn: Treasury Dept
330 SMC Drive
Somerset, WI 54025

E. Drainage Calculations

A Stormwater Report, including drainage calculations, for the Project may be found in **Attachment C – Stormwater Report**.

F. Notice of Intent

Not Applicable. In September 2020, a wetland site reconnaissance of the entire property was performed by TRC Environmental Corp. prior to the land acquisition. TRC did not identify any state or federally jurisdictional wetlands or waterbodies within the overall project site. TRC did identify the banks of the Nashua River and associated wetlands offsite to the west. The 100-foot buffer and 200-foot riverfront area associated with these features do not extend onto the property and are well outside the limit of work for this project. Wetland resources as well as other nearby environmental resources can be found on the Site Constraints Map and the FEMA Map in Attachment A – Project Graphics.

G. Existing Easements, Covenants, Restrictions and Institutional Controls

The 111 Hospital Road property is encumbered by utility and access easements that include:

1. A 50' wide utility easement centered on the 69 KVA overhead power lines that runs north/south from Hospital Road to the electric substation parcel and continues north to the west of CFS Building 2 and proposed CFS-4 site.
2. Common Access Easements to the electric substation parcel.
3. Various electric, gas, drain and water easements to ensure utility access for utility providers and to the separate ownership parcels on the CFS campus.

The property is also subject to the April 2021 Former Oak and Maple Hill Housing Areas and a Portion of the Former Grant Housing Area Final Land Use Control Implementation Plan (LUCIP) Addendum intended to protect the public from exposure to unexploded ordinance (UXO) and munitions that may be present on the property primarily through strict controls

on soils. The Amended LUCIP allows unrestricted soils transfer between all of the parcels that comprise the CFS campus property. management.

Additionally, the current boundary of the Oak and Maple LUCIP is coincident with a draft Activity and Use Limitation (AUL) associated with pesticides that may be encountered in the top 5-feet of soil. Soils must be characterized/tested and handled in accordance with an approved plan prepared by a Massachusetts Licensed Site Professional (LSP) prior to excavation and transport.

Soils transport within project areas for both the CFS-3 and CFS-4 projects will be coordinated within a single soils management plan applicable to both project teams.

Refer to Attachment D - Soils Management Plan for additional information.

H. Soil Suitability Tests and Analysis

An extensive amount of soil borings and test pits have been conducted across both the CFS3 and CFS-4 project sites to inform the design team on the conditions of the soils. Boring and test pit data conducted by geotechnical engineers GZA for stormwater management design concerns are contained in the Stormwater Report (Attachment C) and a memo summarizing the geotechnical engineering scope of work is provided in Attachment E. Preparation of the final Geotechnical Report is on-going and a copy will be provided upon completion, if requested. The report will document the soils testing data and geotechnical considerations and design recommendations for foundations and site design for both the CFS3 and CFS-4 sites. Additionally, GZA conducted slope stability calculations to address concerns associated with construction within buffers of Slope Resource Areas (SRA) – see Attachment J: Slope Stability Analysis.

I. List of Waivers

The Project Team has endeavored to comply with all requirements contained within the Devens Rules and Regulations, both administrative and regulatory, and we have identified conditions unique to this project that require relief from the regulations. Therefore, pursuant to 974 CMR 1.02(4)(e), the Applicant requests waivers of requirements and design standards listed in Table I-1.

Table I-1 List of Waivers

Requirement Citation	Requirement Description	Waiver Request
3.06.3.(b)	There shall be no Site Disturbance within the 35' Buffer Area beyond the 15' No Disturbance Area, unless the DEC makes a finding that the proposed activity will have no adverse impacts on the structure and stability of the SRA and 15' No Disturbance Area.	Request to allow very limited work within the 15' No Disturb zone of a Slope Resource Area. The 15' No Disturb zone where grading is proposed is the back side of a small hill on the opposite side of the protected SRA slope.
3.02.3.(b)6.a	Existing and proposed landscape features such as street trees, 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 12") within 100' of existing or proposed lot lines have been identified and indicated on the plan.	Request to waive trees requirement. Some areas of the project site are technically within 100' of a lot line, but the lot line is an internal lot line within the CFS campus. The project site is otherwise well beyond 100' from an exterior lot line.
4.11.2.(c)	Projects that require a MassDEP Air Quality Permit shall have a roof for which at least thirty (30) percent shall be vegetated, which vegetated portion shall comply with the DEC's Policy for Construction of Vegetated Roofs, dated August 2011, as amended.	Request to waive green roof requirement. The roofs have to be solar ready and concern about plant survival due to temperature extremes. Please refer to Section R Greenhouse Gas Mitigation under Compliance with Industrial Performance Standards.

J. Variances

The Project does not require any variance from the By-Laws.

K. Compliance with the Reuse Plan and Bylaws

The following section describes the Project's compliance with the goals and objectives of the Devens Reuse Plan and Bylaws, as applicable.

Compliance with the Devens Reuse Plan

The 1994 Devens Reuse Plan (the "Reuse Plan") provides a blueprint for future redevelopment of the former Fort Devens Military Reservation located within the towns of

Harvard, Ayer and Shirley.¹ The Reuse Plan outlines general goals and objectives to guide planning and reuse of the former Army base. The Reuse Plan also describes the goals and objectives of each zoning district, including the Innovation and Business Technology zone in which the Project is located. Development at Devens has grown to be increasingly more sustainable, thus reducing overall environmental impacts of development and producing region-wide environmental benefits. As described below, the Project is consistent with numerous goals and objectives of the Reuse Plan and supports the mission of sustainable development at Devens.

Overall Goals and Objectives

The Project is consistent with the following overall goals and objectives contained within the Reuse Plan:

Development must be sustainable, which means achieving a balance of economic, social and environmental needs, while maintaining and enhancing the natural resource base.

- › The Project has been designed to satisfy the Industrial Performance Standards and to be compliant with the Devens Rules and Regulations, which are crafted to attain these stated goals. Additionally, the Project contains numerous sustainable measures as discussed in the "Sustainability" section below as well as in Section S of this Application; and most importantly, the purpose of the project is to advance the development of safe, limitless, clean energy to combat climate change.

Take advantage of the skills and experience of the regional work force and match the skills of the future work force with the needs of industries of the future.

- › The project requires employees of various skill levels for the design, construction, operation and maintenance of the campus. Workforce from the local communities will also be an asset for this project.

Build on Devens' unique characteristics to complement the regional economy and expand the economic base.

- › Commonwealth Fusion Systems has grown to 1,200 employees with more than 700 employees stationed at the Devens campus. New employees have and will inevitably settle into the surrounding communities, buy homes, raise families and shop locally.

Goals and Objectives by Zoning Districts

The Reuse Plan lists the goals and objectives for each zoning district within Devens to help guide appropriate development. The entire Site is located entirely within the Innovation and Technology Business zoning district. Additionally, the Site is also overlain with the Water Resources Protection (WRP) Overlay District. Compliance with the applicable zoning district and the WRP Overlay District is discussed further in the sections below.

¹ *Devens Reuse Plan*, Prepared for the Boards of Selectmen for the Towns of Ayer, Harvard, Lancaster and Shirley and the Massachusetts Government Land Bank, Prepared by Vanasse Hangen Brustlin, Inc., November 14, 1994.

Innovation and Technology Business District

The Project is consistent with the following goals and objectives specific to the Innovation and Technology Business Zone outlined in the Reuse Plan:

Provide space to those industries and businesses that develop and require on-site expansion.

- › Commonwealth Fusion Systems is a start-up company founded in 2018 and selected Devens to construct its corporate campus. The first development phase is nearing completion, and the CFS-4 project is the first of two applications to expand the campus.

Provide space to accommodate industries and businesses that want to relocate to Devens or have large or difficult siting requirements.

- › CFS exercised an option to purchase the 13-ac Oak Street parcel in 2024 and merged it into the 111 Hospital Road parcel resulting in an overall campus of 57-acres. CFS concurrently created the 14-acre 125 Hospital Road site for development of the CFS-3 office/R&D/manufacturing building.

Encourage uses that exhibit one or more of the following qualities: development or sale of a new product or service, expanding business, education/academic links, research and development oriented, or support service to other industries/businesses on Devens.

- › CFS-4 is a research facility. The function and purpose of CFS-4 is to conduct heat transfer experiments and research.

Water Resources Protection Overlay District

The Watershed and Aquifer sub-districts of the Water Resource Protection Overlay District bisect the CFS campus. The CFS-4 site lies entirely in the Aquifer sub-district. The Facility is consistent with the following goals and objectives outlined in the Reuse Plan and Section 4.09 of the Rules and Regulations. Compliance is provided in Section R of this document.

To promote the health, safety, and general welfare of the community by ensuring the appropriate level of protection for all water resources within Devens in recognition of the importance of this resource to the region.

- › The stormwater management system is designed to meet or exceed all DEP and Devens requirements. Additionally, CFS will prepare and implement applicable and appropriate plans for short term and long-term erosion and sedimentation control, and for spill prevention and containment.

To preserve the high quality of surface and ground water in the aquifer underlying the Devens area (the "Aquifer") in order to ensure its future use.

- › All stormwater runoff from impervious areas will be collected and treated prior to infiltration. There will be no discharges to surface water resources. See Attachment C for the Stormwater Management Plan.
- › The Project contains sustainable site design and facility operation measures, including those designed to preserve the high quality of surface and ground water underlying the Devens area.

To conserve natural resources wherever possible.

- › Construction limits of disturbance have been minimized to the extent required to logistically construct the facility and retain excess soils on site.

To promote statewide goals for surface water quality in the Nashua River Basin.

- › The stormwater management system is designed to meet or exceed all DEP and Devens requirements for runoff control, water quality, groundwater recharge, and sedimentation control.

To prevent the temporary or permanent contamination of soils, surface water, and ground water on Devens.

- › During and after construction, the Facility will be consistent with the WRPZD and with all applicable federal, state and local regulations applying to water resources, including the Massachusetts Department of Environmental Protection (DEP) Stormwater Management Policy for development projects and to the maximum extent possible with the Devens Enterprise Commission Development Rules and Regulations. Specifically, the Facility will implement Best Management Practice (BMP) in stormwater management, implement erosion and sedimentation control, minimize water use, and limit the use of chemicals in landscaping and de-icing, among other design and operational actions. See Attachment C for the Stormwater Report.
- › The Facility will comply with applicable general design, planning and operational requirements of the Water Resources Protection District pursuant to Section XI of the Zoning By-Laws and section 4.09 of the Industrial Performance Standards and General Regulations including:
 - Preparing and implementing a Hazardous Waste Contingency Plan and a Spill Prevention Control and Countermeasure Plan
 - Identifying Hazardous materials with volumes and storage conditions, as available at this stage of design.
 - Preparing and implementing a Groundwater Quality Monitoring Plan.
- › See Attachment D - Soils Management Plan and Attachment I - Water Resource Protection Memorandum for Compliance with Industrial Performance Standards.

Sustainability

The first and most visible goal of the Reuse Plan states, "Development must be sustainable, which means achieving a balance of economic, social, and environmental needs, while maintaining and enhancing the natural resource base." CFS remains committed to incorporating sustainable measures to enhance the Project and offer benefits to Devens.

The project will be designed and constructed to achieve optimum energy performance while meeting the performance criteria of this unique facility. The project team will strive to incorporate the most relevant and economically feasible technologies to reduce energy consumption and/or cost.

The CFS team has considered options for the utilization of excess heat from the facility for other purposes. Based on the facility's R&D nature and highly variable operation a good application has not been identified since it will not be a reliable heat source. However, as the facility test plan is refined CFS will continue investigating options to utilize excess heat.

The CFS-4 buildings will contain aspects of sustainability that align with Devens Reuse Plan and LEED v5.1 goals, though CFS will not attempt to achieve LEED certification for either FLibe Thermal Loop or annex buildings given their specialized function.

- Low water use plumbing will be installed throughout the building and facility to reduce unnecessary and excessive water waste.
- A stormwater management system has been designed with an infiltration basin to recharge groundwater aquifers instead of sending water to the Nashua River.
- LED lighting is used throughout the building and exterior of the facility to decrease overall energy expenditure (see sight lighting plan).
- Low level planting and landscaping will be provided on the perimeter of the facility to increase presence of native flora (see landscaping plans).
- Recycling facilities will be provided in accordance with 974 CMR 8.00.
- CFS-4 is designed to contain solar-ready roofing so that solar panels may be installed by CFS in the future. The building will also be designed to meet the MA Stretch Energy Code, which reduces greenhouse gas emissions by including various building elements to reduce the required energy needs for the operation of the buildings, which can be found in section R – Compliance with Devens Industrial Performance Standards.
- A daily shuttle service from Arlington transports employees into CFS, saving dozens of daily single occupancy trips.
- Operation restrictions will take place to ensure that CFS-4 CO₂ emissions do not exceed 100,000 tons per year.

CFS-4 plays an integral role in the big picture Commonwealth Fusion System sustainability mission to revolutionize industries and pioneer commercial energy systems that will provide carbon emission-free energy to the globe.

L. Construction Phasing

The Project will be permitted and constructed independently of the Pivotal CFS Building 3 project, however the development and land design of these projects are closely unified. Construction of CFS-4 is scheduled to begin in late 2025, independent of the construction start date of CFS-3. Agreements are in place between Commonwealth Fusion Systems and Pivotal that allow CFS unrestricted use of the Pivotal parcel during construction of CFS-4 including access, laydown, employee parking, soils extraction and stockpiling until the time Pivotal begins construction. The Oak Street parcel will serve as an overflow contractor laydown space as may be needed by both construction teams.

As noted in the project description, CFS plans to phase the implementation of the CFS-4 facility based on both CFS R&D goals and infrastructure limitations on gas supply that require CFS to phase construction and use of the gas burners. Phase 1 (initial deployment in April 2027 with a single gas burner) and Phase 2 (deployment of up to three gas burners after April 2028) represent the main R&D campaign of the facility, with Phase 3 keeping the facility available should additional R&D needs arise.

M. Compliance with the Devens Open Space and Recreation Plan and Devens Main Post Trails Report

This section demonstrates how the Project complies with the Devens Open Space and Recreation Plan as well as the Devens Post Trails Report.

Compliance with the Devens Open Space and Recreation Plan

The current *Devens Open Space and Recreation Plan: 2008-2013* prepared by the Nashua River Watershed Association, Montachusett Regional Planning Commission, and the Massachusetts Development Finance Agency in January 2008 builds off of previous versions of open space plans and provides a guide for the preservation of critical environmental resources and management of open space and recreational resources at Devens (the “Open Space Plan”).² As part of the current Open Space Plan update, lands at Devens to be placed under permanent protection by adoption of conservation restrictions, transfer of ownership, or some other means that would provide permanent protection consistent with that of Article 97 were identified and are listed in Table 4-1 of the Open Space Plan. The project site has been rezoned since that time and thus the Open Space Plan has been revised. The ‘C-6’ 100-foot Buffer to Residential Area has been revised to follow the eastern property line (as shown on the site plans) and no longer crosses through the 57-acre campus.

Although partially reforested the Project will be located predominately in previously disturbed land (see Figure 1). The Project Site does not contain any existing significant environmental resources listed in the Open Space Plan (e.g., rare, threatened, and endangered species). Furthermore, the Project Site does not contain any active or passive recreation area, or any other amenity included in the Open Space Plan. Refer to the Site Constraints Map in Attachment A – Project Graphics.

Compliance with the Devens Multi-Use Trail Network Plan

Previous versions of the Open Space Plan included provisions for the Devens Multi-Use Trail Network (the “Multi-Use Trail”), which identifies connections between existing and proposed trail networks and sidewalks throughout Devens linked to surrounding communities. The

² Nashua River Watershed Association, Montachusett Regional Planning Commission, and the Massachusetts Development Finance Agency, *Devens Open Space and Recreation Plan: 2008-2013*, January 23, 2008.

Multi-Use Trail, as depicted on the 2010 Devens Trail Map, is an updated version of the 2001 Devens Main Post Trail study. The Multi-Use Trail includes three phases, none of which are currently within or proposed within the Master Site Plan boundary or would be impacted by the project.

N. Parking

There are no full-time employee work stations within the CFS-4 buildings. Employees who perform tasks periodically within the buildings will be stationed in the offices within CFS-1 or future building CFS-3. Parking for these employees has been accounted for in the CFS-1 parking lot at the south end of the property, while visitors and deliveries have a smaller designated lot near the main entrance to CFS-1. However, the site plan provides space for parallel parking along the face of the annex building for convenience at times when employees, visitors, vendors and/or service providers want to, or need to, park at the building.

CFS has seen remarkable growth and attention in recent years and has attracted new cohorts of employees to Devens. The current employee count of CFS as of August 2025 is more than 1000, with approximately 700 employees on site in Devens. To account for this unprecedented and formative influx of new workforce, a design for a 600-space parking garage is proposed at the northern end of CFS-3. A protected pedestrian walkway will connect all aspects of the CFS campus to maximize maneuverability while also accommodating a larger population on campus.

O. Vehicle Trip Generation

Most of the employees who will be working in CFS-4 (and CFS-3) are presently stationed within CFS-1. This is a notable contributor to the current parking supply shortfalls on the site, which are exacerbated by vendor and visitor traffic. Construction of CFS-3 will include construction of a 600-space garage that will enable a re-organization of CFS's office space needs, provide necessary flexibility in the use of R&D and manufacturing areas, and provide much needed parking supply across the campus.

There are no permanent workstations at CFS-4. Employees conducting research and monitoring the operations of the FLiBe thermal loop will typically walk to the CFS-4 site from their workstations in CFS-1 and CFS-3. On street surface parking and loading provided along the face of the electrical controls ("annex") building of CFS-4 will be for the convenience of vendors, suppliers, visitors and employees who require short-term parking in close proximity.

Given the rapid growth of employee and external visitor traffic to the site, the Traffic Impact and Access Study for build-out of the CFS campus originally prepared during permitting of the initial development phase of the campus in 2022 was re-visited and updated to account

for current and future traffic conditions with construction of both the CFS-3 and CFS-4 building projects. The study focuses on project generated traffic impacts at the following intersections:

- › Jackson Road at Patton Road / Lake George Street – *signalized*
- › Jackson Road at Givry Street – *unsignalized*
- › Jackson Road at Pine Road – *unsignalized*
- › Hospital Road at Westerly Site Driveway / NE Studios Driveway – *unsignalized*
- › Hospital Road at Givry Street – *unsignalized*
 - Hospital Road at Givry Street (west)
 - Givry Street Split
 - Hospital Road at Givry Street (east)
- › Hospital Road at Easterly Site Driveway – *unsignalized*
- › Grant Road at Hospital Road – *unsignalized*
- › Grant Road at Pine Road – *unsignalized*
- › Front Street at Hospital Road – *unsignalized*

The traffic study is a stand-alone document submitted with this application as Attachment F. The study concludes traffic growth from buildout of the CFS campus will have minimal impacts to traffic operations at the intersections.

P. Erosion and Sedimentation Plan

A Soil and Erosion Control Plan for the Project may be found in the Site Plans. The Project will disturb greater than 1-acre land and will therefore require preparation of a Stormwater Pollution Prevention Plan (SWPPP) and filing a Notice of Intent (NOI) with the United States Environmental Protection Agency (EPA) for coverage under EPA's Construction General Permit (CGP) to discharge stormwater from construction sites. The contractor and Owner are required to file the NOI at least 14 calendar days prior to commencing earth-disturbing activities.

As the person overseeing the day-to-day construction activities, the Contractor will be responsible for preparing and implementing the SWPPP; adapting it as conditions of the project construction schedule and phasing program in whatever way necessary to meet the requirements and intent of the EPA Construction General Permit.

Q. Landscaping Maintenance and Water Management Plan

Landscape Maintenance Plan

There will be no maintained landscape areas associated with CFS-4. Re-vegetation with conservation seed mix and plantings are intended to be restorative following construction mainly for long term sedimentation and erosion control purposes.

Irrigation System Maintenance and Water Management Plan

An irrigation system is not proposed for the Project. Any needed water during the first two growing seasons will be provided through hose bibs with potable water from the Devens water system.

R. Compliance with Industrial Performance Standards

The Applicant provides the following information demonstrating anticipated compliance with the applicable Industrial Performance Standards and findings regarding potential impacts related to noise, air quality, lighting, electromagnetic interference, wetlands, earth removal, stormwater management, water resource protection, and greenhouse gas (GHG) emissions. The potential sensitive receptors near the project site have been identified as the residential properties off Grant Road to the east, and New England Studios to the south. A completed Industrial Performance Standards checklist for the project is provided in Attachment G – Industrial Performance Standards Checklist.

Air Quality, Odor and Emissions

The FLiBe Thermal Loop (FTL) system will include three, 21 MW heaters. These heaters are necessary to create the heat needed to prove out the thermal loop system. As noted in the project description, CFS will construct and operate the heaters in concert with gas availability. The approximate facility capacity factor (fraction of time operating at full power) during the entire 6-year period is currently estimated as follows:

- 2027: <30%
- 2028: <80%
- 2029 - 2033: < 20%

It should be noted that these are expected to be maximum values as the R&D nature of the facility will likely result in frequent down-time. Nevertheless, to construct and operate these heaters, CFS will obtain a Non-Major Comprehensive Air Quality Plan (NMCAQP) approval from MA DEP. CFS has retained Trinity Consultants to prepare the Plan Application. Consistent with the 310 CMR 6.00 to 8.00, the permit application consists of:

- Best Available Control Technology (BACT) evaluation. The system will include Selective Catalytic Reduction (SCR) to control NOx emissions, an oxidation step to lower CO emissions, and tight operational control to optimize combustion efficiency.
- Air Dispersion Modeling. The modeling indicates that the project will not result in any exceedances of the National Ambient Air Quality Standards.
- The completed application form includes worksheets describing the technical details of the project, the SCR control system, and noise impacts.
- A public notification process to provide an opportunity for the general public to provide input on the project.

In addition, this project meets the requirements to complete a Cumulative Impact Analysis (CIA). The CIA is required because the potential project emissions require a Comprehensive Air Permit and the project is located within 1 mile of an Environmental Justice Area in the Devens Regional Enterprise Zone within the historic boundaries of Ayer, MA. The CIA report will be submitted as part of the NMCAQP application. The CIA include the following components:

- Public notice and comment period. The 60-day comment period ended on September 7, 2025. An informational meeting was held on August 8th.
- Assessment of existing conditions for the surrounding area, including health conditions, air quality and sensitive receptors
- Dispersion modeling for air toxics
- Air toxics risk characterization
- Evaluation of the project cumulative impacts

CFS and their air quality consultant have been working closely with the Central Region of the MA DEP to ensure the application meets the requirements set by the agency. CFS expects to submit the full application in the coming weeks and hopes to have an approved Plan by the end of 2025.

CFS does not expect any odors or dust emissions when the system is operational. During construction, the contractor will take measures to minimize fugitive dust generation.

During construction, the project will implement measures required in 974 CMR 4.07(7) and thus will minimize air quality impacts during earth removal.

Electromagnetic Interference

The Project will not create electromagnetic interference (EMI) to any internal or external sensitive receptor.

Lighting/Illumination

Lighting on and around the CFS-4 buildings and pads will be for life safety and egress wayfinding. Lighting fixtures are proposed to illuminate walking routes utilizing building

mounted light fixtures at egress doors, bracket mounted fixtures on exterior equipment structures, and light posts.

Design of the facility – particularly the machinery and equipment on the north and south pads- is not yet at a stage where lighting locations and lighting fixtures are fixed such that the site can be accurately modelled for photometrics; however, preliminary lighting plans based on design progress to date are included with the site plans. Lighting will comply with the standards set forth in 874 CMR 4.04(3) and will be dark skies compliant. Light engines will be LED (3,000 Kelvin). Light fixtures will be in the same family as those installed at the CFS-1 and CFS-2 building sites. The illumination from the Project is not expected to affect the Observatory, in compliance with 974 CMR 4.04(1), nor expected to spill off the property.

If required, a photometrics report will be generated at the appropriate time and stage of design.

Noise and Vibration

CFS Building 4 has been situated to the geometric inside rear of the parcel to maximize the distance from property lines and minimize potential impacts to sensitive receptors. Additionally, exterior equipment that will contribute to the site's noise profile are positioned on the west side of the CFS-3 building so that the building will shield residential properties to the east. At the current stage of design, the project is expected to meet the noise standards set forth in 974 CMR 4.05 (3)b but may exceed those standards set forth in 974 CMR 4.05 (3)a at the closest residential land uses unless mitigation measures are implemented.

Therefore, CFS has commissioned a comprehensive noise study by Cavanaugh Tocci to establish existing ambient noise levels at the sensitive receptor locations and to construct an acoustic model to predict noise levels and measure effectiveness of mitigation measures. The 3D computer modeling program will account for existing and proposed topography and all noise generating equipment associated with the project.

After consultation with the Commission's peer review consultant, it was agreed that background noise will be measured at a proxy location for the residential receptors due to temporary roadway and traffic conditions that would result in lower than typical ambient noise levels. Once the background noise levels are determined and the effect of new noise is evaluated, appropriate and specific mitigation options, if necessary, will be identified, evaluated, and integrated into the project. Mitigation measures would likely include further optimization of equipment locations, selection of quieter equipment, and noise screens near the noise source(s). Construction of perimeter walls or berms for noise reduction is not anticipated. A full Noise Analysis Report will be submitted upon completion.

Cavanaugh Tocci has conducted a study of environmental sound produced by mechanical equipment serving the CFS-4 building currently being designed. The study reviews applicable limits on facility sound and developed sound mitigation concepts as may be required for compliance with MassDEP Noise Policy and the DEC IPS noise limits. Sound produced by the two options studied for coolers proposed for CFS-4 will produce increases in nighttime background sound levels at the nearest inhabited buildings by not more than 1 dB.

The CFS-4 acoustics design will implement Best Available Control Technologies (BACT) to meet the DEC limits.

With respect to vibration concerns, the Project will comply with 974 CMR 4.05 (4)(a). The Applicant's project program requirements are more restrictive than the DEC regulations relative to allowable vibrations. The Noise Study is provided in Attachment H.

Wetland Protection

There are no wetland resources on or abutting the property.

Earth Removal

The Project will comply with the Earth Removal standards in 974 CMR 4.07. The project will generate significant volumes of cuts and fills and has been designed in parallel with CFS-3 so that there is no export of materials and import is minimized. The soils management plan can be found in **Attachment D - Soils Management Plan**.

Stormwater Management

The stormwater management practices for the Project have been designed to comply with the General Provisions of 974 CMR 4.08 (Stormwater Management) and the Massachusetts DEP Stormwater Management Standards. The proposed design efficiently captures, treats, and recharges stormwater runoff in a manner that replicates or improves upon existing conditions. Refer to **Attachment C – Stormwater Report** (under separate cover due to document size) for the full report and analysis.

Pursuant to 974 CMR 3.04; Design Standards, pre-development drainage areas were analyzed as a "green field" condition regardless of any pre-existing development. As a result, there was a negligible allowance for post-development stormwater discharge, so the proposed stormwater management system is designed to capture and recharge 100% of all runoff for design storms up to and including the 100-year storm. This conservative approach guarantees there will be no negative impact from stormwater runoff on abutting properties or water supplies. All stormwater BMPs were designed using the Natural Resource Conservation Service TR-20 methodology in accordance with General Provision 4(e). The complete results of this analysis can be found in Appendix B of the Stormwater Report.

Water quality is provided infiltrating stormwater best management practices. Pretreatment targets are met pursuant to Devens regulations, which include achieving 80% total suspended solid (TSS) removal prior to discharge to the subsurface infiltration chambers in accordance with General Provision 6(h)(exceeding the 44% TSS removal required by MassDEP standards). Water quality and TSS removal calculations are located in Appendix D of the Stormwater Report.

The closed drainage system is designed to comply with General Provision 6(b), which requires the accommodation of the 25-year storm event within the system. Pipe conveyance calculations and pipe network profiles are located in Appendix A of the Stormwater Report.

Operations and maintenance procedures are located in Appendix D of the Stormwater Report and have been written to meet or exceed the maintenance recommendations and cleaning frequencies as described in General Provision 7.

Water Resource Protection

The Property lies within the Watershed and Aquifer Overlay Districts as defined within the Water Resource Protection Overlay Districts. The outlined purpose of this regulation is to protect the ground and surface water resources in Devens and abutting communities, promote statewide goals for surface water quality in the Nashua River Basin, and to prevent the temporary or permanent contamination of soils, surface water and ground water. The entirety of the CFS-4 project site lies within the Aquifer WRPD.

The Project will comply with the Watershed and Aquifer WRPD regulations 947 CMR 4.09 as noted in Attachment I – Water Resource Protection District Memorandum. Requirements include various water saving measures, storage and use of deicing materials, pesticide use restrictions, spill prevention and hazardous material plans. Additionally, information regarding the types of hazardous materials expected to be used and/or stored at the Project site and requirements for permitting, monitoring and spill prevention of these materials is also provided in Attachment I.

Greenhouse Gas Mitigation

Commonwealth Fusion System's corporate mission is to develop the first clean net positive energy source that will combat climate change by reducing the world's dependence on carbon generating power plants that rely on fossil fuels. The CFS-4 research facility is a key step in that direction, and while it requires a significant amount of energy at this stage of development, its duration is short term and the success of CFS's efforts will ultimately result in significant global reduction of greenhouse gas emissions.

The project is consistent with the goals and requirements outlined in the 974 CMR 4.11, as noted below.

Commonwealth Fusion Systems is a member of the Devens Eco-Efficiency Center.

- › This standard promotes additional actions that a business can take to reduce contributions to global warming, such as documenting and reducing overall emissions associated with a business' activities. Separate from the energy needs for the FLiBe thermal loop process, the buildings will be designed to meet the MA Stretch Energy Code, as applicable, which reduce greenhouse gas emissions by including various building elements to reduce the required energy needs for the operation of the buildings. Some of these elements may include:
 - Low window to wall ratio (below code maximum)
 - Above-code wall insulations
 - Low-flow fixtures
 - High efficiency LED lighting
 - Daylighting controls and occupancy sensors

All Level 2 Permits shall review the Embodied Carbon Reduction Guidelines and complete the Embodied Carbon Checklist for Devens Projects.

The Checklist is provided in Attachment K – Embodied Carbon Checklist

Projects that require a MassDEP Air Quality Permit shall have a roof for which at least thirty (30) percent shall be vegetated, which vegetated portion shall comply with the DEC's Policy for Construction of Vegetated Roofs, dated August 2011, as amended.

The Project requires a MassDEP Air Quality Permit and the application is planned to be submitted in mid-October of this year. However, CFS is seeking a waiver from the green roof requirements in consideration of the following:

1. The CFS campus parking and daily trip generation exceed the thresholds of 974 CMR 4.11.2(b) that require the project to comply with the Stretch Energy Code. The Energy Code requires the roof to be solar ready. For the roof to be solar ready (presumably in anticipation of a policy change) it cannot be a green roof.
2. Additionally, the process designers are concerned about significant temperature variations a green roof would be exposed to. The air cooled condensers will be exhausting air that is several hundred degrees Fahrenheit, so roofing materials and equipment on the roof have to be able to withstand periods of uncommon heat and dryness - conditions that as a very practical matter are not suitable for green roof plants.

CFS is open-minded to exploring more suitable alternative greenhouse gas mitigation solutions other than green roof area, including supporting off-site GHG mitigation initiatives the DEC may be undertaking at Devens.

S. LEED Checklist – Sustainable Sites

A preliminary assessment of applicable Location and Transportation, Sustainable Sites, and Water Efficiency Credits was conducted based on schematic design. The LT, SS, and WE Credits identified as achievable are subject to further evaluation as project design progresses.

LEED Credit Category	Description	Goal
Location and Transportation		
Sensitive Land Protection	○ Locate the development footprint on land that does not meet criteria for sensitive land: Prime farmland, floodplains, notable habitat, water bodies, wetlands, steep slopes. ○ This site does not have a footprint that falls within an area that meets the criteria for sensitive land.	Potential
Equitable Development	○ Option 2. Housing and Jobs Proximity: Employ individuals that live within the administrative district of the project site for 15% of the construction jobs created by the LEED project. and	Potential

	○ Option 5. Sensitive Project Location: Locate the project building a minimum of 300 feet (90 meters) away from the property lines of the nearest sensitive receptors	
Compact and Connected Development	○ Site provides regular shuttles for employees.	Achievable
Transportation Demand Management	○ Site has bicycle storage, showers, and provides shuttling to local transit stops.	Achievable
Electric Vehicles	○ Site will provide EV charging spaces.	Potential
Sustainable Sites		
Prerequisite: Minimize Site Disturbance		Achievable
Biodiverse Habitat		Not achievable
Accessible Outdoor Space	○ Site is connected to the campus recreational green area. Campus Green is an additional 120,000 SF.	Potential
Rainwater Management	○ Site will contain stormwater management systems to control the amount of rainwater discharged off site	Achievable
Enhanced Resilient Site Design	○ Reduce the risk of catastrophic impacts from natural and climate events on-site and in adjacent landscapes by designing, building, and maintaining sites to be more resilient to observed, projected, and future climate and natural hazards.	Potential
Heat Island Reduction		Not Achievable
Light Pollution Reduction	○ Site lighting design will reduce light pollution	Achievable
Water Efficiency		
Prerequisite: Water Metering and Reporting		Achievable
Prerequisite: Minimum Water Efficiency		Achievable
Water Metering and Leak Detection		Achievable
Enhanced Water Efficiency		Potential

T. Building Elevations and Building Design Review

Building elevations and perspectives showing the layout of buildings and pad mounted equipment areas are provided for context as reference drawings with the Site Plans. The buildings are pragmatic structures to be constructed principally to house industrial equipment and processes in a controlled weather environment. The CFS-4 building site will not be observable from outside the CFS campus. The elevations and building perspectives plan, along with supplementing information, have been provided to MassDevelopment for design review, with a request for a letter to be submitted to the DEC.

U. Slope Resource Areas

Slope resource areas (SRA) exist on the site along the western parcel boundary and within a deep ravine that extends easterly from the Nashua River in the middle of the property. The slope areas were delineated based upon accurate topographic survey and reviewed formally with the DEC in September 2020. The DEC issued an SRA Determination memorandum dated September 30, 2020 and the established resource limits are shown on the Site Plans included in this application package.

The proposed limit of work is for the most part outside the protective buffers of the SRA, but work is proposed very close to the SRA boundary within the ravine where a service road is required for fire truck access to both proposed buildings. A site wall will be constructed to minimize grading disturbance impacts. Both the wall and service road are within the previously disturbed footprint of CFS-2 construction activities.

Applicant has engaged GZA, the project team's geotechnical engineer, to conduct an analysis to assess slope stability and determine if any soils stabilization mitigation is required.

The Slope Stability Analysis is provided in Attachment J.