

ISPE 2021

ANNUAL MEETING & EXPO

31 Oct-3 Nov
Boston, MA

A scalable and flexible future for gene therapy production

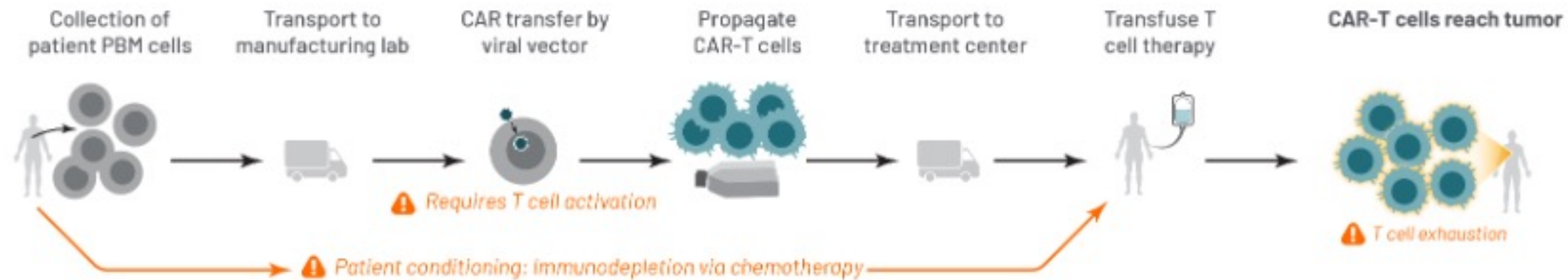
Branden Salinas, PhD, Head of MSAT, Umoja Biopharma
Carissa Marak, AIA, LEED AP BD+C, CRB Consulting Engineers

What is Umoja Biopharma?

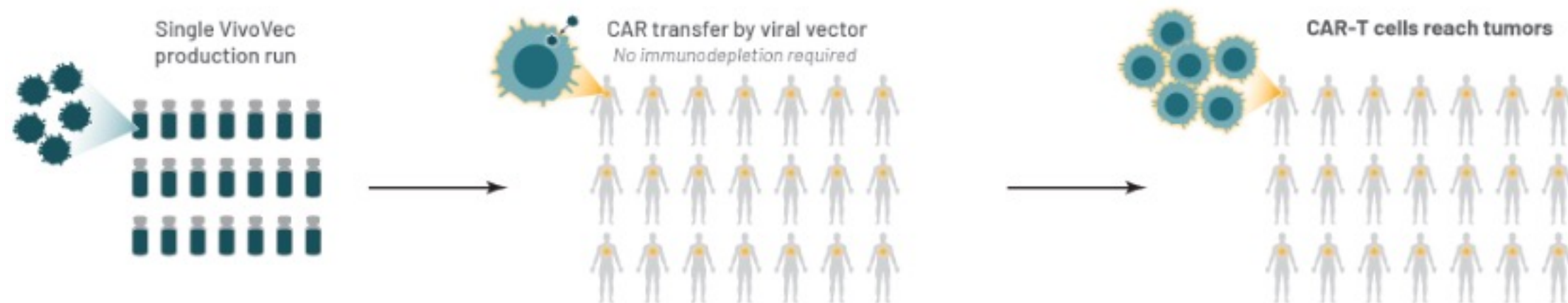
Our mission is to advance and improve access to immunotherapy by retooling the patient's immune system in vivo, freeing them from the burden of cancer in their daily lives

To this end Umoja has raised >260 MUSD, which enables the construction of a development and manufacturing facility

Autologous CAR-T therapy—20+ days vein-to-vein per patient



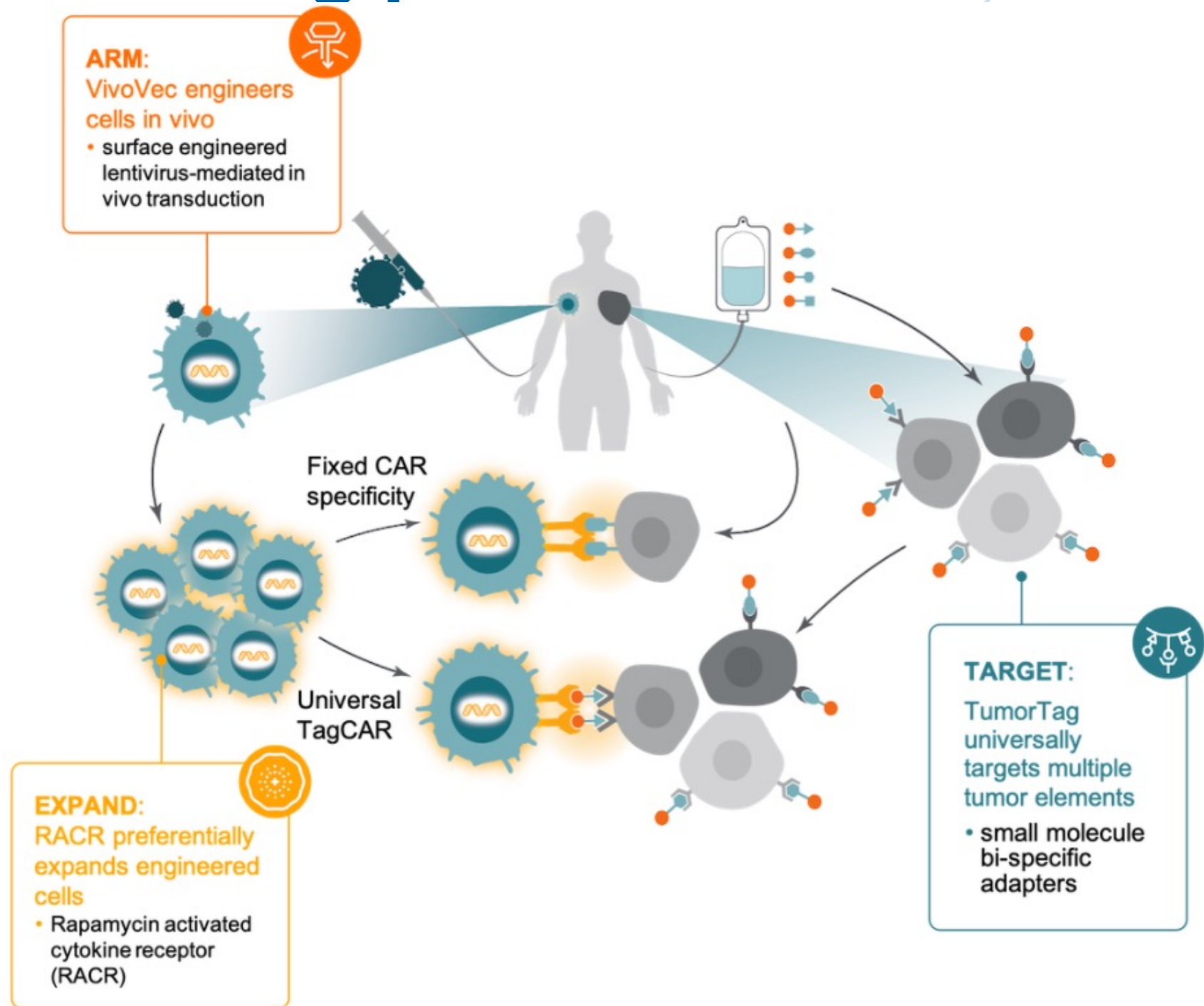
Umoja VivoVec — one manufacturing process treats thousands of patients



Umoja's novel lentiviral drug product

Vivovec is a novel lentivirus that brings the power of CAR-T therapy to solid tumors

Controlling the supply chain for lentivirus drug product is critical



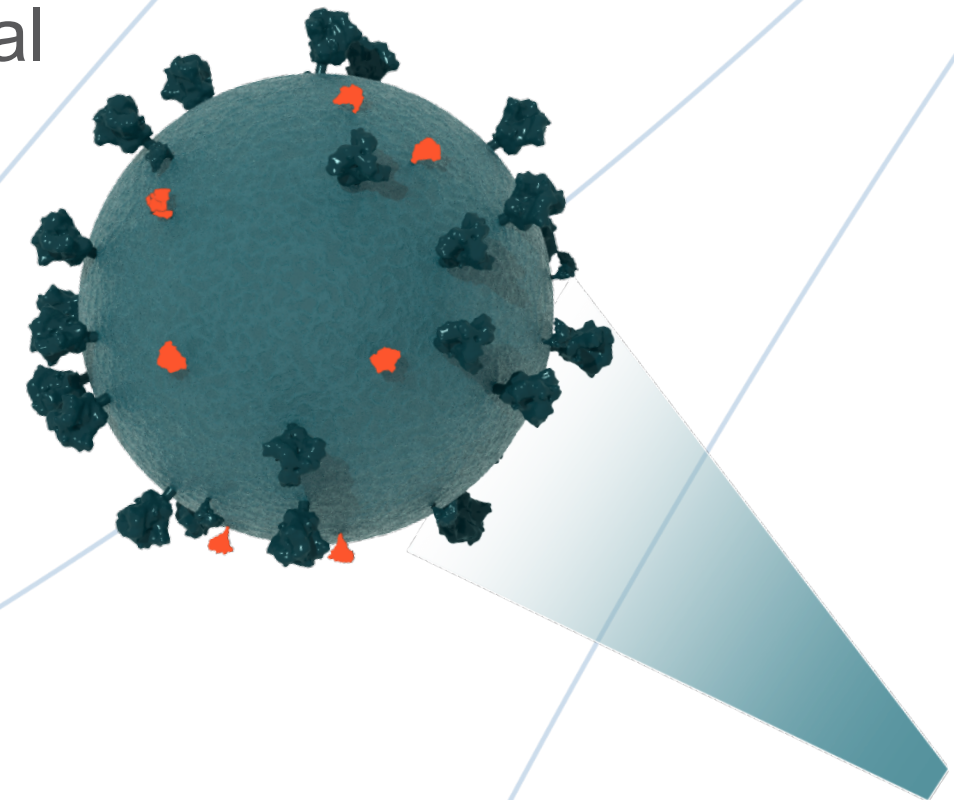
The need for speed and flexibility

The Needs:

- Speed to Phase 1 and VivoVec proof-of-concept is a top priority
- Quick transition to other modalities or pivotal/commercial
- Platform variety and anticipating future needs

The Approach:

- Design and build a facility proactively, while the process is in development
- Co-locate the technical know-how and operational capabilities in one cross-functional space



Supporting Umoja's Culture

Diversity, Equity and Inclusion

Hire, develop, engage and retain top talent

Think Big, Plan for Success

Environmental Impact

Supporting the growth of Biotech and Cell & Gene Therapy in Colorado



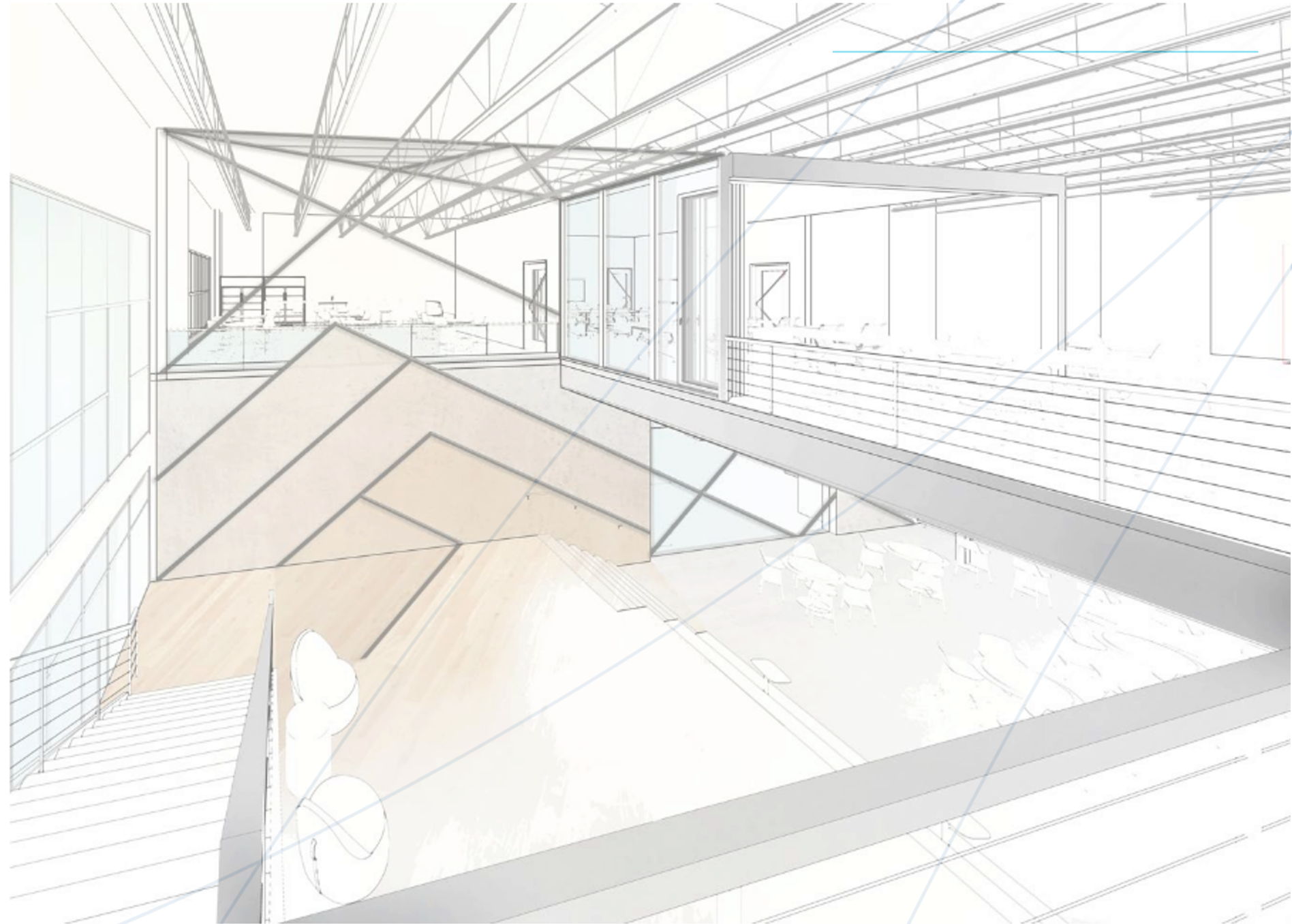
Architectural Drivers

Flexibility

Speed

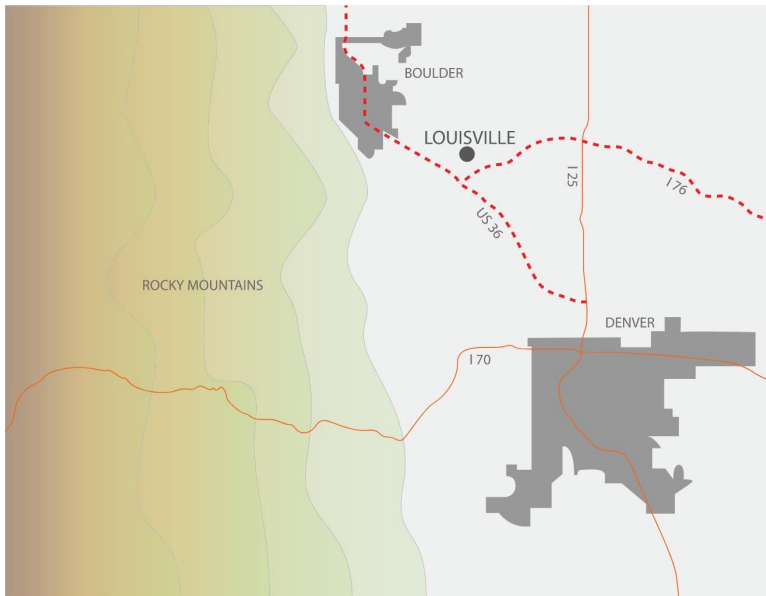
Quality

Sustainability



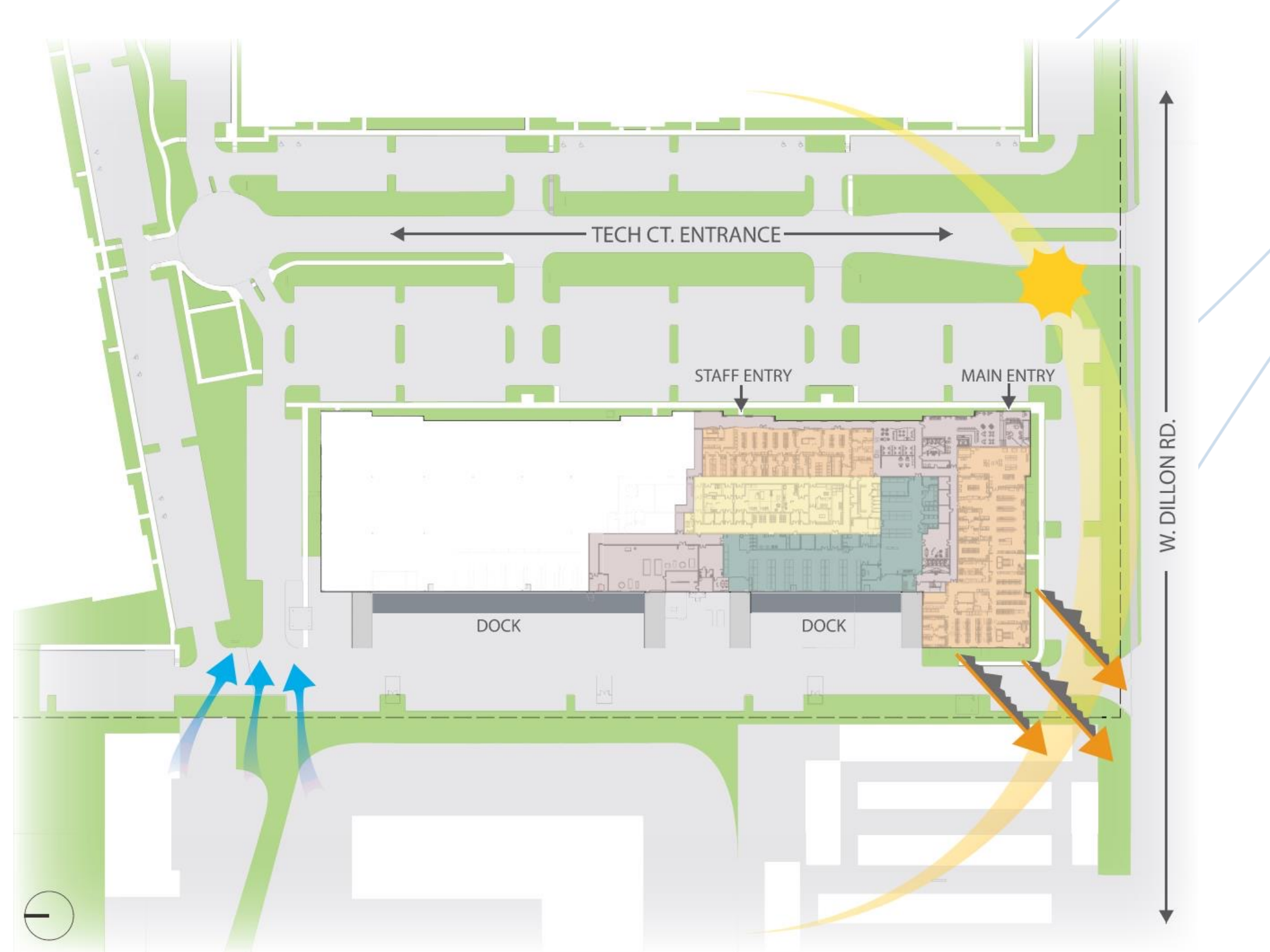
Facility Overview

- Existing Core & Shell
- Phased Construction
- Location between Denver & Boulder, CO

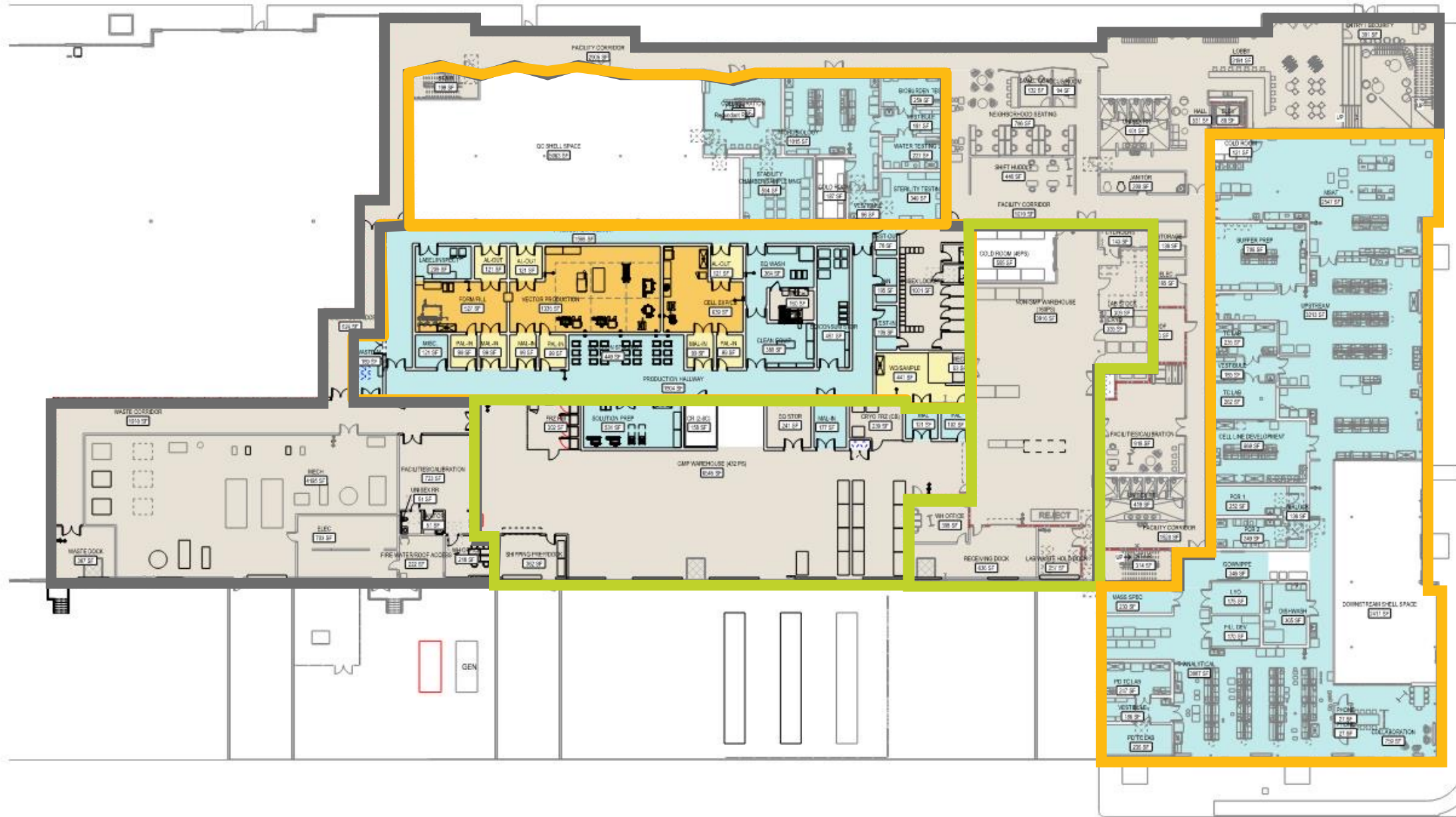


Flexibility

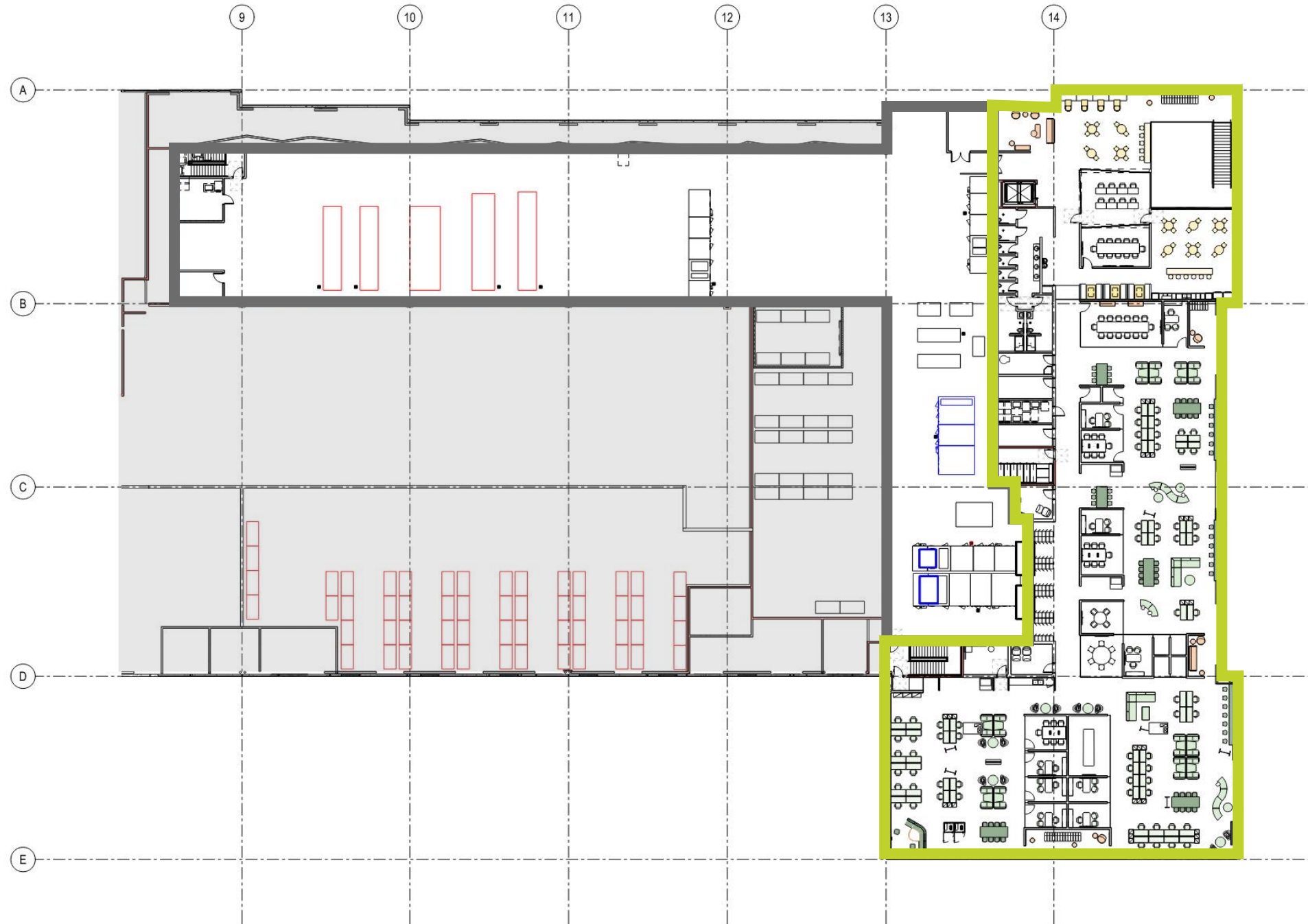
- Site Selection
- Master Planning
- Spatial considerations for future scales
- Installing and sizing utilities upfront for future
- Ease of construction for future expansion as production continues



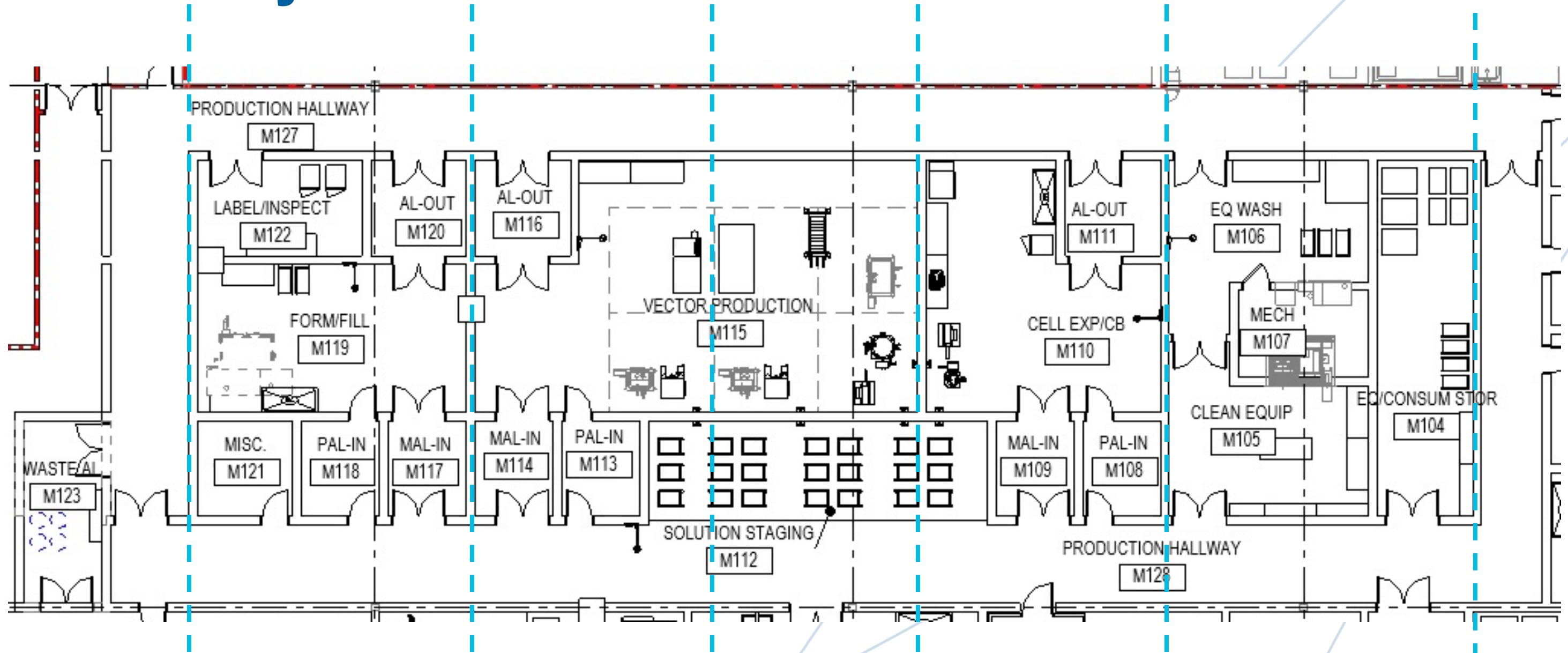
Facility Overview **Manufacturing**



Facility Overview **Office/Amenities**

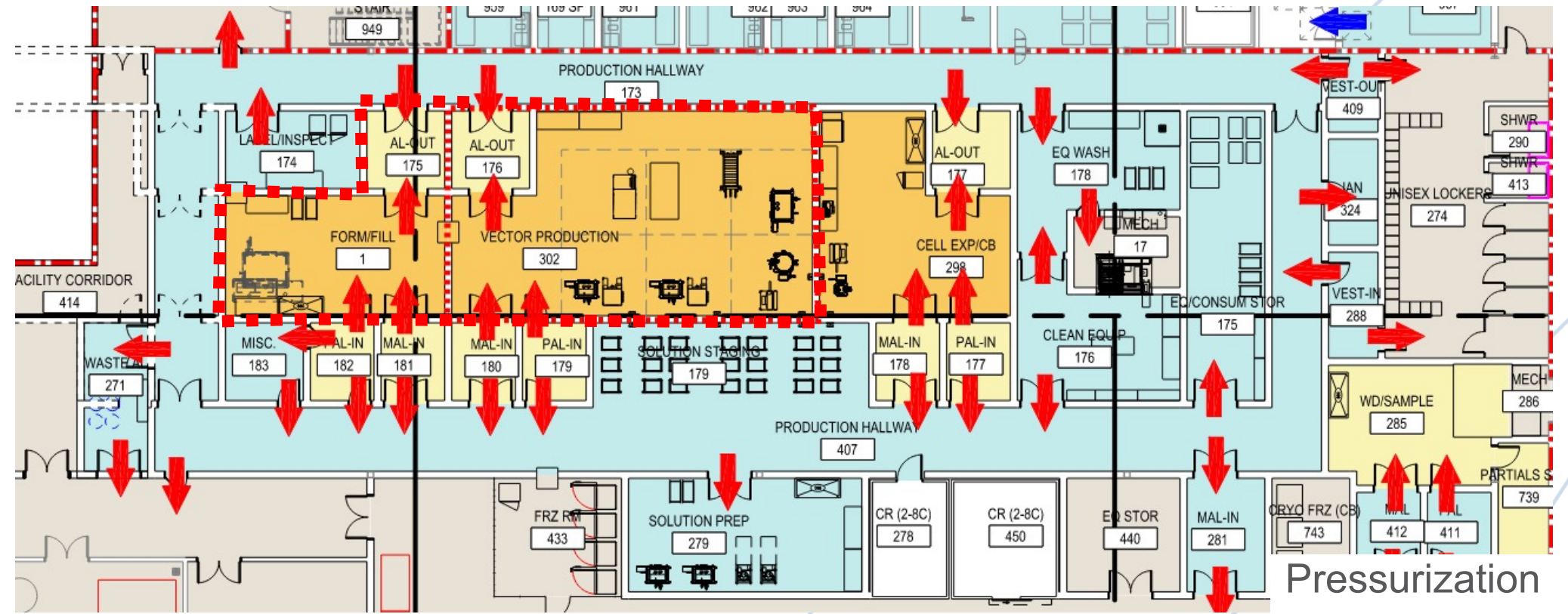


Flexibility



Flexibility

- Each MFG suite on its own segregated HVAC system
 - Provides ease of changing airflows, positive and negative pressure per individual suite



Speed

- ONEsolution, integrated project delivery
- Phased project approach, prioritizing labs for process development
- Design-Assist with early Trade Partners
- Planning for clinical MFG/QC space on assumptions
- Flexible design process



CONCEPT 5/21 → SUBSTANTIAL COMPLETION 7/22
92,000SF PD/QC LABS, WH

Quality



a facility to match the product

Sustainability

- WELL Building Certification - Silver
 - Health and Wellbeing of employees
- DEI Project Execution
 - Commitment to entire project team mental and physical health
- Serving the community together
 - Stewardship and meaningful contribution to community context
- Zero Carbon Emissions and Combustion by 2031
 - Electric boilers
 - Carport and roof mounted onsite renewable energy generation
 - AWW Heat Pump Chillers

▶ A COMPREHENSIVE APPROACH TO **WELL**-BEING



AIR



WATER



NOURISHMENT



LIGHT



MOVEMENT



THERMAL COMFORT



SOUND



MATERIALS



MIND



COMMUNITY



Conclusion

Umoja: Unity - To strive for and maintain unity in the family, community, nation, and race.

