



August 1, 2025

ASC Design-Build Competition
Region 2 Problem Statement
MÜNZING Manufacturing Facility
Clover, SC

Design
Construction
Facility Services
Property Consulting

Congratulations! Your Design-Build firm has been prequalified to bid on a new manufacturing and food processing facility in Clover, SC. A M King has been selected as the Program Manager for this project. The facility will be owned and operated by MÜNZING North America, a global specialty additives supplier based in Abstatt, Germany. The building will serve as both the company's U.S. headquarters and support the expansion of the company's food-grade and non-food-grade additives business.

The project scope will include the following:

- Development of a portion of a 105-acre site and former tree farm on Ultra Avenue, located in Clover, South Carolina. 14 acres can be allocated for development the rest will remain the tree farm.
- Ten (10) loading dock positions
- Sixty (60) employee and visitor parking spaces, excluding the required ADA stalls.
- Approximately 71,000 sf will be subdivided into warehouse, processing and office space.

Warehouse:

- Racking will be required for product storage: 13,800 sf of warehouse will be the racking layout. Layout to be proposed by Design-Build team.
 - Rack aisles will be a minimum of 9'-0" aisles
 - 3,900 sf of the warehouse will be used for staging near the dock doors
- Ten (10) dock door positions with dock levelers and shelters: Include two (2) doors in the warehouse dock that will have a second door with a screen to allow for these to be left open for ventilation. Horizontal single dock pits will be used. Forklifts shall be used to unload trucks. Swing forklifts are used within the warehouse in the aisles for the storage of materials on racking.
- Dock doors are used for both shipping and receiving based on the time of day. Mornings = Receiving, Afternoons = Shipping.
- One (1) dock position used for trash compactor.
- Large roll-up door opening for a ramp sized for reactors to move in and out of the facility.
- Battery Charging Area for four (4) forklifts
- An in-rack sprinkler system will be required in the warehouse area, and both foam and water systems will be used. (Foam located in hazardous areas.)

Approximate size and temperatures of the various areas are as follows:

- Dry Storage: 2,700 sf and 55 °F
- Hazardous material storage: 550 sf and 40 °F
- Furnish one (1) Dock office with a single restroom with a total minimum size of 500 sf within the footprint of the distribution warehouse or locate this office adjacent to the warehouse for ease of access.
 - Office to hold three (3) people with a transaction window for truck drivers with a small trucker toilet and a dock employee unisex toilet.
- Furnish one (1) Hazardous Material Storage Room (34 °F) within the warehouse that can accommodate fifteen (15) total pallets and is accessible directly from the loading dock. Pallets in the Hazardous storage cannot be stored more than 25 ft high. The storage room will be separated from the main warehouse space with 2 2-hour



rated wall system and will have containment gates and curbs in the event of a spill to prevent liquid from running into the warehouse. The storage room will be electrically classified as a Class 1 Div 2 space for all electrical equipment. Storage area to have slight negative pressure to prevent flammable vapors from entering non-rated areas as well.

- Products will all be stored on standard wooden pallets 40" x 48". All racking and clear heights of the building will need to be designed with the following criteria in mind:
 - Dry Storage: 55 in max, products shall be stored in various container types. 25'-0" max storage height with clearance required above to access top rack of product. Overall building height cannot exceed 30ft.
 - 330-gallon poly totes
 - 275-gallon poly totes
 - 55-gallon metal drums
 - 55-gallon poly drums
 - < 55-gallon metal drums (e.g., 30-gallon)
 - < 55-gallon poly drums (e.g., 30-gallon)
 - 5-gallon poly pails
 - < 5-gallon poly containers

Processing Area

- Approximately 32,000 sf for processing of food and non-food grade products. Space will be divided in half and separated to keep these product lines from contaminating each other.
- Both food and non-food spaces will have a maximum clear height of 35'-0".

Non-food Area

- Total square footage of the area is approximately 16,000 sf.
- Elevated platform in Non-food Area 12'-0" AFF.
- Required clearance under the mezzanine is 8'-0" AFF.
- Non-food area includes two smaller rooms: one for hazardous/flammable product storage and production, approximately 3,200 sf. The other room is for automotive additives and is approximately 2,200 sf.
- Mezzanine needs to accommodate six (6) large mixing tanks that vary in size, with the maximum tank size to 9'-6" in diameter (all other tanks are smaller). On this mezzanine, employees need to be able to walk around the mixing tanks and have two (2) areas on the mezzanine where a forklift can drop off product from the ground level. (Safety is a priority for our client.) These areas must include proper fall protection.
- Load rating for mezzanine should be rated to allow storage and movement of the following: 275-gallon totes covering 50% of open mezzanine space, 5,000 lb. electric pallet jack (8210 Walkie) moving 275-gallon tote, 4,300 lbs. Scissor lift with person and tools of 600 lbs. Mezzanine shall be constructed of steel with a concrete floor for ease of cleaning.
- Include sink and eye wash stations on and below the mezzanine, as well as eye wash/shower in the Automotive and Hazardous/Flammable Storage rooms, along with an additional eyewash and shower in the non-food area to meet the code requirements for 50ft max travel distance (10 seconds).
- Waste water treatment skid location in the lower right corner of the non-food Processing area, equipment layout provided by Beckart Environmental Inc.
- Non-food production areas need to be constructed of a selected material that will allow for the walls to be cleaned and wiped down for sanitary cleaning processes.
- Power Outlets located throughout the plant in each production area.
- Automotive Processing Room.
- This area will have a negative pressure from its surrounding spaces to keep the carbon and acid black within this room.



- Includes one fixed-position, 1,500-gallon working volume tank and two stand mixers to service portable tanks.
- Dust collector located on the exterior of the building adjacent to the Automotive room.
- Goal is to have just two (2) dust collectors, one (1) for food and one (1) for non-food areas.
- Hazardous/Flammable Processing Room.
- Contains Class 1 Division 2 materials in this area, will have slight negative pressure to prevent flammable vapors from entering non-rated areas.
- 10x10 Washdown area in the lower corner of the room.
- 10x10 Flammable Pour Up area in the upper right corner of the room with an exhaust hood.
- This room will be classified similarly to the Hazardous storage room in terms of rated walls and penetrations to be rated, which will require a 2-hour separation from the other process areas, curb or trench drain for containment (will have a drop-down containment gate at the overhead door opening and curb at the man door). (This will match the Hazardous storage room.) For sprinklers will also be required. All penetrations into this space will be required to be fire caulked to maintain rated protection, and the storage height of the chemicals will be the same as what is in Hazardous storage.

Food-Grade Processing Area

- Total square footage of the area is approximately 16,000 sf.
- Shall meet SQF standards for Food Ingredients for cleanable surfaces.
- Elevated platform in Food Area 12'-0" AFF.
- Required clearance under the mezzanine is 8'-0" AFF.
- Food area includes one smaller room: Blend room, approximately 1,200 sf. Another area in the food processing area is a tank farm 2,500, and the remaining square footage is the main processing area.
- Mezzanine needs to accommodate six (6) large mixing tanks that vary in size with maximum tank size to 9'-6" in diameter (all other tanks are smaller). On this mezzanine, employees need to be able to walk around the mixing tanks and have two (2) areas on the mezzanine where a forklift can drop off product from the ground level. (Safety is a priority for our client.) These areas must include proper fall protection.
- Load rating for mezzanine should be rated to allow storage and movement of the following: 275-gallon totes covering 50% of open mezzanine space, 5,000 lb. electric pallet jack (8210 Walkie) moving 275-gallon tote, 4,300 lbs. Scissor lift with person and tools of 600 lbs. Mezzanine shall be constructed of steel with a concrete floor for ease of cleaning.
- Tank area with a raised containment wall and catwalk 11'-0" AFF access to tanks overhead and a 2'-0" containment wall, pipe rack from tanker unloading area shall also enter the building for an air compressed pump system to fill tanks.
- Central area used for staging.
- Include eye wash stations on and below the mezzanine as well as eye wash/shower in the Blend Room, both levels, and in the Tank Farm, along with an additional eyewash and shower in the food area to meet the code requirements for 50ft max travel distance (10 seconds).
- Power Outlets located throughout plant in each production area.
- For Blend Room 69-76F. 53-70% humidity... design to 55% humidity.

Tanker Unloading

- Tanker unload area located outside, adjacent to the food processing area. This outside building will be a covered area for tanker trucks to pump their liquid into the interior food tank farm. This will be a separate pull-off lane on the plans for tankers to be able to turn into to unload the liquid.
- Tanker unloading to be 62 ft long and 21ft wide, 20ft tall. Extend the roof edge 2' on both openings to prevent rainwater from entering, and to contain a spill inside the of tanker unloading building.



- Will have containment curb for tanker unloading, floor drains will be provided within the containment area, and drains to connect to wastewater treatment equipment (located in non-food area).
- Tanker unloading building should match the look of the main building.
- Will have a man door for access from the food area (wall closest to the main building).
- Exterior-rated light fixture wall packs shall be attached to the inside of the unloading area.
- Pipe rack shall be installed for the transfer of pump pipes from the tanker unloading area to the tank farm.

Utility Building

- Utility building outside adjacent to processing area. Total square footage should be approximately 4,000 sf
- 100'-0 x 50'-0".
- Utility building should match the look of the main building.
- Utility building will have two (2) rooms: One (1) to house the boilers and hot oil equipment, and the other to house the controls for the gas equipment and nitrogen generation.
- Will have two (2) exterior man doors and two (2) overhead doors for access and maintenance.
- Exterior-rated light fixture wall packs shall be attached to the outside of the building.
- Pipe rack shall be installed for the transfer of pump pipes from the utility building to the main pipe bridge.
- Chillers are located adjacent to the utility area pad.
- Tempered water will be provided at safety eyewash and shower units.

Building Utilities

Process Utilities required for processing area		Building Utilities required	
1.	Hot Oil Supply and Return for food processing area only	1.	Steam Generation and Main Distribution
2.	Tempered Oil Supply and Return	2.	Steam Condensate Return – Equipment and Mains
3.	Process Waste Collection Header	3.	Industrial Water
4.	Waste Water Treatment Skid	4.	Potable Water
5.	Dust collection	5.	Hot Water Generation
6.	Chilled Water Supply and Return	6.	Natural Gas
7.	Plant Air and Instrument Air		
8.	Nitrogen		

- Pipe bridge shall be designed and constructed to bring all the noted process and building utilities to the food and non-food production areas; the design and layout of this pipe bridge shall be proposed by the Design Build team.
- Electrical room and fire pump room, vital parts of the building, need to be located near processing areas and have easy access for employees and the fire department in emergencies. The total square footage of these areas is 3,200, divided between the two rooms. These rooms will need to be separated by 1-hour-rated walls from the adjacent spaces.

Office

- Approximately 10,000 sf for Class A corporate office space, employee welfare areas, and lab space. Keep in mind, this facility is meant to be the corporate headquarters for our client, and the office space should project that image. Use material, color, or heights that are distinct from the warehouse space.
 - Entry Vestibule
 - 8 Private Offices
 - Open Office Space (16 workstations and copy area)



- 2 Large Conference Room (seating for 8 in each)
- 1 Breakroom seating for 25 people
- Training room for 50 people
- IT room
- Separate Restrooms (between front office and process area employees) single use toilets for office
- Include 1 Single Occupant Shower (for the dormitory area)
- Locker rooms for processing area employees
- Ancillary Space for Storage, Computer Servers, and Maintenance
- Company branding colors are green and white, clients desire is to incorporate these colors in a tasteful and professional manner.
- Use of Sage glass for office space as directed by client CEO

Lab

- Approximate size ~140' x 40' with 25% of being stock room for the lab.
- Include 3 offices spaces, one for food manager, one for non-food Manager and small analytical room
- Hoods:
- One Labconco 6' XStream hood
- One 6' XL hood with 29.6"
- Need nitrogen line – bottles in lab next to hood or nitrogen line coming from plant
- Need water hook up and sink on 1 hood in each area
- Standard lab benches: 60" total depth (double sided)
- Open desk spaces able to accommodate 10 people
- Desk in lab to be inline with benches and have associates facing each other with 18" frosted partition.
- Sinks/Plumbing
- Add one sink in each row of benches on opposing sides – 4 to 5 sinks
- Eyewash and Safety shower with privacy curtain in lab
- Small storage area (rated) for chemical sample storage (similar to example in current facility)
- Design-Build contractor shall include the following:
 - Establish the programming for the building and site development.
 - Civil, architectural, interior design/space planning, structural, electrical, mechanical, plumbing and fire protection design of the building and site.
 - Construction management for the building and site development.
 - Commissioning and project closeout for the building and site development.

A M King will select the Design-Build firm based on criteria that will be forwarded to you during the competition kickoff session.

Sincerely,

A handwritten signature in black ink, appearing to read 'Daniel M. Crist', with a long horizontal flourish extending to the right.

Daniel M. Crist
President
A M King