City of Aurora Public Works Department

HIGH-PILED COMBUSTIBLE STORAGE

Building Division • 15151 E. Alameda Parkway, Ste 2400 • Aurora, CO 80012
303.739.7420 • Email: permitcounter@auroragov.org

Project Address, RSN and /or Permit #		
Project Title		
Contractor	**Phone**	**Email**
Owner	**Phone**	**Email**
Contact Peson	**Phone**	**Email**
Staff Person Reviewing Submittal		**Date**
Comments		

The goal of the Aurora Building Division is to assist the developer/builder with assembling a comprehensive set of plans that will result in their project moving smoothly through the building review process in the least amount of time (specific time tables are shown on the last sheet of this checklist). The material contained within this checklist will aid in both the predictability and timeliness of the plan review process and eventual construction of your project.

ANY SUBMITTAL COMPLETED BY AN UNQUALIFIED INDIVIDUAL CANNOT BE ACCEPTED.

The building owner is required to obtain the services of a qualified professional who is knowledgeable in this field of work and with the requirements of the 2021 IFC & IBC, the 2013 NFPA 13. The construction drawings submitted on behalf of the owner must include this completed checklist and be signed and stamped by a person who is qualified as a Colorado-registered Fire Protection Engineer or equivalent. Prior to acceptance of plans our plan review staff will screen each submittal for minimum submittal checklist requirements. Information required for each checklist item shall be clearly documented on the plans as applicable to the project to accurately describe the scope of the proposed construction. Submitted plans cannot be accepted for review until all required information contained in the checklist is clearly shown.

Pre-Submittal Meetings or Staff Consultations are available upon request to discuss or resolve any code issues related to the plan review.

Before any construction may commence, a contractor licensed in the City of Aurora must be issued the appropriate permit for all work performed. Licensing information is available from the Aurora Building Division by calling 303-739-7420.

NOTICE: Attempts to submit plan sets without the minimum information listed below will result in the rejection of the plan submittal.

MINIMUM PLAN REVIEW DOCUMENT REQUIREMENTS

THE APPLICABLE CODES ARE:

- 2021 International Building Code (IBC)
- 2021 International Mechanical Code (IMC)
- 2021 International Fire Code (IFC)
- 2020 National Electrical Code (NEC)
- *Amendments to the codes can be found at aurora.municipal.codes
  (Chapter 22 Buildings and Building Regulations)
  (Chapter 66 Fire Prevention and Protection Regulations)
- Per IBC, Chapter 22, Industrial Steel Storage Rack and Cantilevered Storage Racks must be installed in accordance with the following RMI (Rack Manufacturers Institute) Standards
  ANSI MH16.1 - 12: Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks. 2021 IBC Section 2209.1.
  ANSI MH16.3 - 16: Specification for the Design, Testing and Utilization of Industrial Steel Cantilevered Storage Racks. IBC Section 2209.2.
- NFPA 13, 2019 Edition.
- NFPA 72, 2019 Edition.

GENERAL INFORMATION

- The "City of Aurora Building Permit" application from must be completed in its entirety.
- City of Aurora Building Division "High-Piled Combustible Storage Checklist" filled out in its entirety.
- Plans can only be accepted with a valid address.
- Indicate project name and address on each sheet of plans.
- Indicate on the cover sheet of plans the name, title, address, and phone number of designer(s)-of record and a complete index of all submitted plans.
- Each sheet shall be digitally sealed and signed by a Colorado licensed/registered professional designer as required by state law.
- Site plan showing the location of the structure on the property, adjacent property lines, streets, fire lane easements, fire access doors and parking areas.
- Floor plan of the building showing locations and dimensions of high-piled storage areas.
- Usable storage height for each storage area.
- Number of tiers within each racking system, if applicable.
- Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
- Aisle dimensions between each storage array.
- Maximum pile volume for each storage array.
- Location and classification of commodities in accordance with Section 3203.
- Location of commodities which are banded or encapsulated.
- Location of required fire department access doors.
- Type of fire protection systems.
- Location of valves controlling the water supply of ceiling and in-rack sprinklers.
- Type, location and specifications of smoke removal and curtain board systems.
- Dimension and location of transverse and longitudinal flue spaces.
- Additional information regarding required design features, commodities, storage arrangement and fire protection features within the high- piled storage area shall be provided at the time of permit, where required by the fire code official. All existing man-doors to the exterior within the storage racking area, and all existing exit signs, as installed.
- Locations of all existing emergency lighting devices.
- Racking system specifications and calculations; Verification from the manufacturer/fabricator that the racks have been tested and designed in accordance with the RMI specification referenced by the 2021 IBC, Section 2209, to include; load application and rack configuration drawings including any multiple configurations; details on how the racks are to be anchored to the floor and/or connected to the building structure which are wet-stamped by a Colorado-registered Engineer.

1. Commodity Classification: (X all that apply)

☐ Class: I II III IV ☐ Class: I II III IV

2. Mixed Commodity Classification: Utilizing Section 3203 of the 2021 IFC.

3. Complete Description of Storage:

_____

_____

_____

_____

Note: If more space is needed please attach additional page(s).

4. Method of Storage: (Check all that apply)

☐ Encapsulated in Plastic ☐ Non-Encapsulated ☐ Wooden Pallets On Racks w/o Solid Shelves

☐ Bin Boxes ☐ Solid Pile Storage ☐ On Racks with Solid Shelving

5. Plastics Classification: (Circle all that apply)

☐ Class: A B C OR ☐ Class: A B C

6. If storing Group "A" plastics indicate the volume and weight of plastics being stored:

_____ % by Volume of Group A Expanded Plastics. _____ % by Weight of Group A Expanded Plastics.

_____ % by Weight of Group A Unexpanded Plastics. _____ % of Free Flowing Group A Plastics.

7. How is the plastic packaged? ☐ Exposed ☐ Cartoned

8. Types of Racks: (Check all that apply)

☐ Single Row ☐ Double Row

☐ In-Rack Sprinkler System ☐ In-Rack Sprinkler System ☐ In-Rack Sprinkler System

9. Area of Storage:

_____ 0-500 sq. ft. _____ 501 - 2,500 sq. ft. _____ 2,501 - 12,000 sq. ft. _____ 2,001 - 20,000 sq. ft. _____

20,001 - 300,000 sq. ft. ____ 300,001 - 500,000 sq. ft. _____ Public Accessible _____ Non-Public Accessible ____

10. New or Existing Building: ☐ **New** ☐ **Existing**

11. International Building Code Occupancy Classification: _____

12. Electrical Classification: _____ (where applicable)

13. Height of Building (above grade): _____

14. Rack Engineering Specifications attached: ☐ Yes ☐ No

15. Maximum Height of Racks to be installed: _____

Maximum Number of Tiers: _____

16. Maximum Storage Height allowed by code: _____ feet NFPA Code Section: _____

17. Interior Ceiling Height: Highest _____ Lowest _____ (Note: Sloped ceilings shall list the highest and lowest ceiling height.)

18. Required Clearance to Sprinkler deflectors and top of storage: _____

19. Aisle widths shown on plans: ☐ Yes ☐ No

21. Dimension and locations of transverse and longitudinal flue spaces shown on the plans? ☐ Yes ☐ No

22. Approved fire apparatus access roads within 150 feet of all portions of exterior walls? ☐ Yes ☐ No

23. Approved fire department access doors provided every 100 lineal feet on all exterior walls, which face required access roads? ☐ Yes ☐ No

24. ESFR Sprinkler System Information: ☐ Yes ☐ No

Note: If yes, then provide: Head Pressure, K-Factor, Sprinkler Head Temperature, System Design Pressure, and Remote Area Calculation.

25. Hose Stations: ☐ Yes ☐ No

25a. If yes (to y/n question 23 re: existing hose stations), will proposed racking, as installed, block any existing hose stations or valves? ☐ Yes ☐ No

26. Curtain Boards: ☐ Yes ☐ No

27. Smoke/Heat Removal ☐ Yes ☐ No Ratio _____: _____ Sq. Ft.

28. Fire Alarm: ☐ Yes ☐ No

28a. If yes (to y/n question 26 re: existing fire alarms), will proposed racking, as installed, block any existing fire alarm devices? ☐ Yes ☐ No

29.Sprinkler system Information: (for other than ESFR systems)

Sprinkler Density GPM/FT _____ FT _____

Rack Sprinklers ☐ Yes ☐ No

Temp. Rating of Sprinkler Heads: Ceiling _____ Racks _____

30. Are hazardous materials kept on site? ☐ Yes ☐ No

31. MSDS Included: ☐ Yes ☐ No

32. Indicate any process (es) or equipment intended to be used inside or adjacent to the building. (Check all that apply)

PRINTING/SILK SCREENING _____	Dust Producing _____	Dip Tanks _____ Combustible Metal _____
METAL PLATING _____	Welding/Cutting _____	Chemical Storage _____
SPRAY PAINTING _____	Semiconductor _____	Auto Repair _____
OVENS/KILNS _____	Other _____	N/A _____

STORAGE LIMITATION SIGNS

Signs shall be mounted at the height where the storage has been limited to, spaced at intervals of 50 feet on center on all walls, starting 25 feet from any corner, and on two sides of each column. Signs shall be visibly located.

Maximum Storage Height: _____ NFPA Code Section: _____

Notes needed on high-piled storage and racking plan sets:

Note #1:
Storage height limitation signs shall be installed and visibly displayed in all storage facilities to clearly indicate the maximum approved height allowed by code.

Note #2:
I, (the responsible party for this business), understand that these signs are required to be posted throughout all areas meeting the description of high-piled combustible areas described in Chapter 32 of the IFC. I agree not to store combustible materials above this line.

KNOX HARDWARE
All warehouse facilities with fire detection and suppression systems installed require an "on site" KNOX KEY System installed in a Fire Department approved location. The KNOX KEY system is a safe and secure on-site key box for the Fire Department's use ONLY! No one else has access to the KNOX BOX except the Aurora Fire Department. Master keys are required to be in the box to allow for safe entry into your facility at all times.

ADVISORY COMMENT
When designing a core and shell structure that is capable of, or designed for storage of, high-piled combustible materials, it is highly recommended that the requirements shown in the IFC, Chapter 32 and the associated tables be implemented during the design/ development phase. Once construction is completed on the core and shell the cost of retrofitting these requirements into an existing structure can be high.

BUILDING OWNER/REPRESENTATIVE
The building owner or designated representative is required to sign below to indicate their agreement that the parameters and requirements reflected within this checklist will not be increased once a certificate of occupancy or storage racking permit is issued. The field set (or a copy) of the approved plans shall be kept on the premises and available for review by the fire department during future inspections.

Printed Name and Title of Building Owner or Designated Representative _____

_____

Signature _____

Name of Business _____

Address of Business _____

Office Phone _____ **Office Fax**_____

E-Mail Address _____

Printed Name and Title of Qualified Individual Submitting Information _____

_____

Signature _____

Business Name_____

Business Address _____

Office Phone _____ **Office Fax**_____

E-Mail Address _____

PLAN REVIEW TIMES
The City of Aurora Building Division has committed to overall maximum average times for plan reviews. Those plans requiring corrections will be rejected within the time frame listed below and, when resubmitted with all corrections done properly, would receive a plan approval within the time frame listed below following receipt of the complete and error free corrections.

City plan review for code compliance	= 7 working days
Code corrections by applicant	= 5 working days
City review of code corrections	= 2 working days
TOTAL WORKING DAYS	**= 14 DAYS**
TOTAL CALENDAR DAYS (WEEKS)	**= 21 DAYS (3 WEEKS)**

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