FIRE PLANS REVIEW CHECKLIST

(*Note: *Compliance with the information on this document does not guarantee compliance with the State of Florida Fire and Building Codes, nor does it guarantee issuance of a permit.)

Building New Construction Plan Review

Applicable Base Codes

- ☐ Florida Fire Prevention Code, 5th Edition
- ☐ NFPA 1, Uniform Fire Code, Florida 2012 Edition
- ☐ NFPA 101, Life Safety Code, Florida 2012 Edition
- ☐ NFPA 13, 2010 edition
- ☐ NFPA 72, 2010 edition
- ☐ City of Orlando Fire Code, Chapter 24

☐ **General Review**

- ☐ Drawings signed and sealed.
- ☐ Fire Department Site Access – See Fire Site Plan Review Checklist.
- ☐ Underground Main Design Documents – See Fire UG Main Plan Review Checklist.
- ☐ Fire Sprinkler Design Documents – See Suppression Plan Review Checklist for BLD permits.
- ☐ Fire Alarm Design Documents – See Fire Alarm Review Checklist.
- ☐ Fire Extinguishers.
- ☐ Special Hazards Suppression System.
- ☐ Lock Box at Main Entrance.

☐ **Life Safety Code (NFPA 101)**

- ☐ Occupant Load; Signage.
- ☐ Number of Exits: Remoteness: Arrangement: Capacity; Rating.
- ☐ Changes in Elevation – Ramps.
- ☐ Exit Doors – Delay egress; Access Control; Hold Open Devices.
- ☐ Doors, Rating, Panic Hardware, Width.
- ☐ Travel Distance.
- ☐ Common Path of Travel.
- ☐ Dead End Corridors.
- ☐ Stair Details-riser, run.
- ☐ Handrails.
- ☐ Guards.
- ☐ Stair Rating and Fire Doors.
- ☐ Stair Discharge to Public Way.
- ☐ Exterior Stairs – Separation, Protection.
- ☐ Aisles.
- ☐ Corridor Rating and Fire Doors.
- ☐ Corridor Width: Doors Opening Into.
- ☐ Emergency Lighting.

- ☐ Exit Signs.
- ☐ Vertical Openings: Atriums, Escalators.
- ☐ Protection from Hazardous Areas.
- ☐ Smoke Detectors Required?
- ☐ Fire Alarm System Required?
- ☐ Sprinkler System Required?
- ☐ High Rise Building.
- ☐ Stair Pressurization.

Fire Site Plan Review

☐ **Fire Department Access**

- ☐ Drawings signed and sealed.
- ☐ FD access 20’ clear width, 13’-6” height.
- ☐ Coordination with hydrants and FDC.
- ☐ Turnarounds for dead ends 150’ or more in length.
- ☐ Cul-de-sac min. inside diameter 36’ and the min. outside diameter 60’.
- ☐ FD access min. right hand turn radius 25’.
- ☐ If the building set back more than 150’ from the paved FD access, provide a fire lane.
- ☐ If the building over 30’ in height and setback more than 50’ from the paved FD access, provide a fire lane.
- ☐ Gates provide sufficient access width (20’) and height (13’-6”).
- ☐ Automatic fence installed on 24-hour occupied structures; optical sensors.
- ☐ Fence obstruction to hydrants, hose lay distance, FDC, egress path.

Fire Underground Main Plan Review

☐ **Underground Mains (NFPA 24)**

- ☐ Engineer design documents are signed and sealed.
- ☐ Shop drawings have only minor changes from engineered documents.
- ☐ Hydrants – distance to FDC, curb face, structures.
- ☐ Hydrants – clearance 7’6” front/sides and 4; rear.
- ☐ Color coding statement for hydrants.
- ☐ Point of connection clearly marked and shown as private from this point onward.
- ☐ Plans must state UG main installed and tested per NFPA 24, 200 psi.
- ☐ Dead-end mains pipe size and distance.
- ☐ Pipe not installed under buildings.
- ☐ Cover depth minimum of 30”.
- ☐ Pipe size, diameter, and type.
- ☐ DR 14 for fire service only, DR 18 for combination use only if provided documents state that pipe will withstand testing for 200 psi.
- ☐ Details of joints, restraint, thrust blocks, and hydrants.
- ☐ Corrosion protection on buried metallic parts.
- ☐ Electronic supervision of backflow control valves.
- ☐ Sectional valves every 6 hydrants.
- ☐ Water supply analysis for large, complex systems.

Building - Additional/Alteration Plan Review

☐ **General Review**

- ☐ Drawings signed and sealed.
- ☐ Key Plan indicating scope of work and existing systems.
- ☐ Substantial Improvement; Change of Use.
- ☐ Fire Department Site Access – See Fire Site Plan Review Checklist.
- ☐ Underground Main Design Documents – See Fire UG Main Plan Review Checklist.
- ☐ Fire Sprinkler Design Documents – See Suppression Plan Review Checklist for BLD permits.
- ☐ Fire Alarm Design Documents – See Fire Alarm Review Checklist.
- ☐ Fire Extinguishers.
- ☐ Existing Systems Shown.
- ☐ Special Hazards Suppression System.
- ☐ Lock Box at Main Entrance.

☐ **Life Safety Code (NFPA 101)**

- ☐ Occupant Load; Signage.
- ☐ Changes in Elevation – Ramps.
- ☐ Number of Exits: Remoteness: Arrangement; Capacity; Rating.
- ☐ Exit Doors – Delay egress; Access Control; Hold Open Devices.
- ☐ Doors, Rating, Panic Hardware, Width.
- ☐ Travel Distance.
- ☐ Common Path of Travel.
- ☐ Dead End Corridors.
- ☐ Stair Details-rise and run.
- ☐ Handrails.
- ☐ Guards.
- ☐ Stair Rating and Fire Doors.
- ☐ Stair Discharge to Public Way.
- ☐ Exterior Stairs – Separation, protection.
- ☐ Aisles.
- ☐ Corridor Rating and Fire Doors.
- ☐ Corridor width: Doors Opening Into.
- ☐ Emergency Lighting.
- ☐ Exit Signs.
- ☐ Vertical Openings: Atriums, Escalators.
- ☐ Protection from Hazardous Areas.
- ☐ Smoke Detectors Required?
- ☐ Fire Alarm System Required?
- ☐ Sprinkler System Required?
- ☐ High-Rise Building.
- ☐ Stair Pressurization.

Fire Alarm Systems Plan Review

☐ **Fire Alarm Plan**

- ☐ Check for proper License and Insurance.
- ☐ Shop drawings not sealed by engineer.
- ☐ Reference to NFPA 72 and 70.
- ☐ Location of FACP or annunciator panel clearly accessible/visible from entry.
- ☐ Smoke detector located at panel.
- ☐ Point to Point wiring, EOL device shown.
- ☐ Proper spacing/coverage/location of spot detectors (heat & smoke).
- ☐ Proper spacing/coverage/location of beam detectors.
- ☐ Proper location of duct detectors.
- ☐ Proper spacing and location of pull stations.
- ☐ Proper location of detectors associated with door holders.
- ☐ Proper location of detectors associated with stair pressurization.
- ☐ Proper spacing/coverage/location of notification appliances.
- ☐ Add condition that audible notification be checked during inspection.
- ☐ Sprinkler flow switches monitored.
- ☐ Sprinkler tamper switches monitored.
- ☐ Fire pump monitored.
- ☐ Battery calculations.
- ☐ Device legend.
- ☐ Fla. Accessibility notification requirements met.
- ☐ Emergency forces notification.
- ☐ Elevator control room, shaft, and recall.
- ☐ Special systems, VESDA, etc.
- ☐ Apartment smoke detectors, every floor-bedrooms-sleeping area (hallway).
- ☐ Show smoke evacuation sequence of operation.
- ☐ Fire Department lock box at main entrance.

Building – Fire Suppression Plan Review

1. **General**

A. If the new structure is greater than 5000 sq ft in area, do the drawings contain an automatic fire sprinkler system (City of Orlando Fire Code)?
❏ Yes ❏ No

B. If there are over 49 heads in scope of work, are the sprinkler design drawings signed and sealed by Florida registered engineer?
❏ Yes ❏ No

C. Is the applicable code (NFPA 13, 13R, 13D, 14, 20) and edition correct and shown on the drawing?
❏ Yes ❏ No

D. Site drawing indicating point of service from City main included?
❏ Yes ❏ No

E. Have details of hangers, valves, sprinkler arrangement been provided?
❏ Yes ❏ No

2. **System Type**

❏ Wet Pipe ❏ Dry Pipe ❏ Deluge ❏ Pre-action

A. Where the pipe cannot be maintained about 40^{o}F, have adequate freeze protection provisions been included (NFPA 13)?
❏ Yes ❏ No

B. Is the type of system appropriate for the specified application (NFPA 13)?
❏ Yes ❏ No

C. Are dry-type valve rooms heated and lighted (NFPA 13)?
❏ Yes ❏ No

D. Does the system have an electronically monitored alarm valve or water flow device (NFPA 13)?
❏ Yes ❏ No

3. **Hazard Classification**

❑ Light ❑ Ordinary I ❑ Ordinary II ❑ Extra ❑ Storage

A. Does the hazard classification correspond to the potential fuel load (NFPA 13)?
❑ Yes ❑ No

B . Is the design density consistent with NFPA 13 classifications (NFPA 13)?
❑ Yes ❑ No

C. Are the sprinkler zones less than the maximum permitted (NFPA 13)?
❑ Yes ❑ No

4. **Hydraulic Calculations**

A. Are hydraulic calculations included?
❑ Yes ❑ No

B. Is the date of flow test within 1 year?
❑ Yes ❑ No

C. Is hydraulic nodal information shown on drawings?
❑ Yes ❑ No

D. Is the calculated zone the most hydraulically demanding?
❑ Yes ❑ No

E. Does the zone contain the correct number of heads (NFPA 13)?
❑ Yes ❑ No

F. Do the Calculations use the correct C Factor (NFPA 13)?
❑ Yes ❑ No

G. Does the supply curve exceed the system demand?
❑ Yes ❑ No

5. **Sprinklers:**

A. Are quick response (QR) sprinklers used on light hazard occupancy (NFPA 13)?
❑ Yes ❑ No

B. If applicable, does the dry system have uprights or return bends with pendants (NFPA 13)?
❑ Yes ❑ No

C. Is the distance between sprinklers less than or equal to 15 ft (NFPA 13)?
❑ Yes ❑ No

D. Is the area of coverage per sprinkler less than the maximum permitted (NFPA13)?
❑ Yes ❑ No

E. Are the sprinklers less than 7'-6" from a wall unless by small room exception allowing up to 9' (NFPA 13)?
❑ Yes ❑ No

F. Do obstructions have additional heads for coverage?
❑ Yes ❑ No

G. Do the soffits that require which obstruct discharge have adequate coverage?
❑ Yes ❑ No

H. Have provisions been made to drain all parts of the system (NFPA 13)?
❑ Yes ❑ No

I. If there are elevator shafts or chutes, are they sprinkler protected (NFPA 13)?
❑ Yes ❑ No

J. Are all concealed spaced sprinkler protected unless excluded by NFPA 13?
❑ Yes ❑ No

K. If there are vaults, are they protected in accordance with NFPA 232?
❑ Yes ❑ No

L. If there are commercial hoods, are they protected in accordance with NFPA 96?
❑ Yes ❑ No

6. **Standpipes/Mains**

A. If the building exceeds 2 stories and more than 50' in height, or exceeds 30' to the highest occupied floor, is a Class III system installed (City of Orlando Fire Code)?
❏ Yes ❏ No

B. Does the standpipe have 2-1/2" hose valves with 1-1/2" reducers (NFPA 14)?
❏ Yes ❏ No

C. Does each Class III standpipe systems contain at least two FDC's on opposite sides of the building (City of Orlando Fire Code)?
❏ Yes ❏ No

D. Is the FDC located within 100' of the nearest hydrant (NFPA 14)?
❏ Yes ❏ No

E. Does each FDC have a check valve inside the building (NFPA 13)?
❏ Yes ❏ No

F. If a standpipe is required, do the fire hose valves provide coverage within 100' of hose and 30' of spray (NFPA 14)?
❏ Yes ❏ No

E. Are the fire hose valves located at the intermediate landings of the stairs (NFPA 14)?
❏ Yes ❏ No

F. If a combination standpipe is used in a high-rise, does each floor have separate control valve and flow switch (NFPA 13)?
❏ Yes ❏ No

G. Is the dedicated standpipe riser at least 4" and combination risers at least 6" in diameter (NFPA 14)?
❏ Yes ❏ No

J. Does the most remote riser have two a 2-1/2" outlet on the roof (NFPA 14)?
❏ Yes ❏ No

K. Do stairs with access to the roof have an outlet at the highest landing, and stairs without roof access have roof outlets (NFPA 14)?
❏ Yes ❏ No

L. Do the calculations indicate at least 100 psi at the roof manifold of the most remote riser (NFPA 14)?
❏ Yes ❏ No

M. Does the system have pressure-reducing valves for fire hose connections if the pressure exceeds 175 psi (NFPA 14)?

❑ Yes ❑ No

N. Does the supply curve exceed the demand when flowing 1000 gpm (NFPA 14)?

❑ Yes ❑ No

7. **Fire Pumps**

A. Do the drawings indicate installation in compliance with NFPA 20?

❑ Yes ❑ No

B . Does the fire pump room contain adequate drainage (NFPA 20)?

❑ Yes ❑ No

C. Does the fire pump room have adequate emergency lighting (NFPA 20)?

❑ Yes ❑ No

D. If electric driven, does the fire pump have a reliable power source (City of Orlando Fire Code)?

❑ Yes ❑ No

E. If diesel driven, does the fire pump have sufficient fuel, battery, and exhaust capacity?

❑ Yes ❑ No

F. Does the drawing show a fire pump bypass (NFPA 20)?

❑ Yes ❑ No

G. Is the fire pump room separated by 2-hour rated construction (NFPA 20)?

❑ Yes ❑ No

Fire Suppression Plan Review

1. **General**

A. Are the shop drawings on the contractor's title block?
❏ Yes ❏ No

B. Do the drawings meet the engineer design documents?
❏ Yes ❏ No

C. Is the applicable code (NFPA 13, 13R, 13D, 14, 20) and edition correct and shown on the drawing?
❏ Yes ❏ No

D. Site drawing indicating point of service from City main included?
❏ Yes ❏ No

E. Do the drawings show dimensions and diameter of each pipe?
❏ Yes ❏ No

F. Do the drawings show risers locations and dimensions?
❏ Yes ❏ No

G. Have details of hangers, valves, sprinkler arrangement been provided?
❏ Yes ❏ No

2. **System Type**

❏ Wet Pipe ❏ Dry Pipe ❏ Deluge ❏ Pre-action

A. Where the pipe cannot be maintained above 40^{o}F, have adequate freeze protection provisions been included (NFPA 13)?
❏ Yes ❏ No

B. Is the type of system appropriate for the specified application (NFPA 13)?
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C. Are dry-type valve rooms heated and lighted (NFPA 13)?
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B. Is the design density consistent with NFPA 13 classifications (NFPA 13)?
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C. Are the sprinkler zones less than the maximum permitted (NFPA 13)?
❑ Yes ❑ No

4. **Hydraulic Calculations**

A. Are hydraulic calculations included?
❑ Yes ❑ No

B. Is the date of flow test within 1 year?
❑ Yes ❑ No

C. Is hydraulic nodal information shown on drawings?
❑ Yes ❑ No

D. Is the calculated zone the most hydraulically demanding (NFPA 13)?
❑ Yes ❑ No

E. Does the zone contain the correct number of heads (NFPA 13)?
❑ Yes ❑ No

F. Do the calculations use the correct C Factor (NFPA 13)?
❑ Yes ❑ No

G. Does the supply curve exceed the system demand?
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❏ Yes ❏ No

D. Is the area of coverage per sprinkler less than the maximum permitted (NFPA 13)?
❏ Yes ❏ No

E. Are the sprinklers less than 7'-6" from a wall unless by small room exception allowing up to 9' (NFPA 13)?
❏ Yes ❏ No

E. Do obstructions such as columns and beams have additional heads for coverage?
❏ Yes ❏ No

G. Do the soffits that require which obstruct discharge have adequate coverage?
❏ Yes ❏ No

H. Have provisions been made to drain all parts of the system (NFPA 13)?
❏ Yes ❏ No

I. If there are elevator shafts or chutes, are they sprinkler protected (NFPA 13)?
❏ Yes ❏ No

J. Are all concealed spaced sprinkler protected unless excluded by NFPA 13?
❏ Yes ❏ No

K. If there are vaults, are they protected in accordance with NFPA 323?
❏ Yes ❏ No

L. If there are commercial hoods, are they protected in accordance with NFPA 96?
❏ Yes ❏ No

6. **Standpipes/Mains**

A. If the building exceeds 2 stories and more than 50' in height, or exceeds 30' to the highest occupiable floor, is a Class III system installed (City of Orlando Fire Code)?
❑ Yes ❑ No

B. Does the standpipe have 2-1/2" hose valves with 1-1/2" reducers (NFPA 14)?
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K. Do stairs with access to the roof have an outlet at the highest landing, and stairs without roof access have roof outlets (NFPA 14)?
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L. Do the calculations indicate at least 100 psi at the roof manifold of the most remote riser (NFPA 14)?
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B. If electric driven, does the fire pump have a reliable power source (City of Orlando Fire Code)?
❑ Yes ❑ No

C. Does the drawing show a fire pump bypass (NFPA 20)?
❑ Yes ❑ No

D. Is the fire pump room separated by 2-hour rated construction (NFPA 20)?
❑ Yes ❑ No

E. Does the fire pump suction have an eccentric reducer (NFPA 20)?
❑ Yes ❑ No

F. Are elbows parallel to horizontal fire pumps at least a distance of 10 times the intake diameter from the pump suction (NFPA 20)?
❑ Yes ❑ No

8. Equipment Submittals

A. Are the products listed or approved for the application (NFPA 13)?
❑ Yes ❑ No

B. Do the sprinklers cut sheets correspond with the hydraulic calculations and drawings and do they provide the adequate coverage?
❑ Yes ❑ No

C. Are the correct temperatures and orientation specified for each sprinkler?
❑ Yes ❑ No

D. Are all control valves and flow indicating devices electronically monitored in accordance with NFPA 72 (City of Orlando Fire Code)?
❑ Yes ❑ No

MOST COMMON REASONS FOR DISAPPROVAL

1. Incomplete summary of codes, including missing code references and incorrect editions listed.
2. Sprinkler and fire alarm design documents, including hydraulic calculations, missing from submitted building permit plans when required.
3. Fire extinguisher locations missing from plans.
4. Insufficient remoteness of exits.
5. Point of service location on site plan not clearly shown.
6. ISO and necessary fire calculations not provided.
7. Incorrect spacing of sprinkler heads.
8. Incorrect spacing of fire alarm notification devices.
9. Incorrect or missing door ratings in fire-rated missing assemblies.
10. Incorrect locking devices on doors.
11. Lack of necessary egress from elevator lobbies.
12. Hold open devices shown without corresponding smoke detectors.
13. Incorrect color coding of fire hydrants.

This document is intended to be a guide and may not contain all requirements needed to obtain permits and approval from the City of Orlando.