









## FIRE PROTECTION GENERAL NOTES

JURISDICTION.

- 21. THE SPRINKLER CONTRACTOR SHALL BE A LICENSED, AUTHORIZED INSTALLER OF COMMERCIAL SPRINKLER SYSTEM AND SHALL HAVE HAD A MINIMUM OF THREE (3) YEARS OF EXPERIENCE IN THE INSTALLATION OF FIRE PROTECTION SPRINKLER SYSTEMS.
- 22. THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESIGN AND ENGINEERING OF THE SPRINKLER SYSTEM. THE SPRINKLER SYSTEM SHALL BE:
  - DESIGNED TO CONFORM WITH BUILDING STRUCTURAL. MECHANICAL. AND ELECTRICAL

SYSTEM, AS INDICATED AND DESCRIBED ON THE CONTRACT DOCUMENTS.

A DESIGNED SYSTEM IN ACCORDANCE WITH NFPA 13, 2019 AND SPECIFICATION

- ACCEPTABLE TO THE FIRE MARSHAL AND OR ALL LOCAL AUTHORITIES HAVING
- 23. THE SPECIFICATIONS, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE AUTHORITIES HAVING JURISDICTION, FULLY COORDINATED SHOP DRAWINGS, CAPACITY DATA, HYDRAULIC CALCULATIONS AND CATALOG CUTS OF PIPE, FITTINGS, SPRINKLER HEADS, HANGERS, SUPPORTS, VALVES, SPRINKLER, AND PIPING LAYOUT. DESIGN PLAN AND CALCULATIONS SHALL BE PREPARED AND SIGNED/SEALED BY A REGISTERED FIRE PROTECTION ENGINEER IN ACCORDANCE WITH UCF REQUIREMENT OR BY A NICET LEVEL III/IV TECHNICIAN.
- 24. THE SPRINKLER SYSTEM SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION CODE, AND ALL LOCAL AUTHORITIES HAVING JURISDICTION.
- 25. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTING OF ANY OR ALL PARTS OF THE WORK AS REQUIRED BY AUTHORITIES HAVING JURISDICTION AND PAY ALL CHARGES FOR
- 26. ALL SIZES AND CRITERIA ARE MINIMUM REQUIREMENT. ALL EQUIPMENT. PIPES. ETC. SHALL BE SIZED BY THE SPRINKLER CONTRACTOR.
- 27. ARCHITECT / ENGINEER SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE FLOW TEST DATA OR PERFORMING AN UPDATED FLOW TEST AS PER NFPA 13 AND NFPA 25.
- 28. SPRINKLER DRAINS SHALL DISCHARGE TO THE EXTERIOR OF THE BUILDING, IN A LOCATION THAT
- 29. AREA SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENT FOR OCCUPANCY PER
- 30. THE AUTOMATIC WET FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN SUCH A MANNER TO PREVENT THE SYSTEM PIPING OR SPRINKLER HEAD EXPOSURE TO TEMPERATURES LESS THAN 40 DEGREES F.
- 31. PAINT NEW SPRINKLER PIPING RED AND LABEL PER NFPA 13.

WILL NOT BE A NUISANCE OR CREATE A WET WALKING SURFACE.

32. ALL FIRE PROTECTION VALVES SHALL BE SUPERVISED.

NFPA 13.

- 33. CONTRACTOR SHALL PROVIDE COORDINATED PIPE SLEEVE DRAWINGS SHOWING ALL PENETRATIONS THROUGH FLOORS.
- 34. INSTALLER QUALIFICATIONS: CONTRACTOR'S RESPONSIBILITY SHALL INCLUDE DESIGNING, FABRICATING AND INSTALLING FIRE-SUPPRESSION SYSTEMS AND PROVIDING PROFESSIONAL ENGINEERING SERVICES NEEDED TO ASSUME ENGINEERING RESPONSIBILITY. CALCULATIONS BASED ON RESULTS OF FIRE-HYDRANT FLOW TEST.
  - A. ENGINEERING RESPONSIBILITY: PREPARATION OF WORKING PLANS, CALCULATIONS, AND FIELD TEST REPORTS BY A QUALIFIED PROFESSIONAL ENGINEER OR NICET LEVEL III/IV
- 35. WELDING: QUALIFY PROCESSES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX.
- 36. NFPA STANDARDS: FIRE SUPPRESSION SYSTEM EQUIPMENT, SPECIALTIES, ACCESSORIES. INSTALLATION AND TESTING SHALL COMPLY WITH THE FOLLOWING:

INSTALLATION OF SPRINKLER SYSTEMS. NFPA 13, 2019 NFPA 230, 2003 FIRE PROTECTION OF STORAGE. NFPA 101, 2018 LIFE SAFETY CODE. NFPA 72, 2019 FIRE ALARM CODE.

- 37. FIRE-SUPPRESSION SPRINKLER SYSTEM DESIGN SHALL BE APPROVED BY AUTHORITIES HAVING JURISDICTION.
- MARGIN OF SAFETY FOR AVAILABLE WATER FLOW AND PRESSURE: 10 PERCENT. INCLUDING LOSSES THROUGH WATER-SERVICE PIPING, VALVES, AND BACKFLOW PREVENTERS.
- 38. CONTRACTOR SHALL SUBMIT FOR REVIEW TO THE VA/COR A COMPLETE LIST OF ITEMS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. INCLUDING, BUT NOT BE LIMITED TO THE FOLLOWING:
- A. DIMENSIONED SHOP DRAWINGS OF MATERIALS, FIXTURES AND EQUIPMENT. DIMENSIONED SHOP DRAWINGS OF EQUIPMENT AND PIPING PLAN LAYOUT(S).
- 39. REQUIRED ITEMS TO BE SUBMITTED SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: A. PRODUCT DATA.
- APPROVED SPRINKLER PIPING DRAWINGS: WORKING PLANS, PREPARED ACCORDING TO NFPA, AND HAVE BEEN APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS.
- C. FIELD QUALITY-CONTROL TEST REPORTS
- D. FIELD TEST CERTIFICATES.
- OPERATION AND MAINTENANCE DATA.
- EQUIPMENT MANUALS.
- G. VALVE TAGS.
- 40. SPRINKLER SHALL BE THE APPROPRIATE TEMPERATURE RATING FOR LOCATION AND OCCUPANCY IN ACCORDANCE WITH NFPA 13.
- 41. SPRINKLER SHALL ALIGN WITH LIGHT FIXTURES AND OTHER CEILING MOUNTED DEVICES. COORDINATE SPRINKLER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS (RCP), AND PROVIDE ADDITIONAL SPRINKLERS WHERE REQUIRED TO ACCOMODATE THE RCP LAYOUTS.
- 42. PROVIDE HIGH TEMPERATURE RATED SPINKLER HEADS IN VACINITY OF KITCHEN HOODS.

PROVIDE DRY PIPE AUTOMATIC SPRINKLER HEADS FOR WALK-IN REFRIGERATORS AND FREEZERS.

PROVIDE WITH LISTED SPRINKLER GUARD FOR INSTALLATION BELOW 7-FT AFF.

#### FIRE PROTECTION GENERAL NOTES

- 44. FLEXIBLE CONNECTORS FLEXIBLE CONNECTORS SHALL HAVE MATERIALS SUITABLE FOR SYSTEM FLUID. INCLUDE 175 PSIG MINIMUM WORKING-PRESSURE RATING AND ENDS ACCORDING TO THE FOLLOWING:
  - NPS 2 AND SMALLER: THREADED. NPS 2-1/2 AND LARGER: GROOVED FOR USE WITH GROOVED-END PIPE COUPLING.
- STAINLESS STEEL HOSE/STEEL PIPE, FLEXIBLE CONNECTORS: CORRUGATED, STAINLESS STEEL, INNER TUBING COVERED WITH STAINLESS-STEEL WIRE BRAID. INCLUDE STEEL NIPPLES OR FLANGES. WELDED TO HOSE.

INCLUDE STAINLESS STEEL NIPPLES OR FLANGES, WELDED TO HOSE.

- C. STAINLESS STEEL HOSE/STAINLESS STEEL PIPE, FLEXIBLE CONNECTORS: CORRUGATED STAINLESS STEEL. INNER TUBING COVERED WITH STAINLESS STEEL WIRE BRAID.
- D. ALL CONNECTIONS AND FLEXIBLE HOSES SHALL BE FM APPROVED.

#### INTERIM LIFE SAFETY MEASURES - ILSM

- CONTRACTOR WITH VA SUPERVISION WILL DRAIN THE FIRE PROTECTION ZONE FOR THE PROJECT AREA/SPACE.
- CONTRACTOR TO THEN WORK ON FIRE PROTECTION PIPING AS INDICATED.
- 3. CONTRCTOR WITH VA SUPERVISION WILL THEN REFILL THE FIRE PROTECTION SYSTEM WITH WATER.
- 4. CONTRACTOR SHALL INSPECT ALL TEMPORARY CAPS AT SPRINKLER HEAD LOCATIONS FOR ANY WATER FLOW.
- AT COMPLETION PHASE OF WORK THE CONTRACTOR WITH VA SUPERVISION WILL DRAIN THE FIRE PROTECTION SYSTEM.
- 6. ONCE THE FIRE PROTECTION SYSTEM IS DRAINED, CONTRACTOR SHALL FURNISH AND INSTALL FINAL BRANCH PIPING TO FIRE PROTECTION MAIN LINES. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY SMOKE DETECTORS AT ALL PROJECT ROOMS AND SPACES DURING CONSTRUCTION PHASE OF WORK, FURNISH AND INSTALL TEMPORARY CONDUITS, WIRING AND DEVICES AND CONNECT TO EXISTING FIRE ALARM CONTROL PANEL. CONTRACTOR SHALL CONSULT WITH VA FIRE ALARM CONTROL COMPANY AND PERFORM A CERTIFICATION TESTING THAT TEMPORARY DEVICES ARE IN OPERATION AND SUBMIT WRITTEN REPORT. AT PROJECT COMPLETION PHASE CONTRACTOR SHALL REMOVE TEMPORARY HEAT DETECTORS AND RESPECTIVE FIRE ALARM WIRING AND CONDUITS.
- 7. CONTRACTOR IS REQUIRED TO INSTALL UPRIGHT HEADS WHERE CEILING IS REMOVED OR PROVIDE HOURLY FIRE WATCH.
- 8. WHEN SPRINKLER SYSTEM IS DRAINED, PROVIDE FIRE WATCH OR TEMPORARY HEAT DETECTOR SYSTEM.

### FIRE PROTECTION DELEGATED - DESIGN NOTE

THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND PROVIDING A COMPLETE, FUNCTIONAL, AND CODE COMPLIANT AUTOMATIC SPRINKLER SYSTEM. REFER TO GENERAL NOTES FOR ADDITIONAL DETAIL CONCERNING DESIGN. FLOW PRESSURE TEST. HYDRAULIC CALCULATIONS PER NFPA 13, 14, TO BE SUBMITTED, COORDINATION, AND SHOP DRAWINGS REQUIREMENTS.

#### FIRE PROTECTION SPRINKLER SCHEDULE

SP-1: QUICK RESPONSE SPRINKLER WITH SMALL THERMOSENSITIVE GLASS BULB, MIN. PRESSURE 7 PSI, UL LISTED, WHITE FINISH, K=5.6, 165°F, SEMI-RECESS, ADJUSTABLE ESCUTCHEON.

PROVIDE HIGH TEMPERATURE RATED SPRINKLERS IN VESTIBULES. PROVIDED WITH LISTED SPRINKLER GUARD FOR INSTALLATION BELOW 7-FT AFF.

### FIRE PROTECTION SPRINKLER SCHEDULE

|            | SYMBOL | TYPE                         | RE. | K-F | FINISH | REMARKS |
|------------|--------|------------------------------|-----|-----|--------|---------|
| E          | *      | SEMI-RECESSED DRY<br>PENDENT | QR  | 5.6 |        | NOTE 1  |
| <b>G</b> : | •      | SEMI-RECESSED<br>PENDENT     | QR  | 5.6 | WHITE  | NOTE 2  |
| ΤΟ         | 0      | UPRIGHT                      | QR  | 5.6 | BRASS  | NOTE 2  |
| j          |        | SIDEWALL                     | QR  | 5.6 | WHITE  | NOTE 2  |
|            |        | DRY SIDEWALL                 | QR  | 5.6 | WHITE  | NOTE 2  |
|            |        |                              |     |     |        |         |

### **GENERAL NOTES:**

- 1. SPRINKLER SHALL BE THE APPROPRIATE TEMPERATURE RATING FOR LOCATION AND OCCUPANCY IN ACCORDANCE WITH NFPA 13.
- SPRINKLER SHALL ALIGN WITH LIGHT FIXTURES AND OTHER CEILING MOUNTED DEVICES. COORDINATE SPRINKLER LOCATIONS WITH ARCHITECT'S REFLECTED CEILING PLAN, AND PROVIDE ADDITIONAL SPRINKLERS WHERE REQUIRED TO MAINTAIN THE CEILING LAYOUT OF ALL DISCIPLINES. FIXTURES. EQUIPMENT AND WORK.

PROVIDE HIGH TEMPERATURE RATED SPRINKLERS IN VESTIBULES. 2. PROVIDED WITH LISTED SPRINKLER GUARD FOR INSTALLATION BELOW 7-FT AFF.

### FIRE PROTECTION DESIGN CRITERIA

| HAZARD                     | AREA   | DESIGN CRITERIA | HOSE<br>(GPM) | MAX<br>SPACING | DESIGN BASIS  | REMARKS           |
|----------------------------|--|-----------------|---------------|----------------|---|-------------------|
| LIGHT HAZARD<br>GROUP 1    | OFFICE AREAS / PUBLIC AREA /<br>CORRIDORS / RESTROOMS / LOBBY /<br>CONFERENCE ROOMS / BREAK ROOM | 0.10/1500 SQFT  | 100           | 225 SQFT       | NFPA 13 SECTIONS<br>4.3.2, 19.3.3.2 & TABLE<br>19.3.3.1.2 | NOTES 1, 2, AND 3 |
| ORDINARY<br>HAZARD GROUP 1 | ELECTRICAL / MECHANICAL /<br>SERVER / IT SERVER  | 0.15/1500 SQFT  | 250           | 130 SQFT       | NFPA 13 SECTIONS<br>4.3.3, 19.3.3.2 & TABLE<br>19.3.3.1.2 | NOTES 1, 2, AND 3 |
| ORDINARY<br>HAZARD GROUP 2 | COMMERCIAL KITCHENS /<br>STORAGE   | 0.2/1500 SQFT   | 250           | 130 SQFT       | NFPA 13 SECTIONS<br>4.3.4, 19.3.3.2 & TABLE<br>19.3.3.1.2 | NOTES 1, 2, AND 3 |

- HYDRAULIC AREA OF OPERATION SHALL BE INCREASED (CUMULATIVELY) WITHOUT REVISING THE DENSITY FOR THE FOLLOWING APPLICATIONS: INCREASED BY 30% FOR AREAS WITH SLOPED CEILINGS WITH A PITCH EXCEEDING 1 IN 6 (16.7%) SLOPE IN ACCORDANCE WITH NFPA 13
- INCREASED TO 3,000 SQFT IF THE BUILDING HAS ADJACENT, NON-SPRINKLERED COMBUSTIBLE SPACES. THE ABOVE CRITERIA NOTED DOES NOT PRECLUDE THE USE OF EXTENDED COVERAGE OR LISTED SPECIAL APPLICATION SPRINKLERS THAT ARE
- DESIGNED AND INSTALLED IN ACCORDANCE WITH THEIR LISTING AND MANUFACTURER REQUIREMENTS. THE HOSE STREAM ALLOWANCE SHALL BE PROVIDED AT THE BASE OF RISER.

FIRE PROTECTION ABBREVIATION LIST

| SYMBOL   | DESCRIPTION                   |  |  |  |
|----------|-------------------------------|--|--|--|
| AFF      | ABOVE FINISH FLOOR            |  |  |  |
| AHJ      | AUTHORITY HAVING JURISDICTION |  |  |  |
| DP       | DRY PENDENT                   |  |  |  |
| DN       | DOWN                          |  |  |  |
| DS       | DATA SHEET                    |  |  |  |
| EC       | EXTENDED COVERAGE             |  |  |  |
| EX       | EXISTING                      |  |  |  |
| FHV      | FIRE HOSE VALVE               |  |  |  |
| FM       | FACTORY MUTUAL                |  |  |  |
| FP       | FIRE PROTECTION               |  |  |  |
| FPC      | FIRE PROTECTION CONTRACTOR    |  |  |  |
| FT       | FEET                          |  |  |  |
| GC       | GENERAL CONTRACTOR            |  |  |  |
| HT       | HIGH TEMPERATURE              |  |  |  |
| IN       | INCH                          |  |  |  |
| K-F      | SPRINKLER K-FACTOR            |  |  |  |
| NIC      | NOT IN CONTRACT               |  |  |  |
| PC       | PLUMBING CONTRACTOR           |  |  |  |
| QR / QRS | QUICK RESPONSE                |  |  |  |
| SPR      | SPRINKLER RESPONSE            |  |  |  |
| SR       | STANDARD RESPONSE             |  |  |  |
| SS       | STANDPIPE SYSTEM              |  |  |  |
| SSP      | STANDARD PENDENT SPRINKLER    |  |  |  |
| SSU      | STANDARD UPRIGHT SPRINKLER    |  |  |  |
| STND     | STANDARD                      |  |  |  |
| THR      | THREADED                      |  |  |  |

# HYDRANT FLOW PRESSURE TEST

| HYDRANT<br>NO. | LOCATION          | DATE<br>TESTED | STATIC<br>PRESSURE | RESIDUAL<br>PRESSURE | GPM |
|----------------|-------------------|----------------|--------------------|----------------------|-----|
| 8              | SW #5<br>BLDG 500 | 10 / 2017      | 50                 | 24                   | 750 |

ARCHITECT/ENGINEER OF RECORD

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Office of Construction

and Facilities Management

AND ABBREVIATIONS **Approved: Project Director** 

Drawing Title
FIRE PROTECTION - GENERAL NOTES, SYMBOLS,

**BID DOCUMENTS** SUBMITTAL

VA CONTRACT NO: 36C24519C0171 **Project Title Project Number** 613-19-103 RENOVATE/UPGRADE NUTRITION & **Building Number** FOOD SERVICE KITCHEN 500 **Drawing Number** Location 510 BUTLER AVENUE, MARTINSBURG, WV 25405 **Issue Date** 

Checked JPK

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CONSULTANT

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of Veterans Affairs

FULLY SPRINKLERED

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Date:

BANCROFT ARCHITECTS + ENGINEERS

STAMP

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