

Date: April 28, 2016

Project name: King of Prussia Town Center

City/ State: Upper Merion, PA

Landlord's Vendor Contact:

Daniel Morrin Jr., SET, NICET Certified, Level IV #115035

NECCO Security Company Inc. | Phone: (215) 638-7999

Email: dan@neccosecurity.com

Fire alarm system specification for retail buildings where the landlord is responsible for the base fire alarm system, monitoring of the sprinkler equipment and central station monitoring

Please read thoroughly. This guideline is specific to the King of Prussia Town Center. For adopted codes and local requirements visit <http://www.umtownship.org/> or contact the Upper Merion Township Fire Marshal's office at (610) 205-8507. All local and state requirements supersede this specification. Any separate contractual agreement(s) between the tenant and the landlord supersede this specification.

PART 1.0 - GENERAL

1.1. SCOPE:

- A. Where the landlord is responsible for the base fire alarm system, monitoring of the sprinkler equipment within the landlord room and central station monitoring, this specification shall be met. A Fire Lite MS9200UDLS addressable fire alarm system is installed in the landlord room or designated area by the landlord's fire alarm vendor (NECCO Security.) The system monitors all central sprinkler equipment (water flows, control valves, room temperature) within the landlord room. Each tenant will be responsible to design the portion of the system for their space and install OR have NECCO Security install their required/ non-required fire alarm devices (horn/ strobes, duct smokes, smoke detectors etc;) and prior to installation, will contract & coordinate tie in with the landlord's fire alarm vendor (NECCO Security) to form one complete, addressable system. See Section 4.0
- B. Each tenant is responsible for their own design and permit with the township. Visit <http://www.umtownship.org/> for more information and township requirements.
- C. **Monitoring of separate fire alarm control panels within each space will not be accepted by the owner and township.**
- D. The addressable devices shall be manufactured by **Fire Lite**. Notification appliances (Horn/ strobes) shall be manufactured by **System Sensor, Cooper Wheelock, or Gentex**. There will be no exceptions.
- E. Basic Performance:
 1. Any fire alarm from any tenant or general space will only activate all notification appliances throughout the entire building.
 2. Alarm, trouble and supervisory signals from all intelligent reporting devices shall be encoded on NFPA Style 4 (Class B) Signaling Line Circuits (SLC).
 3. Initiation Device Circuits (IDC) shall be wired Class B (NFPA Style B) as part of an addressable device connected by the

- SLC Circuit.
4. Notification Appliance Circuits (NAC) shall be wired Class B (NFPA Style Y) as part of an addressable device connected by the SLC Circuit.

1.3. SUBMITTALS

A. General:

1. One copy of all **Upper Merion Township** approved submittals shall be submitted to the Landlord's vendor for review in electronic format (.dwg or .pdf) Send to **service@neccosecurity.com**. Visit <http://www.umtownship.org/> for more information and township requirements.

B. Software Modifications

1. At the expense of the tenant, the Landlord's fire alarm vendor (*NECCO Security) will provide all hardware, software, programming tools and final documentation necessary to modify the fire alarm system panel on site for that tenants specific needs. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones.

1.4. APPLICABLE STANDARDS AND SPECIFICATIONS:

A. Visit <http://www.umtownship.org/> for more information and township requirements.

PART 2.0 PRODUCTS

2.1. EQUIPMENT AND MATERIAL, GENERAL:

A. All equipment and components shall be new, and manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a fire protective signaling system, meeting the National Fire Alarm Code NFPA 72.

B. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.

C. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings, wall mount horn/ strobes shall utilize electrical boxes). Fasteners and supports shall be adequate to support the required load.

D. All equipment is available through the Security Equipment Distributor (SED) market and can be installed by dealerships independent of the manufacturer as long as they meet this specification.

2.2. CONDUIT AND WIRE:

A. Conduit:

1. Conduit shall be in accordance with The National Electrical Code (NEC), local and state requirements.
2. Where required, all wiring shall be installed in conduit or raceway. Conduit fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single conduit.
3. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, per NEC Article 760-29.
4. Wiring for 24-volt DC control, alarm notification, emergency communication and similar power-limited auxiliary functions may be run in the same conduit as initiating and signaling line circuits. All circuits shall be provided with transient suppression devices and the system shall be designed to permit simultaneous operation of all circuits without interference or loss of signals.
5. Conduit shall not enter the fire alarm control panel or any other remotely mounted control panel equipment or back boxes, except where conduit entry is specified by the FACP manufacturer.
6. Conduit shall be 3/4-inch (19.1 mm) minimum.

B. Wire:

1. All fire alarm system wiring shall be new.
2. Wiring shall be in accordance with local, state and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer. SLC wiring shall be minimum 16/2 twisted, **non-shielded** FPL/ FPLR/ FPLP as required. NAC wiring shall be minimum 14/2 twisted, **non-shielded** FPL/ FPLR/ FPLP as required.
3. All wire and cable shall be listed and/or approved by UL for use with a protective signaling system.
4. Wire and cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NEC 760 (e.g., FPLR, FPLP). Cabling installed in plenum areas shall be rated for plenum (e.g., FPLP.)
5. All field wiring shall be electrically supervised for open circuit and ground fault.
6. The fire alarm control panel is capable of T-tapping Class B (NFPA

Style 4) Signaling Line Circuits (SLCs).

C. Terminal Boxes, Junction Boxes and Cabinets:

1. All boxes and cabinets shall be UL listed for their use and purpose.

2.3. MAIN FIRE ALARM CONTROL PANEL:

A. The FACP (Fire-Lite Model MS-9200UDLS) is provided by the landlord, is installed in the Landlord room or designated space and is maintained by the Landlord's vendor.

B. System Capacity and General Operation

1. The control panel provides, or is capable of, expansion to 198 intelligent/addressable devices (99 detectors/ 99 modules.)

C. NAC panels shall be either Fire Lite FCPS-24FS6 or 8 as required, there will be no exceptions. The FCPS is a device designed for use as a booster for powering Notification Appliances (horn/ strobes.)

1. Each FCPS shall have a smoke detector installed above it, regardless of the exception in NFPA 72- 2007.

2. The FCPS input trigger shall be via a Fire Lite CMF-300 control module mounted inside of the FCPS cabinet. Power through the CMF-300 will be derived from the FCPS, and therefore a power supervision relay is required. The Fire Lite CRF-300 must be utilized for selective silence, and is mounted outside of the FCPS cabinet. See FCPS manual for exact wiring information.

3. Each FCPS shall provide master synchronization of all connected strobes or horn strobe combinations within the tenant space. When the silence button is pressed, strobes will continue to flash until the system has been reset.

4. Each FCPS shall be mounted within the tenant space it serves, and receive primary power from the tenant it serves. Circuit breaker shall be mechanically protected, have a red marking and be identified as "Fire Alarm Circuit." The circuit disconnecting means shall be identified inside the cabinet door of the FCPS.

2.4. SYSTEM COMPONENTS - ADDRESSABLE DEVICES (also see attached data sheets):

A. Addressable Pull Box (manual station)

1. Where installed, addressable pull boxes shall be Fire Lite BG-12LX.

B. Detectors

1. Detectors shall be addressable and intelligent, and shall connect with

two wires to the fire alarm control panel signaling line circuit.

C. Duct Smoke Detectors

1. New and Existing (Shell) Duct smoke detectors including factory installed duct smoke detectors must be independently powered from the HVAC units they serve at the responsibility of the tenant. Turning the unit off for maintenance or filter replacement shall not cause duct smoke detector to lose power and therefore cause a trouble at the FACP. Power must be derived from within the tenant space.

2.5. BATTERIES:

- A. Batteries must be new and dated at time of installation.

PART 3.0 - EXECUTION

3.1. INSTALLATION:

A. Installation shall be in accordance with the current NEC, NFPA 72, local and state codes (**visit <http://www.umtownship.org/> for more information and township requirements**) and as recommended by the major equipment manufacturer.

B. Smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.

3.2. TESTING:

*NECCO Security will provide the service of a factory-trained technician authorized by the manufacturer of the fire alarm equipment. A technician shall be *provided to technically supervise and participate during all of the adjustments and tests for the system, including AHJ acceptance tests.

3.3. FINAL INSPECTION:

- A. At the final township inspection of each tenant space, a *NECCO Security technician shall demonstrate that the system functions properly in every respect.
- B. *NECCO Security will update as-builts and Records of Completion as needed.

4.0 *RESPONSIBILITY

1. This service shall be provided at the expense of the tenant. Contact NECCO Security for a quote on coordinating, tie-in, programming and testing. Equipment/ turnkey installation is also available through NECCO Security as an additional option. Email service@neccosecurity.com or call 215-638-7999.