

# TECHNICAL CRITERIA

## KEIRLAND COMMONS



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ADDENDUM LOG

May, 2009	Generated (updated to current layout, no real prior TCM)
September, 2011	Waterproof membrane requirement updated
March, 2014	Distribution of utilities through exit corridors is prohibited with exception (t11)
October, 2014	At grade level electrical conduit is not allowed to be installed in the slab (t5)
December, 2014	Wiring language updated (t5, #9)
January, 2015	Language regarding the waterproofing membrane on page t9 revised. (t9)
March, 2015	Updated Plumbing content to list specific location for main water shut off valve to be at eye level. (t9)
April, 2016	Added Water Efficiency language. (t9)
February, 2018	Updated to new layout

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## TABLE OF CONTENTS

Electrical Criteria	t4-t5
General Design/Construction Coordination, Power Source, Telephone Service, Lighting	t4
Material/Equipment Specifications, Fire Alarm System - Life Safety	t5
Mechanical Criteria	t6-t8
General Design/Construction Coordination, Load Calculations, Exhaust Requirements	t6
Certified Air Balance Reports, Kitchen Exhaust Systems, Roof Penetrations, Building Management System	t7
Closeout Requirements	t8
Plumbing Criteria	t9-t10
General Design/Construction Coordination, Water Efficiency	t9
Gas Service, Ventilation	t10
Structural Criteria & Exit Corridors	t11

**General Design/Construction Coordination**

The electrical criteria is provided for the purpose of designing the Tenant's electrical system. This criteria is provided as a guideline for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

1. Conduit and raceway hangers, clamps, light fixtures, junction boxes, supports, etc. must be fastened to the top chord of the joists and/or beams. Do not attach directly to the slab, roof deck, ductwork, piping or conduit above.
2. Tenant's equipment in the Mall electric room must be clearly identified with Tenant's name and space number.
3. Provide access panels at all junction box locations and at smoke detectors above the ceiling.
4. All outlet boxes, floor boxes, wire raceways, power/telephone poles, plug-in molding, wiring devices, hanger supports and other items required for a complete distribution must be furnished and installed by Tenant.
5. Furnish and install power to roof top units, water heater, store fixtures, signage, music systems and any other fixtures or equipment provided by Tenant. All cutting and patching must be provided by Tenant.

Complete Engineered drawings must be submitted to the Landlord's Tenant Coordinator for review and approval.

Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for electrical design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

***The documents to be submitted for Landlord approval must include the following:***

1. Complete plans and specifications for all electrical work, including lighting, power and one line riser diagram. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.
2. Drawings must include panel schedules, load calculations and meter information.
3. Structural drawings must be submitted for all equipment that will be suspended from the steel structure.

**Power Source**

All work required to connect Tenant to the main power source must be performed by Landlord's designated electrician, at Tenant's expense. Exceptions to this requirement may be granted by the Tenant Coordinator.

Tenant is responsible for feeders to the Tenant space, installation of a dry type transformer, panels and complete distribution throughout the Tenant space. A General Electric demand check meter must be installed in the Mall electric room.

Landlord will provide the main power source for Tenant's connection. Power source will be 277/480v, 3 phase, 4 wire and will be available in the nearest Mall electric room. Tenants are responsible for installation of the fused buss duct disconnect switch and must pull the feeder wires to the Tenant's demised premises. Landlord will provide an empty 2" conduit with pull-wire from the mall electric room to the Tenant space. If a larger conduit is required, Tenant is responsible for installation of same from the power source to the demised premises.

**Telephone Service**

Tenants are required to contact the local Telephone Company for service and shall comply with their requirements. Tenant is responsible for installing a complete telephone system within their premises.

Lighting

Provide a lighting schedule for review in conjunction with a reflected ceiling plan. Lighting must conform to the following guidelines:

- 1. Display window lighting must be controlled by a time clock and be on during the hours the Shopping Center is open. Display window lighting at the ceiling must be glare-free and at approved levels at the storefront glass line.
- 2. Recessed incandescent down lights may be used.
- 3. Exit, emergency and night lights must be provided throughout, as determined by governing codes.
- 4. Fluorescent lighting in the sales area must be recessed and must use metal parabolic louver type lenses with a minimum of 18 cell configuration for a standard 2' x 4' fixture. Bare lamp fluorescent or fluorescent fixtures with acrylic prismatic lenses may be used only in concealed areas or stock rooms.
- 5. Track lighting may be used if the track is painted to match the ceiling color.

Tenant is responsible for lighting system control, including connection to the Building Management system and connection to the Fire Alarm system. All emergency lighting, exit signs, horns and strobes must be provided by Tenant as required by code.

Material/Equipment Specifications

- 1. Drawings must include complete material specifications including manufacturer's name and product number and complete schedules of all equipment and fixtures to be installed.
- 2. All material and equipment must be new and of a commercial grade and must bear Underwriter's labels where such labeling applies.
- 3. At grade level electrical conduit may be installed at least 4" under the slab and must be in Schedule 40 PVC conduit. But never allowed to be installed in the slab or less than 4" below slab.
- 4. Floor boxes must be watertight.
- 5. Pull boxes or junction boxes must be a minimum of 12 gauge galvanized steel outlets. Boxes in walls must be galvanized pressed steel or case metal. Caulk around boxes to eliminate noise transmission.
- 6. All main and branch feeders and circuitry wiring must be copper. All conductors to have 600 volt insulation type THW, THWN or THHN.
- 7. Convenience receptacles must be specification grade, 120 volt, 20 amps and be grounding type per NEC.
- 8. Manual or magnetic starters, switches, contactors, relays, time switches, safety devices, dimmers and other controls must be commercial type with heavy duty ratings and must be installed in strict conformance with

- the manufacturer's recommendation and applicable codes.
- 9. Any exposed low voltage wiring must be plenum graded.
- 10. All wiring of any type must be installed in conduit or must be armored cable (BX). Armored cable will only be allowed for concealed branch circuit wiring within the demised premises. Exposed and/or open wiring of any kind will not be allowed. Flexible conduits must be used for connections to vibrating equipment.

Fire Alarm System - Life Safety

- 1. Tenant must provide a complete fire alarm detection system within the Tenant space as an extension of the Landlord's building-wide addressable fire alarm system.
- 2. Tenant is required to use Landlord's designated contractor for installation of the necessary smoke detectors and connection to the main fire alarm system. System must comply with the requirements of the governing authority.
- 3. All emergency lighting, exit signs, horns and strobes must be provided by Tenant as required by code.



## General Design/Construction Coordination

The mechanical criteria is provided for the purpose of designing the Tenant's heating, ventilating and air conditioning system. This criteria is provided for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

Complete Engineered drawings must be submitted to Landlord's Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for mechanical design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

All mechanical equipment, vent stack, pipes etc. are to be painted to match existing rooftop equipment. Where no rooftop equipment exists, see Center Operations Manager for color specification.

***The documents to be submitted for Landlord approval must include the following:***

1. Complete plans and specifications covering the heating, ventilating and air conditioning system. Show make, type and performance of all equipment. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.
2. Calculations showing the heating and cooling required, including transmission and ventilation losses in the

space and heat and cooling provided for the ventilation supply and exhaust required for the space. Calculations shall be as described in "Load Calculations" included below.

3. Temperature control system data showing make, control and energy management systems.
4. Exhaust system layout including CFM and equipment specifications.
5. Structural details for support of all roof top equipment and equipment suspended from the steel structure.

## Load Calculations

The Tenant must perform all calculations in accordance with methods set forth in the latest American Society of Heating, Refrigeration and Air Conditioning Engineers' Guide and Data Book and in accordance with good engineering practice. All calculations must be tabulated in a concise, orderly manner.

Heating load calculation: All spaces must be calculated to maintain the minimum space temperatures in sales and public spaces of 68°F and 50°F in non-public spaces.

Cooling load calculation: All spaces must be calculated to maintain the minimum space temperature of 73°F and a maximum relative humidity of 55°F and shall take into account all interior heat producing items such as people, equipment, roof and exterior walls.

The Tenant is required to submit calculations indicating the heating and cooling loads for the space and calculations for exhaust and make-up air.

Tenants must design for a maximum noise criteria of NC40 for all spaces except kitchens and other similar work areas.

## Exhaust Requirements

Tenants whose operation produces objectionable odors such as restaurants, pet shops, hair salons, nail salons and the like must maintain 10% negative air pressure with respect to the Mall by providing make-up air equal to 90% exhaust air volume. Tenant may be required to provide, at Landlord's discretion, a separate make-up outside air supply system to balance Tenant's exhaust system. Spaces that require exhaust must be designed to provide negative air pressure relative to adjoining conditioned spaces to prevent odor transfer.

Roof mounted exhaust fans must be ducted to ceiling grilles located approximately in the center and rear of the demised premises and specifically near the area where the odors are generated. The system shall be designed to cause the exhaust air to gravitate from the Mall common area to the odor producing area and then exhausted out.

Air filtration systems and bathroom exhaust fans are not acceptable solutions.

# MECHANICAL CRITERIA

## KEIRLAND COMMONS

CONTINUED

The exhaust fan must be interlocked with the light switches for the store customer service area.

The combined HVAC and exhaust system must be in operation during all hours that the Tenant is open for business.

Building B1A uses a shared cooling tower and Tenants must tie into it using a WSHP unit. No new taps are allowed in the existing hydronic system, the existing condensor water piping must be extended or re-sized as necessary at Tenant's expense. In all other buildings the Tenant provides their own package unit or split system HVAC.

### Certified Air Balance Reports

Certified Air Balance Reports are to be completed by an AABC Certified contractor.

### Kitchen Exhaust Systems

Kitchen exhaust systems are subject to Landlord's review to ensure the exhaust does not compromise the ventilation air of adjacent Mall roof top units. Kitchen exhaust systems are subject to the following criteria:

1. The exhaust fan must be a SWSI centrifugal fan which must be fitted with a minimum 10'-0" stainless steel upblast. Guy wires must be attached to the roof in order to secure the stack. Use the Mall roofer for connection of the guy wires.
2. A "Grease Guard" grease containment system (or approved equal) must be installed to protect the Landlord's roof. A quarterly maintenance program must be in-place for the grease containment units. Proof of the maintenance contract must be presented to Landlord prior to the store opening.

### Roof Penetrations

If use of roof top units, roof-type supplemental supply, condensing units or exhaust air units by the Tenant is permitted by the Landlord, units must be located on that part of the roof of the building directly above the demised premises as designated by Landlord. Tenant must provide and install all necessary piping and other necessary appurtenances for the operation of the roof top equipment. To the extent any of Tenant's equipment is to be located on the roof, the Tenant agrees to erect roof units in accordance with the requirements of the Landlord and the Tenant further agrees to repair any and all damage to the roof and structure caused by hoisting installation and the maintenance and/or servicing of such equipment, all of which must be at the sole cost and expense of the Tenant.

The Tenant must furnish and install all curbs, supports, lintels, pipes, ducts, vent caps, air inlets, exhaust hoods, louvers, flashings, counterflashing, etc. as required for any equipment requiring openings through the roof and/or exterior walls. The use of curb adapters is not allowed.

The Landlord has the right to inspect the quality of the work and approve locations and, if found unsatisfactory, reject same.

All cutting, patching and restoring of roofing is to be done by the Landlord's roofing contractor at the Tenant's expense. All repairs, maintenance and damage to the roof and/or

building due to Tenant’s installation must be at the Tenant’s cost and expense.

**Building Management System**

If applicable, Tenant must connect to the Mall’s existing Energy Management System. In the process of Tenant renovation, the system must be upgraded to meet current criteria at Tenant’s expense. Tenant must contact Landlord’s designated contractor for the purchase and installation of the necessary controls and connection to the main control panel.

Duct mounted smoke detectors are required and must be connected to the main fire alarm panel, if applicable. Each duct smoke detector must have a remote key operated reset/test device mounted within the Tenant space and an addressable relay module. Use Landlord’s designated contractor for connection to the main fire alarm loop.

**Closeout Requirements**

- 1. Tenant must submit as-built drawings and certified air balance reports prior to construction close out showing the exact location of all equipment and duct work.
- 2. Tenant is required to properly abandon old and unused roof top equipment (HVAC units, exhaust fans, etc.) by full removal, including curb with an appropriate metal deck and roof material patch. All roofing work must be performed by the Mall approved roofing contractor.
- 3. Pavers must be placed around the roof top equipment and from the main pathway to the equipment in order to protect the roof from traffic.

*Building B1A uses a shared cooling tower and Tenants must tie into it using a WSHP unit. No new taps are allowed in the existing hydronic system, the existing condenser water piping must be extended or re-sized as necessary at Tenant’s expense. In all other buildings the Tenant provides their own package unit or split system HVAC.*



**General Design/Construction Coordination**

The following criteria is provided for the purpose of designing the Tenant's plumbing system. This criteria is provided for Tenant's Engineer. It is the Tenant's responsibility to verify existing conditions and comply with all applicable codes and standards.

Complete Engineered drawings must be submitted to Landlord's Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for plumbing design, nor does the Landlord accept responsibility for the Tenant's adherence to governing codes.

***The documents to be submitted for Landlord approval must include the following:***

Complete plans and specifications covering the complete plumbing system. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.

The Tenant shall provide a complete plumbing system for the Tenant space. The Landlord has provided connections in each Tenant space for sanitary waste and potable cold water.

Every Tenant must install and label a main water shut-off valve at eye level in the restroom.

Tenant is responsible for all plumbing including toilets, sinks, urinals, drains, hot water heaters, water coolers and connections into existing water and sewer lines.

**Water Efficiency**

1. The Tenant is required to install waterless urinals in tenant restrooms when urinals are used.
2. Low-Flow water closets using 1.6 GPF or less gallons per flush will be installed in all tenant spaces.
3. Operation sensors and low-flow heads using 0.5 GPM or less in lavatories.

Tenant shall provide a main water shut off valve located at eye level in a wall behind a labelled access door. Locate in or near employee restroom as designated by Landlord.

All domestic supply lines shall be copper. Sanitary and vent lines traversing the ceiling area to be cast iron or copper (no PVC). Tenant will utilize electric water heaters for domestic hot water.

Every Tenant must install a handicapped restroom facility with a minimum of one water closet and one lavatory and in accordance with local code officials.

High water usage Tenants (food tenants, salons, pet shops, etc.) must install a water meter to measure the amount of water used must be installed by the Tenant below the lava-

tory. If applicable, second level restrooms must install a floor drain. Mop sinks and water fountains must be installed per local code requirements.

Tenant must install clean outs as required by code and Landlord's requirements and these shall terminate flush with the finish floor or wall. No clean outs are permitted above the ceiling.

Garbage disposals are not allowed.

Hair salons and pet shops shall provide hair and solids interceptors on all sinks and basins which may receive human or animal hair. After installation, these hair interceptors shall be properly maintained so as to keep the sanitary system free from any adverse conditions.

Except with Landlord's prior written permission for non-compliance, all pot sinks, scullery sinks, pre-wash sinks and other kitchen units must be connected to a grease trap. Dishwashers may not be connected to grease trap.

Waterproofing must be installed in all "wet areas" such as kitchens, restrooms, mop sinks, drinking fountains, etc. The waterproof membrane must extend 4" vertically on all demising walls. This membrane will be water tested by the General Contractor and inspected and signed off by Mall Personnel. If the membrane fails the water test, it must be replaced.

# PLUMBING CRITERIA

## KEIRLAND COMMONS

CONTINUED

Food service, hair salons or other Tenants with equipment or operations that have the possibility of backflow will be required to install an approved backflow preventer. These must be certified and acceptable to the water district and checked yearly or as required by the local authority having jurisdiction.

Tenants on the upper level must coordinate with lower level Tenants and the Landlord for floor penetrations and any plumbing under the upper level floor/deck. Tenant will be responsible for all cost associated with this work.

Tenants must submit calculations to the Landlord which show the size selection or basis of capacity of all equipment and piping.

### Gas Service

Gas is available at the Center for food Tenants only. Tenant, at its sole cost and expense and in compliance with local code must procure gas service to and within the demised premises and will make all necessary arrangements with the local Gas Company for such service. Tenant is responsible for installation of a gas meter at the gas meter header.

Pressure regulators and piping required for connection to Tenant's equipment is the responsibility of the Tenant. Coordinate with Landlord for regulator vent routing.

Gas piping on the roof must be placed on pillow blocks or similar arrangement.

### Ventilation

Tenants will provide vertical exhaust ducts at a location designated by Landlord. All hood exhaust must be connected to vertical duct in accordance with code. Tenants are required to provide for the upkeep and maintenance for such vertical exhaust duct and related devices and materials.

All sanitary sewer and plumbing vent piping shall comply with all local codes.

# STRUCTURAL CRITERIA

## KEIRLAND COMMONS

The following criteria is provided for the purpose of designing the Tenant’s structural drawings. This criteria is provided as a guideline for Tenant’s Engineer. It is the Tenant’s responsibility to verify existing conditions and comply with all applicable codes and standards.

Complete Engineered drawings must be submitted to the Landlord’s Tenant Coordinator for review and approval. Landlord will review the plans for conformance to basic Mall requirements. The Landlord does not review for design, nor does the Landlord accept responsibility for the Tenant’s adherence to governing codes.

Building B1A is above an underground parking garage, no saw cutting or trenching allowed. All concrete boring or fastener attachment deeper than 3/4” requires x-ray.

***The documents to be submitted for Landlord approval must include the following:***

- Complete plans and specifications for all structural work. Documents must be signed and sealed by a Licensed Engineer in the state where the Shopping Center is located.

### General Requirements

1. The Tenant’s storefront must be structurally self-supported. Tenant may not support the storefront from the bulkhead or fascia. Structural support for Tenant storefronts must be from the roof joists for lateral bracing.
2. Fixtures and equipment may not be attached to or supported from the floor or roof deck.
3. Structural drawings are required for all items that require support from the steel structure or for all roof top equipment weighing 300 lbs. or more.
4. Joist reinforcing is required for roof top equipment as well as steel support for all roof openings.
5. Upper level Tenant’s must review base building structural drawings prior to installing a security safe, ovens or any equipment weighing 300 lbs. or more.

### Exit Corridors

Distribution of utilities through a newly constructed or an altered exit passageway is prohibited except for equipment and ductwork specifically serving the exit passageway, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the exit passageway.