
AT&T Practices

Seismic Access Floor Requirements for all Network Equipment Installations

written in CSI 10270 format

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1. Purpose

The attached specification dated: January, 1993, incorporates the network standardization for the NEW raised, Seismic Access Floor (SAF) system currently manufactured by: Tate Access Floors, Inc. The enclosed revisions to the RFP Exhibit A (draft) specifications dated June of 1992, per AT&T's National Purchasing Agreement - Contract No. CH923022AO; are minor.

The specification format employs the architectural and engineering construction industry standard; as published by Construction Specification Institute (CSI), and approved by the American Institute of Architects (AIA). This specification is presented using a multi-part format from (CSI) Masterspec's Table of Contents - Division #10, Section #10270 titled "Access Flooring"; MODIFIED to "Seismic Access Flooring" for the product system needed to meet AT&T network reliability concerns.

2. About This Document

Scope

This document establishes the criteria of a raised, Seismic Access Flooring System (SAF) for AT&T Network installations.

The document reflects the minor revisions to the Request For Proposal (RFP) Exhibit A specifications dated fourth quarter of 1992, per AT&T's National Purchasing Agreement (dated 2/12/93) - Contract No. CH923022AO.

Overview

- PART I: General - States the product by definition, contract issues and references to industry/product standards, related drawings, submittals, performance requirements, etc....
- PART II: Products - States Manufacturer(s) of, describes components as manufactured and assembled, accessories, overall quality assurance, fabrication tolerances, etc....
- PART III: Execution - States product installation within parameters of field conditions, protection, inspections, acceptance, etc....
- PART IV: System Details & Part Numbers (Attached) - States the complete system in graphic details with component numbers as per manufacturer.

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- PART V: Order Form (Attached) - Written request for manufacturer to submit an itemized material proposal including all accessories.
- PART VI: Emergency Order Verification Form (Attached) - Authorizes manufacturer to release "factory safety stock" held as emergency inventory.
- PART VII: Certification Letter (Attached) - States manufacturer's assurance that the guaranteed quality standards have been met.

An expeditious effort to issue this specification upon acceptance of the national purchasing agreement for materials with or without installation services for the floor system from a single vender to all required parties (Consultants and Contractors on a job basis), will best serve the company.

Ordering Information

The ordering number for this practice is 760-200-120. Additional copies are available for the AT&T Customer Information Center (CIC). You may order this practice by phone, FAX, or mail by contacting CIC.

Toll Free: 1-800-432-6600
Toll: 1-317-322-6557
FAX: 1-317-322-6484
Mail: AT&T Customer Information Center
Attn: Customer Service Rep.
P.O. Box 19901
Indianapolis, IN 46219

Use the document numerical identifier and issue number when ordering this practice. When placing your order, you must have your organization number, FML account number, and your FML location code. Documents may be purchased via check, money order, major credit card, or approved company purchase orders.

Please request to be placed on "*standing order*" when you place your order with CIC.

How to Comment on This Document

To suggest changes to the information in this document or to notify the authors of errors in this manual, please submit a comment form that is located at the end of this practice. If the comment form is missing, send your comments and recommendations to:

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AT&T
Manager
NSD Power and Infrastructure Development
Documentation Group
Room 21-2B27
1600 Osgood Street
N. Andover, MA 01845

Phone: 1-800-854-6228
FAX: (508) 960-6851
AT&T Mail: !powerdoc

Technical Comments

For resolutions regarding design layout, spaces (areas), uses and occupancy issues direct your comments to:

AT&T Network Environmental Design Standards Organization
Montford M. Clark
Room 3C120C
900 Routes 202/206 North, P.O. Box 752
Bedminster, NJ 07921-0752

Phone: 908-234-3035
FAX: 908-234-7208

For issues related to the design and/or performance of the SAF system direct your comments to:

AT&T Corporate Fire Protection Engineering Organization
Lawrence A. McKenna, Jr.
Room B2223
131 Morristown Road
Basking Ridge, NJ 07920

Phone: 908-204-8234
FAX: 908-204-8214

3. PART I GENERAL

1.0 General

This "Bidding" specification conforms to the Construction Specification Institute (CSI), Division #10.0 - Titled: Specialties, Section #10270 - Access Flooring. Revised to SEISMIC ACCESS FLOORING.

1.1 Intent

This specification establishes the criteria of a raised, Seismic Access Flooring System (SAF) for AT&T Network installations.

2.0 Related Documents

2.1 Contract/Drawings

Drawings and general provisions of Contract, including Supplementary Conditions of American Institute of Architects (AIA) Documents, Contract Agreements including Contract No. CH923022AO and Division #1.0 CSI Specification and AT&T "Practices" shall apply.

2.2 Owner's Instructions

The Manufacturer, including Dealer/Supplier and Installer, shall provide all materials and services in compliance with, and for the term of this agreement.

2.3 Owner's Equipment/Building Standards

The access floor system shall conform with current AT&T Central Office standards, and any additional requirements as coordinated with, and by the owner.

2.4 Government Inspections

Code officials may carry out inspections deemed necessary to ensure that the work/materials are in compliance.

2.5 Code Compliance

The project and all aspects shall conform to the authority holding jurisdiction as suitable for the use intended.

2.6 Time and Payment Schedule

Refer to the Bid Package, Construction Schedule, and Contract No. CH923022AO, in accordance with Article #8 which instructs General Contractor to purchase direct from TATE Access Floors, Inc. All progress payment(s) minus mutually agreed retainage for material installed and services rendered shall be made directly to Manufacturer no later than seven (7) days after receipt by General Contractor of payment(s) from AT&T per this contract.

3.0 Summary Seismic Access Flooring (SAF) System

3.1 General

This specification is the standard for the raised seismic access flooring system for use in all areas of the central office and telecommunication equipment facilities *but not in power room/areas.*

3.2 This Section

The WORK (floor) herein specified shall consist of all materials, procedures and equipment necessary for installation.

⇒ NOTE:

- a. Any material not specified herein or not shown on the drawings but required for the proper performance, operation and/or maintenance shall be furnished and installed.
- b. AT&T'S Network Environmental Design Standards Organization shall be contacted for any resolutions regarding design layout, spaces (areas), usage, and occupancies issues.

3.3 Related Sections (on a job basis)

The following CSI Sections and AT&T Technical Practices as edited by the architect, contain related requirements.

1.) _____ 3.) _____

2.) _____ 4.) _____

(Other)

3.4 Construction Documents

The complete architectural package will include floor plans, elevations, sections, details, seismic zone classification, quantities (if required), finished floor height (FFH), starting point as noted by Owner, and all accessories as required.

4.0 Definitions

4.1 Floor System

A complete portable assembly incorporating modular gravity-held formed steel panels on an elevated, mechanically anchored understructure (seismic pedestals) with bolted box stringers. Thus creating an accessible underfloor cavity for network services.



NOTE:

Underfloor cavity is not to be used as an air plenum.

4.2 Installation

The floor system can be installed in new or existing facilities where the product can be erected in a portion of, or on entire building floor. In new construction, if a depressed slab can be incorporated into the design to allow for future growth and be within budget, then the need for stair/ramp systems can be eliminated.

4.3 Accessibility

All panels shall be removable and interchangeable (except at cutouts) by one (1) person with portable lifting device.

4.4 System Stability

The completed floor must be free of squeaks, rattles, rocking, vibration, tight or loose fit, delamination, etc....

5.0 System Performance Requirements

5.1 General

Design, engineer, fabricate, ship, store, and install the floor system to comply with performance requirements specified herein.

5.2 Design Parameters

Design calculations meet requirements of seismic zone four (4) for establishing the structural integrity of network standardization of the elevated floor system.

5.3 Finished Height

Table A coordinates finished floor elevation with the type of pedestal used per seismic zone.

Pedestal Location as Shown on Construction Documents

⇒ NOTE:

- a. Pedestal "A" = Standard Seismic Pedestal Unit Assembly.
- b. Pedestal "B" = Heavy Duty Seismic Pedestal Unit Assembly.
- c. Diagonal seismic bracing is not required for any zone.

Table A: Finished Floor Height

Seismic Zone	Pedestal Type Used/Note Designed Floor Height 0 (zero) Pedestal ("A")/"C" 36 inches (three feet)
1 (one)	Pedestal ("A")/"C" 36 inches (three feet)
2A (two)A	Pedestal ("A & B")/"C" 36 inches (three feet)

Table A: Finished Floor Height

Seismic Zone	Pedestal Type Used/Note Designed Floor Height 0 (zero) Pedestal ("A")/"C" 36 inches (three feet)
2B (two) B	Pedestal ("A & B")/"C" 36 inches (three feet)
3 (three)	Pedestal ("A & B")/"C" 36 inches (three feet)
4 (four)	Pedestal ("A & B")/"C" 24 inches (two feet)

5.4 Structural Performance per CISCA/AF

Provide raised flooring capable of supporting the following loads tested in accordance with the applicable procedures in the Ceiling and Interior Systems Construction Association (CISCA), and the "Recommended Test Procedures for Access Floors (AF)", referred herein as CISCA/AF.

5.4.1 Floor Panels

Must be capable of supporting concentrated design loads of the following magnitude concentrated on 1.0 square inch.

A top surface deflection (under load) and a permanent set not to exceed 0.160 inch and 0.010 inch respectively; as measured above each applied load any where on the panel surface.

⇒ NOTE:

A "concentrated design floor load" requirement of 1,250 pound-force (LBF.) must be maintained.

5.4.2 Pedestal "A & B" Assemblies

Installed pedestals of either 24 or 36 inch unit assemblies (for ALL seismic zones without stringers and panels in place), shall be capable of withstanding the following loads on the new or existing building sub-floor to meet AT&T's Network equipment stability requirements.

5.4.3 Overturning Moment

Pedestal assemblies.

PEDESTAL "A" = 3,000 inch-pounds.

PEDESTAL "B" = 180,000 inch-pounds.

5.4.4 Overturning Moment

Pedestal head assemblies.

PEDESTAL "A" = 2,000 inch-pounds.

PEDESTAL "B" = 7,500 inch-pounds.

5.4.5 Axial Load

5,000 pounds for each pedestal assembly.

5.4.6 Lateral Force

Anchored pedestal assembly.

- PEDESTAL "A" (24 inch unit) = 300 lbs. ultimate.
- PEDESTAL "B" (24 inch unit) = 7,500 lbs. ultimate.
- PEDESTAL "A" (36 inch unit) = 200 lbs. with no yield.
- PEDESTAL "B" (36 inch unit) = 5,000 lbs. with no yield.

⇒ NOTE:

Lateral force is applied in a plane parallel to the baseplate at the pedestal's and in a direction in-line with the anchors.

5.5 Pedestal Location

The following Table B "Pedestal Location" coordinates the pedestal assembly types ("A and/or B") per square foot of each seismic zone; as located by the owner.

⇒ NOTE:

- a. Pedestal "A" = Standard Seismic Pedestal Assembly.
- b. Pedestal "B" = Heavy Duty Seismic Pedestal Assembly.

Table B: Pedestal Location

Seismic Zone	Pedestal Type Used	Square Footage
0 (zero)	Pedestal "A"	Used singularly throughout
1 (one)	Pedestal "A"	Used singularly throughout
2A (two)A	Pedestal "A", "B"	"A"=std., "B"=1/72 sq. ft
2B (two) B	Pedestal "A", "B"	"A"=std., "B"=1/72 sq. ft
3 (three)	Pedestal "A", "B"	"A"=std., "B"=1/64 sq. ft.
4 (four)	Pedestal "A", "B"	"A"=std., "B"=1/64 sq. ft

5.6 Stringers

Capable of supporting a concentrated load of 450 lbf. (pounds-force) at mid-span of pedestals without panels in place; and with a permanent set not to exceed 0.010 inch.

6.0 Total System Capable of Supporting the Following Loads

6.1 Ultimate Concentrated Load

Ultimate strength of the floor system shall have the loading capacity of 4,000 pounds. Failure is defined as "the point at which the panel no longer accepts the load".

6.2 Rolling Load

The panel shall sustain an applied load of 400 lbf. (pound-force) on CISCA/AF Wheel Test #1 for ten (10) passes. A maximum local and overall surface deformation not to exceed 0.040 inch, and a permanent local indentation not to exceed 0.020 inch.

6.3 Impact Loads

Design, engineer, fabricate and install floor panels within the system to withstand a 100 lbf.(pound-force) impact. This load when dropped from 12 inches onto a 1.0 square inch area anywhere on the panel surface will not exceed an indentation of 0.060 inch.

6.4 Earthquake Loads

Provide a seismic flooring system capable of withstanding stresses produced by lateral forces (measured as foot-pounds) of magnitude per Seismic Zone.

⇒ NOTE:

WIND LOADS: where wind load requirements produce higher stresses, such forces shall be used in lieu of the seismic loads as determined by the architect or engineer.

6.4.1 Seismic Classification

The Construction Documents (drawings) shall indicate the seismic zone per the latest applicable requirements of State and Local Building Codes. Refer to Part #1. "Finished Floor Height Table", paragraph #5.3; of this specification.

6.4.2 Lateral Forces (F_p) Calculation

Upon written request with "Signature of Non-Disclosure Agreement" the owner will provide required calculations and testing results used to develop this floor system. This information **EXCEEDS** the design requirements of the National Building Code formula.

The architect is to verify calculation compliance with regulatory agency's code requirements.

Calculate lateral forces (F_p) in accordance with the formula:

$$F_p = ZIC_p W_p \quad (\text{EQ 1})$$

The values for the following are based on requirements of ANSI A58.1 (Minimum Design Loads for Buildings and Other Structures); for the project within the specified seismic zone.

- Z = Seismic Coefficient = 1.000 (Zone #4).
- I = Occupancy Importance Factor = 1.000
- C_p = Horizontal Force Factor = 0.3 (code coefficient)
- W_p = Area of a single standard field panel in square feet by [(25 percent of Uniform Live Load in lbf./sq.feet.) plus (Dead Load consisting of weight of access floor in lbf./sq.feet. plus partition load in lbf. divided by sq.feet.)].
- UBC Uniform Load = 100 psf (computer room).
- Dead Load = Weight of Access Floor System Selected.

7.0 Electrical Resistance

7.1 General

Provide access flooring system with the following electrical resistance characteristics.

7.2 Static-control

Floor covering laminate resistance of not less than 500,000 ohms, nor more than 20,000 meg-ohms; as measured across the surface covering through panel to understructure. Using a modified test method of conductive flooring specified in chapter #3, NFPA 99.



NOTE:

Panel to understructure resistance of not more than 10 ohms.

7.3 Grounding (by owner)

Per the Network's requirements, the floor system shall be effectively grounded to the common building ground.

8.0 Fire Protection

8.1 General

The values required are based on NFPA 101, the Life Safety Code, and AT&T's Network Equipment Building System (NEBS) requirements for flammability protection of network equipment.

8.2 Certification

Manufacturer shall submit documentation/test data that the access floor system meets the following criteria.

⇒ NOTE:

- a. Separate tests shall be conducted on the upper and lower surfaces of the panel, and both surfaces must meet this criteria.
- b. The additional requirement for testing of the lower surface of the floor panels is included since there will be extensive cabling within the access floor cavity.

8.2.1 Flame Spread Rating

Shall not be greater than 25, and the smoke developed shall not be greater than 75; as measured by ASTM-E84, Standard Test Method for Surface Burning Characteristics of Building Materials. (FINISHED PANEL)

8.2.2 Critical Radiant Flux

Shall not be less than 0.45 watts per square centimeter (watts/cm^2), as determined by ASTM-E648, Standard Test Method for Critical Radiant Flux of Floor Covering System Using a Radiant Heat Energy Source.

This test shall be performed with all panel trim/edging installed and at least one (1) trimmed cutout (15cm by 15cm) shall be located on the center line of the panel so that the edge of the cutout located closest to the radiant panel is no less than 10cm, and no more than 15cm from the zero (0) mark on the specimen fixture. (FINISHED PANEL)

8.2.3 Oxygen Index

All nonmetallic components (example: laminate, trim, edging, etc...) shall have an Oxygen Index of 28 percent or greater, as determined by ASTM-D2863, Method

for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics.

9.0 Submittals

9.1 General

Submit the following in accordance with Conditions of Contract, CSI Division #1.0 and/or Owner's "per-ordered" instructions.

9.2 Price(s)

Manufacturer shall submit price for materials and services (if requested) per square foot, that will be "ADDED TO" or "DEDUCTED FROM" the total "Contract Sum" by Change Order(s), per Owner's instructions.

⇒ NOTE:

Refer to AT&T/Manufacturer National Purchasing Agreement.

Prices shall include all material, labor, profit, freight and taxes.

9.3 Product Data

The manufacturer shall verify with the owner per project, that the system as specified and drawn satisfies both AT&T's network reliability concerns and the regulatory agency's requirements.

9.3.1 Maintenance Data

Submit maintenance data per CSI Division #1.0, and or as required by the contract drawings and this specification.

9.4 Shop Drawings

The drawings shall delineate the complete floor system layout with field-verified dimensions based on the owner's "referenced starting point". Include details with descriptive notes indicating seismic zone classification, materials, finishes, typical and special edge conditions, understructure, fasteners, accessories, and other data to permit a full evaluation of entire flooring system.

9.5 Samples for Verification Purposes

Verify with Architect/Owner per project, the requirement of submitting full size system components.



NOTE:

Refer to PART IV. "System Details & Part Numbers", of this specification, as submitted by manufacturer.

9.6 Test Reports

Provide product testing documentation for owner's approval from either a qualified testing laboratory or manufacturer. If submitted by manufacturer, testing shall be witnessed by independent laboratory to ensure compliance with owner's requirements.

9.7 Calculation Data on Earthquake Load Resistance

Manufacturer to submit proof that the designed structural computations are in compliance with their in-house professional engineer's analysis. This report shall state that the system will withstand earthquake loads as required by the local building codes and the Owner's Network Requirements per the seismic zone specified herein.



NOTE:

Refer to PART VII. "Certification Form", of this specification.

10.0 Quality Assurance

10.1 General

Provide product qualification data for firms and persons specified herein to demonstrate their capabilities and experience. Include list of completed projects with project name, addresses, names of Architects & Owners, plus other specified information as required.

10.2 Manufacturer Qualifications

Per owner's instruction or national agreement establishing a "Single Point of Contact and Responsibility".

10.2.1 Certification

Submit manufacturer's certificate signed by an Officer or Technical Service Engineer of the Company; stating that the product system as installed meets the owner's specified design requirements and quality standards of performance reliability.

⇒ NOTE:

Refer to PART VII. "Certification Form", of this specification.

10.2.2 Site Survey (if required)

Prior to installation and at time of "shop drawing" preparation, the manufacturer shall perform a site survey to verify site condition.

⇒ NOTE:

Where field measurements cannot be made without delaying the work, guarantee dimensions and proceed with all preparation of shop drawings without field measurements.

10.3 Engineer Qualifications (required for product/system changes)

The manufacturer's engineer registered and professionally trained to render such services that will result in the successful installation of similar systems of design and extent.

10.4 Dealer/Supplier Qualifications

Per owner's instructions or national agreement of establishing a "Single Point of Contact and Responsibility"; to supply the system installed and guaranteed.

10.5 Installer Qualifications

Per owner's instructions or national agreement of establishing "Single Point of Contact & Responsibility"; to install and guarantee the specified system.

10.6 Laboratory Qualifications (if required)

An independent testing laboratory must demonstrate to Architect's satisfaction, based on laboratory submitted criteria conforming to ASTM E 699; that it has the experience and capability to conduct the testing indicated without delaying the progress of the work.

⇒ NOTE:

Personnel, materials, installation methods & testing procedures shall meet AT&T's requirements as specified herein, and/or the required regulatory agencies standards for the "Network System's Reliability Concerns" at all times.

10.7 Fire Standards

The system per component shall be in compliance with all regulatory agency and owner's requirements specified herein.

10.8 Product Integrity

Obtain the system as specified, manufactured and installed from one (1) manufacturer per owner's instructions.

10.9 Product Safety

System components shall be manufactured and installed to industry, building code, and owner specified standards.

10.10 Field-constructed Mock-up (if required)

Prior to system installation, erect product sample (mock-up) with all required components necessary to demonstrate product capabilities. When directed after Architect/Owner's acceptance, demolish/remove mock-up(s) from job site and restore area to original condition. OR Accepted demonstration sample (mock-up) in undisturbed condition, may become part of completed unit of Work.

11.0 Delivery, Storage, and Handling

11.1 Delivery

Materials shall be delivered in original, unopened packages, clearly labeled with manufacturer's name & part description.

11.2 Handling and Storage

Material packaging shall arrive in factory condition, be stored and distributed around the work area to avoid damage to the product and overstressing of the existing subfloor.

11.3 Staging

The installer shall coordinate with general contractor and/or owner's representative, the location of installer's operations; to assure that owner's facility "standards of operations" are met.

12.0 Project Conditions

12.1 General

The general contractor shall provide a clean facility environment which is free of dust, debris, and other materials; while providing a secured "on site" storage area for vender's materials.

⇒ NOTE:

A site specific "Method of Procedure" (MOP) shall be submitted and owner approved, prior to on-site work commencement.

12.2 Environmental Conditions

Installer shall not proceed with installation until all pre-agreed job-site conditions have been met.

12.3 Field Measurements

Check actual locations of walls and other construction, etc..., by conducting an accurate field inspection with measurements before preparation of shop drawings. Show all recorded measurements on final shop drawings along with the Owner's specified "Reference/Starting Point". Coordinate fabrication schedule with construction progress to avoid delay of Work.

⇒ NOTE:

Coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions.

13.0 Sequencing and Scheduling

13.1 General

General Contractor shall hold a pre-job conferences to establish schedules, review approved shop drawings, and coordinate trade work that will affect or be affected by, the floor installation.

13.2 Job-site Meeting

Installer to attend an on-site meeting as required by Division #1 and the General Contractor/Owner Contract.

13.3 Starting Point

Refer to Architect/Owner's documentation for the floor system's starting point as verified at "site meeting".

13.4 Scheduling

Coordinate fabrication and delivery with job schedule to avoid delays. Do not proceed with installation until substantial completion of other performable work (trade) has been signed off.

13.5 Coordination

Layout and install floor system within a 10 foot square area so other work can take place with minimal interference.

13.6 Protection

Install and protect floor system as required by Manufacturer's suggested method, and as coordinated with General Contractor and other trades; so as to maintain system integrity.

14.0 Extra materials

14.1 General

Furnish four (4) standard floor panels without cutouts, per one thousand (1,000) square feet installed; in original factory, unopened, and clearly labeled packages.

⇒ NOTE:

Any additional spare or extra material shall be ordered under the AT&T/
Manufacturer National Purchasing Contract No. CH923022AO.

4. PART II PRODUCTS

1.0 Manufacturer

Subject to product compliance as defined herein, provide the Seismic Access Flooring system and services (if requested) from:

<u>TATE ACCESS FLOORS, INC.</u>	For: <u>TATE SAF System</u>
<u>7510 Montevideo Road</u>	Attn: <u>Mr. Thomas B. Kidd</u>
<u>Jessup, Maryland, USA 20794</u>	Phone: <u>1-800-242-4304</u>

The system shall be gravity-held formed steel panels, mechanically anchored to a seismic pedestal understructure with a bolted four (4) foot box stringer set in a basketweave pattern.

1.1 Proposal

The General Contractor is herein requested to submit a lump sum price proposal with the added Administration and Construction Coordination fees itemized to AT&T for this floor system.

1.2 Order

For purposes of this document, the term "Ordering Party" shall refer to the entity that places an "AT&T Order" upon the Manufacturer for a particular project. It may include (1) authorized AT&T employees or (2) non-AT&T personnel such as the General Contractor or Architect/Engineer; it is understood that these non-AT&T personnel are authorized to place "Orders" only when they are working under a contract or other legal arrangement with AT&T.

The Ordering Party shall place said order (per project) with requested progress payments (if any) using the attached "AT&T Order Form", PART V. of this specification.

The Manufacturer's Representative shall be in compliance with this Order as dated, and shall forward an itemized material pricing schedule directly to the assigned AT&T representative only; per the AT&T Contract Agreement No. CH923022AO, dated: January, 1993.

⇒ NOTE:

- a. Change orders: refer to 1.2 "Order"; as stated above.
- b. Manufacturer's installer shall be factory certified.
- c. Supplier agrees that the floor system as manufactured by Tate Access Floors, Inc. and related components of, shall be manufactured and inventoried in the United States.
- d. Do not include alteration and/or renovation work to the existing facility's access floor system within this seismic floor section unless the project is a total renovation or the new product matches or is compatible with the existing.

2.0 Floor Panels

2.1 General

Provide manufacturer's standard modular panels of size and construction indicated. Must be easily set and removed without disturbing adjacent panels or understructure by one person using a portable lifting device. When installed, panel is to be free of exposed metal edges with floor covering in place.

2.2 Panel Model Number

Panels shall bear model number identification permanently stamped into the bottom metal surface of each unit.

2.3 Panel Rating

The bottom sheet of the panel's construction is to be stamped with "Reference No." denoting the concentrated load of 1250 pounds as per the Ceiling/Interior Systems Const. Association (CISA).

2.4 Panel Construction

Fabricate all-steel panels with die-cut full hard cold-rolled steel top sheet welded to a die-formed and stiffened cold-rolled steel bottom sheet.

2.4.1 Dimension

All panels shall be 24 inches square, unitized, welded construction with a minimum of 131 welds. A uniform bottom pan pattern of formed modular pockets to

resist deflection anywhere on the unit. The panels shall not extend below stringers.

2.4.2 Tolerances

Fabricate panels with squareness tolerance expressed as the difference between the diagonal measurements.

2.4.3 Size & Squareness

Plus or minus 0.015 inch of required size, with a squareness tolerance of plus or minus 0.015 inch; unless tolerances are otherwise indicated for a specific panel type.

2.4.4 Flatness

Plus or minus 0.025 inch measured on the diagonal top surface of the panel.

2.5 Panel Protection

Protect all metal surfaces against corrosion w/ manufacturer's factory-applied finish using an epoxy paint applied in an immersion dipped or baked process. The applied paint finish shall comply with the "Fire resistance" requirements as listed in PART I.

2.6 Panel Covering

Provide floor covering of colors, patterns and static-control high pressure laminate material as indicated.

2.6.1 Laminate/Plastic

NEMA LD 3, High Wear Type, of grade indicated in a high pressure laminate (HPL). Fabricated in one piece to cover each panel face within perimeter edging or with integral trim edging.

2.6.2 Grade

High wear type (1/16 [.0625] or 1/8 [.120] inch thick).

2.6.3 Color

Greystone, Grey Starlite, or Architect's sample.

2.6.4 Trim

Panel trim shall be integrated into the high pressure laminate or mechanically fastened using non-metallic fasteners or sonic welding. Trim color: Matt Black.

WARRANTY NOTE: Refer to AT&T Contract No. CH923022AO, Article No. 20.

2.6.5 Adhesion

The adhesive shall be moisture resistant and water-proof. The plastic laminate shall be tested for adhesion on three panels randomly selected from the assembly line. This test shall be performed after a minimum curing time of 48 hours to verify lamination capable of resisting a tensile load of 15 pounds per square inch for a minimum of five minutes. The testing shall be certified and submitted by an independent laboratory.

2.6.6 Grounding

The laminate shall be capable of meeting grounding resistance requirements of the access floor system.



NOTE:

Refer to PART I."Electrical Resistance", of this specification.

2.6.7 Penetration

The plastic laminate shall be capable of being cut and removed for field penetrations without splintering/delamination.

2.7 Panel grounding

Panel to understructure contacts shall have no more than 10 ohms resistance. Continuity clips shall be attached to the stringer over the pedestal or placed within the panel.

2.8 Panel Cable Access (as directed and coordinated by owner)

Should manufacturer be directed to proceed with this operation on a particular project, panel cutouts shall be provided per size, shape, and location as directed by the Owner.

2.8.1 Shapes

Dimensionally squared, rectangular or round cutouts shall be done on site but outside of the work area or at manufacturer's facility, and installed after floor system is completed.

2.9 Panel Support

Cut panels and panels with cutouts that can not maintain the specified load rating shall be reinforced with additional pedestals, or underside panel support to achieve structural integrity.

⇒ NOTE:

Mechanically attached underside panel support must be fastened so as to remain firmly in place when panel is removed.

3.0 Pedestals

3.1 General

Provide manufacturer's seismic pedestal assemblies which include provisions for height adjustment within the head assembly.

3.2 Pedestal Type

There are two (2) types of seismic pedestal assemblies that may be used either separately or in unequal numerical combinations pending the project's geographical/seismic zone location.

⇒ NOTE:

- a. Pedestal "A" = Standard Seismic Pedestal Unit Assembly.
- b. Pedestal "B" = Heavy Duty Seismic Pedestal Unit Assembly.
- c. Diagonal seismic bracing is not required for either unit.
- d. Diagonal perimeter bracing is placed as required.
- e. Pedestal "A/B" locations are as by Owner.
- f. Refer to PART II."Corrosion Protection".

3.3 Pedestal Height

To achieve the greatest underfloor cavity area the dimensional length of the pedestal must be verified with the overall finished floor height per seismic zone or renovation work.

⇒ NOTE:

Refer to "Finished Floor Height Table" listed in PART I. of this specification for elevated floor dimensions per seismic zone.

3.4 Pedestal Placement

The vertical center line of each pedestal is set at the intersection of the 24 inch by 24 inch floor grid layout. Any additional pedestals shall be placed to maintain floor system's structural integrity where cutouts, half panels, etc..., occur.

3.5 Overall Layout

Refer to Construction Documents (drawings) for: Layout starting point, floor elevation, pedestal "A"/"B" designations, ramps, stairs, overall architectural layout, special conditions, etc.

3.6 Pedestal "A" - The Standard Seismic Pedestal Unit

⇒ NOTE:

Refer to PART I."Structural Performance" for load requirements.

3.6.1 Baseplate

The baseplate measurement shall be 6.0 inches square by 0.1875 inches thick with an approximate bearing area of 36 square inches. Two (2) predrilled 0.438 inch diameter anchor holes shall be positioned on diagonally opposite corners and set 0.562 inches from the corner's edge to center point. All baseplate corners are to be rounded to eliminate sharp edges.

⇒ NOTE:

Two (2) additional predrilled anchor holes are optional at the opposite diagonal corners to increase the total to four (4) holes.

3.6.2 Anchors

Pedestals are mechanically fastened to subfloor using two (2) anchors placed at diagonally opposite corners of the base-plate. These anchors must have a depth

penetration of 2.312 inches to meet the minimum design loads as measured in 3,000 pound per square inch (PSI) concrete.

⇒ NOTE:

- a. For anchor type, refer to PART III., Paragraph 4.4.2.

3.6.3 Column

Shall be a steel tube with a minimum out-side diameter of 1.625 inches and a minimum wall thickness of 0.060 inches. Provide within the upper tube, accommodations for the head assembly with height leveling adjustments.

⇒ NOTE:

The column must maintain a true vertical alignment of plus or minus one (1) degree with a continuous fillet weld to the baseplate.

3.6.4 Head Assembly

The plated head assembly shall consist of a 3.0 inch by 3.0 inch by 0.1875 inch thick steel plate or a die stamped steel head of the same dimension, welded to a 0.875 inch diameter by 5.5 inches minimum threaded steel stud. The fillet weld shall be continuous or a support plate must be used with the die stamped head.

⇒ NOTE:

A plated .875 inch diameter threaded rolled tube with a minimum wall thickness of 0.105 inches may be substituted for threaded stud.

3.6.5 Leveling

Adjustments shall be provided in a minimum of 0.012 inch increments and an overall vertical height adjustment of 2.0 inches. There shall be a minimum engagement of 2.5 inches of threaded stud inside pedestal upon final leveling. The typical length of the exposed stud at finished floor height shall be plus or minus 1.5 inches. A fine adjustment travel of not less than 2.0 inches must be provided and a locking leveling mechanism (vibration-proof) which when set, requires a deliberate action to change the height setting.

⇒ NOTE:

The head assembly top plate must accommodate four (4) 0.250/20 by 2.00 inch plated screws for the stringer attachment.

3.7 Pedestal "B" - The Heavy Duty Seismic Pedestal Unit

⇒ NOTE:

- a. For load requirements, refer to PART I."Structural Performance", of this specification.
- b. Alternate material(s) and fabrication method(s) can be submitted provided the structural performance requirements are submitted for Owner's review and approval.

3.7.1 Baseplate

The baseplate measurement shall be 10.0 inches square by .375 inches thick with an approximate bearing area of 100 square inches. Twelve (12) predrilled 0.81 inch diameter anchoring holes are positioned three (3) per side with the four (4) center holes (0,90,180 and 270 degree) set at 1.750 inches from the edge to center point. The center of each corner hole [two (2) per side, eight (8) total] will be set 0.900 inches from the leading edge and 2.40 inches from each corner. All baseplate corners to be rounded to eliminate sharp edges.

3.7.2 Anchors

Pedestals are mechanically fastened to subfloor using four (4) expansion type anchors placed one (1) per side of the base-plate. These anchors must have a minimum depth penetration of 80 (mm) millimeters by 18 mm diameter as per the manufacturer's installations instruction; so as to meet the minimum design loads as measured in 3,000 pounds per square inch (PSI) concrete. If required, an anchor cap shall be provided for network cable and personnel protection.

⇒ NOTE:

Field placement of four (4) anchors versus twelve predrilled baseplate holes is for possible embedded subfloor conditions such as rebar. For anchor type, refer to PART III., Paragraph 4.5.2.

3.7.3 Column

Shall consist of a steel tube with an minimum outside diameter of 3.0 inches and a minimum wall thickness of 0.216 inches. Within the upper tube, accommodations for the head assembly with height leveling adjustments must be provided for.

⇒ NOTE:

The column must maintain a true vertical alignment of plus or minus one (1) degree with a continuous fillet weld to the baseplate. The top collar

insert which is to receive the head assembly is fastened using a fillet weld or a press fitted connection.

3.7.4 Gussets

Provide overall lateral bracing within the total pedestal assembly by fabricating four (4) gusset plates. The gussets which take the shape of a triangle, shall be constructed of 0.1874 thick (minimum) steel with an approximate base and height dimension of 4.13 inches and 20.4 inches. The placement of the gussets on the pedestal assembly (plan view) shall be on the diagonal runs of the baseplate. Attachment to the baseplate is done with a continuous fillet weld on both sides of the gusset's base. Also, 3.0 inch long welds starting at the bottom inside corner and up along pedestal at 3.0 inches intervals on both sides of the gusset.

3.7.5 Reinforcement

Weld a 0.250 inch by 1.0 inch by approximately 20.5 inches long steel strip on the pitched edge of the gusset's leading edge center point, with alternating 3.0 inch long welds/side.

⇒ NOTE:

Four (4) gussets are required for added pedestal support so as to eliminate the field installed seismic bracing.

3.7.6 Head Assembly

The plate head assembly shall consist of a 3.0 inch by 3.0 inch by 0.375 inch thick steel plate fillet welded to a 0.875 inch diameter high strength threaded rod. The length of the stud should be a minimum of 6.0 inches and placed within the pre-fabricated steel "Collar Insert" of the column assembly.

⇒ NOTE:

The head assembly top plate must accommodate four (4) 0.250/20 by 2.00 inch plated screws for the stringer attachment.

3.7.7 Leveling

Adjustment shall be provided in a minimum of 0.012 inch increments and with overall vertical height adjustment of 2.0 inches. There shall be a minimum engagement of 2.5 inches of the threaded rod inside pedestal upon final leveling. The typical length of exposed threaded rod when finish floor height is reached shall be 1.5 inches. A fine adjustment travel of not less than 2.0 inches shall be provided and a locking mechanism (vibration-proof) which when set, requires a deliberate action to change the height setting.

4.0 Box Stringers

4.1 General

Modular steel stringer system designed and fabricated to interlock with head assembly while providing support all panel edges.

⇒ NOTE:

Refer to PART II. "Corrosion Protection - Paragraph 5.1", of this specification.

4.2 Stringers

Constructed of boxed cross sectional galvanized steel with a minimum wall thickness of 0.056 inches; a nominal dimension of 0.6 inches wide by 1.25 inches high with an overall approximate dimension of 4.0 feet long. The stringers when positioned will be mechanically fastened to the pedestal heads using four (4) 0.250/20 by 2.0 inch plated screws that are accessible from above. These screws shall provide positive electrical contact.

4.3 Pattern

The stringers shall be positioned on the pedestal lay-out in basketweave configuration ensuring maximum lateral stability in all directions while spanning three pedestals per stringer unit.

⇒ NOTE:

- a. Stringers shall have top applied sound proofing strip.
- b. All sharp edges must be sanded smooth and corrosion resistant paint re-applied.
- c. All sharp and/or protruding edges of panel grounding clips that are fastened to the stringers (if used) and shall be sanded smooth.

5.0 Corrosion Protection

5.1 Galvanizing

All items of the support assembly shall be made of galvanized steel or shall be galvanized after fabrication. The galvanizing shall comply with ASTM A153, ASTM

A123 and ASTM 386, as applicable to the specific element to be galvanized. All bare steel surfaces, surfaces burned, sanded and welded during fabrication shall be touched up with a zinc paint.

5.2 Painting

All items that are to be painted shall receive a durable epoxy paint finish that resists abrasion and dissipates static electricity. All surface preparation and priming shall be done in accordance with the manufacturer's standards.



NOTE:

Pedestal "B" shall be finished with the same paint as used on the floor panels. Refer to PART I. "Fire Protection", of this specification.

6.0 Accessories

6.1 General

The manufacturer is to supply all accessories as standard items within their floor system package. All finishes that are exposed, are to be coordinated with, and approved by the Architect.

6.2 Cut Panels

Provide the quantity, shapes, and sizes per location as indicated on the drawings. All cut panels shall be fabricated and reinforced to maintain structural integrity.



NOTE:

Refer to PART II. "Panel Support - Paragraph 2.9", of this specification.

6.3 Steps

Provide steps of size, tread covering and arrangement as indicated on the contract drawings.

6.4 Ramps

Provide manufacturer's standard ramp system of width and slope indicated with non-slip surface using the same materials, performance and structural requirements as the seismic access floor.

⇒ NOTE:

Maximum handicapped (equipment) ramp slope shall comply to the regulatory code agency having jurisdiction.

6.5 Handrails

Manufacturer shall provide the standard satin-finish extruded aluminum post-and-rail-type railings at ramp(s), stair(s) and open-sided perimeter of raised floor system. NOTE: As drawn and/or specified by the Architect. Include handrail, intermediate rails, posts, brackets, end caps, wall returns, wall and floor flanges, plates, guard rails and anchorages as required. Provide hand and guard railings assemblies that conform to Occupational Safety and Health Act (OSHA), and the required local regulatory agency code.

⇒ NOTE:

- a. Wall mounted handrails shall have end returns to walls, be supported at the returns, and be anchored to the wall.
- b. Floor mounted handrails shall have radius corner sleeves with post and flanges. All posts shall be fastened to the access floor panels and as required, extend through floor panels for mechanical anchoring to the subfloor.

6.5.1 Fabrication

Aluminum railings shall be made of pipe sections with an outside diameter (OD) of 1.5 inches minimum to 2.0 inches maximum, and with a cross sectional dimension not exceeding 2.0 inches; schedule 40. The railings shall have a top, intermediate and vertical members assembled with concealed joint fittings. Fittings and fastenings shall be cast or extruded aluminum. All joints shall be finished flush and shall be designed for concealed pin fastenings or epoxy jointing or welding. Joints shall feel smooth to the touch without sharp edges. All railing work shall be finished with AA-C-20, A31 (chemically etched medium-matte, clear anodized finish). The necessary anchors shall be provided as required to ensure a rigid installation.

⇒ NOTE:

- a. All hand and guard rails shall be in code compliance.
- b. The dimensional fabrication requirements as listed in Paragraph #6.5.1 are within all National Code allowances but variance in local code shall be verified by the Architect.

6.6 Fascia Panels

Where underfloor cavity is not enclosed (refer to drawings), provide manufacturer's standard metal enclosure assembly. Color and finish as approved by Architect.

6.7 Expansion Joint(s)

Provide manufacturer's standard aluminum expansion joint assembly. Refer to drawings for location and extent.

6.8 Perimeter Support(s)

Provide lateral (diagonal) bracing at floor transitions, stair edges, false walls, ramps where required to ensure structural integrity of the floor system.

6.8.1 Perimeter Containment

Provide perimeter pedestal assemblies or where indicated, provide manufacturer's standard curb angle assembly to ensure equal transition with access flooring and adjoining floor.

6.9 Cable Access (as directed and coordinated by the owner)

Fabricate cutouts complying with size, number and locations in floor panels (as shown on drawings) to accommodate cable access penetrations. Provide additional panel support and cutout trim edge protection as required, to maintain panel's structural and electrical grounding performance requirements.



NOTE:

Refer to PART II. "Panel Cable Access and Panel Support", Paragraphs 2.8 and 2.9, of this specification.

6.10 Panel Lifting Device

Provide the manufacturer's standard portable lifting device that is compatible with panel covering. Assess the number of panel lifters required by the local fire and/or building code ordinance for underfloor accessibility. Manufacturer's Part No. 327.

6.10.1 Panel Lifter Mounting Bracket

Mount the panel lifter bracket with panel lifter adjacent to each entry/exit door, or on the column enclosure opposite or close to each point-of-entry within the raised floor area, per local code. The bracket should be mounted so that the average

line-of-sight of five (5) feet plus/minus above finished floor (aff) aligns with the horizontal center line of the pre-affixed "directions" sticker. Manufactures Part No. 9299L.

⇒ NOTE:

- a. A spare panel lifter and mounting bracket with "How To Use Sticker" shall be placed within the on-site supervisors office.
- b. Floor manufacture/installer shall supply the panel lifter and mounting bracket with instruction sticker.
- c. General contractor shall coordinate bracket installation.

5. PART III EXECUTION

1.0 Examination

⇒ NOTE:

Do not begin installation until all conditions have been met.

1.1 General

The General Contractor and Installer shall review all drawings and specifications in order to ensure completeness of the work. To include all supplementary items normal to manufacturer's requirements or standard trade practices that are necessary to complete the work, although not explicitly shown nor specified.

⇒ NOTE:

The general contractor shall be responsible for preparation of sub-floor (slab) trenches, penetrations, removal of vinyl-asbestos floor tile and concrete floor sealer (if required) plus any or all special conditions to allow for installation of access floor system.

1.2 Verification

Dimensions, specifications, and actual placement of all interfacing conditions (example: walls, columns, doors, floor ledges, etc...) shall be compared and verified with contract documents and shop drawings; prior to commencing work.

⇒ NOTE:

For complete "Scope of Work" package; refer to complete bidding package per Architect, this specification, and/or Owner instructions.

1.3 Notification

If any conditions exist which are detrimental to the proper and expeditious installation of the work, the Installer shall notify AT&T, the Architect, and/or the General Contractor in writing.

⇒ NOTE:

Failure of written notification and commencing with work on the part of the manufacturer/installer, means: "Acceptance of the contract with all site conditions as is or as existing".

1.4 Coordination

Installation shall be coordinated and scheduled for day or night hours, per Owner's instructions by the General Contractor per trade. To maintain the system's integrity, traffic shall not be allowed on any portion of the floor until area has been completely anchored or braced, and accepted.

2.0 Delivery

2.1 General

Materials shall be delivered in original, unopened packages, clearly labeled with manufacturer's name and item description.

2.2 Placement

Material packages shall be distributed across the area where they will be used, to avoid overstressing the subfloor slab.

⇒ NOTE:

Actual arrival time, point of on-site staging, etc..., shall be as coordinated by general contractor or per Owner's instructions.

3.0 Preparation

3.1 General

After all necessary subfloor preparation and work by other trades has been completed; general contractor shall provide installation area free of dust, dirt, and construction debris.

⇒ NOTE:

Installer to verify construction sequence with general contractor and the Owner in which order the work is to proceed ex. building bays.

3.2 Protection

Verify that General Contractor has protected all building and network system elements surrounding the work area from damage or disfigurement, prior to starting installation.

3.3 Workmanship

Work shall be performed by labor skilled in access floor installation. The installer shall be supervised and held responsible to the manufacturer.

⇒ NOTE:

The installer shall be a "certified" factory installer. Refer to PART I. "Quality Assurance", of this specification.

3.4 Temperature

Installation of the access floor system shall not commence until a temperature range of not less than 40 degrees Fahrenheit or more than 90 degrees Fahrenheit can be maintained for construction duration.

3.5 Fabrication

Perform cutting, trimming, and other dirt or debris producing operations as remotely as possible from the installation area; in a manner to prevent contamination to the network facility.

4.0 Installation

4.1 General

Install access floor system and accessories in accordance with the following tolerances and with continual floor protection.

⇒ NOTE:

The floor system's installation must be performed per the manufacturer's instructions for reasons of AT&T network reliability.

4.1.1 Reference mark

The access floor system shall be laid out using the building reference mark as specified on site and on the drawings.

⇒ NOTE:

Any violation of this practice will result in an unacceptable product and will be the responsibility of the manufacturer's installer to dismantle and re-install the access floor system at no expense to the Owner nor with any delay in the contract time.

4.1.2 Column Alignment

Pedestal assemblies shall be installed within manufacturer's alignment tolerances when mechanically anchored.

4.1.3 Stringer Layout

Layout shall be square and true with space to permit one hundred percent (100%) of full panel interchange-ability.

⇒ NOTE:

Pedestal "B" when so positioned shall have midpoint of stringer directly overhead & running perpendicular to network equipment isles.

4.1.4 Panel Variation

The maximum variation in finished height from panel to panel shall not exceed 0.020 inches maximum.

4.1.5 Floor Levelness

Maximum out of level tolerance shall be within plus or minus 0.0625 inches in 30.0 feet, and plus or minus 0.100 inches over the entire finished floor surface.

4.1.6 System Standard

The completed system shall be free of rocking, rattles, squeaks, vibration, and other unacceptable performance.

4.2 Adhesives

Mastic or other adhesives shall not be used.

4.3 Drilling procedure

Drill with a pre-set "depth indicator" in order to produce a clean, vertical true and free of embedded re-bar, stone, etc... hole. The drill bits shall be either carbide tipped or diamond core sized for anchor caliber conforming to ANSI tolerances.

4.3.1 Cleaning

Drilled anchor borings are to be cleaned during and after the drilling operation to ensure total removal of all dust particles.

4.3.2 Installation

Pedestal "A" anchor shall be installed per manufacturers recommended practices. Pedestal "B" anchor shall be set so that the bolt head is resting with the washer on the baseplate. Tighten the nut or bolt with a calibrated torque wrench.



NOTE:

Refer to manufacturer's required torque value for each pedestal anchor type as specified herein.

4.4 Pedestal "A" - The Standard Seismic Pedestal Unit

4.4.1 Placement

The baseplate is always positioned on the subfloor so that the anchors are in opposite positions at every other pedestal.



NOTE:

- a. Refer to construction documents for pedestal locations.
- b. Verify additional pedestal locations with shop drawings.

4.4.2 Anchor Description

Screw type 3/8 inch Kwik-Con Catalog No. 000453639, or approved equal (pending site particulars), as manufactured by Hilti Inc., Tulsa, Oklahoma.

4.4.3 Embedment Depth

Completely set with a drilled hole depth of 3.0 inches. Drill holes with either a hammer drill or diamond core system utilizing a 8 mm drill bit conforming to ANSI tolerances.

4.4.5 Approvals

Anchors shall meet ICBO (International Conference of Building Officials) Evaluation Report No. 4627-Hilti, COLA (City of Los Angeles) Research Report No. 24946-Hilti, SBCCI (Southern Building Code Congress International, Inc.) Report No. 8913-Hilti, and/or the MOST current approval issue(s).

4.5 Pedestal “B” - The Heavy Duty Seismic Pedestal Unit

4.5.1 Placement

The baseplate is always positioned on the subfloor grid layout so that the pre-drilled “center hole” per side (0, 90, 180 and 270 degree) are located on the 90 degree grid line intersection.

⇒ NOTE:

- a. Refer to construction documents for pedestal locations.
- b. Pedestal is always positioned at (1) stringer’s midpoint.

4.5.2 Anchor

Heavy-duty expansion/sleeve type: HSL M 12/25 Catalog No. 000665927, as manufactured by Hilti Inc., Tulsa, Oklahoma.

4.5.3 Torque Value

60 (ft.lb.) foot-pounds.

4.5.4 Embedment depth

80 millimeters (mm) minimum with a drilled hole depth of 100 mm maximum. Drill holes with either a hammer or diamond core system utilizing a 18 mm drill bit conforming to ANSI tolerances.

4.5.5 Primary Drilling Pattern

Four (4) “primary” anchor locations are always the first predrilled hole on each side of the baseplate as counting from right to left. They are to be drilled first. If the drilling doesn’t produce a clean, vertically true and free of embedded re-bar, stone, etc., then move to the alternate anchor location.

⇒ NOTE:

The predrilled anchor pattern of the pedestal “B” baseplate allows the use of alternate anchor locations due to embedded floor conditions. For each “primary” anchor location, there are two (2) alternate positions. These alternate positions are immediately adjacent to the primary hole first on the right and then on the left.

4.5.6 Approvals

Anchors shall meet ICBO (International Conference of Building Officials) Evaluation Report No. 3987-Hilti, SBCCI (Southern Building Code Congress International, Inc.) Report No. 8913-Hilti, and the MOST current approval issue(s).

4.6 Stringers

Position the four (4) foot long grid members on the pedestal head assemblies in a basketweave pattern. Each unit is secured using the four (4) fasteners specified herein.

4.7 Floor Panels

Installation shall follow the established reference mark. Scribe panel to provide a close fit with voids no greater than 0.125 inch where panels abut vertical surfaces or perimeter.

4.8 Fascia Panels

Accurately fit vertical closures to subfloor and adjacent finished floor as required by manufacturer's standards and as located on the drawings with trim metal as required.

4.9 Accessories

Install as per manufacturer's instructions and as located on the approved Shop Drawings (construction documents).

5.0 Completion

5.1 General

Installer shall complete the manufacturer's "check list", make all necessary adjustments for satisfactory inspection/acceptance. Completed floor system shall be rigid, free from vibration, rocking, and with smooth and uniform surfaces.

5.2 Replacement

Replace all access floor panels which are chipped, broken, stained, scratched or otherwise damaged, or do not conform to specified requirements.

5.3 Cleaning

Thoroughly clean up dust (wet mop), dirt, and all construction debris created by access floor installation.

5.4 Inspection

The General Contractor with the owner's and manufacturer's representatives shall conduct the inspection in whole or in part of the installer's completed floor system.

⇒ NOTE:

- a. Partially completed floor areas which are not yet anchored shall be braced against shifting to maintain integrity.
- b. Anchor placement acceptance - shall be based on the written receipt of the anchor manufacturer's field method of installation certification and/or an independent inspection agency report (EXAMPLE: ICBO - with site inspection) for the attained torque value assurances.

5.5 Acceptance

General Contractor shall accept floor in whole or in part, prior to use of floor system by other trades.

⇒ NOTE:

Total or partial acceptance shall be based on the completed check/punch list per CSI Division #1, or per owner's instructions.

6.0 Protection (by General Contractor / Installer)

6.1 General

Before other trade work is performed, and before access floor acceptance and sign off, and possibly after installer has performed final cleaning; all paths and work areas are to be protected with an Owner approved method for other trades to complete their work.

⇒ NOTE:

- a. Installer shall advise Architect/Engineer if flooring system has been overloaded at any time during construction and prior to substantial completion and acceptance.
- b. General Contractor shall maintain and repair damages to protective covering until time of substantial completion or Owner's acceptance of the total project.
- c. General Contractor shall notify the manufacturer/installer of any damages to the floor system that requires repair or replacement prior to Owner's acceptance of the project.

7.0 Electrical Grounding (by others)

7.1 General

The Electrical Contractor shall connect the access floor to the building ground bar (system) as specified in CSI Division #16 titled: Electrical; and/or as per owner's instructions.

⇒ NOTE:

This activity shall be coordinated by the General Contractor.

8.0 Submittals (by Manufacturer)

8.1 General

The manufacturer shall provide all the required documentation as instructed per Bid package, Specification/Contract.

8.2 Bid Proposal

Refer to PART I paragraph 9.2 (Prices), and PART II, paragraphs 1.1 (Proposal), and 1.2.(Order).

8.3 Extra Material

The manufacturer shall submit the type and quantity of material as specified and verified with the owner prior to shipping per project; due to on-site-storage accessibility. Refer to PART I "Extra Materials", of this specification.

8.4 Maintenance Material

The manufacturer shall submit instructions on floor care (cleaning and protection) surface material maintenance.

8.5 Anchor Certification

Manufacturer shall submit certification that the installer has been instructed in the proper anchor installation as required by the "Quality Assurance" clause of PART #V. of this specification. Also, provide the accepted documentation (test reports if required) needed to receive approval by the building code enforcement agency having jurisdiction.

9.0 General Notes (by Owner)

For all network equipment layout, attachment details, cable penetration locations, physical design hardware, underfloor cable layout, underfloor fire detection and/or lighting systems, electrical grounding details/plans, and additional conditions; Refer to AT&T and/or consultant drawings/specifications.

6. PART IV System Details & Part Numbers (submitted by manufacturer)

1.1 General

Describes the complete seismic access floor (SAF) System as designed and installed per project, in graphic details (8.5" X 11" binder format) with manufacturer's component (catalog) numbers.

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7. PART V AT&T SAF Order Form
Attached (filed by ordering party)

Describes the complete seismic access floor (SAF) System to be installed per project.

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Part V: Attachment Order Form

Date: _____ Contract No. CH923022AO

To: Mr. Thomas B. Kidd PO#: _____

TATE ACCESS FLOORS, INC. Job #: _____

7510 Montevideo Road Project name: _____

Jessup, Maryland 20794

1-800-242-4304

For: Material only: _____ Material & Services: _____

Ordered By: _____

(Name of ordering party - Address, Phone and FAX No.)

Project location: _____

AT&T Representative: _____

General Contractor/CM: _____

Architect/Consultant: _____

Seismic classification: _____ Floor Height: _____ Project Square Footage: _____

Panel weight capacity: _____

Attached Specification No.: **AT&T #760-200-120 CSI #10270 Issue #2.**

Attached Drawings & detail No.'s: _____

Accessories: (AS PER ATTACHED DRAWINGS AND DETAILS)

AT&T — PROPRIETARY
Use pursuant to Company Instructions

AT&T 760-200-120, Issue 1, Contract CH923022AO

Construction Schedule: Delivery date(s): _____

Starting date: _____

Completion date: _____

Inspection/Acceptance date: _____

Signed by:

(name of ordering party)

Manufacturer to submit an itemized material list and services (if any) based on square footage, including all accessories in a lump sum price format to the General Contractor(s); as in accordance with AT&T Contract No. CH923022AO.

Requested return date & time:_____.

copy to: M. H. Clark - AT&T Environmental Design Standards Manager
Room No. 3C120C
900 Route 202/206 North
P.O.Box 752
Bedminster, New Jersey 07921-0752
Phone: 908-234-3035

**8. PART VI Emergency Release Order
Attached (filed by ordering party)**

Authorizes manufacturer to release "Factory Safety Stock" held as emergency inventory.

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Part VI: Attachment Verification Form

Date: _____ Contract No. CH923022AO

To: Mr. Thomas B. Kidd

TATE ACCESS FLOORS, INC. PO#: _____

7510 Montevideo Road Job #: _____

Jessup, Maryland 20794 Project name: _____

1-800-242-4304

Ordered By: _____

(AT&T Representative - Address, Phone and FAX No.)

Project location: _____

Seismic classification: _____ Floor Height: _____ Project Square Footage: _____

Panel weight capacity: _____

Panel color and finish: _____

Pedestal Quantity: Pedestal "A": _____ Pedestal "B": _____

Accessories: (AS PER ATTACHED DRAWINGS AND DETAILS)

Architect/Consultant: _____

General Contractor/CM: _____

Attached Specification No.: **AT&T #760-200-120 CSI #10270 Issue #2.**

Attached Construction Drawings No.'s: _____

Floor Installation: Delivery date/s: _____

Starting date: _____

Completion date: _____

Inspection date: _____

AT&T — PROPRIETARY
Use pursuant to Company Instructions

Acceptance date: _____

Signed by:

_____ Date: _____ AT&T Building Engineer Territorial
Manager

Manufacturer is hereby given certification that this "ORDER" requested herein for installation at said location has been verified and has the authorization to release the "Factory Safety Inventory".

copy to: Montford Clark - AT&T Environmental Design Standards Manager
 Dan Dawson - AT&T Bldg. Engr. Design & Construction Manager

**9. PART VII Certification Form
Attached (submitted by
manufacturer)**

This SIGNED document when presented to the Owner's representative (at time of final inspection and acceptance), states manufacturer's assurance that the guaranteed quality standards have been met.

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Part VII Attachment AT&T Certification Form

Date: _____ Contract No. CH923022AO
To: _____ PO#: _____
(AT&T Building Engineer) Job #: _____
_____ Project name: _____

Project location:

Seismic classification: _____ Floor Height: _____ Project Square Footage: _____
Panel weight capacity: _____

Panel color and finish: _____

Pedestal Quantity: Pedestal "A": _____ Pedestal "B": _____

Accessories: (AS PER ATTACHED DRAWINGS AND DETAILS) _____

Architect/Consultant: _____

General Contractor/CM: _____

Dealer/Supplier: _____

Installer: _____

Pedestal "B" Fabricator: _____

Attached Specification No.: **AT&T #760-200-120 CSI #10270 Issue #2.**

Attached Construction Drawings No.'s: _____

Installation: Starting date: _____

AT&T — PROPRIETARY
Use pursuant to Company Instructions

AT&T 760-200-120, Issue 1, Contract CH923022AO

Completion date: _____

Inspection date: _____

Acceptance date: _____

Signed by:

(Manufacturer's Officers signature)

Manufacturer hereby certifies that the Seismic Raised Access Floor System installed at said location complies with AT&T's Specification (CSI Section No.10270/760-200-120, dated: January, 1993, Issue No. 2.

copy to: Montford Clark - AT&T Environmental Design Standards Manager

Dan Dawson - AT&T Bldg. Engr. Design & Construction Manager

How Are We Doing ?

Document Title:

Document No.: _____ Issue No. _____ Date: _____

AT&T welcomes your feedback on this document. Your comments can be of great value in helping us to improve our documentation.

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	Excellent	Good	Fair	Poor	Not Applicable
Ease of Use					////////////////////
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Appearance					////////////////////
Examples					////////////////////
Illustration					
Overall Satisfaction					////////////////////

2. Please check the ways you feel we could improve this document:

- | | |
|--|---|
| <input type="checkbox"/> Improve the overview/introduction | <input type="checkbox"/> Make it more concise/brief |
| <input type="checkbox"/> Improve the table of contents | <input type="checkbox"/> Add more step-by-step procedures/tutorials |
| <input type="checkbox"/> Improve the organization | <input type="checkbox"/> Add more troubleshooting information |
| <input type="checkbox"/> Include more figures | <input type="checkbox"/> Make it less technical |
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| <input type="checkbox"/> Add more detail | <input type="checkbox"/> Improve the index |

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Name: _____ Telephone Number: (____) _____

Company/Organization: _____ Date: _____

Address: _____

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or Fax to: (508) 960-6851.

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