

PROJECT: Emergency Services Operations Center –
Communication Consoles Renovation (“Project”)

ARCHITECT: **Williamson County Architect** (“A/E”)
Trenton H. Jacobs, AIA
3101 SE Inner Loop
Georgetown, TX 78626

THIS CONTRACT FOR GENERAL CONSTRUCTION ("Contract") is made and entered into effective as of the latest date of the signatories indicated at the conclusion of this document (the "Effective Date"), by and between **Williamson County**, a body corporate and politic under the laws of the State of Texas ("County") and GC.

WHEREAS, County desires to retain a GC for the **renovation of the Call Center room at the Emergency Services Operation Center in preparation for new console installation** (hereinafter called the "Project");

WHEREAS, County desires a GC who will render, diligently and competently in accordance with the highest standards used in the profession, all general contractor services which shall be necessary or advisable for the expeditious, economical, and satisfactory completion of the Project; and

NOW, THEREFORE, County and GC, in consideration of the mutual undertakings herein contained, do mutually agree as follows:

ARTICLE 1 SCOPE OF WORK

GC has overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Work, or any phase of the Work, in accordance with the Specifications and Drawings for the Project and County's requirements. The Specifications and Drawings were prepared for County by A/E. GC shall do everything required by the Contract Documents.

ARTICLE 2 GENERAL PROVISIONS

2.1 CONTRACT DOCUMENTS

2.1.1

The Contract Documents consist of this Contract and all exhibits and attachments listed, contained, or referenced in this Contract, the Williamson County Uniform General Conditions ("UGC's"), Supplementary or other Conditions, if any, the Drawings, Specifications, Addenda issued prior to the Effective Date of this Contract, The Bid/Proposal Documents as defined by the Invitation for Bidders/Request for Proposals, and all Change Orders and any other Modifications issued after the Effective Date of this Contract, all of which form this Contract and are as fully a part of this Contract as if attached to this Contract.

2.1.2

This Contract represents the entire and integrated agreement between the Parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. If anything in the other Contract Documents, other than a Modification, is inconsistent with this Contract, this Contract shall govern. To the extent of any direct conflict or inconsistency between any of the Contract Documents, GC shall immediately notify County and seek clarification from A/E and County.

2.1.3

The term "GC" shall be interchangeable with the terms "Proposer," "Bidder," Respondent," "Contractor," and "General Contractor" or other similar terms as appropriate in the Contract Documents.

2.2 RELATIONSHIP OF THE PARTIES

GC accepts the relationship of trust and confidence established by this Contract and shall cooperate with A/E and County and exercise GC's skill and judgment in furthering the interests of County; to furnish efficient construction administration, management services and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with County's interests.

2.3 GENERAL CONDITIONS

2.3.1

The term "Contractor" as used herein or in the UGCs shall mean GC.

2.3.2

The term "Owner" as used herein or in the UGCs shall mean County.

2.3.3

The term "Architect" as used herein or in the UGCs shall mean A/E.

ARTICLE 3 CONTRACT TIME

3.1

County shall provide a Notice to Proceed in which a date for commencement of the work shall be stated. GC shall achieve Substantial Completion of the Work within **Sixty-six (66) calendar days** after such commencement date. As such completion date may be extended by approved Change Orders. Unless otherwise specified in writing, GC shall achieve Final Completion within **thirty (30) calendar days** of Substantial Completion. The time set forth for completion of the work is an essential element of the Contract.

3.2 LIQUIDATED DAMAGES

GC acknowledges and recognizes that County is entitled to full and beneficial occupancy and use of the completed Work following expiration of the Contract Time and that County has entered into, or will enter into, binding agreements upon GC's achieving Substantial Completion of the Work within the Contract Time. GC further acknowledges and agrees that if GC fails to complete substantially or cause the Substantial Completion of any Phase of the Work within the Contract Time, County will sustain extensive damages and serious loss as a result of such failure. In the cases of missed scheduled events, which incur exact losses of revenue and exact expenses for fees and other cancellation costs, GC shall be responsible for the exact amount of damages sustained by County. In other cases, the exact amount of such damages will be extremely difficult to ascertain. Therefore, County and GC agree as set forth below:

3.2.1

Subject to the other terms and conditions herein, if Substantial Completion is not achieved by the date specified above or by such date to which the Contract Time may be extended, the Contract Sum shall be reduced by **Seven Hundred Fifty Dollars (\$ 750) per calendar day** as liquidated damages and not as a penalty, until the date of Substantial Completion. Force majeure shall apply relative to both rain/snow delays (acts of nature) and/or supply delays over which GC has no control, and such force majeure delays shall not be subject to such reduction of the Contract Sum.

3.2.2

County may deduct liquidated damages described herein from any unpaid amounts then or thereafter due GC under this Contract. Any liquidated damages not so deducted from any unpaid amounts due GC shall be payable by GC to County at the demand of County, together with the interest from the date of the demand at a rate equal to the prime interest rate as published by the Wall Street Journal on the **first (1st) business day** after such amounts are demanded.

3.2.3

Notwithstanding anything to the contrary in this Contract, if County is unable to recover any portion of liquidated damages in accordance with the terms and conditions herein because it is found to be unenforceable or invalid as a penalty or otherwise, then, County shall be entitled to recover from GC all of County's actual damages in connection with the failure by GC to achieve Substantial Completion of the Work within the Contract Time, including, without limitation, direct, indirect, or consequential damages.

ARTICLE 4 GC REPRESENTATIONS

4.1

In order to induce County to enter into this Contract, GC makes the following representations:

4.1.1

GC has examined and carefully studied the Contract Documents and the other related data identified in the Bid/Proposal Documents.

4.1.2

GC has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

4.1.3

GC is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.

4.1.4

GC has considered the information known to GC; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by GC, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) GC's safety precautions and programs.

4.1.5

Based on the information and observations referred to in **Paragraph 4.1.4** above, GC does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Sum, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

4.1.6

GC is aware of the general nature of work to be performed by County and others at the Site that relates to the Work as indicated in the Contract Documents.

4.1.7

GC has given A/E written notice of all conflicts, errors, ambiguities, or discrepancies that GC has discovered in the Contract Documents, and the written resolution thereof by A/E is acceptable to GC.

4.1.8

The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 5 THE CONTRACT SUM

5.1 Contract Sum.

County shall pay GC for completion of the Work in accordance with the Contract Documents the amount of **Six Hundred Two Thousand, Nine Hundred Eighteen Dollars (\$ 602,918)**.

5.2 Contract Payments.

Method and terms of payment of the Contract Sum shall be in accordance with the Contract Documents.

5.3 Owner's Contingency.

County and GC acknowledge the Work has become necessary due to **unforeseen infrastructure improvements necessary to accommodate new call center console furniture configuration** that have not allowed for all plans and specifications to be fully developed. County and GC anticipate no need for future Change Orders to be issued after the Work commences. No funding shall be provided as the Owner's Contingency.

5.3.1

Owner's Contingency is controlled solely by County.

5.3.2

Expenditures from Owner's Contingency must be made by Change Order issued by County in accordance with the General Conditions.

5.3.3

Unless otherwise provided in the Contract Documents, County will not pay a mark-up for profit and overhead on any change paid out of Owner's Contingency. GC shall not be entitled to any compensation from any unused amounts of Owner's Contingency.

5.3.4

For purposes of **Local Government Code Section 262.031** (calculation for maximum change order cap), the Contract Sum set out in **Paragraph 5.1** above, plus Owner's Contingency (set out in **Paragraph 5.3** above), shall serve as the original Contract price.

5.4 Allowable Overhead and Profit Markup on Changes in the Work.

In case of an increase in the Contract Sum due to a change in the Work and in accordance with **UGC 7**, the amounts GC may add to the pricing of a change for overhead and profit are as follows:

5.4.1

For Work performed directly by GC with its Own Employees: GC may add up to **fifteen percent (15%)** for Work performed directly by GC for any specific change.

5.4.2

For Managing Subcontracted Work: GC may add up to **ten percent (10%)** for managing subcontracted Work for any specific change.

Only one percentage, referenced above, shall be used for the purpose of calculating the markup for a specific change amount. For changes involving both additions and deletions, the allowed markup will be allowed only on the net addition. The allowed markup shall cover all overhead expenses and profit of any kind relating to the specific change.

ARTICLE 6 PROJECT TEAM

County's Designated Representative for purposes of this Contract is as follows:

**Williamson County Facilities Management
Attn: Director of Facilities
3101 SE Inner Loop
Georgetown, Texas 78626**

County shall have the right, from time to time, to change the County's Designated Representative by giving GC written notice thereof. With respect to any action, decision, or determination which is to be taken or made by County under this Contract, the County's Designated Representative may take such action or make such decision or determination or shall notify GC in writing of an individual responsible for, and capable of, taking such action, decision, or determination, and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by County's Designated Representative on behalf of County shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by County's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision, or determination hereunder by County's Designated Representative shall be binding on County; *provided, however*, County's Designated Representative shall not have any right to modify, amend, or terminate this Contract or executed Contract Amendment. County's Designated Representative shall not have any authority to execute a Contract Amendment unless otherwise granted such authority by the Williamson County Commissioners Court.

GC's Designated Representative for purposes of this Contract is as follows:

**J.T. Vaughn Construction, LLC
Danny Thompson, CEO
6604 N. Lamar Blvd.
Austin, TX 78752**

GC shall have the right, from time to time, to change GC's Designated Representative by giving County written notice thereof. With respect to any action, decision, or determination which is to be taken or made by GC under this Contract, GC's Designated Representative may take such action or make such decision or determination, or shall notify County in writing of an individual responsible for and capable of taking such action, decision, or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions, or determinations by GC's Designated Representative on behalf of GC shall be done in his or her reasonable business judgment unless express standards or parameters therefor are

included in this Contract, in which case, actions taken by GC's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision, or determination hereunder by GC's Designated Representative shall be binding on GC. GC's Designated Representative shall have the right to modify, amend, and execute Contract Amendments on behalf of GC.

ARTICLE 7 NOTICE

Any notice required to be given under the provisions of this Contract shall be in writing and shall be duly served when it shall have been deposited, enclosed in a wrapper with the proper postage prepaid thereon, and duly registered or certified, return receipt requested, in a United States Post Office, addressed to County or GC at the following addresses. If mailed, any notice or communication shall be deemed to be received **three (3) days** after the date of deposit in the United States Mail. Unless otherwise provided in this Contract, all notices shall be delivered to the following addresses:

County: Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78626

With copy to: Williamson County Facilities Management
Attn: Director of Facilities
3101 SE Inner Loop
Georgetown, Texas 78626

and to: Office of General Counsel
Williamson County
710 Main Street, Suite 102
Georgetown, Texas 78626

GC: J.T. Vaughn Construction, LLC
6604 N. Lamar Blvd.
Austin, TX 78752

Attention: Danny Thompson
Chief Executive Officer

Either party may designate a different address by giving the other party **ten (10) days** written notice.

ARTICLE 8 DISPUTE RESOLUTION

Any Claim or Dispute between County and GC shall be resolved in accordance with the provisions set forth in **UGC 15**.

ARTICLE 9 MISCELLANEOUS PROVISIONS

9.1 MEANING OF TERMS

Terms in this Contract shall have the same meaning as those in the UGCs.

9.2 NO WAIVER OF IMMUNITY

Nothing herein shall be construed as a waiver of sovereign immunity by Williamson County.

9.3 GOVERNING LAW

This Contract and all of the rights and obligations of the parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas without reference to its conflicts of law provisions. Williamson County shall be the sole place of venue for any legal action arising from or related to this Contract or the Project in which County is a party.

9.4 ASSIGNMENT

County and GC, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Contract. GC shall not assign this Contract without the written consent of County. If GC attempts to make an assignment without County's consent, GC shall nevertheless remain legally responsible for all obligations under this Contract.

9.5 OTHER PROVISIONS

9.5.1

GC represents and warrants the following to County (in addition to any other representations and warranties contained in the Contract Documents), as an inducement to County to execute this Contract, which representations and warranties shall survive the execution and delivery of this Contract, any termination of this Contract, and the final completion of the Work:

- .1** that it and its Subcontractors are financially solvent, able to pay all debts as they mature, and possessed of sufficient working capital to complete the Work and perform all obligations hereunder;

- .2 that it is able to furnish the tools, materials, supplies, equipment, and labor required to complete the Work and perform its obligations hereunder;
- .3 that it is authorized to do business in the State of Texas and properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over it and over the Work and the project;
- .4 that its execution of this Contract and its performance thereof is within its duly authorized powers;
- .5 that its duly authorized representative has visited the site of the Project, familiarized himself with the local and special conditions under which the Work is to be performed, and correlated its observations with the requirements of the Contract Documents; and
- .6 that it possesses a high level of experience and expertise in the business administration, construction, construction management, and superintendence of projects of the size, complexity, and nature of this particular Project, and it will perform the Work with the care, skill, and diligence of such a contractor.

ARTICLE 10

SCOPE OF CONTRACT AND CONTRACT DOCUMENTS

10.1

This Contract represents the entire and integrated agreement between County and GC and supersedes all prior negotiations, representations, or agreements, either written or oral. This Contract may be amended only by written instrument signed by both County and GC.

10.2

The following documents comprise the Contract Documents:

1. This Contract between County and GC;
2. Exhibit A – Construction Documents
3. Exhibit B – Minimum Insurance Coverages and Minimum Coverage Amounts
4. Exhibit C – Williamson County Vendor Reimbursement Policy
5. Exhibit D – Williamson County Uniform General Conditions

10.3

In the event of a dispute or conflict relating to the terms and conditions of the Contract Documents, applicable documents will be referred to for the purpose of clarification, conflict resolution or for additional detail in the following order of precedence:

1. Contract between County and GC;
2. Special Conditions or Supplementary Conditions (if any);
3. Williamson County Uniform General Conditions;

4. all Addenda issued prior to the Effective Date of the Contract between County and GC;
and
5. The Construction Documents

ARTICLE 11 SIGNATORY WARRANTY

The undersigned signatory for GC hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the Company. The above-stated representations and warranties are made for the purpose of inducing County to enter into this Contract.

IN WITNESS WHEREOF, County has caused this Contract to be signed in its name by its duly authorized County Judge, thereby binding the parties hereto, their successors, assigns, and representatives for the faithful and full performance of the terms and provisions hereof. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND, TERMINATE, OR MODIFY THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

GC:

J.T. Vaughn Construction, LLC

By: Danny Thompson
Signature

Danny Thompson
Printed Name

Chief Executive Officer
Title

Date Signed: April 20, 2023

COUNTY:

Williamson County, Texas

By: Bill Gravell
Signature

Bill Gravell
Printed Name

County Judge
Title

Date Signed: Apr 25, 2023



A1	C1	E1
A2	C2	E2
A3	C3	E3
A4	C4	E4
A5 = NEW	C5 = NEW	F1
A6 = NEW	C6 = NEW	F2
B1	D1	F3 = NEW
B2	D2	F4 = NEW
B3	D3	
B4	D4	

NEW CAD POSITIONS

THJ

2/9/23



A1 = 04	C1 = 09	E1 = 14
A2 = 03	C2 = 10	E2 = 15
A3 = 01	C3 = 12	E3 = 16
A4 = 02	C4 = 11	E4 = 17
A5	C5	F1 = 13
A6	C6	F2 = 22
B1 = 05	D1 = 18	F3
B2 = 06	D2 = 19	F4
B3 = 07	D3 = 20	
B4 = 08	D4 = 21	

EXISTING CAD POSITIONS
NEW NAMES

THJ

2/9/23



01 = A3	09 = C1	14 = E1
02 = A4	10 = C2	15 = E2
03 = A2	11 = C4	16 = E3
04 = A1	12 = C3	17 = E4
	13 = F1	18 = D1
		19 = D2
05 = B1		20 = D3
06 = B2		21 = D4
07 = B3		
08 = B4		22 = F2

EXISTING CAD POSITIONS
OLD NAMES

THJ

2/9/23

Change to 8" Recess LED Dimmable

ADD -- Emergency Wallpack Lighting

Exchange with Exit/Emergency Light

MATCHLINE SEE DWG. 446431-E-101

Remove Bulb Disconnect From Switching

Remove BULBS Disconnect From Switching

ADD ~~Dimmable~~ Pendant Fixtures

Remove Bulb Disconnect From Switching

Remove Bulb Disconnect From Switching

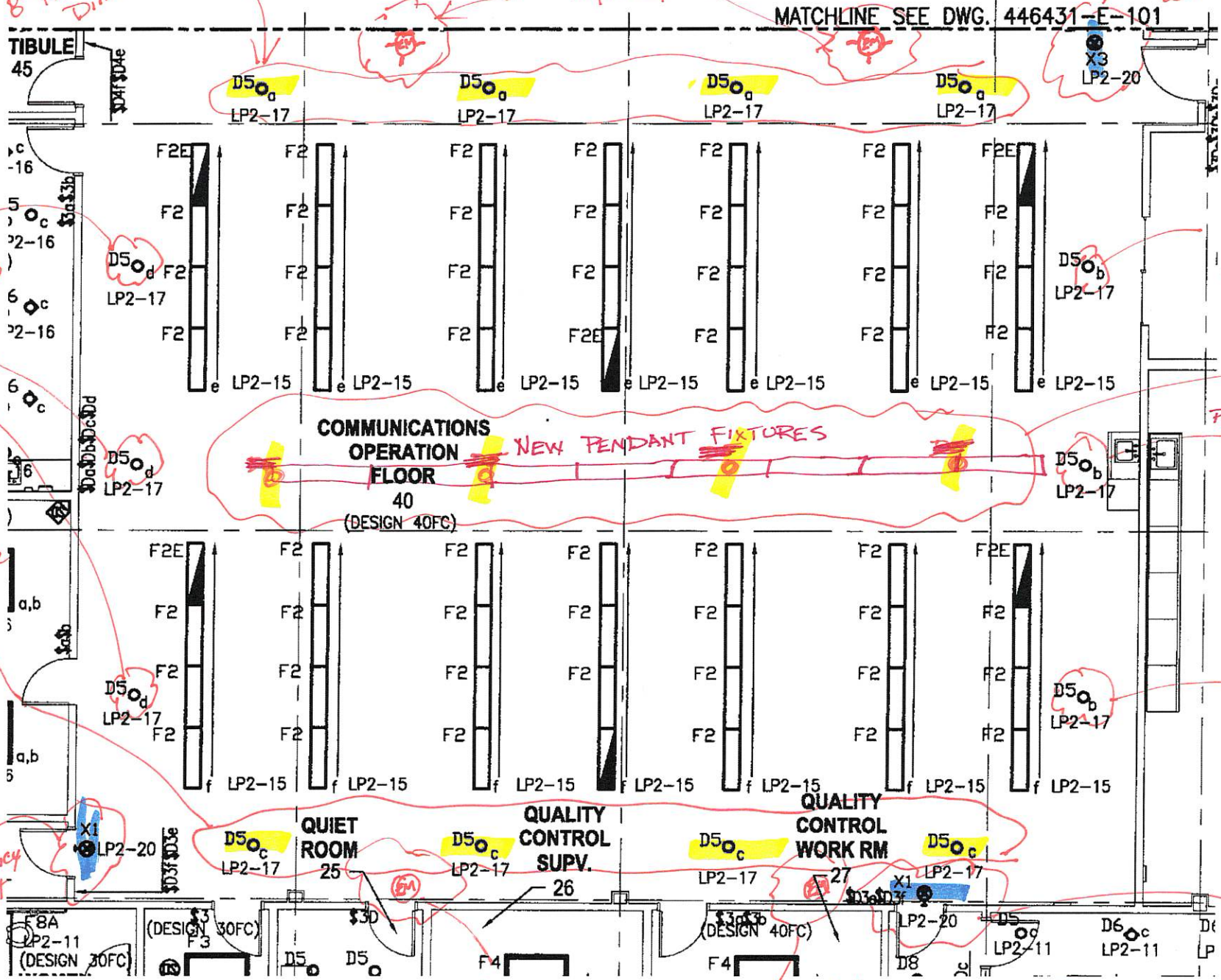
Change to 8" Recess LED Dimmable

Exchange with Exit/Emergency Light

Exchange with Exit/Emergency Light

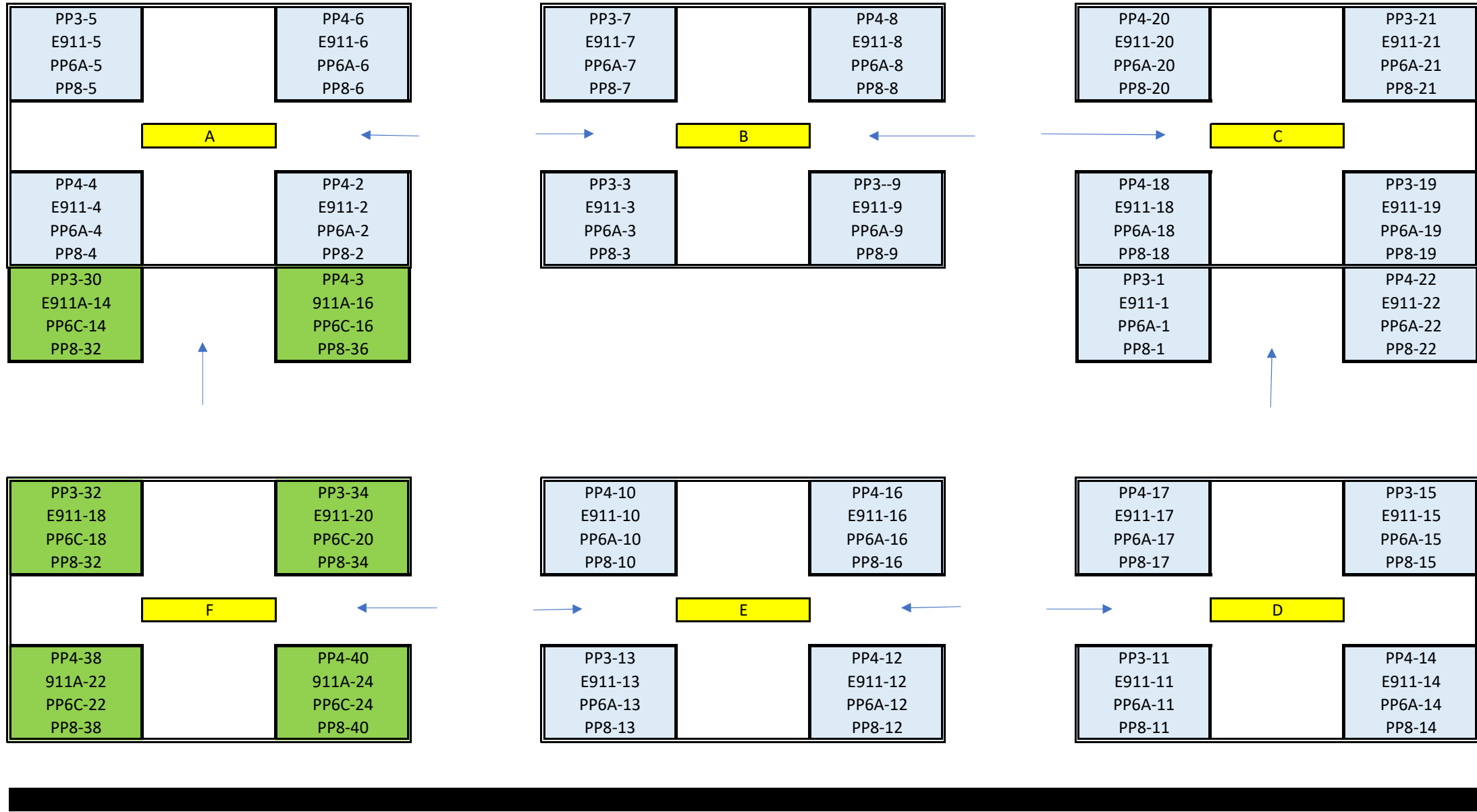
ADD Emergency Wallpack Lighting

Note: Switching Dimmable to New LED Recess

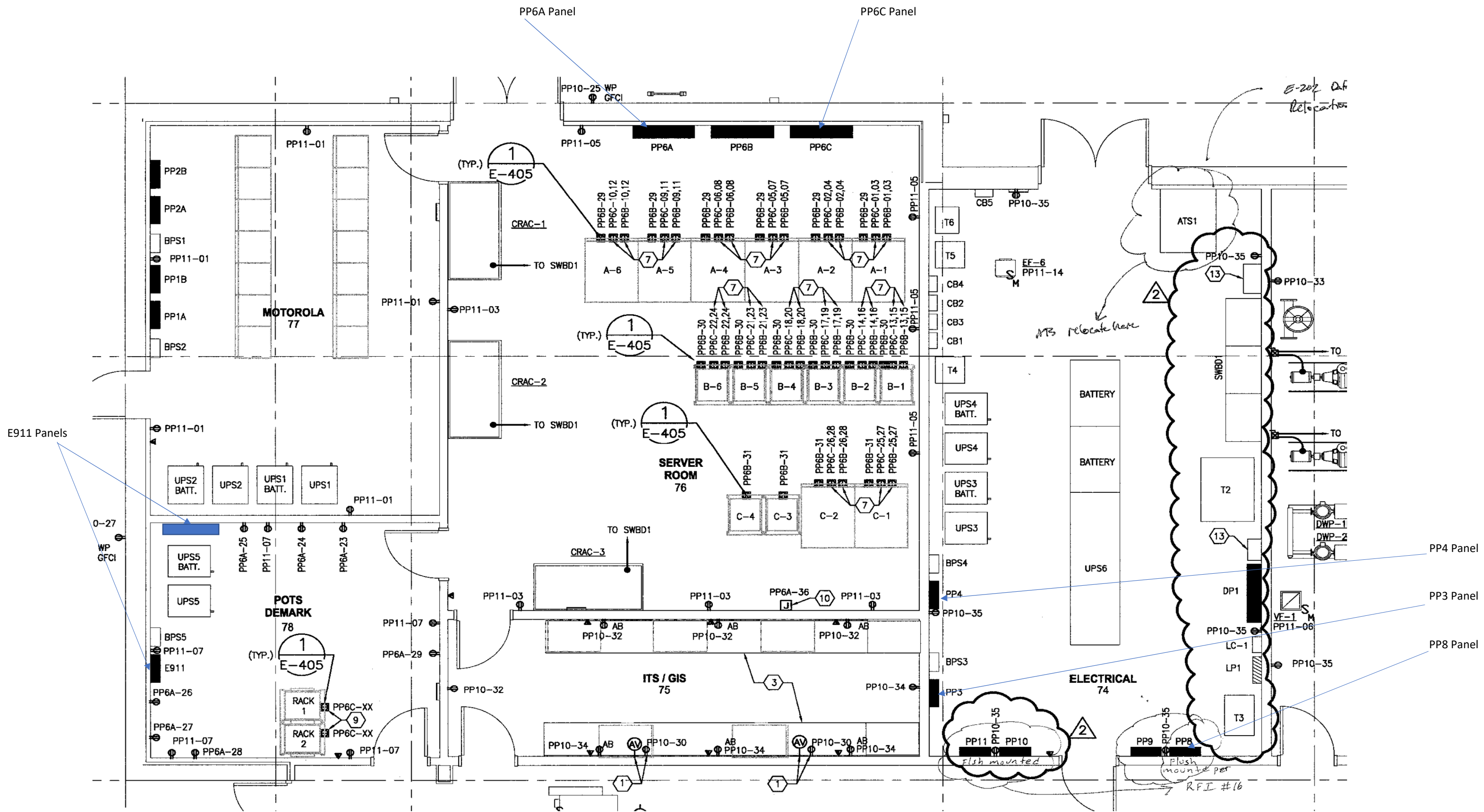
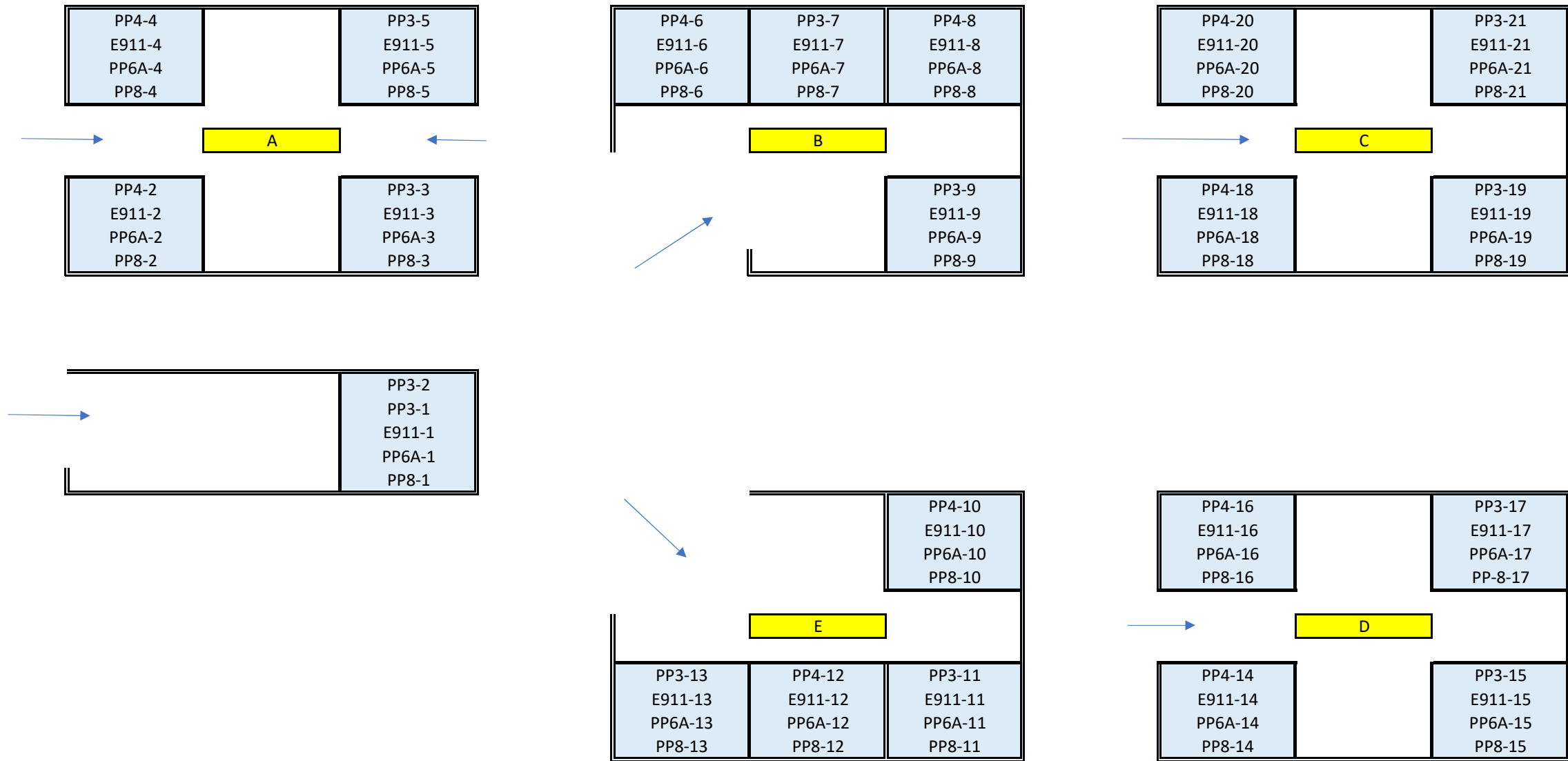


Color Code: Existing Circuits that are currently providing power to existing furniture.
New circuits that need to be installed from identified panels to under floor locations.

ESOC New Furniture Circuit Layout.

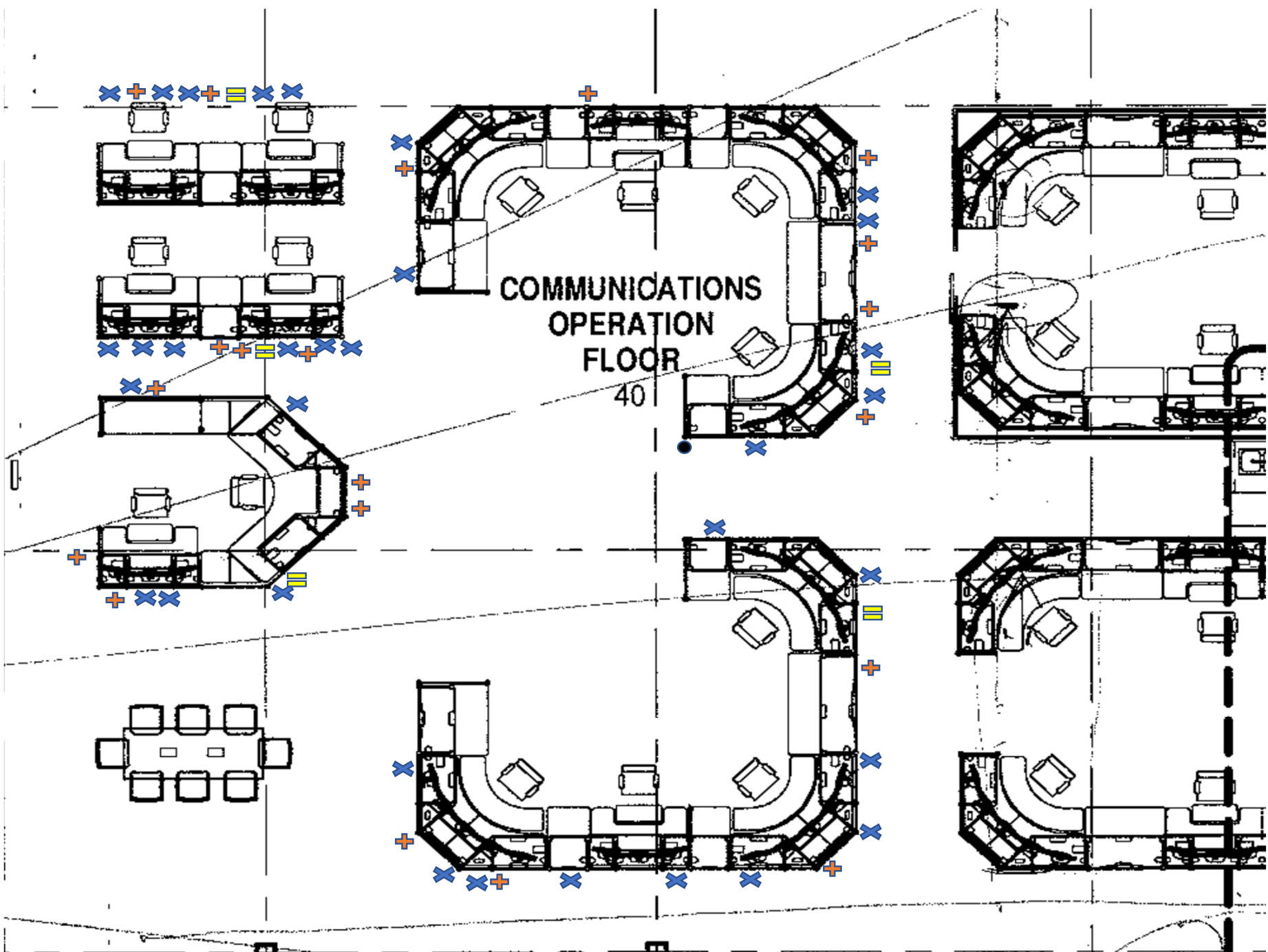


ESOC Existing Furniture Circuit Layout.



Identified raised floor penetrations - Note: Holes range between 1" to 1 1/4"

- Electrical wiring (MC Cable)
- IT Cable (Cat 5)
- Motorola Grounding Wire
- Empty hole

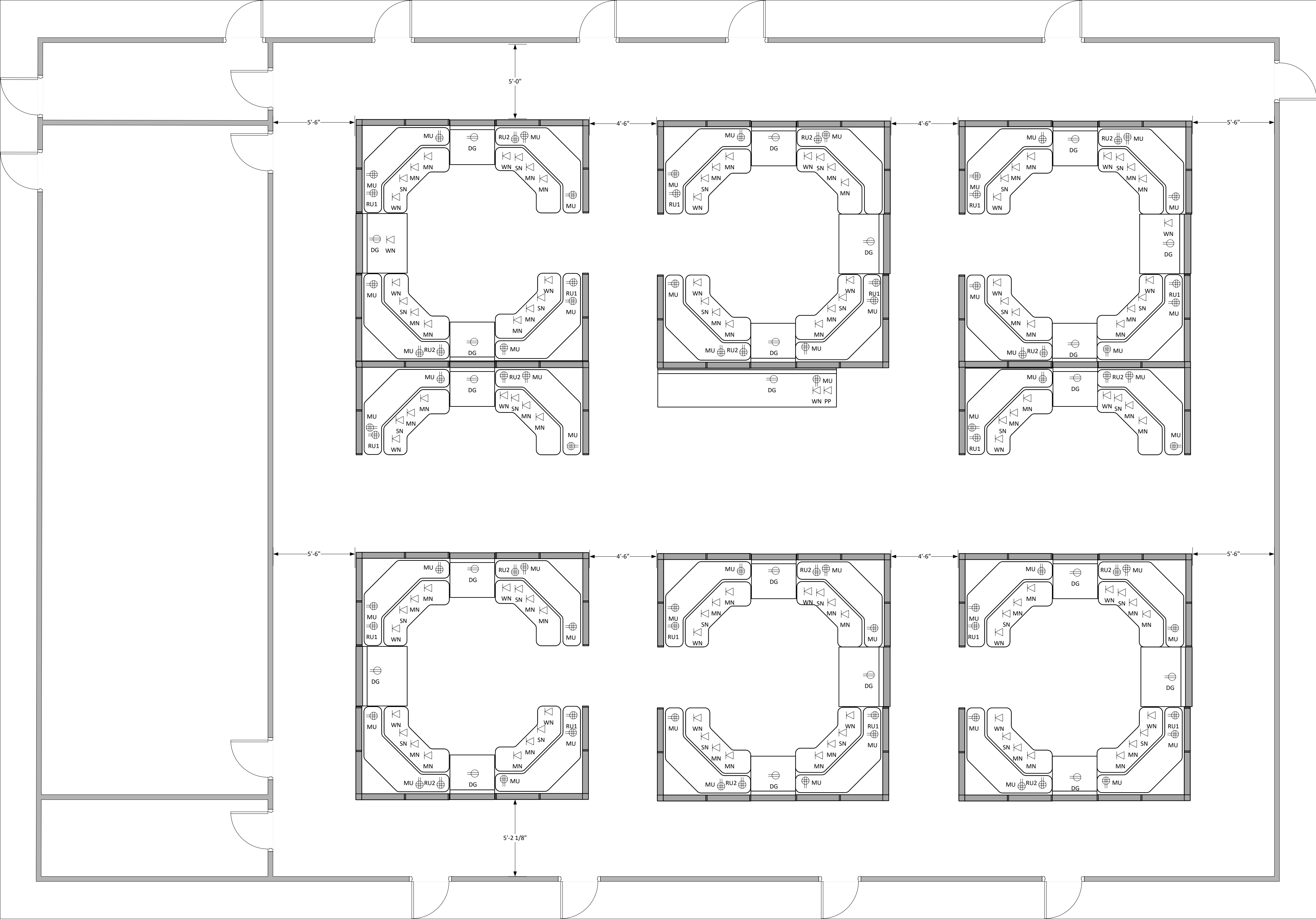




Michael Moody

Technology Division Manager
Emergency Communications
Williamson County, Texas
911 Tracy Chambers Lane
Georgetown, Texas 78626
Work: 512-864-8234
Cell: 512-713-9748
michael.moody@wilco.org

- RU1 — Radio UPS #1 – Quadruplex Outlet
- RU2 — Radio UPS #2 – Quadruplex Outlet
- MU — Main UPS – Quadruplex Outlet
- DG — Direct Grid - Duplex Outlet
- WN — Wilco Network - RJ45 Jack
- SN — Solacom Network – RJ45 Jack
- MN — Motorola Network - RJ45 Jack



TECHNOLOGY INTEGRATION

Flex's tech integration foundation is the 7" deep, steel Technology Wall. The structure encircles the console and holds critical equipment.

Equipment Storage

The Technology Wall, including the rear corner on 90° consoles, has ample capacity for mid-sized towers and equipment.



Rack Mounting

The Technology Wall and ancillary technology storage cabinets are rack mount ready.



Optional cabinets placed alongside the console expand equipment capacity.

Power, Data and Grounding

Power, data and grounding terminate within the Technology Wall.



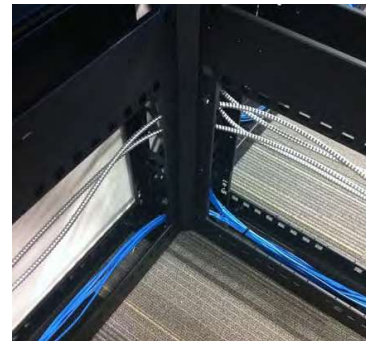
Additional Storage

All technology cabinets are passively cooled by design. Rear cable pass-through opens to the adjacent Technology Wall. Optional pull out shelf eases access to the back of PCs and equipment.



Wire Management

High capacity cable chases and energy chains keep power and data cords protected from crowding and disconnection.



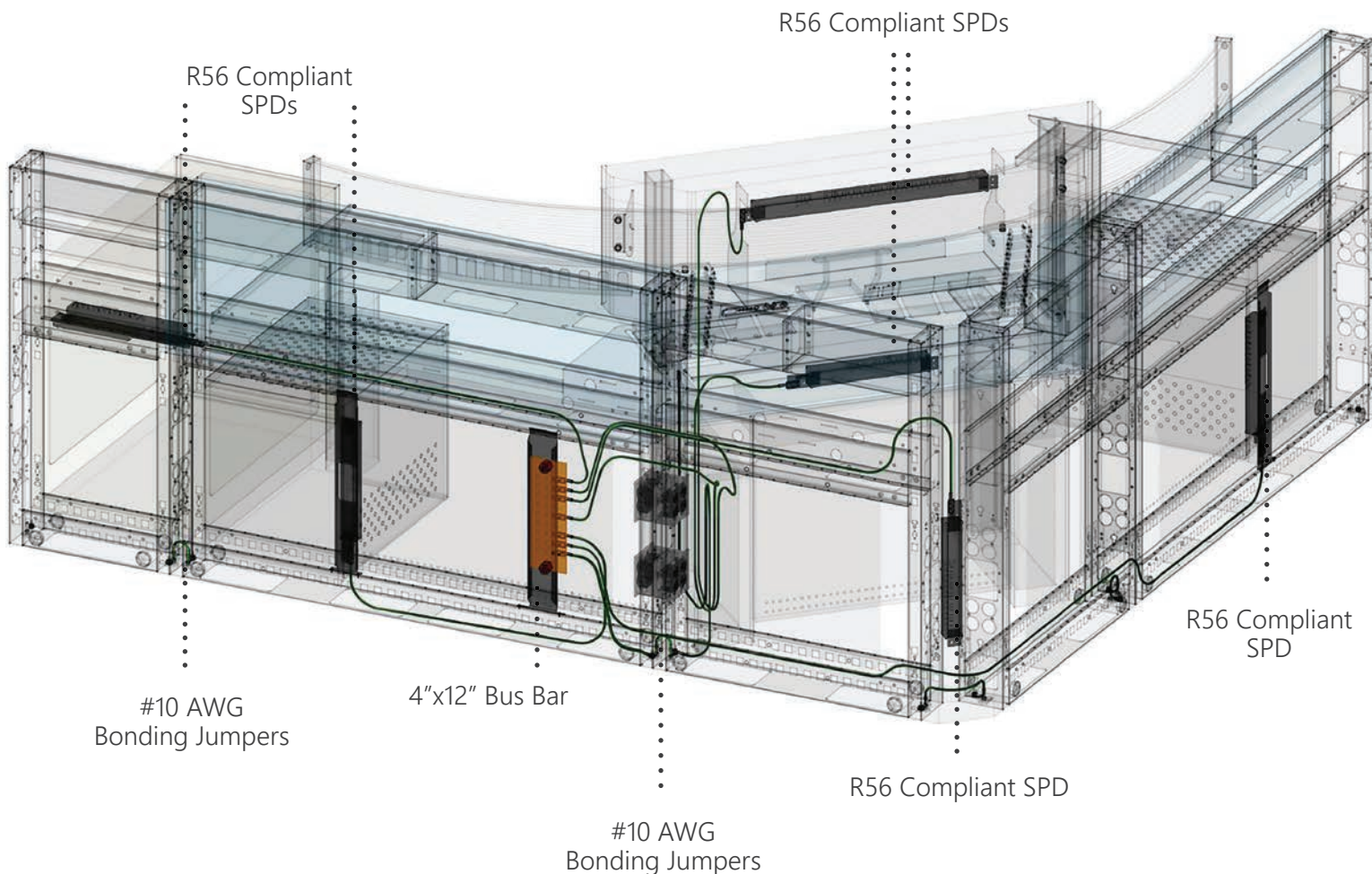
R56 BONDING AND SPD KITS

Grounding

R56 COMPLIANCE 101

Developed and maintained by Motorola Solutions, R56 takes into account fire, electrical codes, tower grounding and construction codes, and industry codes to ensure fire protection, operator safety and equipment protection through proper installation, grounding, bonding, and surge protection. It is considered the industry standard for correct bonding, grounding, surge protection and installation practices for radio towers and control rooms.

Russ Bassett has collaborated closely with co-authors of the R56 standard to develop a range of R56 compliant bonding, grounding and surge protection systems to fit your needs and budget.



GET TO KNOW THE R56 COMPONENTS

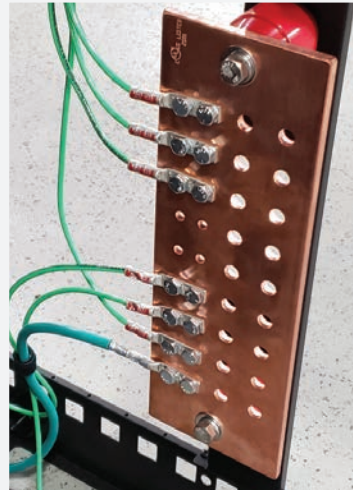
Surge Protection Device SPD

Metal Housing, External Double-Lug Bonding Connection Site, #10 AWG Double-Lug Bonding Wire, Covered Switch



Bus Bar

4" x 12", 1/4" Thick Copper, 1/4" Holes, 3/4" O/C and 3/8" Holes, 1" O/C, #10 AWG Double-Lug Bonding Wire to Frame



Bonding Jumpers

Frame to Frame Bonding, Frame to Sit-Stand Bonding



AVAILABLE R56 KITS

KIT #1: FULL R56 COMPLIANCE

The Full R56 Compliance Kit includes one (1) R56 compliant 14-outlet SPD, one (1) R56 compliant 6-outlet SPD, one (1) 4" x 12" Bus Bar, and all required #10 AWG Bonding Jumpers for the console.

KIT #2: R56 CONSOLE AND EQUIPMENT BONDING

For customers who need to bond their equipment and console, but do not need R56 compliant SPDs, this kit delivers one (1) 4" x 12" Bus Bar, and all required #10 AWG Bonding Jumpers for the console. *NOTE: For customers using a rack-mounted PDU located within the console frame, extra-long monitor power cables will be required.*

KIT #3: R56 CONSOLE BONDING

#10 AWG Bonding Jumpers provide R56 compliant bonding of the console for customers that do not need equipment bonding or R56 compliant SPDs.

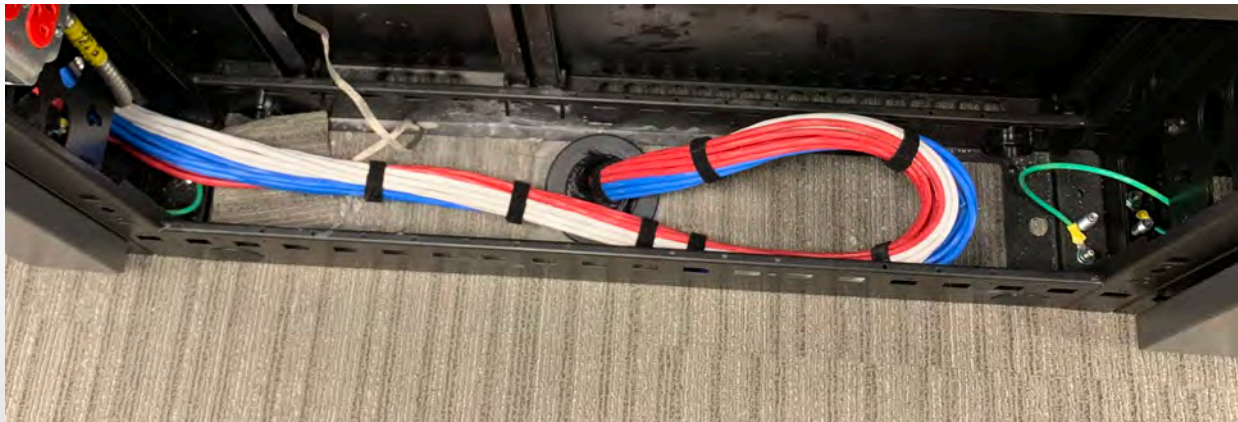
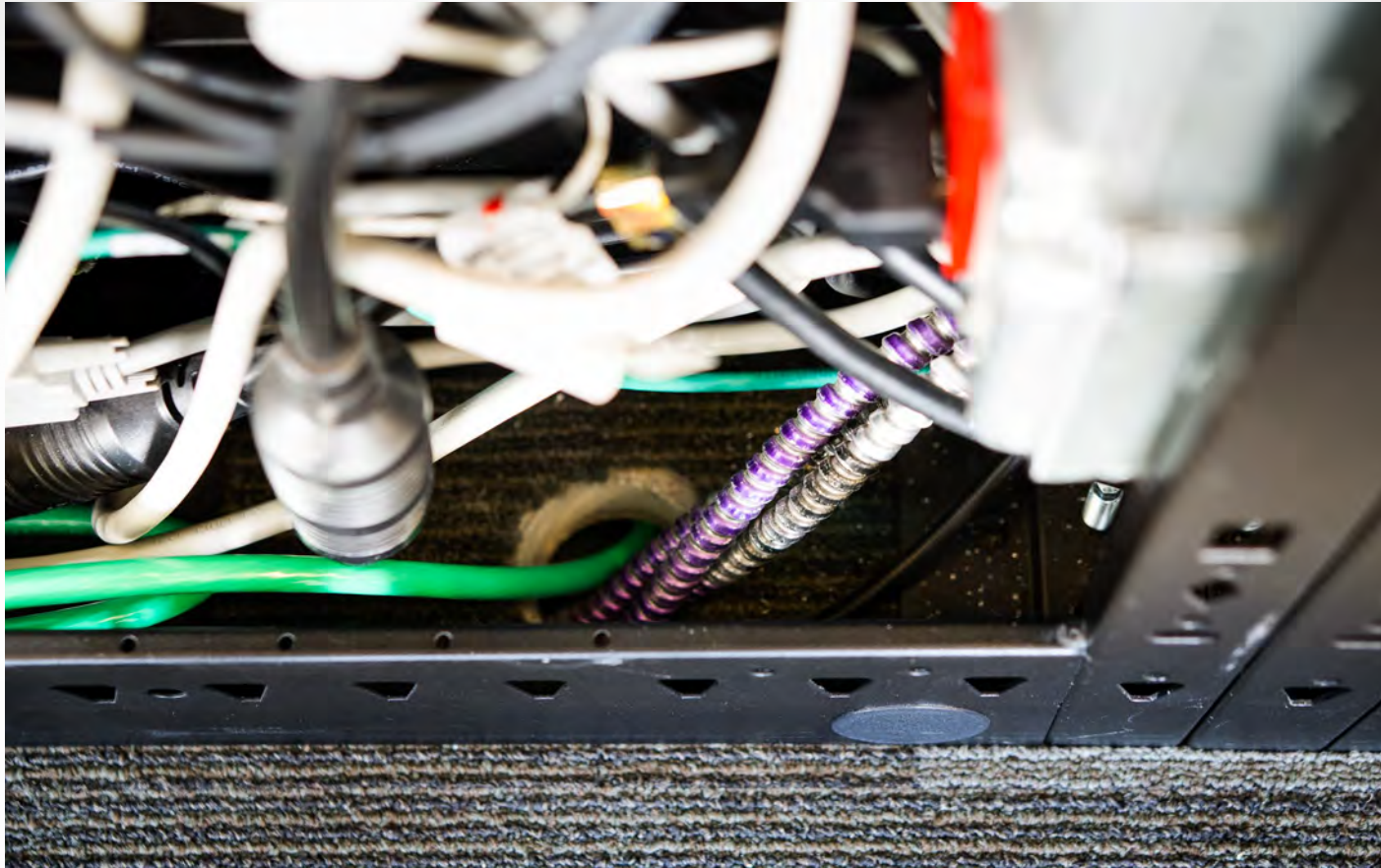
Add-On: R56 Compliant SPDs

Available separately, specify additional SPDs for peripheral technology storage areas.

NOTE: All console-integrated bonding connections are installed by our factory trained installers, up to and including the Bus Bar, creating a "bonded console." After console installation, a certified electrician must connect the Console Bus Bar to the Sub-Bus for the control room with #2 AWG or larger conductor per table 5-3, to "ground" the console.



FLEX TECHNOLOGY WALL OPENS TO THE FLOOR

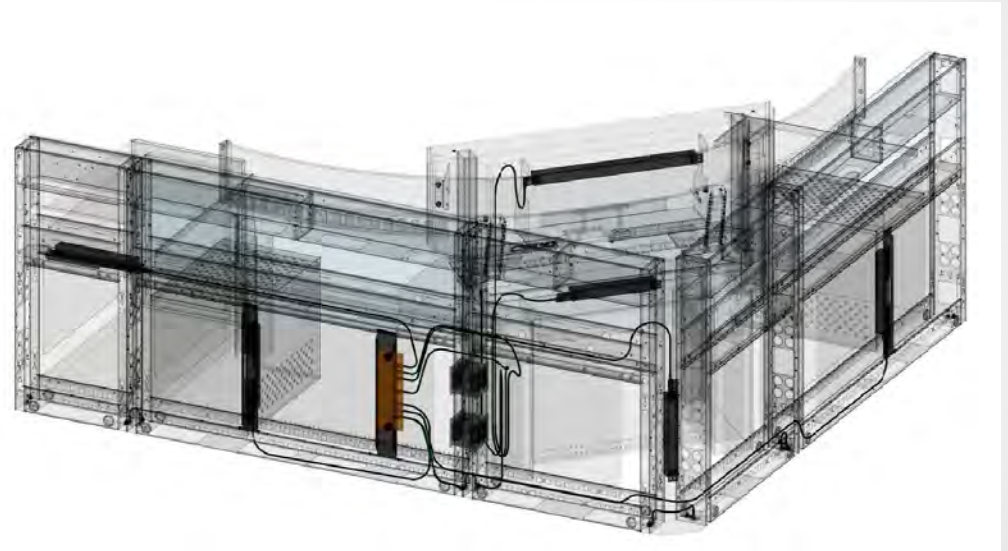
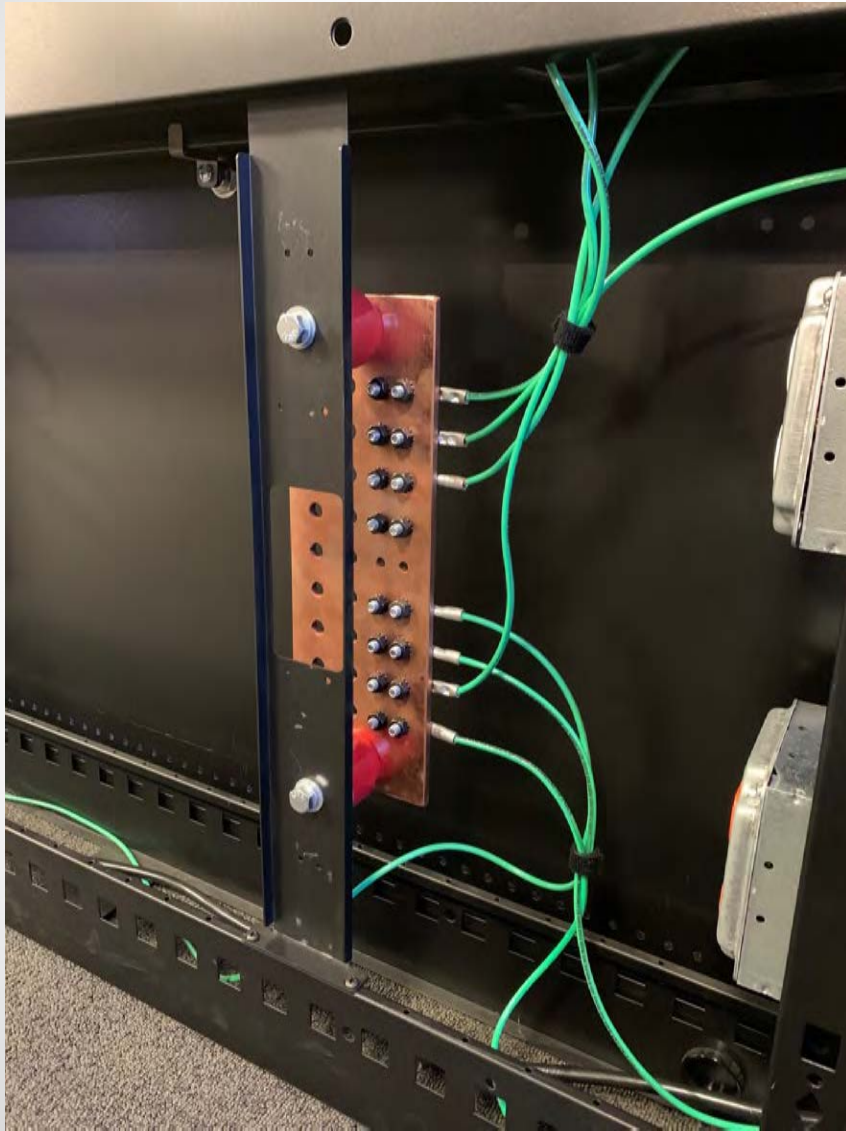


EXAMPLES OF RAISED ACCESS FLOORING PENETRATIONS OPENING INTO THE FLEX 7" TECHNOLOGY WALL (NOTE BRUSH GROMMET ON DATA CORE)

Adapter	Manufacturer
AA	Systimax/CommScope
AA	Uniprise/CommScope
BB	L-Com Keystone Modular
BB	NETCONNECT, and 110 Connect Series Modular Jack
BB	Siemon ZMAX Style
BB	Allen Tel Versa Tap Series
BB	Leviton Quick Port® Series
BB	Belden REVconnect
CC	Hubbell Nextspeed™ Keystone Series
DD	Blank (no coupler/jack)
EE	Ortronics TracJack Series
FF	Panduit Mini-Com Series
GG	Microphone Jack/3-pin XLR, solder type only
HH	Video Monitor Jack/DB-15, panel mount solder style



14-PORT DATA TERMINATION BRACKET
INCLUDED ADAPTER TYPES LISTED ABOVE





BUILDING CODE ADOPTION - 2023

The following have been adopted by the Facilities Management Division of Williamson County, Texas as the standards, codes, and references for design of Williamson County buildings and facilities:

International Building Code	IBC	2015
International Existing Building Code	IEBC	2015
International Plumbing Code	IPC	2018
International Mechanical Code	IMC	2015
International Energy Code	IECC	2015
National Electric Code	NEC	2020
National Fire Code	NFPA 101	2015
Texas Accessibility Standards	TAS	2012



EXECUTIVE SUMMARY

County Standard General Notes

PURPOSE:

Large public buildings with multiple user groups, having been occupied for many years, often present unforeseen complexities for parties seeking to make improvements. Often times, a current construction project or installation reveals layers of work over time that may now be outdated or no longer compliant with modern standards.

In an effort to keep various County agencies informed of building improvement and safety needs, Facilities will require the following General Notes to be included in all Contract documents and Scope of Work:

GENERAL NOTES:

1. *Contractor/ Installer shall notify County of any existing non-conforming/ non-code compliant installations or life-safety conditions uncovered or observed in the process of the Work. Conditions shall be reported whether or not they are within or outside the contractual scope of work.*
2. *Contractor shall maintain the Fire Protection system of the entire building in working order for the duration of the project. Notify County of any conditions related to the Fire Protection system uncovered or observed outside the contractual scope of work.*

by: Trenton H. Jacobs, County Architect Facilities Dept.

cc: Facilities Dept./ I.T Dept.

WILLIAMSON COUNTY FACILITIES MINIMUM DESIGN SPECIFICATIONS

DIVISION	ITEM	DESCRIPTION
GENERAL		
	ADA	Meets all current ADA Standards.
	AHJ CODES	Meets all current AHJ standards and codes.
STRUCTURAL		
	ROOF	Design roof structure with the capacity to support future solar panel installation.
	ENVELOPE	Building envelope should be water tight.
	STUDS	All stud walls should be a minimum 20 GA material unless AE suggests otherwise
	ROOF ACCESS	If equipment is installed on roof, access should include at a minimum, a roof hatch for access, preferably with a permanently installed access ladder
FIRE PROTECTION		
	FIRE ALARM	Existing Buildings with Simplex - use Simplex products
		New Buildings or Exist Buildings without Simplex - use Silent Night
	PLANS	Update whole building plans (digital) and coordinate update of fire panel info
ELECTRICAL		
	WIRING	All electrical wire to be installed in hard pipe conduit, except for fixture whips, which should have a maximum length of 6'.
	FIXTURES	Energy efficient technology. LED fixtures or equivalent energy use.
	LIGHTING CONTROLS	Acuity
PLUMBING		
	TRAP PRIMERS	Use threaded connection supply-off of inverted "Y" on lavatory tailpipe
	FIXTURES	Automatic (touch less): toilets, lavatory fixtures.
HVAC		
	FILTER	2" filter racks at any air handler filter location.
		Advanced photo-catalytic oxidation type filtration.
	MAINTENANCE ACCESS	Place all units to allow for ground level maintenance and filter changes. If above ceiling installation is necessary, then install access doors.
		Avoid the necessity of ceiling tile removal to do maintenance. Use items such as catwalks if necessary for ease of maintenance.
	DUCT	All duct should be hard metal duct with exterior insulation, except for register drops can be flex if necessary.
	LOW AMBIENT	Install low ambient kits on all DX, RTU's, etc. to allow for humidity control in cold weather conditions.
	CONTROLS	Controls should be compatible with Wilco's existing automated controls software/hardware.
	C.O. DUCT DETECTOR	Should not be powered by RTU. This allows maintenance to shutdown HVAC without setting off fire alarm.
	SOUND ISSUES	All open-air (open-plenum) areas should be designed with effective sound deadening boots at all return air grills entering office or meeting type space
HARDWARE		
	DOOR HARDWARE	Locksets should be heavy duty cylindrical style with figure-8 style IC core and a 7 pin combination configuration.
		Lockset/Handle Finishes should be brushed stainless (brushed nickel)
	RESTROOM HARDWARE	Double roll S.S. toilet paper dispensers, multi-fold towel dispensers, hand dryers
		Key boxes & specefic key box for elevator(s)
ACCESS CONTROL		
	CARD READERS	Where card readers are installed, use multi-class card readers which are compatible with Wilco's software/hardware.
SECURITY		
	BUILDING SPECIFIC	
INSULATION		
	SOUND BATTS	Sound batting should be installed at all office and meeting room walls and ceilings regardless of the quantity or type of building envelope insulation or deck insulation.
CEILING TILE		
	ACOUSTICAL TILE	Sound deadening type, not light weight foam type.

WILLIAMSON COUNTY FACILITIES MINIMUM DESIGN SPECIFICATIONS

MAINTENANCE		
	FACILITIES CLOSET	All buildings should include a maintenance closet with storage space for such items as touch-up paint, spare lamps, spare ceiling tile, spare carpet tiles, ladders, etc.
	JANITORIAL	All buildings should include a mop sink closet with storage space for cleaning supplies on shelving and space for rolling carts/mop buckets.
LANDSCAPING		
	PLANT SELECTION	Use only low water native and adaptive plants. Small turf areas. Overdesign for pedestrian traffic.
	IRRIGATION	Irrigated areas should be kept to a minimum and overall irrigation should be kept to a minimum.
	IRRIGATION CONTROLS	Irrigation that is installed should have controls that are compatible with Wilco's existing automated control and monitoring software/hardware
	DESIGN	Concrete walk around building perimeter. No grass at edge of building. No small turf islands, use mulching materials instead.
		No shade trees to interfere with signage, lighting or utilities.
WAREHOUSE / GARAGE / SHOPS		
	SAFETY/HEALTH	Hand wash sink, eyewash stations, water fountain, ice machine floor drain.
	ORIENTATION	Building orientation should be such that the overhead doors face North and South to allow for prevailing wind ventilation and/or install large exhaust fans for mechanical ventilation.
MISCELLANEOUS		
	COMMISSIONING	No commissioning of buildings required. A fully functional and maintainable building is expected as part of the construction contracting and professional services contracting process.
	TRAINING	Provide training for specialty systems/items
	LABELS	Labels on ceiling grid for above ceiling equipment locations including all electrical disconnects, water valves, HVAC equipment etc.
	HAND DRYERS	Automatic hand dryers at restrooms.

[BACK TO RESULTS](#)

SKILL I0461

COLOR SHOWN:

FINESSE 00505

24 INCHES X 24 INCHES

PRODUCT COLLECTION:

RATIONAL

ROOM VIEW

SWATCH VIEW



1 of 6

INSTALLATION METHOD: **MONOLITHIC**

6 SWATCH COLORS:



pdQ Available

QUANTITY:

1

SAMPLE SIZE:

24 in x 24 in

[ADD SAMPLE TO BASKET](#)



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[TECHNICAL DOCUMENTS](#)

SPECIFICATIONS

PRODUCT SWATCH:

FINESSE 00505

PRODUCT STYLE:

SKILL 10461

PRODUCT COLLECTION:

RATIONAL

PRODUCT TYPE:

CARPET

PRODUCT CATEGORY:

CARPET TILE

RECOMMENDED ADHESIVE:

LOKWORX+ CARPET TILE ADHESIVE, SHAW 5100, SHAW 4151, SHAW 3800, SHAW 5036, LOKWORX CARPET TILE ADHESIVE

PRIMARY BACKING:

NON-WOVEN SYNTHETIC

SECONDARY BACKING:

STRATAWORX® TILE

WEAR RATING:

HEAVY

DYE METHOD:

100% SOLUTION DYED

FIBER:

SOLUTION Q® NYLON

PERFORMANCE TESTING

RADIANT PANEL / ASTM E648":

CLASS I

WARRANTY

15 YEAR COMMERCIAL LIMITED WARRANTY

PDQ DETAILS:

10 BUSINESS DAYS
MAXIMUM ORDER OF 2,500 SY
PER COLOR

THIRD PARTY CERTIFICATES

CRADLE TO CRADLE CERTIFIED®

SILVER LEVEL (VERSION 3.1)

HEALTH PRODUCT DECLARATION (HPD)

1,000 PPM DISCLOSURE

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

3RD PARTY CERTIFIED IN ACCORDANCE WITH ISO14044, ISO14025 & EN15804

DECLARE

LBC COMPLIANT

NSF 140

GOLD

CRI GREEN LABEL PLUS (GLP)

GLP9968

ENVIRONMENTAL GUARANTEE

PICKUP & DELIVERY AVAILABLE IN AMERICAS

PRODUCT PACKAGING

100% RECYCLABLE

DOWNLOAD FULL SPECS



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ROPPE WALL-BASE

193 BLACK BROWN

PINNACLE - TYPE TS - 1/8"

700 SERIES - TYPE TP - 1/8"

VINYL - TYPE TV - 1/8" OR .080

Trenton Jacobs

From: Trenton Jacobs
Sent: Monday, February 28, 2022 4:00 PM
To: Chris Ball; Jeffrey Hancock; Christi Stromberg; Rory M. Tierney; Nathan Pearl; Daniel Shea; Thomas Solis
Cc: Dale Butler
Subject: RE: WilCo CAT5-6 cable colors

Updates to Cable colors for POTS lines...

Badge Readers = RAINBOW
Public Safety = RED
POTS Lines = GRAY
Security (cameras and connect to Lenel Panel) = YELLOW
IT Data Drops, Light Controls, A/C = BLUE
IT Wireless AP = WHITE

Trenton H. Jacobs, AIA
County Architect



3101 SE Inner Loop
Georgetown, TX 78626

512-943-1193 Office
512-966-9472 Mobile

Surveys can be completed at: [Customer Feedback](#)

Should you need Facility Maintenance Services please submit a work order at: [Service Request](#)

NOTICE OF CONFIDENTIALITY:

The information in this communication is confidential and intended only for the exclusive use of the addressee. The copying, distribution, or other use of this communication by the addressee or any other person or entity is prohibited. If you have received this communication by mistake, please notify the sender immediately and destroy all forms of this communication.

From: Trenton Jacobs
Sent: Friday, November 12, 2021 12:19 PM
To: Chris Ball <cball@wilco.org>; Jeffrey Hancock <jeff.hancock@wilco.org>; Christi Stromberg <CStromberg@wilco.org>; Rory M. Tierney <rory.tierney@wilco.org>; Nathan Pearl <npearl@wilco.org>; Daniel Shea <dshea@wilco.org>; Thomas Solis <tsolis@wilco.org>
Cc: Dale Butler <dbutler@wilco.org>
Subject: RE: WilCo CAT5-6 cable colors

Based in Chris's feedback current standard colors for cabling...



Cabling Specification

Department of Technology Services

4/1/2020

Chris Ball
Infrastructure Engineer

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I. GENERAL

A. Purpose

1. The purpose of this document is to provide a standard defining the structured communications cabling systems to be installed within Williamson County facilities. It is geared toward leveraging our legacy cabling infrastructure while upgrading to more recent technologies in new installations. The goal is to accomplish this in the most economic and systematic fashion possible, and in a manner compliant with the latest codes, cabling standards and industry best practices.
2. Within this document, the facilities owner is Williamson County, and shall be referred to as such, or as "Wilco", or as "Technology Services". Bidding low-voltage installers shall be referred to as "Contractor".
3. This specification defines quality standards and practices common to all Williamson County network cabling specifications.
4. In addition to this global cabling standard, individual projects will also have associated documentation such as Requests for Proposals (RFP), facility drawings, project schedules and requirements pertaining to that job. Such collateral will be referred to in this document as "Project-specific Documentation", "Project Documentation", or simply "Construction Documents". Any conflict between this general specification and any project-specific documentation shall be brought to the attention of Williamson County by the Contractor and must be resolved in writing.
5. It is the responsibility of the installing contractor to evaluate these general recommendations and adapt them effectively to actual projects. Contractor is responsible for identifying and bringing to the attention of Williamson County any design directions that may be improved. All such changes shall be approved in writing from Technology Services.
6. Note that while many portions of this global specification are addressed to "The Contractor", these requirements apply equally to anyone doing the network cabling and infrastructure work within Williamson County, whether those persons are outside contractors or persons directly employed by Technology Services.

B. Scope of Work - Typical

1. Contractor shall be solely responsible for all parts, labor, testing, documentation and all other processes and physical apparatus necessary to turn over the completed cabling system and associated infrastructure fully warranted and operational for acceptance by Technology Services.
2. This specification includes structured cabling design considerations, product specifications and installation guidelines for low-voltage network systems and associated infrastructure including, but not limited to:
 - a. Cabling Sub-system 1 – Horizontal Copper
 - b. Cabling Sub-system 2 - Intrabuilding Fiber Backbone Cabling

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- c. Cabling Sub-system 3 – Interbuilding Fiber Backbone Cabling
 - d. Telecommunications Pathways
 - e. Communications Racks and Cable Managers
 - f. Communications Grounding Systems
 - g. Cabling Labeling and Administration
3. In addition to systems specifications, this document also addresses applicable codes and standards, contractor qualifications and requirements, system warranties and system testing and acceptance.
4. Products to be used in Williamson County network infrastructure projects are listed in “Appendix C” at the end of this document.

C. Applicable Regulatory References

1. Contractor is responsible for knowledge and application of current versions of all applicable standards and codes. In cases where listed standards and codes have been updated, Contractor shall adhere to the most recent revisions, including all relevant changes or addenda at the time of installation.
2. ANSI/TIA:
- a. TIA-526-7 (OFSTP-7) (2008) Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
 - b. TIA-526-14-B (2010) (OFSTP-14) Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant
 - c. ANSI/TIA/EIA-598-C (January 2005) Optical Fiber Cable Color Coding
 - d. ANSI/TIA-568-C.0 (September 2010) Generic Telecommunications Cabling for Customer Premises
 - e. TIA-568-C.0-1 (September 2010) Generic Telecommunications Cabling for Customer Premises- Addendum 1, Updated Reference for Balanced Twisted-Pair Cabling
 - f. ANSI/TIA-568-C.1 (February 2009) Commercial Building Telecommunications Cabling Standards
 - g. TIA-568-C.1-2 (November 2011) Commercial Building Telecommunications Cabling Standard, Addendum 2 General Updates
 - h. ANSI/TIA-568-C.2 (August 2009) Balance Twisted Pair Communications and Components Standards
 - i. TIA-568-C.2-2 (November 2014) Balanced Twisted-Pair Telecommunications Cabling and Components Standard, Addendum 2: Additional Considerations for Category 6A Patch Cord Testing
 - j. TSB-155-A: Guidelines for the Assessment and Mitigation of Installed Category 6 Cabling to Support 10GBASE-T
 - k. TSB-184: Guidelines for Supporting Power Delivery Over Balanced Twisted-Pair Cabling

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- l. ANSI/TIA-568-C.3 (June 2008) Optical Fiber Cabling Components Standard
- m. ANSI/TIA-568-C.3-1 (December 2011) Optical Fiber Cabling Component Standard- Addendum 1, Addition of OM4 Cabled Optical Fiber and array connectors
- n. TSB-4979 (August 2013) Practical Considerations for Implementation of Multimode Launch Conditions in the Field
- o. TIA, TSB-140 Additional Guidelines for Field-Testing Length, Loss and Polarity of Optical Fiber Cabling Systems
- p. ANSI/TIA-1183 (August 2012) Test Fixtures for Balun-Less Measurements of Balanced Components and Systems
- q. ANSI/TIA-568-C.4 (July 2011) Broadband Coaxial Cabling Components Standard
- r. ANSI/TIA-942-A (August 2012) Telecommunications Infrastructure Standard for Data Centers
- s. ANSI/TIA-942-A-1 (March 2013) Telecommunications Infrastructure Standard for Data Centers, Addendum 1 - Cabling Guidelines for Data Center Fabrics
- t. TIA-569-C (May 2012) Telecommunications Pathways and Spaces
- u. TIA-569-C.1 (February 2013) Telecommunications Pathways and Spaces Addendum 1- Revised Temperature and Humidity Requirements for Telecommunications Spaces
- v. TSB-190: Guidelines on Shared Pathways and Shared Sheaths
- w. ANSI/TIA-606-B (June 2012) Administration Standard for Telecommunications Infrastructure
- x. TIA-607-C (November 2015) Generic Telecommunications Grounding (Earthing) and Bonding for Customer Premises
- y. TIA-607-B-1 (January 2013) Generic Telecommunications Grounding (Earthing) and Bonding for Customer Premises - External Grounding Addendum
- z. TIA-607-B-2 (August 2013) Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises Addendum 2 – Structural Metal
- aa. TIA-758-B (April 2012) Customer-Owned Outside Plant Telecommunication Infrastructure Standard
- bb. ANSI/TIA-598-C-2005, Optical Fiber Cable Color-coding
- cc. TIA-1152 (September 2009) Requirements for Field Test Instruments and Measurements for Balanced Twisted-Pair Cabling
- dd. ANSI/TIA-862-A (April 2011) Building Automation Systems Cabling Standard
- ee. TIA-1005-A (June 2012) Telecommunications Infrastructure Standard for Industrial Premises
- ff. TSB-162-A (November 2013) Telecommunications Cabling Guidelines for Wireless Access Points
- gg. ANSI/TIA-4966 (May 2014) Telecommunications Infrastructure Standard for Educational Facilities

3. ISO/IEC

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- a. ISO/IEC 11801 Edition 2.2: Information Technology – Generic Cabling For Customer Premises
 - b. ISO/IEC TR 11801-99-1 – Balanced cabling for 40Gbps channels – (2014-2015)
 - c. ISO/IEC 24764 Edition 1.0: Information Technology – Generic Cabling Systems For Data Centres
 - d. ISO/IEC 24764-1 - Data Centers - Amendment to add Intermediate Distributor (ID) for large or modular data centers
 - e. ISO/IEC 14763-2 Edition 1.0: Implementation and Operation of Customer Premises Cabling – Part 2: Planning and Installation
 - f. ISO/IEC 14763-3 Edition 2 – Testing of Optical Fiber Cabling – methods for inspection and testing of installed optical fiber
 - g. ISO/IEC TR 29125:2010 Information technology -- Telecommunications cabling requirements for remote powering of terminal equipment
4. National Electric Codes
- a. National Electrical Safety Code (NESC) (IEEE C2-2012)
 - b. ANSI/NFPA 70-2011, National Electrical Code® (NEC®)
 - c. ANSI/IEEE C2-207, National Electrical Safety Code®
 - d. National Electrical Code (NEC) (NFPA 70)
5. OSHA Standards and Regulations – all applicable
6. Local Codes and Standards – all applicable
7. BICSI – Building Industry Consultative Services International
- e. ANSI/BICSI 005-2013, Electronic Safety and Security (ESS) System Design and Implementation Best Practices
 - f. Information Transport Systems Installation Methods Manual (ITSIMM), 6th Edition
 - g. ANSI/BICSI 002-2011, Data Center Design and Implementation Best Practices
 - h. Network Systems and Commissioning (NSC) reference, 1st Edition
 - i. ANSI/NECA/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling
 - j. NECA/BICSI 607-2011, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings
 - k. BICSI-003-2014 Building Information Modeling (BIM) Practices for Information Technology Systems
 - l. Telecommunications Distribution Methods Manual, 13th Edition
 - m. AV Design Reference Manual, 1st Edition
 - n. Network Design Reference Manual, 7th Edition

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- o. Outside Plant Design Reference Manual, 5th Edition
 - p. Wireless Design Reference Manual, 3rd Edition
 - q. Electronic Safety and Security Design Reference Manual, 3rd Edition
 - r. Commercial Installation On-the-Job Training Booklet
 - s. Telecommunications Project Management (TPM) reference, 1st Edition
8. Anywhere cabling standards conflict with one another or with electrical or safety codes, Contractor shall defer to the NEC and any applicable local codes or ordinances, or default to the most stringent requirements listed by either.
9. Knowledge and execution of applicable standards and codes is the sole responsibility of the Contractor.
10. Any violations of applicable standards or codes committed by the Contractor shall be remedied at the Contractor's expense.

D. Wilco Substitution Policy

1. This is a performance-based specification developed from the experience of Technology Services in providing exceptional solutions for all our facilities and departments. As such, substitution of specified systems is discouraged, but allowed if Contractor strictly follows Substitution Policy outlined below.
2. Contractors offering product substitutions or equivalents are responsible for proving equal or superior mechanical and transmission performance to those products listed herein.
3. The process for substituting products other than those specified is as follows:
 - a. Any Contractor wishing to offer structured cabling or associated infrastructure products other than those specified shall submit a request for product substitution in writing no less than one week in advance of bid.

Written requests for substitution shall be accompanied by three samples of the substitution product along with associated drawings, specification sheets and engineering documents for evaluation by Technology Services.

Any copper or fiber cabling products that carry signal shall be accompanied by third party laboratory performance test reports from an ITS/ETL proving equivalency in transmission performance.

4. Equal product acceptance must be received from Wilco in writing to be valid.
5. Contractor shall assume all costs for removal and replacement of any substituted product installed without prior written approval. Such costs shall include but not be limited to labor, materials as well as any penalties, fees or costs incurred for late completion.

E. Contractor Qualifications

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

1. General

- a. Contractor must have at least 5 years documented experience installing and testing structured cabling systems of similar type and size. Contractor must also provide a list of key installation personnel, their hire dates, and a resume of their experience. Key installation personnel shall include at least one foreman and one journey level installer or technician. By submitting the names of these personnel, the contractor is committing them to the execution of the project outlined in this specification. No temporary labor shall be allowed, all contractor employees shall be full time, and proof showing full time employment must be on file.
- b. Contractor shall have offices and service personnel based with a fifty-mile radius of Williamson County and be capable of same-day response to service calls.
- c. At anytime Wilco can request background checks on personnel working on county property.

Contractor shall employ at least one BICSI Registered Communication Distribution Designer "RCDD". The RCDD shall provide approval on the design, installation, and documentation of this communications system along with making sure all Panduit Certification Plus System Warranty documentation and requirements are met and submitted to Panduit upon completion of the project. The RCDD must be local to the office where work is taking place.

The contractor shall not subcontract voice/data/video/fiber cabling, termination or testing without the written permission of Panduit and Williamson County. If any work is subcontracted it shall be to [an approved Panduit PartnerONE Certified Installer \(Silver/Gold/Platinum\) in good standing](#).

Contractor shall have all necessary permits, licenses, and inspections required for the performance of data, voice, and fiber optic cable installations.

Contractor shall be a current [Panduit PartnerONE Certified Installer \(Silver/Gold/Platinum\)](#) or accepted substitute manufacturer (See Substitution Policy). A copy of the corporate manufacturer certification must be included with all quotes.

At least 30 percent of the technicians on the job must have a current Panduit Certified Copper Technicians certificate, or accepted substitute manufacturer, to install copper distribution systems.

At least 30 percent of the technicians installing any Fiber Distribution Systems must have a current Panduit Certified Fiber Technicians certificate, or accepted substitute manufacturer certificate, to install fiber distribution systems

The Telecommunications contractor must provide a project manager to serve as the single point of contact to manage the installation, speak for the contractor and provide the following functions:

- Initiate and coordinate tasks with the Williamson County Project Manager and others as specified by the project schedule.
- Provide day to day direction and-site supervision of Contractor personnel.
- Ensure conformance with all contract and warranty provisions.
- Participate in weekly site project meetings.
- This individual will remain project manager for the duration of the project. The contractor may change Project Manager only with the written approval of Williamson County.

Contractor Project manager must be manufacturer certified in the copper and fiber information transport systems to be installed.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

2. References

- a. Communications Contractor shall provide with bid, a list of three reference accounts where similar Data, Voice, Fiber Optic Cable, and related equipment installation work was performed within the last year (twelve-month period).

3. Termination of Services

- a. Williamson County reserves the right to terminate the Communication Contractor's services if at any time the Technology Services Engineer or Facilities Project Manager determines the Communication Contractor is not fulfilling their responsibilities as defined within this document.

Contractor's appearance and work ethics shall be of a professional manner, dress shall be commensurate with work being performed.

Dress displaying lewd or controversial innuendos will strictly be prohibited.

Conduct on Williamson County property will be professional in nature.

Any person in the Contractor's employ working on a Williamson County project considered by Williamson County to be incompetent or disorderly, or for any other reason unsatisfactory or undesirable to the Department of Technology Services, such person shall be removed from work on the Wilco project.

Upon termination, the Communications Contractor shall be restricted from the premises and compensated for the percentage of work completed satisfactorily.

4. Other Contractor Responsibilities

- a. All Contractors working within a Wilco facility are fully responsible for understanding and adhering to all rules and requirements listed in Appendix A – "Wilco Contractor/Vendor Rules and Regulations".
- b. All Contractors working within a Wilco facility department is fully responsible for understanding and adhering to all rules and requirements listed in Appendix B – "POLICY & PROCEDURE CONCERNING ALL ELECTRICAL, TELECOMMUNICATIONS AND NETWORKING INSTALLATIONS AND/OR MODIFICATIONS".
- c. Confirmation of Pathway and Cable Manager Sizing:
 - Wherever cabling pathways or managers are installed, it is the Contractor's responsibility to confirm pathway or manager sizing to represent no more than 35% fill according to manufacturer's fill charts based on projected cable densities when racking systems and cabling pathways are fully populated.
 - Pathways overfilled upon installation will not be accepted and shall be remedied at Contractor expense.
- d. Contractor is responsible for the removal and disposal of all installation and construction debris created in the process of the job. All work areas will be cleaned at the conclusion of the workday and no tools or materials shall be left in a manner as to pose a safety hazard.

Contractor must remove all abandoned cable per Article 800 of the National Electrical Code and per TIA and BICSI standards, recycling these materials where possible. Removal of orphaned cable is mandatory. Contractors must consider this when placing bids.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

Contractor shall abide by the regulations set by local Williamson County's Security Policy pertaining to access and conduct while on Wilco property.

Contractor shall all obey all posted speed limits and parking regulations at the Williamson County facilities where the work is being performed.

F. Warranty

1. General

- a. Contractor shall provide a [Panduit Certification Plus Warranty](#) on all copper and fiber permanent cabling links.

It is understood the [Panduit Certification Plus Warranty](#) is a system performance warranty guaranteeing for 25 years from acceptance that the installed system shall support all data link protocols for which that Category of copper cabling system or fiber OM/OS designation of fiber optic system is engineered to support according to current and future IEEE and TIA standards.

The [Panduit Certification Plus Warranty](#) may be invoked only if the cabling channel links are comprised of continuous [manufacturer approved](#) components, including patch cords, equipment cords and fiber jumpers.

Upon acceptance of Warranty, Panduit will mail a notification letter to the installer and a notification letter and warranty certificate to Williamson County.

2. Contractor Warranty Obligations

- a. Installation firm (Contractor) must be a current [Panduit PartnerONE Certified Installer \(Silver/Gold/Platinum\)](#) or approved equivalent manufacturer in good standing and shall include a copy of the company installation certification with the bid.

Contractor shall name a supervisor to serve on site as a liaison responsible to inspect and assure all terminations are compliant to factory methods taught in Panduit Technician Certification Training, or approved equal, and according to all Standards cited in the Regulatory References section of this document.

Contractor liaison (project supervisor) shall have a current, up-to-date Panduit Certified Technician (PCT) certificate in both copper and fiber. Copies of the copper and fiber certificates of the Panduit liaison shall be submitted with the bid. These requirements are the same for accepted equivalent manufacturers. See "Substitution Policy" for mandatory procedure when offering substitutions.

Fiber optic cabling system additions and upgrade to existing facilities shall match the fiber type (OM/OS designation) of the system to which it is being installed. Contractor shall under no circumstances mix different OM/OS classes of cable or termination devices (connectors) within the same system.

All intra-building new fiber optic installations shall utilize an appropriate cable construction as specified herein.

All UTP cable pulled and terminated shall be Category 6/[6A](#) cable and connectivity whether new or legacy systems.

All UTP terminations within the Williamson County (new) projects shall be terminated using the T568B pin-out (wire map). Legacy additions shall match the copper pin-out of the facility to which cabling is being added-to or upgraded.

Contractor shall install all racking and support structures according to cited Standards in such fashion as to maintain both cited industry standards as well as manufacturer recommendations for uniform support, protection, and

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

segregation of different cable types,

Contractor is responsible for maintenance of maximum pulling tensions, minimum bend radius, and approved termination methods as well as adhering to industry accepted practices of good workmanship.

Contractor is responsible for understanding and submitting to Panduit all documents required prior to project start to apply for the [Panduit Certification Plus Warranty](#). These include but are not limited to the project information form and SCS warranty agreement. These requirements are the same for accepted equivalent manufacturers. See "Substitution Policy" for mandatory procedure when offering substitutions.

Contractor is responsible for understanding and submitting to Panduit all documents required at project end. These include, but are not limited to completed warranty forms, passing test reports and drawings of floor plans showing locations of links tested. These requirements are the same for accepted equivalent manufacturers. See "Substitution Policy" for mandatory procedure when offering substitutions.

Test results shall be delivered in the tester native format (not Excel) and represent the full test report, summaries shall not be accepted. Contact your Panduit representative for a current list of approved testers, test leads and latest operating systems.

The Communications Contractor will correct any problems and malfunctions that are warranty-related issues without additional charge to Williamson County for the entire warranty period.

The warranty period shall commence following the final acceptance of the project by Williamson County and written confirmation of Warranty from Panduit. These requirements are the same for accepted equivalent manufacturers. See "Substitution Policy" for mandatory procedure when offering substitutions.

<END OF SECTION>

II. Installation and Maintenance Guidelines

A. Maintenance of Patch Fields

1. Any persons, whether with a Contractor or Williamson County, adding or moving copper or fiber optic patch (equipment) cords shall do so in a neat, workmanlike fashion in keeping with the intended cable management concept and according to all industry best practices as outlined in cabling standards and applicable BICSI publications referenced in this document.
2. Persons performing such moves, adds or changes (MACs) shall further adhere to the following:
 - a. Use existing cabling management pathways and take care to place cable like with like, maintaining original segregation strategies for separating fiber and copper cables as well as any separation necessary between different types of copper cables.

Cables shall be dressed neatly within patch management pathways with care taken to maintain minimum bend radius of not less than 4 times the cord outer diameter for copper and not less than a 1" bend radius for fiber jumpers as per ANSI/TIA 568-C.0.

All patch cords used shall be of same copper Category or fiber OM/OS designation as the media used in the permanent cabling links.

Patching in all cases shall be done using factory terminated cords manufactured for that purpose. Hand terminated patch cords will not be accepted.

All patch cords or jumpers must be completely contained within supplied cable management paths. Cables draped across the front cabinets or racks will not be accepted and shall be remedied at Contractor's expense.

Any persons installing or moving fiber optic patch cords for any reason will clean the connector with lint-free wipes and 99% or higher isopropyl alcohol before replacing the connector in a patch or equipment port.

Any technicians, whether with Williamson County or Contractors performing moves, adds or changes within patch field will label additions to the system according to the labeling conventions in place at that facility.

Any persons with Williamson County or installing Contractor performing moves, adds or changes within patch field will record the move according to record system in place at that facility.

B. Cable Pulling and Termination

1. General
 - a. Contractor is responsible for installing systems according to all applicable codes and the standards cited in this document.

Contractor shall use grommets/[bushings](#) to protect the cable when passing through metal studs or any openings that can possibly cause damage to the cable. This includes grommets on ends of hard conduit where used.

Do not deform the jacket of the cable. The jacket shall be continuous, free from pinholes, splits, blisters, burn holes or other imperfections.

Install proper cable supports, spaced less than 5 feet apart, and within manufacturer's requirements for fill ratio and

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

load ratings.

Leave a pull string to the end of each conduit run. Replace pull string if it was used for a cable pull.

Note service loops may not touch the drop-ceiling assembly. Any portion of the communications cabling contacting ceiling structures must be remedied at the Contractor expense.

Label every cable within 12 in. of the ends with self-laminating wire wrap cable appropriate to that cable size. Use a unique number for each cable segment as required by the project documentation and the labeling section of this document.

Dress the cables neatly with hook and loop [fire retardant](#) cable ties. Plastic ties are **NOT** approved

Contractors installing cabling systems in Williamson County facilities shall install plenum rated cable in all instances. Non-plenum cable is not allowed and shall be removed at Contractor's expense.

2. Copper

- a. When making additions to legacy systems, Contractor shall match the cabling configuration (pinout) of the existing systems. Legacy systems at Williamson County are in most cases T568B.

Within all new installations within Williamson County facilities, contractor shall use copper pinout T568B.

All four pair Category 6/[6A](#) cable runs shall be kept to a maximum permanent link length of 83 meters when using a total 10 meters of 28 awg" small diameter" patch cords.

Use low to moderate force when pulling cable. Maximum tensile load may not exceed 25' lbs. maximum pulling force per 4 pair cable.

No pathway, including conduits shall have greater than a 35% fill per manufacturer fill charts. Contractor is responsible for bringing to the attention of Williamson County project manager any insufficiently sized conduit or cable pathways discovered on site or in project documentation.

Keep Category 6/[6A](#) cables as far away from potential sources of EMI (electrical cables, transformers, light fixtures, etc.) as required in cited TIA Standards.

All copper horizontal cabling shall have slack service loops no less than 12" at the work area (equipment outlet) and not less than 3 feet in the telecommunications room.

Service loops may be wall mounted or contained in pathways or racking systems if done in a neat, workmanlike fashion [using concentric circles or s-turns](#).

All UTP patching shall be accomplished using modular patch panels as indicated elsewhere in this document.

All removed copper cable is to be disposed of in a Williamson County recycling bin designated for "copper" or removed from the property to be disposed of by Contractor if this is the instructions in the project documentation.

3. Fiber

- a. When making additions to legacy systems, Contractor shall match the fiber type and fiber connectors used within that system.

Within all new fiber installations within Williamson County, contractor shall [utilize an approved fusion splice termination method](#). See product section and Appendix C for details.

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When installing fiber cable, Contractor shall maintain a minimum bend radius, both under pulling load and static (installed), per requirements outlined within TIA standards, or manufacturer's recommendations, whichever is the most stringent.

Fiber terminations shall be done according to recommendations of TIA, manufacturer's requirements and accepted industry best practices.

All unjacketed fiber shall be contained within appropriate fiber enclosures. Exposed tight-buffered or loose-tube strands will not be tolerated and shall be remedied at Contractor's expense.

Contractor shall perform test setup and testing according to guidelines in the "Testing and Acceptance" section of this document.

<END OF SECTION>

III. Cabling Systems and Associated Infrastructure

A. Cabling Subsystem I – Horizontal Cabling System

1. Horizontal Cabling systems will NOT be utilized within the Rackspace. There will be 1U between the Patch Panel and the next to allow a 48P Switch to fit in-between and the utilization of 1ft Cables will be used.
2. Metal Conduit
 - b. Contractor shall size conduit large enough to accommodate at least 50% growth. I.e. conduit for 4 cables shall be sized to accommodate 6 cables at less than 40% calculated fill based on cable OD.
3. Equipment Outlets (Faceplates)
 - a. When adding horizontal cabling to existing facilities within Williamson County, Contractor shall match the existing cable plant regarding color of existing raceway and faceplates.

Flush mount faceplates in new projects shall be Panduit Mini-Com® faceplates (or approved equivalent) with label fields as called for in the project documentation.

- Faceplates with no labels shall include painted combination head screws.
 - The faceplates shall mount to standard U.S. NEMA boxes and adapters with screw-to-screw dimensions of 3.28" (83.3mm).
 - Faceplates shall be available with or without labels.
 - Dedicated sloped versions shall be available for improved bend radius control and decreased requirements in wall depth.
 - Each faceplate shall accept Mini-Com ® modules that can be individually inserted and removed as required.
- b. See Appendix C for faceplate part numbers.
4. Equipment Outlets – Surface Boxes
 - a. Wireless access points on walls and ceilings utilize Category 6A horizontal runs (drops)
 - Terminated at location with TX6A™ Category 6A Field Term RJ45 Angled Plug
 - b. IP Cameras on walls and ceilings utilize Category 6A horizontal runs (drops)
 - Terminated at location with Two-hole Boxes (Ceiling) or Junction Box with Mini-Com single gang vertical faceplate (Wall).
 - c. Two-hole boxes shall further meet the following requirements:
 - Boxes shall be in electric ivory or international white as called for in project-specific documentation.
 - Able to accept all Mini-com ® Modules
 - Include mounting screws and adhesive tape

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- Be compatible with Panduit® LD3, LD5, and LD10 Raceway.

5. Copper Jacks

- a. Modular jacks shall be Panduit Category 6/6A Mini-Com® TG-Series Jack Modules (or approved equivalent) and have the following characteristics.
 - The eight position modules shall be used in all work areas and shall meet the connector requirements of the TIA/EIA Category 6/6A standard.
 - The wiring scheme label shall be available with both T568A and T568B wiring schemes.
 - The modules shall terminate four pair 24 and 22 AWG 100-ohm solid unshielded twisted pair cable.
 - The modules shall be universal in design, including complying with the intermate ability standard IEC 60603-7 for backward compatibility.
 - Category 6/6A modules shall have UL and CSA approval. The modules shall have ETL verified Category 6/6A performance and ISO Class E performance (as defined in ISO/IEC 11801) in both the basic and channel links.
 - They shall be rated for 75°C maximum operating temperature heat capacity.
 - They shall be universal in design, accepting six or eight pair modular plugs without damage to the outer module contacts.
 - The modules shall be able to be re-terminated a minimum of 10 times and be available in 11 standard colors for color-coding purposes.
 - The module shall snap into all Mini-Com® outlets and patch panels.

Consult project documentation for jack color coding in use for that installation.

See Appendix C at the end of this document for part numbers.

6. Category 6/6A Unshielded Twisted Pair Cable

- a. Category 6/6A UTP cable shall be plenum jacket.

For cable colors on actual project, consult the project documentation.

See Appendix C at the end of this document for cable part numbers.

7. Distributor I (Horizontal Patch Panels) – standard density patch panels

- a. Williamson County copper patch panels in the horizontal patch fields shall be flat 1 RU or 2 RU Mini-Com® type with frames of either metal or molded polymer.
 - Patch panels shall be available in standard density 24 and 48-port configurations.
 - Patch panels include pre-numbered labels with writable surface

For instructions for which patch panel to use consult project-specific documentation.

For detailed part numbers see “Appendix C” at the end of this document.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

8. Small Diameter Category 6/6A Copper Patch Cords

- a. Copper patching of Category 6/6A links in Williamson County facilities shall use Panduit 28 awg “small diameter” patch cords having the following characteristics:
 - Cable diameter not more than 0.150 in. (3.8mm) nominal.
 - FCC and ANSI compliance: Meets ANSI/TIA/EIA-1096-A; contacts plated with 50 micro inches of gold for superior performance.
 - IEC compliance: Meets IEC 60603-7 c (UL) US listed: UL 1863, CSA standard C22.2.
 - PoE compliance: Meets IEEE 802.3af and IEEE 802.3at for PoE applications in bundle sizes up to 48 cables.
 - Operating temperature: 14°F to 140°F (-10°C to 60°C).
 - Storage temperature: -40°F to 158°F (-40°C to 70°C).
 - Plug housing: UL94V-0 rated clear Polycarbonate.
 - Contacts: Gold plated phosphor bronze.
 - RoHS compliance: Compliant.
 - Flammability rating: CM/LSZH dual rated.

For in telecom patch fields, Wilco projects use color coded small diameter patch cords to indicate various circuits. These colors and circuits they represent are as follows:

Blue = Common Data Drops
Black = Utility (AC/Building Maint.)
Yellow = Security (Cameras/Door Access)
White = Wireless AP
Red = Public Safety

Consult project documentation for how color coding is to be used on that job.

See Appendix C for part numbers.

9. Surface Mount Raceway – Wall Mount

- a. Panduit LD-Series or T-Series Raceways.

10. Modular Furniture Raceway

- a. Office and administrative areas repurposing used modular furniture may require additional cable pathway space and shall utilize Pan-Way ® Office Furniture Raceway System, or approved equivalent.
- b. Such modular furniture raceway shall provide cable paths along the top of modular furniture partitions dropping services (equipment outlets) at work surface level.

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c. Modular furniture raceway must meet the following requirements:

- UL listed in accordance with UL-5C requirements for Class 2 Communication Cable Management Systems.
- Maintains bend radius control throughout the entire office furniture raceway system as required by TIA/EIA-568-B and 569-B.
- Faceplates are compliant with the labeling requirements of the TIA/EIA-606-A standard.
- Robust design and tamper resistant closure increases product stability and prevents damage to cabling during and after installation.
- Product supplied with adhesive backing for fast and easy installation.
- Creates a virtually invisible solution for routing data cables on panels from all common manufacturers with a top cap width between 1.88" and 2.30".
- Designed for use with Mini-Com ®Connectivity, also accepts all common manufacturers' connectivity with use of a NEMA standard 70mm faceplate or module frame.

Consult Appendix C for part numbers.

11. Power and Communications Poles

- a. Many Wilco offices use power/communications poles to deliver power and data cables from the ceiling into the work area space below.
- b. See Appendix C for part numbers for 11' and 13' power/communications poles.

C. Cabling Subsystem II – Intrabuilding Fiber Backbone

- a. Intrabuilding single mode Fiber Trunks are for Use within Buildings.
- b. On additions to existing Williamson County fiber cable plant, Contractor shall match existing fiber and connector types.
- c. In new Williamson County projects, backbone fiber running between telecom spaces within buildings (cabling subsystem II) shall be single mode Opti-Core® Fiber Optic Indoor **Plenum Rated** Interlocking Armored Cable **and** shall further have the following characteristics:
 - Used in intrabuilding backbone, building backbone, and horizontal installations for riser (OFCR), plenum (OFCP), and harsh environments
 - Interlocking aluminum armor eliminates the need for inner duct or conduit to provide a smaller crush resistant pathway for design flexibility and a lower installed cost
 - Fiber strand count listed in drawings.
 - Sheath markings provide positive identification, quality traceability, and length verification
 - 900µm standards-based color-coded buffer coating protects fibers during handling and allows for easy identification and stripping
 - Cable design and flexible buffer tubes allow for quick breakout and ease of routing

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

Contractor shall terminate tight-buffered cable constructions with Panduit Opti-cam LC fiber connectors.

See Appendix C for part numbers.

D. Cabling Sub-system III – Interbuilding Fiber Backbone

1. Single mode Fiber Trunks for Use Between Buildings

- a. On additions to existing Williamson County fiber cable plant. Contractor shall match existing fiber and connector types.

In new Williamson County projects, backbone fiber running between buildings (cabling subsystem III) shall be Panduit Opti-Core® Gel-Free Fiber Optic Indoor/Outdoor All-Dielectric Cable, or approved equivalent.

Loose tube outside plant cable shall be terminated in the entrance facility using [approved](#) Panduit [fusion pigtails](#) with appropriate [Panduit fan-out kits](#), [splice trays](#), and [splice holders](#).

Fanout kits shall have the following properties:

- Used to build up 250µm fiber to 900µm loose buffered coating size for connector termination
- • Include 900µm hollow tubing and plastic housings
- • Include adhesive tape for mounting
- • Include TEFLON* powder for easy insertion of fibers

Refer to Appendix C for part numbers.

Interbuilding fiber trunks must have the following features:

- Allows installation using loose tube cable methods within buildings and outdoor environments for transitional aerial and duct applications, and in entrance facilities that require plenum (OFNP) rated cable
- Eliminates the need for building entrance transition point
- All-dielectric cable construction requires no grounding or bonding
- UV resistant cable sheathing meets the light absorption requirement defined by Telcordia GR-20, Issue 2 to withstand harsh outdoor environmental demands
- Dry water-blocking technology allows rapid cable preparation and termination for lower termination costs and time (no messy gel required)
- Available in 6 and 12-fiber counts in “central loose tube” design, and in 24, 36, 48, 72, 96 and 144-fiber counts in a “stranded loose tube” design
- Sheath markings provide positive identification, quality traceability, and length verification
- 250µm buffer coating protects fibers during handling and allows for ease of stripping

See Appendix C part numbers.

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E. Fiber Connectivity

1. LC Fiber Connectors

- a. All LC terminations shall be done with Panduit fusion splice pigtails See Appendix C for part numbers on fiber connectors.

2. Fiber Enclosures

- a. Fiber cable terminations shall be contained in 2 RU or 4 RU Panduit FCE series rack mount fiber enclosures, or Wilco approved equal.
- b. Contractor shall select enclosure size as needed for the number of fibers projected to be in that telecommunication space when fully populated.
- c. Contractor shall fill any unused enclosure space with a blank fiber adapter panel (FAP).
- d. FCE enclosures shall further have the following properties:
 - Be able to hold QuickNet™ Fiber Optic Cassettes, Opticom® Fiber Adapter Panels, or splice modules.
 - Have a slide-out, tilt-down drawer to provide full front access to all fibers and cables.
 - Employ integral bend radius control and cable management appliances for fiber optic patch cords.
 - Have rear cable management for proper slacking/spooling of trunk cable breakouts and interconnect cables.
 - Have multiple trunk cable entry locations and include fiber optic cable routing kit (grommets, cable ties, spools, strain relief bracket, and ID/caution labels) for different installation configurations.

See Appendix C for part numbers.

3. Fiber Adapter Panels

- a. FCE fiber enclosures shall be populated with fiber adapter panels containing either 6 LC single mode duplex fiber adapters, or 12 LC single mode duplex fiber adapters depending on the density needs of the telecom room.
- b. Consult project documentation to determine whether 6 or 12 LC single mode duplex adapters are to be used on a given job.

Contractor is responsible to blank out any enclosure spaces where adapter panels are not used.

Adapter panels shall further have the following features:

- Loaded with TIA/EIA-604 FOCIS-10 compatible adapters.
- Exceed TIA/EIA-568-B.3 requirements.
- Adapter housing colors follow TIA/EIA-568-C.3 suggested color identification scheme.
- Snap quickly into the front of all Opticom® components
- Accept FOCIS-10 compatible senior LC connectors at either end or FOCIS-10 junior LC connectors at the inside end for behind the wall applications.

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- Both ends accept FOCIS-10 compatible senior LC connectors.
- Junior end also accepts FOCIS-10 compatible junior (fixed ferrule/springless) SC connectors.
- Choice of phosphor bronze or zirconia ceramic split sleeves to fit specific network requirements; zirconia ceramic split sleeves are recommended for OM4/OM4 multimode and OS1/OS2 single mode applications.
- Every adapter is laser marked with Q.C. number to assure 100% traceability.

Consult Appendix C for fiber adapter panels and blank adapter panels.

4. Fiber Patch Cords

- a. Fiber patch fields within Williamson County facilities shall utilize riser rated singlemode LC fiber jumpers (fiber patch cords) that have the following properties:
 - LC Duplex Fiber Optic Patch Cords, to allow users easy accessibility in tight areas when deploying very high-density LC patch fields.
 - Jumpers shall be available in OS1, OS2 and single-mode and be available in in riser (OFNR), plenum (OFNP), and low smoke zero halogen (LSZH) rated jacket materials.

See "Appendix C" at the end of this document for single mode LC jumper part numbers.

F. Cable Pathways

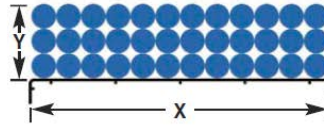
1. Overhead Metallic Pathway

- a. Cable delivery over racking systems in telecommunications rooms shall be done with Wyr-Grid® overhead cable tray routing system or College approved equal.
- b. Any pathway offered must have the following properties:
 - Wyr-Grid® Pathways are provided in four widths: 12" (305mm), 18" (457mm), 24" (610mm), and 30" (762mm).
 - Wyr-Grid® System incorporates non-integral Snap-On sidewalls which minimize specification requirements and are offered in three different heights: 2" (50mm), 4" (102mm), and 6" (152mm).
 - Wyr-Grid® Splice Connectors have an integral bonding screw that creates a mechanical-electrical bond between cable tray pathway sections.
 - Wyr-Grid® Waterfalls are offered in two different configurations that attach to all pathway sections: 12" (305mm), 18" (457mm), 24" (610mm), and 30" (762mm) to facilitate bend radius control and cable management.
 - Wyr-Grid® Support Brackets are offered in various widths to accommodate pathways: 12" (305mm), 18" (457mm), 24" (610mm), and 30" (762mm); have integral quick-clip retention; accommodate 1/2" or 12 mm threaded rods.
- c. All metallic cable trays must be grounded, and all sections bonded in accordance with listing requirements for the system and per TIA 607-B including most recent revisions, TSB and addenda.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- d. Contractor is responsible sizing all pathways to represent no more than a 35% fill upon installation per manufacturer's fill chart below:

Wire Fill for Wyr-Grid® Overhead Cable Tray Routing System



X (in.)	Y (in.)	Internal Area (in ²)	Category 6A (SD) Diameter 6.1mm 0.240"	Category 6A Diameter 7.6mm 0.300"	Category 6 Diameter 6.1mm 0.240"	X (in.)	Y (in.)	Internal Area (in ²)	Category 6A (SD) Diameter 6.1mm 0.240"	Category 6A Diameter 7.6mm 0.300"	Category 6 Diameter 6.1mm 0.240"
12.2	2	24.3	269	172	269	24.2	2	48.3	534	342	534
	4	48.7	538	344	538		4	96.7	1069	684	1069
	6	73.0	807	516	807		6	145.0	1603	1026	1603
18.2	2	36.3	401	257	401	30.2	2	60.3	666	427	666
	4	72.7	804	514	804		4	120.7	1334	854	1334
	6	109.0	1205	771	1205		6	181.0	2000	1280	2000

"Y" equates to the height of the Wyr-Grid® Optional Sidewalls. The internal area defines the allowable fill capacity based on the Wyr-Grid® Pathway width and optional sidewall height. The Wyr-Grid® Pathway cable fill is based on NEC allowable fill of 50%. The above cable diameters represent the nominal Panduit cable diameter per performance level.

All cable trays and grounding conductors should be clearly marked in accordance with manufacturer's instructions, applicable codes, standards and regulations.

Contractor shall take care to segregate and protect armored fiber from copper cabling in metallic pathway.

Bundled copper and fiber backbones shall be dressed to maintain segregation of cable types throughout the pathway. Innerduct or separate fiber duct is not necessary, due to armored construction on fiber backbone.

See Appendix C for part numbers.

2. J-Hooks

- e. J-hook systems used by Williamson County shall be Panduit "J-Pro" series, or approved equivalent.

Contractor installing J-hook systems shall space them no more than 5 feet apart as per TIA 569-C standard.

J-Hook Sizing shall be no greater than 2" and a maximum bundle size of 24 cables. If J-hooks are deemed too small by above criteria, Contractor shall bring this to the attention of Williamson County for resolution in writing.

J-hook systems used by Williamson County shall have the following properties:

- Patented design provides complete horizontal and vertical 1" bend radius control that helps prevent degradation of cable performance.
- UL 2043 and CAN/ULC S102.2 listed and suitable for use in air handling spaces.
- Pre-riveted assemblies allow for attachment to walls, ceilings, beams, threaded rods, drop wires and underfloor supports to meet requirements of a variety of applications.
- Wide cable support base prevents pinch points that could cause damage to cables.
- Cable tie channel allows user to easily install 3/4" (19.1mm) Tak-Ty® Cable Ties to retain cable bundle.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- Durable non-metallic J Hook materials provide the ability to manage and support a large number of cables.
 - Material: Black Nylon 6.6 J Hook with metal attachments.
- f. See Appendix C for part numbers.

G. 19" Racks and Rack-mount Cable Managers

1. General:

- a. Wilco will often use a "active rack/passive rack" strategy, putting all active electronics on one rack and all associated patching on an adjacent rack. Consult project documentation for details on job.

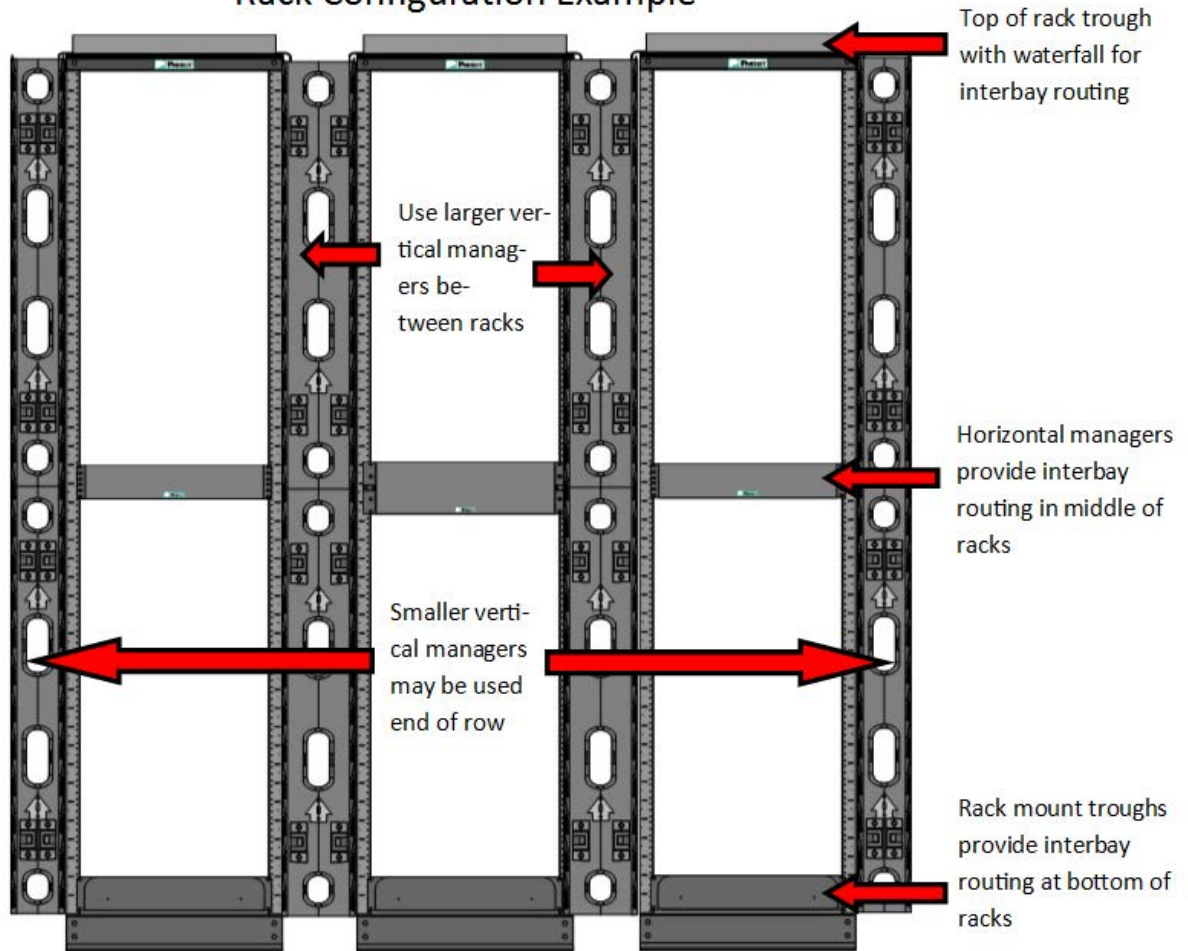
2. Two-post Communications Racks

- a. 2-post racks will be Panduit black-powdered aluminum (or Wilco approved equivalent) and have the following properties:
- 19" EIA rack, aluminum.
 - Dimensions : 84.0"H x 20.3"W x 3.0"D (2134mm x 514mm x 76mm).
 - Rack units numbering up from bottom to allow quick and easy location of rack mount items
 - UL listed for 1,000 lbs. load rating.
 - Double-sided #12-24 EIA universal mounting hole spacing with 24 #12-24 mounting screws included.
 - Accepts all Panduit cable management and patch panel products in addition to any industry standard 19" components.
 - Includes paint piercing washers for assembly to assure electrical continuity between components as per TIA 607-B Bonding and Grounding Standard.

In telecommunications rooms with multi-bay rack rows configured such that patching will take place between racks, Contractor is responsible to include in design interbay routing pathways at the top, middle and bottom of each bay to provide efficient and neat routing between any two points within rack rows.

Interbay routing shall be provided in the form of top troughs, interbay mid-rack path and flanged shelf at the bottom. See rack configuration example below.

Rack Configuration Example



Size all cable managers to contain no more than 35% fill per manufacturer's fill tables upon installation

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

Contractor shall use 4RU trough CMLT19 at the base of each rack.

All racks shall be outfitted with a vertical grounding busbar along one rail, with all equipment bonded to ground according to TIA 607-B Bonding and Grounding Standard. See Bonding and Grounding section of this document for details.

See Appendix C for part numbers.

3. 4 Post Racks

a. Racks in large equipment rooms and data centers may require 4 post racks. These racks shall have the following properties:

- Independent adjustable front and rear mounting rails can be adjusted while the rack is secured to the floor
- Printed rack space identification on all equipment rails allows for quick location of rack spaces, speeding
- installation of rack mount items (shipped numbers up per TIA606 specifications; can be set to number down by flipping the rails)
- Rack is UL listed for 2,500 lbs. load rating
- Rear rail construction provides a clear ventilation path for side ventilated switches
- Multiple mounting holes in top flanges for securing ladder rack
- Weld nut construction eliminates the need for a second wrench increasing speed and ease of assembly
- Multiple mounting locations for vertical power strips on any of the four posts or on the adjustable mounting rails
- Paint piercing washers included

See Appendix C for 4 post racks part numbers.

4. Rack-mounted Cable Management – Vertical Managers

a. Vertical cable managers shall be PatchRunner™2 Vertical Cable Management System in sizes 6" wide, 8" wide, or Wilco approved equivalent.

Contractor will use double sided (front and back) vertical managers on 2-post racks.

All vertical cable managers shall have dual hinged doors.

Contractor shall choose vertical cable manager width according to manufacturer's fill tables to not represent more than a 35% fill at installation based on projected worst-case density when racks are fully populated.

Contractor shall bring to the attention of Wilco any case where the populated rack will exceed 35% upon installation for resolution from the Department of Information Technologies.

Vertical cable managers shall have the following features:

- Large finger openings accommodate up to 24 Category 6 cables

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- Integral cable retainers on the end of each finger to help contain cables within each rack unit
- Bend radius fingers align with rack spaces to support cables as they transition to the vertical pathway
- Dual hinged covers can be opened 110° to the left or right to provide complete access to the cables inside the vertical pathway
- Snap-on cable retainers can be placed on to fingers to help retain cables in channel during installation and maintenance
- Vertical managers include hinged covers, cable retainers, mounting brackets and #12-24 screws

Part numbers are listed in Appendix C.

5. Rack-mounted Cable Management – Horizontal Managers

- a. No horizontal managers will be used, unless there is an absolute need for them.

H. Cable Accessories

1. Cable Ties

- a. Cable bundles on racks and in pathways shall be bundled with re-enterable hook and loop cable ties that come in continuous rolls. **NYLON CABLE TIES ARE NOT PERMITTED UNDER ANY CIRCUMSTANCES.**
- b. Contractor is responsible for using plenum hook and loop ties in air-return spaces.

See "Appendix C" for part numbers.

2. Physical Security Devices

- a. Some portions of Williamson County networks require additional physical security devices. These take three forms:
 - Devices that block-out copper and fiber ports in patch fields and faceplates that require a special tool for removal.
 - Devices that lock-in copper patch cords and require a special tool for removal of those patch cords.
 - Devices that temporarily or permanently block USB ports on laptops and computers.

Areas where such devices are required will be called out in the project documentation.

See Appendix C for part numbers.

I. Communications Grounding Network

1. General

- a. Contractor is responsible for bonding to ground all newly placed equipment and installed racks or cabinets per the TIA 607-B Standard.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

2. Room Busbars

- a. All Telecommunications spaces and distributor rooms shall have installed an appropriately sized wall-mount busbar with BICSI hole spacing that bonds to the building bonding backbone.
- b. See Appendix C for appropriate room telecommunications grounding busbar.

3. Rack and Equipment Grounding

- a. Contractor is responsible for properly grounding all network equipment, racks and cabinets and bonding them to the wall mounted busbars as described in the TIA [607-C](#) standard.
- b. All newly installed racks and cabinets shall have installed a vertical busbar mounted along one equipment rail to serve as a clean, low-resistance bonding place for any equipment not equipped with a designated grounding pad.

Smaller equipment without an integrated grounding pad shall be bonded to the vertical busbar using a thread-forming grounding screw that is anodized green and includes serrations under the head to cut through oxidation or paint on the equipment flange.

Larger equipment (chassis switches) with a designated grounding terminal shall be bonded to the vertical busbar with an EBC (equipment bonding conductor) kit built to that purpose.

Contractor shall take care to clean (wire brush, scotch brite pads) any metallic surface to be bonded down to bare metal and apply a film of anti-oxidation paste to the surfaces prior to effecting the bond.

All bonding lugs on racks and busbars shall be of two-hole irreversible compression type. Mechanical lugs and single-hole lugs will not be accepted and shall be removed and replaced at Contractor's expense.

Every rack or cabinet shall have an individual bonding conductor into the grounding network, serially connecting (daisy-chaining) of racks is expressly forbidden and will not be accepted.

Rack Bonding Conductors (RBC) may tap into an overhead or underfloor aisle ground or may run to the wall-mounted grounding busbar in smaller Telecommunications rooms containing 5 racks or less.

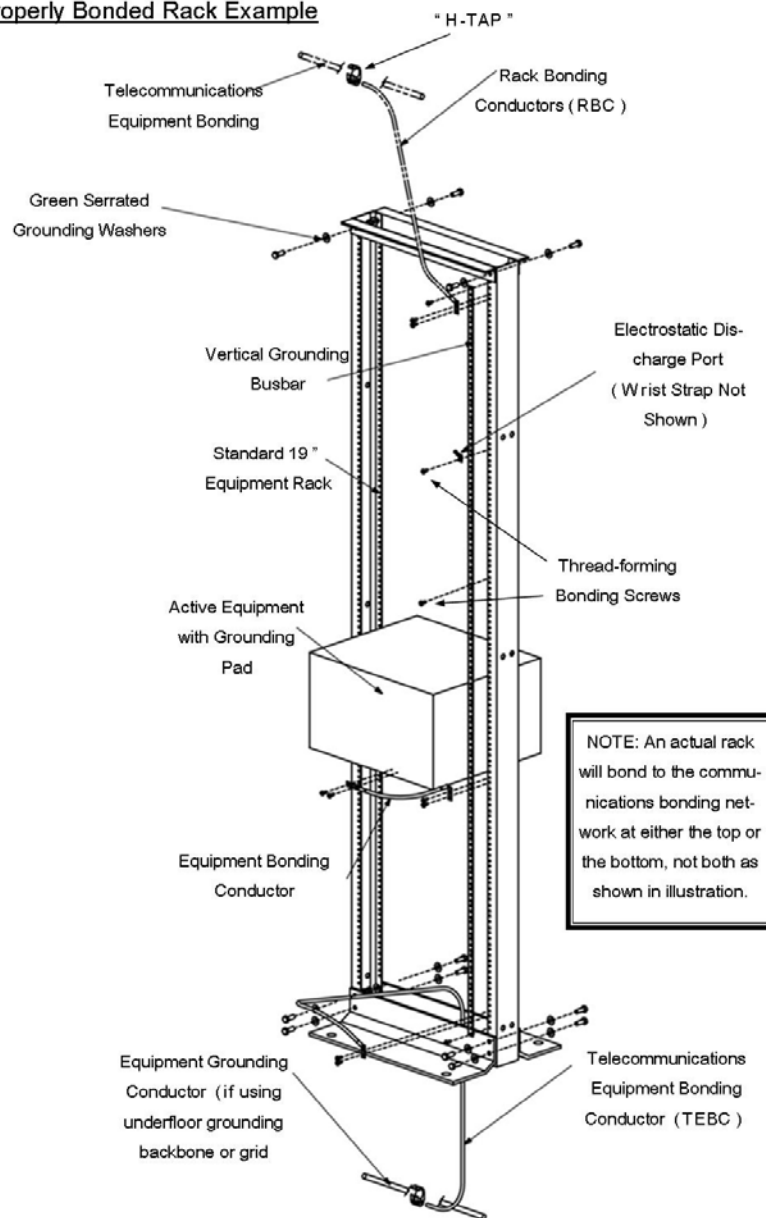
A minimum of every other rack or cabinet shall be outfitted with a properly installed and bonded ESD (electro-static discharge) port along with a wrist strap and lead to be used by any technicians servicing network equipment. On four post racks and cabinets these ESC ports and straps shall be provided on front and back to be accessible and able to reach any active equipment needing servicing.

Armored cables shall be properly bonded to the earthing system on both ends with a kit built to that purpose.

For examples of rack grounding refer to the illustrations below:

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

Properly Bonded Rack Example



<END OF SECTION>

IV. Network Labeling

A. General Requirements

1. When labeling any Williamson County network system, Contractor shall adhere to the following requirements:
 - a. All cabling added to existing "legacy" installations shall follow the labeling convention in place at that location.
 - b. All labeling of installed cabling in new projects shall satisfy all requirements of Williamson County.
 - c. Contractor shall, wherever possible pre-print labels using Panduit Easy-Mark software and laser jet printer, or Wilco approved equivalent.
 - d. The Panduit PanTher (LS8E) hand-held thermal transfer printer or Wilco approved equivalent shall be used on site to print labels that were unanticipated, or that become damaged in application. Preferred Printer: Epson MP300
 - e. This labeling strategy shall, at a minimum, clearly identify all components of the system: racks, cables, panels and outlets, grounding, pathways and spaces like telecommunications rooms.

All labeling information shall be recorded on the as-built drawings and all test documents shall reflect the appropriate labeling scheme.

Labeling will Identify the Floor and Port Number. Ex: 1st floor = 1-201, 2nd floor = 2-201, If there is multiple IDFs on a floor they will be separated as A,B. Example: 1st floor A1-201, B1-201, 2nd Floor A2-201, B2-201.

All label printing will be machine generated by either hand-held labeling systems or computer-generated using programs and materials built specifically for communications labeling.

Handwritten labels will not be accepted and must be remedied at Contractors expense.

Cabling system labels shall utilize materials designed to outlast the cabling elements to which they attach. Office quality labels will not be accepted.

Cable labels shall be self-laminating, appropriately sized to the outside diameter of the cable and placed within view at the termination point on each end.

Outlet, patch panel and wiring block labels shall be installed on, or in, the space provided on the device.

Machine-generated labels shall be installed behind the clear lens or cover on any device that provides such an option.

All labels will be permanently affixed to installed cables, patch panels, racks, cabinets, and enclosures.

Conduit shall be marked indicating the identification of the cable within.

Labels shall be legible and placed in a position that insures ease or visibility.

Label type must be as listed in Appendix C - Materials section at the end of this document.

<END OF SECTION>

V. Testing and Acceptance

A. General

1. All cables and termination hardware shall be 100% tested for defects in installation and to verify cabling system performance under installed conditions.
2. All copper pairs or optical fibers of each installed cable shall be tested and verified prior to system acceptance.
3. Any defect in the cabling system performance or installation including but not limited to cable, connectors, feed through couplers, patch panels, and connector blocks shall be repaired or replaced in order to ensure 100% useable conductors or fibers in all cables installed.
4. All cables shall be tested in accordance with this document, the ANSI/TIA Standards, the PANDUIT® [Certification Plus](#) System Warranty guidelines and best industry practice.
5. If any of these are in conflict, the Contractor shall bring any discrepancies to the attention of the project team for clarification and resolution.

B. Copper Link Testing

1. All twisted-pair copper cable links shall be tested for compliance to the requirements in ANSI/TIA 1152 and ANSI/TIA 568-C.2 for the appropriate Category of cabling installed using a test unit meeting a minimum IEC IIIe level of accuracy.
2. All testers used must have been factory calibrated by the manufacturer within one year of use or according to factory calibration recommendations, whichever is the more stringent.
3. Contractor shall set references according to manufacturer's recommendation prior to each day's testing and reset references anytime tester is left unused for more than two hours.
4. For warranty purposes, Contractor shall perform the appropriate Permanent Link test. Channel Link testing is rendered void by the movement of patch cords and can be run but not used for final acceptance criteria.

C. Fiber Testing

1. All installed fiber shall be tested for link-loss in accordance with ANSI/TIA-C.0 and shall be within limits specified within ANSI/TIA-C.3, or as spelled out in the project documentation.
2. For horizontal cabling system using multimode optical fiber, attenuation shall be measured in **both directions** at 850 nanometer (nm) **and** 1300 nm using an LED light source and power meter.
3. Attenuation testing shall be performed with a stable launch condition using two-meter jumpers to attach the test equipment to the cable plant. The light source shall be left in place after calibration and the power meter moved to the far end to take measurements.

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4. Backbone & WAN single-mode fiber cabling shall be power tested at the 1310 and 1550 wavelengths in both directions. OTDR traces shall be performed in both directions at 1310 and 1550 wavelengths. End face termination/connector captures shall be performed on each connector with a passing result.
5. Test set-up and performance shall be conducted in accordance with ANSI/568-C.0 standard, Method B.
6. Where links are combined to complete a circuit between devices, the Contractor shall test each link from end to end to ensure the performance of the system. Only basic link-loss testing with a power meter is required. The contractor can optionally install patch cords to complete the circuit and then test the entire channel. The test method shall be the same used for the test described above.
7. The values for calculating loss shall be those defined in the ANSI/TIA 568-C.3 Standard. If the link loss requirements defined within the standard conflict with those referenced in the project documentation, Contractor shall immediately bring this to the attention of Information Technologies for resolution.

D. System Documentation

1. Upon completion of the installation, the telecommunications contractor shall provide three (3) full documentation sets to Wilco for approval. Documentation shall include the items detailed in the sub-sections below.
2. Documentation shall be submitted within ten (10) working days of the completion of each testing phase. This is inclusive of all test results and draft as-built drawings. Draft drawings may include annotations done by hand. Machine generated (final) copies of all drawings shall be submitted within 30 working days of the completion of each testing phase.
3. Contractor shall submit with drawings a diagram of each telecommunications room with indicating which cabling drops will terminate in which rooms (classrooms). This is both to give an idea of contractor cable plant design, as well as to facilitate future troubleshooting.
4. At the request of the Information Technologies Engineer, the telecommunications contractor shall provide copies of the original test results in tester native format, not spreadsheet.
5. Information Technologies may request that a 10% random field re-test be conducted on the cable system, at no additional cost, to verify documented findings. Tests shall be a repeat of those defined above. If findings contradict the documentation submitted by the telecommunications contractor, additional testing can be requested to the extent determined necessary by Information Technologies, including a 100% re-test. This re-test shall be at no additional cost to the Williamson County.

E. Test Results

1. Documentation shall be provided in electronic format within three weeks after the completion of the project. The media shall be clearly marked on the outside front cover with the words "Project Test Documentation", the project name, and the date of completion (month and year).

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2. The results shall include a record of test frequencies, cable type, conductor pair and cable (or outlet) I.D., measurement direction, reference setup, and crew member name(s). Documentation shall also include test equipment name, manufacturer, model number, serial number, software version and last factory calibration date.
3. Unless the manufacturer specifies a more frequent calibration cycle, an annual calibration cycle is anticipated on all test equipment used for this installation.
4. The test document shall detail the test method used and the specific settings of the equipment during the test as well as the software version being used in the field test equipment.
5. Printouts generated for each cable by the wire (or fiber) test instrument shall be submitted as part of the documentation package. Alternately, the telecommunications contractor may furnish this information in electronic form.
6. The media shall contain the electronic equivalent of the test results as defined by the specification along with the software necessary to view and evaluate the test reports.
7. When repairs and re-tests are performed, the problem found and effective action taken shall be noted, and both the failed and passed test data shall be documented.
8. The As-Built drawings are to include cable routes and outlet locations. Their sequential number as defined elsewhere in this document shall identify outlet locations.
9. Numbering, icons, and drawing conventions used shall be consistent throughout all documentation provided. Williamson County will provide floor plans in paper and electronic (DWG, AutoCAD) formats on which as-built construction information can be added.
10. These documents will be modified accordingly by the Telecommunications Contractor to denote as-built information as defined above and returned to the Williamson County.
11. The Contractors shall annotate the base drawings and return a hard copy (same plot size as originals) and electronic (AutoCAD) form.

<END OF DOCUMENT>

Appendix A – Wilco Contractor/Vendor Rules and Regulations

Wilco Contractor/Vendor Rules and Regulations

Williamson County maintains specific rules and regulations that apply to all contractors and vendors who perform work or provide services. It is the responsibility of the contractor or vendor to ensure that all rules and regulations are always adhered to. Any employee of the contractor or vendor who does not adhere to the rules and regulations will be asked to leave the property and will not be permitted to return. Poor conduct will not be tolerated.

You or your company may not perform any work or services in the building or on the grounds until the following mandatory requirements are met:

1. A certificate of liability insurance for your company must be filed with the Facilities department. The certificate must be current and must meet building insurance requirements for coverage and indemnification.
2. All subcontractors must be approved by Technology Services or Facilities.
3. Each worker, whether employed by your company or by a subcontractor, must possess an understanding of building safety procedures.
4. All permits must be displayed, and a copy must be on file with Facilities.

The following general rules apply to all vendors, contractors and subcontractors:

1. **ALL Facilities are Smoke Free.** No smoking in any area of the buildings, roof or loading docks.
2. All workers are expected to behave professionally. Please remember the importance of your appearance and professionalism in and around our buildings.
3. All contractors must wear proper attire while on the premises. Shirts or hats with profanity are not permitted on the property. All contractor employees must have identification with their company's name on it.
4. All combustible and flammable materials or liquids must be stored properly, and the Facilities Department must be notified of the presence of such materials.
5. Please check in at the Construction site or Facilities department for building access and/or prior to starting any work, unless otherwise specified.

General Requirements:

- 1) All construction and construction related activities will conform to all State, Local, Federal & OSHA laws
- 2) Contractor shall ensure that the construction site and adjoining areas including hallways and access ways are always kept clean. Areas not under construction but affected by or used during construction are to be protected from damage. Floors and carpets are to be covered with protective materials.
- 3) Contractor shall be responsible for the repair of all damages caused by them or their subcontractors.
- 4) Construction signs and/or barriers visible to tenants and guests of the building must be approved by Facilities prior to installation.
- 5) Physical or verbal abuse or harassment of any individual is prohibited.
- 6) Workers will be allowed in area where construction is taking place. All work which requires entering other tenant areas or common areas will be coordinated with Facilities.
- 7) Work being done outside of the hours of 8:00 am – 5:00 pm must be coordinated with Facilities or Technology Services departments.

Cleaning

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- 1) It is expected that all areas outside of the work area will be kept clean to include but not limited to:
 - a) Common areas
 - b) Elevator/Loading dock routes
 - c) Exterior areas
- 2) Work areas must always be kept clean. Each contractor is responsible for removing any trash or debris associated with their work activities. It is the contractor's responsibility to vacuum and dust common areas if work activities create excessive dust and trash
- 3) It is expected that walk off mats will be used at all areas of entry and exit of the space. The mats should be changed frequently to keep a tidy appearance and upon request of Facilities or Technology Services.
- 4) It is expected that if construction deliveries coming from the loading docks cause excessive dirt and damage to the existing finish of the common area floors as deemed by Facilities, the contractor will be expected to reimburse the facility for stripping and waxing or cleaning of the carpet. If this policy is not adhered to, the building will take appropriate action and charge back the contractor all costs associated with the activity.
- 5) If damage does not clean or is unable to be repaired the contractor will be responsible for the replacement of the goods.
- 6) Utility sinks are to be cleaned if used. No construction waste, paint thinner or other obstructing or hazardous materials are to be poured down the drain or left to clog the sinks
- 7) Carpets and flooring within the work area as well as the common areas must always be maintained in a clean and undamaged condition. Contractor shall be responsible for any damage and should report any preexisting conditions prior to the commencement of work.
- 8) Fire Exit doors and/or evacuation pathways must be open at all time and free of debris or clutter
- 9) There will be a mandatory post work inspection completed. This will consist of a representative from Facilities, along with a representative from the company completing the work. This will be to inspect the work completed, as well as the cleanliness of the area at the finish of the project. The associated post inspection form must be completed and signed by both representatives. Any requests made from the facilities department during this time must be met prior to receiving payment for work. If contractor does not comply with post work inspection, they will be back charged for any costs associated to with the issues.

Construction

- 1) All Air Handling Returns must be sealed during construction. Contractors must notify Facilities prior to using any products that could generate dust or odors that may migrate into the buildings HVAC system or other tenant spaces. Off hour restrictions may be required.
- 2) All construction related trash must be properly disposed of in a construction dumpster by contractor. Facilities will approve location.
- 3) A representative of the Facilities department will attend all weekly job meetings.
- 4) The owner reserves the right of first refusal on all demo'd materials
- 5) All Wilco buildings are smoke free
- 6) Any unused materials such as conduit, wiring, building materials must be disposed of by the contractor
- 7) Prevailing wage rates must be posted at the worksite in accordance with M.G.L. ch.149 sec.27. It is the responsibility of the contractor to maintain all state and local postings
- 8) Hot Works- will be coordinated and permitted through the Facilities Department. Prior to any welding, soldering or metal cutting, contractors must present the Facilities Department with a fire plan and proof of fire watch and permit.
 - All Fire alarm wiring must be installed in conduit clearly labeled every 10'

Roof Access

- 1) Roof access must be coordinated with the Facilities Department
- 2) There is no smoking on the roof

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- 3) Clean up all debris including loose screws
- 4) Any damage to the roof will be the responsibility of the Contractor to repair

Shut Down coordination

- 1) All shut down's must be coordinated with the Facilities Department. If the building systems are shut down for any reason, the contractor must first coordinate through Facilities such activities allowing time to notify all appropriate parties. At any time, the contractor accidentally causes a building system to fail, the contractor will be responsible for all costs associated with that failure.
- 2) All shutdowns must be back online by the end of the day. Shutdowns are NOT permitted overnight.
- 3) Facilities or Technology Services must approve that services are back online to their satisfaction BEFORE the contractor leaves the property.

Noise coordination

- 1) All noise will be contained. Please keep all doors closed to help to contain sound as well as dust. No radio music will be allowed
- 2) County occupied space will be handled with the utmost respect.
- 3) Complaints of excess noise will be handled immediately. Management reserves the right to stop all work if the work causes complaints from other tenants. Any charges, fees and/or other costs associated with scheduled or non-scheduled work stoppage is the responsibility of the contractor doing the work.
- 4) All floor and wall penetrations must be fire stopped.

Core Drilling

- 1) Core Drilling or any other work causing noise disruption must be coordinated with the Facilities Department. Absolutely no work will be permitted that in any way disrupts daily activities during class times or normal working hours unless prior authorization from Facilities is granted

Elevator Use

- 1) The elevators will be used according to their proper designation and weight capacity. Freight Elevator will be used for all construction related materials and or utility carts
- 2) Priority use must be given to staff use. Please do not enter an elevator with construction equipment with staff.
- 3) Floor and wall protection must always be used

Loading dock

- 1) Use must be coordinated with Facilities.
- 2) Deliveries must be coordinated with Facilities.
- 3) Loading docks will be kept clean and free of construction materials. Storage is not allowed on or around the loading dock
- 4) Floor protection must be used when entering the common areas from the loading dock
- 5) No Smoking on or around the loading dock area

Security

- 1) A contact lists must be provided to the Facilities department of all Trades, to include emergency contact information
- 2) The list will be given to the Project Manager
- 3) Absolutely no smoking in project area or within any building on site.
- 4) No alcohol is allowed in any project areas.
- 5) Entry to other non-project related spaces or unauthorized areas are strictly prohibited.

Parking

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

- 1) Vehicles will be allowed access on site for unloading and loading purposes only identification. Any Vehicle parked in unauthorized areas will be towed at the owners' expense.
- 2) Overnight parking is not permitted
- 3) Parking of Trailers must have prior authorization from the Facilities department

Insurance:

The Contractor shall purchase and maintain in a company or companies licensed to do business in the state in which the contract services are to be performed, insurance as set forth below which will protect the Contractor, Owner, and the Agent, and their respective employees, agents, successors and assigns, from claims which may arise out of or resulting from Contractor's operations under the Agreement, whether such operations be performed by the Contractor, its subcontractors, or by anyone directly or indirectly employed by any of them for whose acts they may be liable. The Contractor must bring the insurance certificate to the Facilities Department prior to any work commencing.

We require Certificate of Liability Insurance from each vendor we contract with. The following information should be included:

- a. General Liability- minimum coverage \$1,000,000.
- b. Automobile Liability- minimum coverage \$1,000,000.
- c. Workers Comp& Employee Liability
- d. Description of Operations must be filled out. Please include "It is hereby agreed that S.T.C.C. is additionally insured and will be held harmless for all damages you create"
- e. Certificate Holder

Life Safety Procedures

- 1) In the event of a medical emergency, fire or life-threatening emergency, workers should call 911
- 2) Facilities must be notified of any injuries that occur on the property.

Life Safety Systems

- 1) If there is a possibility that the life safety equipment has been compromised, Facilities Department must be notified immediately.
 - a) Facilities Department (512) 943-1666
- 2) No propping open fire doors.
- 3) Contractors must maintain the proper equipment to manage water from a broken sprinkler pipe

<END OF APPENDIX>

Appendix B – Wilco Cabling Policies and Procedures

Williamson County (Wilco) POLICY & PROCEDURE CONCERNING ALL ELECTRICAL, TELECOMMUNICATIONS AND NETWORKING INSTALLATIONS AND/OR MODIFICATIONS

I. Policy

Permits are required for all Electrical, Telecommunication and Network wiring modifications within Wilco buildings PRIOR to commencing work. By requiring prior authorization and pre and post implementation inspections, Wilco will better maintain the integrity and safety of the telecommunications system, alarms, cameras, elevator, fire alarms and electrical wiring. The goal of instituting this policy is to maintain strict control over the wiring and facilities to significantly reduce the probability of system issues, prevent damage to the facilities and maintain compliance with building and fire codes.

It is therefore, the policy of Wilco that existing telecommunications wiring, including electrical, voice, data, and video, as well as telecommunications facilities located in various buildings may not be altered in any way except by written permission from the Facilities Project Manager or Technology Services Systems Engineer.

II. Procedure for Wiring (Telecommunications and Computer)

1. Existing telecommunications and/or computer wiring, and cables may not be altered by anyone except an IT contractor, vendor or Wilco Electrician and must include permission from the Facilities Project Manager or Technology Services Systems Engineer.
2. Wilco System Engineer or Facilities Project Manager shall review and approve the telecommunications and computer wiring and for new and existing buildings.
3. Electrical Inspector shall inspect all telecommunications wiring in new and renovated buildings and projects to ensure proper installation.
4. Any unauthorized wiring found in telecommunication, electrical spaces or within buildings & grounds will be removed immediately at the cost of the department.
5. Any unauthorized wiring which interfaces with telecommunications, wiring or health and safety will be reported to Facilities Department for review. Working with Technology Services, if the wiring is found to be either a safety hazard; or not in conformance with applicable codes; or detrimental to the functioning of the telecommunications system; it shall be removed by the vendor authorized representative, at the expense of the vendor/contractor's or department that installed or authorized it.
6. All telecommunication will be marked identifying their terminal ends and owner.

III. Telecommunications Manholes and Closets

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

1. Any manholes or closets containing telecommunications conduit or electrical wiring shall be under the exclusive control of the Facilities Department.
2. No equipment or storage may be placed in these areas without the Facilities department knowledge and consent. All confined spaces regulations will be complied with for manhole applications including those persons entering the manholes.

IV. Electrical Wiring

1. All electrical wiring will be installed and marked according to National, State and City codes. Only approved licensed and insured vendors/contractors will be approved for such work.
2. Abandoned or discontinued electrical wiring will be properly removed and circuitry identified of such discontinuance.
3. Wilco will review and approve plans for additional wiring before the vendors/contractors performs work.
4. Any unauthorized wiring will be removed at vendor/contractor/departments expense.

Summary of Policy and Procedure

- A. Permits for all wiring will be required. NO EXCEPTIONS
- B. Telecom or electrical wiring will be run in conduit, independently of all other conduit unless the conduit is specifically designated for that particular wiring. Wiring is never to be hung from or connected to HVAC piping or ducts or fire suppression equipment and piping.
- C. All telecommunication and electrical closets are designated areas for Telecom and network equipment. Closets will be organized and free of clutter. Wiring closets are not to be used for storage and will be readily accessible at all times.
- D. All telecom and electrical wiring will be marked with project name and location name and demarcation points. Ends will be clearly marked with destination location.
- E. All work will be completed with the approval of the Facilities Project Manager or Technology Services Systems Engineer.
- F. All holes drilled through walls, ceilings and floors etc. will be fire stopped and labeled. Temporary use or construction means, and methods still must be approved by Facilities and Technology Services
- G. All contractors must sign in at the Construction office daily. Appropriate permits must be posted at the work area. Contractors must submit all hot works permits to Facilities at least 72 hours prior to work. Hot works permits are approved by the Facilities Department. Work

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

may not be done without approval. Contract must arrange with the Facilities Department to be able to take the fire alarm offline with prior to any work being performed

H. Hours for drilling or any other work that will create noise/vibrations during the academic year will only be allowed between 11 p.m. to 7 a.m. unless exceptions are made by the Facilities Project Manager. Any work creating noise done outside those hours will be shut down by the Facilities department.

I. Intervals of labeling of conduits and wiring will be left to the discretion of the Technology services Systems Engineer or designee and wiring code, however a minimum of every 8-10' is required. Labels should be clearly placed and the beginning and end of each run.

K. No employees of Wilco will run, pull, manipulate or extend power, terminated Ethernet or fiber (electrical and computer, phone etc.) except for the Wilco Electrician or Technology Services Systems Engineer for Telecom.

L. Any work on or to power, Ethernet or fiber in any of 's buildings or grounds must be done by a Facilities Approved Vendor. **Technology Services REQUIRES Notification by all vendors working on any of wiring or cabling, new or existing. Notification should include identifying the means and methods of routes.** It is expected that all wires and cables will be run according to State and Federal codes and laws without exception. Any work done that does not meet these requirements will be the responsibility of the contractor.

Requests should be submitted to the Facilities department at least 2 weeks prior to any work being done. In an emergency, the Facilities Project Manager or Technology Services Systems Engineer should be contacted before any work is done.

M. Technology Services (Infrastructure) will coordinate vendor work with the Facilities Department. All bid documents (RFP, RFI etc.) will include these Technology Services policy, procedure, requirements and expectations.

N. All Contractors must provide necessary insurance and certificates to include but limited to, Terms and Conditions, Certificate of Liability Insurance, W9, etc.

<END OF APPENDIX>

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Appendix C – Materials List

Manufacturer	Part Number	Description
		COPPER DISTRIBUTION
Panduit	PUP6004xx-UY	Blue Category 6 UTP cable.
Panduit	CPPKL6ATGxxWBL	Mini-Com 24/48-port category 6-RJ45 patch panel in black, (1/2 RU).
Panduit	CJ688TGxx	Category 6, RJ45, 8-position, 8-wire universal module. Color PN: Blue-BU, Yellow-YL, White-WH, Black-BL, Red-RD
Panduit	UTP28SP*xx	Category 6 Performance, 28 AWG UTP patch cord with TX6™ Modular Plugs on each end. Get Length and color from Wilco ITS.
Panduit	CFPL*IWY	Mini-Com Classic series single gang vertical faceplate.
Panduit	FPUD6X88MTG	TX6A™ Category 6A UTP Field Term Angled RJ45 Plug.
Panduit	HLS-15R0	Tak-Ty ® Hook & Loop Cable Ties, 15' Continuous Rolls
		FIBER DISTRIBUTION SYSTEMS
Panduit	FLCS2/9SOCU9BU	OptiCam Fusion Splice-On Connectors. Fiber LC-UPC Splice-On Connector for 250/900um Fiber, 9um Singlemode
Panduit	FLCS2/9SOCA9AG	OptiCam Fusion Splice-On Connectors. Fiber LC-APC Splice-On Connector for 250/900um Fiber, 9um Singlemode
Panduit	FSPP9**Y	Fiber OS2 singlemode plenum rated indoor interlocking aluminum armored cable. For intrabuilding use between telecom rooms in the same building.
Panduit	FSNP9**Y	Fiber OS2 singlemode plenum rated indoor/outdoor stranded cable. For use for between building fiber backbone.
Panduit	FCE2U	Opticom® QuickNet™ Rack Mount Fiber Enclosures, holds up to eight QuickNet™ Cassettes, FAP adapter panels, or FOSM splice modules. Dimensions : 3.48"H x 17.60"W x 16.30"D (88.4mm x 447.0mm x 414.0mm).
Panduit	FCE4U	Opticom® QuickNet™ Rack Mount Fiber Enclosures, holds up to twelve QuickNet™ Cassettes, FAP adapter panels, or FOSM splice modules. Dimensions : 6.98"H x 17.60"W x 16.30"D (177.0mm x 447.0mm x 414.0mm)
Panduit	FAP*WBUDLCZ	LC FAP loaded with 6/12 LC duplex singlemode fiber optic adapters (Blue) with zirconia ceramic split sleeves.
Panduit	NKFP91BN1NNM001	LC to Pigtail – OS1/OS2 Singlemode Simplex Pigtails – 900µm Buffered Fiber LC to pigtail singlemode simplex pigtail, 900µm buffered fiber (one LC connector on one end and open on the other end) – 9/125µm.
Panduit	FAPB	Blank fiber adapter panel – reserves space for future use.
Panduit	FOSMF	Fiber optic splice module holds and protects up to 24 fusion splices. Self-stacking modules with integral cable management and fiber slacking/spooling features. Black plastic base and clear plastic hinged cover. For use with Panduit Opticom ® FCE*U, FRME*U, and FMT series enclosures. Dimensions : 0.30"H x 14.03"W x 5.28"D (7.6mm x 356.4mm x 134.1mm).
Panduit	FOSMH2U	Fiber optic splice module handler, 2 RU. Holds up to eight FOSM splice modules. For use with FCE2U fiber cassette enclosure. Dimensions: 2.91"H x 0.72"W x 2.61"D (74.0mm x 18.3mm x 66.4mm).
Panduit	FOSMH4U	Fiber optic splice module holder, 4 RU. Holds up to twelve FOSM splice modules. For use with FCE4U fiber cassette enclosure. Dimensions: 5.50"H x10.42"W x 5.41"D (139.7mm x 264.7mm x 137.4mm)
		RACKS, ZONE ENCLOSURES AND CABLE MANAGERS
Panduit	PZAEWM3	PanZone Active Wall Mount Enclosures
Panduit	R2P	19" EIA 2-post rack, aluminum. Dimensions: 84.0"H x 20.3"W x 3.0"D (2134mm x 514mm x 76mm).
Panduit	PR2VWF	Waterfall Trough for 2/4 Post Rack. FOR TOP-OF-RACK INTERBAY ROUTING.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

Panduit	R4P	4 post EIA rack with #12-24 threaded rails. Dimensions : 84.0"H x 20.3"W x 23.0"D (2134mm x 515mm x 584mm). 45 RU.
Panduit	PR2VD0*	6"/8" Patchrunner® 2 Vertical Cable Manager Dimensions: 83.88"H x 6"W x 20.0"D
Panduit	CMLT19	4 RU lower trough with 1.3" bend radius mounts to the bottom of a standard 19" EIA rack. Dimensions: 8.0"H x 19.0"W x 4.5"D (203mm x 483mm x 114mm). FOR BOTTOM-OF-RACK INTERBAY PATHWAY. LARGER OPTION THAN CMUT19 IF NEEDED.
		CABLE PATHWAYS
Panduit	J-Pro J-Hook system	Panduit J-Pro System. Plenum rated composite J-hooks with hardware available for various hardware applications. See www.panduit.com for variations.
Panduit	CBXQ2WH-A	Single gang one-piece outlet box with adhesive backing. Box accepts Pan-Way® Screw-On Faceplates or any NEMA standard single gang faceplate. For use with Pan-Way® LD profile raceway. 5.09"L x 3.34"W x 1.75"H (129.4mm x 85.0mm x 44.4mm). Breakouts for 1/2", 3/4", or 1" diameter conduit.
Panduit	WG12BL10	Wyr-Grid 12" wide x 10' long pathway section used to carry cables horizontally throughout the system. Snap-on sidewalls attach for job specific height requirements. Uses splice connector WGSPL1218BL to connect straight sections and intersection splice WGINTSPLBL to connect pathways at an intersection. For fittings and accessories see www.panduit.com .
Panduit	WGSW*BL	2"/4"/6" Snap-on Sidewalls
Panduit	CFPL*IWY	2/4 Port Mini-Com Classic series single gang vertical faceplate.
Panduit	WG18BL10	Wyr-Grid 18" wide x 10' long pathway section used to carry cables horizontally throughout the system. Snap-on sidewalls attach for job specific height requirements. Uses splice connector WGSPL1218BL to connect straight sections and intersection splice WGINTSPLBL to connect pathways at an intersection. For fittings and accessories see www.panduit.com .
		BONDING AND GROUNDING
Panduit	ACG24K	#6 AWG (16mm ²) jumper for armored cable diameter up to 0.84" (21.3mm); 24" (609.6mm) length; factory terminated on one end with LCC6 two-hole copper compression lug and the other end with grounding terminal; provided with two each #12-24 and M6 thread-forming screws and a black polypropylene terminal cover.
Panduit	LCC series	Panduit two-hole compressing lugs for code conductors in BICSI hole spacing.
Panduit	HTCT series	Panduit HTAPs. Must be selected according AWG size of run and tap conductors.
Panduit	CLRCVR series	Panduit clear covers for HTAPs. Must be selected according to HTAP being covered.
Panduit	RGS134-1Y	Grounding strip (vertical busbar) for newly installed racks or cabinets with screw rails. 78.65" (2m) length; .67" (17mm) width; .05" (1.27mm) thickness; provided with .16 oz. (5cc) of antioxidant, one grounding sticker and three each #12-24 x 1/2" and M6 x 12mm thread-forming screws.
Panduit	RGCBNJ660P22	Jumper kit for bonding individual racks or cabinets into grounding backbone. #6 AWG (16mm ²) jumper; 60" (1.52m) length; 45° bent lug on grounding strip side; provided with .16 oz. (5cc) of antioxidant, two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread forming screws and a copper compression HTAP* for connecting to a #6 to #2 awg sized bonding backbone.
Panduit	GJ672UH	Rack jumper (and cabinet) kits for smaller TR (5 bays or less) to bond individual rack or cabinet directly back to wall mounted busbar. One 72" length #6 AWG green wire with yellow horizontal stripe. Jumper is pre-terminated on one end

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

		with LCC6-14JAWH-L and the other end with LCC6-14JAW-L. This rack grounding jumper is 72" long. For other lengths replace the "72" in the part number. Available lengths are 72, 96, 120, 144, 168, 192, 216, 240, 264 and 288 inches.
Panduit	RGESD2-1	Two-hole ESD port with 5/8" hole spacing; provided with an ESD protection sticker, .16 oz. (5cc) of antioxidant, and two each #12-24 x 1/2" and M6 x 12mm thread-forming screws. LOCATE ONE WITHIN REACH OF ALL EQUIPMENT. WORKS WITH WRIST STRAP RGEDSWS.
Panduit	RGEDSWS	Adjustable fabric ESD wrist strap with 6' coil cord, banana plug, 1 megaohm resistor and 4mm snap. LOCATE ONE WITHIN REACH OF ALL EQUIPMENT. WORKS WITH ESD PORT RGEDS2-1.
Panduit	RGTBSG-C	Green thread-forming bonding screws for use to mount equipment that does not have a built-in grounding pad (terminal).
Panduit	RGEJ1024PHY	24" long pre-terminated equipment grounding jumper #10 AWG (6mm ²) jumper; bent lug on grounding strip side to straight lug on equipment; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws. FOR EQUIPMENT LIKE CHASSIS SWITCHES WITH BUILT-IN GROUNDING PAD (TERMINAL).
Panduit	RGEJ1036PFY	36" long pre-terminated equipment grounding jumper #10 AWG (6mm ²) jumper; bent lug on grounding strip side to straight lug on equipment; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws. FOR EQUIPMENT LIKE CHASSIS SWITCHES WITH BUILT-IN GROUNDING PAD (TERMINAL).
Panduit	GB2B0306TPI-1	Wall mounted telecommunications busbar suitable for small telecom room. Pre-assembled with BICSI/TIA-607-B hole spacing. Bar is 1/4" x 2" x 12" in size.
Panduit	GB2B0514TPI-1	Wall mounted telecommunications busbar suitable for med telecom room. Pre-assembled with BICSI/TIA-607-B hole spacing. Bar is 1/4" x 2" x 24" in size.
Panduit	GB4B0624TPI-1	Wall mounted telecommunications busbar suitable for main grounding busbar in medium sized facility. Pre-assembled with BICSI/TIA-607-B hole spacing. Bar is 1/4" x 4" x 20" in size.
Panduit	LTYK	Wall mounted busbar label kit. Label kit includes printed tag and one flame retardant cable tie.
		NETWORK LABELING SOFTWARE – FOR INK JET/LASER PRINTER
Panduit	PROG-EM2GO	Easy-Mark Labeling Software for PC supplied on USB Flash Drive. For preprinting communications labels on laser/inkjet printer.
Panduit	S100X150YAJ	Self-laminating cable labels for Category 6 cable for use with Easy-Mark software and laser/ink jet printer.
Panduit	C261X035Y1J	Patch Panel labels for use with Easy-Mark software and laser/ink jet printer.
Panduit	C195X040Y1J	Faceplate labels for single gang stainless or sloped plastic - use with Easy-Mark software and laser/ink jet printer.
Panduit	C288X040Y1J	Faceplate labels for double gang stainless - use with Easy-Mark software and laser/ink jet printer.
Panduit	S100X650YAJ	Cable label for indoor/outdoor tight-buffered armored fiber optic cable. For use with Easy-Mark software and ink jet printer.
Panduit	S100X160YAJ and NWSLC-3Y	Label and turn-tell sleeve for labeling fiber jumpers. For use with Easy-Mark software and ink jet printer.
Panduit	C200X100FJJ	1" high, white, vinyl tape labels for labeling grounding busbars, racks, cabinets and pathways. For use with laser/ink jet printer.
		NETWORK LABELING – HANDHELD LABELER
Panduit	LS8EQ-KIT-ACS	Panduit PanTher hand-held label printing system in kit. Includes LS8EQ printer with QWERTY keypad, one cassette of S100X150VAC self-laminating labels, six AA alkaline batteries, LS8E-ACS, LS8-CASE, LS8-PCKIT, LS8-IB, LS8-WS, quick reference card and operator's manual. USE FOR LABELS THAT MUST BE PRINTED ON THE JOB SITE.

WILLIAMSON COUNTY CABLING SPECIFICATIONS AND POLICY

Panduit	S100X150VAC	Self-laminating cable labels for Category 6 cable for use with PanTher LS8E hand-held printer.
Panduit	C261X035Y1C	Handheld printer labels for modular faceplate patch panels.
Panduit	C195X040Y1C	Faceplate labels for single gang stainless - use with PanTher handheld labeler.
Panduit	C288X040Y1C	Faceplate labels for double gang stainless - use with PanTher handheld labeler.
Panduit	S100X650VAC	Cable label for indoor/outdoor tight-buffered armored fiber optic cable. For use with handheld labeler.
Panduit	S100X160VAC and NWSLC-3Y	Label and turn-tell sleeve for labeling fiber jumpers. For use with hand-held labeler.
Panduit	T100X000VPC-BK	1" high, continuous black on white, vinyl tape labels for labeling racks, cabinets and pathways with PanTher LS8E handheld labeler.
		PHYSICAL SECURITY LOCKING DEVICES
Panduit	PSL-DCJB-C	Package of 100 RJ45 jack blockout devices and one removal tool. Color red.
Panduit	PSL-USBA-L	Package of 50 USB Type 'A' blockout devices and one removal tool. Color red.
Panduit	PSL-USBB	Package of 50 USB Type 'B' blockout devices and one removal tool. Color red.
Panduit	PSL-DCPLX-BL-C	Package of 100 RJ45 plug lock-in devices compatible with flush mount jacks, and one installation/removal tool. Color black.
Panduit	PSL-DCPLRX-BL-C	Package of 100 RJ45 plug lock-in devices compatible with recessed jacks, and one installation/removal tool. Color black.
		CABLE TIES – HOOK AND LOOP
Panduit	TTR-35RX0	.75" wide, continuous roll Hook and Loop Cable Ties, black. 35 ft. roll. Carton qty 10 rolls.
Panduit	HLSP1.5S-X12	Plenum rated hook and loop cable ties for air return spaces. Maroon color, perforated at 6" length.
Panduit	HLSP3S-X12	Plenum rated hook and loop cable ties for air return spaces. Maroon color, perforated at 6" length.

<END OF DOCUMENT>

C405.1 General (Mandatory).

This section covers lighting system controls, the maximum lighting power for interior and exterior applications and electrical energy consumption.

Exception: Dwelling units within commercial buildings shall not be required to comply with Sections C405.2 through C405.5, provided that they comply with Section R404.1.

Walk-in coolers, walk-in freezers, refrigerated warehouse coolers and refrigerated warehouse freezers shall comply with Section C403.2.15 or C403.2.16.

C405.2 Lighting controls (Mandatory).

Lighting systems shall be provided with controls as specified in Sections C405.2.1, C405.2.2, C405.2.3, C405.2.4 and C405.2.5.

Exceptions: Lighting controls are not required for the following:

1. Areas designated as security or emergency areas that are required to be continuously lighted.
2. Interior exit stairways, interior exit ramps and exit passageways.
3. Emergency egress lighting that is normally off.

C405.2.1 Occupant sensor controls.

Occupant sensor controls shall be installed to control lights in the following space types:

1. Classroom/lecture/training rooms.
2. Conference/meeting/multipurpose rooms.
3. Copy/print rooms.
4. Lounges.
5. Employee lunch and break rooms.
6. Private offices.
7. Restrooms.
8. Storage rooms.
9. Janitorial closets.
10. Locker rooms.
11. Other spaces 300 square feet (28 m²) or less that are enclosed by floor-to-ceiling height partitions.
12. Warehouses.

C405.2.1.1 Occupant sensor control function.

Occupant sensor controls in spaces other than warehouses specified in Section C405.2.1 shall comply with the following:

1. Automatically turn off lights within 30 minutes of all occupants leaving the space.
2. Be manual on or controlled to automatically turn the lighting on to not more than 50 percent power.

Exception: Full automatic-on controls shall be permitted to control lighting in public corridors, stairways, restrooms, primary building entrance areas and lobbies, and areas where manual operation would endanger the safety or security of the room or building occupants.

3. Shall incorporate a manual control to allow occupants to turn lights off.

C405.2.1.2 Occupant sensor control function in warehouses.

In warehouses, the lighting in aiseways and open areas shall be controlled with occupant sensors that automatically reduce lighting power by not less than 50 percent when the areas are unoccupied. The occupant sensors shall control lighting in each aisleway independently and shall not control lighting beyond the aisleway being controlled by the sensor.

C405.2.2 Time-switch controls.

Each area of the building that is not provided with occupant sensor controls complying with Section C405.2.1.1 shall be provided with time switch controls complying with Section C405.2.2.1.

Exception: Where a manual control provides light reduction in accordance with Section C405.2.2.2, automatic controls shall not be required for the following:

1. Sleeping units.
2. Spaces where patient care is directly provided.
3. Spaces where an automatic shutoff would endanger occupant safety or security.
4. Lighting intended for continuous operation.
5. Shop and laboratory classrooms.

C405.2.2.1 Time-switch control function.

Each space provided with time-switch controls shall also be provided with a manual control for light reduction in accordance with Section C405.2.2.2. Time-switch controls shall include an override switching device that complies with the following:

1. Have a minimum 7-day clock.
2. Be capable of being set for seven different day types per week.
3. Incorporate an automatic holiday "shutoff" feature, which turns off all controlled lighting loads for at least 24 hours and then resumes normally scheduled operations.
4. Have program backup capabilities, which prevent the loss of program and time settings for at least 10 hours, if power is interrupted.
5. Include an override switch that complies with the following:
 - 5.1. The override switch shall be a manual control.
 - 5.2. The override switch, when initiated, shall permit the controlled lighting to remain on for not more than 2 hours.
 - 5.3. Any individual override switch shall control the lighting for an area not larger than 5,000 square feet (465 m²).

Exceptions:

1. Within malls, arcades, auditoriums, single-tenant retail spaces, industrial facilities and arenas:
 - 1.1. The time limit shall be permitted to be greater than 2 hours, provided that the override switch is a captive key device.
 - 1.2. The area controlled by the override switch is permitted to be greater than 5,000 square feet (465 m²), but shall not be greater than 20,000 square feet (1860 m²).
2. Where provided with manual control, the following areas are not required to have light reduction control:
 - 2.1. Spaces that have only one luminaire with a rated power of less than 100 watts.
 - 2.2. Spaces that use less than 0.6 watts per square foot (6.5 W/m²).
 - 2.3. Corridors, equipment rooms, public lobbies, electrical or mechanical rooms.

C405.2.2.2 Light-reduction controls.

Spaces required to have light-reduction controls shall have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern by at least 5 percent. Lighting reduction shall be achieved by one of the following or another approved method:

1. Controlling all lamps or luminaires.
2. Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps.
3. Switching the middle lamp luminaires independently of the outer lamps.
4. Switching each luminaire or each lamp.

Exception: Light reduction controls are not required in daylight zones with daylight responsive controls complying with Section C405.2.3.

C405.2.2.3 Manual controls.

Manual controls for lights shall comply with the following:

1. Shall be readily accessible to occupants.
2. Shall be located where the controlled lights are visible, or shall identify the area served by the lights and indicate their status.

Submitted by:		Date:
Type:	Project:	
Ordering Info:		

HPX Product Family



The High Performance 2.5" Aperture (HPX) is a patented LED linear luminaire with a square micro profile and internal driver design. This line of light luminaire delivers excellent performance, and is equipped with a unique LED configuration for superior illumination. Output can be enhanced with advanced optical options. Available in Pendant and Surface Mount, HPX can be tailored from 2' to 12' sections in 1' increments.

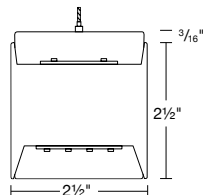
This product is enrolled in the International Living Future Institute (ILFI) Declare 2.0 Program and is third-party verified with options achieving Red List Approved and Declared status.

Signal White is standard finish

CROSS SECTIONS

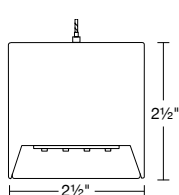
Indirect/Direct

Top Glow Diffuser
(standard)



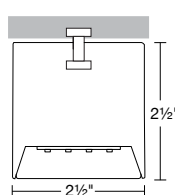
Flush Downlight Diffuser
(standard)

Direct



Flush Downlight Diffuser
(standard)

Surface Mount



Flush Downlight Diffuser
(standard)

LUMEN OUTPUT PACKAGES



Standard



Boosted
Standard



High



Very High

PERFORMANCE

Up to
2057
Lumens per Foot

Up to
125
Lumens per Watt



Declare.



Protected by one or more US Patents: 8915613; 9681516,B2; D702,390 Page 1

Submitted by:		Date:
Type:	Project:	
Ordering Info:		

HPX Product Family

Indirect/Direct with
Widespread Optic Photometry
4' Luminaire 3500K

HPX-P-ID-V-V-835-WSO-F

Uplight: Widespread Optic / **Downlight:** Flush

Distribution: 51% Up (V) / 49% Down (V)

Efficacy: 119 lm/W

Uplight: 4223 lumens (1056 lumens/ft)

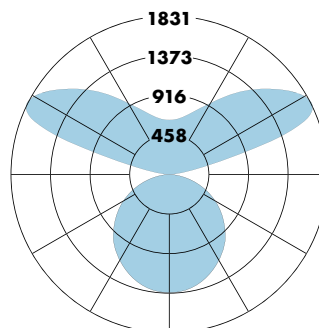
Downlight: 4005 lumens (1001 lumens/ft)

Total luminaire output: 8228 lumens
69.0 watts

Peak Candela Value: 1375 @ 0°

CRI: 80 / CCT: 3500K

ITL LM79 Report 92549



CANDLEPOWER SUMMARY

	0.0	22.5	45.0	67.5	90.0	Flux
0	1375	1375	1375	1375	1375	
5	1367	1368	1368	1368	1369	130
15	1322	1316	1322	1323	1320	373
25	1230	1218	1227	1228	1225	565
35	1094	1084	1092	1091	1087	681
45	922	915	922	918	915	708
55	723	718	723	719	716	643
65	507	504	507	505	505	500
75	286	286	290	291	291	306
85	85	86	90	92	91	99
90	0	0	0	0	0	
95	37	83	214	99	78	141
105	145	218	811	923	651	625
115	259	334	763	1652	1820	926
125	364	438	777	1423	1681	820
135	436	502	775	1197	1390	656
145	503	552	735	981	1097	483
155	561	589	689	801	851	324
165	605	616	653	690	703	186
175	627	629	633	636	638	61
180	630	630	630	630	630	x

Sample Lumen Adjustment Calculation

Lumen Adjustment Factors 80 CRI

3000K	0.985
3500K	1.000
4000K	1.032

Lumen Adjustment Factors 90 CRI

3000K	0.746
3500K	0.760
4000K	0.789

High Output (H) / Standard Output (S), 4000K, 90 CRI

Lumen Adjustment Factor: 0.789

Total Light Output: 4924 lm x 0.789 = 3885 lm

Total Light Output per Foot: 1231 lm x 0.789 = 971 lm

watts/foot: 10.0 W/ft.

$$\text{Efficacy} = \frac{971 \frac{\text{lm}}{\text{ft.}}}{10.0 \frac{\text{W}}{\text{ft.}}} = 97 \text{ lm/W}$$

Total Light Output, 3500K, 80 CRI (Lumens)- 4' Luminaire

	↑S¹	↑B¹	↑H¹	↑V²
↓S¹	3368 [↑51% 49%↓]	3813 [↑57% 43%↓]	4924 [↑67% 33%↓]	5862 [↑72% 28%↓]
↓B¹	3790 [↑46% 54%↓]	4234 [↑51% 49%↓]	5346 [↑61% 39%↓]	6284 [↑67% 33%↓]
↓H¹	4844 [↑36% 64%↓]	5288 [↑41% 59%↓]	6400 [↑51% 49%↓]	7338 [↑58% 42%↓]
↓V¹	5734 [↑30% 70%↓]	6179 [↑35% 65%↓]	7290 [↑45% 55%↓]	8228 [↑51% 49%↓]

Light Output, 3500K, 80 CRI (Lumens Per Foot)

	↑S¹	↑B¹	↑H¹	↑V²
↓S¹	842	953	1231	1466
↓B¹	947	1059	1336	1571
↓H¹	1211	1322	1600	1835
↓V¹	1433	1545	1822	2057

Power, 3500K, 80 CRI (Watts Per Foot)

	↑S¹	↑B¹	↑H¹	↑V²
↓S¹	6.8	7.7	10.0	12.0
↓B¹	7.7	8.6	10.9	12.9
↓H¹	10.0	10.9	13.2	15.2
↓V¹	12.0	12.9	15.2	17.3

Efficacy, 3500K, 80 CRI (Lumens Per Watt)

	↑S¹	↑B¹	↑H¹	↑V²
↓S¹	125	124	123	122
↓B¹	124	123	123	122
↓H¹	121	121	121	120
↓V¹	119	120	120	119

S - Standard Output, B - Boosted Standard Output, H - High Output, V - Very High Output

¹ Based on 4' luminaire 3500K Very High Output (V) test - 120V.

² Based on ITL report: 92549

Protected by one or more US Patents: 8915613; 9681516,B2; D702,390 Page 7



MEMO

To: Project Managers and Consultant Design Teams
From: Trenton Jacobs, County Architect
Re: WILCO Standard Paint Color Selections

To minimize complications with an ever-changing list of interior paint colors throughout the County, the Facilities Department shall direct consultant design teams to utilize the following pre-approved paint colors list (last updated on 2/25/21):

SW 7019	Gauntlet Gray
SW 7067	Cityscape
SW 7074	Software
SW 7018	Dovetail
SW 6234	Uncertain Gray
SW 7017	Dorian Gray
SW 7016	Mindful Gray
SW 6218	Tradewind
SW 6254	Lazy Gray
SW 7064	Passive
SW 7667	Zircon
SW 6078	Realist Beige
SW 7527	Nantucket Dune
SW 6107	Nomadic Desert
SW 7038	Tony Taupe
SW 9117	Urban Jungle
SW 6081	Down Home

Deviations from this list (for unique facility needs) may be requested in writing by the consultant design team.

WILCO STANDARD PLACARD SIZES

7"

9"



6"

6"



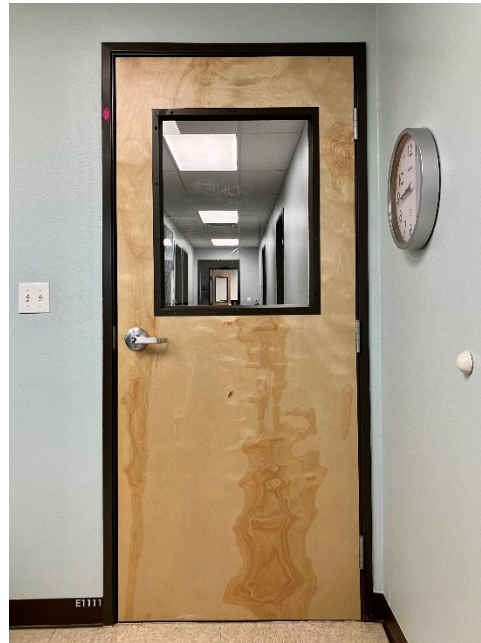
Emergency Room Number Guidelines



These guidelines are intended to standardize wayfinding for emergency response personnel within large multi-wing/ multi-story/ multi-tenant County facilities which undergo routine tenant modifications.

Room Numbering Overview

Emergency room numbers for each enclosed space within a building should be labeled at the head and foot of doorways. These designations will be independent of user-group room names and corresponding placards.



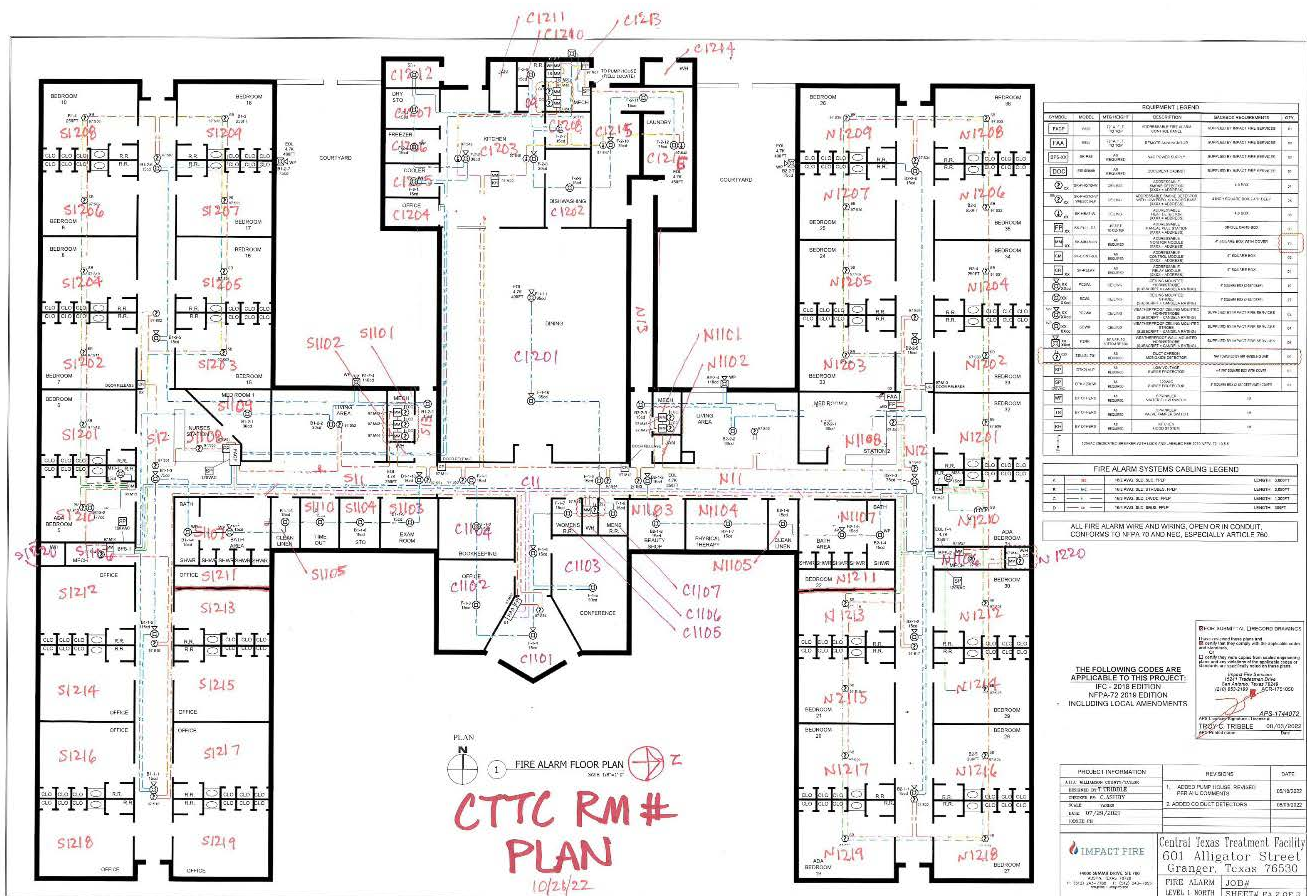
The emergency room number posted at the door frame header designates the room being entered. The emergency room number posted at the baseboard level on the door-handle side of the door designates the room being occupied.

Building Organization

To optimize room numbering for emergency wayfinding, assess each facility for:

1. cardinal orientation on a map
2. physical organization of adjacent buildings/ additions/ wings/ floors
3. internal organization of departments or fire partitions/ ratings

The example facility below demonstrates a room numbering system that is based on the cardinal orientation of the facility with north and south wings and different use zones within the central portion of the building.



Room Numbering System

Each room number is composed (5) digits, subdividable into (4) parts:

- Digit 1 = Building adjacency/ wing/ addition
(**C**= central, **N**= north, **E**= east, **W**= west, **S**= south)
- Digit 2 = Floor number
(**0**= basement, **1**= 1st floor, **2**= 2nd floor, etc.)
- Digit 3 = Zone or Department
- Digits 4-5 = Sequential Number

W2459

West Wing 2nd Floor Zone 4 Room 59

Circulation Features Numbering

Each corridor/ hallway should be labeled with digits 1, 2 and 3 of the numbering system described above.

Each vertical circulation feature should be labeled with a type followed by digits 1 and 3 separated by a hyphen since vertical circulation can connect a single zone on multiple floors.

STAIR W-4

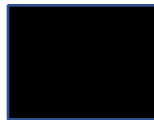
Circulation Type

West Wing

Zone 4

Character and Print Specifications

- Characters = Uppercase
- Font = Arial
- Height = 1-inch
- Spacing = 1/8-inch (min. within a word)
- Print Media = 1-1/4-inch clear adhesive tape
- Ink Color = black or white (select for high contrast from doorframe/ baseboard color)



Black



White

Special Circumstances



For rooms with no baseboard, the room number should be affixed at the base of the door frame on the door-handle side with the text readable in a vertical orientation.

Within a detention facility, room numbers should be stenciled in a permanent high-contrast paint rather than the standard print media described above.



EXHIBIT B



MINIMUM INSURANCE COVERAGES AND MINIMUM COVERAGE AMOUNTS

1. All policies of insurance provided by Contractor must comply with the requirements of this Exhibit, the Contract Documents, and the laws of the State of Texas.
2. Contractor shall provide and maintain, until the Work covered in the Contract is completed and accepted by County, the minimum insurance coverages in the minimum amounts as described below. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A. M. Best Company, or otherwise acceptable to County.

TYPE OF COVERAGE

LIMITS OF LIABILITY

Worker's Compensation

Statutory

Employer's Liability

Bodily Injury by Accident

\$ 1,000,000 per Accident

Bodily Injury by Disease

\$ 1,000,000 per Employee

\$ 1,000,000 aggregate Policy Limit

Comprehensive General Liability

(including completed operations and contractual liability insurance for bodily injury, death, or property damages)

Comprehensive General Liability

\$ 1,000,000 per Occurrence

\$ 2,000,000 aggregate Policy Limit

Comprehensive Automobile and Auto Liability Insurance

(covering owned, hired, leased, and non-owned vehicles)

Bodily injury (including death)	<u>\$ 1,000,000</u> per Person <u>\$ 1,000,000</u> per Occurrence
Property Damage	<u>\$ 1,000,000</u> per Person <u>\$ 1,000,000</u> per Occurrence
	No aggregate Policy Limit

Builder's Risk Insurance (all risks)

An all risk policy, in the amount equal at all times to **100% of the Contract Sum**. The policy shall include coverage for loss or damage caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act. The policy shall be issued in the name of Contractor and shall name its Subcontractors as additional insureds. County shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

- A.** This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

Flood insurance

(when specified in Supplementary General Conditions or Special Conditions.

Umbrella Coverage \$ 5,000,000

Workers' Compensation Insurance

A. Definitions:

Certificate of coverage ("Certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Workers' Compensation Commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the Project.

Duration of the Project - includes the time from the beginning of the work on the Project until the Contractor's/person's work on the Project has been completed and accepted by County.

Coverage - Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

Persons providing services on the Project ("Subcontractor") - includes all persons or entities performing all or part of the services Contractor has undertaken to perform on the Project, regardless of whether that person contracted directly with Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the Project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

- B.** Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, §401.011(44) for all employees of Contractor providing services on the Project, for the duration of the Project.
- C.** Contractor must provide a certificate of coverage prior to execution of the Contract, and in no event later than **ten (10) calendar days** from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.
- D.** If the coverage period shown on Contractor's current certificate of coverage ends during the duration of the Project, Contractor must, prior to the end of the coverage period, file a new certificate of coverage with County showing that coverage has been extended.
- E.** Contractor shall obtain from each person providing services on a project, and provide to County:
 - (1)** a certificate of coverage, prior to that person beginning work on the Project, so County will have on file certificates of coverage showing coverage for all persons providing services on the Project; and
 - (2)** no later than **seven (7) calendar days** after receipt by Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.
- F.** Contractor shall retain all required certificates of coverage for the duration of the Project and for **one (1) year** thereafter.

- G.** Contractor shall notify County in writing by certified mail or personal delivery, within **ten (10) calendar days** after Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.
- H.** Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the Project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- I.** Contractor shall contractually require each person with who it contracts to provide services on a project, to:
- (1)** provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas labor Code, Section 401.011(44) for all of its employees providing services on the Project, for the duration of the Project;
 - (2)** provide to Contractor, prior to that person beginning work on the Project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project, for the duration of the Project;
 - (3)** provide Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
 - (4)** obtain from each other person with whom it contracts, and provide to Contractor:
 - a.** a certificate of coverage, prior to the other person beginning work on the Project; and
 - b.** a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
 - (5)** retain all required certificate of coverage on file for the duration of the Project and for **one (1) year** thereafter;
 - (6)** notify County in writing by certified mail or personal delivery, within **ten (10) calendar days** after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and

(7) contractually require each person with whom it contracts, to perform as required by **Paragraphs (1)-(7)**, with the certificates of coverage to be provided to the person for whom they are providing services.

- J. By signing the Contract or providing or causing to be provided a certificate of coverage, Contractor is representing to County that all employees of Contractor who will provide services on the Project will be covered by workers' compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
 - K. Contractor's failure to comply with any of these provisions is a breach of contract by Contractor which entitles County to declare the Contract void if Contractor does not remedy the breach within **ten (10) calendar days** after receipt of notice of breach from County.
- 3. If insurance policies are not written for the amounts specified in this section, Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of primary coverage.
 - 4. The furnishing of the above listed insurance coverage, as may be modified by the Contract Documents, must be tendered prior to execution of the Contract, and in no event later than **ten (10) calendar days** from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.
 - 5. County shall be entitled, upon request and without expense, to receive copies of the policies and all endorsements as they apply to the limits set out in this section.
 - 6. Contractor shall be responsible for payment of premiums for all of the insurance coverages required under this section. Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which Contractor is responsible hereunder, Contractor shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over **seventy-five thousand dollars (\$ 75,000)** in Contractor's insurance must be declared and approved in writing by County in advance.

EXHIBIT C

Williamson County

Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy (“Policy”) is to provide clear guidelines to vendors on Williamson County’s expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. Invoices and Affidavits

- 1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.
- 1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.
- 1.3 Upon County’s request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. Travel Reimbursement

- 2.1 The County will only cover costs associated with travel for vendors outside a 45-mile radius from the Williamson County Courthouse, 710 Main Street, Georgetown, Texas 78626.
- 2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for the County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.
- 2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

- 2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.
- 2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).
- 2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.
- 2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.
- 2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.
- 2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).
- 2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.
- 2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.
- 2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. Meals

- 3.1 Meal reimbursements are limited to a maximum of \$59.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of \$25.00 per day. The travel must be outside the Williamson County Courthouse, 710 Main Street, Georgetown, Texas 78626 by a 45-mile radius.
- 3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.
- 3.3 Meals are reimbursable only to vendors who do not have necessary personnel located within a 45-mile radius of the Williamson County Courthouse, 710 Main Street, Georgetown, Texas 78626, who are capable of carrying the vendor's obligations to the County. Meals will not be reimbursed to vendors who are located within a 45-mile radius of the Williamson County Courthouse.
- 3.4 County will not reimburse for alcoholic beverages.
- 3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance
- 3.6 No meals purchased for entertainment purposes will be allowed.
- 3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. Lodging

- 4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.
- 4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.
- 4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. Airfare

- 5.1 The County will only reimburse up to a coach price fare for air travel.
- 5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)
- 5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.
- 5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.
- 5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

- 6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.
- 6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.
- 6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.
- 6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.
- 6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.
- 6.6 Insurance purchased when renting vehicle may also be reimbursed.
- 6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

- 7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.
- 7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:
 - 7.2.1.1 Date
 - 7.2.1.2 Destination
 - 7.2.1.3 Purpose

- 7.2.1.4 Name of traveler(s)
- 7.2.1.5 Correspondence that verifies business purpose of the expense
- 7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.
- 7.4 Mileage will be reimbursed on the basis of the most commonly used route.
- 7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.
- 7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.
- 7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of the Williamson County Courthouse, 710 Main Street, Georgetown, Texas 78626 by at least a 45-mile radius.
- 7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.
- 7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).
- 7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.
- 7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

- 8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Non-reimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

- 10.1 Alcoholic beverages/tobacco products
- 10.2 Personal phone calls
- 10.3 Laundry service
- 10.4 Valet service (excludes hotel valet)
- 10.5 Movie rentals
- 10.6 Damage to personal items
- 10.7 Flowers/plants

- 10.8 Greeting cards
- 10.9 Fines and/or penalties
- 10.10 Entertainment, personal clothing, personal sundries and services
- 10.11 Transportation/mileage to places of entertainment or similar personal activities
- 10.12 Upgrades to airfare, hotel and/or car rental
- 10.13 Airport parking above the most affordable rate available
- 10.14 Excessive weight baggage fees or cost associated with more than two airline bags
- 10.15 Auto repairs
- 10.16 Babysitter fees, kennel costs, pet or house-sitting fees
- 10.17 Saunas, massages or exercise facilities
- 10.18 Credit card delinquency fees or service fees
- 10.19 Doctor bills, prescription and other medical services
- 10.20 Hand tools
- 10.21 Safety Equipment (hard hats, safety vests, etc.)
- 10.22 Office Supplies
- 10.23 Lifetime memberships to any association
- 10.24 Donations to other entities
- 10.25 Any items that could be construed as campaigning
- 10.26 Technology Fees
- 10.27 Sales tax on goods purchased
- 10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

EXHIBIT D



UNIFORM GENERAL CONDITIONS

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
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9	PAYMENTS AND COMPLETION
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13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
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ARTICLE 1 GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 CONTRACT DOCUMENTS

Contract Documents are enumerated in the Contract between the Owner and Contractor (hereinafter the Contract) and consist of the Contract, Conditions of the Contract as revised, Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Contract and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Owner or the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

1.1.2 CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor.

1.1.3 WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

1.1.8 KNOWLEDGE

The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows (or should know), recognizes (or should recognize), and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor familiar with the Project and exercising the care, skill, and diligence required of the Contractor by the Contract Documents.

1.1.9 PRODUCT

Materials, systems, and equipment incorporated or to be incorporated in the Work.

1.1.10 PROVIDE

Furnish and install and shall include, without limitation, labor, materials, equipment, transportation, services, and other items required to complete the referenced tasks.

1.1.11 FURNISH

Pay for, deliver (or receive), unload, inspect, and store products, materials, equipment, and accessories as specified while retaining care, custody and control until received for installation based on a signed receipt.

1.1.12 INSTALL

Receive, unload, inspect, and store as specified while retaining care, custody and control; set or place in position, make required connections; and adjust and test as specified in the Contract Documents for satisfactory performance and operation.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

1.2.1

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary,

and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall (i) provide the better quality or greater quantity of Work or (ii) comply with the more stringent requirement; either or both in accordance with the Owner or the Architect's interpretation. The terms and conditions of this **Paragraph 1.2.1**, however, shall not relieve the Contractor of any of the obligations set forth in the Contract Documents.

1.2.2

Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

1.2.3

Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

- .1** Whenever a product is specified in accordance with a Federal Specification, an ASTM Standard, an American National Standards Institute Specification, or other Association Standard, the Contractor, if required by the Specifications or if requested by the Owner, shall present evidence from the manufacture, certifying the product complies with the particular Standard or Specification. When required by the Contract Documents, supporting data shall be submitted to substantiate compliance.
- .2** Whenever a product is specified or shown by describing proprietary items, model numbers, catalog numbers, manufacturer, trade names, or similar reference, no substitutions may be made unless accepted in strict accordance with the Substitution requirements stated in the Specifications or, if no Substitution requirements are stated in the Specifications, in accordance with the requirements stated elsewhere in the Contract Documents. Where two or more products are shown or specified, the Contractor has the option to use either of those shown or specified.

1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article

is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

1.5 USE OF DRAWINGS AND OTHER INSTRUMENTS OF SERVICE

1.5.1

The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights, except as provided in the Owner-Architect Agreement. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

1.5.2

The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall establish the necessary protocols governing such transmissions in writing, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

2.1 GENERAL

The Owner means Williamson County acting through any duly authorized representative as provided in the Contract, and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization ("Owner's Designated Representative"). The term "Owner" means the Owner or the Owner's authorized representative.

2.2 OWNER

2.2.1 Appropriation of Funds by Owner

Owner believes it has sufficient funds currently available and authorized for expenditure to finance the costs of the Agreement between Owner and Contractor. Contractor understands and agrees that the Owner's payment of amounts under the Agreement between Owner and Contractor is contingent on the Owner receiving appropriations or other expenditure authority sufficient to allow the Owner, in the exercise of reasonable administrative discretion, to continue to make payments under the Agreement.

2.2.2

Unless specifically stated otherwise in the Contract Documents, Contractor shall secure and pay for necessary permits, approvals, assessments, and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

2.2.3

The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Except for surveys or grade information, the Contractor shall compare the information furnished by the Owner, including, but not limited to, soil tests, with visibly observable physical conditions and the Contract Documents and, on the basis of such review, promptly report to the Owner and the Architect any known conflicts, errors or omissions. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

2.2.4

The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

2.2.5

Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions.

2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by **Section 12.2** or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a **ten (10)-calendar day** period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

2.5 EXTENT OF OWNER RIGHTS

2.5.1

The rights stated in this **Article 2** and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of the Owner (1) granted in the Contract Documents, (2) at law, or (3) in equity.

2.5.2

In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

2.6 OWNER'S RIGHT TO RECORDS

2.6.1

The Contractor's records, which shall include but not be limited to accounting records, written policies and procedures, subcontractor files (including proposals of successful bidders), original estimates, estimating work sheets, correspondence, schedules, change order files (including documentation covering negotiated settlements), and any other supporting evidence necessary to substantiate charges related to this contract (all foregoing hereinafter referred to as "records") and shall be open to inspection and subject to audit and/or reproduction, during normal working hours, by Owner's agent or its authorized representative to the extent necessary to adequately permit evaluation and verification of any invoices, payments or claims submitted by the Contractor or any of his payees. Such records subject to examination shall also include, but not be limited to, those records necessary to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to costs associated with this Contract.

2.6.2

For the purpose of such audits, inspections, examinations and evaluations, the Owner's agent, or authorized representatives shall have access to said records from the effective date of this Contract for the duration of Work and until **three (3) years** (or longer if required by law) after the date of final payment by Owner to Contractor.

2.6.3

Owner's agent or its authorized representative shall have access during normal business hours to the Contractor's facilities, shall have access to all necessary records and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with this **Section 2.6**. Owner's agent or authorized representative shall give auditees reasonable advance notice of intended audits.

2.6.4

Contractor shall require all subcontractors, insurance agents, and material suppliers (payees) with cost plus contracts, if permitted, and not fixed price contracts to comply with the provisions of this **Article 2** by insertion of the requirements hereof in a written contract agreement between Contractor and payee. Failure to obtain such written contracts which include such provisions shall be reason to exclude some or all of the related payee's costs from amounts payable to the Contractor pursuant to this contract.

ARTICLE 3 CONTRACTOR

3.1 GENERAL

3.1.1

The Contractor is the person or entity identified as such in the Contract and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under the Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative, and if these General Conditions are used in conjunction with the Contract between Owner and Construction Manager-At-Risk, the term "Contractor" shall mean the Construction Manager.

3.1.2

The Contractor shall perform the Work in strict accordance with the Contract Documents.

3.1.3

The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's

administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.2.1

Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. Prior to execution of the Contract, the Contractor and each Subcontractor shall have evaluated and satisfied themselves as to the observable conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools, and equipment, and (v) other similar issues. The Owner assumes no responsibility or liability for the physical condition or safety of the Project site or any improvements located on the Project site. Except as set forth in **Section 10.3**, the Contractor and its Subcontractors shall be responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the Contractor or any Subcontractor to have complied with the requirements of **this Section 3.2**.

3.2.2

Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to **Paragraph 2.2.3**, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Owner and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner. The Contractor shall verify the accuracy of elevations, dimensions, locations, and field measurements. In all cases of the interconnection of its Work with existing or other Work, the Contractor shall verify at the site all dimensions relating to such existing or other Work.

- .1 All of Contractor's and Subcontractors' work shall conform to the Contract Documents. Contractor shall be responsible for the details of the Work necessary to carry out the intent of the drawings and specifications, or which are customarily performed. When more detailed information is required for performance of the Work or when an interpretation of the Contract Documents is requested, the Contractor shall submit a written request for information to the Architect or Owner (as required), and the Owner or Architect shall furnish such information or interpretation. Where only part of the Work is indicated, similar parts shall be considered repetitive. Where any detail is shown and components thereof are fully described, similar details not fully described shall be considered to incorporate the fully described details and components.
- .2 The Contractor has had an opportunity to examine, and has carefully examined, all of the Contract Documents and Project site, and has fully acquainted itself with the scope of work, design, availability of materials, existing facilities, access, general topography, soil structure, subsurface conditions, obstructions, and all other conditions pertaining to the Work, the site of the Work, and its surrounding; that it has made necessary investigations to a full understanding of the difficulties which may be encountered in performing the Work; and that anything in any Contract Documents, or in any representations, statements, or information made or furnished by Owner or its representatives notwithstanding, Contractor will complete the Work for the compensation stated in the Contract. In addition thereto, Contractor represents that it is fully qualified to do the Work in accordance with the terms of the Contract in the time specified.

3.2.3

The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Owner and the Architect any nonconformity discovered by or made known to the Contractor as a request for information.

3.2.4

If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to **Paragraphs 3.2.2 or 3.2.3** above, the Contractor shall make Claims as provided in **Article 15**.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1

The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. Subcontractors are responsible for directing their forces on their portions of the Work. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor and Subcontractors shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

3.3.2

The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

3.3.3

The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

3.3.4

Inspection of the progress, quantity, or quality of the Work done by the Owner, any Owner's representative, any governmental agency, or the Architect, or any inspector, shall not relieve the Contractor of any responsibility for the compliance of the Work with the Contract Documents. The Owner or its approved representative (heretofore referred to as Owner's representative) shall have access to the worksite and all Work. No supervision or inspection by the Owner's representative, nor the authority to act nor any other actions taken by the Owner's representative shall relieve the Contractor of any of its obligations under the Contract Documents nor give rise to any duty on the part of the Owner.

3.4 LABOR AND MATERIALS

3.4.1

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

.1 Duty to Pay Prevailing Wage Rates. The Contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the Owner. The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the Work is available locally at the prevailing wage rates. The Owner is not bound to pay—and will not consider—any claims for additional compensation made by any Contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Contract Documents. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the Work may be found locally at the specified wage rates.

a) For classifications not shown, workers shall not be paid less than the wage indicated for Laborers. The Contractor shall notify each worker commencing work on the Project the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by Owner, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by Contractor.

b) A copy of each worker wage rate notification shall be submitted to the Owner with the Application for Payment for the period during which the worker began on-site activities.

.2 Prevailing Wage Schedule. The "Prevailing Wage Schedule" shall be determined by the Owner in compliance with **Texas Government Code, Chapter 2258**. Should the Contractor at any time become aware that a particular skill or trade not reflected on the Owner's Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a subcontractor, the Contractor shall promptly inform the Owner and shall specify a wage rate for that skill or trade, which shall bind the Contractor.

- .3 Penalty for Violation.** The Contractor and any Subcontractor shall pay to the Owner a penalty of **sixty dollars (\$60.00)** for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the Prevailing Wage Schedule or any supplement thereto pursuant to **Paragraph 3.4.1.2** above. The Contractor and each Subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the Work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the Owner.
- .4 Complaints of Violations of Prevailing Wage Rates.** Within **thirty-one (31) days** of receipt of information concerning a violation of **Texas Government Code, Chapter 2258**, the Owner shall make an initial determination as to whether good cause exists to believe a violation occurred. The Owner's decision on the initial determination shall be reduced to writing and sent to the Contractor or Subcontractor against whom the violation was alleged, and to the affected worker. When a good cause finding is made, the Owner shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.
- .5 Arbitration Required if Violation not Resolved.** After the Owner makes its initial determination, the affected Contractor or Subcontractor and worker have **fourteen (14) days** in which to resolve the issue of whether a violation occurred, including the amount that should be retained by Owner or paid to the affected worker. If the Contractor or Subcontractor and affected worker reach an agreement concerning the worker's claim, the Contractor shall promptly notify the Owner in a written document signed by the worker. If the Contractor or Subcontractor and affected worker do not agree before the **fifteenth (15th) day** after the Owner's determination, the Contractor or Subcontractor and affected worker must participate in binding arbitration in accordance with the **Texas General Arbitration Act, Chapter 171, Tex. Civ. Prac. & Rem. Code**. The parties to the arbitration have **ten (10) days** after the expiration of the **fifteen (15) days** referred to above, to agree on an arbitrator; if by the **eleventh (11th) day** there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.
- .6 Arbitration Award.** If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the Contractor or Subcontractor the amount of penalty as provided in this **Section 3.4** and the amount owed the worker. The Owner may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the Owner has not retained enough from the Contractor or Subcontractor to pay the worker in accordance with the arbitration

award, the worker has a right of action against the Contractor and Subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The Contractor shall promptly furnish a copy of the arbitration award to the Owner.

.7 Prevailing Wage Retainage. Money retained pursuant to this **Section 3.4** shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the Project at the rate paid by the Contractor or Subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the Contractor or Subcontractor affected, or in the arbitrator's award. The full statutory penalty of **sixty dollars (\$60.00) per day** of violation per worker shall be retained by the Owner to offset its administrative costs, pursuant to **Texas Government Code, §2258.023**. Any retained funds in excess of these amounts shall be paid to the Contractor on the earlier of the next progress payment or final payment. Provided, however, that the Owner shall have no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award as provided under **Paragraphs 3.4.2 and 3.4.3**.

.8 No Extension of Time. If the Owner determines that good cause exists to believe a violation has occurred, the Contractor shall not be entitled to an extension of time for any delay arising directly or indirectly from of the procedures set forth in this **Section 3.4**.

3.4.2

Except in the case of minor changes in the Work authorized by the Owner or Architect in accordance with **Paragraphs 3.12.8 or Section 7.4**, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. If the Contractor desires to submit an alternate product or method in lieu of what has been specified or shown in the Contract Documents, the Contractor shall comply with the Substitution requirements listed in the Specifications, or if there are no Substitution requirements listed in the Specifications, then the following provisions apply:

.1 The Contractor must submit to the Architect and the Owner (1) a full explanation of the proposed substitution and submittal of all supporting data, including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures, and other like information necessary for a complete evaluation of the substitution; (2) the adjustment, if any, in the Contract Sum, in the event the substitution is acceptable; (3) the adjustment, if any, in the time of completion of the Contract and the construction schedule in the event the substitution is acceptable; and (4) a statement indicating Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified by the Architect.

Proposals for substitutions shall be to the Architect in sufficient time to allow the Architect no less than **ten (10) working days** for review. No substitutions will be considered or allowed without the Contractor's submittal of complete substantiating data and information as stated hereinbefore.

3.4.3

The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

3.4.4

The Contractor shall only employ or use labor in connection with the Work capable of working harmoniously with all trades, crafts, and any other individuals associated with the Project.

3.4.5.

In case the progress of the Work is affected by any undue delay in furnishing or installing any items or materials or equipment required under the Contract Documents because of such conflict involving any such labor agreement or regulation, the Owner may require that other material or equipment of equal kind and quality be provided pursuant to a Change Order or Construction Change Directive.

3.5 WARRANTY

3.5.1

The Contractor warrants to the Owner: (1) that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise; (2) that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit; (3) that the Work will be done strictly in accordance with the Contract Documents; (4) that all products are installed per the manufacturer's instructions, and in such a way that the manufacturer's warranties are preserved, including the use of a manufacturer-certified installer, if required by the manufacturer; (5) and that the Work, when finally completed, will provide a complete Project that meets the intent of the Contract Documents.

The Contractor represents and warrants to the Owner that its materials and workmanship, including without limitation, construction means, methods, procedures and techniques necessary to perform the Work, use of materials, selection of equipment and requirements of product manufacturers are and shall be consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to the Work; (3) requirements of any warranties applicable to the Work subject to **Paragraph 3.2.3.** Work, materials, or equipment not conforming to these requirements shall

be considered defective, and promptly after written notification of non-conformance shall be repaired or replaced by Contractor with Work conforming to this warranty. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

- .1 Contractor further warrants that all materials or equipment of a category or classification will be a product of the same manufacturer and such materials or equipment shall be of the same lot, batch or type and that such materials and equipment will be as specified.

3.5.2

The Contractor agrees to assign to the Owner at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties.

3.6 TAXES

State Sales and Use Taxes. Sales, use or similar taxes imposed by a governmental authority that are related to the Work and for which the Contractor is liable; provided, however, Owner is a body corporate and politic under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code Ann. 151.309, as amended, and the services and materials subject of the Contract are being secured for use by Owner. Exemption certificates will be provided to Contractor upon request. As a precondition to the Owner reimbursing Contractor for allowable sales and use taxes, Contractor must, on its own, first attempt to use such tax exemption certificates in order to assert the exemption. In the event Contractor's efforts to use the tax exemption certificate is unsuccessful and provided that under the laws of the State of Texas an exemption from sales and use taxes is allowed. Owner will reimburse Contractor for such sales and use taxes upon Contractor providing sufficient and satisfactory documentation to the Williamson County Auditor.

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

3.7.1

Unless otherwise provided, the Contractor shall secure, pay for, and, as soon as practicable, furnish the Owner with copies or certificates of all permits and fees, licenses, and inspections necessary for the proper execution and completion of the Work, including, without limitation, all building permits. All connection charges, assessments, or inspection fees as may be imposed by any municipal agency or utility company are included in the Contract Sum and shall be the Contractor's responsibility.

3.7.2

The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

3.7.3

If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction and damages resulting therefrom.

3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than **twenty-one (21) calendar days** after first observance of the conditions. The Owner will promptly investigate such conditions and, if the Owner determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will authorize an equitable adjustment in the Contract Sum or Contract Time, or both. If the Owner determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Owner shall promptly notify the Contractor in writing, stating the reasons. If the Contractor disputes the Owner's determination, the Contractor party may assert a Claim as provided in **Article 15**.

3.7.5

If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in **Article 15**.

3.8 ALLOWANCES

3.8.1

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

3.8.2

Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contractor shall, prior to purchasing any such materials, notify the Owner in writing of the cost and whether such cost will exceed the amount of the allowance. If Owner authorizes Contractor to proceed, after receiving the Contractor's estimate of the total cost, then the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under **Paragraph 3.8.2.1** and (2) changes in Contractor's costs under **Paragraph 3.8.2.2**.

3.9 SUPERINTENDENT

3.9.1

The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent or Contractor's project manager shall be as binding as if given to the Contractor. Important oral communications shall be immediately confirmed in writing.

3.9.2

The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Owner or Architect may reply within **fourteen (14) calendar days** to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Owner and Architect require additional time to review. Failure of the Owner or Architect to reply within the **fourteen (14)-calendar day** period shall constitute notice of no reasonable objection.

3.9.3

The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

3.10.1

The Contractor, as provided in the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

3.10.2

The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

3.10.3

The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

3.10.4

The construction schedule shall be a detailed precedence-style critical path management ("CPM") schedule in a format satisfactory to the Owner that shall (1) provide a graphic representation of all activities and events that will occur during performance of the Work; (2) identify each phase of construction and occupancy; and (3) set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as the "Milestone Date"). Upon review and acceptance by the Owner of the Milestone Dates, the construction schedule shall be deemed part of the Contract Documents. If not accepted, the construction schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and resubmitted for acceptance. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise

the Owner of any delays or potential delays. The accepted construction schedule shall be updated to reflect actual conditions as set forth in **Paragraph 3.10.1** or if requested by the Owner. In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment in the Contract Time, any Milestone date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorize pursuant to a Change Order.

3.10.5

In the event the Owner determines that the performance of the Work, as of a Milestone Date, has not progressed or reach the level of completion required by the Contract Documents, the Owner shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including without limitation, (1) working additional shifts or overtime, (2) supplying additional manpower, equipment, and facilities, and (3) other similar measures. Such measures so continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Owner's right to require such measures is solely for the purpose of ensuring the Contractors compliance with the construction schedule.

3.11 DOCUMENTS AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

3.12 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

3.12.1

Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

3.12.2

Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

3.12.3

Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

3.12.4

Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of **Paragraph 4.2.7**. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

3.12.5

The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

3.12.6

By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

3.12.7

The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been approved by the Architect.

3.12.8

The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the Architect's approval thereof.

3.12.9

The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

3.12.10

The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this **Paragraph 3.12.10**, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

3.14 CUTTING AND PATCHING

3.14.1

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly as required by the Contract Documents. All

areas requiring cutting, fitting, and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

3.14.2

The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

3.15 CLEANING UP

3.15.1

The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

3.15.2

If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

3.16 ACCESS TO WORK

The Owner and Architect shall, at all times, have access to the Work in preparation and progress wherever located.

3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

3.18 INDEMNIFICATION

3.18.1 INDEMNITY

OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS OWNER, ITS EMPLOYEES, AND ASSIGNS (THE "INDEMNIFIED PARTIES" OR "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS CONTRACT, TO THE EXTENT CAUSED BY THE NEGLIGENT OR WILLFUL ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, SUB-SUBCONTRACTORS, OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE. CONTRACTOR SHALL NOT BE REQUIRED TO INDEMNIFY, HOLD HARMLESS OR DEFEND THE INDEMNIFIED PARTIES AGAINST A CLAIM CAUSED BY THE NEGLIGENCE OR FAULT, OR THE BREACH OR VIOLATION OF A STATUTE, ORDINANCE, GOVERNMENTAL REGULATION, STANDARD, OR RULE OF THE INDEMNITEE, OR OTHER PARTY OTHER THAN CONTRACTOR OR ITS AGENT, EMPLOYEE, OR SUBCONTRACTOR OF ANY TIER, EXCEPT THAT CONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND THE INDEMNIFIED PARTIES AGAINST ANY CLAIMS FOR THE BODILY INJURY OR DEATH OF AN EMPLOYEE OF CONTRACTOR, ITS AGENTS, OR IT SUBCONTRACTORS OF ANY TIER.

3.18.2 INDEMNITY – EMPLOYEE PERSONAL INJURY CLAIMS

TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS THE INDEMNIFIED PARTIES AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF AN INDEMNIFIED PARTY'S GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, INCLUDING THE DEATH, OF ANY EMPLOYEE OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY SUB-SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE PROJECT SITE OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK OF THIS CONTRACT. CONTRACTOR HEREBY INDEMNIFIES THE INDEMNIFIED PARTIES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE COMPARATIVE OR CONCURRENT NEGLIGENCE OF THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

3.18.3

THE CONTRACTOR'S INDEMNITY OBLIGATIONS UNDER THIS **SECTION 3.18** SHALL ALSO SPECIFICALLY INCLUDE, WITHOUT LIMITATION, ALL FINES, PENALTIES,

DAMAGES, LIABILITY, COSTS, EXPENSES (INCLUDING, WITHOUT LIMITATION, REASONABLE ATTORNEYS' FEES) ARISING OUT OF, OR IN CONNECTION WITH, ANY (1) VIOLATION OF OR FAILURE TO COMPLY WITH ANY LAW, STATUTE, ORDINANCE, RULE, REGULATION, CODE OR REQUIREMENT OF A PUBLIC AUTHORITY THAT BEARS UPON THE PERFORMANCE OF THE WORK BY THE CONTRACTOR, A SUBCONTRACTOR, OR ANY PERSON OR ENTITY FOR WHOM EITHER IS RESPONSIBLE, (2) MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF EXECUTION OR PERFORMANCE OF THE WORK, AND (3) FAILURE TO SECURE AND PAY FOR PERMITS, FEES, APPROVALS, LICENSES, AND INSPECTIONS AS REQUIRED UNDER THE CONTRACT DOCUMENTS, OR ANY VIOLATION OF ANY PERMIT OR OTHER APPROVAL OF A PUBLIC AUTHORITY APPLICABLE TO THE WORK, BY THE CONTRACTOR, A SUBCONTRACTOR, OR ANY PERSON OR ENTITY FOR WHOM EITHER IS RESPONSIBLE.

ARTICLE 4 ARCHITECT

4.1 GENERAL

4.1.1

The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Contract and is referred to throughout the Contract Documents as if singular in number.

4.1.2

Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

4.1.3

In the event that Owner has not engaged an architect and an architect is not identified in the Contract, but, rather, engages an engineer for the Project, all references made in these General Conditions to the "Architect" shall mean and include the engineer identified as the "Engineer" in the Contract and all duties, responsibilities and limitations of authority of the Architect, as set forth in the Contract Documents, shall apply to the Engineer.

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1

The Architect will provide administration of the Contract as described in the Owner-Architect Agreement. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

4.2.2

The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in **Paragraph 3.3.1**.

4.2.3

On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

4.2.4 COMMUNICATIONS AND CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to relate relevant communications between Owner and Architect to the Architect. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

4.2.5

If included in Architect's scope of work, the agreement between Owner and Architect, or if requested by the Owner, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts based on the Architect's evaluations of the Contractor's Applications for Payment.

4.2.6

To the extent permitted by the agreement between Owner and Architect, the Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect, in consultation with the Owner,

will have authority to require inspection or testing of the Work in accordance with **Paragraphs 13.5.2 through 13.5.3**, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Owner to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

4.2.7

To the extent provided in the agreement between Owner and Architect, the Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Owner and Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under **Sections 3.3, 3.5, and 3.12**. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

4.2.8

If requested by Owner, the Architect will prepare Change Orders and Construction Change Directives with the Owner's prior written consent, but the Architect may authorize minor changes in the Work as provided in the agreement between Owner and Architect, or in **Section 7.4**. If requested by Owner, the Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in **Paragraph 3.7.4**.

4.2.9

If requested by Owner, the Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to **Section 9.8**; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to **Section 9.10**; and issue a final Certificate for Payment pursuant to **Section 9.10**.

4.2.10

If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities, and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

4.2.11

If requested by Owner, the Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

4.2.12

Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings.

4.2.13

The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents, and if approved by Owner.

4.2.14

The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

5.1 DEFINITIONS

5.1.1

A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

5.1.2

A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is

referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

5.2 AWARD OF SUBCONTRACTS

5.2.1 FOR CONSTRUCTION MANAGER AT-RISK CONTRACTS

The Construction Manager shall publicly advertise for bids or proposals and receive bids or proposals from trade contractors or Subcontractors for the performance of all major elements of the work other than the minor work that may be included in the general conditions. The Construction Manager may seek to perform portions of the work itself if:

- .1** the Construction Manager submits its bid or proposal for those portions of the Work in the same manner as all other trade contractors or Subcontractors; and
- .2** the Owner determines that the Construction Manager's bid or proposal provides the best value for the Owner.
- .3 Review of Bids or Proposals.** Construction Manager shall review all trade contractor or Subcontractor bids or proposals in a manner that does not disclose the contents of the bid or proposal during the selection process to a person not employed by the Construction Manager, Architect, Engineer, or Owner. All bids or proposals shall be made available to the Owner on request and to the public after the later of the award of the Contract or the **seventh (7th) business day** after the date of final selection of bids or proposals. If the Construction Manager reviews, evaluates, and recommends to the Owner a bid or proposal from a trade contractor or subcontractor but the Owner requires another bid or proposal to be accepted, the Owner shall compensate the Construction Manager by a change in the Contract Sum, Contract Time, or Cost of the Work for any additional cost and risk that the Construction manager incurs because of the Owner's requirement that another bid or proposal be accepted.

5.2.2

The Contractor shall not contract with a proposed Subcontractor, person, or entity to whom the Owner has made reasonable objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made a reasonable objection.

5.2.3

If the Owner has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time may be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract

Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

5.2.4

The Contractor shall not substitute a Subcontractor, person, or entity previously selected if the Owner makes reasonable objection to such substitution.

5.3 SUBCONTRACTUAL RELATIONS

5.3.1

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

5.3.2

All subcontracts shall be in writing and, if requested, Contractor shall provide Owner with copies of executed subcontracts.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1

The Contract is for Owner's benefit, its successors and assigns who, as well as Contractor, may directly enforce all rights and warranties, express or implied herein, but Subcontractors shall have recourse only against Contractor and not against Owner. Owner may rely solely upon Contractor for enforcement of all Subcontracts. To effect such purpose, Contractor assigns to Owner all right to bring any actions against subcontractors and material vendors without waiver by Owner of his right against Contractor because of defaults, delays and

effects for which a subcontractor or material vendor may also be liable, said assignment being effective only if:

- .1 Contractor is in default under the Contract Documents; or
- .2 Owner has terminated the Contract in accordance with the Contract Documents; and
- .3 Only for those subcontract agreements which the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .4 The assignment is subject to the prior rights of the surety, if any, obligated under any bond relating to the Contract.

5.4.2

Upon such assignment, if the Work has been suspended for more than **thirty (30) calendar days**, the Subcontractor's compensation may be equitably adjusted for increases in cost resulting from the suspension.

5.4.3

Upon such assignment to the Owner under this **Section 5.4**, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

5.4.4

The Architect and the Owner shall have the right to request from any Subcontractor at any time during the course of construction, a notarized affidavit stating the amount of monies which have been paid to the Subcontractor as of any certain stipulated date.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1

The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in **Article 15**.

6.1.2

When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Contract.

6.1.3

The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

6.2 MUTUAL RESPONSIBILITY

6.2.1

The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

6.2.2

If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect and the Owner apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

6.2.3

The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

6.2.4

The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in **Paragraph 10.2.5**.

6.2.5

The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in **Section 3.14**.

6.2.6

All separate contractors shall sign a site access agreement with Contractor setting forth duties, responsibilities, safety, and administrative requirements.

6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

7.1 GENERAL

7.1.1

Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this **Article 7** and elsewhere in the Contract Documents.

7.1.2

A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Owner or Architect alone.

7.1.3

Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work. Except as permitted in **Section 7.3** and **Paragraph 9.7.2**, a change in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that Owner has been unjustly enriched by any alteration of or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any Claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

7.2 CHANGE ORDERS

7.2.1

A Change Order is a written instrument signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1** The change in the Work;
- .2** The amount of the adjustment, if any, in the Contract Sum; and
- .3** The extent of the adjustment, if any, in the Contract Time.

7.2.2

Contractor's Change Order shall set forth in clear and precise detail breakdowns of labor and materials for all trades involved and the estimated impact on the dates of Substantial Completion. Contractor shall furnish supporting data as reasonably requested by Owner.

7.2.3

Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the construction schedule.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.1

A Construction Change Directive is a written order signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

7.3.2

A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

7.3.3

If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in **Paragraph 7.3.7**.

7.3.4

If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

7.3.5

Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

7.3.6

A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

7.3.7

If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Contract, or if no such amount is set forth in the Contract, a reasonable amount. In such case, and also under **Paragraph 7.3.3.3**, the Contractor shall keep and present, in such form as the Owner or Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this **Paragraph 7.3.7** shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

7.3.8

The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Owner or the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

7.3.9

Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Owner will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Owner determines to be reasonably justified. The Owner's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of Contractor to disagree and assert a Claim in accordance with **Article 15**.

7.3.10

When the Owner and Contractor agree with a determination made concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

7.4 MINOR CHANGES IN THE WORK

If permitted in the agreement between Owner and Architect, the Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents.

ARTICLE 8 TIME

8.1 CONTRACT TIME

TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT. The Contract Time is the time between the dates indicated in the Notice to Proceed for commencement of the Work and for achieving Substantial Completion. The Contract Time can be modified only by Change Order. Failure to achieve Substantial Completion within the Contract Time, as otherwise agreed to in writing, will cause damage to Owner and may subject Contractor to liquidated damages as provided in the Contract. If Contractor fails to achieve Final Completion within **thirty (30) calendar days** after Substantial Completion or a mutually agreed upon longer period of time between Contractor and Owner, Contractor shall be responsible for Owner's additional inspection, project management, and maintenance cost to the extent caused by Contractor's failure to achieve Final Completion.

8.2 NOTICE TO PROCEED

Owner will issue a Notice to Proceed which shall state the dates for beginning the Work and for achieving Substantial Completion of the Work.

8.3 WORK PROGRESS SCHEDULE

Unless indicated otherwise, Contractor shall submit to Owner and Architect the initial Work Progress Schedule for the Work in relation to the entire Project not later than **twenty-one (21) calendar days** after the effective date of the Notice to Proceed. Unless indicated otherwise, the Work Progress Schedule shall be computerized Critical Path Method (CPM) with fully editable logic. This initial schedule shall indicate the dates for starting and completing the various aspects required to complete the Work, including mobilization, procurement, installation, testing, inspection, delivery of Close-out Documents, and acceptance of all the Work of the Contract. When acceptable to Owner, the initially accepted schedule shall be the Baseline Schedule for comparison to actual conditions throughout the Contract duration.

8.3.1 SCHEDULE REQUIREMENTS

Contractor shall submit electronic and paper copy of the initial Work Progress Schedule reflecting accurate and reliable representations of the planned progress of the Work, the Work to date if any, and of Contractor's actual plans for its completion. Contractor shall organize and provide adequate detail, so the schedule is capable of measuring and forecasting the effect of delaying events on completed and uncompleted activities.

- .1** Contractor shall resubmit initial schedule as required to address review comments from Architect and Owner until such schedule is accepted as the Baseline Schedule.
- .2** Submittal of a schedule, schedule revision or schedule update constitutes Contractor's representation to Owner of the accurate depiction of all progress to date and that Contractor will follow the schedule as submitted in performing the Work.

8.3.2 SCHEDULE UPDATES

Contractor shall update the Work Progress Schedule and the Submittal Register monthly, as a minimum, to reflect progress to date and current plans for completing the Work, while maintaining original schedule as Baseline Schedule and submit electronic copies of the update to Owner and Architect as directed, but as a minimum with each request for payment. Owner has no duty to make progress payments unless accompanied by the updated Work Progress Schedule. Show the anticipated date of completion reflecting all extensions of time granted through Change Order as of the date of the update. Contractor may revise the Work Progress Schedule when in Contractor's judgment it becomes necessary for the management of the Work. Contractor shall identify all proposed changes to schedule logic to Owner and to Architect via an executive summary accompanying the updated schedule for review prior to final implementation of revisions into a revised Baseline Schedule. Schedule changes that materially impact Owner's operations shall be communicated promptly to Owner and Architect and shall not be incorporated into the revised Baseline Schedule without Owner's consent.

8.3.3

The Work Progress Schedule is for Contractor's use in managing the Work and submittal of the schedule, and successive updates or revisions, is for the information of Owner and to demonstrate that Contractor has complied with requirements for planning the Work. Owner's acceptance of a schedule, schedule update, or revision constitutes Owner's agreement to coordinate its own activities with Contractor's activities as shown on the schedule.

- .1** Acceptance of the Work Progress Schedule, or update and/or revision thereto does not indicate any approval of Contractor's proposed sequences and duration.
- .2** Acceptance of a Work Progress Schedule update or revision indicating early or late completion does not constitute Owner's consent, alter the terms of the Contract, or waive either Contractor's responsibility for timely completion or Owner's right to damages for Contractor's failure to do so.
- .3** Scheduled dates for completion of any activity or the entire Work do not constitute a change in terms of the Contract. Change Orders are the only method of modifying the Substantial Completion Date(s) and Contract Time.

8.4 COMPLETION OF WORK

Contractor is accountable for completing the Work within the Contract Time stated in the Contract, or as otherwise amended by Change Order.

8.4.1

If, in the judgment of Owner, the work is behind schedule and the rate of placement of Work is inadequate to regain scheduled progress to ensure timely completion of the entire Work or

a separable portion thereof, Contractor, when so informed by Owner, shall immediately take action to increase the rate of work placement by:

- .1 An increase in working forces.
- .2 An increase in equipment or tools.
- .3 An increase in hours of work or number of shifts.
- .4 Expedite delivery of materials.
- .5 Other action proposed, if acceptable to Owner.

8.4.2

Within **ten (10) calendar days** after such notice from Owner, Contractor shall notify Owner in writing of the specific measures taken or planned to increase the rate of progress. Contractor shall include an estimate as to the date of scheduled progress recovery and an updated Work Progress Schedule illustrating Contractor's plan for achieving timely completion of the Project. Should Owner deem the plan of action inadequate, Contractor shall take additional steps or make adjustments, as necessary, to its plan of action until it meets with Owner's approval.

8.5 MODIFICATION OF CONTRACT TIME

8.5.1

Delays and extension of time as hereinafter described are valid only if executed in accordance with provisions set forth in **Article 7**.

8.5.2

When a delay defined herein as excusable prevents Contractor from completing the Work within the Contract Time, Contractor is entitled to an extension of time. Owner will make an equitable adjustment and extend the number of days lost because of excusable delay or Weather Days, as measured by Contractor's progress schedule. All extensions of time will be granted in calendar days. In no event, however, will an extension of time be granted for delays that merely extend the duration of non-critical activities without delaying the project Substantial Completion date(s).

- .1 A "Weather Day" is a day on which Contractor's current schedule indicates Work is to be done, and on which inclement weather or related site conditions prevent Contractor from performing **seven (7) continuous hours** of Work on the critical path between the hours of 7:00 a.m. and 6:00 p.m.

- A. Weather days are excusable delays and, in the event of precipitation, Contractor may claim **one (1) Weather Day** for each day of the duration of the precipitation plus an additional day for each **tenth (1/10th) of an inch** of accumulation as determined by a third-party website agreed upon by Owner and Contractor.
 - B. At the end of each calendar month, Contractor shall submit to Owner and Architect a list of Weather Days occurring in that month along with documentation of the impact on critical activities. Based on confirmation by Owner, any time extension granted will be issued by Change Order. If Contractor and Owner cannot agree on the time extension, Owner may issue a Construction Change Directive (CCD) for a fair and reasonable time extension.
- .2 Excusable Delay.** Contractor is entitled to an equitable adjustment of the Contract Time, issued via Change Order, for delays caused by the following:
 - A. Errors, omissions, and imperfections in design, which Architect corrects by means of changes in the Drawings and Specifications.
 - B. Unanticipated physical conditions at the Site, which Architect corrects by means of changes to the Drawings and Specifications or for which Owner directs changes in the Work identified in the Contract Documents.
 - C. Failure of Owner to have secured property, right-of-way, or easements necessary for Work to begin or progress.
 - D. Changes in the Work that effect activities identified in Contractor's schedule as "critical" to completion of the entire Work, if such changes are ordered by Owner or recommended by Architect and ordered by Owner.
 - E. Suspension of Work for unexpected natural events, Force Majeure (sometimes called "acts of God"), civil unrest, strikes or other events which are not within the reasonable control of Contractor.
 - F. Suspension of Work for convenience of Owner, which prevents Contractor from completing the Work within the Contract Time.
 - G. Administrative delays caused by activities or approval requirements related to an Authority Having Jurisdiction.

8.5.3

Contractor's relief in the event of such delays is the time impact to the critical path as determined by analysis of Contractor's schedule. In the event that Contractor incurs additional direct costs because of the excusable delays other than described in **Subparagraph**

8.5.2.2.D and within the reasonable control of Owner, the Contract Sum and Contract Time are to be equitably adjusted by Owner pursuant to the provisions of **Article 7**.

8.6 NO DAMAGES FOR DELAY

Due to the unique requirements of working within a public facility which may be shared with other user-groups and adjacent to other public facilities, Owner may, at any time, restrict the Work to non-disruptive activities to reduce noise, vibration, air pollution, or any other nuisance, intrusion, or danger affecting adjacent public functions and duties. In each case, Owner will make a good faith effort to provide sufficient advanced notice of restriction to Contractor; and, Contractor shall make a good faith effort to reallocate activities, materials, and forces onsite to avoid delay to the project schedule. Contractor has no claim for monetary damages for delay or hindrances to the Work from any cause, including, without limitation, any act or omission of Owner.

8.7 CONCURRENT DELAY

When the completion of the Work is simultaneously delayed by an excusable delay and a delay arising from a cause not designated as excusable, Contractor may not be entitled to a time extension for the period of concurrent delay.

8.8 OTHER TIME EXTENSION REQUESTS

Time extensions requested in association with changes to the Work directed or requested by Owner shall be included with Contractor's proposed costs for such change. Time extensions requested for inclement weather are covered by **Paragraph 8.5.2.1** above. If Contractor believes that the completion of the Work is delayed by a circumstance other than for changes directed to the Work or weather, they shall give Owner written notice, stating the nature of the delay and the activities potentially affected, within **five (5) calendar days** after the onset of the event or circumstance giving rise to the excusable delay. Contractor shall provide sufficient written evidence to document the delay. In the case of a continuing cause of delay, only one claim is necessary. State claims for extensions of time in numbers of whole or half days.

8.8.1

Within **ten (10) calendar days** after the cessation of the delay, Contractor shall formalize its request for extension of time in writing to include a full analysis of the schedule impact of the delay and substantiation of the excusable nature of the delay. All changes to the Contract Time or made as a result of such claims is by Change Order, as set forth in **Article 7**.

8.8.2

No extension of time releases Contractor or the Surety furnishing a performance or payment bond from any obligations under the Contract or such a bond. Those obligations remain in full force until the discharge of the Contract.

8.8.3 CONTENTS OF TIME EXTENSION REQUESTS

Contractor shall provide with each Time Extension Request a quantitative demonstration of the impact of the delay on project completion time, based on the Work Progress Schedule. Contractor shall include with Time Extension Requests a reasonably detailed narrative setting forth:

- .1 The nature of the delay and its cause; the basis of Contractor's claim of entitlement to a time extension.
- .2 Documentation of the actual impacts of the claimed delay on the critical path indicated in Contractor's Work Progress Schedule, and any concurrent delays.
- .3 Description and documentation of steps taken by Contractor to mitigate the effect of the claimed delay, including, when appropriate, the modification of the Work Progress Schedule.

8.8.4 OWNER'S RESPONSE

Owner will respond to the Time Extension Request by providing to Contractor written notice of the number of days granted, if any, and giving its reason if this number differs from the number of days requested by Contractor.

- .1 Owner will not grant time extensions for delays that do not affect the Contract Substantial Completion date.
- .2 Owner will respond to each properly submitted Time Extension Request within **fifteen (15) calendar days** following receipt. If Owner cannot reasonably make a determination about Contractor's entitlement to a time extension within that time, Owner will notify Contractor in writing. Unless otherwise agreed by Contractor, Owner has no more than **fifteen (15) additional calendar days** to prepare a final response. If Owner fails to respond within **forty-five (45) calendar days** from the date the Time Extension Request is received, Contractor is entitled to a time extension in the amount requested.

8.9 FAILURE TO COMPLETE WORK WITHIN THE CONTRACT TIME

TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT. Contractor's failure to substantially complete the Work within the Contract Time or to achieve Substantial Completion as required will cause damage to Owner. These damages shall be liquidated by agreement of Contractor and Owner, in the amount per day as set forth in the Contract.

8.10 LIQUIDATED DAMAGES

Owner may collect liquidated damages due from Contractor directly or indirectly by reducing the Contract Sum in the amount of liquidated damages stated in the Contract.

ARTICLE 9 PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

The Contract Sum is stated in the Contract and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price ("GMP"), the Contractor shall submit to the Owner and Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

9.3 APPLICATIONS FOR PAYMENT

9.3.1

As provided in the Contract and in the Contract Documents, the Contractor shall submit to the Owner and Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under **Section 9.2.**, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

- .1** As provided in **Paragraph 7.3.9**, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Owner or the Architect, but not yet included in Change Orders.
- .2** Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.
- .3** If requested by Owner or required elsewhere in the Contract Documents, Each Application for Payment shall be accompanied by the following, all in a form and substance satisfactory to the Owner:

- a) With each Application for Payment: a current Sworn Statement from the Contractor setting forth all Subcontractors and all material suppliers with whom the Contractor has subcontracted, the amount of each such subcontract, the amount requested for any Subcontractor or material supplier in the Application for Payment, and the amount to be paid to the Contractor from such progress payment;
- b) With each Application for Payment: a duly executed Conditional Waiver and Release on Progress Payment from the Contractor and Subcontractors establishing receipt of payment or satisfaction of the payment requested by the Contractor in the current Application for Payment;
- c) Commencing with the second Application for Payment submitted by the Contractor, a duly executed Unconditional Waiver and Release on Progress Payment from Contractor and all Subcontractors, material suppliers and, where appropriate, lower tier subcontractors that have billed more than **five thousand dollars (\$5,000)** on a single application of payment, establishing receipt of payment or satisfaction of payment of all amounts requested on behalf of such entities and disbursed prior to submittal by the Contractor of the current Application for Payment;
- d) With the Final Application for Payment: Contractor shall submit a Conditional Waiver and Release on Final Payment as required by **Texas Property Code, §53.284**. Upon receipt of final payment, Contractor shall submit an Unconditional Waiver and Release on Final Payment as required by **Texas Property Code, §53.284**; and
- e) Such other information, documentation, and materials as the Owner, or the title insurer may require in order to ensure that Owner's property is free of lien claims. Such other documents may include, without limitation, original copies of lien or bond claim releases suitable for filing with the County Clerk in Williamson County, Texas.

9.3.2

Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

9.3.3

The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, bond claims, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

- .1 The Contractor further expressly undertakes to defend Owner, at the Contractor's sole expense, against any actions, lawsuits, or proceedings brought against Owner as a result of liens filed against the Work, the site of any of the Work, the Project site and any improvements thereon, or any portion of the property of any of Owner (referred to collectively as "liens" in this **Paragraph 9.3.3**), provide the Owner has paid Contractor pursuant to the requirements of the Contract Documents. The Contractor hereby agrees to indemnify and hold Owner harmless against any such liens or claims of lien and agrees to pay any judgment or lien resulting from any such actions, lawsuits, or proceedings.
- .2 The Owner shall release any payments withheld due to a lien or bond claims if the Contractor obtains security acceptable to the Owner, however, the Contractor shall not be relieved of any responsibilities or obligations under this **Paragraph 9.3.3**, including, without limitation, the duty to defend and indemnify Owner.
- .3 **Retainage.** The Owner shall withhold from each progress payment, as retainage, **five percent (5%)** of the total earned amount. Retainage so withheld shall be managed in conformance with **Texas Government Code, Chapter 2252, Subchapter B**. Any request for reduction or release of retainage shall be accompanied by written consent of the Contractor's Surety. No such request shall be made until the Contractor has earned at least **sixty-five percent (65%)** of the total Contract Sum.
- .4 For purposes of **Texas Government Code, §2251.021 (a)(2)**, the date the performance of service is completed is the date when the Owner's representative approves the Application for Payment.

9.4 CERTIFICATES FOR PAYMENT

9.4.1

The Architect will, within **seven (7) business days** after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the

Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in **Paragraph 9.5.1**.

9.4.2

The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

9.5.1

The Owner or Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Owner or Architect's opinion the representations to the Owner required by **Paragraph 9.4.2** cannot be made. If the Owner or Architect is unable to certify payment in the amount of the Application, the Owner or Architect will notify the Contractor. If the Contractor and Architect, or Contractor and Owner, as the case may be, cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount that can be certified. The Owner or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Owner or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in **Paragraph 3.3.2**, because of

- .1** defective Work not remedied;
- .2** third party claims filed or reasonable evidence indicating probable filing of such claims;

- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 failure to maintain the scheduled progress, or reasonable evidence that the Work will not be completed within the Contract Time;
- .7 failure to comply with the requirements of **Texas Government Code, Chapter 2258** (Prevailing Wage Law);
- .8 failure to include sufficient documentation to support the amount of payment requested for the Project;
- .9 failure to obtain, maintain, or renew insurance coverage, payment/performance bonds or warranty bond required by the Contract Documents; or
- .10 repeated failure to carry out the Work in accordance with the Contract Documents.

9.5.2

When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

9.6 PROGRESS PAYMENTS

9.6.1

The Owner shall make payment in the manner and within the time provided in the Contract Documents and in accordance with **Texas Government Code, Chapter 2251**.

9.6.2

The Contractor shall pay each Subcontractor no later than **ten (10) calendar days** after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

9.6.3

The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the

Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within **seven (7) calendar days**, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

9.6.4

Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in **Paragraph 9.6.2**.

9.6.5

A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

9.7 FAILURE OF PAYMENT

9.7.1

If the Architect is required to issue Certificates for Payment and, through no fault of the Contractor, the Architect fails to timely issue Certificates for Payment in the time permitted in the Contract Documents, or if the Owner does not pay the Contractor by the date established in the Contract Documents, then the Contractor may, upon **twenty-one (21) business days** written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received.

9.7.2

If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or if the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to (1) deduct an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or (2) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

9.8 SUBSTANTIAL COMPLETION

9.8.1

Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use; provided, however, that as a

condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project.

9.8.2

When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner and Architect a comprehensive list of items to be completed or corrected prior to final payment (punch list). Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

9.8.3

Upon receipt of the Contractor's punch list, the Owner and Architect will examine the Work to determine whether the Work or designated portion thereof is substantially complete. If the Owner and/or Architect's examination discloses any item, whether or not included on the Contractor's punch list, that is not sufficiently complete in accordance with the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner or Architect. In such case, the Contractor shall then submit a request for another examination by the Owner or Architect to determine Substantial Completion.

9.8.4

When the Work or designated portion thereof is substantially complete, the Architect, if required by the Contract Documents, or Owner will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Unless otherwise provided, Contractor shall complete all items on the punch list within **thirty (30) calendar days** of Substantial Completion. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

9.8.5

The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage.

9.9 PARTIAL OCCUPANCY OR USE

9.9.1

The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under **Paragraph 11.3.1.5**, the surety, and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under **Paragraph 9.8.2**. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

9.9.2

Immediately prior to partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

9.9.3

Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

9.10 FINAL COMPLETION AND FINAL PAYMENT

9.10.1

Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner and Architect will make such inspection and, when the Owner and Architect find the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in **Paragraph 9.10.2** as precedent to the Contractor's being entitled to final payment have been fulfilled. All warranties and guarantees required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees have been received and accepted by the Owner.

9.10.2

Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner and Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied, within the period of time required by **Texas Government Code, Chapter 2251**, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least **thirty (30) business days** prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety to final payment, (5) a warranty bond in a form acceptable to Owner, and (6) other data establishing payment or satisfaction of obligations, such as receipts, unconditional full and final releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner.

9.10.3

The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of warranties required by the Contract Documents.

9.10.4

Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor and its Subcontractors shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1

The Contractor and its Subcontractors shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement during construction.

10.2.2

The Contractor and its Subcontractors shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury, or loss. Notwithstanding any language to the contrary, the Owner shall not have any responsibility for job site inspections or safety recommendations. Any inspections or observations by the Owner or the Architect are solely for the benefit of the Owner and shall not create any duties or obligations to anyone else.

10.2.3

The Contractor and its Subcontractors shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

10.2.4

When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

10.2.5

The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in **Paragraphs 10.2.1.2 and 10.2.1.3** caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under **Paragraphs 10.2.1.2 and 10.2.1.3**, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of

the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under **Section 3.18**.

10.2.6

The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

10.2.7

The Contractor and its Subcontractors shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding **twenty-one (21) calendar days** after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

10.2.9

When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all covering and fully protect the Work, as necessary, from injury or damage by any cause.

10.2.10

The Contractor shall promptly report in writing to the Owner and Architect all accidents arising out of or in connection with the Work that cause death, personal injury, or property damage.

10.3 HAZARDOUS MATERIALS

10.3.1

The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

10.3.2

Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written notice from the Owner.

10.3.3

The Owner shall not be responsible under this **Section 10.3** for materials or substances the Contractor brings to the site unless such materials or substances are expressly required by the Contract Documents. The Owner shall be responsible for materials or substances expressly required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

10.3.4

The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site or negligently handles, or (2) where the Contractor fails to perform its obligations under **Paragraph 10.3.1**, except to the extent that the cost and expense are due to the Owner's fault or negligence.

10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time, if any, claimed by the Contractor on account of an emergency shall be determined as provided in **Article 7** and **Article 15**.

ARTICLE 11 INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.1

The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1** Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations, which coverage shall be maintained for no less than **four (4) years** following final payment; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under **Section 3.18**.

11.1.2

The insurance required by **Paragraph 11.1.1** shall be written for not less than limits of liability specified in the Contract or the Contract Documents. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

11.1.3

Unless otherwise provided, copies of the insurance policies, in form acceptable to the Owner, shall be provided to Owner within **thirty (30) calendar days** of Owner's request. Except as otherwise provided, all of the policies provided shall name Owner as an additional insured, and such policies shall immediately deliver to Owner copies of all such insurance policies, together with certificates by the insurer evidencing Owner's coverage there under. Each policy of insurance obtained by Contractor pursuant to the Contract Documents shall provide, by endorsement or otherwise (1) that such policy shall not be canceled, endorsed, altered or reissued to effect a change in coverage for any reason or to any extent whatsoever unless the insurer shall have first given Owner and Lender at least **thirty (30) calendar days** prior written notice thereof, and (2) that Owner may, but shall not be obligated to, make premium payments to prevent the cancellation, endorsement, alteration or reissuance of such

policy and such payments shall be accepted by the insurer to prevent the same. Such policies shall provide, by endorsement or otherwise, that Contractor shall be solely responsible for the payment of all premiums under the policies, and that Owner shall have no obligation for the payment thereof, notwithstanding that Owner is named as additional insured under the policy. Any insured loss or claim of loss shall be adjusted to the Owner, and any settlement payments shall be made payable to the Owner as a trustee for the insureds, as their interests may appear. Upon the occurrence of an insured loss or claim of loss, monies received will be held by Owner who shall make distribution in accordance with an agreement to be reached in such event between Owner and Contractor. If the parties are unable to agree between themselves on the settlement of the loss, such dispute shall be resolved in accordance with **Article 15**, below, but the Work of the Project shall nevertheless progress during any such period of dispute without prejudice to the rights of any party to the dispute. The Contractor shall be responsible for any loss within the deductible area of the policy. If Owner is damaged by the failure of Contractor to purchase or maintain such insurance, then Contractor shall bear all costs properly attributable thereto. The Contractor shall affect and maintain similar property insurance on portions of the Work stored off the site or in transit when such portions of the Work are to be included. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until Final Completion of the Project.

11.1.4

The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

11.3 PROPERTY INSURANCE

11.3.1

Unless otherwise provided in the Contract Documents, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in **Section 9.10** or until no

person or entity other than the Owner has an insurable interest in the property required by this **Section 11.3** to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

- .1 Property insurance shall be on an “all-risk” or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect’s and Contractor’s services and expenses required as a result of such insured loss as well as coverage for building materials while in transit or building materials suitably stored at a temporary location. Property insurance provided by the Contractor shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring, and other similar items commonly referred to as construction equipment that may be on the site and the capital value of which is not included in the Work. The Contractor shall make its own arrangements for any insurance it may require on such construction equipment. Any such policy obtained by the Contractor under this **Paragraph 11.3.1** shall include a waiver of subrogation in accordance with the requirements of **Paragraph 11.3.4**.
- .2 If the Contractor does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Contractor shall so inform the Owner in writing prior to commencement of the Work. If the Owner is damaged by the failure or neglect of the Contractor to purchase or maintain insurance as described above, without so notifying the Owner in writing, then the Contractor shall bear all reasonable costs properly attributable thereto.
- .3 Contractor shall be responsible for any deductibles to the extent that the loss arose out of or was caused by Contractor’s negligence or breach of the Contract.
- .4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.
- .5 Partial occupancy or use in accordance with **Section 9.9** shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

11.3.2 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in **Article 6**, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent of actual recovery of any insurance proceeds under any property insurance obtained pursuant to this **Section 11.3** or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance. However, this waiver shall not apply to property insurance purchased by Owner after completion of the Work or Final Payment, whichever comes first. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in **Article 6**, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

11.3.3

A loss insured under the property insurance shall be adjusted in good faith and made payable to the Owner in good faith for the insureds, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

11.4 BONDS

11.4.1

The Contractor is required to tender to Owner, prior to commencing the Work, performance and payment bonds, as required by law. In the event Contractor fails to provide such bonds within the time provided by the Contract, Owner may immediately, upon notice of such failure, or within a reasonable time thereafter, at its sole option and discretion: (1) void this Contract in its entirety; or (2) procure such bonds on behalf of the Contractor, deducting such amounts from the Contract Sum. In the event Owner voids the Contract under this **Section 11.4**, Contractor may forfeit its bid bond.

11.4.2

A Performance Bond is required if the Contract Sum is in excess of **fifty thousand dollars (\$50,000)**. The performance bond is solely for the protection of the Owner, in the full amount of the Contract Sum and conditioned on the faithful performance of the Work in accordance with the Contract Documents. The form of the bond shall be approved by the Owner.

11.4.3

A Payment Bond is required if the Contract Sum is in excess of **twenty-five thousand dollars (\$25,000)**. A payment bond is payable to the Owner, in the full amount of the Contract Sum and solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the Contractor or a supplier of required materials or labor. The form of bond shall be approved by the Owner.

11.4.4 Warranty Bond.

Prior to final final payment, Contractor shall provide Owner with a Warranty Bond in the sum of ten percent (10%) of the Contract Sum or ten percent (10%) of the GMP for Construction Manager At-Risk Contracts for twelve (12) months from Substantial Completion of the Work. The form of bond shall be approved by the Owner.

11.4.5

Corporate sureties authorized to issue bonds shall be qualified and comply with relevant provisions of the Texas Insurance Code.

11.4.6

Each bond shall be executed by a corporate surety or sureties authorized to do business in the State of Texas and acceptable to the Owner. If any bond is for more than **ten percent (10%)** of the surety's capital and surplus, the Owner may require certification that the company has reinsured the excess portion with one or more reinsurers authorized, accredited, or trusted to do business in the State. A reinsurer may not reinsure for more than **ten percent (10%)** of its capital and surplus. If a surety upon a bond loses its authority to do business in the State, the Contractor shall within **thirty (30) calendar days** after such loss furnish a replacement bond at no added cost to the Owner.

11.4.7

Each bond shall be accompanied by a valid Power-of-Attorney (issued by the surety company and attached, signed and sealed with the corporate embossed seal, to the bond) authorizing the attorney in fact who signs the bond to commit the company to the terms of the bond, and stating any limit in the amount for which the attorney can issue a single bond.

11.4.8

The process of requiring and accepting bonds and making claims thereunder shall be conducted in compliance with **Texas Government Code, Chapter 2253**. If for any reason a statutory payment or performance bond is not honored by the surety, the Contractor shall fully indemnify and hold the Owner harmless of and from any costs, losses, obligations or liabilities it incurs as a result.

11.4.9

Owner shall furnish certified copies of a payment bond and the related Contract between Owner and Contractor to any qualified person seeking copies who complies with **Texas Government Code, §2253.026**.

11.4.10 Claims on Payment Bonds.

Claims on payment bonds must be sent directly to the Contractor and its surety in accordance with Texas Government Code, §2253.041. All Payment Bond claimants are cautioned that no lien exists on the funds unpaid to the Contractor on such contract, and that reliance on notices sent to the Owner may result in loss of their rights against the Contractor and/or its surety. The Owner is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no such responsibility because of any representation by any agent or employee.

11.4.11 Payment Claims when Payment Bond not Required.

When the value of the Contract between Owner and the Contractor is less than twenty-five thousand dollars (\$25,000), claimants and their rights are governed by Texas Property Code, §53.231-239. These provisions set out the requirements for filing a valid lien on funds unpaid to the Contractor as of the time of filing the claim, actions necessary to release the lien and satisfaction of such claims.

11.4.12

Sureties shall be listed on the **Department of the Treasury's Listing of Approved Sureties** stating companies holding Certificates of Authority as acceptable sureties on Federal Bonds and acceptable reinsuring companies (Department Circular 570).

11.5 GENERAL REQUIREMENTS

11.5.1

Unless otherwise provided in the Contract Documents, all insurance coverage procured by the Contractor shall be provided by insurance companies having policy holder ratings no lower than "A" and financial ratings not lower than "VIII" in the Best's Insurance Guide, the latest edition in effect as of the date of the Contract, and subsequently in effect at the time of renewal of any policies required by the Contract Documents.

11.5.2

If the Owner is damaged by failure of the Contractor to purchase or maintain insurance required under this **Article 11**, then the Contractor shall bear all reasonable costs (including attorneys' fees and court and settlement expenses) properly attributable thereto.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING OF WORK

12.1.1

If a portion of the Work is covered contrary to the Owner or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Owner or Architect, be uncovered for examination and be replaced at the Contractor's expense without change in the Contract Time. If prior to the date of Substantial Completion the Contractor, a Subcontractor, or anyone for whom either is responsible uses or damages any portion of the Work (other than start-up), including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

12.1.2

If a portion of the Work has been covered that the Owner or Architect has not specifically requested to examine prior to its being covered, the Owner or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

12.2 CORRECTION OF WORK

12.2.1

The Contractor shall promptly correct Work rejected by the Owner or Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

12.2.2 AFTER SUBSTANTIAL COMPLETION

- .1** In addition to the Contractor's obligations under **Section 3.5**, if, within **one (1) year** after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under **Paragraph 9.9.1**, or by terms of an applicable special warranty required by the Contract Documents, any

of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may, without prejudice to any other remedies, correct it in accordance with **Section 2.4** or file a claim with the surety of any applicable warranty bond.

- .2** The **one (1)-year** period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

12.2.3

The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

12.2.4

The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

12.2.5

Nothing contained in this **Section 12.2** shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the **one (1)-year** period for correction of Work as described in **Paragraph 12.2.2** relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

The Contract shall be governed by the law of Williamson County, Texas.

13.2 SUCCESSORS AND ASSIGNS

The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in the Contract Documents or by law, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

13.4 RIGHTS AND REMEDIES

13.4.1

Except as expressly provided in the Contract Documents, duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

13.4.2

No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

13.5 TESTS AND INSPECTIONS

13.5.1

Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority. The Contractor shall give the Owner and Architect timely notice of when and where tests and inspections are to be made so that the Owner and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals where building

codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

13.5.2

If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under **Paragraph 13.5.1**, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Owner and Architect of when and where tests and inspections are to be made so that the Owner and Architect may be present for such procedures.

13.5.3

If such procedures for testing, inspection or approval under **Paragraphs 13.5.1 and 13.5.2** reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense. The Contractor also agrees the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

13.5.4

Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner and Architect.

13.5.5

If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

13.5.6

Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.6 INTEREST

The rate of interest that accrues on an overdue payment is the rate in effect on September 1 of the fiscal year in which the payment becomes overdue. The rate in effect on September 1 is equal to the sum of:

13.6.1

one percent (1%); and

13.6.2

the prime rate as published in the Wall Street Journal on the **first (1st) day of July** of the preceding fiscal year that does not fall on a Saturday or Sunday pursuant to **Texas Government Code, §2251.025**.

13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the time limits provided by law. Nothing herein shall be construed as shortening the period of time Owner has for commencing claims to less than what is required by law.

13.8 APPLICATION TO SUBCONTRACTS

Any specific requirement in the Contract that the responsibilities or obligations of Contractor also apply to a Subcontractor is added for emphasis and are also hereby deemed to include a Subcontractor of any tier. The omission of a reference to a Subcontractor in connection with any of Contractor's responsibilities or obligations shall not be construed to diminish, abrogate or limit any responsibilities or obligations of a Subcontractor of any tier under the Contract Documents or the applicable subcontract.

13.9 GENERAL PROVISIONS

13.9.1

All personal pronouns used in the Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders; and the singular shall include the plural and vice versa. Titles of articles, sections, and paragraphs are for convenience only and neither limit nor amplify the provisions of the Contract. The use herein of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter.

13.9.2

Wherever possible, each provision of this Contract shall be interpreted in a manner as to be effective and valid under applicable law. If, however, any provision of this Contract, or portion thereof, is prohibited by law or found invalid under any law, only such provision or portion thereof shall be ineffective, without in any manner invalidating or affecting the remaining provisions of this Contract or valid portions of such provision, which are hereby deemed severable.

13.10 NO ORAL WAIVER

The Provisions of the Contract Documents shall not be changed, amended, waived, or otherwise modified in any respect except by a writing signed by Owner. No person is authorized on behalf of Owner to orally change, amend, waive, or otherwise modify the terms of the Contract Documents or any of the Contractor's duties or obligations under or arising out of the Contract Documents. Any change, waiver, approval, or consent granted to the Contractor shall be limited to the specific matters stated in the writing signed by Owner, and shall not relieve Contractor of any other of the duties and obligations under the Contract Documents. No "constructive" changes shall be allowed.

13.11 TEXAS PUBLIC INFORMATION ACT

To the extent, if any, that any provision in the Contract Documents is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that Owner, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any information or data furnished to Owner whether or not the same are available to the public. It is further understood that Owner, its officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that Owner, its officers and employees shall have no liability or obligation to Contractor for the disclosure to the public, or to any person or persons, of any software or a part thereof, or other items or data furnished to Owner by Contractor in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

13.12 EQUAL OPPORTUNITY IN EMPLOYMENT

The Contractor agrees that during the performance of the Contract it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Parties will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1

The Contractor may terminate the Contract if the Work is stopped for a period of **ninety (90) consecutive days** through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing

portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped; or
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in **Paragraph 9.4.1**, or because the Owner has not made payment on an undisputed Certificate for Payment within the time stated in the Contract Documents.

14.1.2

The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in **Section 14.3** constitute in the aggregate more than **one hundred percent (100%)** of the total number of days scheduled for completion, or **one hundred twenty (120) days** in any **three hundred sixty-five (365)-day** period, whichever is less.

14.1.3

If one of the reasons described in **Paragraph 14.1.1 or 14.1.2** exists, the Contractor may, upon **thirty (30) business days** written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

14.2 TERMINATION BY THE OWNER FOR CAUSE

14.2.1

The Owner may terminate the Contract if the Contractor

- .1 fails to commence the Work in accordance with the provisions of the Contract,
- .2 fails to prosecute the Work to completion thereof in a diligent, efficient, timely, workmanlike, skillful and careful manner and in strict accordance with the provisions of the Contract,
- .3 fails to use an adequate amount or quality of personnel or equipment to complete the Work without undue delay,

- .4 fails to perform any of its obligations under the Contract,
- .5 fails to make prompt payments when due to its Subcontractors and Suppliers, or as required by **Texas Government Code, Chapter 2251**,
- .6 files any petition or other pleading seeking any relief under any provisions of the Federal Bankruptcy Act, as amended, or any other federal or state statute or law providing for reorganization of debts or other relief from creditors, permits a receiver or other person to be appointed on account of its insolvency or financial condition, or becomes insolvent,
- .7 creates any situation or state of facts which would authorize or permit an involuntary petition in bankruptcy to be filed against Contractor, or
- .8 has not met or in Owner's opinion will not meet the dates of Substantial Completion set forth in the Contract Documents.

14.2.2

When any of the above reasons exist, the Owner, in its sole and absolute discretion, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, **thirty (30) calendar days** written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to **Section 5.4**; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

14.2.3

When the Owner terminates the Contract for one of the reasons stated in **Paragraph 14.2.1**, the Contractor shall not be entitled to receive further payment until the Work is finished. In the event that a final decision under **Article 15**, below, is rendered that sufficient cause did not exist for termination under this **Section 14.2**, then the termination shall be considered a termination for convenience, under **Section 14.4**, below.

14.2.4

If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages and costs incurred by the Owner in finishing the Work and not expressly waived,

such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner.

14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

14.3.1

The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

14.3.2

The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in **Paragraph 14.3.1**. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

14.4.1

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

14.4.2

Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

14.4.3

Upon such termination, the Contractor shall recover the amounts provided in **Paragraph 12.1.3** of the Contract.

ARTICLE 15 CLAIMS AND DISPUTES

15.1 CLAIMS

15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

15.1.2 NOTICE OF CLAIMS

Claims for events arising during the performance of the Work by Contractor must be initiated by written notice to the other party with a copy sent to the Owner; provided, however, that the claimant shall use its best efforts to furnish the other party, as expeditiously as possible, with notice of any Claim including, without limitation, those in connection with concealed or unknown conditions, once such claim is recognized, and shall take steps to mitigate the alleged or potential damages, delay, or other adverse consequences arising out of the condition that is the cause of such a Claim. Claims by Contractor must be initiated within **ten (10) business days** after occurrence of the event giving rise to such Claim or within **ten (10) business days** after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims may also be reserved in writing within the time limits set forth in this **Paragraph 15.1.2**. Any notice of Claim or reservation of Claim must clearly identify the alleged cause and the nature of the Claim and include data and information available to the claimant that will facilitate prompt verification and evaluation of the Claim.

15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in **Section 9.7** and **Article 14**, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the Contract Documents.

15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under **Section 10.4**.

15.1.5 CLAIMS FOR ADDITIONAL TIME

- .1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.
- .2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

15.2 MEDIATION

15.2.1

Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived shall be subject to mediation as a condition precedent to seeking redress in a court of competent jurisdiction.

15.2.2

The parties shall endeavor to resolve their Claims by mediation, which shall consist of a single mediator who is knowledgeable about the subject matter of the Contract. A request for mediation shall be made in writing, delivered to the other party to the Contract.

15.2.3

The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Williamson County, Texas. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

15.2.4

All disputes not resolved through mediation shall be decided in litigation in Williamson County, Texas.

15.2.5 NO WAIVER OF IMMUNITY

Nothing in the Contract Documents shall be deemed to waive, modify or amend any legal defense available at law or in equity to Owner, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. Owner does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.