

## **EXHIBIT “A”**

Attachment to **Subcontract/Purchase Order No.** by and between **[insert full legal name of subcontractor/seller]** and **J.M. Thompson Company**. For **BP-16.0 Electrical & Fire Alarm, The Healing Place of New Hanover County**

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### **SCOPE OF WORK/SUPPLY AND CLARIFICATIONS/QUALIFICATIONS**

#### **1. Scope of Work/Supply**

The Scope of Work/Supply is identified in the following Specification Section(s) and further described below:

<b><u>Specification Section</u></b>	<b><u>Description</u></b>
260519	Low voltage electrical conductors & cables
260526	Grounding & bonding for electrical systems
260529	Hangers & supports for electrical systems
260533	Raceway & boxes for electrical systems
260544	sleeves & sleeve seals for electrical raceways & cabling
260553	Identification for electrical systems
260923	Lighting control devices
262413	Switchboards
262416	Panelboards
262713	Electricity metering
262719	Multi-outlet assemblies
262726	Wiring devices
262813	Fuses
262816	Enclosed Switches & circuit breakers
263213.13	Diesel Engine driven generator sets
263323.11	Central battery equipment for emergency lighting
263343	Battery chargers
263600	Transfer switches
264113	Lightning protection for structures
265119	LED interior lighting
265213	Emergency & Exit lighting
265619	LED exterior lighting
284621.11	Addressable fire alarm systems
115213	Projection Screen

<b><u>Related Section</u></b>	<b><u>Description</u></b>
Division 0	Project Information
Division 1	General Requirements

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All other  
divisions

**The Contract Documents indicate the general Scope of the Project in terms of the design concept, the dimensions/types/locations of structures, utility and other systems and the outline of major elements of construction. The Contract Documents may not be complete and may not necessarily indicate or describe in complete detail all work required for the full performance and completion of Trade Contractor’s Work. Trade Contractor understands and agrees that they are to furnish all items required for a complete and functioning system; all work shall comply with applicable code requirements and the intent of the Architect/Engineer.**

### **1.1 GENERAL PROVISIONS – All Trade Contractors**

1. Subcontractor shall include licenses, inspections, training, tests, certifications, and warranties as required by the Contract Documents, applicable codes, state and local authorities. The work on this project may involve working in or adjacent to a roadway right of way. Specific requirements relating to eVerifi, flagman, employee training and documentation apply, subcontractors shall note these requirements in the contract documents when preparing their bids.
2. Subcontractors shall provide a directly-employed, dedicated full time Superintendent to the project at all times that work or deliveries are being performed by the subcontractor or its sub-subcontractors, or as required for the proper coordination between trades. This individual must be fully trained in all aspects of Environmental Health & Safety and possess the required certifications as required by the Safety and Health Management Program. The Superintendent shall not be replaced or removed by the Subcontractor without the written consent of the CM. However, the CM at their discretion may direct Subcontractor to replace the Superintendent with a mutually acceptable replacement. The superintendent must be English-speaking, and must have access to a mobile phone a direct company email.
3. Subcontractor shall inspect and verify, at least two (2) weeks prior to the start of their Work that all requirements for installation are complete and acceptable as required for installation to begin. This verification shall be submitted to the Construction Manager in writing. The site review shall include, but not be limited to a detailed review of all work in place furnished & installed by others. Items that do not meet the installation requirements must be identified accordingly.
4. Within (14) days of Notice of Award of the Subcontract, Subcontractor shall submit a detailed schedule for the entire scope of the subcontract, including a detailed schedule of values broken down into labor and material costs for each portion of the work, shop drawings, submittals, production schedule, delivery, and installation that will meet the milestone dates identified in the Construction Schedule (Exhibit D). This schedule is to be updated and submitted to the Construction Manager bi-weekly throughout the performance

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of this Scope. Submission of Schedule Updates and Recovery Plans (if required) shall be a prerequisite to the acceptance and processing of Subcontractor's Monthly Application for Payment.

5. Install sleeves and/or blockouts pertaining to your scope of work. Maintain sleeve and blockout opening protection. If Core drilling or saw cutting is necessary, submit a request to the engineer of record for approval prior to proceeding. Provide tradesman on standby for duration of all concrete pours to insure integrity of blockout, sleeve or embedded item is maintained. CM will provide only those openings indicated on the structural drawings. Seal and firesafe all penetrations in accordance with the contract documents and local code requirements. Firesafing shall be installed by a trade contractor regularly engaged in that business and not self-performed by the subcontractor's own forces.
6. The maintenance period initiates at the completion of final inspections, and an effective warranty date will be issued by the CM, not from date of installation. Subcontractors shall take note of extended warranty requirements outlined in the specifications. For warranties that extend beyond the normal period, a separate warranty may be required to be written directly between the Owner and subcontractor.
7. Subcontractor shall be totally responsible for the delivery, receiving, unloading, storing, handling, protecting, hoisting, distributing, delegated engineering, layout and installation of all materials installed under this scope. Material deliveries to the jobsite shall be coordinated and approved by the CM's project superintendent. Materials shall be delivered to the jobsite, tagged/labeled in an orderly manner, protected from exposure, and free of damage. In general, materials shall be ordered and shipped for "just-in-time" delivery to avoid congestion and damage from excessive storage of materials onsite. Subcontractor shall provide trained, competent flagmen for hoisting, moving and unloading of material.
8. Subcontractor shall be responsible for taking all field measurements that are necessary to insure the proper installation of Subcontractor's work in coordination with the work of other trades. Field measurements shall be taken and coordinated in a timely manner in order to avoid delaying the project.
9. Subcontractor shall include all dewatering necessary for the performance of their work, such that should standing water be encountered in an area of work, Subcontractor shall employ the means necessary for removal.
10. Subcontractor shall include all submittals, shop drawings, as-built drawings, O&M manuals, extra materials, and Owner training as specified. Subcontractor shall complete all submittals within thirty (30) days of the date of award of the subcontract. Subcontractor will be required to utilize the Project Team Procore platform. All submittals will be processed in an electronic format, as well as document control, field activity tracking, reports, punch listing and commissioning. Subcontractor shall provide the necessary equipment, personnel and training to support these functions on site. Any deviations, changes, and/or discrepancies differentiating the shop drawings from the Contract Documents shall be clouded and clearly marked requesting the Architect's/Engineer's review and approval. It is understood that the Subcontractor shall furnish all product submittals per the Contract Documents. Substitution requests must be submitted prior to receipt of bids as outlined in the Instruction to Bidders. Substitution requests received after the deadline will not be entertained. Provide 2 sets of physical samples to be submitted to the Construction Manager.
11. Subcontractor shall cooperate fully with building inspection officials, third-party inspectors, and designer's designated representatives for review and inspection of the work of this Subcontract. Subcontractor shall

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provide access to any and all areas for required testing, including providing scaffolding, safety equipment, lifts, etc as required. Subcontractor shall promptly remedy all rejected or disapproved work.

### 12. Safety Provisions

- a. Subcontractor shall comply with all provisions outlined in the Safety and Health Management Program (SHMP), which includes but is not limited to, the following:

- Submission of Corporate Safety Program
- Submission of Site-Specific Safety & Health Plan
- Submission of Daily Pre-Task Plans for each crew
- Submission of Monthly Man-hour Report
  - Attendance by each employee at CM’s Site-Specific Safety Orientation
- Attendance by each employee at Weekly Site Safety Meeting
  - Performance of all Work in accordance with OSHA and the guidelines identified in the SHMP
  - Compliance with 100% continuous fall protection where exposed to fall hazards over 6’
  - All field personnel shall attend, a four-hour Injury Free Environment (IFE) training session.
  - All tradesmen must have the proper license and/or certification to operate equipment/tools required for that trade. All licenses and certifications must be included in the Subcontractors Project Specific Safety Manual.

13. Include all surveying, engineering and layout from existing benchmark’s and coordinates for this scope of work. The CM will provide one north/south & east/west control point on the site along with a benchmark elevation. This subcontractor shall be fully responsible for all field engineering required to transfer to work location. Subcontractor shall take note of the requirements for As-Built Documentation; drawings shall be updated on a daily basis and turned over to the CM electronically on a monthly basis. The Subcontractor shall provide a complete for-record set of electronic as-built documents at the completion of the project, as well as one complete paper copy.
14. Subcontractor should employ the use of subcontractor provided off-site storage facilities and just-in-time. Limited access may require 2nd & 3rd shift material/equipment deliveries, to be coordinated with the CM. Subcontractor shall be fully responsible for all equipment required for unloading. Stored materials may only be submitted for payment when stored on site, received in a timely fashion and with prior approval of the Owner and CM. Subcontractors shall not anticipate stored material payment prior to installation. Protection of said materials utilizing shrink wrapping, visqueen, tarps, etc. is the responsibility of the subcontractor.
15. The subcontractor will staff the project with adequate manpower; supervision and equipment required to complete all activities on or before scheduled dates without the planned use of overtime. The Project Schedule is based on 5 days per week, Monday through Friday, starting at 7:00 AM; Project start time may be adjusted with Daylight Savings Time to maintain safe work conditions at the discretion of the CM. A four ten-hour day work schedule will not be allowed. Weekend and after-hours work shall be requested by the Subcontractor and approved by the CM forty-eight (48) hours in advance. The Subcontractor shall anticipate normal weather conditions (defined as weather patterns and conditions within the 5-year climatic range for the same time period as defined by NOAA for this region) and shall be responsible to maintain the project schedule at no additional cost. The First Tier Subcontractor’s Superintendent shall be present onsite during any overtime

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or weekend work being performed by the Subcontractor or their sub-subcontractors. Multiple mobilizations may be required.

16. Subcontractors shall anticipate that limited onsite parking will be available.
17. Pre-Installation Meetings: The subcontractor shall provide their project manager and superintendent to participate in pre-installation meeting including CM, Architect, and Manufacturer Representative, to verify project requirements, substrate conditions, manufacturer's installation instructions, manufacturer's warranty requirements, architectural details and safety program, quality control and schedule, prior to starting any work onsite.
18. Subcontractor understands that weekly project meetings will be held on the job site. Subcontractor agrees to have the Project Manager and Superintendent attend all required meetings. Subcontractor will attend meeting beginning 3 weeks prior to that subcontractor's start of work on site. Subcontractor will attend additional meetings as directed by the CM. Unexcused absences will be charged to the subcontractor at the rate of \$500.00 per meeting.
19. All Subcontractors are responsible for their own continuous daily work area clean up, in addition to maintaining all stored materials in an organized well-kept manner. This cleanup must be done on a continuing basis, with debris sorted as outlined in the specifications. Each Subcontractor crew shall be equipped with broom, dust pan and trash bags to broom-sweep all areas in which they are working and shall fully remove all debris resulting from this Scope of Work from the building/site and dispose of in dumpsters on a daily basis. Hazardous materials are to be disposed of off-site by the subcontractor in accordance with all Federal, State and Local requirements. In addition, for each week that the subcontractor has any field labor active on the site, they will provide sixteen hours of an experienced laborer to participate in a composite clean-up crew, specific days and times to be determined.
20. Tobacco products will not be allowed onsite at any time.  
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21. This Subcontractor shall provide all wash down, cleaning and touch-up painting of his Work as required for the proper completion and acceptance of the Work. Clean installed products in accordance with manufacturer's instructions at such time as agreed to or directed by CM. This Subcontractor will provide protection from damage to, and be responsible for his Work until acceptance by the Owner.
22. Subcontractor will be responsible for all testing as required by the specifications and shall give CM sufficient advance notice (not less than 24 hours & more if required by specifications) of when and where inspection and/or testing will be performed by Subcontractor. Subcontractor must supply verification to the CM Superintendent of all testing and/or inspections required by code or specifications from the appropriate agency acceptance. Subcontractor shall be responsible for all fees incurring from failed inspections.
23. This subcontractor will be responsible for complying with all requirements as outlined in those specifications. Provide manpower and troubleshooting/engineering as necessary to support the Commissioning Agent.
24. Subcontractor shall include in the Scope of Work multiple "Mock-ups" or "Prototypes" as required to expedite the approval of any system or product or as required by Specification. Modification or reworking of

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the “Mock-ups” or “Prototypes” to achieve Owner/Architect/Contractor approval is included in the Scope of Work in accordance with technical specification. Expediting of materials to complete mock-ups early in the construction sequence is included at no additional cost to Construction Manager.

25. Subcontractor will comply with all quality related requirements listed in the Contract Documents. Subcontractor shall follow the protocols and procedures listed in the Quality Control Plan for this project.
26. Upon installation of the building temporary lighting by Electrical Subcontractor, any additional task lighting beyond OSHA/SHMP required foot-candles shall be the responsibility of each Subcontractor. Immediately notify the Electrical Subcontractor and CM of any area where sufficient area/access lighting is not present; do not proceed with entering the area until the condition is corrected. Lighting required for work areas outside the building structure shall be the responsibility of each subcontractor requiring same. Electrical Subcontractor shall provide 110 V temporary power within the building structure using the 100 ft. rule of thumb. Power required outside the building structure shall be the responsibility of subcontractor requiring same.
27. Temporary water will be available at one location on the site; distribution shall be the responsibility of the subcontractor. Hoses shall be routed and maintained to avoid leakage.
28. Builder’s Risk Insurance is provided by the CM, any subcontractor incurring a loss with an approved claim shall be responsible for any deductible amounts not covered. Deductible amounts range from ten to twenty-five thousand dollars per claim depending on the nature of the event.
29. Provide all access doors required to access items through hard ceilings and walls, including duct mounted smoke detectors. Provide fire rated access doors where applicable. Access doors to be indicated on coordination drawings. All drywall and ceiling access doors required for complete access as required under this scope are furnished by this Trade Contractor. Installation by others. Access doors shown on Architectural drawings are furnished and installed by others. Refer to architectural specifications for access door types and manufacturers.
30. All cutting, burning, welding and grinding operations shall employ a fire watch, equipped with a fire extinguisher, as outlined in the SHMP. This individual shall be properly equipped and trained. This individual(s) shall be other than the designated site safety supervisor.
31. This subcontractor shall include all required design, professional liability insurance, and engineered drawings, by a professional engineer licensed in the state of North Carolina, per the performance requirements, for systems requiring design.

### **1.2 TRADE SPECIFIC SCOPE OF WORK ITEMS (Including but not limited to the following)**

1. Subcontractor shall provide and install a complete “turnkey” electrical system and elements indicated on Contract Documents. All Work shall be completely installed with all accessories necessary for a complete installation. This Work shall include, but not be limited to, the following fundamental systems:
  - a. Power Distribution (including equipment, conduit and conductors)
  - b. Fire Alarm
  - c. Emergency Generator



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- d. Uninterruptable Power Supply
  - e. Site electric
  - f. Grounding
  - g. Electric Door Hardware power, and door control/contact raceways
  - h. Communications
  - i. Site Electrical and Communication Work
  - j. Electrical Fixtures
  - k. Low voltage (security, telephone, audiovisual, data, etc.)
  - l. Temporary Electric including (1) 50 amp construction panel in each building.
2. Subcontractor shall provide and install all Low Voltage systems to include but not limited to:
- a. Fire Alarm – Complete system
  - b. Telephone/Data/Cable Communications – rough-in only, from point of service to above ceiling/in-wall as indicated or required, provide wire management racks, grounding, sleeves and ladder trays.
  - c. Speaker/Intercom, Audio/Visual – Rough-in only; no equipment or wiring
  - d. Security/Access Control – Rough-in only; no equipment or wiring
3. It is noted there are many locations where site electrical systems will be installed across other site utility systems or structural elements. Layout and elevation of installed systems under this subcontract shall yield as necessary to sanitary sewer systems, storm sewer systems, storm or sanitary systems, and all water lines. Subcontractor is required to provide whatever means and methods are necessary to install its work, which may include open excavations, direct boring, or casement boring or other means.
4. If soils from excavations of this contractor’s work are unsuitable for backfill as a result of a failure to protect the excavated materials from the elements, he will backfill with approved stone fill (or flowable fill as approved by the CM) and remove from the site the unsuitable soils. Backfill will occur immediately following placement/inspection of the piping in the trench. Subcontractor will not wait for materials to dry out.
5. Subcontractor shall include dewatering of excavations for work of this subcontract, whether water source is groundwater or stormwater. All excavations and work areas will be kept free from the accumulation of water from any source by whatever means are necessary including shoring and active dewatering. Water from precipitation/storms/snow/etc. shall not be allowed to accumulate or stand in any work areas, excavations, structures, etc. related to work of this subcontract for more than 12 hours after from any rain event and shall be removed by this subcontractor to the satisfaction of Construction Manager and/or Owner.
6. Refer to site logistics plans for scope of work for main temporary electric service requirements for the site and building. Include all temp panels and transformers indicated on site Logistics plans.

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- a. Subcontractor is to provide temporary electrical service provisions and connections to two Construction Management office trailers, two two-wide and one one-wide. Disconnect when directed by Construction Manager
  - b. Construction convenience outlets shall be provided for small power tools. Provide a minimum of 4-20A duplex receptacles per location. Duplex receptacles shall be located such that they will be accessible for use with a 100 ft. drop cord, allowing for wall construction. All outlets will be GFCI protected. Include OSHA required weekly testing and documentation required of all GFCI devices in temporary power system. Submit documentation to CM weekly.
  - c. Provide GFCI protection for permanent outlets used during the construction phase (after the temporary power is removed).
  - d. Temporary lighting and power to be available as soon as structural steel and metal decking, concrete placed and roofing has been installed.
  - e. Include all permit and utility company charges for installation and removal of the temporary system. Consumption charges will be by others.
  - f. It is the intention of the Construction Manager to operate the HVAC equipment up to 3 months prior to the completion of the Work for start-up and testing Subcontractor is to expedite all HVAC equipment feeders and connections to allow for these systems to be operational
  - g. Include modifications to the temporary power and lighting requirements beyond that required by the contract documents and this scope of work
  - h. Lighting shall be installed such that lights in the main corridors will remain illuminated continuously. Lights in all interior areas shall be placed on a timer. All exterior lighting will be controlled by photocells as directed by the Construction Manager. Multiple zones may be required to facilitate energy conservation while maintaining egress lighting. Provide the project with a light meter for verification that adequate lighting levels have been achieved. Temporary lighting will need to be monitored on a continuing basis to provide adequate light levels in all areas as construction of walls progresses
  - i. Provide temporary exterior security lighting with pole mounted fixtures to provide a minimum lighting level of 1 foot candle for the entire construction site until permanent site lighting is complete. All exterior flood lights on photocell to be located for complete site coverage per CM.
  - j. Remove temporary electrical/lighting and patch behind removal as directed by the Contractor.
  - k. Temporary power convenience outlets on floors to be installed and operable within 2 weeks of concrete placement.
7. Subcontractor shall furnish, install, maintain and remove (at direction of Construction Manager) all temporary electric and lighting systems for construction use to include, but not limited to the following:
  - a. Install circuit and branch wiring, with area distribution boxes.



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8. Provide and maintain (including bulb replacement) temporary lighting in accordance with OSHA requirements in all areas of project.
9. Temporary lighting levels at 5 foot candles above OSHA requirements at ALL interior locations and stairwells including installation and daily bulb maintenance for the entire construction schedule. .  
Electrical Subcontractor shall assign a minimum of one electrician to monitor and maintain the system on a continuing basis. EC is responsible for all costs associated with maintaining the system.
  - a. Minimum of (1) 150W bulb per room.
  - b. Minimum of (1) 150W bulb per 150sf for rooms larger than 150sf
  - c. Minimum of (1) 150W bulb for every 12’ running feet of corridor
10. Subcontractor is to provide the 300 Kw emergency generator and belly tank system capable of 72 hours continuous operation at 100% including all generator exhaust, load bank testing , ATS switches, panels, life safety panels.. Door hardware is to be coordinated with the building hardware master keying requirements. This subcontractor is to include refilling the generator after completion of all building testing/inspections for the County of New Hanover and commissioning.
11. Subcontractor is to infrared testing all switchboards panels and subsequent testing after Substantial completion. Refer to specifications.
12. Subcontractor is to install all underground concrete, rebar, conductors, excavation, safety barriers, traffic control, city permits, backfill, warning tape, cutting & patching for new Electrical Services and Telecommunications.
13. Include all miscellaneous supports and hangers for the Electrical work including miscellaneous support steel, joist bracing and trapeze hangers. Electrical work will be coordinated with wall layout to minimize conflicts with wall studs and track. Provide and install additional wire supports for lighting fixtures as required in grid ceilings. Subcontractor is to coordinate the locations of the fixtures in the expanded metal ceilings with the steel subcontractor. Subcontractor to review locations of pre-finished acoustical metal ceilings and provide independent support for any conduit.
14. Subcontractor is to include all the software, equipment and functionality to provide remote operations of the lighting control systems per plans and specifications thru the BAS system.
15. Subcontractor shall to coordinate with other Trades to supply adequate wiring size and overload heaters for installed motor sizes, not to rely solely on sizes indicated on electrical drawings. Coordinate all wiring, voltage and locations of other Subcontractor’s equipment to insure a complete installation.
16. Subcontractor is responsible to furnish and install fire rated blocking and plywood as required for this scope of work.
17. Includes all labeling and identification of devices, conduit, boxes, equipment, FA labeling, etc as required by Contract Documents, NEC and local codes.
18. Comply with all requirements for Vibration Isolation including concrete in bases. Bases shall be cleaned and field painted by this subcontractor. Subcontractor is responsible for all concrete work (form, reinforcing, concrete) associated with their scope of work, including but not limited to: generator pads,

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transformer pads, housekeeping pads, inertia bases, curbs, etc. Submit rebar and layout drawings for approvals to the CM.

19. All materials, equipment and assemblies must have a UL certification and be labeled as such.
20. Subcontractor shall include expansion devices for all systems at building expansion joints.
21. Provide a fully addressable and voice activated complete fire alarm system. All conduit for Fire alarm is to be rigid conduit in exposed areas and EMT as defined in 16111, Furnish all duct detectors and coordinate with the HVAC Subcontractor the location for duct mounted smoke detectors to meet the manufacturer's installation and NFPA requirements. Indicate the locations of all fire alarm devices on the coordination drawings. Provide manpower and materials (smoke bombs or other) and access to fire alarm devices for testing and inspection of the fire alarm system and devices, multiple days of testing may be required. Multiple inspections may be required. Protect fire alarm devices from dust, paint and other damage during construction, replace as required prior to turnover. Install fire alarm devices to meet code requirements in all areas including closets and shell spaces. Provide wiring to post indicator valve. Subcontractor is to include all required amplifiers to meet dB ratings required to meet code requirements. Duct detectors will be furnished by the Electrical Subcontractor and installed by the HVAC Subcontractor. The interlock wiring to shut the unit off, in the event of smoke detection, between the duct detector and the specific unit it serves is to be included by the Fire Alarm System. Subcontractor to conduct pretesting of all areas prior to all New Hanover County inspections and provide the CM a report of all sound levels.
22. Electrical Subcontractor shall be responsible to coordinate access to electrical closets/rooms once permanent power has been turned on to the buildings.
23. Coordinate layout and elevation of all electrical, teledata, security and fire alarm devices between the electrical and architectural drawings. Request clarification for any discrepancies prior to rough-in.
24. Subcontractor is to include empty conduit raceways for telecom and security systems with pull cords.
25. Subcontractor is to furnish and install all site lighting complete including concrete pole bases, exterior lights at canopies.
26. Subcontractor is to coordinate all light fixtures with ceiling types and furnish mounting types and frames as necessary to match ceilings. Subcontractor is to coordinate with other trades on mounting and accessibility issues for fixture installation.
27. As directed by the Construction Manager, energize the permanent lighting system to provide lighting for final finishes. Relamp all permanent fixtures as needed during construction, relamp all fixtures utilized for temporary lighting at Substantial Completion. Provide, maintain and remove dust protection on all light fixtures. Subcontractor is to provide special warranties and extra materials per specifications.
28. Prior to Final Commissioning by the Owner's agent, the Subcontractor will execute and document the pre-functional checklists and system functional performance tests as outlined in the Commissioning Specification. The Subcontractor will provide documentation that systems are complete and functional before the Final Project Commissioning is scheduled. Subcontractor will assign an experienced start-up

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person to serve as electrical commissioning manager for electrical/safety/security/communications systems. Individual will be assigned to the project on a full time basis as required to lead the successful completion of the commissioning process. Duration as required but not less than 1 months prior to the start of project final inspections.

29. Subcontractor shall include disconnects and final power and control/safety hook-ups of motorized architectural items such as overhead doors, sliding doors, projection screens, etc. requiring electrical services.
30. This subcontractor is responsible to furnish and install fire rated plywood required for telephone and/or panelboard installations.
31. Subcontractor shall provide grounding for all equipment, panes, switchboards, building servicers, roof top equipment, building steel, light poles, foundations, as indicated on contract documents. Subcontractor is to include a delegated design consultant to provide a fully designed system with aerials, conductors, cad-well connections to rebar for foundations, building grounding loop, etc. Upon installation and inspections this subcontractor shall provide a Master UL label.
32. All branch wiring will require separate neutrals.
33. Subcontractor shall wire from all starters, disconnect switches and/or VFD's to equipment and make final connections. Subcontractor shall include final power wiring hook-ups, conduit from all disconnects to equipment and final connection to all mechanical/plumbing & fire protection equipment installed by others.
  - a. Electrical Subcontractor furnishes, installs, and wires all disconnects for their scope of work, except for those specified integral with the equipment. Mechanical, Plumbing and Fire protection to provide their own disconnects.
  - b. Installation, connection and power wiring is by the Electrical Subcontractor. VFD's are furnished by the Subcontractor furnishing the associated equipment. If the contract documents indicate unit factory mounted starters, and the Subcontractor chooses to furnish field mounted starters, the Subcontractor shall bear any additional cost to the Electrical Subcontractor. Starters will be installed by the Subcontractor and must be delivered in a timely manner so as not to impact the electrical contractor.
  - c. The Electrical Subcontractor wires from disconnect, starter or VFD to the equipment motor or other final power connection point.
  - d. The Electrical Subcontractor is to provide one set of spare fuses and overload heaters for starters and circuits serving equipment that is vital to the construction process (such as elevator, AHU used for temporary HVAC, etc.)
34. Smoke dampers, end switches (as required) and electric damper operators are furnished and installed by the HVAC Subcontractor, and the Electrical Subcontractor connects and wires into fire alarm system, and brings power to the motors.
35. The Electrical Subcontractor furnishes, installs, and wires all other smoke detectors and connects same into fire alarm system.

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36. Auxiliary contacts will be furnished by the Electrical Subcontractor. The HVAC and Plumbing Subcontractors are responsible to coordinate with the Electrical Subcontractor for quantities required.
37. The Electrical Subcontractor shall furnish and install all interlock wiring between mechanical equipment devices and the fire alarm control panel for a complete fire and smoke control system.
38. Any penetrations made by this Contractor after the installation of masonry walls will be patched and/or grouted and charged to this subcontractor. All drywall/panel penetrations must be made in a professional manner utilizing appropriate tools and equipment.
39. This Subcontractor shall coordinate installation of primary electric transformer with the power company.
40. Subcontractor shall provide power circuit for irrigation pump and controllers. Coordinate locations with irrigation contractor.
41. All electrical work, including final connections, for automatic and electrically powered doors and hardware. Wiring between door devices is included to ensure proper connections are provided. This work includes power wiring and low voltage and control/security connections.
42. Provide factory instruction and training to the Owner's representative as required in the Contract Document.
43. This subcontractor shall furnish all O&M manuals no later than 30 days from completion. In addition to the specifications all O&M' are to be provided electronically.
44. Subcontractor is to review all specifications regarding quality assurance and personnel response times for any maintenance/repair calls.
45. Subcontractor is to provide all attic/extra stock materials specified.
46. Subcontractor shall include electrical disconnect at Drinking fountains.
47. Subcontractor is to provide unit prices and include in the base bid an allowance for (10) emergency light addition, (10) exit light addition and (10) smoke detector addition per specifications.
48. Subcontractor shall wire from all starters, disconnect switches and/or VFD's to equipment and make final connections.
  - a. Subcontractor furnishes, installs, and wires all disconnects, except for those specified integral with the equipment.
  - b. Installation, connection and power wiring is by the Electrical Contractor. VFD's are furnished by the Subcontractor furnishing the associated equipment. If the contract documents indicate unit factory mounted starters, and the Subcontractor chooses to furnish field mounted starters, the Subcontractor shall bear any additional cost to the Electrical Contractor. Starters will be installed by the Subcontractor and must be delivered in a timely manner so as not to impact the electrical contractor.

## **EXHIBIT “A”**

Attachment to **Subcontract/Purchase Order No.** by and between **[insert full legal name of subcontractor/seller]** and **J.M. Thompson Company**. For **BP-16.0 Electrical & Fire Alarm, The Healing Place of New Hanover County**

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- c. The Subcontractor wires from disconnect, starter or VFD to the equipment motor or other final power connection point.
- d. The Subcontractor is to provide one set of spare fuses and overload heaters for starters and circuits serving equipment that is vital to the construction process (such as elevator, AHU used for temporary HVAC, etc.)
- e. Auxiliary contacts will be furnished by the Electrical Contractor. The HVAC, Fire Protection and Plumbing Subcontractors are responsible to coordinate with the Electrical Subcontractor for quantities required.
- f. Any penetrations made by this Contractor after the installation of masonry walls will be patched and/or grouted by this Contractor. All penetrations must be made in a professional manner utilizing appropriate tools and equipment.

49. M/E/P/FP Coordination: Coordinate layout with MEP systems & Fire Suppression subcontractor.

### **2. Alternates/Allowances**

The following are included in the Subcontract Amount/Purchase Order Amount and are included in Exhibit “X”

#### 2.1. Alternates

#### 2.2. Unit Prices

UP-1 Emergency light	_____ (\$/each)
UP-2 Exit light _____	_____ (\$/each)
UP-3 Smoke detector.	_____ (\$/each)

#### 2.3. Allowances