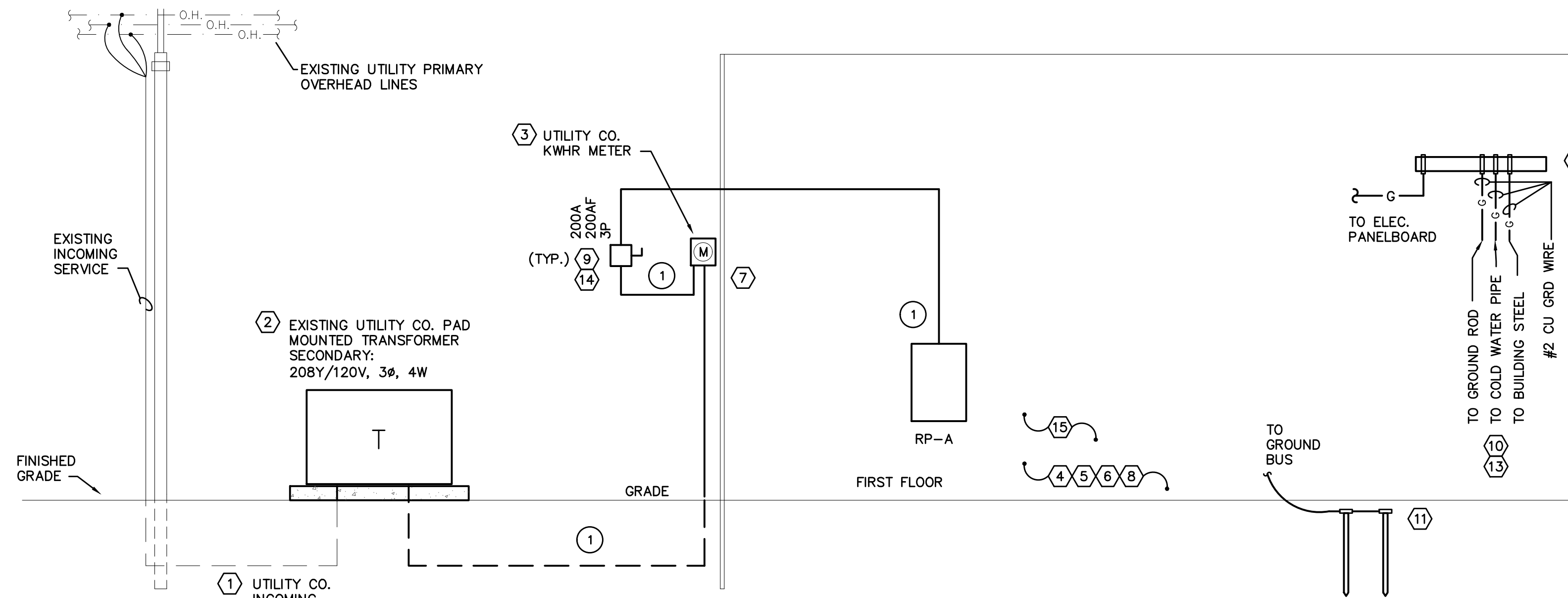
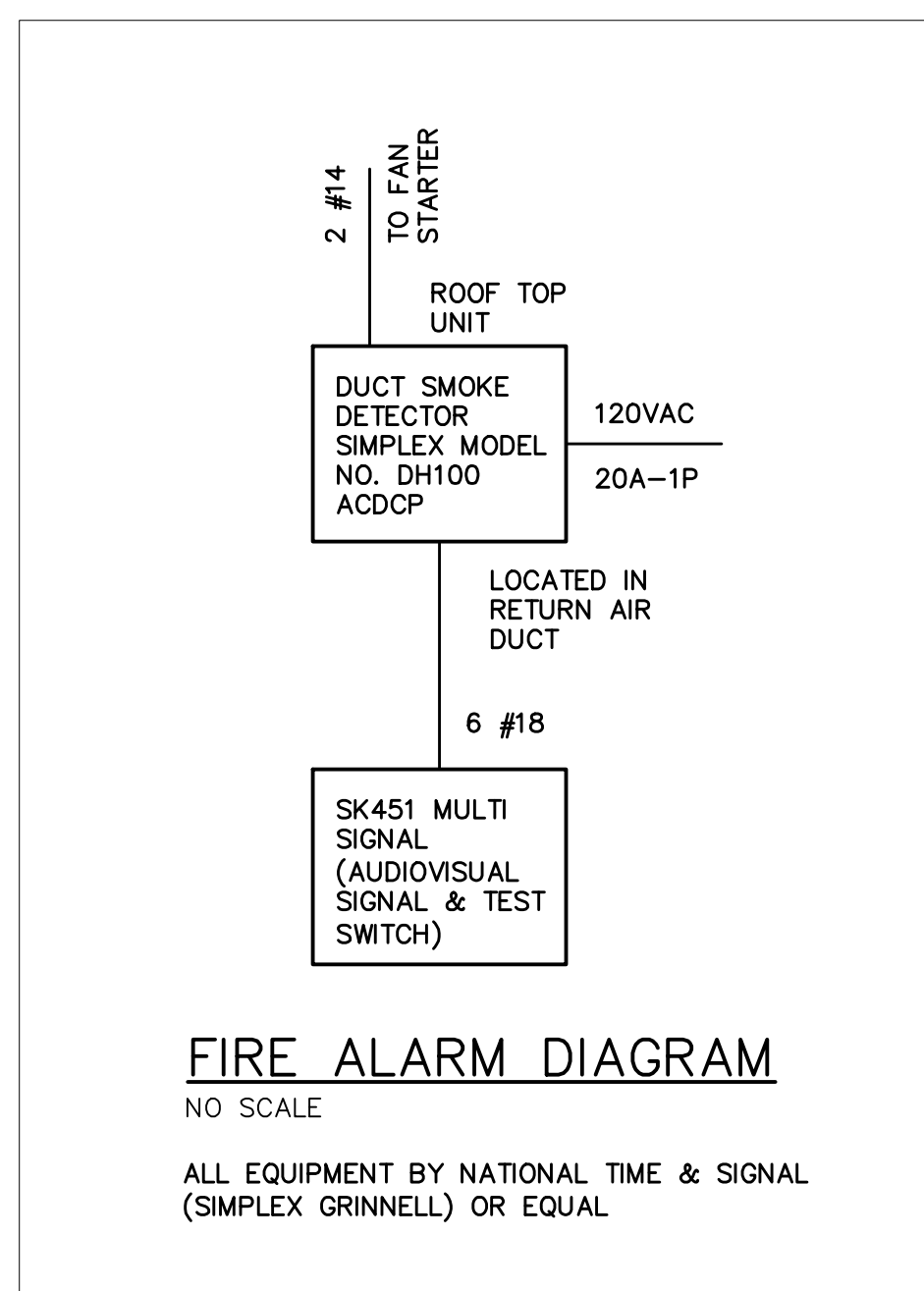


ELECTRICAL SPECIFICATIONS (AS APPLICABLE):

- Extent Of Work** - Provide all labor, materials and services required for a complete electrical installation in the building as indicated, including, but not limited to complete installation of new service, panels, lighting fixtures, receptacles, switches, devices, etc., as indicated on the drawings and as specified herein.
- Compliance's** - All work shall be done in accordance with all local and state laws, rules and regulations applicable to the work and to the rules and regulations of the National Board of Underwriters and the National Electrical Code. All fees in connection therewith shall be paid by the Electrical Contractor.
- Grounding** - System grounding shall meet all requirements of the National Electrical Code Article 250.
- Site Visits** - The electrical contractor shall visit the site prior to submitting a bid to ascertain at first hand the extent or the existing electrical installation, site conditions and job peculiarities. Claims for extra payments based on lack of knowledge of existing circumstances will not be allowed.
- Field Measurements** - The electrical contractor shall make all necessary field measurements to insure the ability to execute the electrical work in accordance with the contract documents.
- Temporary Power** - The Electrical Contractor shall install and maintain temporary lighting and power throughout the project. Temporary lighting shall be equipped with proper lamp protection. Temporary electrical installation shall be removed from each area as soon as permanent installation is completed and operational.
- Raceways**
 - All interior wiring shall be in EMT conduit except where prohibited by the NEC and/or local authority. Flexible metal conduit (Greenfield) shall be used for final connections to recessed lighting fixtures and indoor equipment.
 - All conduits in finished areas shall be concealed in walls or be run above suspended ceilings.
- Coordination**
 - Drawings and Specifications are intended to include all work and materials for the entire completion of the work. Any item of material, labor or detail required for proper execution and completion of the work and omitted from either the plans and specifications or both, but obviously understood and or required to make all systems complete and operable, shall be furnished as part of the contract without additional cost even though not specified or shown.
 - Before any work is installed, and before any equipment is fabricated or purchased, the Contractor shall consult all Contract Documents, insofar as they may affect work or affect the location of equipment, piping or duct work; and shall be held to be thoroughly conversant with the construction problems insofar as they affect his/her work and to coordinate with the other trades in doing their work and locating equipment.
- Conductors**
 - All conductors shall be copper, 600 volt insulation, type THHN/THWN.
 - All conductors #8 AWG. and larger shall be stranded. All conductors in wet locations shall be 600 volt insulation type XHHW.
 - Minimum conductor size shall be #12 AWG.
- Lighting and Receptacle Panels** - Panels shall be surface or recessed mounted (per floor plan), "bolt on" circuit breaker type. AIC ratings as shown on panel schedule and/or one line diagram, and shall be rated as shown on plan schedule. Panels shall be Square D type NQOD or equal as manufactured by Cutler Hammer.
- Wiring Devices**
 - Toggle switches shall be specification grade, 20 ampere, 277 volt AC grounded type, ivory with plastic handle and shall be manufactured by Arrow Hart, Hubbell, or by Sierra.
 - General use receptacles shall be duplex grounding type, 20 ampere, 120 volt, specification grade type 5-20R, and shall be manufactured by Arrow Hart, Hubbell, or by Sierra.
 - GFCI Receptacles shall be duplex convenience receptacles with integral ground fault interrupter.
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 - Toggle switches shall be specification grade, 20 ampere, 277 volt AC grounded type, ivory with plastic handle and shall be manufactured by Arrow Hart, Hubbell, or by Sierra.
 - General use receptacles shall be duplex grounding type, 20 ampere, 120 volt, specification grade type 5-20R, and shall be manufactured by Arrow Hart, Hubbell, or by Sierra.
 - GFCI Receptacles shall be duplex convenience receptacles with integral ground fault interrupter.
 - Plates shall match the device installed and shall be satin stainless steel in all finished areas.
- Lighting Fixtures** - Shall be as shown by the lighting fixture schedule. Fixtures shall be installed neatly, parallel to building lines, and shall be complete with lamps. All pendant linear lighting shall be mounted on continuous unistrut supported from walls and building structure, unistrut shall be painted to match ceiling color. Exit and emergency lighting shall be as specified on plan.
- Installation and methods of execution**
 - All wiring shall be in conduit. No Romex or BX, etc., will be permitted unless plainly excepted on the drawings. Flexible conduit shall be used for short connection to motors, recessed lighting fixtures, vibrating equipment, etc., but never longer than six feet.
 - Install support systems sized and fastened to accommodate weight of equipment, conduit and wiring.
 - Fasten hanger rods, conduit clamps, and outlet and junction boxes to building structure using beam clamps.
 - Use toggle bolts or hollow wall fasteners in hollow masonry, plaster, or gypsum board partitions and walls; sheet metal screws in sheet metal studs; and wood screws in wood construction.
 - Do not fasten supports to piping, ceiling support wires, duct work, mechanical equipment, or conduit.
 - Do not use powder -actuated anchors.
 - Do not drill, nail or puncture structural steel members.
 - Fabricate supports from structural steel or steel channel, rigidly welded or bolted.
 - Install surface -mounted cabinets and panelboards with minimum of four anchors.
 - Provide typed directory for panelboard. Indicate circuit breaker number, type of load (Lighting, Receptacle, Fan, Equipment, etc. and location of load).
- Testing** - Electrical Contractor shall perform the required testing of all electrical equipment, lighting, devices, etc., upon completion of his work. The system shall be in perfect working condition. Any defects shall be rectified at no extra cost.
- Guarantee** - The Electrical Contractor shall provide to the owner a written guarantee covering material and workmanship for one year from the date of acceptance of the building by the owner.



FEEDER SCHEDULE (COPPER) (UNLESS OTHERWISE INDICATED)	
DESIGNATION	SIZE
①	4 #3/0 & 1#4GRD.-2°C.



ELECTRICAL RISER DIAGRAM

NO SCALE

KEY NOTES:

- EXISTING UTILITY COMPANY INCOMING ELECTRICAL SERVICE
 - EXISTING UTILITY COMPANY PAD MOUNTED TRANSFORMER, 208Y/120V, 3Φ, 4W SECONDARY.
 - PROVIDE METER SOCKET AS INDICATED, COORDINATE WITH UTILITY COMPANY
 - CONNECT GROUND WIRE TO ELECTRICAL PANELBOARDS, BUILDING STEEL, AND WATER METER AHEAD OF METER (WITHIN 5'-0" ENTRANCE TO BUILDING).
- ENTIRE GROUNDING SYSTEM SHALL COMPLY WITH NEC 2017, ARTICLE 250
- ALL WIRING THRU OUT THE ENTIRE PROJECT (FEEDERS, BRANCH CIRCUITS, ETC.) SHALL BE COPPER
 - ALL ELECTRICAL PANEL BOARDS SHALL BE COMMERCIAL GRADE, SQUARE D OR CUTLER HAMMER
 - SEAL PENETRATION THRU WALL TO MATCH FIRE RATING, WATER PROOF AND PAINT.
 - ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH 2017 MICHIGAN ELECTRICAL CODE (2017 NEC) (NEC COMMERCIAL ONLY). ENTIRE GROUNDING SHALL BE PER NEC 2017, ARTICLE 250
 - PROVIDE LAMICOID NAMEPLATE TO INDICATE "SERVICE DISCONNECT" PER NEC 2017
 - COPPER GROUND WIRE, BOND PIPING WITHIN WATER HEATER AS INDICATED.
 - 3/4"DIA. x 10'-0" LONG COPPERED GROUND ROD WITH TOP 12" BELOW GRADE. GROUND RODS MUST BE 6'-0" APART MINIMUM
 - 2'-0" LONG X 4" HIGH X 1/4" DEEP COPPER GROUND BUS BAR. INSTALL 1" OFF THE WALL, UTILIZE SPACERS.
 - GROUND WIRE TO INCOMING WATER LINE SHALL BE WITHIN 5'-0" OF ENTRANCE TO BUILDING. PROVIDE GROUND JUMPER AT THE METER.
 - SERVICE DISCONNECT RATED SAFETY SWITCH WITH BUSSMAN RK5 FUSES. SAFETY SWITCH BY SQUARE D OR CUTLER HAMMER.
 - INSTALL CONCRETE ENCASED ELECTRODE (HORIZONTALLY REINFORCED), LOCATE NEAR THE BOTTOM OF THE FOOTING. ELECTRODE MUST CONSIST OF EITHER A SINGLE 20' CONTINUOUS SECTION OR MULTIPLE SECTIONS CONNECTED TOGETHER IN A 20' CONTINUOUS LENGTH. REFER TO NEC 2017, SECTION 250.52(A)(3) FOR ADDITIONAL REQUIREMENTS. CONTACT ELECTRICAL INSPECTOR FOR INSPECTION PRIOR TO POURING FOUNDATION CONCRETE. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL TRADES IN ADVANCE AND PRIOR TO START OF CONSTRUCTION. BOND TO THE ELECTRICAL SERVICE
- ENTIRE GROUNDING SYSTEM SHALL COMPLY WITH NEC 2017, ARTICLE 250.



S. V. Aragonés, Jr.

nature's finest

DAZ
ARCHITECTURAL DESIGN, INC.

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CLIENT/PROJECT:
NATURE'S FINEST PROVISIONING CENTER
NORTH AVE. & E. GOODALE AVE.
BATTLE CREEK, MICHIGAN

DRAWN BY: S.D.
CHECKED BY: S.D.

SHEET INFORMATION:
**ELECTRICAL ONE LINE DIAG.
SPECS. & SCHEDULES**

CAD FILE:
NATURES_FINEST.AEC

SITE PLAN APPROVAL SET: 08-14-19
BID SET: 08-14-19
PERMIT SET:
CONSTRUCTION SET:

COMPLETION DATE:
08-14-19

REVISIONS:
REVISED: 04-15-19

JOB NO.
180810

SHEET NO.
E-3