

## ADDENDUM #1

Date: December 16, 2019

This Addendum applicable to work designated herein shall be understood to be and is an Addendum and as such shall be part of and included in the Contract.

To all bidders for furnishing all labor and materials necessary for:

## KENWORTH SALES COMPANY, INC. OGDEN, UTAH, NBW#16066

Failure to acknowledge receipt of this Addendum on the bid proposal form may result in rejection of your bid.

Addendum consists of: <u>5 pages.</u> Attached Documents consist of – Specification section 08 4113, Specification section 08 7100, Specification section 31 1000, Sheet LI100, Sheet LI101, Sheet SD1.2, Sheet A1.1, Sheet A1.2, Sheet A1.3, Sheet A2.1, Sheet A4.7, Sheet A4.11, Sheet A4.13, Sheet A5.1, Sheet A5.2, Sheet A5.3, Sheet P1.0, Sheet P1.1, Sheet P1.2, Sheet P3.1

## **GENERAL ITEMS**

- 1. SWPPP is to be the responsibility of the General Contractor.
- 2. Per Specification Section 04 2200 Concrete Unit Masonry 2.4 H. and Specification Section 04 2613 Masonry Veneer 2.4 G. a water-repellent admixture is to be provided.
- 3. Sealant is to be provided at all masonry control joints. Color to be chosen by Architect.
- 4. Specification Section 01 2100 Allowances There are 4 allowances on this project that are to be included in the bid.
- 5. All vertically oriented exterior concrete surfaces to receive a rubbed finish per the specifications.
- 6. Attached is the "Concrete Floor Finishing" sheet for General Contractor's Reference.
- 7. 2" of XPS rigid insulation is to be installed on the inside face of all stem walls of the building.
- 8. Specification Section 01 2300 "Alternates" 3.1 A. to be replaced with the following:

## 3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Compressed Air Piping
  - 1. Base Bid: Project as indicated on the drawings without any compressed air piping.
  - 2. Alternate: All compressed air piping throughout the building see Plumbing "P" sheets.

## **LANDSCAPE ITEMS**

- 1. Sheet LI100 See attached revised sheet.
- 2. Sheet LI101 See attached revised sheet.

Page 1

Scott L. Nielson, A.I.A. Kevin R. Bodily, A.I.A. James H. Wyatt, A.I.A. Members of the American Inistitute of Architects

## **ARCHITECTURAL ITEMS**

- 1. Specification Section 08 4113 "Aluminum-Framed Entrances and Storefronts" is to be replaced in its entirety with the attached Specification Section 08 4113 "Aluminum-Framed Entrances and Storefronts (Revised)."
- 2. Specification Section 08 7100 "Door Hardware" and the "Door Hardware Sets" are to be replaced in their entirety with the attached specification section 08 7100 "Door Hardware & Schedule (Revised)."
- 3. Specification Section 31 1000 "Site Clearing" is to be replaced in its entirety with the attached specification Section 31 1000 "Site Clearing (Revised)."
- 4. Specification Section 32 3113 "Chain Link Fences and Gates" Add the following Section 2.7:

## 2.7 INDUSTRIAL HORIZONTAL ROLLING GATES

- B. General: Comply with ASTM F 1184 for gate posts and single rolling gate types.
  - 1. Classification: Type II Rolling Slide, Class 1 with external roller assemblies.
    - a. Gate Leaf Width: 15 feet.
    - b. Gate Fabric Height: 72 inches.
- C. Pipe and Tubing:
  - 1. Zinc-Coated Steel: Protective coating and finish to match fence framing.
  - 2. Gate Posts: Comply with ASTM F 1184. Provide round tubular steel posts.
  - 3. Gate Frames and Bracing: Round tubular steel.
- D. Frame Corner Construction: Welded.
- E. Hardware:
  - 1. Latches permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.
  - 2. Hangers, roller assemblies, and stops fabricated from galvanized steel hinges: 180 degree outward.
- 5. Specification Section 06 4116 "Plastic-Laminate-Clad Architectural Cabinets" add the following information:

## 2.10 ALUMINUM PLATE PANELS

- F. Aluminum-Alloy Rolled Diamond Plate: ASTM B 632/B 632M, Alloy 6061-T6
  1. Thickness: 3/16 inch.
- 6. Specification Section 12 2413 "Roller Window Shades" 2.1 A. to be replaced with the following:

## 2.1 MANUFACTURERS

- A. <u>Basis-of-Design Product:</u> Subject to compliance with requirements, provide RB 500 by Hunter Douglas or comparable product by one of the following:
  - 1. Draper Inc.
  - 2. <u>Hunter Douglas Contract.</u>
- 7. Sheet SD1.2 Detail G The rolling gate dolly is to have a metal core with a solid rubber tread.

- 8. Sheet SD1.2 Detail H Where a bollard is located above a structural footing, it is to be connected to the footing see structural drawings for connection detail.
- 9. Sheet A1.1 Keynote 19 has been added and noted on the drawing.
- 10. Sheet A1.1 The keynote for the corner of Closet 128A has been changed to 11.
- 11. Sheet A1.2 The depth of the striping per Keynote 19 has been dimensioned.
- 12. Sheet A1.3 Keynote 7 has been added and noted on the drawing.
- 13. Sheet A2.1 Elevation 4 The elevation for the top of the CMU wall at the Steam Rack has been called out.
- 14. Sheet A4.7 Wall Section 2 2" of XPS rigid insulation is to be installed on the inside face of all stem walls for the building.
- 15. Sheet A4.7 Detail 6 The pre-cast concrete cap is to have a dark brown integral color. Color to be chosen by Architect.
- 16. Sheet A4.11 All stair landings are to have rubber surface and nosing to match stairs.
- 17. Sheet A4.11 Detail 7 The height of the wall end guard has been changed to 96".
- 18. Sheet A4.11 Details 7 & 8 A welded angle has been added to act as a stop for the forklift gate on both ends.
- 19. Sheet A4.11 Detail 8 A welded angle has been added to the bottom of the forklift gate.
- 20. Sheet A4.11 Detail 9 The sheet steel under the forklift mezzanine access has been changed to 3/8" thick.
- 21. Sheet A4.13 Wall Section 1 2" of XPS rigid insulation is to be installed on the inside face of all stem walls for the building.
- 22. Sheet A4.13 Wall Section 3 An elevation has been called out for the top of the CMU wall.
- 23. Sheet A4.13 Wall Section 3 2" of XPS rigid insulation is to be installed on the inside face of all stem walls for the building.
- 24. Sheet A5.1 Keynote 27 has been added and noted in the drawings.
- 25. Sheet A5.1 Section 10 The Service Writer Counter is to have a bullnose on both sides and is to be provided with  $\frac{1}{2}$ " clear tempered glass.
- 26. Sheet A5.2 Elevations N & T The mirror is to be 36" tall and 36" wide.
- 27. Sheet A5.3 Sections 1,2, & 3 These counters are to have a bullnose on both sides.

## MECHANICAL/PLUMBING ITEMS

## Changes to the Drawings:

- 1. See attachment: P1.0, Foundation Plumbing Plan
- 2. See attachment: P1.1, Plumbing Plan Part 1
- 3. See attachment: P3.1, Plumbing Details and Diagrams

## Prior Approvals

- 1. 23 3114 Louvers: Cesco, Pottorff
- 2. 23 3114 Manual Volume Dampers: Air-Rite, Pottorff
- 3. 23 3400 Ceiling Exhaust Fans: Broan Commercial
- 4. 23 3400 Roof Mount Exhaust Fans: Carnes
- 5. 23 3713 Penthouses: Carnes, Western Vents
- 6. 23 3713 Registers, Grilles & Diffusers: Carnes
- 7. 23 3713 Spin-In Fittings: Air-Rite

- 8. 23 5134 Roof Caps: Carnes
- 9. 23 5416 Unit Heaters: Modine

## **ELECTRICAL ITEMS**

## **Prior Approvals:**

## 1. Lighting Fixtures-

The following Lighting Fixtures are Pre-Approved. Contractors bidding these fixtures shall be responsible for all additional components, programming, commissioning and etc to meet the design intent specified in the construction documents. This is to be included in the base bid.

TYPE	MANUFACTURER
FE1	COOPER
FE3	EYE LIGHTING
FE4	COOPER
FE5/FE6	COOPER
F1	SURE-LITES
F2	SURE-LITES
F3S/F3SE	LITHONIA
F4/F4S	LITHONIA
F5	COOPER
F6	COOPER
F7	COOPER
F8	COOPER
F9	LITHONIA
F10	COOPER
F11	COOPER
F12S/F12SE	LITHONIA
F13	NEO-RAY LTG
F14	Q-TRAN
F15	COOPER

## 2. Lighting Controls-

The following Lighting Controls are Pre-Approved. Contractors bidding these controls shall be responsible for all additional components, programming, commissioning and etc to meet the design intent specified in the construction documents. This is to be included in the base bid.

Wireless Lighting Controls: nLight Air

## **General Clarifications:**

- 1. The following are the only approved manufacturers for the Data Cabling Systems:
  - A. Ortronics
  - B. Leviton

C. Hubbell

## **Drawings:**

1. Refer to revised drawings indicated with Delta 1 for additional Addendum items.

END OF ADDENDUM NO.1

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The following general instructions for Scope of Work shall be used for concrete slabs. Specifications in the Project Manual shall be used, unless otherwise stated in this document.

All concrete slabs shall be placed and troweled and burnished (per schedule below) and in conjunction with the finish schedule, then saw cut and cleaned by the Contractor.

The Contractor shall coordinate with the Owner's subcontractor, who will evaluate and apply stain guard as required.

Towards the end of the project, the Contractor shall clean all slabs (scrape drywall mud, paint, etc. and sweep) The Owner's subcontractor will then evaluate and perform any additional color dying, re-burnishing, densifying, and sealing or stain guard



tions Blue - Performed By: General Contracto Red - Performed BY: Owner

Performed By:	Performed By: Repair Shop Parts Warehouse		Retail & Offices	
General Contractor	Place Concrete Slab	Place Concrete Slab	Place Concrete Slab	
General Contractor	Power Trowel Burnish	Power Trowel Burnish	Power Trowel - No Burn	
General Contractor	Cut Slab & Clean	Cut Slab	Cut Slab	
Owner's Sub	Stain guard (As Req'd) Stain guard (As Req'd)		Stain guard (As Req'd)	
	Wait until the r	near end of the project		
General Contractor	Scrape & Sweep Slab	Scrape & Sweep Slab	Scrape & Sweep Slab	
Owner's Sub	Clean, Burnish, Densify & Stain Guard	Clean, Burnish, Densify & Stain Guard	Clean Grind, Stain, Densify & Polish	

## SECTION 08 4113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

### PART 1 - GENERAL

#### 1.1 **SUMMARY**

- Α. Section Includes:
  - Storefront framing. 1.
  - Storefront framing for punched openings. 2.
  - 3. Manual-swing entrance doors.

#### 1.2 ACTION SUBMITTALS

- А. Product Data: For each type of product.
- Β. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.
- C. Samples: For each type of exposed finish required.
- D. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams.

#### **CLOSEOUT SUBMITTALS** 1.3

Maintenance data. Α.

#### **QUALITY ASSURANCE** 1.4

- Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by Α. manufacturer.
- Β. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.
  - Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If 1. changes are proposed, submit comprehensive explanatory data to Architect for review.

#### WARRANTY 1.5

- A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Five years from date of Substantial Completion.
- Β. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period. 1.
  - Warranty Period: 20 years from date of Substantial Completion.

## **PART 2 - PRODUCTS**

#### 2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of aluminumframed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

- 1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
- 2. Failure also includes the following:
  - a. Thermal stresses transferring to building structure.
  - b. Glass breakage.
  - c. Noise or vibration created by wind and thermal and structural movements.
  - d. Loosening or weakening of fasteners, attachments, and other components.
  - e. Failure of operating units.
- B. Structural Loads:

1.

- 1. Wind Loads: As indicated on Drawings.
- C. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:
  - Fixed Framing and Glass Area:
  - a. Maximum air leakage of 0.06 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft..
  - 2. Entrance Doors:
    - a. Single Doors: Maximum air leakage of 0.5 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft..
- D. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:
  - 1. No evidence of water penetration through fixed glazing and framing areas, including entrance doors, when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft..
- E. Energy Performance: Certify and label energy performance according to NFRC as follows:
  - 1. Thermal Transmittance (U-factor): Fixed glazing and framing areas as a system shall have U-factor of not more than 0.41 Btu/sq. ft. x h x deg F as determined according to NFRC 100.
  - 2. Solar Heat Gain Coefficient (SHGC): Fixed glazing and framing areas as a system shall have SHGC of no greater than 0.40 as determined according to NFRC 200.
  - 3. Condensation Resistance: Fixed glazing and framing areas as a system shall have an NFRC-certified condensation resistance rating of no less than 45 as determined according to NFRC 500.
- F. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.
   1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

## 2.2 STOREFRONT SYSTEMS

- A. <u>Basis-of-Design Product:</u> Subject to compliance with requirements, provide <u>Kawneer North America</u>; an Alcoa company; **Trifab VG 451 center glazed** or a comparable product by one of the following:
  - 1. <u>Arcadia, Inc</u>.
  - 2. <u>EFCO Corporation</u>.
  - 3. Oldcastle BuildingEnvelope<sup>TM</sup>.
  - 4. <u>Pittco Architectural Metals, Inc.</u>
  - 5. <u>Tubelite Inc</u>.
- B. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
  - 1. Exterior Framing Construction: Thermally broken.
  - 2. Interior Vestibule Framing Construction: Nonthermal.
  - 3. Glazing System: Retained mechanically with gaskets on four sides.
  - 4. Finish: Color anodic finish.
  - 5. Fabrication Method: Field-fabricated stick system.
  - 6. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
  - 7. Steel Reinforcement: As required by manufacturer.
- C. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.
- D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

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## 2.3 ENTRANCE DOOR SYSTEMS

- A. <u>Basis-of-Design Product:</u> Subject to compliance with requirements, provide <u>Kawneer North America</u>; an Alcoa <u>company</u>; **500 Tuffline** or a comparable product by one of the following:
  - 1. Arcadia, Inc.
  - 2. EFCO Corporation.
  - 3. <u>Oldcastle BuildingEnvelope<sup>TM</sup></u>.
  - 4. <u>Pittco Architectural Metals, Inc</u>.
  - 5. <u>Tubelite Inc</u>.
- B. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing or automatic operation.
  - 1. Door Construction: 2-inch overall thickness, with minimum 0.188-inch-thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
    - a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior.
  - 2. Door Design: Wide stile; 5-inch nominal width.
  - 3. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.
    - a. Provide nonremovable glazing stops on outside of door.

## 2.4 ENTRANCE DOOR HARDWARE

- A. Entrance Door Hardware: Hardware not specified in this Section is specified in Section 08 7100 "Door Hardware."
- B. General: Provide entrance door hardware and entrance door hardware sets indicated in "Entrance Door Hardware Sets" Article for each entrance door, to comply with requirements in this Section.
  - 1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
  - 2. Opening-Force Requirements:
    - a. Egress Doors: Not more than 15 lbf to release the latch and not more than 30 lbf to set the door in motion.
    - b. Accessible Interior Doors: Not more than 5 lbf to fully open door.
- C. Designations: Requirements for design, grade, function, finish, quantity, size, and other distinctive qualities of each type of entrance door hardware are indicated in "Entrance Door Hardware Sets" Article. Products are identified by using entrance door hardware designations as follows:
  - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in "Entrance Door Hardware Sets" Article.
  - 2. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.
- D. Cylinders: As specified in Section 08 7100 "Door Hardware."
- E. Continuous-Gear Hinges: BHMA A156.26.
- F. Mortise Auxiliary Locks: BHMA A156.5, Grade 1.
- G. Cylinders: BHMA A156.5, Grade 1.
  - 1. Keying: Master key system. Permanently inscribe each key with a visual key control number and include notation "DO NOT DUPLICATE".
- H. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.
- I. Operating Trim: BHMA A156.6.
- J. Removable Mullions: BHMA A156.3 extruded aluminum.
  - 1. When used with panic exit devices, provide removable mullions listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305. Use only mullions that have been tested with exit devices to be used.

- K. Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field conditions and requirements for opening force.
- L. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.
- M. Weather Stripping: Manufacturer's standard replaceable components.
  - 1. Compression Type: Made of ASTM D 2000 molded neoprene or ASTM D 2287 molded PVC.
  - 2. Sliding Type: AAMA 701/702, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.
- N. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.
- O. Thresholds: BHMA A156.21 raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch.

### 2.5 GLAZING

- A. Glazing: Comply with Section 08 8000 "Glazing."
- B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
- C. Glazing Sealants: As recommended by manufacturer.

### 2.6 MATERIALS

- A. Sheet and Plate: ASTM B 209.
- B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
- C. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
- D. Structural Profiles: ASTM B 308/B 308M.
- E. Steel Reinforcement:
  - 1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
  - 2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
  - 3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.
  - 4. Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.

## 2.7 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- C. Fabricate components that, when assembled, have the following characteristics:
  - 1. Profiles that are sharp, straight, and free of defects or deformations.
  - 2. Accurately fitted joints with ends coped or mitered.
  - 3. Physical and thermal isolation of glazing from framing members.
  - 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
  - 5. Provisions for field replacement of glazing from interior.

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- 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
- F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.
- G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.
- H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

### 2.8 ALUMINUM FINISHES

A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
 1. Color: Dark bronze.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General:
  - 1. Comply with manufacturer's written instructions.
  - 2. Do not install damaged components.
  - 3. Fit joints to produce hairline joints free of burrs and distortion.
  - 4. Rigidly secure nonmovement joints.
  - 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
  - 6. Seal perimeter and other joints watertight unless otherwise indicated.
- B. Metal Protection:
  - 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
  - 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Set continuous sill members and flashing in full sealant bed, as specified in Section 07 9200 "Joint Sealants," to produce weathertight installation.
- D. Install components plumb and true in alignment with established lines and grades.
- E. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.
- F. Install glazing as specified in Section 08 8000 "Glazing."
- G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.
  - 1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
  - 2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

## 3.2 ENTRANCE DOOR HARDWARE SETS

HW SET: A1

## **DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)** 101

2	EA	CONT. HINGE	112HD	313AN	IVE
1	EA	KEYED REMOVABLE MULLION	KR4954-STAB	695	VON
1	EA	PANIC HARDWARE	CD-98-EO	643E	VON
1	EA	PANIC HARDWARE	CD-98-NL-OP-110MD	643E	VON
3	EA	MORTISE CYL TURN	09-900 118 36-083 (DOGGING & MULLION)	643e	SCH
1	EA	PRIMUS RIM CYLINDER	20-757-XP	643e	SCH
2	EA	10" OFFSET PULL	BF257	710	ROC
2	EA	OH STOP	100S ADJ	613	GLY
2	EA	SURFACE CLOSER	4040XP EDAW/62G	695	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	5TH SCREW SUPPORT	4040XP-30	695	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD		B/O
1	EA	THRESHOLD	DOOR MFG STD		B/O

HW SET: A2

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

1	0	7

1	EA	CONT. HINGE	112HD	313AN	IVE
1	EA	PANIC HARDWARE	CD-98-NL-OP-110MD	643E	VON
1	EA	MORTISE CYL TURN	09-900 118 36-083	643e	SCH
1	EA	PRIMUS RIM CYLINDER	20-757-XP	643e	SCH
1	EA	10" OFFSET PULL	BF257	710	ROC
1	EA	OH STOP	100S ADJ	613	GLY
1	EA	SURFACE CLOSER	4040XP EDAW/62G	695	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA	695	LCN
1	EA	<b>5TH SCREW SUPPORT</b>	4040XP-30	695	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD		B/O
1	EA	THRESHOLD	DOOR MFG STD		B/O

## HW SET: B1

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

101A

2	EA	CONT. HINGE	112HD	313AN	IVE
1	EA	DUMMY PUSH BAR	350	710	VON
2	EA	10" OFFSET PULL	BF257	710	ROC
2	EA	OH STOP	100S ADJ	613	GLY
2	EA	SURFACE CLOSER	4040XP EDAW/62G	695	LCN
2	EA	PA MOUNTING PLATE	4040XP-18PA	695	LCN
2	EA	<b>5TH SCREW SUPPORT</b>	4040XP-30	695	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD		B/O

## HW SET: B2

**DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)** 107A

1	EA	CONT. HINGE	112HD	313AN	IVE
1	EA	DUMMY PUSH BAR	350	710	VON
1	EA	10" OFFSET PULL	BF257	710	ROC
1	EA	OH STOP	100S ADJ	613	GLY
1	EA	SURFACE CLOSER	4040XP EDAW/62G	695	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA	695	LCN
1	EA	<b>5TH SCREW SUPPORT</b>	4040XP-30	695	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD		B/O

## END OF SECTION 08 4113

### SECTION 08 7100 - DOOR HARDWARE

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Commercial door hardware for the following:
    - a. Swinging doors.
- B. Related Sections include the following:
  - 1. Division 08 Section "Hollow Metal Doors and Frames"
  - 2. Division 08 Section "Flush Doors"
  - 3. Division 08 Section "Aluminum Doors and Frames"
  - 4. Division 08 Section "Overhead Coiling Doors"
  - 5. Division 08 Section "Sectional Door" for door hardware.
- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.

## 1.3 REFERENCED STANDARDS

- A. Provide hardware in accordance with the following standards in addition to those specified in Division 01 Section "References".
  - 1. American National Standards Institute (ANSI), A117.1: Accessible and Usable Buildings and Facilities, edition as adopted by local Authority Having Jurisdiction (AHJ).
  - 2. Builders Hardware Manufacturer's Association (BHMA)
    - a. ANSI/BHMA A156.2: Bored and Preassembled Locks and Latches, 2011 edition
    - b. ANSI/BHMA A156.13: Mortise Locks and Latches, 2012 edition
    - c. ANSI/BHMA A156.3: Exit Devices, 2008 edition
    - d. ANSI/BHMA A156.4: Door Controls Closers, 2008 edition
    - e. ANSI/BHMA A156.18: Materials and Finishes, 2006 edition
  - 3. Door and Hardware Institute (DHI)
    - a. Recommended Locations for Architectural Hardware for Flush Wood Doors, 1993 edition
    - b. Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames, 2004 edition
    - c. Installation Guide for Doors and Hardware, 1994 edition
    - d. Keying Systems and Nomenclature, 2003 edition
    - e. Sequence and Format for the Hardware Schedule, 2001 edition

## 1.4 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets, if requested.
  - 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Qualification Data: For Installer

- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, and closers as requested.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - 1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
  - 2. Content: Include the following information:
    - a. Identification number, location, hand, fire rating, and material of each door and frame.
    - b. Type, style, function, size, quantity, and finish of each door hardware item.
    - c. Complete designations of every item required for each door or opening including name and manufacturer.
    - d. Fastenings and other pertinent information.
    - e. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    - f. Explanation of abbreviations, symbols, and codes contained in schedule.
    - g. Mounting locations for door hardware.
    - h. Door and frame sizes and materials.
    - i. List of related door devices specified in other Sections for each door and frame.
  - 3. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
  - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
  - 2. Installer shall have warehousing facilities in Project's vicinity.
  - 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to Owner's Representative by registered mail or overnight package service.

## 1.7 COORDINATION

A. Coordinate layout and installation of recessed hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.

B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

#### 1.8 WARRANTY

2.

- Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of A. door hardware that fail in materials or workmanship within specified warranty period.
  - Failures include, but are not limited to, the following: 1.
    - Structural failures including excessive deflection, cracking, or breakage. a.
    - Deterioration of metals, metal finishes, and other materials beyond normal weathering and use. b.
    - Warranty Period: Three (3) years from date of Substantial Completion, except as follows:
      - Grade 1 Cylindrical Locks: Ten (10) years from date of Substantial Completion. a.
      - Grade 1 Mortise Locks: Seven (7) years from date of Substantial Completion. b.
      - Manual Closers: Thirty (30) years from date of Substantial Completion. C.

#### 1.9 MAINTENANCE SERVICE

- Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as А. needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

## PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- Manufacturers: Subject to compliance with requirements, provide products by one of the following: A.
  - 1. Hinges:
  - Ives 2. Locks and Latches: Schlage, Owner's Standard Schlage Primus/Everest ,Owner's Standard 3. Cylinders and Cores: 4. Mechanical Door Closers: LCN. Owner's Standard 5. Exit Devices: Von Durpin, Owner's Standard Accessories and Trim: Ives 6. 7. Saddle and Panic Thresholds: Zero 8. Weather Strip and Gasket: Zero Miscellaneous Hardware: 9 Ives

### SCHEDULED HARDWARE 2.2

- Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware A. are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:
  - Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for 1. each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.

#### 2.3 MATERIALS AND FABRICATION

- A. General
  - Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name 1. displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
    - Manufacturer's identification will be permitted on rim of lock cylinders only. a.

- 2. Base Metals: Produce hardware units of basic metal and forming method indicated using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units for finish designations indicated.
- 3. Provide hardware manufactured to conform to published templates generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.

## B. Fasteners

- 1. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Furnish stainless steel (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
- 2. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Use through bolts only as indicated in this section unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

## 2.4 HINGES

A. Acceptable Products:

b.

- 1. Ives: 5BB1 5BB1HW
- B. Requirements:
  - 1. Quantity: Provide the following, unless otherwise indicated:
    - a. Two Hinges: For doors with heights up to 60 inches.
      - Three Hinges: For doors with heights 61 to 90 inches.
  - 2. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
  - 3. Hinge Weight: As indicated in hardware sets.
  - 4. Hinge Base Metal: Unless otherwise indicated, provide the following:
    - a. Exterior Hinges: Stainless steel with stainless-steel pin.
    - b. Interior Hinges: Steel with steel pin.
    - c. Hinges for Fire-Rated Assemblies: Steel with steel pin.
  - 5. Hinge Options: Where indicated in door hardware sets or on Drawings:
    - a. Safety Stud: Designed for stud in one leaf to engage hole in opposing leaf.
    - b. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for out-swinging doors.
      c. Corners: Square.
  - 6. Fasteners: Comply with the following:
    - a. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
    - b. Wood Screws: For wood doors and frames.
    - c. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.

## 2.5 CONTINUOUS HINGES

- A. Acceptable Products:
  - 1. Ives: 112HD 224HD
- B. Requirements:
  - 1. Geared Continuous Hinges: Shall utilize a single gear section for the door leaf and a separate gear section for the frame side of the door. Provide full mortise or surface applied hinge as scheduled in each set. Geared hinges are to be UL 10C tested and approved for 90 minutes.

## 2.6 **OPERATING DOOR TRIM**

- A. Push Plates, Pull Plates, and Pulls
  - 1. Acceptable Products:
    - a. Ives: 8200 8305
  - 2. Requirements:

- a. Push Plate: Provide 6 inch by 16 inch by .050 inch push plate constructed of stainless steel. Bevel all four edges.
- b. Pull Plate: Provide 4 inch by 16 inch by .050 inch push plate constructed of stainless steel, bevel all four edges. Provide 10 inch center to center (CTC) pull constructed of stainless steel with a diameter of 1 inch.

## 2.7 LOCKS AND LATCHES

- A. General:
  - 1. Lock Chassis: Shall be made from steel, with locking spindles of stainless steel.
  - 2. Latch Bolt: Shall be constructed of stainless steel with 3/4 inch throw on mortise locks and 1/2 inch throw otherwise. Latch to be deadlocking on keyed functions.
  - 3. Lever Trim: Shall be pressure cast brass, bronze, zinc, or steel with wrought rose design. Levers are to be solid with no voids or plastic inserts.
  - 4. Fire Rating: Lock shall be listed for up to 3 hours.
  - 5. Strike Plates: Provide ANSI 4-7/8 inch strike plates. At pairs of doors, provide strike with 7/8 inch flat lip. At single doors, provide round-lipped strike with lip length as required to minimally clear jamb and trim. Provide dust box at each strike location.
- B. Mortise Locks
  - 1. Acceptable Products:
- L Series, 06B Trim Design
- a. Schlage: 2. Requirements:
  - a. ANSI Grade: BHMA/ANSI A156.13, Series 1000, Grade 1.
  - b. Deadbolt: Shall be constructed of stainless steel and include security roller pins. Shall have a minimum 1 inch throw.
  - c. Spring Cages: Lock shall have individual external spring cages for each lever.
  - d. Lever Spindles: Provide lockset with independent, breakaway type lever spindles. Spindles that are continuous through the lock case are not acceptable.
  - e. Hub Blocking: Provide lockset with a hub blocking plate to resist unauthorized entry.
  - f. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.
  - g. Thumbturns: Provide thumbturns as enlarged, ADA designated style thumbturns.
  - h. Visual Indicator: Where scheduled, provide visual indicator showing "Vacant" or "Occupied".
- C. Grade 1 Bored Locks

1.

- Acceptable Products:
  - a. Schlage: ND Series, Rhodes Lever
  - b. Match existing facility standard
- 2. Provide cylindrical locks exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security & durability in the categories below:
  - a. Abusive locked lever torque minimum 3,100 inch-pounds without gaining access
  - b. Offset lever pull minimum 1,600 foot pounds without gaining access Simulates pry-bar attacks
  - c. Vertical lever impact minimum 100 impacts without gaining access Simulates sledgehammer-blows to trim, very aggressive abuse
  - d. Cycle life minimum 16 million cycles Cycle life speaks to robustness of lock, ensuring operation after 10M cycles (BHMA requirement is 1M).
    - With no visible lever sag Working after 15M cycles is not the same as working well. No droop and wobble means the lock still works like new after the test.
    - 2) Without the use of performance aids (i.e. set screws, spacers, etc.) Set screws and spacers are a poor fix for droop and wobble. Both add to installation complexity, and set screws can be tamper targets.
    - Door Prep: Provide lockset to install using a standard ANSI 161 door preparation.
  - f. Anti-Rotation Plate: Provide lockset with a mechanically interlocked anti-rotation plate. Anti-Rotation teeth or "bite tabs" are not acceptable. Locks without any rotation prevention devices are not acceptable.
  - g. Lever Return Springs: Provide each lever with two compression type return springs that are easily accessible without dismantling the lock chassis. Locks utilizing tension or torsion lever return springs are unacceptable. Locks with internal springs that require dismantling the lock chassis are unacceptable.

e.

- h. Lever Spindles: Provide lock with either milled or 1-piece deep drawn spindles. 2-piece interlocking stamped spindles are not acceptable.
- i. Multi-Functionality: Provide modular lockset with capability to convert to a new lock function by changing key cams.
- j. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.

## 2.8 CYLINDERS AND CORES

- A. Acceptable Products:
  - 1. Schlage: Everest/Primus
- B. Requirements:
  - Full Size Interchangeable Cylinders: Provide cylinders of quantity and type and with the appropriate cam/tailpiece to be compatible with the locking hardware provided. Provide cylinder housings ready to accept 6-pin, Full-Size Interchangeable Cores (FSIC).
    - a. Temporary Construction Keying: Provide each cylinder housing and/or lock lever with keyed construction core during the construction period. Cores will remain property of the contractor and will be returned upon installation of owner's permanent key system.
    - b. Permanent Cores: Provide 1 bitted cores that are utility patented until at least 2029. Ship cores directly to owner's representative. At substantial completion, accompany the owner's representative while replacing temporary construction cores with the owner's permanent key system.
  - 2. Keys: Provide cylinder manufacturer's standard keys. Keys shall be shipped separate from cores directly to owner's representative. For estimating purposes, provide keys in the following quantities:

a.	Construction Control Keys:	2	each
b.	Construction Change Keys:	12	each
c.	Permanent Control Keys:	2	each
d.	Split Key Voiding Keys:	2	each
e.	Permanent Master Keys:	2	each
f.	Permanent Change Keys:	4	per core

## 2.9 MECHANICAL DOOR CLOSERS

- A. General:
  - 1. Valves: Closers shall have separate valves for latch speed, main speed, and back check. Valves shall be staked to prevent accidental removal. Provide the appropriate closer body, handing, and brackets to mount closer inside the building on the least-public side of the door.
    - a. Where closers are to be mounted parallel arm, provide with heavy duty, fully forged arms.
    - b. Where closers are to be mounted regular arm and the opening can otherwise be opened to 180 degrees, provide closer with the appropriate special templating to allow 180 degree door swing. Where a special template is not available for 180 degree swing, provide closer arm with integrated stop.
  - 2. Integrated Stop Closer Arms: Where a closer with integrated stop is required, provide the appropriate closer and arm as follows:
    - a. Parallel arm with spring-cushioned stop arm: Provide where door is otherwise able to open to 95 degrees and requires a parallel arm mount closer.
    - b. Parallel arm with dead stop arm: Provide where door is obstructed from opening to 95 degrees and requires a parallel arm mount closer.
    - c. Regular arm with push side surface-mounted overhead stop: Provide where door closer should mount on pull side of door.
  - 3. Hold Open Arms: Provide closer arms with mechanical hold-opens as scheduled.
  - 4. Provide closers with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware. Provide closers with screw packs containing thru-bolts, machine screws, and wood screws.
  - 5. Closers shall be provided with all-weather fluid and shall not require readjustment from 120 degrees F to -30 degrees F. Fluid shall be non-flaming and shall not fuel door or floor covering fires. Upon request, provide data indicating thermal properties of fluid.
  - 6. Closers shall close and latch door when adjusted to meet accessibility requirements for door opening force: 8.5 lbs at exterior doors, 5 lbs at interior doors, and 15 lbs at labeled fire doors.
- B. Heavy Duty Door Closers:

- 1. Acceptable Products:
  - LCN: 4040XP 4011/4111 a.
- 2. Requirements:
  - ANSI Grade: BHMA/ANSI A156.4, Grade 1. a.
  - b. Closer Construction: Closer shall have cast iron or aluminum alloy body with 1-1/2 inch steel piston, double heat treated pinion, 5/8 inch bearing journals, and full complement needle or caged ball bearings. Closer shall be adjustable from sizes 1 through 6.
  - Provide closers with spring size adjustment dial for ease of adjusting. c.

#### 2.10 EXIT DEVICES

1.

- Acceptable Products: Α. Von Duprin:
- 98 Series

#### B. **Requirements:**

- ANSI Grade: BHMA/ANSI A156.3, Grade 1. 1.
- 2. Device Construction:
  - Exit device(s) shall have a mechanism case constructed of extruded aluminum or wrought stainless a. steel, base plates constructed of cold rolled or cast steel, push pad of extruded aluminum with stainless steel covering or wrought stainless steel, and end caps with flush mounted, sloped design. At full-glass doors, provide exit devices with no exposed fasteners or rivets visible through glass. Where required by stile width, provide narrow-stile type device.
  - Latchbolt: Provide Pullman-type deadlocking latch bolts constructed of stainless steel. Where b. specified provide high security Pullman-type latchbolt that collapses to be square faced under high pull forces. Latch return springs shall be compression type. Tension and Torsion latch return springs are not acceptable.
  - Dogging Mechanism: where dogging or latch-retraction options are not specifically scheduled for c. non-fire rated doors, provide device with a hex-key activated hook-type dogging mechanism constructed of steel.
  - d. Plastic or nylon used for the push pad, or parts in the dogging mechanism or latchbolt mechanism are unacceptable.
  - Sound Dampening: Device shall be provided with factory-installed sound dampening materials. e.
  - Provide device type, function, and trim style as indicated in hardware schedules. f.
- 3. Where exit device(s) are provided for fire rated door, provide with fire listing and label indicating "Fire Exit Hardware". If device is mounted on wood doors, provide sex nuts and bolts.
- Provide shim kits, filler plates, and other accessories as required for each opening. 4.
- Unless otherwise indicated in the sets, provide device with roller-type strike. 5.
- Where scheduled, provide removable mullions by same manufacturer as provided exit devices. Provide 6. mullion stabilizers, key removable option, strike preps, and fire rating as indicated in sets.

#### 2.11 ARCHITECTURAL DOOR TRIM

- Protection Plates and Edge Guards A.
  - Acceptable Products: 1.
    - Ives: 8400 Series
  - a. 2. **Requirements:** 
    - Provide .050 inch thick stainless steel protection plates with height as scheduled. Plate shall have a. four beveled edges and countersunk screws. Provide plate with width as follows:
      - Pairs of Doors: Provide plate to be 1 inch less door width. 1)
      - 2) Single Doors: Provide plate to be 2 inches less door width on push side, pull side mounted plates to be 1 inch less door width.
- B. Door Stops and Holders
  - 1. Acceptable Products:
    - Ives: WS406/407
  - a. 2. Requirements:
    - Provide stops and holders as indicated in the hardware sets. a.
    - Where wall bumpers are scheduled, provide concave rubber bumper where the adjacent lever trim b. incorporates a push-button. Otherwise, provide convex rubber bumpers.

#### **OVERHEAD STOPS AND HOLDERS** 2.12

Kenworth Sales Co. - Ogden, Utah 16066

- A. Acceptable Products:
  - 1. Glynn Johnson: 100 Series
- B. Requirements:
  - 1. Provide overhead stops and holders as scheduled, sized per manufacturer's recommendations based on door width.
  - 2. Provide concealed overhead stops with adjustable jamb bracket.
  - 3. Where possible without conflicting with other hardware, mount surface overhead stops on least public side of door.
  - 4. Provide stops with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware.

## 2.13 SADDLE AND PANIC THRESHOLDS

- A. Acceptable Products:
  - 1. Zero International: 655A

## B. Requirements:

- 1. Saddle thresholds: Provide with length equal to the width of the opening.
- 2. Panic thresholds: Provide with length equal to the overall frame width. Provide with mitered and welded ends.
- 3. Provide stainless steel machine screws and lead anchors for each threshold.

## 2.14 WEATHERSTRIP AND GASKET

- A. General:
  - 1. Provide weather strip and gasketing as scheduled.
  - 2. Size weather strip and gasket to provide a continuous seal around opening and at meeting stiles.
- B. Perimeter Seals
  - 1.Acceptable Products:<br/>a.429Aa.Zero:429A
  - Door Bottoms 1. Acceptable Products: a. Zero:

## 2.15 MISCELLANEOUS HARDWARE

A. Silencers

C.

1. Acceptable Products:

- a. Ives:
- 2. Requirements:
  - a. Where indicated on single openings, provide 3 each rubber silencers on lock jamb.

8198AA

**SR64** 

b. Where indicated on paired openings, provide 2 each rubber silencers on header.

## 2.16 HIGH SECURITY EMERGENCY KEY BOX

- A. Acceptable Products:
- 1. Knox, Inc. 3200 Series x RMK
- B. Requirements:
  - 1. Provide recess-mounted emergency key box as approved by the local fire jurisdiction. Key box to be masterkeyed as dictated by local fire jurisdiction.

## 2.17 KEY CONTROL CABINET

A. Acceptable Products: 1. Lund, Inc. 1200 Series

## B. Requirements:

- 1. Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet.
- 2. Provide complete cross-index system set up by Owner, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
- 3. Provide hinged-panel type cabinet for wall mounting with capacity for 250 unique keys.

### 2.18 FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and locksets (or push-pull units if no latch or locksets).
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- C. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
  - Brushed Chrome and/or Stainless Steel Appearance
    - a. Brushed Stainless Steel, no coating: ANSI 630.
    - b. Satin Chrome, Clear Coated: ANSI 626, ANSI 652.
    - c. Powder Coated Aluminum finish: ANSI 689.
    - d. Saddle and Panic Thresholds: Mill Aluminum finish.
    - e. Weatherstrip and Gasket: Clear Anodized Aluminum finish.
  - 2. Oil-Rubbed Bronze or Dark Bronze Appearance
    - a. Oil-Rubbed Satin Bronze: ANSI 613.
    - b. Dark Bronze on Steel: ANSI 643.
    - c. Dark Bronze Colored Powder Coat: ANSI 695.
    - d. Dark Bronze Anodized Aluminum: ANSI 313
    - e. Saddle and Panic Thresholds: Dark Bronze Anodized Aluminum
    - f. Weatherstrip and Gasket: Dark Bronze Anodized Aluminum

## PART 3 - EXECUTION

1.

### 3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 **PREPARATION**

- A. Steel Doors and Frames: Comply with DHI A115 Series.
   1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

### 3.3 INSTALLATION

A. Pre-installation conference shall be conducted prior to installation of hardware at Project site. Meet with the, Owner, Contractor, installer, and manufacturer's representatives. A separate pre-installation conference shall be conducted prior to the installation of electronic security hardware with the electrical contractor Review catalogs, brochures, templates, installation instructions, and the approved hardware schedule. Survey installation procedures and workmanship, with special emphasis on unusual conditions, as to ensure correct technique of installation, and coordination with other work. Notify participants at least ten, 10 working days before conference.

- B. Hardware Installers must have a minimum of five (5) years' experience in installation of hardware. Provide verification of installer's qualification to Consultant for approval. All installers to attend review meetings with the hardware distributor.
- C. Install hardware using only manufacturer supplied and approved fasteners in strict adherence with manufacturers published installation instructions.
- D. Install head seal prior to installation of "PA"-parallel arm mounted door closers and push side mounted door stops/holders. Trim, cut and notch thresholds and saddles neatly to minimally fit the profile of the door frame. Install thresholds and saddles in a bed of caulking completely sealing the underside from water and air penetration.
- E. Counter sink through bolt of door pull under push plate during installation.
- F. Mounting Heights: Mount door hardware units at heights indicated, as follows, unless otherwise indicated or required to comply with governing regulations.
  - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
  - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
  - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- G. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
  - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
  - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- H. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

## 3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Architect shall engage a qualified Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
- B. Architectural Hardware Consultant shall inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

## 3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
  - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

## 3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

## 3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

## 3.8 DOOR HARDWARE SETS

- A. The following schedule of hardware sets shall be considered a guide and the supplier is cautioned to refer to general conditions, special conditions, and the full requirements of this section. It shall be the hardware supplier's responsibility to furnish all required hardware.
- B. Where items of hardware are not definitely or correctly specified and are required for completion of the Work, a written statement of such omission, error, conflict, or other discrepancy shall be sent to the Architect, prior to date specified for receipt of bids, for clarification by addendum.
- C. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening.

## HW SET: 01 DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

122	128A	128B	129B	129C	129D
129E	129G	129H	129J	129K	131A
131B	131C	131D	131J	131K	131L
131M					
	HARDWARE	BY	Y DOOR MFG		B/O

## HW SET: 02

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

106A 1

EA	PRIMUS PERMANENT CORE	20-740-XP	626	SCH
EA	CYLINDER HOUSING	AS REQ'D BY DOOR MFG	626	SCH
	REMAINING HARDWARE	BY DOOR MFG/SUPPLIER		B/O

HW SET: 03

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

128D		129A	129F	129L	131E	13	81H
201							
1	EA	CONT. HINGE		224HD		628	IVE
1	EA	ENTRANCE W/DEA	DBOLT	L9453T 06A L583-363		626	SCH
1	EA	PRIMUS PERMANE	NT	20-740-XP		626	SCH
		CORE					
1	EA	SURFACE CLOSER		4111 AVB SCUSH MC		689	LCN
1	EA	RAIN DRIP		142AA		AA	ZER
1	EA	GASKETING		429AA-S		AA	ZER
1	EA	DOOR SWEEP		8198AA		AA	ZER
1	EA	THRESHOLD		655A-223		А	ZER

## HW SET: 04

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

131G

1	EA	CONT. HINGE	224HD	628	IVE
1	EA	ENTRANCE W/DEADBOLT	L9453T 06A L583-363	626	SCH
1	EA	PRIMUS PERMANENT	20-740-XP	626	SCH
		CORE			
1	EA	SURFACE CLOSER	4111 SHCUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	А	ZER
1	EA	THRESHOLD	655A-223	А	ZER

## HW SET: 05

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

120 130 CONT. HINGE IVE 1 EA 224HD 628 1 EA ENTRANCE LOCK ND53RD RHO 626 SCH 1 EA SURFACE CLOSER 689 LCN 4111 HEDA 1 EA KICK PLATE 8400 10" X 2" LDW B-CS 630 IVE WALL STOP WS406/407CCV 630 1 EA IVE GASKETING 429AA-S ZER 1 EA AA 1 EA DOOR SWEEP 39A А ZER

## HW SET: 06

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

109		121	127			
3	EA	HINGE		5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	ENTRANCE LOCK		ND53RD RHO	626	SCH
1	EA	SURFACE CLOSER		4011 H MC	689	LCN
1	EA	KICK PLATE		8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP		WS406/407CCV	630	IVE
1	EA	GASKETING		429AA-S	AA	ZER
1	EA	DOOR SWEEP		39A	А	ZER

## HW SET: 07

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

128C 128E

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	ENTRANCE LOCK	ND53RD RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	А	ZER

## HW SET: 08

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

111		131F			
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	ENTRANCE LOCK	ND53RD RHO	626	SCH
1	EA	SURFACE CLOSER	4111 SCUSH MC	689	LCN
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	А	ZER

## HW SET: 09

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

123		125			
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	PUSH PLATE	8200 6" X 16"	630	IVE
1	EA	PULL PLATE	8305 10" 6" X 16"	630	IVE
1	EA	SURFACE CLOSER	4011 MC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	А	ZER

## HW SET: 10

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

118

4	EA	WALL STOP	WS406/407CCV	630	IVE
		REMAINING HARDWARE	BY DOOR MFG	630	

## HW SET: 11

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

114		115	126			
3	EA	HINGE		5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	PUSH PLATE		8200 6" X 16"	630	IVE
1	EA	PULL PLATE		8305 10" 6" X 16"	630	IVE
1	EA	SURFACE CLOSER		4011 MC	689	LCN
1	EA	KICK PLATE		8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP		WS406/407CCV	630	IVE
1	EA	GASKETING		188SBK PSA	BK	ZER

## HW SET: 12

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

105 106

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

## **HW SET: 13**

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

102		103	110	117	117A	117	В
119		202					
3	EA	HINGE		5BB1 4.5 X 4.5 NRP		652	IVE
1	EA	ENTRANCE LOCK		ND53RD RHO		626	SCH
1	EA	KICK PLATE		8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP		WS406/407CCV		630	IVE
3	EA	SILENCER		SR64		GRY	IVE

## **HW SET: 14**

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

104

<b>.</b> .					
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	MANUAL FLUSH BOLT	FB458 (TOP)	626	IVE
1	EA	STOREROOM LOCK	ND80RD RHO	626	SCH
2	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

## **HW SET: 15**

## DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

111A		123A			
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80RD RHO	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

D. END OF SECTION 08 7100

## SECTION 31 1000 - SITE CLEARING

## PART 1 - GENERAL

### 1.1 **RELATED DOCUMENTS**

Drawings and general provisions of the Contract, including General and Supplementary Α. Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- Α. This Section includes the following:
  - Removing existing trees, shrubs, groundcovers, plants, and grass as indicated on 1. demolition plan.
  - 2. Clearing and grubbing.
  - Stripping and stockpiling topsoil. 3.
  - 4. Removing above- and below-grade site improvements.
  - Disconnecting, capping or sealing, abandoning site utilities in place, and removing site 5. utilities.
  - 6. Temporary erosion and sedimentation control measures.
- Β. Related Sections include the following:
  - Division 01 Section "Temporary Facilities and Controls" for temporary utilities, temporary 1. construction and support facilities, temporary security, protection facilities, and temporary erosion and sedimentation control procedures.
  - 2. Division 01 Section "Temporary Tree and Plant Protection" for protecting trees remaining on-site that are affected by site operations.
  - 3. Division 31 Section "Earth Moving" for soil materials, excavating, backfilling, and site grading.
  - 4. Division 23 Section "Turf, Grasses, and Plants" for finish grading including preparing and placing planting soil mixes and testing of topsoil material.

#### 1.3 DEFINITIONS

- Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and Α. clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other non-soil materials.
- Β. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

### MATERIAL OWNERSHIP 1.4

Except for stripped topsoil or other materials indicated to remain Owner's property, cleared Α. materials shall become Contractor's property and shall be removed from Project site.

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#### 1.5 SUBMITTALS

- Α. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.
- Β. Record drawings, according to Division 01 Section "Project Record Documents," identifying and accurately locating capped utilities and other subsurface structural, electrical, and mechanical conditions.

### 1.6 QUALITY ASSURANCE

Α. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

### **PROJECT CONDITIONS** 1.7

- Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied Α. or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- Β. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
  - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- D. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- E. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

## PART 2 - PRODUCTS

#### 2.1 SOIL MATERIALS

Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Α. Division 31 Section "Earth Moving."

2

1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site

## PART 3 - EXECUTION

#### 3.1 PREPARATION

- Α. Protect and maintain benchmarks and survey control points from disturbance during construction.
- Β. Locate and clearly flag trees and vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

### TEMPORARY EROSION AND SEDIMENTATION CONTROL 3.2

- Provide temporary erosion and sedimentation control measures to prevent soil erosion and Α. discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction, sediment and erosion control Drawings, a sediment and erosion control plan, specific to the site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.
- Β. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

#### 3.3 UTILITIES

- Α. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
  - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- Β. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
  - Arrange with utility companies to shut off indicated utilities. 1.
  - Owner will arrange to shut off indicated utilities when requested by Contractor. 2.
- C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
  - Do not proceed with utility interruptions without Architect's written permission. 2.

3

D. Excavate for and remove underground utilities indicated to be removed. E. Removal of underground utilities is included in Division 21, Division 22, Division 26, Division 27, and Division 28 Sections covering site utilities.

## 3.4 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.
  - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
  - 2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
  - 3. Grind stumps and remove roots, obstructions, and debris extending to a depth of 18 inches below exposed subgrade.
  - 4. Use only hand methods for grubbing within tree protection zone.
  - 5. Remove tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches and compact each layer to a density equal to adjacent original ground.
- C. Subsequent to stripping, grubbing, and removal of non-engineered fills, a representative from GSH or special inspector as selected by the Owner, must visit the site and verify that suitable natural soils have been encountered prior to placing site grading fills, footings, slabs, or pavements.

## 3.5 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
  - 1. Remove subsoil and non-soil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Limit height of topsoil stockpiles to 120 inches.
  - 2. Dispose of excess topsoil as specified for waste material disposal.
  - 3. Stockpile surplus topsoil to allow for re-spreading deeper topsoil.
- D. Subsequent to stripping, grubbing, and removal of non-engineered fills, a representative from GSH or special inspector as selected by the Owner, must visit the site and verify that suitable natural soils have been encountered prior to placing site grading fills, footings, slabs, or pavements.

## 3.6 SITE IMPROVEMENTS

- A. Remove existing above-grade and below-grade improvements as indicated and as necessary to facilitate new construction. Refer to project plans for improvements to be abandoned in place.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
  - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
  - 2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.

## 3.7 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
  - 1. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 311000





## **IRRIGATION AREA**

The irrigation system calls for drip tubing rings around individual plants or groups of plants. Densely planted areas will be irrigated by a grid of drip tubing.

 $\checkmark$ 

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lrrigation areas were calculated by adding the areas covered by mature trees and shrubs. The following areas were used: Shrub – 100% of the mature size. Trees – 50% of the area of the mature tree size.

51,265 sf Total Landscape Area Shrub area <u>4.003 sf</u> 7,250 sf Tree area Total Irrigated Area

% of total

3,247 sf

14.1%

## **IRRIGATION NOTES**

- 1. Install irrigation wire under paved areas in separate PVC sleeve, size for number of wires.
- 2. Examine the site conditions, the subgrade and verify elevations. Notify the architect in writing of any unsatisfactory conditions. Do not begin landscape work until unsatisfactory conditions have been resolved.
- 3. Verify locations of all utilities and site features prior to any digging. Any damage to existing utilities and site features caused by this contractor shall be repaired at no additional expense to the owner.
- 4. Before any trenching, excavation, or digging, the contractor shall have the area 'Blue Staked' and contact the appropriate utility companies. Contractor shall protect all utilities from damage.
- 5. All lines shall slope to drain, add manual drains at all mainline low points as necessary for complete drainage of the entire system. Indicate all drain locations on record drawings.
- 6. This drawing is diagrammatic and is intended to convey the general layout of irrigation system components. field adjustments may be necessary to maintain full coverage in actual site conditions. Contact the landscape architect if significant changes are necessary. The contractor shall assume full responsibility for revisions to the irrigation system if the irrigation system is installed when site conditions differ from plan layout and the landscape architect was not informed.
- 7. Lateral and main lines shall be lain in common trenches in landscape areas wherever possible.
- 8. All piping and wiring under pavement shall be run through separate sleeves. Control wires not lain in a common trench with a main line shall be installed in a conduit of sufficient size.
- 9. All irrigation equipment not detailed shall be installed as per manufacturer recommendations, specifications, and details.
- 10. This system is designed to operate at 40 psi for all drip emitters.
- 11. The irrigation water source is culinary water, see Civil for stub. Pressure at the POC is expected to be \_\_\_\_ psi. If actual pressure varies from the expected, contact landscape architect.
- 12. Supply products as specified. No substitutions will be allowed unless pre-approved in writing by the owner or landscape architect.
- 13. Contractor to supply all keys and attic stock per the specifications.
- 14. Contractor to shut down and winterize the irrigation system at the end of the first season and turn on the system at the beginning of the following season. This work is to be done in the presence of the owners' maintenance personnel



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KEYN	IOTES			control .	
STEEL BOLLARD WITH I SEE DOOR DETAIL FOR	REMOVABLE COVER - TYP SPACING OR DETAIL H/SD1.2				
REMOVABLE BOLLARD SEE DETAIL J/SD1.2	WITH REMOVABLE COVER -		EQFF	1124827 1124827 1124827 0301	i <b>k</b>
DUMPSTER - N.I.C.			SS SS		
GAS METER - SEE MEC	HANICAL/CIVIL		Hoo	AUTO DES	
8'-0" TALL WALL. RUN A MAX, TO UNDERSIDE O DETAIL FOR ATTACHME	LTERNATING STUDS, 32" O.C. F DECK OR ROOF JOISTS. SEE ENT - A / A7.1		<b>ന</b>	) R S A.I.A	
ELECTRICAL EQUIPMEN DYNAMIC CLOSURES E 4" WIDE ALUMINUM ROI	NT - SEE ELECTRICAL Z SERIES SECURITY GRILLE WITH D & LINK STRAIGHT PATTERN		0	. Е В I ( wyatt, <i>i</i>	402-2212 M
CONFIGURATION. GRIL TO CEILING. PROVIDE A CEILING HEIGHT FOR S TRIM OUT AS REQUIRE	LE IS TO EXTEND FROM FLOOR A 2 2x8 SUPPORT HEADER AT UPPORT OF THE HEAD TRACK. D FOR A FLUSH CEILING.		Cto	JAMES H	S, IDAHO 83 architects.co
FIRE EXTINGUISHER - E SHOPS AND PARTS WA CABINET IN RETAIL OFF	BRACKET MOUNTED IN REPAIR REHOUSE. SEMI-RECESSED FICE AREAS.		lite	<mark>И   И</mark> [ LY, A.I.A.	- IDAHO FALI 85 (W) nbw
8'-0" TALL CMU WALL - ( BUILDING PATTERN.	CMU PATTERN TO MATCH MAIN		5	L A N R BODI	0X 2212 }-522-87
PALLET RACKING, CAT	NALK, STAIRS, - BY OWNER.		Ar	Z P ≡VIN F	P.O. B( (F) 208
AT CORNERS.	OFFICE DOOR SIDELITES (UPPER			[ ] ] ] [ ] A.I.A. KI	РАРКШАҮ 122-8779
LITE ONLY) TO RECEIVE SHADE DEVICES. SEE S	E INTERIOR ROLL DOWN S / A6.3		Ŋ	[ [ [ ]	HN ADAMS (P) 208-5
TRANSFORMER PAD W DRAIN ROCK OVER WE	ITH 6" PAD OF 1 -1/2" WASHED ED BARRIER.	_	U I		10f 066
6" X (WALL WIDTH) 6" X WALL END GUARD.	60" ALUMINUM DIAMOND PLATE	-		A B sco	
Floor Drains, Cente See Plumbing.	R UNDER TOILET PARTITION -				
HAND WASH STATION -	SEE MECH.				
6" X (WALL WIDTH) X 6" YELLOW PAINT STRIPIN OPENING	X 96" 3/8" STEEL SHEET IG TO MATCH WIDTH OF DOOR				AN
FINISH SCH	EDULE KEY		<u>.</u>		ON PL
WALL FINISH			$\leq$		LATI
WHITE - PAINTED, TEX AC GRADE PLYWOOD -	TURED GYP. BOARD · PAINTED		$\geq$		l on
GREY - PAINTED CMU ABOVE 8'-0" GREY - PAINTED CMU			A		AN
GREY - PAINTED CMU GREY - PAINTED AC G	RADE PLYWOOD UP TO 8'-0"	Ж	Z	H H	
"P1" ABOVE 8'-0". 4'-0" GREY COLOR FRP	OVER GYP. BOARD -	U U U U	Õ	ME AT	AR <sup>-</sup>
"P1" ABOVE. ASPHALT EMULSION O	N CONCRETE OR CMU	NG NG	$\bigcirc$	350 N, L	
GREY COLOR FRP OV	ER GYP. BOARD ER GYP. BOARD ER CD GRADE WOOD			H ∠ ∐	L Z
SHEATHING TO 8'-0" "P1" ABOVE 8'-0"		BU	T	TUC HA	AN
CERAMIC TILE - SEE EI	EVATIONS	EV	S	) SC EST	EZZ
BASE FINISH		ΑN	王	175( W	⊻ 
4" COVED RUBBER (EX 6" CERAMIC TILE NO BASE	CEPT AGAINST CMU)		<b>DR</b>		UPPE
FLOOR FINISH			M		DR &
SEALED CONCRETE - S *STAINED CONCRETE - *BURNISHED CONCRET	SEE A1.3 SEE A1.3 'E - SEE A1.3		μ Υ		FLOC
NOTES:					1AIN
ONE WALL IN ROOM TO VERIFY LOCATION WIT	D RECEIVE ACCENT COLOR -				
EPOXY PAINT TO BE U	SED	OJECT:			
Columns in Room - G White Paint 8'-0" to l	GREY PAINT UP TO '8-0"; INDERSIDE OF DECK.	РК			SH
OP WALL				#1	12-16-19
EFT WALL	FLOOR FINISH				12 10 10
	RIGHT WALL				
OWNER FUR	NISHED AND				
		PR	OJECT NO		
TO MECHANICAL/PLUMBIN	IG/ELECTRICAL/STRUCTURAL		TE:	D 2010	
		DR.	AWN BY:	R 2019	
	PARTS WASHER	NF CH	RH E <mark>cked by</mark>	:	
ANE	HYDRAULIC PRESS	GL	.N		
R LIFT AND CONTROL	DRILL PRESS	DR	AWING NO	.: Al	D #1
E CRANE	OIL REEL	$\sim$	$\sim$	$\sim$	$\leftarrow$
HEEL GRINDER	SOLVENT TANK		٨		4
CRIMPER	CHOP SAW		Λ	1 1	1
RESSOR (2)	OIL TANK		H		
	(		1		

WASTE OIL & ANTIFREEZE DRO

- CONTRACTOR SHALL RESOLVE ALL DIMENSIONAL OR OTHER DISCREPANCIES DURING LAYOUT WITH ARCHITECT, PRIOR TO BEGINNING OF CONSTRUCTION. ALL WALL-MOUNTED CASEWORK, MILLWORK, GRAB BARS, HARDWARE, EQUIPMENT, ETC. SHALL BE ANCHORED TO WOOD BLOCKING BETWEEN STUDS, U.N.O. COORDINATE BLOCKING PRIOR TO WALL FINISHES, INCLUDING OWNER FURNISHED ITEMS. CAULK ALL INTERIOR AND EXTERIOR JOINTS, U.N.O. - SEE SPEC. ALL WORK TO BE IN ACCORDANCE WITH ADOPTED CODES & ACCESSIBILITY REQUIREMENTS. EXTEND NON-INSULATED STUD WALLS & GYP. BOARD 12" MIN. ABOVE SUSPENDED CEILING. U.N.O. ALL INSULATED INTERIOR WALLS TO EXTEND TO UNDERSIDE OF SECOND FLOOR METAL DECK OR UNDERSIDE OF ROOF METAL DECK FOR SPEECH PRIVACY. SEE LOCATIONS ON FLOOR PLANS - SHOWN AS SOLID SHADED WALLS ON FLOOR PLANS. SEE DETAIL 8/A4.9 USE ISOLATION TAPE BETWEEN ALL DIS-SIMILAR METALS. SHADED WALLS TO RECEIVE INSULATION. SEE

- FRP TO WRAP DOOR OPENINGS AND TERMINATE AT DOOR JAMBS



## **KEYNOTES**

- STEEL BOLLARD WITH REMOVABLE COVER TYP. -SEE DOOR DETAIL FOR SPACING OR DETAIL H / SD1.2
- REMOVABLE BOLLARD WITH REMOVABLE COVER -SEE DETAIL J/SD1.2
- DUMPSTER N.I.C.
- GAS METER SEE MECHANICAL/CIVIL
- 8'-0" TALL WALL. RUN ALTERNATING STUDS, 32" O.C. MAX, TO UNDERSIDE OF DECK OR ROOF JOISTS. SEE DETAIL FOR ATTACHMENT - A / A7.1
- ELECTRICAL EQUIPMENT SEE ELECTRICAL
- DYNAMIC CLOSURES EZ SERIES SECURITY GRILLE WITH 4" WIDE ALUMINUM ROD & LINK STRAIGHT PATTERN CONFIGURATION. GRILLE IS TO EXTEND FROM FLOOR TO CEILING. PROVIDE A 2 2x8 SUPPORT HEADER AT CEILING HEIGHT FOR SUPPORT OF THE HEAD TRACK. TRIM OUT AS REQUIRED FOR A FLUSH CEILING.
- FIRE EXTINGUISHER BRACKET MOUNTED IN REPAIR SHOPS AND PARTS WAREHOUSE. SEMI-RECESSED CABINET IN RETAIL OFFICE AREAS.
- 8'-0" TALL CMU WALL CMU PATTERN TO MATCH MAIN (9)BUILDING PATTERN.
- PALLET RACKING, CATWALK, STAIRS, BY OWNER. (10) (11) 6" X 6" X 60" ALUMINUM DIAMOND PLATE WALL GUARD
- AT CORNERS. WINDOW ASSEMBLY & OFFICE DOOR SIDELITES (UPPER (12) LITE ONLY) TO RECEIVE INTERIOR ROLL DOWN SHADE DEVICES. SEE S / A6.3
- (13) ROOF ACCESS LADDER B / A8.1 & A / A8.1
- (14) TRANSFORMER PAD WITH 6" PAD OF 1 -1/2" WASHED DRAIN ROCK OVER WEED BARRIER.
- 6" X (WALL WIDTH) 6" X 60" ALUMINUM DIAMOND PLATE (15) WALL END GUARD.
- (16) FLOOR DRAINS, CENTER UNDER TOILET PARTITION -SEE PLUMBING.
- HAND WASH STATION SEE MECH. (17)
- 6" X (WALL WIDTH) X 6" X 96" 3/8" STEEL SHEET (18)
- YELLOW PAINT STRIPING TO MATCH WIDTH OF DOOR (19) OPENING

## FINISH SCHEDULE KEY

## WALL FINISH

WHITE - PAINTED, TEXTURED GYP. BOARD P1 AC GRADE PLYWOOD - PAINTED P2 GREY - PAINTED CMU WAINSCOT WITH "P1" P3 ABOVE 8'-0" P4 GREY - PAINTED CMU WAINSCOT - I.M.P. ABOVE GREY - PAINTED CMU P5 GREY - PAINTED AC GRADE PLYWOOD UP TO 8'-0" P6 "P1" ABOVE 8'-0". P7 4'-0" GREY COLOR FRP OVER GYP. BOARD -"P1" ABOVE. ASPHALT EMULSION ON CONCRETE OR CMU WHITE COLOR FRP OVER GYP. BOARD W1 GREY COLOR FRP OVER GYP. BOARD GREY COLOR FRP OVER CD GRADE WOOD W2 W3 SHEATHING TO 8'-0" "P1" ABOVE 8'-0" T1 CERAMIC TILE - SEE ELEVATIONS BASE FINISH 4" COVED RUBBER (EXCEPT AGAINST CMU) B1 6" CERAMIC TILE B2 B3 NO BASE FLOOR FINISH SEALED CONCRETE - SEE A1.3 \*STAINED CONCRETE - SEE A1.3 F1 F2 F3 \*BURNISHED CONCRETE - SEE A1.3 NOTES: ONE WALL IN ROOM TO RECEIVE ACCENT COLOR -VERIFY LOCATION WITH OWNER EPOXY PAINT TO BE USED COLUMNS IN ROOM - GREY PAINT UP TO '8-0"; WHITE PAINT 8'-0" TO UNDERSIDE OF DECK. TOP WALL -LEFT WALL - FLOOR FINISH RIGHT WALL BASE FINISH 1 - BOTTOM WALL **OWNER FURNISHED AND** 

# PROVIDED EQUIPMENT

NOTE: LIST FOR OWNER REFERENCE ONLY - REFER TO MECHANICAL/PLUMBING/ELECTRICAL/STRUCTURAL

STEAM WASHER	AIR DRYER
GRINDER	PARTS WASHER
JIB CRANE	HYDRAULIC PRESS
FLOOR LIFT AND CONTROL	DRILL PRESS
BRIDGE CRANE	OIL REEL
FLY-WHEEL GRINDER	SOLVENT TANK
HOSE CRIMPER	CHOP SAW
COMPRESSOR (2)	OIL TANK
AIR TANK	WASTE OIL & ANTIFREEZE DROP
OIL SEPARATOR	

	10/22/2019 10/22/2019	* 0.01/12402/137 * 0 0.001/2011/2	
In DW architects p.a.	A R C H I T E C T U R E Z P L A N I N G Z I N T E R I O R S	SCOTT L NIELSON, A.I.A. KEVIN R BODILY, A.I.A. JAMES H WYATT, A.I.A	990 JOHN ADAMS PARKWAY P.O. BOX 2212 - IDAHO FALLS, IDAHO 83402-2212 (P) 208-522-8779 (F) 208-522-8785 (W) nbwarchitects.com
A NEW BUILDING FOR: KENWORTH SALES COMPANY INC.	1750 SOUTH 1350 WEST	WEST HAVEN, UTAH	MAIN FLOOR & UPPER MEZZANINE - PART 1 - DIMENSION PLAN
PROJECT			SHEET TI
REVISIONS       1     ADDENDUM	#1		12-16-19
PROJECT NO. 16066 DATE: NOVEMBER 2019 DRAWN BY: NRH CHECKED BY: GLN DRAWING NO.: AD #1			
A			2



I SCHEDULE KEY			GENERAL NOTES		GENERAL NOTES CONT
BASE FINISH	NOTES:	1.	CONTRACTOR SHALL RESOLVE ALL DIMENSIONAL OR	7.	USE ISOLATION TAPE BETWEEN ALL DIS-SIMIL
4" COVED RUBBER 5" CERAMIC TILE NO BASE	1. ONE WALL IN ROOM TO RECEIVE ACCENT COLOR - VERIFY LOCATION WITH OWNER	2.	ARCHITECT, PRIOR TO BEGINNING CONSTRUCTION.	8.	SHADED WALLS TO RECEIVE INSULATION. SEE SPECIFICATIONS
FLOOR FINISH	<ol> <li>2. EPOXY PAINT TO BE USED</li> <li>3. COLUMNS IN ROOM         <ul> <li>ACCENT PAINT UP TO '8-0";</li> </ul> </li> </ol>		ANCHORED TO WOOD BLOCKING BETWEEN STUDS, U.N.O. COORDINATE BLOCKING PRIOR TO WALL FINISHES, INCLUDING OWNER FURNISHED ITEMS.	9.	F.O.F. INDICATES FACE OF FOUNDATION DIME INTERIOR WALLS ARE DIMENSIONED TO THE (
SEALED CONCRETE STAINED CONCRETE BURNISHED CONCRETE	<ul> <li>FIELD PAINT 8'-0" TO UNDERSIDE OF DECK.</li> <li>4. "B1" BASE PROVIDED ALONG NON-CMU WALLS, "B3" ALONG CMU WALLS.</li> </ul>	3.	CAULK ALL INTERIOR AND EXTERIOR JOINTS, U.N.O. - SEE SPEC.	10.	SEE REFLECTED CEILING PLAN FOR SOUND B INSULATION REQUIREMENTS AND LOCATIONS FRP TO WRAP DOOR OPENINGS AND TERMIN/
FLOOR FINISH		4.	ALL WORK TO BE IN ACCORDANCE WITH ADOPTED CODES & ACCESSIBILITY REQUIREMENTS.		DOOR JAMBS
TRACTOR SHALL POWER VEL BUT LEAVE CONCRETE	TOP WALL	5.	EXTEND NON-INSULATED STUD WALLS & GYP. BOARD 12" MIN. ABOVE SUSPENDED CEILING. U.N.O.		
TRACTOR SHALL POWER VEL TO BURNISH - OWNER NISH	BASE FINISH	6.	ALL INSULATED INTERIOR WALLS TO EXTEND TO UNDERSIDE OF SECOND FLOOR METAL DECK OR UNDERSIDE OF ROOF METAL DECK FOR SPEECH PRIVACY. SEE LOCATIONS ON FLOOR PLANS - SHOWN AS SOLID SHADED WALLS ON FLOOR PLANS. SEE DETAIL 8/449		



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	KEYNOTE LEGEND
301	REINFORCED CONCRETE SLAB - SEE STRUCTURAL
304	FOOTING - SEE STRUCTURAL
305	BOND BREAK
405	PARTIALLY GROUTED CMU WALL - SEE STRUCTURAL
501	STEEL BEAM - SEE STRUCTURAL - PAINTED WHERE EXPOSED
509	STEEL GIRT - SEE STRUCTURAL - PAINTED WHERE EXPOSED
632	1/2" SHEATHING
701	BITUMINOUS DAMP PROOFING
704	VAPOR BARRIER
712	PRE-FINISHED CONT. METAL CAP FLASHING











![](_page_42_Figure_1.jpeg)

![](_page_42_Figure_2.jpeg)

![](_page_42_Figure_3.jpeg)

![](_page_42_Figure_4.jpeg)

![](_page_43_Figure_0.jpeg)

![](_page_44_Figure_0.jpeg)

![](_page_44_Figure_1.jpeg)

![](_page_44_Figure_2.jpeg)

- BLOCKING AND ANCHORS

6 SECTION A5.3 SCALE: 3/4" = 1'-0"

![](_page_44_Figure_5.jpeg)

PROJECT NO.	
DATE:	
NOVEMBER 2019 DRAWN BY:	
BTH	
CHECKED BY:	
GLN	
DRAWING NO.:	AD #1
A5. REVISED 12-	<b>3</b> 16-19

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12-16-19

REVISIONS

ADDENDUM #1

![](_page_45_Figure_0.jpeg)

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ENTIRE BUILDING TO BE FIRE SPRINKLED TO MEET

CONDUITS, AND BUILDING STRUCTURE. COORDINATE

NFPA-13 CODE REQUIREMENTS. FIELD VERIFY

ROOF HATCHES, ROOF DRAINS, ETC.

![](_page_46_Figure_1.jpeg)

![](_page_47_Figure_0.jpeg)

![](_page_47_Figure_1.jpeg)

![](_page_48_Figure_0.jpeg)

NOTE: ALL SYMBOLS N	POWER SYMBOL SCHEDULE MAY NOT BE USED DESCRIPTION	NOTE: ALL SYMBOLS	LIGHTING SYMBOL SCHEDU
'MSB'	ELECTRICAL SWITCHBOARD EQUIPMENT, (SEE POWER RISER AND PANEL SCHEDULES	F1	LIGHT FIXTURE TYPE DESIGNATION
	FOR ADDITIONAL INFORMATION) DRY-TYPE TRANSFORMER, (SEE POWER RISER FOR ADDITIONAL INFORMATION)		PARKING AREA POLE LIGHT, SINGLE OR DOUBLE HEAD AS INDICAT DRAWINGS. REFER TO LIGHT POLE DETAIL FOR POLE INFORMATION
	ELECTRICAL PANELBOARD, (SEE POWER RISER AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION)		EXTERIOR WALL MOUNTED FIXTURE
30A/3P/3R	DISCONNECT SWITCH, SIZE/POLES/TYPE AS INDICATED TYPES: 1=NEMA 1, 3R=NEMA 3R, 4X=NEMA 4X		2X2 FLUORESCENT OR LED FIXTURE
30A/3P/3R	FUSED DISCONNECT SWITCH, SIZE/POLES/TYPE AS INDICATED		SURFACE MOUNTED FLUORESCENT OR LED FIXTURE
(30A FUSES)	COMBINATION STARTER & FUSED DISCONNECT SWITCH, SIZE/POLES/TYPE AS INDICATED.		STRIP FLUORESCENT OR LED FIXTURE
SIZE 1 (30A FUSES)	TYPES: 1=NEMA 1, 3R=NEMA 3R, 4X=NEMA 4X JUNCTION BOX		WALL MOUNTED FLUORESCENT OR LED FIXTURE ROUND RECESSED FIXTURE
<u>(</u> )	CR = CORD REEL; SEE DRAWINGS FOR INFORMATION CD = CORD DROP; SEE DRAWINGS FOR INFORMATION	÷	SURFACE OR PENDANT FIXTURE
	EQUIPMENT CONNECTION; COORDINATE CONNECTION WITH EQUIPMENT PRIOR TO ROUGH-IN		EXIT SIGN, WALL OR CEILING MOUNTING AS REQUIRED (SINGLE OR DIRECTIONAL CHEVRONS AS INDICATED; CONNECT TO UNSWITCHE CIRCUIT THAT IS IN THE SAME AREA AS THE EXIT SIGNS.
Ē	SMALL EXHAUST FAN CONNECTION		WALL OR CEILING MOUNTED EMERGENCY LIGHTING UNIT W/BATTE
	POWER AND/OR DATA SERVICE POLE		THE EMERGENCY LIGHT.
	FLOORBOX WITH POWER AND DATA		SHADED FIXTURE INDICATES AN EMERGENCY FIXTURE. PROVIDE W PACK OR CONNECT TO EMERGENCY POWER SYSTEM (WHERE APPL BATTERY PACK TO UNSWITCHED LEG OF LIGHTING CIRCUIT THAT S AREA AS THE EMERGENCY FIXTURE. PROVIDE WITH TEST LIGHT AN
FB#	PROVIDE (1) DUPLEX RECPT., (2) DATA DROPS, (1) 1 1/4"C TO ABOVE ACCESSIBLE CEILING. PROVIDE ALL REQUIRED HARDWARE AND SUBPLATES	\$ \$	CEILING MOUNTED OCCUPANCY SENSOR, REFER TO OCCUPANCY SCHEDULE FOR SENSOR TYPE AND ADDITIONAL INFORMATION.
		₿\$	SWITCH MOUNTED OCCUPANCY SENSOR OR LIGHTING CONTROL S OCCUPANCY SENSOR & CONTROL SCHEDULE FOR ADDITIONAL INF
•	SPECIAL RECEPTACLE (COORDINATE NEMA TYPE WITH EQUIP.) E = 240V OR 480V EQUIPMENT (REFER TO PANEL SCHEDULES FOR AMPS)	<c>****</c>	LIGHTING CONTROL SYSTEM DEVICE OR RELAY/POWER PACK, REF SENSOR & CONTROL SCHEDULE FOR ADDITIONAL INFORMATION.
ф	CEILING MOUNTED DUPLEX RECEPTACLE (COORDINATE PLACEMENT WITH CEILING EQUIPMENT PRIOR TO ROUGH-IN)	\$	SINGLE-POLE SWITCH
Φ	DUPLEX RECEPTACLE		
•	GFCI-TYPE DUPLEX RECEPTACLE	SWITCH SUBSCRI	
… ╋	DOUBLE-DUPLEX RECEPTACLE	3 3-WAY SWIT	CH LV LOW-VOLTAGE S
	GFCI-TYPE DOUBLE-DUPLEX RECEPTACLE	4 4-WAY SWIT	CH T THERMAL-OVER ITCH (COMPATIBLE W/ LOAD & LTG TYPES) M SWITCH SUPPLI
RECEPTACLE AND	) EQUIPMENT SUBSCRIPTS	K KEYED SWIT	CH INSTALLED BY E CH (INTERMATIC MODEL EI400 SERIES) WP WEATHERPPOO
AC ABOVE (	COUNTER (6" ABOVE BACKSPLASH TV TV LOCATION; VERIFY HEIGHT WITH ARCH. OF BOX) TV DRAWINGS & ELEVATIONS	P PILOT LIGHT	ED SWITCH 2P DOUBLE POLE, S
TR UL LISTE WP WEATHE	ED TAMPER-RESISTANT U 120V RECPT. WITH USB CHARGING PORTS ERPROOF (UL LISTED WEATHER- UT) EWC ELECTRIC WATER COOLER	GENERAL LIGHTIN	NG NOTES:
+42" MOUNTI REF REFRIGE	NG HEIGHT AFF OR AFG M MICROWAVE, RECESSED IN WALL HUBBELL: RR201CHW BRATOR DISP. (INDER SINK)	A. SYMBOLS SH LIGHT FIXTUR	OWN ABOVE MAY NOT REPRESENT ALL LIGHT FIXTURES USED ON PRO RE SCHEDULE FOR ACTUAL FIXTURE INFORMATION INCLUDING FIXTUR
D DRYER ( CC WP REC	30A-240V RATED RECPT.)     DISF     GARDAGE DISF. (UNDER SINK)       EPT. FOR CCTV CAMERA     DW     DISHWASHER (COORDINATE W/ MILLWORK)       E     EMERGENCY (RED)		ND ETC. DXES FOR LIGHTING CIRCUITING ARE NOT SHOWN FOR CLARITY THE F
[##]	EQUIPMENT CALLOUT, (REFER TO SPECIFIC EQUIPMENT SCHEDULES FOR INFORMATION)	FOR PROVIDI FIXTURES TH C. IN GENERAL	ING AND INSTALLING ALL JUNCTION BOXES REQUIRED FOR CIRCUITING AT ARE NOT LISTED FOR "THROUGH-BRANCH CIRCUIT WIRING". ALL SWITCH-LEG CONDUCTORS MAY NOT BE SHOWN ON DRAWINGS; E
<u>RTU-1</u>	MECHANICAL EQUIPMENT CALLOUT, (REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR INFORMATION)	AND INSTALL DESCRIBED ( D. ALL BATTERY	CONDUCTORS AS REQUIRED TO ACHIEVE CONTROL SCHEMES INDICA ON DRAWINGS. INCLUDING ALL 0 - 10V. DIMMING WIRING. Y EXIT SIGNS AND EMERGENCY LIGHTING TO BE CONNECTED TO THE L
T or S	CONDUCTORS TO ASSOCIATED HVAC UNIT. COORDINATE EXACT LOCATION & SIZE AND NUMBER OF CONDUCTORS WITH M.C.	THE LIGHTING	G CIRCUIT IN THE AREA.
	TING & GENERAL SYMBOL SCHEDULE	PROJE	CT GENERAL NOTES:
SYMBOL 1	DESCRIPTION KEYED NOTE REFERENCE	A. ELECTRICAL ALL MECHAN	CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR EX ICAL EQUIPMENT AND ELECTRICAL CONNECTIONS.
1 / ES101	DETAIL # / SHEET REFERENCE	INSTALLING A	ANY ELECTRICAL PANELS OR CABINETS. SEE ELECTRICAL EQUIPMENT
À-1,3,5 3/4"C6#12 1#12⊆	BRANCH CIRCUIT HOME-RUN TO PANEL INDICATED A-1,3,5	D. REFER TO AF	EIGET FIATORES IN MECHANICAL ROOM AFTER THE MECHANICAL EQUI ECESSARY. PROVIDE CHAIN SUSPENSION KITS AS REQUIRED. RCHITECTURAL REFLECTED CEILING PLAN(S) FOR EXACT FIXTURE LOC
	QTY & SIZE OF EQUIPMENT GROUND CONDUCTOR QTY & SIZE OF NEUTRAL AND PHASE CONDUCTOR(S) SIZE OF CONDUIT	E. ELECTRICAL EQUIPMENT.	CONTRACTOR SHALL PROVIDE ALL CONCRETE PADS AS REQUIRED FC
	TICK MARKS	G. LOCATE SWIT	ACTI LOCATIONS OF ALL TELEPHONE/DATA OUTLETS WITH OWNER PRIC TCHES, OUTLETS, ETC., SHOWN AT ROOM ENTRY DOORWAYS, AS CLOS
	EQUIPMENT GROUNDING CONDUCTOR     NEUTRAL CONDUCTOR(S)	H. SUPPORT ALI	LIGHT FIXTURES INDEPENDENT OF CEILING. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS FOR WORK AN
*25,000A	PHASE AND/OR SWITCH-LEG CONDUCTOR(S) CALCULATED AVAILABLE FAULT CURRENT AT EQUIPMENT(SEE POWER RISER)	FEES. J. MAINTAIN 24" K. ALL BATTERY	MIN. CLEARANCE FROM ALL COMMUNICATIONS CABLING AND ELECTR
	BRANCH CIRCUIT/FEEDER CONCEALED IN CEILING OR WALL	THE LIGHTING	G CIRCUIT IN THE AREA. CIFICALLY INDICATED OTHERWISE, ELECTRICAL CONTRACTOR SHALL (
	BRANCH CIRCUIT/FEEDER CONCEALED UNDERGROUND OR FLOOR		SYSTEMS SUPPLIER/CONTRACTOR; DENTAL, MEDICAL, KITCHEN, SPE
	NEW EQUIPMENT, DEVICES, ETC.	OTHERWISE,	THE ELECTRICAL CONTRACTOR TO BE RESPONSIBLE FOR FINAL ELEC
	EXISTING EQUIPMENT, DEVICES, ETC.	M. ALL CONDUIT	INCLESSIFING TO BE CONCEALED IN WALLS OR ABOVE CEILINGS
	DEMOLITION EQUIPMENT, DEVICES, ETC.	WORK IS NEC N. ELECTRICAL EXISTING CO PROVISIONS O. JUNCTION BC CONTRACTOR	JESSARY, II SHALL BE APPROVED BY THE ARCHITECT/ENGINEER PRIOD CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND THOROUGHLY NDITIONS, AS THEY RELATE TO THE SCOPE OF WORK DESCRIBED. MAI IN THE BASE BID TO ADEQUATELY ACCOMMODATE THESE CONDITIONS DXES FOR LIGHTING CIRCUITING MAY NOT BE SHOWN FOR CLARITY. TH R IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL JUNCTION BC
UTILIT	Y LIGHTING REBATES & INCENTIVES:		DF ALL LIGHT FIXTURES THAT ARE NOT LISTED FOR "THROUGH-BRANC
IT SHALL BE APPLICATIONS REBATE DOLL	THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PREPARE ALL REQUIRED AND INFORMATION REQUIRED TO PROVIDE THE OWNER WITH THE MAXIMUM AMOUNT OF ARS FROM THE LOCAL UTILITY COMPANY. THE ELECTRICAL CONTRACTOR SHALL SUBMIT THE UTILITY COMPANY PRE-APPI ICATION APPROVAL PRIOR TO ORDERING ANY MATERIALS		
	VISIT THE FOLLOWING UTILITY CO. WEBSITES FOR INFORMATION: ROCKY MOUNTAIN POWER CO.		
	WWW.ROCKYMOUNTAINPOWER.NET CONTACT: DAN KUHI (503) 308-0233		
	dan.kuhl@evergreen-efficiency.com		

E	SPE	CIAL SYSTEMS SYMBOL SCHEDULE	F	- IRE ALARM SY	MBOL SCHEDULE
	NOTE: ALL SYMBOLS	DESCRIPTION	NOTE: ALL SYMBOLS	MAY NOT BE USED	DESCRIPTION
	D-X	DATA OUTLET; _= # OF DATA CABLES, X=CONDUIT SIZE (SEE NOTES 1,2,3 BELOW)	FACP	FIRE ALARM CONTROL PANEL (W/	ALL MOUNTED. TOP AT 6'-0' AFF)
ED ON	D-X	CEILING MOUNTED DATA OUTLET; _= # OF DATA CABLES, X=CONDUIT SIZE		NOTIFICATION DEVICE EXTENDEF	R PANEL. PROVIDE QTY AS REQUIRED BASED ON DEVICE
١.	$\square$	(SEE NOTES 1,2,3 BELOW)		VOLTAGE DROP CALC'S PER NFPA	A 72 REQUIREMENTS. (WALL MOUNTED, TOP AT 5'-0' AFF)
		TELEPHONE OUTLET; _= # OF TELEPHONE CABLES, X=CONDUIT SIZE (SEE NOTES 1.2,3 BELOW)		REMOTE ANNUCIATOR PANEL (FL	USH MOUNTED IN WALL AT 5'-0' AFF)
		TELEPHONE/DATA OUTLET: = # OF TELEPHONE/DATA CABLES. X=CONDUIT SIZE			NG HEIGHT PER ADA & NFPA 72)
	<b>V</b>	(SEE NOTES 1,2,3 BELOW)		ADDRESSABLE CONTROL/RELAY	MODULE
		T.V. OUTLET ONLY (C = CEILING MOUNTED OTHERWISE WALL MOUNTED)	MM	ADDRESSABLE MONITORING MOI	DULE
		ACCESSIBLE CEILING/CABLE TRAY, TERMINATE WITH INSULATED THROAT BUSHING.	FS	FIRE ALARM FLOW SWITCH	
		INSTALL CONNECTOR AND FACEPLATE AND PROVIDE COAXIAL CABLE FROM OUTLET TO NEAREST TV SYSTEM AMPLIFIER/HEAD-END EQUIPMENT LOCATOIN. UTILIZE J-HOOKS 3FT		FIRE ALARM TAMPER SWITCH	2405
		ON CENTER FOR SUPPORT OF CABLING WHERE CABLE TRAY IS NOT	#		BASE
			-	P - PHOTOCELECTRIC SMOKE DET	ECTOR ID - IN-DUCT SMOKE DETECTOR
		HUBBELL ENCLOSURE# NSAV62M W/ COVER# NSAV6C, (1) POWERKIT HBL#NSOKPS,	{	D - DUCT SMOKE DETECTOR M - MULTI-STATION SMOKE DETEC	H - HEAT DETECTOR TOR (120V W/BATTERY BACKUP)
		LOCATION. E.C. SHALL INSTALL 1 1/4"C FROM DATA COMPARTMENT TO NEAREST	§		
		ACCESSIBLE CEILING SPACE. INSTALL DATA CABLING AND TERMINATIONS AS INDICATED ON DRAWINGS.			
RY PACK		LARGE CAPACITY 2-GANG AV BOX, (SEE NOTE 2 BELOW)			
HE SAME AREA AS		HUBBELL# HBL260 WITH 2-GANG MUDRING; PROVIDE 2-GANG DECORA COVER PLATE W/		WALL MOUNTED FIRE ALARM HOR	N ONLY
ITH EMERG. BATTERY	AV D-X	(1) BRUSH PASSTHROUGH INSERT (LEVITON P/N: 41075-DB*).		WALL MOUNTED FIRE ALARM STRO	OBE ONLY
ICABLE). CONNECT ERVES THE SAME		INSTALL 1 1/2" CONDULT FROM BOX TO ABOVE ACCESSIBLE CEILING. INSTALL DATA CABLING AND TERMINATIONS AS INDICATED ON DRAWINGS.		CEILING MOUNTED FIRE ALARM ST	IROBE ONLY
D SWITCH.	SPECIAL SYSTEM	AS NOTES:		(CANDELA RATING AS INDICATED)	
SENSOR/SWITCH	1. UTILIZE 4 11/	16" DEEP BOX WITH REQUIRED MUDRING AND CONDUIT TO ABOVE NEAREST ACCESSIBLE		(CANDELA RATING AS INDICATED)	N STRUBE
	INDICATED F	LE TRAY, TERMINATE WITH INSULATED THROAT BUSHING. PROVIDE QTY OF CABLES ROM OUTLET TO NEAREST TELE/DATA ROOM. SEE DWGS FOR ADDITIONAL INFORMATION.		CEILING MOUNTED FIRE ALARM HO	ORN STROBE
ORMATION.	UTILIZE J-HO INSTALLED/S	OKS 3FT ON CENTER FOR SUPPORT OF CABLING WHERE CABLE TRAY IS NOT PECIFIED.	GENERAL FIRE A	LARM SYSTEM NOTES	
ER TO OCCUPANCY	2. CONDUIT SIZ	E ('X' FROM ABOVE); 2=1/2", 3=3/4", 4=1", 5=1-1/4", 6=1-1/2" ABEL) = 4-11/16" DEEP BOX WITH REQUIRED MUDRING AND 1" CONDUIT TO ABOVE NEAREST	A. DO NOT INST		APPLIANCES ON ANY SINGLE CLASS "A" SIGNAL CIRCUIT.
	- ACCESSIBLE	CEILING/CABLE TRAY, TERMINATE WITH INSULATED	DO NOT EXC	EED 400 FT. OF NO. 14 WIRE IN THE TO	OTAL LOOP. MOUNTED AT A HEIGHT RANGE BETWEEN 80" TO 96"
		HING, PROVIDE PULL STRING. (UNLESS OTHERWISE NOTED)	ABOVE FINIS	H FLOOR. THE PREFERRED HEIGHT IS	S 80". IF THIS CONFLICTS WITH OTHER TRADES OR
			APPLIANCES	IN A COMMON ROOM OR LINE OF SIC	GHT SHALL BE LOCATED AT A COMMON HEIGHT.
	-		C. MOUNT PULL D. DO NOT CON	. STATIONS AT 46-48" A.F.F. TO THE OI INECT THE FIRE ALARM SYSTEM TO A	PERATING HANDLE TO MEET ADA REQUIREMENTS. NY DEVICE WHICH HAS A POWER HELD
WITCH (PER DWG'S) _OAD SWITCH			CONTACTS.(I	FLOW, TAMPER, HOOD SYSTEM, DUC CONTRACTOR SHALL SUPPLY AND IN	T DETECTOR, ETCFALSE ALARM WILL OCCUR. NSTALL CONDUCTOR QUANTITIES PER FIRE ALARM
ED WITH EQUIPMENT, C.			SYSTEM SUP	PLIER, AND AS PER NFPA AND NEC R	REQUIREMENTS.
E SINGLE THROW SWITCH			G. DO NOT EXC	EED 2500 FEET ON ANY ADDRESSABL	LE DEVICE RUN. DO NOT EXCEED 120 DEVICES ON ANY
	GENERAL SPECIA	L SYSTEM NOTES:	H. ALL AIR HANI	SABLE DEVICE RUN. DLING EQUIPMENT 2000 CFM OR MOF	RE MUST BE SHUT DOWN UPON FIRE ALARM AS PER LIFE
JECT, REFER TO	A. COMMUNICA B. CONDUITS F	TIONS CABLES SHALL HAVE BENDS NO GREATER THAN 90 DEG. OR COMMUNICATIONS CABLING SHALL HAVE A MAXIMUM BEND RADIUS NOT MORE THAN 10X	SAFETY COD I. ALL CLASS "E	ES. 3" INITIATING CIRCUITS WITH ADDRES	SSABLE DEVICES NEED EOLR. (END OF LINE RESISTORS).
E TYPE, LAMPING,	THE DIAMET	ER OF THE CONDUIT. NICATIONS CONDUITS SHALL BE TERMINATED WITH AN INSULATED NON-METALLIC BUSHING	J. IN CORRIDOR	RS, NOTIFICATION APPLIANCES MUST /UM OF 100' SPACING.	BE LOCATED WITHIN 15' FROM ENDS OF CORRIDORS
C. IS RESPONSIBLE	AT BOTH EN	DS. TIONS CONDUITS SHALL HAVE NO MODE THAN (2) 00% WITHOUT A DUILDOX, DUIL DOXES	K. NOTIFICATIO	N APPLIANCES TO BE SYNCHRONIZE	D TO PROVIDE A 3-3-3 TEMPORAL PATTERN.
	SHALL BE LC	CATED IN ACCESSIBLE LOCATIONS AND SHALL BE SIZED AT LEASED 12X THE LARGEST	PLAN IS SHO	WN FOR GENERAL LOCATION AND LA	AYOUT ONLY.
TED AND	E. IT SHALL BE	AMETER IN LENGTH AND MIN, 4" DEEP AND 8" WIDE. THE RESPONSIBILITY OF THE E.C. TO INSURE THAT THE PATHWAY FOR THE DATA CABLING	M. THE FIRE ALA REQUIREMEN	ARM SYSTEM TO BE IN COMPLIANCE V NTS.	WITH ALL APPLICABLE LOCAL, STATE AND ADA
NSWITCHED LEG OF	DOES NOT C PANEL, THIS	REATE CABLE LENGTHS TO EXCEEDS THE LENGTH OF 295FT FROM OUTLET TO PATCH INCLUDES SERVICE LOOPS AND PATCH CORDS.	N. ELECT. CONT SYSTEM AS F	IR. TO CONNECT SPRINKLER SYSTEM REQUIRED. SEE FIRE SPRINKLER SYS	/ TAMPER SWITCHES AND FLOW VALVES TO FIRE ALARM
	F. WHERE CAB	LE TRAY IS UTILIZED IN THE PROJECT. COMMUNICATION CONDUITS ENDING AT THE CABLE	ABLE QUANTITIES.		
ACT LOCATIONS OF					
R NEC BEFORE					
CLEARANCE DETAIL.					
R ALL ELECTRICAL	GENERALI		E	ATION .	
DR TO ROUGH-IN. SE TO DOOR FRAME AS	A. ALL MC	UNTING HEIGHTS TYPICAL UNLESS			
	NOTED B COORE	OTHERWISE.	— THERMOS MECHANIC	TAT OR CAL SWITCH	
D PAY ASSOCIATED	ARCHI			TH MECH.	
ONIC BALLASTS.		TS, BACKSPLASHES, OR INTERFERE	ORIENTAT	ION.	
NSWITCHED LEG OF	WITH W C. ALL SW	AINSCOTING, ETC. LIGHT	— МА	ANUAL PULL STATION	
	MOUNT	ED AS CLOSE TO DOOR JAMS AS	BE	TWEEN 42" & 48" AFF	
ESS INDICATED	ARCHIT				
	HEIGHT			CEPTACLE MILLWORK	
. IF ANY SURFACE R TO INSTALLATION.		D FALL MIDWAY IN THESE FINISHES.			
INVESTIGATE THE	GENERAL	COURDINATION NOTE:			
	MOUN	FING HGTS. AND EXACT 6' - 8" 5' - 0"			
IE ELECTRICAL XES REQUIRED FOR	WITH A	RCHITECTURAL INTERIOR * 4' - 0"			
H CIRCUIT WIRING."	LEVA ARCHI	I IONS REPORT CONFLICTS TO TECT **PRIOR TO ROUGH-IN**	RECE	ELE/DATA IV PT. OUTLET OUTLET	NOTES: 1. THE MINIMUM HEADROOM OF WORKIN
		(OR AS NOTED)			2. THE WIDTH OF THE WORKING SPACE
					30, WHICHEVER IS GREATER. THE PA 3. ALL CIRCUIT BREAKERS, WHEN IN THI
			 1' - 6''		I HAN 6F I 7 IN. ABOVE THE FINISHED A 4. 3FT CLEARANCE IF 0-150V TO GROUN
		(OR /	AS NOTED)		<ol> <li>3.5FT CLEARANCE IF 151-600V TO GRO SIDES OF THE WORKING SPACE.</li> </ol>
					GENERAL NOTES:
			ł	FINISH FLOOR	A. ALL WORKING SPACE CLEARANCES A
		YPICAL DEVICE MOUNTING HEIGHTS D		1 -	
	Asc	ALE: NONE	2. 11 11 4	[Ł	SCALE: NONE

## ABBREVIATIONS

		ADDRE
	D	
	г 1DЦ	
	2/C	
	3/0	THREE-CONDUCTOR
PAT 5'-0' AFF)	3P	THREE POLE
/// 0 0 //// )	3PH	THREE-PHASE
	3W	THREE-WIRE
	4W	FOUR-WIRF
	AC	ABOVE COUNTER
	ADA	AMERICANS WITH DISABILITIES ACT
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AIC	AMPERE INTERRUPTING CAPACITY
	AL	ALUMINUM
	A or	AMPERE
	AMP	ANNUNCIATOR
	ANN	ACCESS POINT
	AP	(WIRELESS DATA)
DETENTOD	ATS	AUTOMATIC TRANSFER SWITCH
DETECTOR	AV	AUDIO VISUAL
	AWG	AMERICAN WIRE GAGE
	BFG	BELOW FINISHED GRADE
	C	
	CKT	
	C	CONDUIT
	CP	CONTROL PANEL
	CT	CURRENT TRANSFORMER
	CU	COPPER
	DS	DISCONNECT SWITCH
	EA	EACH
	E.C.	ELECTRICAL CONTRACTOR
	EM	EMERGENCY
	EMT	ELECTRICAL METALLIC TUBING
	ENT	ELECTRICAL NONMETALLIC TUBING
	EPO	EMERGENCY POWER OFF
	EQUIP	EQUIPMENT
	EX	
NAL CIRCUIT.		
0" TO 96"	FLA EMC	
DES OR		
FICATION	GC	GENERAL CONTRACTOR
	GEN	GENERATOR
VIENTS.	GFI	GROUND FAULT CIRCUIT INTERRUPTER
	GFP	GROUND FAULT PROTECTION
	HD	HEAVY DUTY
	HID	HIGH INTENSITY DISCHARGE
	HOA	HAND-OFF-AUTOMATIC
ES ON ANY	HP	HORSE POWER
	HPS	HIGH PRESSURE SODIUM
AS PER LIFE	HV	HIGH VOLTAGE
	HZ	HERTZ
RESISTORS).	IG	ISOLATED GROUND
ORRIDORS	IMC	INTERMEDIATE METAL CONDUIT
	J-BOX	JUNCTION BOX
IRE ALARM		
DA		
	1	

V	KILOVOLT
KVA	KILOVOLT AMPERE
kW	KILOWATT
kWh	
LFNG	
LTC	
MAX	MAXIMUM
M.C.	MECH. CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
NA	NOT APPLICABLE
INEIVIA	
ΝΕΡΔ	
NIC	ASSOCIATION
NL	NOT IN CONTRACT
NO	NIGHT LIGHT
NTS	NORMALLY OPEN
OC	NOT TO SCALE
OH DR	ON CENTER
OL	OVERHEAD DOOR
PB	OVERLOAD
P	PUSHBUTTON
PNL	PHASE
	PANEL
RCP	
RMC	REFLECTED CEILING PLAN
RNC	RIGID METAL CONDUIT
SCA	RIGID NONMETALLIC CONDUIT
SCBA	SHORT CIRCUIT AMPS
SF	STANDARD COLOR BY ARCHITECT
SPD	SQUARE FOOT (FEET)
SPEC	SURGE PROTECTION DEVICE
SWBD	SPECIFICATION
SWGR	SWITCHBOARD
TV	
TYP	TELEVISION
UG	TYPICAL
UPS	UNDERGROUND
V	UNINTERRUPTIBLE POWER SUPPLY
VA	VOLTS
V.I.F.	VOLT AMPERE
VFD	VERIFY IN FIELD
W/	
W/O	WITH
1	

P.E. JOB #1986\_

**PAYNE** Engineering Inc. Consu

![](_page_49_Figure_6.jpeg)

I OF WORKING SPACE SHALL BE 6 1/2FT. KING SPACE SHALL BE THE WIDTH OF THE EQUIPMENT OR TER. THE PANEL DOOR SHALL OPEN AT LEAST 90 DEGREES. WHEN IN THIER HIGHEST POSITION, SHALL NOT BE MORE E FINISHED FLOOR. / TO GROUND.

-600V TO GROUND. 4FT IF EXPOSED LIVE PARTS ON BOTH SPACE.

EARANCES ARE FROM THE FACE OF THE EQUIPMENT.

# QUIP. WORK SPACE CLEARANCES

![](_page_49_Picture_11.jpeg)

280FE56/0 29000 Cer 20000 Cer 20000 Cer 20000 Cer

TODD PAYNE 11/22/19

or ate of Utan

EER

REG

![](_page_50_Figure_0.jpeg)

![](_page_50_Figure_2.jpeg)

## GENERAL NOTES:

- A. EVEN IF SPECIFICALLY INDICATED ON THE DRAWINGS, ALL DEVICES SHOWN AT OR NEAR MILLWORK/CASEWORK SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATION DRAWINGS AND MILLWORK INSTALLER TO INSURE PROPER MOUNTING HEIGHTS. CONTRACTOR SHALL ADJUST DEVICES AS NECESSARY IN ORDER TO POSITION DEVICES SUCH THAT THEY WILL NOT FALL BEHIND MILLWORK, CABINETS OR BE DIRECTLY ABOVE SINKS OR MIDWAY BETWEEN TILEWORK/WALL OR WAINSCOATING, ETC.
- 3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL A GFCI TYPE RECEPTACLE FOR ALL RECPTACLES SHOWN IN TOILET RMS, BATHROOMS, KITCHENS/SERVING AREAS, ROOFTOP, OUTDOORS OR WITHIN 6FT OF ANY SINK, BASIN, TUB OR FLOOR SINK AND ALL OTHER AREAS DEFINED BY THE NEC. WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.
- C. ALL SURFACE RACEWAY INSTALLED BELOW 6'-0" AFF SHALL BE RIGID GALVANIZED STEEL CONDUIT.

## SPECIAL NOTES:

- ALL WIRING METHODS AND DEVICES LOCATED IN SHOP AND AREAS OPEN TO THE SHOP SHALL CONFORM TO NEC ARTICLE 511 AND SECTION 501.15.
- ALL SURFACE RACEWAY INSTALLED BELOW 6'-0" AFF SHALL BE RIGID GALVANIZED STEEL CONDUIT.
- PROVIDE AND INSTALL CONDUIT SEAL-OFFS TO COMPLY WITH NEC SECTION 511, 501.15 AND LOCAL AHJ.
- WHERE PANELS ARE INSTALLED IN SHOP AREA, INSTALLATION SHALL BE IN COMPLIANCE WITH NEC ARCTICAL 511, SECTION 501.15, SECTION 240.24(A) AND LOCAL AHJ REQUIREMENTS.
- ALL UNDERGROUND CONDUITS INSTALLED IN SHOP/LNG BAY AREAS SHALL BE INSTALLED IN COMPLIANCE WITH NEC ARTICLE 511 AND SECTION 501.15.

## KEY NOTES:

- 1 J-BOX ABOVE ACCESSIBLE CEILING FOR FUTURE USE; LABEL COVER "SPARE 120V CIRCUIT".
- CONNECTION TO OVERHEAD DOOR MOTOR, PROVIDE WITH LOCAL 30A/3P DISCONNECT RATED THERMAL-OVERLOAD SWITCH. COORDINATE CONNECTION WITH EQUIPMENT PRIOR TO
- ROUGH-IN. PROVIDE CONDUIT AND CONDUCTORS TO PUSH-BUTTON STATION PER MANUFACTURERS REQUIREMENTS. PROVIDE AND INSTALL A 4'X8'X3/4" PLYWOOD COMM. BOARD ON
- WALL OF IT ROOM. SEE DETAILPROVIDE AND INSTALL WALL MOUNTED STANDOFF GROUND BAR.
- CONNECT TO MAIN SERVICE GROUND WITH #2 BARE COPPER, GROUND ALL EQUIPMENT IN IT ROOM PER NEC. CONFIRM 30A, 208V,1P NEMA CONFIGURATION WITH OWNER FOR
- OWNER FURNISHED UPS.
  E.C. SHALL PROVIDE REQUIRED ROUGH-IN FOR ACCESS CONTROL
  DOOD: COODDINATE WITH SECURITY CONTRACTOR PRIOR TO
- DOOR; COORDINATE WITH SECURITY CONTRACTOR PRIOR TO ROUGH-IN. SEE DETAIL
- 7 PROVIDE J-BOX FLUSH MOUNTED IN EXTERIOR WALL OF BUILDING FOR CCTV CAMERA, STUB 3/4" CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE OR STRUCTURE. COORDINATE INSTALLATION HEIGHT AND BOX REQUIREMENTS WITH SECURITY CONTRACTOR.
- E.C. SHALL PROVIDE AND INSTALL GFCI RECEPTACLE FOR POWER TO SINK. COORDINATE ROUGH-IN LOCATION CLOSELY WITH PLUMBING CONTRACTOR.

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![](_page_50_Picture_24.jpeg)

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A NEW BUILDING FOR: KFNWORTH SALES COMPANY INC	1750 SOUTH 1350 WEST	MAIN FLOOR & MEZZ. PLANS - PART 1 - POWER/DATA
PROJECT:		SHEET TITLE:
REVISION       1     ADE	<b>NS</b> DENDUM#1	
PROJECT 16066 DATE: NOVEME DRAWN E SAM CHECKEI TEP DRAWING	T NO. BER 2019 BY: D BY: G NO.:	AD #1
	2	1

![](_page_51_Figure_0.jpeg)

![](_page_51_Figure_1.jpeg)

SPE	ECIAL NOTES:	GENERAL NOTES:	KEY NOTES:
<ul> <li>ALL V OPE SEC</li> <li>ALL S RIGII</li> <li>PRO SEC</li> <li>WHE SHAI SEC</li> <li>ALL V SHAI SEC</li> </ul>	WIRING METHODS AND DEVICES LOCATED IN SHOP AND AREAS EN TO THE SHOP SHALL CONFORM TO NEC ARTICLE 511 AND CTION 501.15. SURFACE RACEWAY INSTALLED BELOW 6'-0" AFF SHALL BE ID GALVANIZED STEEL CONDUIT. OVIDE AND INSTALL CONDUIT SEAL-OFFS TO COMPLY WITH NEC CTION 511, 501.15 AND LOCAL AHJ. ERE PANELS ARE INSTALLED IN SHOP AREA, INSTALLATION ALL BE IN COMPLIANCE WITH NEC ARCTICAL 511, SECTION 501.15, CTION 240.24(A) AND LOCAL AHJ REQUIREMENTS. UNDERGROUND CONDUITS INSTALLED IN SHOP/LNG BAY AREAS ALL BE INSTALLED IN COMPLIANCE WITH NEC ARTICLE 511 AND CTION 501.15.	<ul> <li>A. EVEN IF SPECIFICALLY INDICATED ON THE DRAWINGS, ALL DEVICES SHOWN AT OR NEAR MILLWORK/CASEWORK SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATION DRAWINGS AND MILLWORK INSTALLER TO INSURE PROPER MOUNTING HEIGHTS. CONTRACTOR SHALL ADJUST DEVICES AS NECESSARY IN ORDER TO POSITION DEVICES SUCH THAT THEY WILL NOT FALL BEHIND MILLWORK, CABINETS OR BE DIRECTLY ABOVE SINKS OR MIDWAY BETWEEN TILEWORK/WALL OR WAINSCOATING, ETC.</li> <li>B. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL A GFCI TYPE RECEPTACLE FOR ALL RECPTACLES SHOWN IN TOILET RMS, BATHROOMS, KITCHENS/SERVING AREAS, ROOFTOP, OUTDOORS OR WITHIN 6FT OF ANY SINK, BASIN, TUB OR FLOOR SINK AND ALL OTHER AREAS DEFINED BY THE NEC. WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.</li> <li>C. ALL SURFACE RACEWAY INSTALLED BELOW 6'-0" AFF SHALL BE RIGID GALVANIZED STEEL CONDUIT.</li> </ul>	<ol> <li>CONNECTION TO OVE 30A/3P DISCONNECT F COORDINATE CONNEC ROUGH-IN. PROVIDE PUSH-BUTTON STATIO</li> <li>ALL OVERHEAD CONE COORDINATED WITH F WITH BRIDGE CRANE CONDUIT OR CABLING WILL BE RELOCATED</li> <li>E.C. SHALL PROVIDE F DOOR; COORDINATE V ROUGH-IN. SEE DETA</li> <li>PROVIDE J-BOX FLUSI FOR CCTV CAMERA, S CEILING SPACE OR ST HEIGHT AND BOX REC</li> </ol>

OTES:           OVID           KT           1         Li           3            5         Li	E PANEL WITH INTEGRAL SURG	SE PRO		<b>j</b> : se <b>1</b> : 20	0/208 Wye A.I.C. RATING: 10k PANEL TYPE: MLO PANEL AMPS: 400 A EE SPEC'S MBR AMPS: N/A FEED: BOTTOM						PROJECT: KENWORTH SALES COMPANY INC. 1750 SOUTH 1350 WEST WEST HAVEN, UTAH				
<b>KT</b> 1 Li 3 5 Li		1	TECTIC	N	-	-			-	_					
<b>(T</b> Li 3 5 Li	CIRCUIT DESCRIPTION														_
L 		NOTE		<b>P</b>	400	<b>A</b>	В	(	;	P		NOTE		СКТ	-
L		LCP	20 A	2	400	540	400 540	_		1	20 A 20 A		Receptacle - Site Pole	2	-
	ighting - Site	LCP	20 A	2	_		400 040	480	180	1	20 A		Receptacle - Site Pole	6	1
					480	360				1	20 A		Receptacle - Site Pole	8	1
L	ighting - Site	LCP	20 A	2			320 360			1	20 A		Receptacle - Site Pole	10	
						400		320	0	1	20 A		SPARE	12	-
	ighting - Site	LCP	20 A	2	320	180	320 180	_		1	20 A		Receptacle	14	
	ighting FRONT PARTS 118		 20 A		-		JZU 10U	1823	540	1	20 A		Receptacle	18	$\left  \begin{smallmatrix} 1 \\ \mathbf{r} \end{smallmatrix} \right $
S	PARE		20 A		0	300					20 A		Retail Area Ceiling	20	{}
	ighting - Exterior	LCP	20 A	1			937 300			1	20 A		Retail Area Ceiling	22	] し
L	ighting - Exterior	LCP	20 A	1		1		600	300	1	20 A		Retail Area Ceiling	24	
L	ighting - Exterior	LCP	20 A	1	600	1080	050 555	_		1	20 A		Receptacle FRONT PARTS 118	26	
	ighting - Mezzanine		20 A	1	-		956 500	1074	1000	1	20 A	R	Fire Bell	28	- <b>\</b>
	ighting - Warehouse		20 A	1	1652	1252		1274	1080	1	20 A			30	<u>ارم ا</u>
В	Idq Signage	LCP	20 A	1	1002	1202	1000 900	_		1	20 A		Receptacle	34	
L	ighting		20 A	1				1770	1432	1	20 A		Receptacle	36	1
L	ighting WAREHOUSE 128		20 A	1	420	1180				1	20 A		Receptacle	38	
S	PARE		20 A	1	_		0 180			1	20 A		Receptacle - Vending Mach.	40	
S	PARE		20 A	1	0	4 4 9 9		0	180	1	20 A		Receptacle - Vending Mach.	42	-
S	PARE		20 A	1	0	1432	1180 1080	_		1	20 A		Receptacle DRIVER'S LOUNGE	44	-
R			20 A	1			1100 1000	180	1260	1	20 A		Receptacle SERVICE WRITER 109	40	-
R	Receptacle		20 A	1	900	1080				1	20 A		Receptacle FRONT PARTS 118	50	1
R	Receptacle JANITORIAL 111		20 A	1			273 900			1	20 A		Receptacle PARTS MANAGER 119	52	
S	PARE		20 A	1		1		0	720	1	20 A		Receptacle FRONT PARTS 118	54	
S	PARE		20 A	1	0	0		_		1	20 A		SPARE	56	-
S			20 A	1	_		0 0	-		1	20 A		SPARE	58	-
5			20 A 20 A	1	0	0		0	0	1	20 A 20 A		SPARE	62	-
G	Butter Heat-Trace	GP	30 A	1	U	U	1200 1500	-		2	20 A		Water Heater Parts WH	64	-
G	Gutter Heat-Trace	GP	30 A	1	-			1300	1500					66	1
S	PARE		20 A	1	0	1500				2	20 A		W.H. DRIVER'S LOUNGE 106	68	
N	Vater Heater JANITORIAL 111		20 A	2	_		1500 1500							70	-
					1500	1500		1500	1500	2	20 A		W.H. EMPLOYEE BREAK 105	72	-
	V.⊓. IVI⊑IN I 14		20 A		1500	1500	1500 1500	_		2	 20 A		 W H WOMEN 115	74	-
s	PARE		20 A	1	-			0	1500					78	-
P	ANEL L1A		150 A	3	11401	0	-			3	30 A		SURGE PROTECTION DEVICE	80	1
	•						12317 0	1						82	
			L					12917	0					84	
		TC TC	דאב L( זא ואדר	JAD:	27.7	kVA 1 Δ	30.8 kVA	31.9	kVA						
	TOTAL ESTIMATE			MPS:	23		231 A	21							
( NO	DTES:				1		<u> </u>			I					1
ARC	-FAULT BREAKER GP =	GFEPD	BREAK	<er< td=""><td></td><td></td><td>LCP = ROUT</td><td></td><td></td><td></td><td>GH LTG</td><td>CONTF</td><td>OL RELAY PANEL; SEE</td><td></td><td></td></er<>			LCP = ROUT				GH LTG	CONTF	OL RELAY PANEL; SEE		
i							K = KED HA	NULED,	LUCK-		ITPE				

384 1200

0 0

0 0

865 1000

1825 1000

3963 0

104 A

104 A 109 A

R = RED HANDLED, LOCK-OUT TYPE

TOTAL LOAD: 11.4 kVA 12.3 kVA 12.9 kVA

1180 1432 1 20 A

500 | 1200 | 1 | 20 A |

1 20 A

1 20 A

0 0 1 20 A -- SPARE

0 0 1 20 A -- SPARE

 0
 0
 1
 20 A
 III
 OI ARE

 0
 - 3
 20 A
 Motorized Gate

 0
 - - - - 

 865
 1000
 - - - 

 3
 20 A
 Motorized Gate
 - 

 0
 - - - - 

 1825
 1000
 - - - 

 1825
 1000
 - - -

LCP = ROUTE CIRCUIT THROUGH LTG CONTROL RELAY PANEL; SEE...

 3
 30 A
 - SURGE PROTECTION DEVICE

 - - - - 

 3963
 0
 - -

1 20 A -- SPARE

20 A 1

20 A 1

-- 20 A 1

-- 20 A 1

-- 20 A 1

G 20 A 1 **1**00 0

-- 20 A 1 0 0

 20 A
 3
 865
 1000

 -- -- -- -- 

 -- -- -- -- 

 20 A
 3
 1825
 1000

 60 A
 3
 3963
 0

 -- -- -- -- 

 -- -- -- --

TOTAL AMPS: 95 A

-- -- ---- -- --

TOTAL ESTIMATED DEMAND AMPS:

G = GFCI BREAKER

20 A 1 180 888

5 Receptacle TECH BREAK 127

11 Gas Water Heater

1 15 SPABE

A = ARC-FAULT BREAKER GP = GFEPD BREAKER

9 Warehouse - Unit Htrs

13 Receptacle - Water Cooler

25 OH Door WAREHOUSE 128

7 Ice machine

17 SPARE

19 SPARE

21 SPARE

23 SPARE

31 Forklift Charger

37 Flywheel Grinder

S = SHUNT-TRIP BREAKER

27 ---

29 --

33 --35 --

39 --

41 ---

**BRK NOTES:** 

6

8

10

14

16

18

20

22

24

26

28

30

32

34

36

40 42

38

Receptacle WAREHOUSE 128

Hose Crimper - WAREHOUSE 128 12

Chopsaw WAREHOUSE 128

Receptacle

DAVNE ENGIN	FFRING	DAVN		PROFESSION	
PANEL: L2       LOCATION: WEST REPAIR SHOP 129 VOLTAGE: 120/208 Wye       A.I.C. RATING: 10k       PROVIDE NOT AND ADDRESS OF ADD	DJECT: DOCATION: COMPRESSOR 13	VOLTAGE: 120/208 Wye A.I.C. RATING: 10k			
FED FROM: MSBPHASES: 3PANEL TYPE: MLOKENWORTH SAMOUNTING: SURFACEWIRES: 4PANEL AMPS: 225 A1750 SOU"ENCLOSURE: NEMA 1BUSSING: SEE SPEC'SMBR AMPS: N/AWEST H	LES COMPANY INC.FED FROM: MSBTH 1350 WESTMOUNTING: SURFACEAVEN, UTAHENCLOSURE: NEMA 1	PHASES: 3         PANEL TYPE: MLO           WIRES: 4         PANEL AMPS: 400 A           BUSSING: SEE SPEC'S         MBR AMPS: N/A	KENWORTH SALES COMPANY INC. 1750 SOUTH 1350 WEST WEST HAVEN, UTAH	PAYNE	
MFG & MODEL:     GE/A SERIES     DIM:     20"W x 5.8"D x *"H     FEED:     BOTTOM     Proje       NOTES:     INISTALL BANEL AS REQUIRED TO MEET NEO ABTICLE 544, DROV/DE OF AL OFFO W/UEDE REQUIRED.     SECURED.     SECURED.	ct Status MFG & MODEL: GE/A SERIES NOTES:		Project Status	of e of Ut a	
				D B S A.I.A	
CKTCIRCUIT DESCRIPTIONNOTEAMPSPABCPAMPSNOTECIRCU1Lighting - Shop20 A11115720120 AReceptacle3Lighting - Shop20 A111600000120 AReceptacle	IT DESCRIPTIONCKTREPAIR SHOP 1292REPAIR SHOP 1294REPAIR SHOP 1294	NOTE AMPS         P         A         B         C         P         AMPS           0         0         900         1         20 A	NOTE         CIRCUIT DESCRIPTION         CKT           Receptacle         2           Receptacle         4	E B I VVATT, 2-2212	
5     SPARE      20 A     1       7     SPARE      20 A     1     0     540      1     20 A     Receptacle	REPAIR SHOP 12965Grinder - REPAIR SHOP 129REPAIR SHOP 12965Grinder - REPAIR SHOP 129REPAIR SHOP 12987Grinder - REPAIR SHOP 131	20 A     1     20 A       20 A     1	Receptacle     6       Receptacle     8	INT INT IESHW RH0 8340	
9       SPARE        20 A       1       0       540       1       20 A       Receptacle         11       Lighting       20 A       1        1       1080       1       20 A       Receptacle         13       SPARE        20 A       1       0       900       1       20 A       Receptacle	REPAIR SHOP 129109Grinder - REPAIR SHOP 129REPAIR SHOP 1291211SPAREREPAIR SHOP 1291413SPARE	20 A     1     600     900     1     20 A        20 A     1     0     720     0     1080     1     20 A        20 A     1     0     720     1     20 A	Receptacle10Receptacle12Receptacle14	N G ^ I.A. JAN FALLS, ID	
15     SPARE      20 A     1     0     900     1     20 A     Receptacle       17     SPARE      20 A     1     0     900     1     20 A     Receptacle	REPAIR SHOP 12916REPAIR SHOP 1291617SPARE17SPARE	20 A     1     0     0     1     20 A        20 A     1     0     0     1     20 A        20 A     1     0     0     1     20 A	SPARE         16            SPARE         18	N N I NLY, A.I 785 (W) I	
19       Receptacle - Water Cooler       G       20 A       1       600       600       1       20 A       Grinder - Ri         21       REFAS - REPAIR SHOP 129 · · · · · · · · · · · · · · · · · · ·	EPAIR SHOP 129         20         19         SPARE           Cooler EC-1         22         21         SPARE           24         23         SPARE	20 A     1     0     1200     1     20 A        20 A     1     0     1560     1     25 A        20 A     1     0     1200     1     20 A	Oil Separator     20       Air Dryer     22       Floor Scrubber     24	СС СС л Г Я и к вос B0X 221; 08-522-8	
25     RH REPAIR SHOP 129     20A     1     384     721       27     Welder REPAIR SHOP 129     G     50 A     2     3     20 A     Shop Fans I	EF-9/10     26       28     1       27     SPARE	20 A         1         0         1200         1         20 A	Drill Press26Chop Saw28	REVIN I. KEVIN 19 (F) 21	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	29         SPARE           AIR SHOP 129         32         31         SPARE           34         33         SPARE	20 A         1         0         0         1         20 A	SPARE         30            SPARE         32            SPARE         34	Т U I N, А.І.А B-522-87	
35         1153     4803          37     OH Doors REPAIR SHOP 129     20 A     3     1153     4803	30         30         35         SPARE           38         37         SPARE	20 A     1     20 A        20 A     1     0     0     1     20 A        20 A     1     0     0     1     20 A	SPARE         36            SPARE         38	T E C MELSO	
39           1153       4803             41            1153       4803       1       20 A        SPARE         43       Water Heater W. Repair Shop       20 A       2       1500       0       1       20 A        SPARE	40         39         RH-5-8 - Shop           42         1         Shop Evap. Cooler EC-2           44         48         48	20 A     1     384     1267     1     20 A       20 A     2     562     562     562     2     20 A       7     562     562     562     562     562     562	EF-14 - REPAIR SHOP 129     40       Shop Evap. Cooler EC-3     42		
45         1500     0     1     20 A      SPARE       47     SPARE      20 A     1     20 A      SPARE	46         45         Welder REPAIR SHOP 129           48         47	G     50 A     2	G         Welder REPAIR SHOP 131         46             48		
49       SPARE        20 A       1       0       0        1       20 A        SPARE         51       SPARE        20 A       1       0       0       1       20 A        SPARE         53       SPARE        20 A       1       0       0       1       20 A        SPARE	50         49         Patts         Rastler         Ruture         Comparison         Compari	4803     4803                 4803     4803	52 54		
55     PREPARED SPACE       0     0       PREPARED       57     PREPARED SPACE        0     0       PREPARED	SPACE         56         55         Comp. #1           SPACE         58         57	100 A     3     7565     7565     3     100 A          7565     7565	Comp. #2         56             58		
59       PREPARED SPACE          0       0         PREPARED         TOTAL LOAD:       18.0 kVA       23.0 kVA       17.5 kVA         TOTAL AMPS:       151 A       192 A       145 A	SPACE         60         59	7565         7565             TOTAL LOAD:         31.2 kVA         40.3 kVA         37.8 kVA            TOTAL AMPS:         260 A         345 A         324 A	60		
TOTAL ESTIMATED DEMAND AMPS:       152 A         BRK NOTES:       A = ARC-FAULT BREAKER       GP = GFEPD BREAKER         LCP = ROUTE CIRCUIT THROUGH LTG CONTROL RELAY	PANEL; SEE A = ARC-FAULT BREAKER GI	ATED DEMAND AMPS:     299 A       P = GFEPD BREAKER     LCP = ROUTE CIRCUIT THROUGH LTG	CONTROL RELAY PANEL; SEE		
S = SHUNT-TRIP BREAKER G = GFCI BREAKER R = RED HANDLED, LOCK-OUT TYPE	S = SHUNT-TRIP BREAKER G	= GFCI BREAKER R = RED HANDLED, LOCK-OUT TYPE			
PANEL · LA PAYNE ENGIN	EERING DANEL 1 5	PAYN	E ENGINEERING	, AN	
Image:	DJECT:     LOCATION:     I.T. 202       LES COMPANY INC.     FED FROM:     MSB	VOLTAGE: 120/208 WyeA.I.C. RATING: 10kPHASES: 3PANEL TYPE: MLO	PROJECT: KENWORTH SALES COMPANY INC.	DR: MP ILES	
MOUNTING: SURFACE     WIRES: 4     PANEL AMPS: 225 A     1750 SOUT       ENCLOSURE: NEMA 4     BUSSING: SEE SPECIC     MED AMPS: N/A     N/A	TH 1350 WEST MOUNTING: SURFACE	WIRES: 4 PANEL AMPS: 225 A			
ENCLOSURE: NEMA I BUSSING: SEE SPECS INBR AMPS: N/A WEST H	AVEN, UTAH ENCLOSURE: NEMA 1	BUSSING: SEE SPEC'S MBR AMPS: N/A	WEST HAVEN, UTAH		
Image: Nema 1       BUSSING: SEE SPECS       Image: N/A       West H         MFG & MODEL:       GE/A SERIES       DIM: 20"W x 5.8"D x *"H       FEED: BOTTOM       Projection         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       VIEST H       Projection	AVEN, UTAH ENCLOSURE: NEMA 1 ct Status MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SU	BUSSING:       SEE SPEC'S       MBR AMPS:       N/A         DIM:       20"W x 5.8"D x *"H       FEED:       BOTTOM         JRGE PROTECTION       Image: Comparison of the second s	WEST HAVEN, UTAH Project Status	JILDING F ES CC Ven, ut Ven, ut L sched	
ENCLOSURE: NEMA T       BUSSING: SEE SPECS       MBR AMPS: N/A       WEST H         MFG & MODEL: GE/A SERIES       DIM: 20"W x 5.8"D x *"H       FEED: BOTTOM       Proje         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       CKT       CIRCUIT DESCRIPTION       NOTE AMPS       P       A       B       C       P       AMPS       NOTE       CIRCUIT	AVEN, UTAH ct Status  IT DESCRIPTION  CKT  ENCLOSURE: NEMA 1  MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SU  CKT  CIRCUIT DESCRIPTION	BUSSING: SEE SPEC'S MBR AMPS: N/A DIM: 20"W x 5.8"D x *"H FEED: BOTTOM JRGE PROTECTION	NOTE CIRCUIT DESCRIPTION	W BUILDING F SALES CC SOUTH 1350 W ST HAVEN, UT RICAL SCHED	
ENCLOSORE:       NEMA T       BUSSING:       SEE SPECS       MBR AMPS:       N/A       WEST H         MFG & MODEL:       GE/A SERIES       DIM:       20"W x 5.8"D x *"H       FEED:       BOTTOM       Proje         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       Enclose Control of the second of th	AVEN, UTAH ct Status	BUSSING:       SEE SPEC'S       MBR AMPS:       N/A         DIM:       20"W x 5.8"D x *"H       FEED:       BOTTOM         JRGE PROTECTION       P       A       B       C       P       AMPS         20 A       1       360       900       1       20 A       1       20 A	1750 SOUTH 1350 WEST WEST HAVEN, UTAH Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4	A NEW BUILDING F <b>H SALES CC</b> 750 SOUTH 1350 W WEST HAVEN, UT WEST HAVEN, UT LECTRICAL SCHED	
ENCLOSORE:       NEMA T       BOSSING:       SEE SPECTS       IMBR AMPS:       NA       WEST H         MFG & MODEL:       GE/A SERIES       DIM:       20"W x 5.8"D x *"H       FEED:       BOTTOM       Proje         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       Proje       AMPS       NOTE       CIRCUIT         1       Receptacle - Site Pole       20 A       1       360       900       1       20 A       Receptacle         3       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         5       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         7       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         9       Lighting       20 A       1       360       1080       1       20 A       Receptacle	AVEN, UTAH ct StatusENCLOSURE: NEMA 1 MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SUIT DESCRIPTIONCKT REPAIR SHOP 131CKT 2 3CKT CIRCUIT DESCRIPTION 1REPAIR SHOP 1312 3 8 8 73 REPAIR SHOP 1316 3 77 REPAIR SHOP 131109 9	BUSSING: SEE SPEC'S DIX *"H       MBR AMPS: N/A FEED: BOTTOM         JIM: 20"W x 5.8"D x *"H       FEED: BOTTOM         JRGE PROTECTION         NOTE       AMPS       P       A       B       C       P       AMPS         20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       900       1       1       20 A         20 A       1       360       900       1       20 A       1       20 A         20 A       1       1081       2163       2       30 A       1       20 A           1081       2163       1       20 A       1       20 A	Initial Project Status       CIRCUIT DESCRIPTION       CKT         R       FACP       2         R       RACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Roofton       10	A NEW BUILDING F RTH SALES CC 1750 SOUTH 1350 W WEST HAVEN, UT ELECTRICAL SCHED	
ENCLOSORE: NEMA 1       BUSSING: SEE SPECS       IMBR AMPS: INA       WEST H         MFG & MODEL: GE/A SERIES       DIM: 20"W x 5.8"D x *"H       FEED: BOTTOM       Proje         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       Proje       AMPS       NOTE       CIRCUIT       NOTE       AMPS       P       A       B       C       P       AMPS       NOTE       CIRCUI         1       Receptacle - Site Pole       20 A       1       360       900       1       20 A       Receptacle         3       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         5       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         9       Lighting       20 A       1       360       1140       1       20 A       Receptacle         11       Lighting Shop       20 A       1       360       1400       1       20 A       Receptacle         13       Lighting Shop       20 A       1       1150       900       1       20 A       Receptacle	AVEN, UTAH ct StatusENCLOSURE: NEMA 1 MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SUIT DESCRIPTIONCKT REPAIR SHOP 131CKTREPAIR SHOP 1312 REPAIR SHOP 1311REPAIR SHOP 1316 REPAIR SHOP 1313REPAIR SHOP 1316 REPAIR SHOP 1317REPAIR SHOP 13110 REPAIR SHOP 1319REPAIR SHOP 13112 REPAIR SHOP 13111SPARE13SPARE13	BUSSING:       SEE SPEC'S 20"W x 5.8"D x *"H       MBR AMPS:       N/A FEED:         JRGE PROTECTION       NOTE       AMPS       P       A       B       C       P       AMPS         JRGE PROTECTION       20 A       1       360       1000	NOTE CIRCUIT DESCRIPTIONCKTRFACP2RFACP2Receptacle4HVAC IT ROOM68Receptacle - Rooftop10HVAC RT-11214	A NEW BUILDING F WORTH SALES CC 1750 SOUTH 1350 W WEST HAVEN, UT ELECTRICAL SCHED	
ENCLOSORE: NEMA I       BUSSING: SEE SPECS       MBR AMPS: NA       WEST H         MFG & MODEL: GE/A SERIES       DIM: 20"W x 5.8"D x *"H       FEED: BOTTOM       Proje         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       Proje       AMPS       NOTE       CIRCUI         1       Receptacle - Site Pole       20 A       1       360       900       1       20 A       Receptacle         3       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         5       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         7       Receptacle - Site Pole       20 A       1       360       140       1       20 A       Receptacle         9       Lighting       20 A       1       360       140       1       20 A       Receptacle         14       Lighting Shop       20 A       1       11       20 A       Receptacle         13       Lighting Shop       20 A       1       1150       900       1       20 A       Receptacle         15       SPARE        20 A       1	AVEN, UTAH ct StatusENCLOSURE: NEMA 1 MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SUIT DESCRIPTIONCKT REPAIR SHOP 131CKTREPAIR SHOP 1312 REPAIR SHOP 1311REPAIR SHOP 1316 REPAIR SHOP 1313REPAIR SHOP 1316 REPAIR SHOP 1317REPAIR SHOP 13110 REPAIR SHOP 1319REPAIR SHOP 13112 REPAIR SHOP 13111 SPAREREPAIR SHOP 13114 REPAIR SHOP 13115 Varehouse Evap. Cooler EC-5 17PAIR SHOP 13118 REPAIR SHOP 13119 REPAIR SHOP 131REPAIR SHOP 13116 PAIR SHOP 13119 Warehouse Evap. Cooler EC-5PAIR SHOP 13118 REPAIR SHOP 13119 REPAIR SHOP 131	BUSSING:       SEE SPEC'S       MBR AMPS:       N/A         DIM:       20"W x 5.8"D x *"H       FEED:       BOTTOM         JRGE PROTECTION       P       A       B       C       P       AMPS         1       20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       1000       1       1       20 A       1       20 A         20 A       1       360       900        1       20 A       20 A       1       20 A         20 A       1       360       900        1       20 A       20 A       2       30 A          20 A       3        1081       2163       2       30 A           1081       2163               1081       840        1       20 A          20 A       1       0       2882             20 A       2       562       2882	NOTECIRCUIT DESCRIPTIONCKTRFACP2RFACP2Receptacle4HVAC IT ROOM68RReceptacle - Rooftop10HVAC RT-1121416HVAC RT-218	A NEW BUILDING F ENWORTH SALES CC 1750 SOUTH 1350 W WEST HAVEN, UT ELECTRICAL SCHED	
ENCLOSER: NEMA 1BOSSING: SEE SPECSMBR AMPS: N/AWESTHMFG & MODEL:GE/A SERIESDIM: $20^{\circ}W \times 5.8^{\circ}D \times =^{\circ}H$ FEED:BOTTOMProjectNOTES:INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.FEED:BOTTOMProjectINSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.Image: Seal of the	AVEN, UTAH ct StatusENCLOSURE: NEMA 1MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SUIT DESCRIPTIONCKTREPAIR SHOP 1312REPAIR SHOP 1314REPAIR SHOP 1316REPAIR SHOP 1316REPAIR SHOP 13173REPAIR SHOP 13110REPAIR SHOP 13110REPAIR SHOP 13112REPAIR SHOP 13114REPAIR SHOP 13114REPAIR SHOP 13114REPAIR SHOP 13116PAIR SHOP 13116PAIR SHOP 13118Rooftop202224	BUSSING:       SEE SPEC'S: 20"W x 5.8"D x *"H       MBR AMPS:       N/A         JIM:       20"W x 5.8"D x *"H       FEED:       BOTTOM         JRGE PROTECTION       P       A       B       C       P       AMPS         1       20 A       1       360       1000       1       20 A       1       20 A         1       20 A       1       360       1000       1       1       20 A         1       20 A       1       360       900       1       1       20 A         1       20 A       1       2163       1       2       30 A         1       -       1081       2163       -       1       20 A         1       20 A       1       0       2882       -       1       20 A         1       -       -       1       1081       840       -       1       20 A         1       -       -       1081       840       -       1       20 A       2       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	NOTECIRCUIT DESCRIPTIONCKTRFACP2RFACP2Receptacle4HVAC IT ROOM68RReceptacle - Rooftop10HVAC RT-1121416HVAC RT-2182021HVAC RT-324	A NEW BUILDING F KENWORTH SALES CC 1750 SOUTH 1350 W WEST HAVEN, UT ELECTRICAL SCHED	
ENCLOSURE: NEMA TBUSSING: SEE SPEC'SMIRE AMPS: N/AWEST HMIRE AMODEL: GE/A SERIESDIM: 20"W x 5.8"D x "HFEED: BOTTOMProjeNOTES:INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.FEED: BOTTOMProjeCKTC P AMPS NOTECIRCU1Receptacle - Site Pole20 A1360900-120 AReceptacle3Receptacle - Site Pole20 A13601080120 AReceptacle5Receptacle - Site Pole20 A13601080120 AReceptacle7Receptacle - Site Pole20 A13601080120 AReceptacle9Lighting20 A13601080120 AReceptacle11Lighting Shop20 A11150900120 AReceptacle13Lighting Shop20 A11150900120 AReceptacle19SPARE20 A10560120 AReceptacle23SPARE20 A100120 AReceptacle23SPARE20 A100120 ASPARE24SPARE20 A1000	AVEN, UTAH ct StatusENCLOSURE: NEMA 1MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SUIT DESCRIPTIONCKT REPAIR SHOP 131REPAIR SHOP 1312REPAIR SHOP 1314REPAIR SHOP 1316REPAIR SHOP 1316REPAIR SHOP 1316REPAIR SHOP 1317REPAIR SHOP 13110REPAIR SHOP 13110REPAIR SHOP 13112REPAIR SHOP 13112REPAIR SHOP 13114REPAIR SHOP 13116PAIR SHOP 13116PAIR SHOP 13116PAIR SHOP 13116PAIR SHOP 13116PAIR SHOP 13116PAIR SHOP 13118Rooftop20222423Warehouse Evap. Cooler EC-5242325262727Rack UPS20	MBR AMPS: N/A FEED: BOTTOM         MBR AMPS: N/A FEED: BOTTOM         JAGE PROTECTION         NOTE       AMPS       P       A       B       C       P       AMPS         20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       900       1       1       20 A         20 A       1       360       900       1       20 A       20 A         20 A       1       2163       2       30 A       30 A <t< td=""><td>NOTE CIRCUIT DESCRIPTIONRFACP2Receptacle4HVAC IT ROOM68Receptacle - Rooftop10HVAC RT-112141416HVAC RT-2182021HVAC RT-32422HVAC RT-32428HVAC RT-430</td><td>RENWORTH SALES C RENWORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT ULE: ELECTRICAL SCHED</td></t<>	NOTE CIRCUIT DESCRIPTIONRFACP2Receptacle4HVAC IT ROOM68Receptacle - Rooftop10HVAC RT-112141416HVAC RT-2182021HVAC RT-32422HVAC RT-32428HVAC RT-430	RENWORTH SALES C RENWORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT ULE: ELECTRICAL SCHED	
INDEX ADJECT SOLVED TO MEET NEWALTWERALLY STRACT WESTRATIONMORE & MODEL: GE/A SERIESDIM: 20"W x 5.8"D x ""HFEED: BOTTOMProjeNOTES:INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.CKTCIRCUIT DESCRIPTIONNOTEAMPSP $A$ BCPAMPSNOTECIRCUI1Receptacle - Site Pole20 A1360900-120 AReceptacle3Receptacle - Site Pole20 A13601080120 AReceptacle5Receptacle - Site Pole20 A13601080120 AReceptacle7Receptacle - Site Pole20 A13601080120 AReceptacle9Lighting20 A11150900-120 AReceptacle15SPARE-20 A11150900-120 AReceptacle15SPARE-20 A10560-120 AReceptacle19SPARE-20 A1000120 A-SPARE23SPARE-20 A1000120 A-SPARE24SPARE-20 A1000120 A-SPARE23SPARE	AVEN, UTAH ct StatusENCLOSURE: NEMA 1 MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SUIT DESCRIPTIONCKT REPAIR SHOP 131CKTCIRCUIT DESCRIPTIONREPAIR SHOP 13123Receptacle I.T. 202REPAIR SHOP 13163Receptacle I.T. 202REPAIR SHOP 13167REPAIR SHOP 131109REPAIR SHOP 1311211SPAREREPAIR SHOP 131169REPAIR SHOP 131169REPAIR SHOP 131169REPAIR SHOP 131169PAIR SHOP 1311617PAIR SHOP 1311817Rooftop2019Warehouse Evap. Cooler EC-5PAIR SHOP 13126212423Warehouse Evap. Cooler EC-725252627Rack UPS29313233SPARE	BUSSING:       SEE SPEC'S DIM:       MBR AMPS:       N/A FEED:       BOTTOM         JAGE PROTECTION       AMPS       P       A       B       C       P       AMPS         JAGE PROTECTION       20 A       1       360       1000       -       1       20 A         Image: See Species       20 A       1       360       1000       -       1       20 A         Image: Species       20 A       1       360       1000       -       1       20 A         Image: Species       20 A       1       360       900       -       1       20 A         Image: Species       1       360       900       -       1       20 A       2       30 A         Image: Species       1       1081       2163       2       30 A       30 A       30 A         Image: Species       1       0       2882       -	NOTE CIRCUIT DESCRIPTIONCKTRFACP2Receptacle4HVAC IT ROOM68Receptacle - Rooftop10HVAC RT-1121416HVAC RT-2182022HVAC RT-3242628HVAC RT-430323234	ROJECT: RENWORTH SALES C 1750 SOUTH 1350 W MEST HAVEN, UT WEST HAVEN, UT RET TITLE: ELECTRICAL SCHED	
INDER AIMPS: N/AWEST HIMER AIMPS: N/AWEST HIMER AIMPS: N/AMIGR AIMPSE: NOAWEST HIFEEDSMIGR AIMPS: N/AWEST HIMIGR AIMPS: CIACULO SERIESDIM: 20"W x 5.8"D x "'HFEED: BOTTOMProjeOTES:INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.CKTCIRCUIT DESCRIPTIONNOTE AMPSPABCPAMPS NOTECIRCU1Receptacle - Site Pole20 A13601080120 AReceptacle - Site Pole20 A13601080120 AReceptacle - Site Pole20 A11080120 AReceptacle - Site Pole20 A11 <th cols<="" td=""><td>AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG &amp; MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SU         PROVIDE PANEL WITH INTEGRAL SU       1         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       17         REPAIR SHOP 131       18         ROOTOP       20         PAIR SHOP 131       18         Rooftop       20         22       24         23       Warehouse Evap. Cooler EC-5         21          226          230       31         32       32         m. Room       34         AIR SHOP 131       36         Cooler EC-4       38         37</td><td>BUSSING:       SEE SPEC'S DIM:       MBR AMPS:       N/A FEED:       BOTTOM         JRGE PROTECTION       AMPS       <math>20^{\circ}</math> M       <math>360^{\circ}</math> 1000       <math>E</math> <math>E</math> <math>C</math> <math>P</math>       AMPS         1       20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       900       1081       2163       2       30 A          20 A       1       1081       2163       2       30 A           1081       2163       2       30 A           1081       840        1       20 A           1081       840              20 A       1       0       2882        1       20 A          20 A       2       562       2613       3       35 A            562       2613       3       30 A            562       2613            1       20 A       2       562<td>Instant       Instant       Instant         WEST HAVEN, UTAH Project Status       Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          22         HVAC RT-3       24          28         HVAC RT-4       30          32          34          34          34          36          36          36          36</td><td>PROJECT: A NEW BUILDING F KENWORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT WEST TITLE: SHEET TITLE: ELECTRICAL SCHED</td></td></th>	<td>AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG &amp; MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SU         PROVIDE PANEL WITH INTEGRAL SU       1         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       17         REPAIR SHOP 131       18         ROOTOP       20         PAIR SHOP 131       18         Rooftop       20         22       24         23       Warehouse Evap. Cooler EC-5         21          226          230       31         32       32         m. Room       34         AIR SHOP 131       36         Cooler EC-4       38         37</td> <td>BUSSING:       SEE SPEC'S DIM:       MBR AMPS:       N/A FEED:       BOTTOM         JRGE PROTECTION       AMPS       <math>20^{\circ}</math> M       <math>360^{\circ}</math> 1000       <math>E</math> <math>E</math> <math>C</math> <math>P</math>       AMPS         1       20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       900       1081       2163       2       30 A          20 A       1       1081       2163       2       30 A           1081       2163       2       30 A           1081       840        1       20 A           1081       840              20 A       1       0       2882        1       20 A          20 A       2       562       2613       3       35 A            562       2613       3       30 A            562       2613            1       20 A       2       562<td>Instant       Instant       Instant         WEST HAVEN, UTAH Project Status       Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          22         HVAC RT-3       24          28         HVAC RT-4       30          32          34          34          34          36          36          36          36</td><td>PROJECT: A NEW BUILDING F KENWORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT WEST TITLE: SHEET TITLE: ELECTRICAL SCHED</td></td>	AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SU         PROVIDE PANEL WITH INTEGRAL SU       1         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       17         REPAIR SHOP 131       18         ROOTOP       20         PAIR SHOP 131       18         Rooftop       20         22       24         23       Warehouse Evap. Cooler EC-5         21          226          230       31         32       32         m. Room       34         AIR SHOP 131       36         Cooler EC-4       38         37	BUSSING:       SEE SPEC'S DIM:       MBR AMPS:       N/A FEED:       BOTTOM         JRGE PROTECTION       AMPS $20^{\circ}$ M $360^{\circ}$ 1000 $E$ $E$ $C$ $P$ AMPS         1       20 A       1       360       1000       1       20 A       1       20 A         20 A       1       360       900       1081       2163       2       30 A          20 A       1       1081       2163       2       30 A           1081       2163       2       30 A           1081       840        1       20 A           1081       840              20 A       1       0       2882        1       20 A          20 A       2       562       2613       3       35 A            562       2613       3       30 A            562       2613            1       20 A       2       562 <td>Instant       Instant       Instant         WEST HAVEN, UTAH Project Status       Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          22         HVAC RT-3       24          28         HVAC RT-4       30          32          34          34          34          36          36          36          36</td> <td>PROJECT: A NEW BUILDING F KENWORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT WEST TITLE: SHEET TITLE: ELECTRICAL SCHED</td>	Instant       Instant       Instant         WEST HAVEN, UTAH Project Status       Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          22         HVAC RT-3       24          28         HVAC RT-4       30          32          34          34          34          36          36          36          36	PROJECT: A NEW BUILDING F KENWORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT WEST TITLE: SHEET TITLE: ELECTRICAL SCHED
Instruct of the construction of the constrelating shop is a construction of the construction o	AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SL         PROVIDE PANEL WITH INTEGRAL SL       1         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       10         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       17         22       24         25       -         26       27         30       31         32       31         MR ROM P 131       36         Cooler EC-4       38         3	MBR AMPS: N/A         FEED: BOTTOM         RGE PROTECTION         NOTE       AMPS       P $\checkmark$ $B$ $\Gamma$ P $AMPS$ 1       20 A       1       360       1000       1       20 A       1       20 A         1       20 A       1       360       900       1       20 A       1       20 A         1       20 A       1       360       900       1       20 A       1       20 A         1       20 A       3       1081       2163       2       30 A         1       20 A       1       0       2882       1           1       20 A       1       0       2882       2613       3       35 A         1       20 A       2       562       2882       2613       3       35 A         1       20 A       2       562       2613       3       35 A         1       20 A       2       562       2613       3       36 A         1       20 A       2       562       1979       3       30 A         1	NOTE         CIRCUIT DESCRIPTION         CKT           R         FACP         2           Receptacle         4           HVAC IT ROOM         6            8           Receptacle - Rooftop         10           HVAC RT-1         12            16           HVAC RT-2         18            20            20           HVAC RT-2         18            20            20            20            12            34            32            34            34            34            34            34            34            34            34            34            40            40            42	PROJECT: A NEW BUILDING F A NEW BUILDING F RENDORTH 350 W 1750 SOUTH 1350 W WEST HAVEN, UT WEST TITLE: I ELECTRICAL SCHED I ELECTRICAL SCHED	
Inclusione:         New Pice         Note         Diff.         20'W x 5.8"D x **H         FEED:         BOTTOM         Proje           NOTES:         INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.         1         20 A         Receptade         360         1080         1         20 A         Receptade           3         Receptade - Site Pole         20 A         1         360         1080         1         20 A         Receptade           4         Highting         20 A         1         360         1080         1         20 A         Receptade           11         Lighting Shop         20 A         1         1150         900         1         20 A         Receptade           13         Lighting Shop         20 A         1         1150         900         1         20 A         Receptade           19	AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SL         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       1         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       18         Rooftop       20         22       24         24       24         25       -         26       30         31       SPARE         33       SPARE         33       SPARE         33       SPARE         33       SPARE         34       35         37       SPARE         39       SPARE         39	BUSSING:     SEE SPEC'S DIM:     20"W x 5.8"D x *"H     MER AMPS:     N/T       JRGE PROTECTION     Image: 20 A 1     360     900     Image: 20 A 1     20 A 1       NOTE     AMPS     P     A     B     C     P     AMPS       Image: 20 A 1     360     900     Image: 20 A 1     Image: 20 A 1	Image: Note of the second s	PROJECT: A NEW BUILDING F A NEW BUILDING F RENNORTH SALES C 1750 SOUTH 1350 W WEST HAVEN, UT SHEET TITLE: ELECTRICAL SCHED	
Instruct or output         Dissing: set size size size size size size size size	AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SU         IT DESCRIPTION       CKT         REPAIR SHOP 131       2         REPAIR SHOP 131       6         REPAIR SHOP 131       1         REPAIR SHOP 131       6         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       10         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       14         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       18         Rooftop       20         22       24         23       Warehouse Evap. Cooler EC-5         24       30         33       SPARE         33       SPARE         33       SPARE         34       37         SPARE <td>BUSSING:       SEE SPEC'S 20'W x 5.8'D x *'H       MBR AMPS: FEED:       NOTE         NOTE       AMPS       P       A       B       C       P       AMPS         1       20 A       1       360       1000      </td> <td>Instruction       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          20          16         HVAC RT-1       12          20          20          16         HVAC RT-3       24          20          20          20          20          20          21         HVAC RT-3       24          28         HVAC RT-4       30          32          34          40          40          40          40          42   </td> <td>PROJECT: PROJECT: PROJECT: A NEW BUILDING F A NEW BUILDING F (1750 SOUTH 1350 W MEST HAVEN, UT WEST HAVEN, UT SHEET TITLE: ELECTRICAL SCHED</td>	BUSSING:       SEE SPEC'S 20'W x 5.8'D x *'H       MBR AMPS: FEED:       NOTE         NOTE       AMPS       P       A       B       C       P       AMPS         1       20 A       1       360       1000	Instruction       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          20          16         HVAC RT-1       12          20          20          16         HVAC RT-3       24          20          20          20          20          20          21         HVAC RT-3       24          28         HVAC RT-4       30          32          34          40          40          40          40          42	PROJECT: PROJECT: PROJECT: A NEW BUILDING F A NEW BUILDING F (1750 SOUTH 1350 W MEST HAVEN, UT WEST HAVEN, UT SHEET TITLE: ELECTRICAL SCHED	
Instruct OSURE:       NEWA I       DUSSING:       See SPECS       NURK ANTS:       N/A       WEST M         MFG & MODEL:       GE/A SERIES       DIM:       20'W X 5.8"D X "H       FEED:       BOTTOM       Proje         NOTES:       INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.       1       20 A       Receptacle       Site Pole       20 A       1       360       1080       1       20 A       Receptacle         1       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         5       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         6       Receptacle - Site Pole       20 A       1       360       1080       1       20 A       Receptacle         1       Lighting       Sop       20 A       1       1150       900       1       20 A       Receptacle         15       SPARE       -       20 A       1       1150       900       1       20 A       Receptacle         15       SPARE       -       20 A       1       0       0       0       1       20 A       Receptacle	AVEN, UTAH ct Status       ENCLOSURE: NEMA 1         MFG & MODEL: GE/A SERIES NOTES: PROVIDE PANEL WITH INTEGRAL SL         IT DESCRIPTION       CKT         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       1         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       16         Reoftop       20         22       24         25       -         26       -         27       Rack UPS         29       -         31       SPARE         32       SPARE         33       SPARE         39       SPARE         39       SPARE	BUSING:     SEE SPEC:     MER AMPS:     TED:     SECOND       JARE 2000 1000 1000 1000 1000 1000 1000 100	NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6          8         Receptacle - Rooftop       10         HVAC RT-1       12          14          16         HVAC RT-2       18          20          21         HVAC RT-2       18          22         HVAC RT-3       24          22         HVAC RT-3       24          32          32          34          34          34          34          34          42	PROJECT: PROJECT: A NEW BUILDING F A NEW BUIL	
Image & Model:         CEMA AFE & SEPLOS         Image & MAMPS:         NAA         WEST           NOTES:         INIX: 201W x 5.8°D x "H         FEED: BOTTOM         Proje           INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.         Image & Manuscription         NOTE         CIRCUIT         Proje           INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.         Image & Manuscription         NOTE         CIRCUIT           I         Receptacle - Site Pole         20 A         1         360         1080         Image & Monuscription         Receptacle           Receptacle - Site Pole         20 A         1         360         1080         Image & Monuscription         Receptacle           I         Lighting         20 A         1         360         1080         Image & Monuscription         Image & Monuscrip	AVEN, UTAH       ENCLOSURE: NEMA 1         ct Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SL         IT DESCRIPTION       CKT         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       1         REPAIR SHOP 131       10         REPAIR SHOP 131       10         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       16         PAIR SHOP 131       17         222       24         13       SPARE         14       SPARE         15       Warehouse Evap. Cooler EC-5         21          26       -27         27       Rack UPS         29       -         30       32         m. Room       34         AIR SHOP 131       36         Cooler EC-4       38         30       SPARE         31       SPARE         33       SPARE	BUSSING:       SEE SPECS:       MERAMES:       TEED:       SOUTHORN         JOINT 2004 13 300 1000 1000 1000 1000 1000 1000	NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6             Receptacle - Rooftop       10         HVAC RT-1       12          14          14          16         HVAC RT-2       18          20          20          20          22         HVAC RT-2       18          22         HVAC RT-3       24          22         HVAC RT-3       24          32          32          34          34          34          42	PROJECT NO BREET ITTLE: BREATING BREATING BREATING BLECTRICAL SCHED BLECTRICAL SCHED BLECTRICAL SCHED BLECTRICAL SCHED BLECTRICAL SCHED	
Image Amodel:         Get Addition:         Set	AVEN, UTAH       ENCLOSURE: NEMA 1         of Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SL         T DESCRIPTION       CKT         SEPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       18         Rooftop       20         22       24         26       27         RAR SHOP 131       18         Rooftop       20         22       24         26       27         27       Rack UPS         29       -         21       -         23       Warehouse Evap. Cooler EC-7         25       -         27       Rack UPS         29       -         31       SPARE         39       SPARE         39       SPARE         39       SPARE         39       SPARE	Hamilton See SPE:       MERMEN:       Hereiter         JUE 20W X 5.8°D X°H       TEED: BOTTOM         ANOTE AMPS       P       A       B       C       P       Amps         1       20A       1       360       1000       1       20A       1       20A         1       20A       1       360       1000       1       12A       30A         1       20A       1       360       900       1       12A       30A         1       20A       1       1081       2163       1081       2163       30A         1       20A       1       0       2882       3       40A         1       20A       2       562       2882	You Sou IH 1330 WEST WEST HAVEN, UTAH Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6             R       Receptacle - Rooftop       10         HVAC RT-1       12           16         HVAC RT-2       18           20           22         HVAC RT-2       18           22         HVAC RT-3       24           28         HVAC RT-3       24           28         HVAC RT-3       24           28         HVAC RT-4       30           34          SPARE       36          SURGE PROTECTION DEVICE       38           40           40           42	BROJECT NO. 1 ADDENDUM#1 BROJECT NO. 1 ADDENDUM#11350 M MEST HAVEN' UT SHEET TITLE: BROVEMBER 2019 DRAWN BY:	
Image Amode:         Set of the Se	AVEN, UTAH       ENCLOSURE: NEMA 1         of Status       MFG & MODEL: GE/A SERIES         NOTES:       PROVIDE PANEL WITH INTEGRAL SL         REPAIR SHOP 131       2         REPAIR SHOP 131       4         REPAIR SHOP 131       6         REPAIR SHOP 131       6         REPAIR SHOP 131       1         REPAIR SHOP 131       10         REPAIR SHOP 131       12         REPAIR SHOP 131       14         REPAIR SHOP 131       14         REPAIR SHOP 131       16         PAIR SHOP 131       18         Rooftop       20         22       24         24       24         25       -         26       -         27       Rack UPS         28       -         30       32         m. Room       34         AIR SHOP 131       36         Cooler EC-4       38         39       SPARE         40       -         41       SPARE         41       SPARE         41       SPARE         39       SPARE         41       SPARE      <	MOTE     AMPS     P     A     B     C     P     AMPS       Image: Second Se	WEST HAVEN, UTAH Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Receptacle       4         HVAC IT ROOM       6             R       Receptacle - Rooftop       10         HVAC RT-1       12           14           16         HVAC RT-1       12            16         HVAC RT-2       18            20           22         HVAC RT-3       24           28         HVAC RT-3       24           32           32           34          SPARE       36           40           42	BROJECT NO. 1 ADDENDUM#1 BROJECT NO. 1 ADDENDUM#1 PROJECT NO. 1 ADDENDUM#1 PROJECT NO. 16066 DATE: NOVEMBER 2019 DRAWN BY: SAM CHECKED BY:	
Image Amount         Image Amount<	AVEN, UTAH ct Status  AVEN, UTAH CKT  CIRCUIT DESCRIPTION AVEN, SHOP 131  AVEN, SHOP 131  CKT  CIRCUIT DESCRIPTION AVEN, UTAH CKT  CIRCUIT DESCRIPTION AVEN, SHOP 131  AVEN, SH	MOTE       AMPS       P       A       B       C       P       AMPS         1000       1000       000       1       1000       000       1       1000         1020 A       1       360       000       1       1       20 A       1         1020 A       1       360       1000       1       1       20 A       1       100       20 A       1	Insultation         Circuit description         CKT           R         FACP         2           Receptacle         4           HVAC IT ROOM         6            8           Receptacle - Rooftop         10           HVAC IT ROOM         6            14            16           HVAC RT-1         12            20            16           HVAC RT-2         18            -           HVAC RT-3         24            -           HVAC RT-3         24            -           -         32           HVAC RT-3         24            -           -         32            42	BRAMING NO : AD #1	
ImpCLUSDURE: NetWork         Mark Am Ora         West in Mork Am Ora         West in Mork Am Ora         West in Project           ImPG & MODEL: GEVA SENIES:         DMI: 20W X45 STD x*H         FEED: SOTTOM         Project           NSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.         Important Control of C	AVEN, UTAH ct Status HT DESCRIPTION CKT REPAIR SHOP 131 CKT	Here     Here     Here     Here     Here     Here       Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species       Image: See Species     Image: See Species     Image: See Species     Image: See Species     Image: See Species   <	MUST HAVEN, UTAH         Project Status         NOTE       CIRCUIT DESCRIPTION       CKT         Receptacle       4         HVAC IT ROOM       6         -       -       8         Receptacle - Rooftop       10         HVAC RT-1       12          14          20         HVAC RT-2       18          22         HVAC RT-3       24          26          27         HVAC RT-3       24          28         HVAC RT-4       30          32          34          34          42	A NEW BUILDING F A NEW BUILDI	
ImpClosure:         New Air Structure         Dubles 2000 x SED x***         NOTE         NOTE X         Program           NOTES:         INSTALL PANEL AS REQUIRED TO MEET NEC ARTICLE 511, PROVIDE SEAL-OFFS WHERE REQUIRED.         Program         Pro	AVEN, UTAH ct Status TI DESCRIPTION CKT REPAIR SHOP 131 CKT	Here     Here     Here     Here       Image: See Species     Term     Term     Term       ARGE PROTECTION	MOTE       CIRCUIT DESCRIPTION       CKT         R       FACP       2         Image: Project Status       10         Image: Project Status       10 <td< td=""><td>A NEW BUILDING F A NEW BUILDING F A NEW BUILDING F A NOVEMBER 2019 DRAWN BY: SAM CHECKED BY: TEP DRAWING NO: AD #1 C C C MD</td></td<>	A NEW BUILDING F A NEW BUILDING F A NEW BUILDING F A NOVEMBER 2019 DRAWN BY: SAM CHECKED BY: TEP DRAWING NO: AD #1 C C C MD	

1823 E. Center Pocatello, Idaho 83201 tel (208) 232-4439 fax (208) 232-1435 www.payneengineeringinc.com

## PANEL: S

LOCATION: FED FROM: MSB **MOUNTING: SURFACE** ENCLOSURE: NEMA 3R

MFG & MODEL: SQ. D/NQ SERIES NOTES:

VOLTAGE: 120/208 Single PHASES: 1 **WIRES:** 3 BUSSING: SEE SPEC'S **DIM:** 20"W x 5.8"D x \*"H

**PAYNE ENGINEERING** A.I.C. RATING: 10k

PROJECT: KENWORTH SALES COMPANY INC. 1750 SOUTH 1350 WEST WEST HAVEN, UTAH Project Status

СКТ	CIRCUIT DESCRIPTION	NOTE	AMPS	P		Α		3	Ρ	AMPS	NOTE	CIRCUIT DESCRIPTION	СКТ
1	SPARE		20 A	1	0	1200			1	20 A		Freeway Sign Ltg	2
3	SPARE		20 A	1			0	1200	1	20 A		Freeway Sign Ltg	4
5	SPARE		20 A	1	0	1200			1	20 A		Freeway Sign Ltg	6
7	PREPARED SPACE						0	1200	1	20 A		Freeway Sign Ltg	8
9	PREPARED SPACE				0	0						PREPARED SPACE	10
11	PREPARED SPACE						0	0				PREPARED SPACE	12
TOTAL LOAD:						kVA	2.4	kVA					
		·	TOTAL A	MPS:	23 A		23 A						
	TOTAL ES	STIMATED DE	EMAND A	MPS:	23 A								
BRK N	OTES:												
A = AR	C-FAULT BREAKER G	P = GFEPD BI	REAKER			LCP =	ROUTE	CIRCUI	T THR	OUGH L	TG CON	TROL RELAY PANEL; SEE	
S = SH	UNT-TRIP BREAKER G	= GFCI BREA	KER			R = RE		DLED, LO	DCK-C		Ξ		

PANEL TYPE: MBR

PANEL AMPS: 100 A

MBR AMPS: 60 A

FEED: BOTTOM

	SHOP EQUIPMENT SCHEDULE												
												DISCONNECT	
ID	DESCRIPTION	VOLTS	PH.	MOCP	AMPS	HP	PANEL	CIRCUIT	FEEDER	CONNECTION TYPE	DISCONNECT TYPE	SIZE	NOTES
AD	AIR DRYER	120 V	1	25 A	13 A	-	L3	22	3/4"C.,2#10+1#10G	COORDINATE W/	NON-FUSED/NEMA 1	30 A	1,4
										EQUIP.			
BC	BRIDGE CRANE	208 V	3	60 A	40 A	-	L2	36,38,40	1"C3#6,1#6G	DIRECT CONN.	FUSED/NEMA 1	60 A	1,4
C:1	AIR COMPRESSOR #1	208 V	3	100 A	63 A	20	L3	55,57,59	1 1/4"C.,3#4+1#6G	DIRECT CONN.	FUSED/NEMA 1	100 A	1,4
C:2	AIR COMPRESSOR #2	208 V	3	100 A	63 A	20	L3	56,58,60	1 1/4"C.,3#4+1#6G	DIRECT CONN.	FUSED/NEMA 1	100 A	1,4
СВ	CARDBOARD BALER	208 V	3	60 A	32 A	10	MSB	7	1"C.,3#6+1#6G	DIRECT CONN.	FUSED/NEMA 3R	60 A	1,2,4
CS	CHOP SAW	120 V	1	20 A	10 A	-			PER DWG'S	NEMA 5-20R	N/A	0 A	3
DP	DRILL PRESS	120 V	1	20 A	10 A	-	L3	26	3/4"C.,2#12+1#12G	NEMA 5-20R	N/A	0 A	3
FC	FORKLIFT CHARGER	208 V	3	20 A	15 A	-	L1A	31,33,35	3/4"C.,3#10+1#10G	DIRECT CONN.	NON-FUSED/NEMA 1	30 A	1,4
FG:a	FLYWHEEL GRINDER	208 V	3	60 A	33 A	10	L1A	37,39,41	1"C.,3#6+1#8G	DIRECT CONN.	FUSED/NEMA 1	60 A	1,4
FG:b	FLYWHEEL GRINDER - 120V CONNECTION	120 V	1	20 A	4 A	1/6	L1A	8	3/4"C.,2#12+1#12G	DIRECT CONN.	FUSED/NEMA 1	30 A	1,4
FS	FLOOR SCRUBBER	120 V	1	20 A	10 A	-	L3	24	3/4"C.,2#12+1#12G	NEMA 5-20R	N/A	0 A	3
G	GRINDER	120 V	1	20 A	5 A	-			3/4"C.,2#12+1#12G	NEMA 5-20R (GFCI)	N/A	0 A	3
HC	HOSE CRIMPER	120 V	1	20 A	10 A	-	L1A	12	3/4"C.,2#8+1#8G	NEMA 5-20R	N/A	0 A	3
ODS	OIL DIST. SYSTEM OVER-FLOW ALARM	120 V	1	20 A	5 A	-	L4	8	3/4"C.,2#12+1#12G	(2) NEMA 5-20R (GFCI)	N/A	0 A	1,2
OS	OIL SEPARATOR	120 V	1	20 A	10 A	-	L3	20	3/4"C.,2#10+1#10G	COORDINATE W/ EQUIP.	NON-FUSED/NEMA 1	30 A	1,4
PW	PARTS WASHER	208 V	3	50 A	40 A	-	L3	50,52,54	3/4"C.,3#8+1#8G	DIRECT CONN.	FUSED/NEMA 1	60 A	1,4
PW(F)	PARTS WASHER	208 V	3	50 A	40 A	-	L3	49,51,53	3/4"C.,3#8+1#8G	DIRECT CONN.	FUSED/NEMA 1	60 A	1,4
E	ETEASCHASHERNOTES:	208 V	3	40 A	27 A	8.2	L4	42,44,46	3/4"C.,3#8+1#8G	DIRECT CONN.	FUSED/NEMA 3R	60 A	1,4

COORDINATE CONNECTION REQUIREMENTS WITH EQUIPMENT PRIOR TO ROUGH-IN.

FIELD VERIFY CONNECTION AND ROUGH-IN LOCATION WITH OWNER/EQUIPMENT SUPPLIER. MOUNT RECEPTACLE AT 48"AFF.

E.C. SHALL PROVIDE LOCAL DISCONNECT SWITCH FOR EQUIPMENT; SIZE AND TYPE AS INDICATED. IF FUSED DISCONNECT IS SPECIFIED FOR EQUIPMENT, FUSE PER EQUIPMENT NAMEPLATE RATING.

	LIGHT	CON	ROL	RELAY	PANEL SCHEDU	LE
ENTIFICA CLOSUF ERIOR:_	TION( E: <u></u> GR1416 LT GR1416 LT INT (	CP-M M ENC SM NE1 4)DPNC/(9)NCL	IFG: <u>ACUIT</u>	Y CONTROLS	MASTER	SURFACE
RELAY					LOAD 42K AIC	
TYPE	CON	NTROL	VOLTS	CIRCUIT	CIRCUIT DESCRIPTION	NOTES
D	TIME	CLOCK	208V	L1-1,3	SITE LIGHTING	1
				L1-5,7	SITE LIGHTING	1
				L1-9,11	SITE LIGHTING	1
				L1-13,15	SITE LIGHTING	1
S			120V		SPARE	
				L1-21	BLDG LIGHTING	1
				L1-23	BLDG LIGHTING	1
				L1-25	BLDG LIGHTING	1
		V		L1-33	BLDG SIGNAGE	1
					SPARE	
					SPARE	
					SPARE	
		NTIFICATIONL CLOSURE: GR1416 LT ERIOR: GR1416 LT INT ( RELAY TYPE CON D TIME S S S S S S S S S S S S S S S S S S S	NTIFICATION <u>LCP-M</u> M CLOSURE: <u>GR1416 LT ENC SM NE1</u> ERIOR: <u>GR1416 LT INT (4)DPNC/(9)NCL</u> RELAY TYPE CONTROL D TIMECLOCK	NTIFICATION <u>LCP-M</u> MFG: <u>ACUIT</u> CLOSURE: <u>GR1416 LT ENC SM NE1</u> ERIOR: <u>GR1416 LT INT (4)DPNC/(9)NCL DTC DV</u> RELAY TYPE CONTROL VOLTS D TIMECLOCK 208V S 120V S 120V	NTIFICATION       LCP-M       MFG: ACUITY CONTROLS         CLOSURE:       GR1416 LT ENC SM NE1       ERIOR: GR1416 LT INT (4)DPNC/(9)NCL DTC DV         RELAY       VOLTS       CIRCUIT         D       TIMECLOCK       208V       L1-1,3         D       TIMECLOCK       208V       L1-1,3         Image: Second stress of the s	NTIFICATION LCP-M MFG: ACUITY CONTROLS CLOSURE: GR1416 LT ENC SM NE1 ERIOR: GR1416 LT INT (4)DPNC/(9)NCL DTC DV RELAY RELAY CONTROL VOLTS CIRCUIT CIRCUIT DESCRIPTION D TIMECLOCK 208V L1-1,3 SITE LIGHTING D TIMECLOCK 208V L1-1,3 SITE LIGHTING L1-9,11 SITE LIGHTING S 120V SPARE L1-23 BLDG LIGHTING L1-23 BLDG LIGHTING L1-23 BLDG LIGHTING L1-25 BLDG SIGNAGE SPARE S

S = SINGLE POLE, 20A RELAY UP TO 277V. D = 2 POLE, 20A RELAY UP TO 480V.

NOTES: 1. RELAY SHALL BE CONTROLLED VIA INTEGRAL ASTRONOMICAL TIMECLOCK; PROGRAM ON/OFF TIMES AS

DIRECTED BY OWNER. 2. RELAY TO BE CONTROLLED VIA LOW-VOLTAGE SWITCH; REFER TO DRAWINGS. PROGRAM PANEL AS REQUIRED.

GENERAL LIGHTING CONTROL NOTES: A. PROGRAMMING AND COMMISSIONING OF THE LIGHTING CONTROL PANEL SHALL BE DONE BY FACTORY CERTIFIED PERSONNEL. E.C. IS RESPONSIBLE FOR COORDINATION OF THE COMMISSIONING/PROGRAMMING AND SHALL INCLUDE ALL REQUIRED COSTS IN THE BASE BID.

				XTURE SCHEDULE			
TYPE	FIXTURE DESCRIPTION	MOUNTING	VOLTS	LAMPS	MFGR.	CATALOG #	NOTES
EXTERI	OR					•	
FE1	ARCHITECTURAL EXTERIOR WALL MOUNT LED	WALL	120-277	LED-7,000LM-4000K	LITHONIA	ASW1 LED-42C-530-40K-SR3-MVOLT-SCBA	5
FE2	ARCHITECTURAL EXTERIOR WALL SCONCE, DOWN LIGHT ONLY	WALL	120-277	LED-1581LM-4000K	BEGA	24 582-K4-SCBA	5
FE3	SURFACE MOUNT CANOPY LED	SURFACE	120-277	LED-6,700LM-4000K	LITHONIA	DSXSC LED-30C-530-40K-T5E-MVOLT-SCBA	
FE4	4FT VAPOR-TIGHT LED STRIP LIGHT, WET LOCATION RATED	SURFACE OR SUSPENDED	120-277	LED-12000LM-4000K	LITHONIA	VAP-12000LM-FST-MD-MVOLT-GZ10-40K-80CRI-VAPCMB/HC36	
FE5	AREA POLE LIGHT, SINGLE-HEAD, TYPE 4 DIST. W/ INTEGRAL OCC. SENSOR	POLE (SEE DETAIL)	MULTI-TAP	LED-20,000LM-4000K	LITHONIA	HEAD: KAX1 LED-P4-40K-R4-MVOLT-SPA-PIRH-SCBA; POLE: SSS-30-4C-DM1AS-SCBA	2,3,5
FE6	AREA POLE LIGHT, SINGLE-HEAD, TYPE 5 DIST. W/ INTEGRAL OCC. SENSOR	POLE (SEE DETAIL)	MULTI-TAP	LED-20,000LM-4000K	LITHONIA	HEAD: KAX1 LED-P4-40K-R5-MVOLT-SPA-PIRH-SCBA; POLE: SSS-30-4C-DM1AS-SCBA	2,3,5
INTERIO	DR						
F1	EXIT SIGN W/ 90 MIN BATTERY, THERMOPLASTIC, GREEN LED, SINGLE/DOUBLE FACE	WALL OR CEILING	120-277	WITH FIXTURE		LQM-S-W-3-G-120/277-EL N	$\sqrt{1}$
F2	WALL MOUNTED EXTERIOR EMERGENCY EGRESS LIGHT, W/HEATER	WALL ABOVE DOOR	120-277		LITHONIA	AFF-OEL-SCBA-UVOLT-LTP-SDRT-FCT-CW	3
F3S	2X2 LED VOLUMETRIC TROFFER, WAVELINX WIRELESS SENSOR	RECESSED	120-277	LED-4000LM-4000K	METALUX	22CZ2-39-UNV-L840-CD1-SWPD1	$\mathcal{F}$
F3SE	2X2 LED VOLUMETRIC TROFFER, EMERG. BATTERY PACK, WAVELINX WIRELESS SENSOR	RECESSED	120-277	LED-4000LM-4000K	METALUX	22CZ2-39-UNV-E14W-L840-CD1-SWPD1	
F4	2X2 LED VOLUMETRIC TROFFER	RECESSED	120-277	LED-4400LM-4000K	METALUX	22CZ2-44-UNV-L840-CD1	
F4S	2X2 LED VOLUMETRIC TROFFER, WAVELINX WIRELESS SENSOR	RECESSED	120-277	LED-4400LM-4000K	METALUX	22CZ2-44-UNV-L840-CD1-SWPD1	
F5	4FT LED STRIPLIGHT	SURFACE/SUSPENDED	120-277	LED-3000LM-4000K	LITHONIA	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI-WH-ZACVH	
F5E	4FT LED STRIPLIGHT, W/ EMERG. BATTERY PACK	SURFACE/SUSPENDED	120-277	LED-3000LM-4000K	LITHONIA	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI-WH-ZACVH-EL14L	1
F5S	4FT LED STRIPLIGHT, OCC. SENSOR	SURFACE/SUSPENDED	120-277	LED-3000LM-4000K	LITHONIA	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI-WH-ZACVH-LSXR/10/15M	
F5SE	4FT LED STRIPLIGHT, OCC. SENSOR, EMERG. BATTERY PACK	SURFACE/SUSPENDED	120-277	LED-3000LM-4000K	LITHONIA	ZL1D-L48-3000LM-FST-MVOLT-40K-80CRI-WH-LSXR/10/15M-EL14L	1
F6	8FT LED STRIPLIGHT	SURFACE/SUSPENDED	120-277	LED-6000LM-4000K	LITHONIA	TZL1D-L96-6000LM-FST-MVOLT-40K-80CRI-WH-ZACVH	
F6E	8FT LED STRIPLIGHT, EMERG. BATTERY PACK	SURFACE/SUSPENDED	120-277	LED-6000LM-4000K	LITHONIA	TZL1D-L96-6000LM-FST-MVOLT-40K-80CRI-WH-ZACVH-EL14L	
F7	4" ROUND RECESSED WALLWASH LED CAN, 0-10V DIMMING	RECESSED	120-277	LED-1000LM-4000K	LITHONIA	LDN4-40/10-LW6AR-LSS-MVOLT-EZ10	
F8	6" OPEN RECESSED LED DOWNLIGHT	RECESSED	120-277	LED-1500LM-4000K	LITHONIA	LD6N-40/15-LO6-AR-MVOLT	
F9	6" ROUND, SURFACE LED DOWNLIGHT, DIMMABLE	SURFACE	120	LED-800LM-4000K	COOPER LTG	SLD606-8-40-WH	
F10	4FT LINEAR WALL FIXTURE	WALL ABOVE MIRROR	120-277	LED-4000LM-4000K	LITHONIA	WL4-40L-EZ1-LP840	
F11	4FT LED SURFACE WRAP	SURFACE	120-277	LED-4000LM-4000K	LITHONIA	LBL4-4000L-80CRI-40K-NODIM-MVOLT	
F11E	4FT LED SURFACE WRAP, EMERG. BATTERY PACK	SURFACE	120-277	LED-4000LM-4000K	LITHONIA	LBL4-4000L-80CRI-40K-NODIM-MVOLT-EL14L	
F11S	4FT LED SURFACE WRAP, OCC. SENSOR	SURFACE	120-277	LED-4000LM-4000K	LITHONIA	LBL4-4000L-80CRI-40K-MIN1-MVOLT-LSXR10-PIR	
F12S	HIGHBAY LED, 0-10V DIMMING, AIRCRAFT CABLE SUSPENSION, WAVELINX WIRELSS SENSOR	SUSPENDED	120-277	LED-18,000LM-4000K	COOPER LTG	OHB-18SE-W-UNV-L840-CD-ZW-SWPD3-YTOGGLE10	
F12SE	HIGHBAY LED, 0-10V DIMMING, AIRCRAFT CABLE SUSPENSION, WAVELINX WIRELSS SENSOR, EMERG. BATTERY PACK	SUSPENDED	120-277	LED-18,000LM-4000K	COOPER LTG	OHB-18SE-W-UNV-L840-EL20W-CD-ZW-SWPD3-YTOGGLE10	
F13E	PERIMETER MOUNT RECESSED LINEAR LED, W/EMERG. BATTERY PACK	RECESSED	120-277	LED-625LM/FT-4000K	FOCAL POINT	FSM4L-FL2-625LF-40K-1C-UNV-LD1-G-1EM-WH-##	
F14	UNDERCABINET, FIELD CUTTABLE LED TAPE LIGHT WITH CHANNEL.	SURFACE	LOW-VOLTAGE	LED	VOLT LTG	LED:PH41K-24V; POWER SUPPLY: ULV96; CHANNEL:X-CH1	6
F15	TRACK LIGHT WITH HEADS	SURFACE	120	LED	LITHONIA	TRACK: LT SERIES-WH; HEAD: LTHSTBF-BR20 LED-MW	

LIGHT FIXTURE SCHEDULE NOTES:

NOT USED AS INDICATED ON ELECTRICAL SITE PLAN, POLES SHALL BE PROVIDED WITH 120V, GFCI WEATHERPROOF RECEPTACLE. 3. FIXTURE HEAD TO BE PROVIDED WITH OCC. SENSOR, PROGRAM SO THAT FIXTURE DIMS TO 50% OUTPUT THEN TO 100% WHEN OCCUPANCY IS SENSED.

4. NOT USED 5. SCBA (STANDARD-COLOR-BY-ARCHITECT), VERIFY FIXTURE COLOR WITH ARCHITECT PRIOR TO ORDERING.

6. PROVIDE ALL COMPENTENTS, ACCESSORIES AND ETC. FOR A COMPLETE INSTALLATION; INCLUDING BUT NOT LIMITED TO: POWER FEEDS, WIRE TERMINALS, CONNECTORS, MOUNTING HARDWARE AND ETC.

	LIGHTING OCCUPANCY SEN	ISOR AND CONT	ROL SCHEDULE		
TYPE	DESCRIPTION	MFGR.	CATALOG #	NOTES	APPROVED EQUALS
CEILING	SENSORS				
CD2	DUAL-TECHNOLOGY, SMALL MOTION 360 DEGREE COVERAGE, LOW VOLTAGE, W/ISOLATED RELAY	SENSOR SWITCH	CM PDT 9 R	1	COOPER
CD6	DUAL-TECHNOLOGY, LINE VOLTAGE, SMALL MOTION 800W MAX LOAD	SENSOR SWITCH	CMR PDT 9		COOPER
PCD	ON/OFF & AUTOMATIC DIMMING PHOTOCELL	SENSOR SWITCH	CM PC ADC	1	COOPER
WALL S	ENSORS				
WDD	DUAL-TECHNOLOGY, 0-10V DIMMING, MANUAL ON	SENSOR SWITCH	WSX-PDT-D-SA	2	COOPER
WP1	PASSIVE-INFRARED, 1-POLE, NEUTRAL REQUIRED	SENSOR SWITCH	WSX-SA-**	2	COOPER
WALL S	WITCHPODS				
SP1	LOW VOLTAGE PUSH-BUTTON SWITCHPOD, 1-POLE MANUAL ON	SENSOR SWITCH	sPODM-SA-**	2,4	COOPER
WIRELE	SS CONTROLS				
CW1	WAVELINX WIRELESS PIR/DAYLIGHT CEILING SENSOR, 1500 SQFT	COOPER	CWPD-1500		LITHONIA
W1R	WAVELINX 1-BUTTON LARGE WALL STATION W/ RAISE/LOWER	COOPER	W1L-RL-G	2	LITHONIA
W6	WAVELINX 6-BUTTON SMALL WALL STATION, FIELD PROGRAMMABLE, CUSTOM ENGRAVED BUTTONS.	COOPER	W6S-G	2	LITHONIA
WAC	WAVELINX WIRELESS AREA CONTROLLER, PROVIDE 120V PoE INJECTOR	COOPER	WAC- POE & WPOE-120		
WSP	WAVELINX WIRELESS RELAY SWITCHPACK WITH 0-10V DIMMING, 20A RELAY	COOPER	WSP-MV-010		
OCC.	SENSOR/LTG CONTROLS SCHEDULE NOTES:				

. PROVIDE ADDITIONAL POWER PACKS; SENSOR SWITCH PP20 AS NEED FOR QTY OF OCCUPANCY SENSORS/SWITCHES.

2. DEVICE COLOR SHALL MATCH WIRING DEVICES; REFER TO SPECIFICATIONS. 3. REFER TO MANUFACTURER DOCUMENTATION FOR QTY AND SIZE OF CONDUCTORS BETWEEN LOW VOLTAGE SWITCH, SENSOR(S) AND POWER/RELAY PACKS.

4. PROVIDE SECONDARY RELAY PACK; SENSOR SWITCH SP20 AS NEEDED TO PROVIDE DUAL-LEVEL SWITCHING OF FIXTURES.

5. PROVIDE 0-10V DIMMING CONDUCTORS (GREY & VIOLET) BETWEEN SWITCH AND LIGHT FIXTURES FOR DIMMING CONTROL. 6. CUSTOM WALLSTATION ENGRAVINGS IS REQUIRED FOR WALLSTATION AND SHALL BE SPECIFIED/COORDINATED WITH OWNER AFTER PROGRAMMING OF SYSTEM.

GENERAL LIGHTING CONTROL NOTES:

E.C. SHALL BE REPSONSIBLE FOR THE PROGRAMMING/COMMISSIONING OF THE LIGHTING CONTROL SYSTEMS (WIRED AND WIRELESS SYSTEMS) TO FUNCTION AS INDICATED OR AS DIRECTED BY OWNER AND SHALL INCLUDE ALL REQUIRED COST IN THE BASE BID. FOR AREAS WITH SKYLIGHTS, THE DAYLIGHTING SET-POINTS SHALL BE COORDINATED WITH THE OWNER FOR EACH AREA PRIOR TO FINAL PROGRAMMING OF THE DAYLIGHTING SENSOR(S). ALL PROGRAMMING/COMMISSIONING SHALL BE DONE BY A FACTORY CERTIFIED OR TRAINED PERSON.

LIGHTING IN SPACES WITH WIRELESS CONTROLS SHALL BE FIELD TUNED TO FOOTCANDLE LEVELS THAT ARE SATISFACTORY TO THE OWNER DURING PROGRAMMING AND COMMISSIONING OF THE LIGHTING SYSTEMS.

\_P.E. JOB #1986\_

**IPAYNE** 

www.payneengineeringinc.com

1823 E. Center Pocatello, Idaho 83201 tel (208) 232-4439 fax (208) 232-1435

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