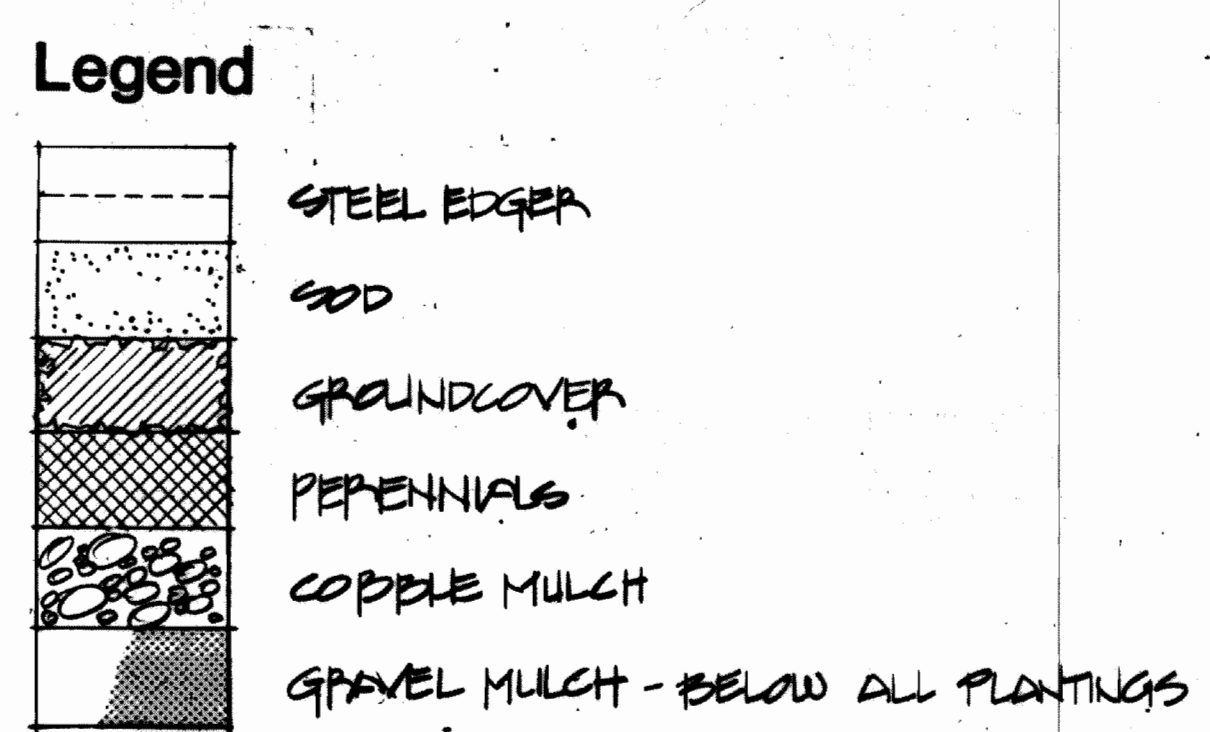
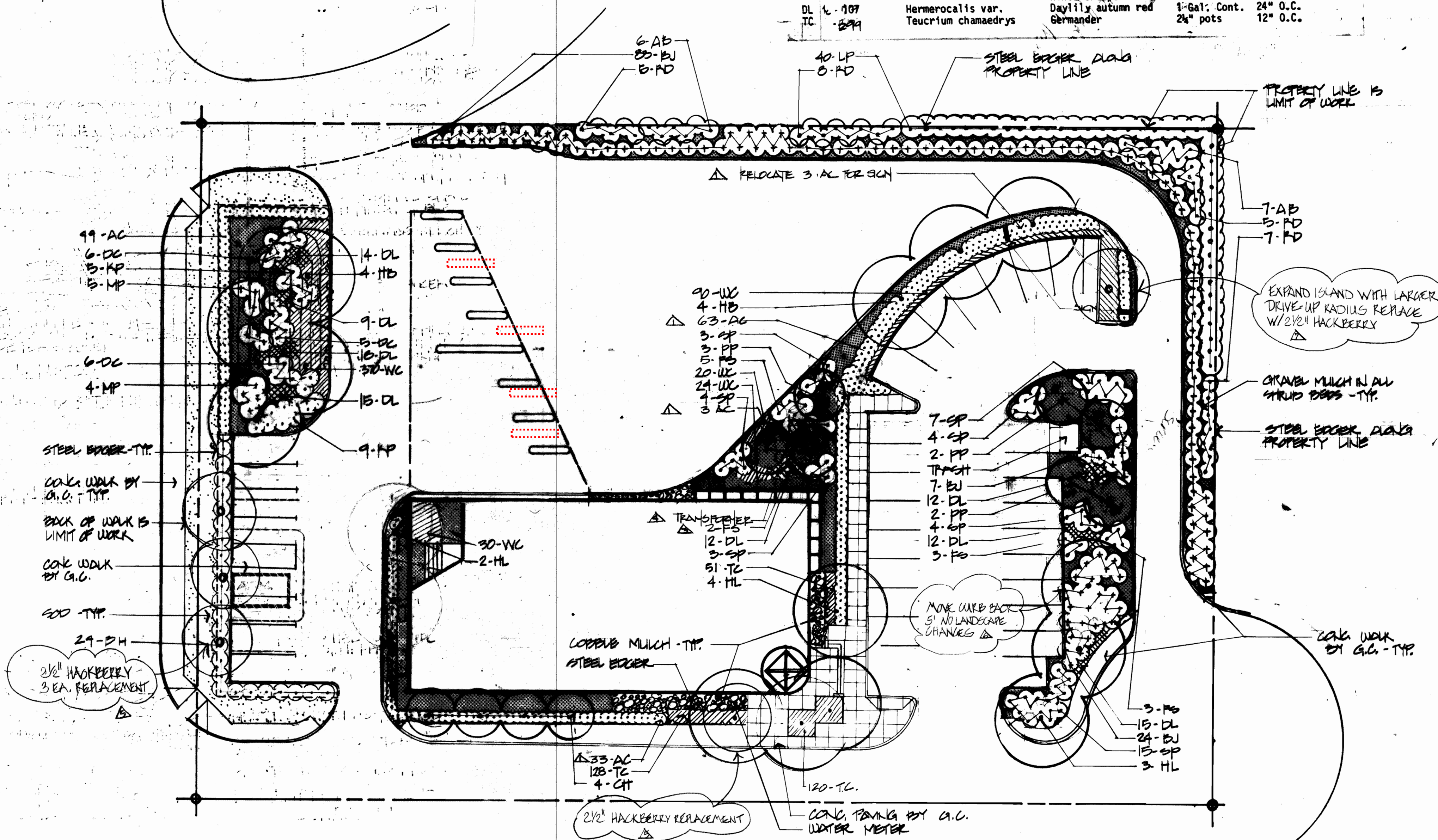


Deciduous Shrubs			
RD	25	Cornus stolonifera	Redtwig Dogwood 5 Gal. Cont.
SP	40	Potentilla arbuscula	Sutters Gold 5 Gal. Cont.
KP	14	Potentilla fruticosa	Potentilla 5 Gal. Cont.
AB	13	'Katherine Dykes'	Potentilla 5 Gal. Cont.
AC	99	Rhamnus frangula	Alder Buckthorn 5 Gal. Cont.
FS	13	Ribes alpinum	Alpine Currant 5 Gal. Cont.
DC	17	Spiraea bumalda froebelii	Froebel's Spirea 5 Gal. Cont.
		Viburnum trilobum	Dwarf American 5 Gal. Cont.
Evergreen Shrubs			
BJ	115	Juniperus Sabina	Scandia Juniper 5 Gal. Cont.
MP	9	'Scandia'	Mugho Pine 18"-24" ht. BB
PH	24	Mugho mughus	JUNIPERUS HORIZONTALIS 5 GAL. CONT 1'6" BK
		JUNIPERUS HORIZONTALIS	JUNIPERUS
		'DWARF HARDY'	
Groundcover/Perennials			
WC	534	Euonymus coloratus	Purpleleaf 2 1/2" pots 12" O.C.
DL	107	Thermocallis var.	Wintercreeper 1-Gal. Cont. 24" O.C.
TC	599	Teucrium chamaedrys	Daylily autumn red 2 1/2" pots 12" O.C.
			Germanier



AMENDED PEG. 83.6047 DATED 11.30.84

△ CHANGE AC AS NOTED.

△ CHANGE LP AS NOTED

△ CHANGE FS AS NOTED

△ SHOW TRANSFORMER, PAD

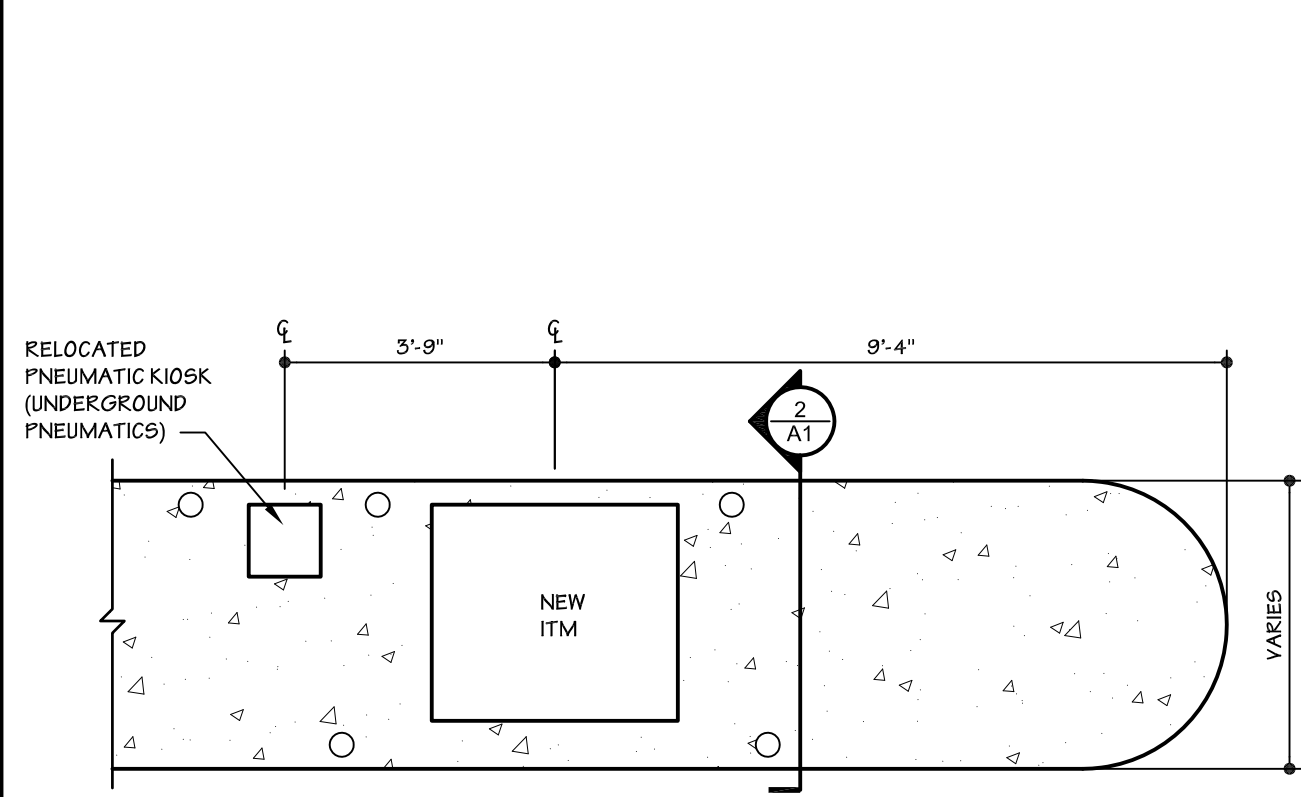
△ REPLACE 3-2 1/8" HACKBERRY'S ADM. AMDT. 6/25/84

△ MOVE EXISTING COVER BACK 5' NO LANDSCAPE CHANGES AA: 6/25/84

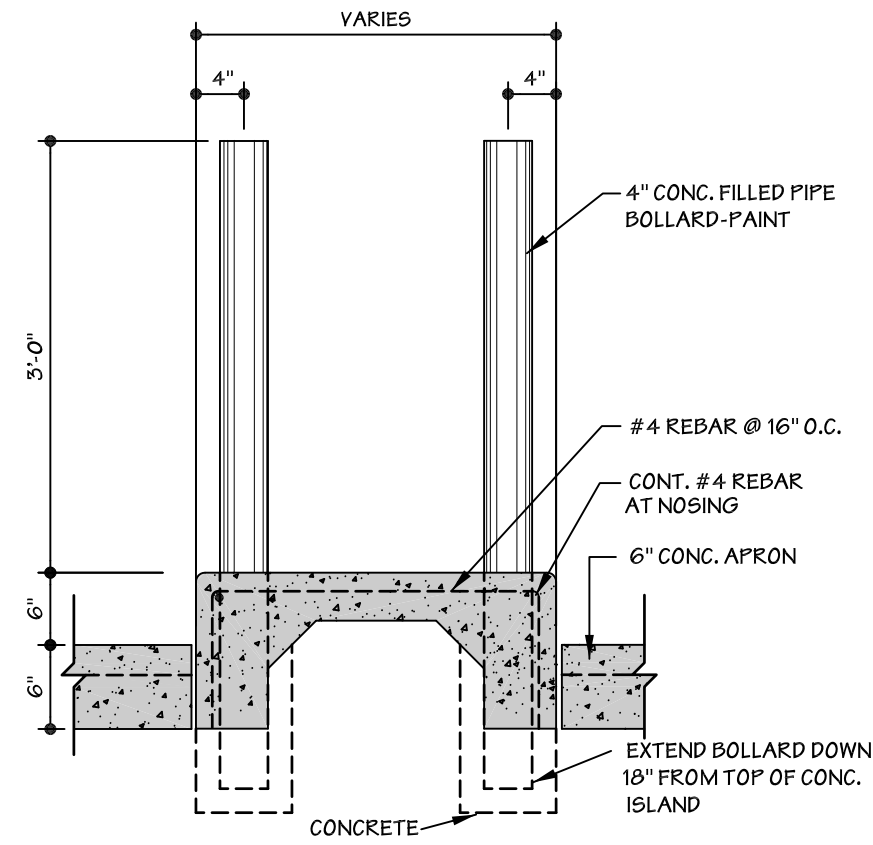
△ REVISE RADIUS, ADD ISLAND W/GRASS COVER AA: 6/25/84

DRAWN BY: MDC  
CHECKED BY: WEN  
SCALE: 1" = 20'

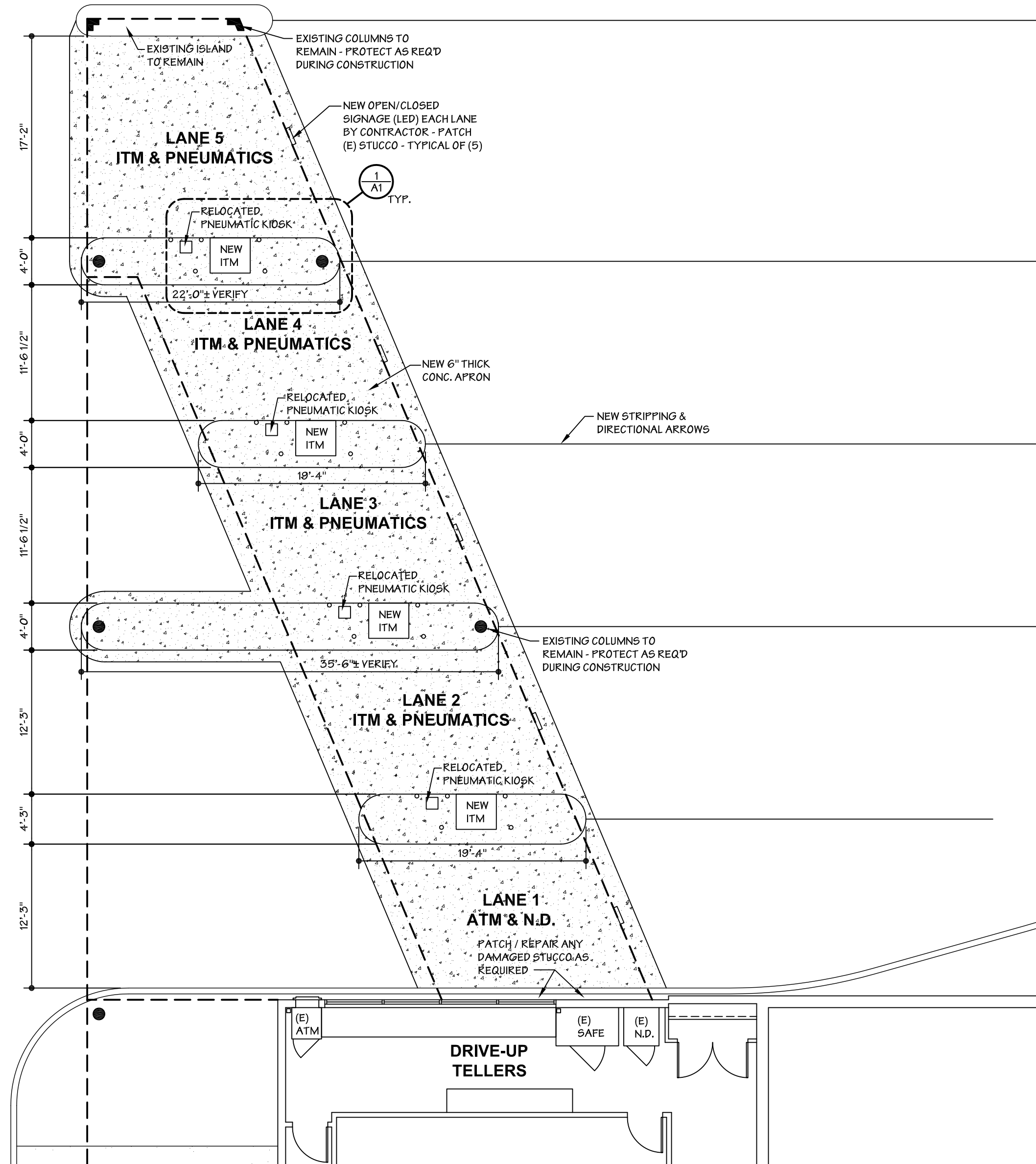




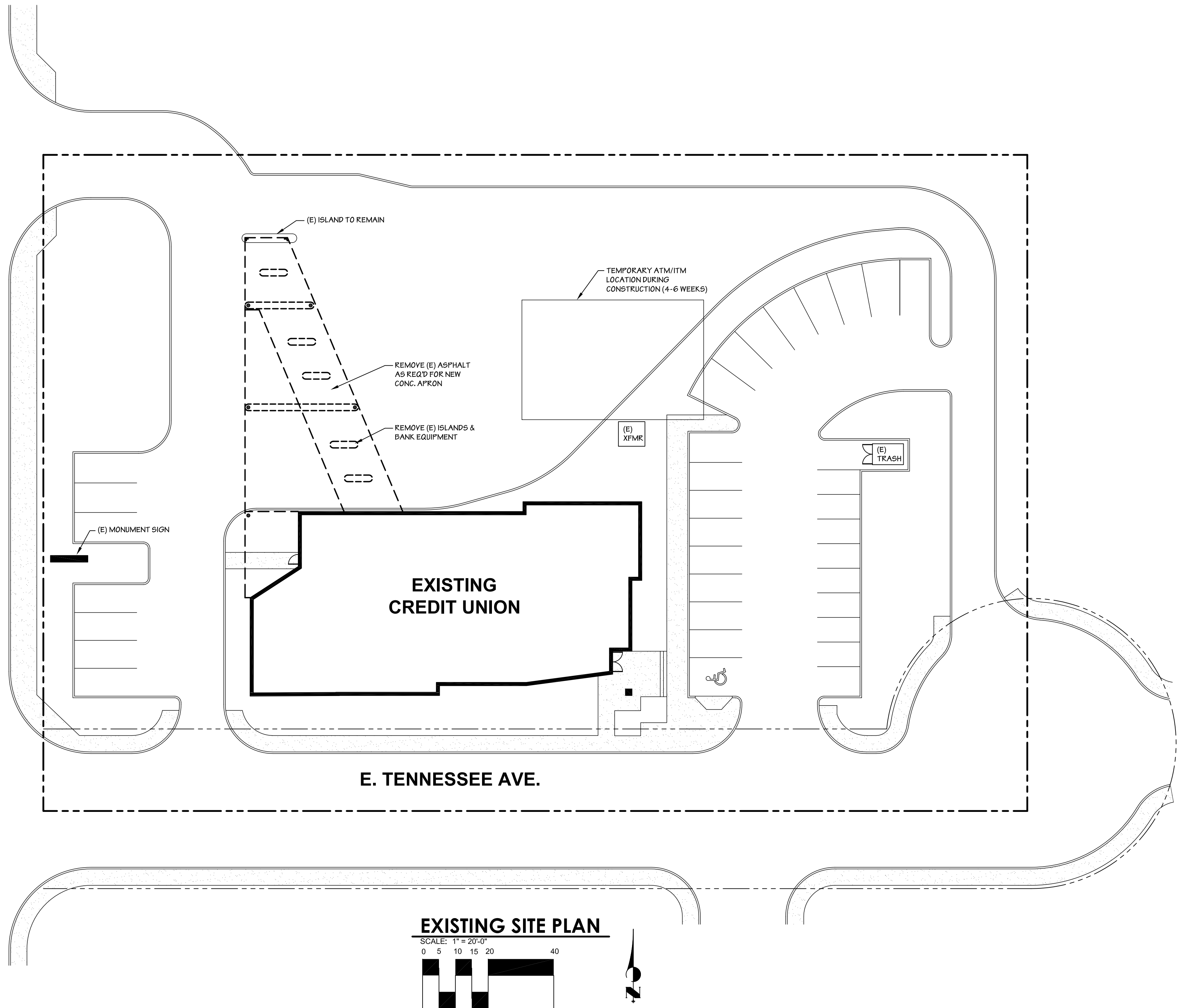
**1 TYPICAL ISLAND PLAN**  
SCALE: 3/8" = 1'-0"



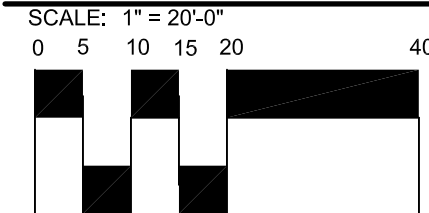
**2 ISLAND SECTION**  
SCALE: 3/4" = 1'-0"



**A NEW DRIVE-UP PLAN**  
SCALE: 1/8" = 1'-0"

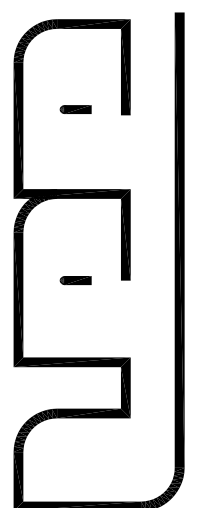


**EXISTING SITE PLAN**



**LEE ARCHITECTS/  
INTERIOR DESIGNERS**

2525 S. WADSWORTH BLVD., SUITE #21  
DENVER, COLORADO 80227  
PHONE: 303/988-4500 FAX: 303/988-4511



**PARTNER**  
CREDIT UNION

988 S. CHAMBERS ROAD AURORA, COLORADO

Job No: **17021**

Revisions:

Date: OCT. 24, 2017  
AutoCAD Checked by: LTD KPZ

Title: **SITE PLAN**

**A-1**

CONSTRUCTION DOCUMENTS



ELECTRICAL SPECIFICATIONS

ELECTRICAL SPECIFICATION

BASIC ELECTRICAL REQUIREMENTS  
GENERAL REQUIREMENTS

- A. SEE GENERAL CONDITIONS AND ALL OTHER REQUIREMENTS RELATING TO ELECTRICAL SYSTEMS FOR THIS PROJECT.
- B. PROVIDE ALL ITEMS FOR COMPLETE AND SUCCESSFUL OPERATION OF ALL ELECTRICAL SYSTEMS.
- C. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. ELECTRICAL SUBCONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL WORK ACCORDING TO ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AS WELL AS LONG AS PROPER COORDINATION HAS BEEN PRESENT.
- D. WORD "PROVIDE" SHALL MEAN "THIS CONTRACTOR SHALL FURNISH, INSTALL AND CONNECT".
- E. VISIT SITE AND INCLUDE ALLOWANCE IN BID FOR ALL COSTS RELATED TO THE ELECTRICAL INSTALLATION.
- F. DEMONSTRATE THE OPERATION OF ALL ELECTRICAL SYSTEMS FOR THE OWNER AT A TIME AS DIRECTED BY ARCHITECT.
- G. LAY OUT ALL WORK IN ADVANCE. DO NOT DEFACE WORK OF OTHER TRADES. INSTALL ALL SLEEVES AND BLOCKOUTS; WATERPROOF AS REQUIRED.
- H. ALL OUTAGES ON THE ENTIRE OR ON PORTIONS OF EXISTING OR NEW ELECTRICAL SYSTEM SHALL BE MINIMIZED AND SHALL BE COORDINATED WITH THE OWNER AND UTILITY COMPANY. OUTAGE DURATION SHALL BE AS ACCEPTED BY THE OWNER AND SHALL BE SCHEDULED THREE (3) DAYS IN ADVANCE. INCLUDE AN OVERTIME ALLOWANCE IN THE BID FOR PERFORMANCE OF WORK REQUIRING OUTAGES AT SUCH A TIME AS IS APPROVED BY THE OWNER.
- I. FIELD CHECK ALL EXISTING CONDITIONS AND INCLUDE AN ALLOWANCE IN THE BID FOR THE REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, WIRES, DEVICES, FIXTURES, ETC., AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEMS TO ALL OTHER WORK.
- J. FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT AND PROVIDE ALL LABOR REQUIRED TO COMPLETE THE WORK SHOWN ON THE DRAWINGS. ALL OTHER WORK AND MISCELLANEOUS ITEMS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR TESTING THE SYSTEM SHALL BE PROVIDED. IT IS THE INTENT OF DRAWINGS AND SPECIFICATIONS THAT ALL SYSTEMS BE COMPLETE AND OPERABLE.

STANDARDS

- A. ALL ELECTRICAL MATERIALS SHALL BE NEW (EXCEPT IF INDICATED OR SPECIFIED OTHERWISE), IN FIRST-CLASS CONDITION, UNDERWRITERS' LABORATORIES, INC. (UL) APPROVED, AND SHALL COMPLY WITH APPLICABLE NEMA STANDARDS.
- B. COMPLY WITH ALL APPLICABLE LOCAL AND STATE ORDINANCES AND LATEST EDITION OF: IBC - INTERNATIONAL BUILDING CODE, 2017 NEC NATIONAL ELECTRICAL CODE, NFPA CODES, AND WITH THE REQUIREMENTS OF UTILITY AND TELEPHONE COMPANIES FURNISHING SERVICE.
- C. PROCURE AND PAY FOR ALL PERMITS, LICENSES AND LIABILITY INSURANCE, ETC. FURNISH CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM LOCAL INSPECTOR.
- D. MATERIAL SHALL BE AS SPECIFIED UNLESS PRIOR ACCEPTANCE HAS BEEN OBTAINED FROM ARCHITECT SEVEN (7) DAYS BEFORE BID OPENING.

GUARANTEE

- A. REPLACE ANY WORK OR MATERIAL INSTALLED OR FURNISHED UNDER THIS CONTRACT WHICH DEVELOPS DEFECTS, EXCEPT FROM NORMAL WEAR, WITHIN ONE (1) YEAR AFTER COMPLETION.

COORDINATION

- A. PRIOR TO FABRICATION OR INSTALLATION OF ANY ELECTRICAL WORK, PARTICIPATE IN DETAILED COORDINATION PLANNING MEETINGS WITH ALL OTHER CONSTRUCTION TRADES, UNDER THE DIRECTION OF THE GENERAL CONTRACTOR, SO AS TO COMPLETELY ESTABLISH ROUTINGS, ELEVATIONS, SPACE REQUIREMENTS, AND COORDINATION OF ACCESS, LAYOUT, AND SUSPENSION REQUIREMENTS IN RELATIONSHIP TO THE BUILDING STRUCTURE AND THE WORK OF ALL OTHER TRADES.
- B. THIS CONTRACTOR SHALL COORDINATE DIVISION 16 WORK WITH THE INSTALLER OF DIVISION 15 AND OTHER WORK TO ENSURE THAT CODE REQUIRED CLEARANCES RELATING TO SPACE REQUIRED FOR ACCESS TO ELECTRICAL EQUIPMENT, ALONG WITH LIMITATIONS RELATING TO INSTALLATION OF MECHANICAL OR OTHER PIPING, DUCTWORK, OR EQUIPMENT ABOVE, OR ADJACENT TO, ELECTRICAL APPARATUS, ARE PROPERLY MAINTAINED.
- C. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF DEVICES. FINAL LOCATION OF ALL DEVICES TO BE DETERMINED BY THE ARCHITECT.
- D. PRIOR TO COMMENCING CONSTRUCTION, NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ELECTRICAL DRAWINGS AND ANY OTHER PROJECT DRAWINGS ( I.E., ARCHITECTURAL, FURNITURE SYSTEM, MECHANICAL, STRUCTURAL, ETC.) AS WELL AS DISCREPANCIES BETWEEN DRAWINGS AND EXISTING FIELD CONDITIONS.
- E. ALL OPENINGS MADE IN FIRE-RATED WALLS, FLOORS OR CEILINGS, SHALL BE PATCHED AND MADE TIGHT IN A MANNER TO CONFORM TO THE FIRE RATING FOR THE SURFACE PENETRATED.

CONDUIT SYSTEMS

- A. RIGID CONDUIT, INTERMEDIATE METALLIC CONDUIT, AND/OR ELECTRICAL METALLIC TUBING AS PERMITTED BY NEC.
- B. SCHEDULE 40, RIGID PVC PLASTIC CONDUIT FOR ALL LOCATIONS DIRECTLY IN EARTH, GRAVEL, ETC, OR DIRECTLY BELOW OR IN CONCRETE SLAB-ON-GRADE.
- C. PROVIDE FLEXIBLE METAL CONDUIT WHERE WIRING MUST BE FISHED OR FOR EQUIPMENT, MOTORS, LIGHTING FIXTURE OR TRANSFORMER CONNECTIONS.
- D. ALL EMT CONNECTORS AND COUPLINGS SHALL BE STEEL, COMPRESSION GLAND OR SETSCREW TYPE. CONNECTORS AND COUPLINGS MADE OF MALLEABLE IRON OR OTHER MATERIALS ARE NOT ACCEPTABLE.
- E. INSTALL RACEWAYS CONCEALED. SURFACE MOUNT CONDUITS IN ELECTRICAL AND MECHANICAL ROOMS OR WHERE APPROVED BY THE ARCHITECT.
- F. RACEWAY AND OUTLET SUPPORTS:
- TOGGLE BOLTS IN HOLLOW MASONRY.
  - EXPANSION BOLTS IN CONCRETE OR BRICK.
  - MACHINE SCREWS ON METAL SURFACES.
  - WOOD SCREWS ON WOOD CONSTRUCTION.

BUILDING WIRE AND CABLE

- A. MINIMUM WIRE SIZE FOR BRANCH CIRCUITS NO. 12 AWG. EXCEPT FOR CONTROL CIRCUITS, WHICH MAY BE NO. 14 AWG. SIGNAL CIRCUITS WIRE SIZE SHALL BE AS INDICATED ON THE DRAWINGS. ALL WIRING SHALL BE ROUTED WITHIN RACEWAYS.
- B. CONDUCTOR INSULATION SHALL BE OF TYPE RECOGNIZED BY THE NATIONAL ELECTRIC CODE AS APPROVED FOR ITS PARTICULAR APPLICATION.
- ALL WIRES REGARDLESS OF SIZE, TYPE THWN AND THHN EXCEPT AS NOTED.
  - ALL WIRING IN METAL ROOF DECKS, IN OR NEAR ROOF INSULATION, OR EXPOSED TO SUN, TYPE THW.
- C. THE USE OF MC CABLE IS ONLY PERMITTED IN CONCEALED AREAS. THE OPEN AREA SHALL BE HARD-PIPED.
- D. SPLICES FOR NO. 8 AND SMALLER WIRE, WIRE OR WING NUTS.
- E. ALL WIRE SHALL BE COPPER, INSULATED FOR 600 VOLTS.
- F. ALL WIRES SHALL BE COLOR CODED. WIRES NO. 8 AWG AND SMALLER SHALL BE FACTORY COLOR-CODED. WIRE NO. 6 AWG AND LARGER MAY BE COLOR-CODED BY FIELD PAINTING OR COLOR TAPING OF 6 INCH LENGTH OF EXPOSED ENDS.
1. 120/208V SYSTEM: PHASE A = BLACK, B = RED, C = BLUE, NEUTRAL = WHITE, GROUND = GREEN

BOXES

- A. FOUR-INCH (4") SQUARE OR OCTAGONAL, ZINC-COATED SHEET STEEL BOXES.
- B. PROVIDE THREE-EIGHTHS INCH (3/8") NO BOLT FIXTURE STUDS FOR FIXTURE OUTLETS.
- C. PROVIDE COVERS SET TO COME FLUSH WITH FINISHED WALLS.
- D. UTILITY OR SECTIONAL SWITCH BOXES ONLY WHERE PERMITTED.
- E. VERIFY MOUNTING HEIGHTS OF ALL OUTLETS PRIOR TO INSTALLATION. LOCATE OUTLETS TO CLEAR COUNTERS, BENCHES, BASEBOARDS OR FINITUBE HEATERS, ETC, OR AS REQUIRED TO SERVICE EQUIPMENT.
- F. SUPPORT: OUTLET, DEVICE, PULL AND JUNCTION BOXES RIGIDLY FROM THE STRUCTURE EITHER DIRECTLY OR BY USING A RIGID SUPPORT, IN ACCORDANCE WITH REQUIREMENTS OF ART. 370-23 OF THE NEC.

WIRING DEVICES

- A. DEVICES SHALL BE AS FOLLOWS:
- SPECIFICATION GRADE RECEPTACLES: HUBBELL 5362 SERIES OR AS ACCEPTED; GROUND FAULT CIRCUIT INTERRUPTERS: HUBBELL OF5362, OR AS ACCEPTED. MOUNTING HEIGHT +18 INCH A.F.F. TO CENTER OR AS NOTED.
  - WEATHERPROOF OUTLET COVER, HUBBELL 5200 SERIES, OR AS ACCEPTED.
  - AC QUIET-OPERATING TYPE SWITCHES: HUBBELL HBL1221 SERIES, OR AS ACCEPTED. MOUNTING HEIGHT +42 INCH A.F.F. TO CENTER OR AS NOTED.
  - DIMMER SWITCH, "SLIDE TO OFF" TYPE, WITH A VA (W) RATING SUITABLE FOR THE LOAD SERVED: LUTRON NOVA SERIES, OR AS ACCEPTED. MOUNTING HEIGHT +42 INCH A.F.F. TO CENTER OR AS NOTED.
- B. DEVICE PLATES SHALL BE: NYLON, EXCEPT AS DIRECTED BY ARCHITECT.
- C. SPECIAL PURPOSE RECEPTACLES OR OTHER DEVICES SHALL BE WHITE AS INDICATED ON THE DRAWINGS. CONFIRM COLOR WITH ARCHITECT.
- D. WIRING DEVICES AND DEVICE PLATES COLOR SHALL BE AS DIRECTED BY THE ARCHITECT AND OWNER.
- E. DAYLIGHT & MOTION SENSORS SHALL BE GREENGATE. CONTACT, STEVE ROWE AT ILLUMINATION SYSTEMS (303) 229-7840

GROUNDING

- A. ALL SERVICE EQUIPMENT, CONDUIT SYSTEMS, SUPPORTS, CABINETS, LIGHTING STANDARDS, POLES, EQUIPMENT, FIXTURES, ETC. AND THE GROUNDING CIRCUIT CONDUCTOR SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE LATEST ISSUE OF THE NATIONAL ELECTRICAL CODE. PROVIDE BONDING JUMPERS, GROUNDING BUSHINGS, CLAMPS, ETC. FOR COMPLETE GROUNDING.
- PROVIDE A SEPARATE GROUNDING CONDUCTOR, SECURELY GROUNDED ON EACH SIDE OF ALL RACEWAYS CONTAINING SECTIONS OF PLASTIC, FIBER, ASBESTOS CEMENT, OR FLEXIBLE RACEWAYS. SIZE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
  - PROVIDE A GREEN GROUNDING JUMPER FROM THE GROUND SCREW TO A BOX GROUNDING SCREW OR CLIP FOR ALL GROUNDING TYPE DEVICES. USE INSULATED WIRE.
  - PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN EVERY FEEDER AND BRANCH CIRCUITS, INCLUDING MC CABLE. IF THE SIZE IS NOT INDICATED ON THE DRAWINGS, SIZE IN ACCORDANCE WITH TABLE 250-95 OF NEC.

EQUIPMENT WIRING SYSTEM

- A. WHERE OUTLETS ARE INDICATED FOR MISCELLANEOUS EQUIPMENT REQUIRING ELECTRICAL POWER OR CONTROL, PROVIDE WIRE, CONDUIT, OUTLETS, DISCONNECT SWITCHES, ETC, AND MAKE ALL REQUIRED CONNECTIONS.
- B. PROVIDE GROUNDING FOR ALL EQUIPMENT IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
- C. VERIFY EXACT CONNECTIONS REQUIRED FOR ALL EQUIPMENT PRIOR TO ROUGH IN.
- D. FOR INDIVIDUALLY-MOUNTED MOTOR CONTROLLERS SUPPLIED UNDER SPECIFICATIONS DIVISIONS OTHER THAN DIVISION 16, CONTROLLERS AND DISCONNECTS SHALL BE SUPPLIED BY THE EQUIPMENT SUPPLIER. ELECTRICAL CONTRACTOR TO SET IN PLACE AND PROVIDE ALL REQUIRED CONNECTIONS.

ELECTRIC SERVICE

- A. ELECTRICAL SERVICE IS EXISTING @ 600 AMPS. SEE ONE-LINE ON SHEET E-21

DISTRIBUTION EQUIPMENT

- A. ALL BRANCH CIRCUITS ARE CLASSIFIED AS NEW.

DRY TYPE TRANSFORMERS

- A. N/A

PANELBOARDS

- A. DEAD-FRONT, CIRCUIT BREAKER TYPE, KEY LOCK, AND TYPED DIRECTORY CARDS. PANELS SHALL BE "DOOR-IN-DOOR" CONSTRUCTION.
- B. THERMAL MAGNETIC CIRCUIT BREAKERS, COMPLETELY INTERCHANGEABLE, BOLTED TO THE BUS. MULTI-POLE BREAKERS SHALL HAVE COMMON, INTERNAL TRIP.
- C. MINIMUM INTEGRATED SHORT CIRCUIT RATING: 10,000 AMPERES RMS SYMMETRICAL FOR 240 VOLT PANELBOARDS; 14,000 AMPERES RMS SYMMETRICAL FOR 480 VOLT PANELBOARDS, OR AS INDICATED ON THE DRAWINGS.
- D. EXCEPT SPECIFIED OTHERWISE, PANELBOARDS TYPE SHALL BE AS FOLLOWS:  
MANUFACTURER 208/120V  
SIEMENS, SQUARE D OR EQUAL BL OR EQUAL
- E. PANEL BUSES SHALL BE COPPER.
- F. LOADCENTERS ARE NOT PERMITTED.

ENCLOSED MOTOR CONTROLLERS

- A. EXCEPT SPECIFIED OTHERWISE, MOTOR CONTROLLER TYPE SHALL BE AS MANUFACTURED BY: ALLEN-BRADLEY, CUTLER-HAMMER, GENERAL ELECTRIC, AND SQUARE-D.
- B. MANUAL MOTOR CONTROLLER: FULL-VOLTAGE STARTING, NEMA IS 2, AC, HEAVY-DUTY CLASS, MANUALLY OPERATED CONTROLLER WITH: 1) TOGGLE OPERATOR AND THERMAL OVERLOAD ELEMENT FOR FRACTIONAL HORSEPOWER INDUCTION MOTORS; OR: 2) OVERLOAD ELEMENT, RED PILOT LIGHT, 2 NO/NC FIELD INTERCHANGEABLE AUXILIARY CONTACTS AND PUSH BUTTON OPERATOR FOR INDUCTION MOTORS 1/2 HP AND LARGER.
- C. AUTOMATIC MAGNETIC MOTOR CONTROLLERS: FULL VOLTAGE STARTING, NEMA IS 2, AC, HEAVY-DUTY CLASS, MAGNETIC CONTROLLER RATED IN HORSEPOWER. CONTROLLER SHALL BE PROVIDED WITH: 1) TWO (2) NO/NC FIELD CONVERTIBLE AUXILIARY CONTACTS IN ADDITION TO FACTORY SUPPLIED SEAL-IN CONTACTS; 2) COVER MOUNTED INCANDESCENT RED AND GREEN PILOT LIGHTS AND PUSHBUTTON OPERATOR; 3) ROTARY TYPE SELECTOR SWITCH; 4) CONTROL POWER TRANSFORMER WITH 120 VOLT SECONDARY VOLTAGE AND VA RATING AS REQUIRED BY THE LOAD SERVED. CONTROL TRANSFORMER SHALL BE FUSE PROTECTED ON BOTH, PRIMARY AND SECONDARY WINDINGS.
- D. INSTALL ENCLOSED CONTROLLERS WHERE INDICATED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. HEIGHT OF THE OPERATING HANDLE NOT OVER 5 FT TO FINISHED FLOOR.
- E. SELECT AND INSTALL OVERLOAD HEATER ELEMENTS IN MOTOR CONTROLLERS TO MATCH INSTALLED MOTOR CHARACTERISTICS.
- F. MECHANICAL EQUIPMENT MOTORS AND MOTOR STARTERS FURNISHED BY MECHANICAL CONTRACTOR.
- G. PROVIDE FEEDER CIRCUITS TO MECHANICAL EQUIPMENT AND MOTOR STARTERS AND MAKE ALL CONNECTIONS.
- H. PROVIDE NORMAL DUTY, HP RATED, QUICK-MAKE, QUICK-BREAK, FUSIBLE OR NON-FUSIBLE DISCONNECT SWITCHES AS REQUIRED BY NEC.

LIGHTING FIXTURES

- A. PROVIDE ALL NEW LIGHTING FIXTURES COMPLETE WITH LAMPS, BALLASTS, REFLECTORS, PLASTER FRAMES, FLANGES, LOUVERS, STEM HANGERS, ETC., ASSEMBLED AND READY FOR OPERATION AND AS DESCRIBED ON THE DRAWINGS. (VERIFY CEILING TYPES.)
- B. ALL BALLASTS SHALL BE CLASS P, "CBM-ETL" CERTIFIED, H.P.F., ENERGY EFFICIENT TYPE. ELECTRONIC BALLASTS TO HAVE LESS THAN 10 % THD.
- C. MOUNT ALL FIXTURES AT POSITION AND HEIGHT TO CLEAR DUCTS, ETC.
- D. PROVIDE TWO NO. 12 GAUGE HANGERS CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE, IN ADDITION TO THE FIXTURE REQUIRED ATTACHMENT TO THE CEILING SUSPENSION SYSTEM. FIXTURE SUPPORT SHALL MEET THE REQUIREMENTS OF STANDARD 25-2 OF THE UBC.
- E. ALL LAMPS SHALL BE ENERGY EFFICIENT TYPE, EQUAL TO GENERAL ELECTRIC, PHILLIPS OR SYLVANIA.

VOICE AND DATA CONDUIT SYSTEM

- A. PROVIDE OUTLETS WHERE INDICATED ON THE DRAWINGS. PROVIDE 3/4 INCH CONDUIT WITH PULL WIRE FROM EACH OUTLET TO 6 INCH ABOVE ACCESSIBLE CEILING. BEND CONDUIT 90 DEGREES AND INSTALL CONDUIT BUSHINGS AT CONDUIT ENDS.
- B. OUTLETS SHALL CONSIST OF FOUR-INCH (4") SQUARE BY 2-1/2 INCH DEEP BOX WITH SINGLE GANG COVER. OUTLET PLATES COLOR AND FINISH SHALL MATCH OTHER DEVICE PLATES.
- C. PROVIDE TELEPHONE TERMINALS BOARDS AS SHOWN ON DRAWINGS.
- D. ALL COMMUNICATIONS CABLES ABOVE CEILING SHALL BE PLENUM RATED. SUPPORT CABLES FROM THE STRUCTURE. DO NOT LAY CABLES ON TOP OF THE CEILING SYSTEM.
- E. SUPPORT AND INSTALL VOICE AND DATA RACEWAY SYSTEM AND CABLES FOLLOWING EIA/ITA STANDARDS.
- F. VOICE & DATA CABLING PROVIDED BY OWNER.

FIRE ALARM SYSTEM

- A. DESIGN-BUILD PROVIDE FIRE ALARM PLANS TO YUMA COUNTY FIRE JURISDICTION IF NECESSARY. GC TO VERIFY PRIOR TO BID.

END OF SPECIFICATION

ELECTRICAL SHEET INDEX/CODES

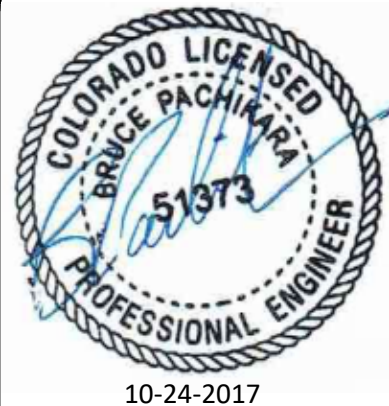
JURISDICTION: CITY OF AURORA, COLORADO

ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE

IECC: 2015 INTERNATIONAL ENERGY CONSERVATION CODE

ISSUE

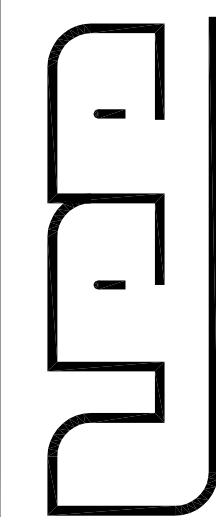
SHEET NO.	SHEET DESCRIPTION	10/24/2017 - PERMIT SET				
E-01	ELECTRICAL COVER SHEET	X				
E-02	ELECTRICAL LEGEND	X				
E-11	ELECTRICAL DRIVE UP POWER PLAN	X				
E-12	ELECTRICAL DRIVE UP KIOSK PLAN	X				
E-21	ELECTRICAL ONE-LINE & SCHEDULES	X				



10-24-2017  
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LEE ARCHITECTS/  
INTERIOR DESIGNERS

2525 S. WADSWORTH BLVD., SUITE #21  
DENVER, COLORADO 80227  
PHONE: 303/968-4500 FAX: 303/968-4511



PARTNER  
CREDIT UNION

AURORA, COLORADO

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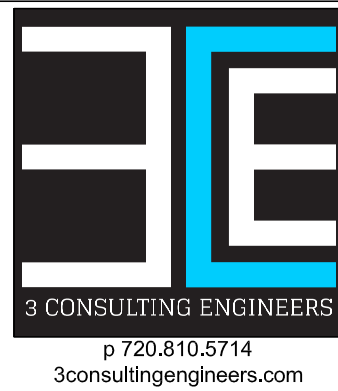
Job No: 17021

Revisions:

Date  
SEPT. 21, 2017  
AutoCAD Checked by  
3CE 3CE  
Title

ELECTRICAL  
COVER  
SHEET

E-01



3 CONSULTING ENGINEERS  
p 720.810.5714  
3consultingengineers.com



ABBREVIATION

A	AMPERE(S)
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
DISC	DISCONNECT
DW	DISHWASHER
DWG(S)	DRAWING(S)
(E)	EXISTING TO REMAIN
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
(ER)	EXISTING TO BE RELOCATED
EM	EMERGENCY
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
(R)	EXISTING TO BE REMOVED
F	FUSE
FLA	FULL LOAD AMPS
GD	GARBAGE DISPOSAL
G	GROUND
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
IG	ISOLATED GROUND
KVA	KILOVOLT AMPERE(S)
KW	KILOWATT(S)
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPERE(S)
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION CENTER
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NL	NIGHT LIGHT – SEE GENERAL NOTES
NO	NORMALLY OPEN
OAE	OR APPROVED EQUAL
OH	OVERHEAD
P	POLE
PH, ∅	PHASE
PNL	PANEL
(RL)	RELOCATED
SPD	SURGE PROTECTION DEVICE
ST	SHUNT TRIP
UC	UNDER COUNTER/CABINET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
W	WATT(S) OR WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
<div><div>x</div><div>x</div></div>	MECHANICAL EQUIPMENT SCHEDULE NOTATION
<div><div>x</div></div>	DELTA REVISION NOTE

LIGHTING FIXTURES

<div>A</div> <div>o</div>	LUMINAIRE TYPE, REFERENCING LUMINAIRE SCHEDULE, TYPICAL ALL FIXTURES. SUBSCRIPT, IF SHOWN, REFERENCES WALL SWITCH.
<div><div>o</div><div>o</div></div>	WALL MOUNTED LUMINAIRE
<div><div>o</div><div>o</div></div>	SURFACE MOUNTED LUMINAIRE
<div><div>o</div><div>o</div></div>	RECESSED LUMINAIRE
<div><div>o</div><div>o</div></div>	DOWNLIGHT LUMINAIRE
<div><div>o</div><div>o</div></div>	SURFACE CEILING LUMINAIRE
<div><div>o</div><div>o</div></div>	PENDANT LUMINAIRE
<div><div>o</div><div>o</div></div>	WALLWASH LUMINAIRE
<div><div>o</div><div>o</div></div>	STRIP LUMINAIRE
<div><div>o</div><div>o</div></div>	SURFACE OR PENDANT TRACK LUMINAIRE
<div><div>o</div><div>o</div></div>	EXIT LUMINAIRE – SHADED INDICATES FACE/ DIRECTIONAL ARROWS AS SHOWN.
<div><div>o</div><div>o</div></div>	BATTERY PACK EMERGENCY LUMINAIRE
<div><div>o</div><div>o</div></div>	EMERGENCY LUMINAIRE – HATCHED PROVIDE WITH INTEGRAL BATTERY BACKUP
<div><div>o</div><div>o</div></div>	PORCELAIN LAMP HOLDER
<div><div>o</div><div>o</div></div>	BOLLARD OR POST TOP LUMINAIRE
<div><div>o</div><div>o</div></div>	EXTERIOR AREA LIGHT

POWER

<div><div>o</div></div>	DUPLEX RECEPTACLE
<div><div>o</div></div>	FOUR PLEX RECEPTACLE
<div><div>o</div></div>	SINGLE RECEPTACLE
<div><div>o</div></div>	SWITCHED DUPLEX RECEPTACLE
<div><div>o</div></div>	SPECIAL PURPOSE RECEPTACLE
<div><div>o</div></div>	FLOOR MOUNTED SPECIAL PURPOSE RECEPTACLE
<div><div>o</div></div>	FLOOR MOUNTED RECEPTACLE DUPLEX/QUAD
<div><div>o</div></div>	JUNCTION BOX
<div><div>o</div></div>	WALL MOUNTED J–BOX
<div><div>o</div></div>	FLOOR MOUNTED JUNCTION BOX
<div><div>o</div></div>	MOLDED CASE CIRCUIT BREAKER IN ENCLOSURE
<div><div>o</div></div>	NON–FUSED DISCONNECT SWITCH
<div><div>o</div></div>	FUSED DISCONNECT SWITCH
<div><div>o</div></div>	MAGNETIC CONTROLLER (STARTER)
<div><div>o</div></div>	COMBINATION STARTER/DISCONNECT SWITCH
<div><div>o</div></div>	MOTOR
<div><div>o</div></div>	RELAY
<div><div>o</div></div>	TIME CLOCK
<div><div>o</div></div>	PHOTOCELL
<div><div>o</div></div>	THERMAL OVERLOAD SWITCH
<div><div>o</div></div>	SINGLE POLE SWITCH
<div><div>o</div></div>	3–WAY SWITCH
<div><div>o</div></div>	4–WAY SWITCH
<div><div>o</div></div>	KEY OPERATED SWITCH
<div><div>o</div></div>	DIMMER SWITCH
<div><div>o</div></div>	LIGHTING CONTROL SYSTEM LOW VOLTAGE DIGITAL WALL STATION.
<div><div>o</div></div>	OCCUPANCY SENSOR/SWITCH.
<div><div>o</div></div>	CEILING MOUNTED OCCUPANCY SENSOR.
<div><div>o</div></div>	DAYLIGHT SENSOR.

DISTRIBUTION

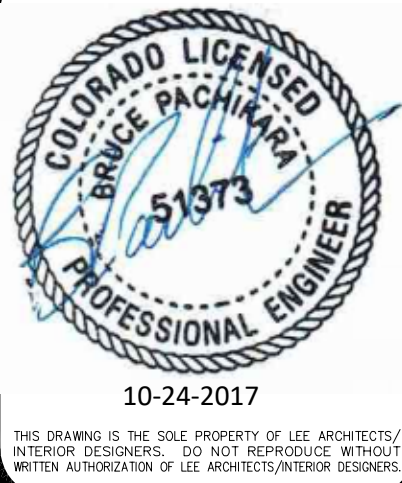
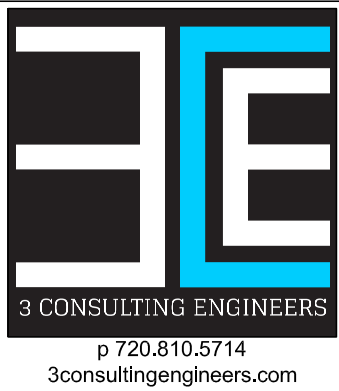
<div><div>o</div></div>	SURFACE MTD PANELBOARD
<div><div>o</div></div>	RECESSED PANELBOARD
<div><div>o</div></div>	TRANSFORMER
<div><div>o</div></div>	CIRCUIT BREAKER SWITCH
<div><div>o</div></div>	FUSED SWITCH
<div><div>o</div></div>	GROUNDING ELECTRODE CONDUCTOR
<div><div>o</div></div>	METER

FIRE ALARM

<div><div>o</div></div>	FIRE ALARM CONTROL PANEL
<div><div>o</div></div>	FIRE ALARM ANNUNCIATOR/GRAPHIC MAP
<div><div>o</div></div>	MANUAL PULLDOWN STATION
<div><div>o</div></div>	WALL MOUNTED ADA STROBE
<div><div>o</div></div>	ADA HORN OR SPEAKER WITH STROBE
<div><div>o</div></div>	MINI HORN / STROBE
<div><div>o</div></div>	ELECTROMAGNETIC DOOR HOLD OPEN
<div><div>o</div></div>	SPRINKLER FLOW SWITCH
<div><div>o</div></div>	SPRINKLER TAMPER SWITCH
<div><div>o</div></div>	THERMAL DETECTOR
<div><div>o</div></div>	PHOTOELECTRIC SMOKE DETECTOR
<div><div>o</div></div>	DUCT SMOKE DETECTOR, SUPPLY OR RETURN
<div><div>o</div></div>	120V. MOTORIZED SMOKE DAMPER

SPECIAL SYSTEMS

<div><div>o</div></div>	TELEPHONE SYSTEM BACKBOARD
<div><div>o</div></div>	TELECOMMUNICATION OUTLET
<div><div>o</div></div>	FLOOR MOUNTED TELECOMMUNICATION OUTLET
<div><div>o</div></div>	TELEVISION OUTLET
<div><div>o</div></div>	SPEAKER
<div><div>o</div></div>	PUSH BUTTON
<div><div>o</div></div>	CLOSED CIRCUIT TELEVISION CAMERA
<div><div>o</div></div>	CABLE TRAY (LENGTH AS INDICATED ON DRAWINGS)
<div><div>o</div></div>	KEY PAD



LEE ARCHITECTS/  
INTERIOR DESIGNERS

2525 S. WADSWORTH BLVD. SUITE #21  
DENVER, COLORADO 80227  
PHONE:303/968-4300 FAX:303/968-4511

PARTNER

CREDIT UNION

988 S. CHAMBERS ROAD  
AURORA, COLORADO

Job No: 17021

Revisions:

Date

SEPT. 21, 2017

AutoCAD

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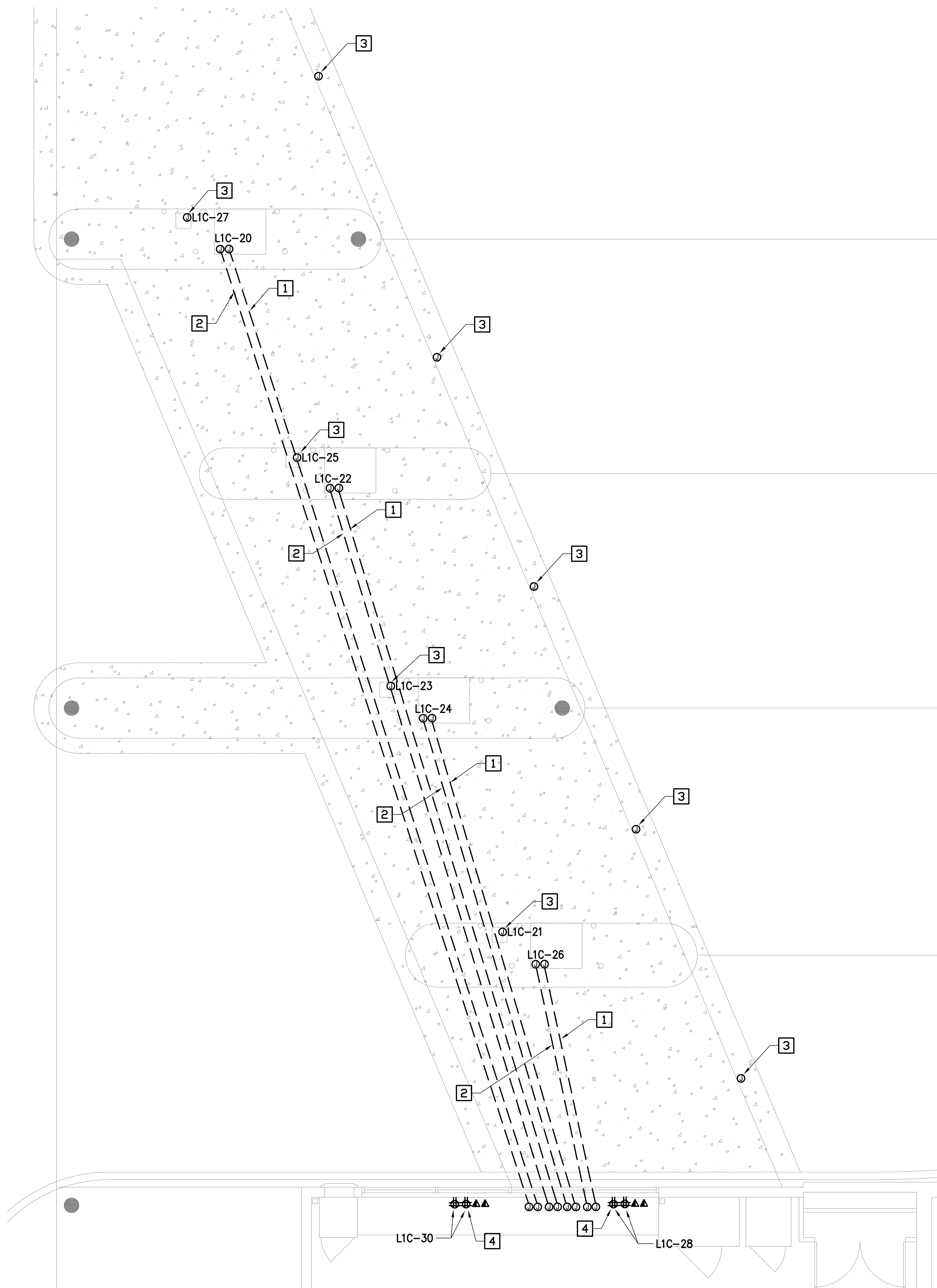
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ELECTRICAL  
LEGEND

E-02





## ELECTRICAL GENERAL NOTES:

- 1.) SEE COVER SHEET FOR GENERAL NOTES AND LEGEND.
- 2.) ALL EXPOSED CONDUIT AND MC CABLE SHALL BE RAN PARALLEL & PERPENDICULAR TO THE BUILDING LINES
- 3.) PAINT CONDUIT & CABLE TO MATCH CEILINGS & EXTERIOR CANOPIES
- 4.) COORDINATE THE EXACT LOCATIONS OF ALL EQUIPMENT WITH THE OWNERS PROJECT MANAGER AND INSTALL PER THE REQUIREMENTS OF THE RESPECTIVE EQUIPMENT SUPPLIER/INSTALLER
- 5.) THE GENERAL CONTRACTOR SHALL MAINTAIN POWER TO ALL NEW AND EXISTING OPERATIONAL EQUIPMENT AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALLOW FOR TEMPORARY WORK AREAS AS NECESSARY.
- 6.) INCLUDE IN SCOPE OF WORK, TEMPORARY SERVICES FOR EXISTING EQUIPMENT, DEVICES AND OWNER'S EQUIPMENT THAT MUST BE RELOCATED DUE TO CONSTRUCTION PHASING, COORDINATE WITH THE OWNER'S PROJECT MANAGER.
- 7.) COORDINATE ALL EXTERIOR, WALL MOUNTED, LIGHT FIXTURE HEIGHTS WITH THE ARCHITECT & OWNER PRIOR TO ROUGH-IN.
- 8.) COORDINATE ALL ELECTRICAL DEMO WITH PROJECT MANAGER.
- 9.) EC TO DEMO ALL EXISTING POWER & COMMUNICATION CONDUITS TO EXISTING DRIVE-UP TELLER LINES.

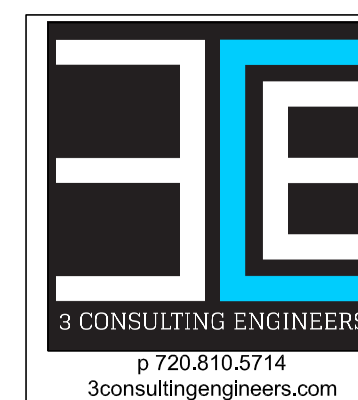
## ELECTRICAL PROJECT NOTES:

- 1.) THE WORK DEPICTED ON THE DRAWINGS IS DIAGRAMMATIC. COORDINATE WORK WITH OTHER TRADES SO INTERFERENCE AMONG CONDUITS, EQUIPMENT, DUCTS, PIPING, ARCHITECTURAL AND STRUCTURAL WORK WILL BE AVOIDED.
- 2.) PROVIDE A #9 GA. GALVANIZED PULLWIRE OR PULL ROPE/CORD HAVING 200# TEST STRENGTH IN EACH EMPTY RACEWAY OVER 25 FEET LONG.
- 3.) PROVIDE GROUNDING IN ACCORDANCE WITH THE 2014 NATIONAL ELECTRICAL CODE NEC ART. 250.
- 4.) GENERAL BUILDING CONTRACTOR AND/OR HIS ELECTRICAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL FIRE ALARM SYSTEMS, SECURITY ALARM SYSTEMS, AND ENERGY MANAGEMENT SYSTEMS. THE ASSOCIATED CONTROL PANELS AND ESTABLISHMENT OF ALL MONITORING FOR THESE SYSTEMS MUST BE IN COMPLETE WORKING ORDER. ADVANCE TESTING, ADJUSTMENTS AND SECURING OF ALL APPROVALS BY LOCAL AND STATE BUILDING OFFICIALS AND FIRE MARSHALS MUST BE COMPLETED TWO (2) WEEKS AFTER THE PROJECT HAS BEEN AWARDED.
- 5.) PROVIDE ALL BRANCH CIRCUIT WIRING RACEWAYS TO ALL FIXTURES, DEVICES AND EQUIPMENT TO CONNECT THEM TO THE CIRCUITS INDICATED.
- 6.) ALL CONDUIT AND CABLE DROPS IN THE TELLER AREA FROM THE CEILING, JOIST SPACE OR ROOF TO LOW WALLS OR EQUIPMENT SHALL BE COORDINATED AND GROUPED TOGETHER WITH OTHER PIPING, ETC.

## ELECTRICAL KEY NOTES:

- 1] INSTALL (2) 1" UNDERGROUND COMMUNICATION CONDUITS FROM THE DRIVE ISLAND TO THE DRIVE UP ITM TELLER LOCATION. COORDINATE LOCATION WITH THE EQUIPMENT SUPPLIER & OWNER PRIOR TO INSTALLATION.
- 2] INSTALL A 3/4" UNDERGROUND POWER CONDUIT FROM THE DRIVE ISLAND TO THE DRIVE UP ITM TELLER LOCATION. COORDINATE LOCATION WITH THE EQUIPMENT SUPPLIER & OWNER PRIOR TO INSTALLATION.
- 3] RELOCATE POWER TO OPEN/CLOSE LANE LIGHTS. FIELD COORDINATE LANE NUMBERING WITH THE BRANCH MANAGER. LABEL INTERIOR SWITCHES PER MANAGER'S DIRECTION. PROVIDE NEW LED OPEN/CLOSE LIGHTS FOR EACH LANE.
- 4] NEW DEVICES TO BE LOCATED UNDER THE EXISTING TELLER LINE. PROVIDE A 1" CONDUIT FOR EACH NEW DATA LOCATION, ROUTE THE COMMUNICATION CONDUITS TO IT CLOSEST.

**A ELECTRICAL DRIVE-UP PLAN**  
SCALE: 1/8" = 1'-0"



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LEE ARCHITECTS/  
INTERIOR DESIGNERS

2525 S. WADSWORTH BLVD., SUITE #21  
DENVER, COLORADO 80227  
PHONE: 303/968-4500  
FAX: 303/968-4511

**PARTNER**  
CREDIT UNION

988 S. CHAMBERS ROAD  
AURORA, COLORADO

Job No: **17021**

Revisions:

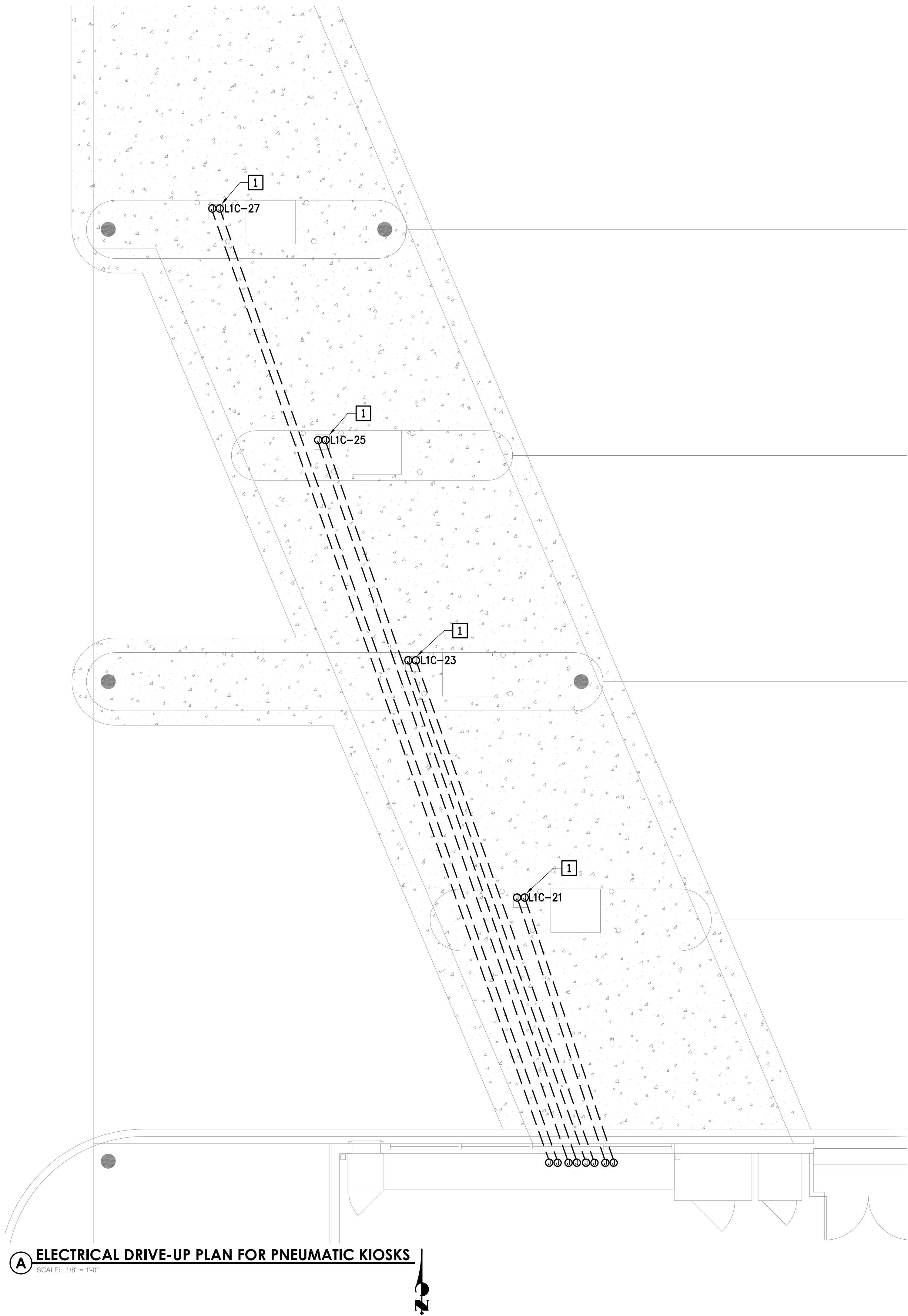
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Title  
**ELECTRICAL  
DRIVE-UP  
PLAN**

**E-11**

CONSTRUCTION DOCUMENTS





ELECTRICAL KEY NOTES:

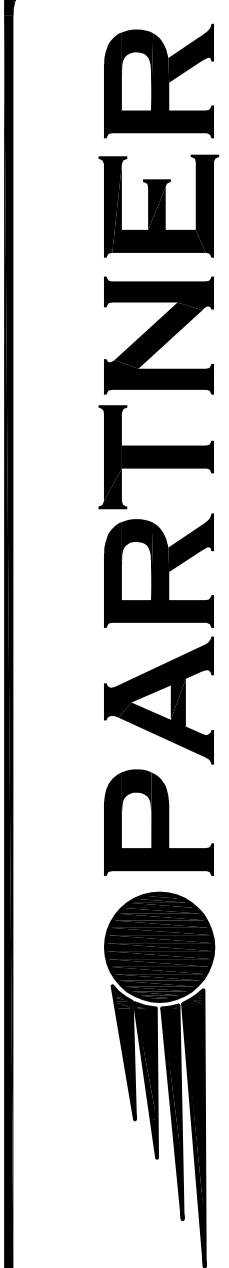
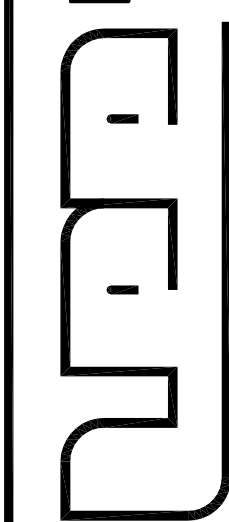
- 1 INSTALL (1) 3/4" UNDERGROUND CONDUIT TO PNEUMATIC KIOSK FOR 120V POWER TO THE DRIVE-UP TELLER LOCATION. INSTALL (1) 1" UNDERGROUND COMMUNICATION CONDUIT FROM THE PNEUMATIC KIOSK TO THE DRIVE UP TELLER LOCATION. COORDINATE LOCATION WITH THE EQUIPMENT SUPPLIER & OWNER PRIOR TO INSTALLATION.



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2525 S. WADSWORTH BLVD., SUITE #21  
DENVER, COLORADO 80227  
PHONE: 303/968-4300 FAX: 303/968-4511



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AURORA, COLORADO

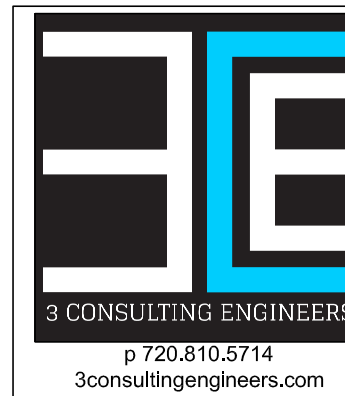
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ELECTRICAL  
DRIVE-UP  
KIOSK PLAN

E-12



CONSTRUCTION DOCUMENTS



SERVICE LOAD CALCULATIONS							
XCEL ENERGY PEAK DEMAND PER UTILITY CO.							
METER #40418T	8250	VOLT AMPS	@	125%	=	80641	VA
NEW LOAD ADDED	560	VOLT AMPS	@	100%	=	7080	VA
TOTAL CALCULATED DEMAND LOAD						87721	VA
FULL LOAD CURRENT						243.7	AMPS



- 1 2(4 #350 MCM CU, 3 1/2" C) 620 AMPS
- 2 (4 #2 CU, 1 #8 CU G, 1 1/2" C) 115 AMPS
- 3 2(4 #3/0 CU, 1 #2 CU G, 2" C) 400 AMPS

EXISTING ELECTRICAL ONE-LINE DIAGRAM  
SCALE: NTS

## FAULT CURRENT CALCULATIONS

<b>X1</b>	$F = \frac{1.732 \quad X \quad 115 \quad X \quad 13000}{2 \quad X \quad 22737 \quad X \quad 208} = 0.27$	
	$M = \frac{1}{1 + 0.27} = 0.79$	ISC= 13000 X 0.79 = <b>10206</b>
<b>X2</b>	$F = \frac{1.732 \quad X \quad 15 \quad X \quad 10206}{1 \quad X \quad 7293 \quad X \quad 208} = 0.17$	
	$M = \frac{1}{1 + 0.17} = 0.85$	ISC= 10206 X 0.85 = <b>8688</b>
<b>X3</b>	$F = \frac{1.732 \quad X \quad 10 \quad X \quad 10206}{2 \quad X \quad 12844 \quad X \quad 208} = 0.03$	
	$M = \frac{1}{1 + 0.03} = 0.97$	ISC= 10206 X 0.97 = <b>9879</b>
<b>X4</b>	$F = \frac{1.732 \quad X \quad 8 \quad X \quad 10206}{1 \quad X \quad 7293 \quad X \quad 208} = 0.09$	
	$M = \frac{1}{1 + 0.09} = 0.91$	ISC= 10206 X 0.91 = <b>9336</b>
<b>X5</b>	$F = \frac{1.732 \quad X \quad 45 \quad X \quad 10206}{1 \quad X \quad 7293 \quad X \quad 208} = 0.52$	
	$M = \frac{1}{1 + 0.52} = 0.66$	ISC= 10206 X 0.66 = <b>6695</b>



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ELECTRICAL  
SCHEDULES &  
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E-21