# CERTIFICATE OF APPROPRIATENESS - HISTORIC RESOURCES

**3-HP-2021**

**Hotel Valley Ho gates**

| APPLICATION INFORMATION | | | |
|---|---|---|---|
| LOCATION: | 6850 E Main St | APPLICANT: | David Meacham |
| PARCEL: | 130-11-174A | COMPANY: | David Meacham |
| Q.S.: | 16-44 | ADDRESS: | 7466 E. Monte Cristo Ave Scottsdale, AZ 85260 |
| CODE VIOLATION #: | | PHONE: | (480) 467-9881 |
| Request: | Request for a Certificate of No Effect - Historic Resources to add parking gates at Hotel Valley Ho lot for security purposes. | | |

**Certificate of Appropriateness Criteria:**
In accordance with the Section 6.122.G. of the Zoning Ordinance, the Historic Preservation Commission:

- Finds that the proposed work is consistent with the Historic Preservation Plan for the resource.

## STIPULATIONS

1. Approval to install 2 gates in the Hotel Valley Ho parking lot as shown on plans submitted by LSW Engineers with a City staff approval date of 1/11/2021.
2. Final plans shall indicate striping of the pavement with arrows to indicate direction of traffic and removing the two parking spaces adjacent to the entrance ticket dispenser shown on the plans.

## CONSTRUCTION DOCUMENT PLAN REVIEW SUBMITTAL REQUIREMENTS

Submit one copy of this approval letter, a completed Owner/Builder form if applicable, and a permit application along with the following plan set(s) to the One-Stop-Shop for review:

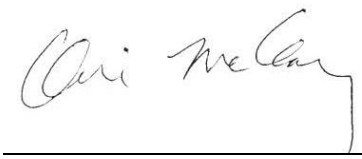
PERMIT APPLICATION: ☒ **Completed Permit Application**
The permit application may be filled-out and submitted online at:
https://eservices.scottsdaleaz.gov/bldgresources/plans or obtained for printing at:
- Commercial/Multi-family
http://www.scottsdaleaz.gov/assets/ScottsdaleAZ/Building/APP_Permit_Commercial.pdf

**Digital Plan submittals** can be made using the City's e-Services at https://eservices.scottsdaleaz.gov/bldgresources/plans and should include one PDF copy of each of the required plans/documents identified below.

IMPROVEMENTS: ☒ Civil Improvement Plans
☒ Landscape Improvement Plans

**Expiration of this Certificate of Appropriateness Determination**

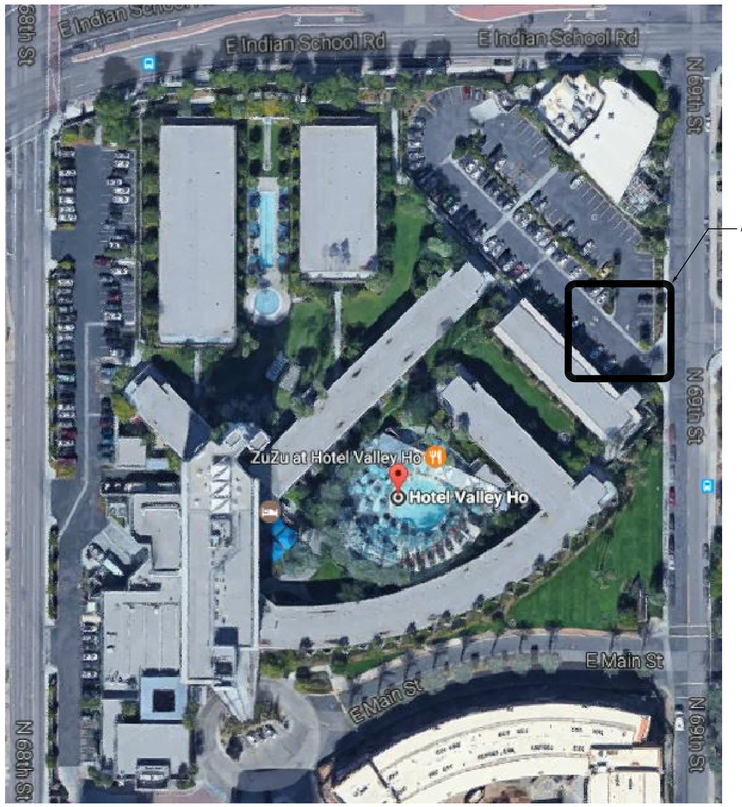
This approval expires two (2) years from date of approval if a permit has not been issued, or if no permit is required, work for which approval has been granted has not been completed.

SIGNATURE:  DATE: 1/11/2021

Doris McClay, 480-312-4214

# HOTEL VALLEY HO

## PARKING LOT ACCESS GATE




HOTEL VALLEY HO
6850 E MAIN STREET
SCOTTSDALE, ARIZONA 85251

**STIPULATION SET**
**RETAIN FOR RECORDS**
**APPROVED**

APPROVED BY

1/11/2021
DATE

## CITY OF **SCOTTSDALE** CODES

2015 INTERNATIONAL BUILDING CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL RESIDENTIAL CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL MECHANICAL CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL PLUMBING CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL FUEL GAS CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL ENERGY CONSERVATION CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL EXISTING BUILDING CODE WITH CITY AMENDMENTS
2015 INTERNATIONAL GREEN CONSTRUCTION CODE WITH CITY AMENDMENTS
2015 NATIONAL ELECTRIC CODE WITH CITY AMENDMENTS

## SHEET INDEX



| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/17/2017 | CITY COMMENTS | AJB |


LSW Engineers
ARIZONA, INCORPORATED
2333 West Northern Avenue Telephone 602.249.1320
Phoenix, Arizona 85021 Facsimile 602.336.3276
www.lswphx.com



COVER SHEET

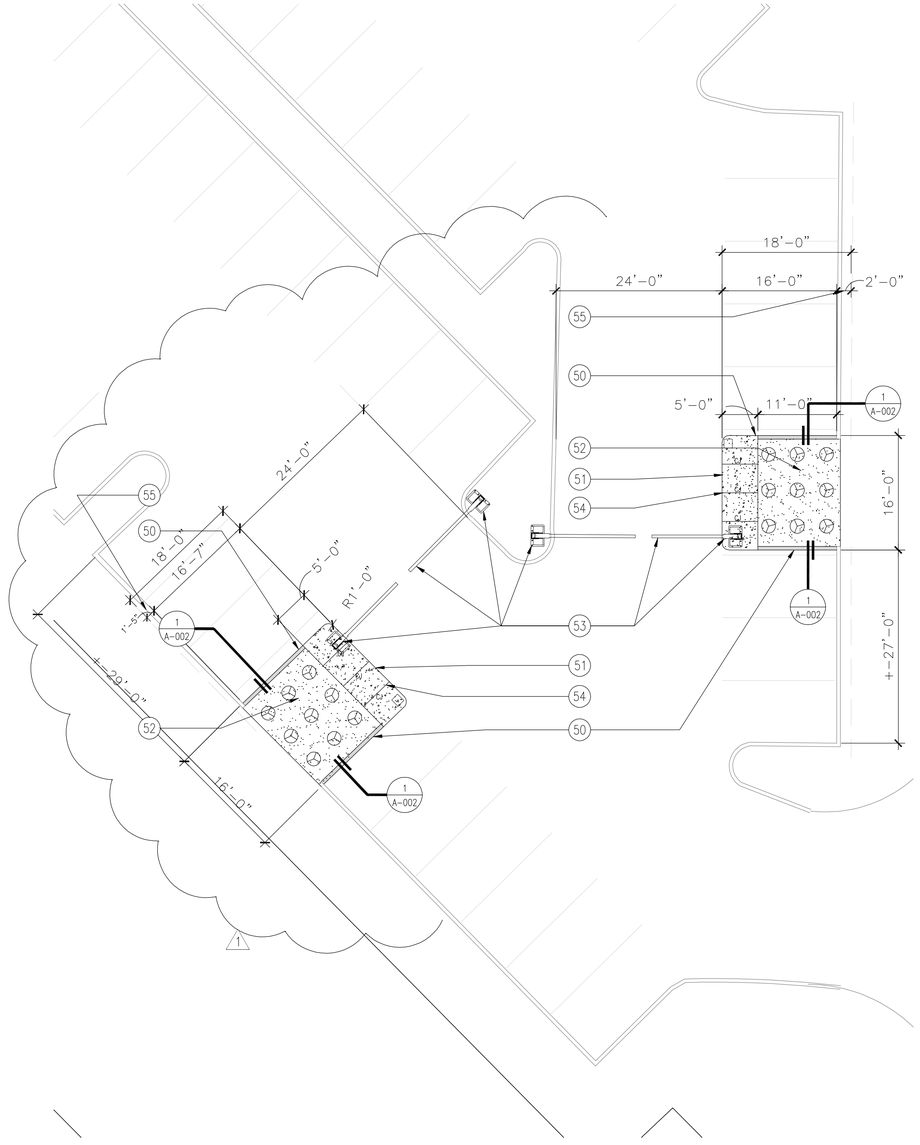
**Hotel Valley Ho**
**Parking Lot Access Gate**
**6850 E Main Street**
**Scottsdale, AZ, 85251**

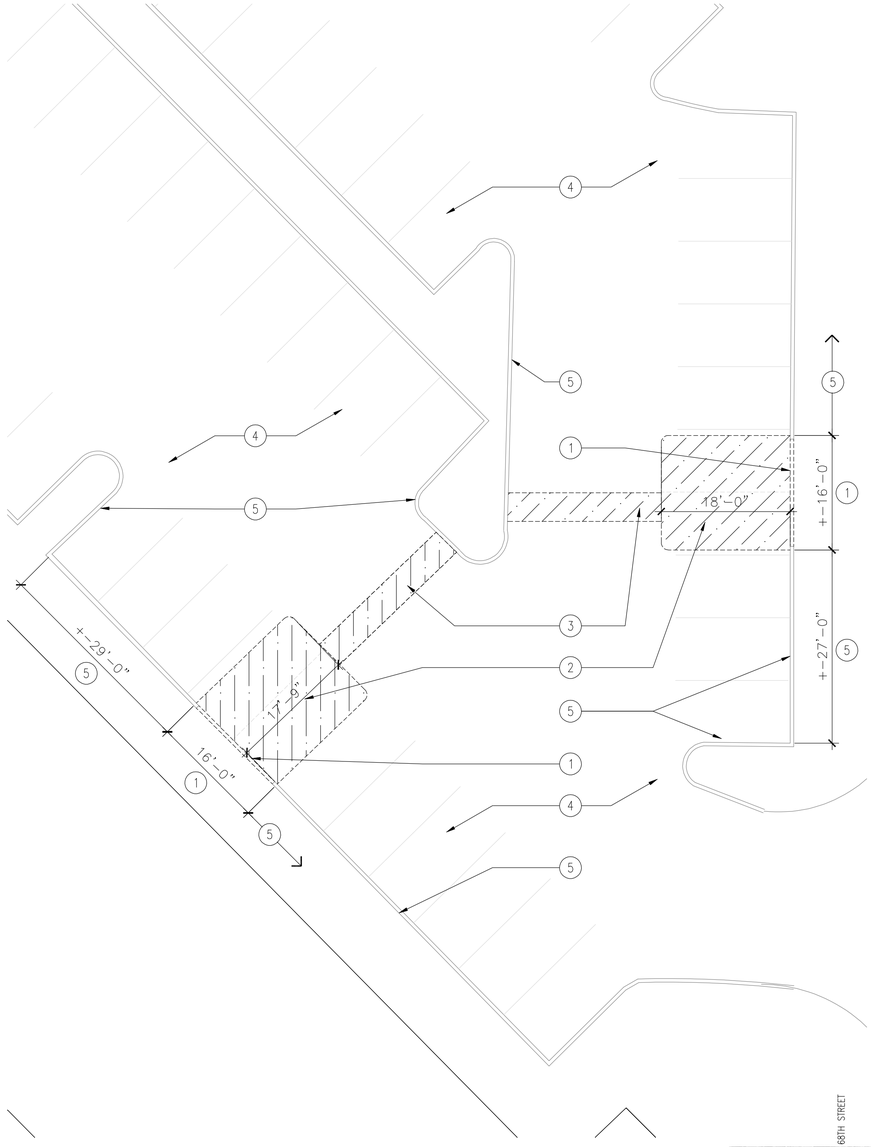
Registered Professional Engineer (Electrical)
CERTIFICATE NO.
43861
ADAM J.
BAGBY
Date Signed 12-12-17
ARIZONA U.S.A.
EXPIRES: 03/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| AL | AJB | AJB |

| DATE | JOB NO. |
|---|---|
| 02-20-2017 | 2017-013.000 |

SHEET NO.
CS




## PROPOSED PARTIAL SITE PLAN

NORTH SCALE: 1" = 10'-0"

0' 10' 20'

## DEMO PARTIAL SITE PLAN

NORTH SCALE: 1" = 10'-0"

0' 10' 20'

### PROPOSED KEYNOTES

50. NEW 6" CONCRETE CURB. MATCH ADJACENT CURB IN ELEVATION AND TYPE. SEE 1/A-002
51. NEW 4" THICK CONCRETE SLAB
52. NEW LANDSCAPE ISLAND WITH 3" TOPPING OF GRANITE TO MATCH ADJACENT PLANTERS. SEE SYMBOL LEGEND FOR TYPE OF PLANT MATERIAL. SPACE EVENLY WITHIN PLANTER
53. NEW PARKING GATE. SEE ELECTRICAL DRAWINGS. SEE DETAIL 2/E-004 FOR MINIMUM CONCRETE FOUNDATION @ EQUIPMENT BASE.
54. CONTROL JOINT EQUALLY SPACED. SEE 2/A-002
55. PER ZONING SECTION 9.106.C, PARKING STALL OVERHANGS ALLOWED AT 2'-0" MAXIMUM FOR A TOTAL PARKING STALL DEPTH OF 18'-0"

### GENERAL NOTES

A. NEW LANDSCAPE TO BE ADDED TO EXISTING IRRIGATION SYSTEM. EXTEND FROM NEAREST SUPPLY LINE. PROVIDE (2) ADJUSTABLE 1 GPH EMITTERS PER SHRUB. ENSURE EXISTING IRRIGATION SYSTEM IS IN WORKING ORDER. IF SYSTEM IS NOT WORKING PROPERLY, NOTIFY BUILDING OWNER OF NECESSARY REPAIRS TO EXISTING SYSTEM.
B. NEW LANDSCAPE ISLANDS TO HAVE D/G TOPPING TO MATCH ADJACENT PLANTERS
C. NEW CONCRETE CURB AND SLAB TO MATCH ELEVATION OF ADJACENT CURB AND SIDEWALKS
D. PATCH BACK ASPHALT DRIVE WITH LIKE KIND WHERE REMOVED FOR INSTALLATION OF ELECTRICAL CONDUITS. SEE DETAILS 9 & 10 ON SHEET A-002
E. REPLACE ANY PLANTS DAMAGED BY INSTALLATION OF CONDUITS IN EXISTING PLANTERS AS SHOWN ON ELECTRICAL DRAWINGS WITH LIKE KIND. MINIMUM 5 GALLON SIZE.

### DEMO KEYNOTES

1. REMOVE EXISTING CONCRETE CURB
2. REMOVE PORTION OF ASPHALT PARKING AREA FOR NEW LANDSCAPE ISLAND. NOTE REMOVAL OF 2 PARKING SPACES PER ISLAND.
3. REMOVE MINIMUM PORTION OF DRIVEWAY AND PATCH BACK WITH ASPHALT TO MATCH FOR NEW CONDUITS AS SHOWN ON ELECTRICAL DRAWINGS. SEE DETAILS 9 & 10 ON SHEET A-002 FOR TRENCH BACKFILL AND ASPHALT REPLACEMENT
4. EXISTING ASPHALT DRIVEWAY TO REMAIN AS IS.
5. EXISTING CONCRETE CURB TO REMAIN AS IS.


## REFERENCE SITE PLAN - NTS

NORTH

### GENERAL DEMOLITION NOTES

A. EXISTING SPACE TO BE OCCUPIED AND IN USE DURING CONSTRUCTION.
B. CONTRACTOR SHALL VERIFY IN FIELD CONDITIONS AND NOTIFY ARCHITECT OF ALL DISCREPANCIES BEFORE PROCEEDING WITH WORK.
C. PROVIDE AND MAINTAIN BARRICADES, LIGHTING, AND GUARDRAILS AS REQUIRED BY APPLICABLE CODES AND REGULATIONS TO PROTECT OCCUPANTS DURING CONSTRUCTION.
D. IF DEMOLITION IS PERFORMED IN EXCESS OF THAT REQUIRED, RESTORE EFFECTED AREAS AT NO COST TO OWNER.
E. REMOVE FROM SITE DAILY AND LEGALLY DISPOSE OF REFUSE, DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS.
F. CONTRACTOR TO ADHERE TO ALL LOCAL JURISDICTION CODES AND ZONING ORDINANCES.

### SYMBOL LEGEND

- INDICATES REMOVAL OF ASPHALT DRIVE
- INDICATES ITEM TO BE REMOVED
- INDICATES INEW 6" CONCRETE CURB. SEE 1/A-002
- 51 — NEW 4" CONCRETE SLAB. COLOR AND TEXTURE TO MATCH ADJACENT SIDEWALKS
- 52 — NEW 3" DEEP MINIMUM D/G TO MATCH EXISTING
- NEW 5 GALLON MINIMUM (DEER GRASS / MUHLENBERGHIA RIGENS). SEE DETAIL 5 & 6 ON SHEET A-002
- CONCRETE SLAB CONTROL JOINT


SERBIN STUDIO
11442 South Wilson Lane
Goodyear, Az 85338
Phone 602.230.1299
www.serbinstudio.com


| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 7/19/17 | CITY COMMENTS | - |


LSW Engineers
ARIZONA, INCORPORATED
2333 West Northern Avenue Telephone 602.249.1320
Phoenix, Arizona 85021 Facsimile 602.336.3276
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ENLARGED SITE PLAN

# Hotel Valley Ho
# Parking Lot Access Gate

6850 E Main Street
Scottsdale, AZ. 85251

REGISTERED ARCHITECT
CERTIFICATE NO.
35624
JEFFREY M.
SERBIN
7/19/17
Date Signed
ARIZONA, U.S.A.

EXPIRES 12/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| JMS | JMS | JMS |

| DATE | JOB NO. |
|---|---|
| 05-05-2017 | 2017_020 |

SHEET NO.
A-001

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11442 South Wilson Lane
Goodyear, Az 85338
Phone 602.230.1299
www.serbinstudio.com

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 7/19/17 | CITY COMMENTS | - |

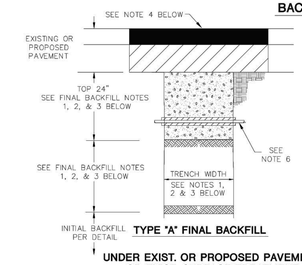
LSW Engineers
ARIZONA, INCORPORATED
2333 West Northern Avenue Telephone 602.249.1320
Phoenix, Arizona 85021 Facsimile 602.336.3276
www.lswphx.com


DETAILS

**Hotel Valley Ho**
**Parking Lot Access Gate**
**6850 E Main Street**
**Scottsdale, AZ, 85251**

REVISED 5/27/15

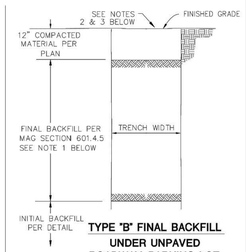
## BACKFILL DETAILS




**TYPE "A" FINAL BACKFILL**
**UNDER EXIST. OR PROPOSED PAVEMENT OR EXIST. SURFACE TREATMENT**

FINAL BACKFILL NOTES

1. TRENCHES LESS THAN 24" IN WIDTH – 1/2 SACK CLSM, MAG 728, FULL DEPTH OF BACKFILL BOTTOM OF ABC LAYER IN PAVEMENT STRUCTURE OR 6" BELOW PAVEMENT IN FULL DEPTH PAVEMENT STRUCTURES. CONSTRUCT PAVEMENT STRUCTURE TO MATCH EXISTING AND IN ACCORDANCE WITH COS DETAIL 2200.
2. TRENCHES 24" TO 6' IN WIDTH – 1/2 SACK CLSM AS DESCRIBED IN NOTE 1 ABOVE WITHIN THE TOP 24" OF THE TRENCH; MAG 601.4.3 FOR BALANCE OF BACKFILL.
3. TRENCHES OVER 6' IN WIDTH – MAG 601.4.5 FULL DEPTH OF FINAL BACKFILL.
4. TREAT ENTIRE DISTURBED SURFACE OF UNPAVED ALLEYS WITH LIGNIN-BASED DUST PALLATIVE, MAG 792, 1:1 DILUTION RATIO, 0.50 GAL/SY APPLICATION RATE.
5. CLSM SHALL NOT BE USED FOR WATER OR SEWER PIPE BEDDING. SEE BEDDING DETAIL.
6. EXPOSED COPPER OR POLYETHYLENE WATER PIPES IN SIZES 3/4" TO 2" SHALL BE WRAPPED WITH 3/4" WIDE BLACK INSULATION BEFORE PLACING CLSM.
7. RECYCLED ASPHALT SHALL NOT BE USED FOR FINAL BACKFILL

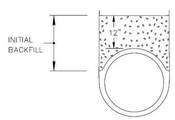



**TYPE "B" FINAL BACKFILL**
**UNDER UNPAVED ROADWAY, PARKING LOT AND VACANT LAND**

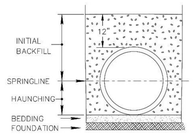
FINAL BACKFILL NOTES

1. MAG 601.4.5 FULL DEPTH OF BACKFILL.
2. ENTIRE DISTURBED EXISTING SURFACE TO BE RESTORED WITH A LIKE MATERIAL.
3. TREAT ENTIRE DISTURBED SURFACE WITH LIGNIN-BASED DUST PALLATIVE, MAG 792, 1:1 DILUTION RATIO, 0.50 GAL/SY APPLICATION RATE.
4. RECYCLED ASPHALT SHALL NOT BE USED FOR FINAL BACKFILL.

## TRENCH DETAILS




**TRENCH DETAIL**
**CAST-IN-PLACE PIPE**




**TRENCH DETAIL**
**ALL OTHER PIPE**

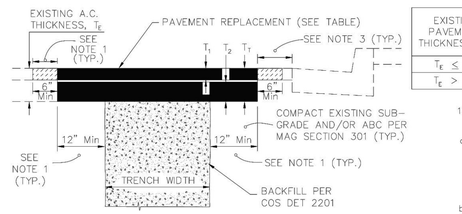
NOTES:

1. ALL PIPES REQUIRE BEDDING PER COS SUPPLEMENTAL SPECIFICATIONS SECTION 601.2.3.
2. RECYCLED ASPHALT SHALL NOT BE USED FOR BEDDING, HAUNCHING OR INITIAL BACKFILL MATERIAL.
3. BEDDING, HAUNCHING AND INITIAL BACKFILL PER COS SUPPLEMENTAL SPECIFICATIONS SECTION 601.

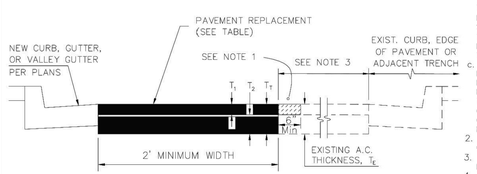
| DETAIL NO. | | APPROVED BY: | | DETAIL NO. |
|---|---|---|---|---|
| 2201 | City of Scottsdale Standard Details | Scottsdale Standards & Specifications Committee | TRENCH BEDDING & BACKFILL | 2201 |

10 TRENCH BEDDING & BACKFILL
2017_020_DET103 SCALE: N/A

REVISED 5/23/15




**PAVEMENT REPLACEMENT FOR TRENCHES (T-TOP)**




**PAVEMENT REPLACEMENT**

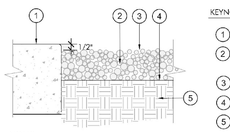
| EXISTING PAVEMENT THICKNESS, $T_E$ | AC PAVEMENT REPLACEMENT TABLE | | |
|---|---|---|---|
| | AC SINGLE COURSE OR SURFACE COURSE, $T_1$ | AC BASE COURSE, $T_2$ | TOTAL THICKNESS, $T_T$ |
| $T_E \leq 3"$ | 3" MINIMUM | NONE | 3" MINIMUM |
| $T_E > 3"$ | 2" MINIMUM | 2" MINIMUM | $T_E$ (MATCH EXIST) |

PAVEMENT REPLACEMENT NOTES

1. "T"-TOP REQUIRED FOR ALL TRENCHES. A.C. SURFACE COURSE REPLACEMENT TO BE MILLED DOUBLE "T" CONFIGURATION AS SPECIFIED BELOW FOR PAVEMENTS 4" AND THICKER:
   a. FOR PAVEMENT 4 YEARS AND OLDER: INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTION. SAWCUT & REMOVE 12" OF A.C. MINIMUM ON EACH SIDE OF THE TRENCH FOR THE "T"-TOP AFTER THE BACKFILL MATERIAL IS PLACED. PAVEMENTS 4" AND THICKER, MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE A MINIMUM OF 6" ON EACH SIDE OF THE T-TOP PRIOR TO PLACEMENT OF THE FINAL SURFACE COURSE LIFT.
   b. FOR NEW AND OVERLAYED PAVEMENT LESS THAN 4 YEARS OLD AND ALL PAVEMENTS WITH RUBBERIZED SURFACE COURSES: INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTION. SAWCUT & REMOVE 12" OF A.C. MINIMUM ON EACH SIDE OF THE TRENCH FOR THE "T"-TOP AFTER THE BACKFILL MATERIAL IS PLACED. PAVEMENTS 4" AND THICKER, MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE EQUALLY ON BOTH SIDES OF THE TRENCH TO A MINIMUM TOTAL WIDTH OF 10 FEET. FOR PAVEMENTS LESS THAN 4" THICK SAWCUT, REMOVE AND REPLACE THE ENTIRE PAVEMENT SURFACE TO A MINIMUM TOTAL WIDTH OF 10 FEET, AS DIRECTED BY THE ENGINEER.
   c. FOR DEEP PAVEMENT STRUCTURES REQUIRING TWO OR MORE PAVEMENT BASE LIFTS: INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTION. SAWCUT, REMOVE AND REPLACE A.C. ON BOTH SIDES OF THE TRENCH AS NECESSARY TO ACCOMODATE A RIDE ON TYPE VIBRATORY ROLLER COMPACTOR FOR PLACEMENT OF THE A.C. BASE COURSE LIFTS, MATCH EXISTING A.C. DEPTH, MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE EQUALLY ON BOTH SIDES OF THE TRENCH TO A MINIMUM TOTAL WIDTH OF 10 FEET.
2. ASPHALT CONCRETE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF MAG SECTION 321.
3. IF PAVEMENT REMNANT IS LESS THAN 36", REMOVE AND REPLACE PAVEMENT AS PER THIS DETAIL.
4. AGGREGATE BASE COURSE PER MAG SECTION 702 SHALL BE PROVIDED TO MATCH EXISTING ABC THICKNESS IN ADJACENT ROADWAY.
5. REFER TO COS SUPPLEMENTAL SPECIFICATIONS, SECTION 336.2.4 FOR PAVEMENT SMOOTHNESS REQUIREMENTS.

| DETAIL NO. | | APPROVED BY: | | DETAIL NO. |
|---|---|---|---|---|
| 2200 | City of Scottsdale Standard Details | Scottsdale Standards & Specifications Committee | PAVEMENT REPLACEMENT | 2200 |

9 PAVEMENT REPLACEMENT
2017_020_DET103 SCALE: N/A

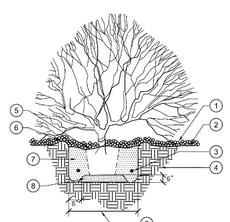



KEYNOTES:

1. CONCRETE EDGE/ WALK
2. DECOMPOSED GRANITE IN ALL PLANTING AREAS UNLESS OTHERWISE NOTED
3. FINISHED GRADE OF PLANTING AREA
4. FINISHED GRADE
5. COMACTED SUBGRADE.

NOTES:
1. SIZE & COLOR OF DECOMPOSED GRANITE NOTED ON PLANT LEGEND.
2. PRE-EMERGENT SHALL BE APPLIED TO FINISH GRADE BEFORE INSTALLATION OF DECOMPOSED GRANITE & MULCH AFTER INSTALLATION.
3. DEPTH OF DECOMPOSED GRANITE NOTED ON PLANT LEGEND.

6 DECOMPOSED GRANITE DETAIL
2017_020DET102 SCALE:

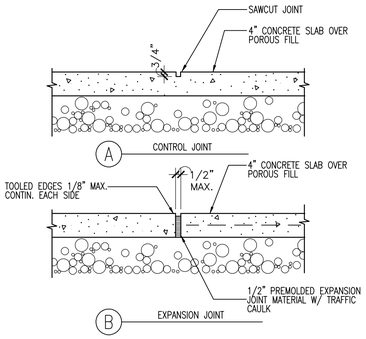



NOTES:
ROOT PRUNE ALL DAMAGED ROOTS.
USE SITE SOIL IN PIT - NO MULCH.

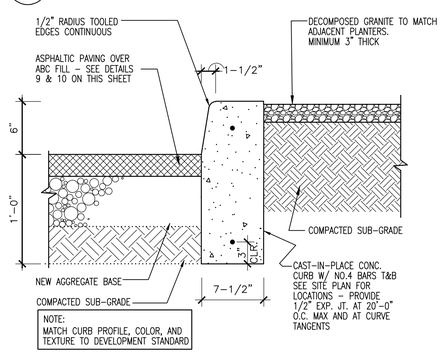
KEYNOTES:

1. FINISH GRADE OF DECOMPOSED GRANITE.
2. FINISH GRADE
3. PLANT TABS, 2 PER PLANT
4. BACKFILL OR UNDISTURBED SOIL. 80% PD
5. TOP OF ROOTBALL AND WELL TO BE 2" BELOW SAUCER
6. USE LEFTOVER SITE SOIL TO FORM LIP OF SAUCER
7. BACKFILL W/ SPECIFIED SOIL MIX PER SPECIFICATIONS. WATER & TAMP TO REMOVE AIR POCKETS.
8. COMPACTED SOIL MIX (90% SPD)
9. WIDTH OF HOLE TO BE 3 TIMES WIDTH OF SHRUB CONTAINER

5 SHRUB PLANTING DETAIL
2017_020DET102 SCALE:




2 TYP. EXTERIOR SLAB JOINT
2007_020_DET101 SCALE: 1"=1'-0"




NOTE:
MATCH CURB PROFILE, COLOR, AND TEXTURE TO DEVELOPMENT STANDARD

1 TYPICAL C.I.P. CONC. CURB
2017_020_DET100 SCALE: 1"=1'-0"

REGISTERED ARCHITECT
CERTIFICATE NO.
35624
JEFFREY M. SERBIN
Date Signed 12/7/17
ARIZONA, U.S.A.
EXPIRES 12/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| JMS | JMS | JMS |

| DATE | JOB NO. |
|---|---|
| 05-05-2017 | 2017_020 |

SHEET NO.
A-002

# GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE NEC AS AMENDED BY AHJ.

2. PRIOR TO SUBMITTING PROPOSAL, THE CONTRACTOR SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND VISIT THE CONSTRUCTION SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH THE CONTRACTOR WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON THEIR PART. ALL MATERIAL AND EQUIPMENT NOTED OR SPECIFIED TO BE REMOVED WHICH IS NOT SCHEDULED TO BE RE-USED OR RELOCATED SHALL BE CAREFULLY REMOVED AND DELIVERED TO THE OWNER WHERE DIRECTED.

3. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY, COORDINATE AND CONFIRM WITH THE FIRE PROTECTION, FOOD SERVICE, MECHANICAL, PLUMBING, AND SPECIALTY EQUIPMENT CONTRACTOR(S) ALL THE FOLLOWING:

   A. EXACT FEED LOCATIONS AND NUMBER OF CONNECTIONS TO ALL A/C UNITS, FAN COILS, CHILLERS, COOLING TOWERS, SYSTEM PUMPS, EQUIPMENT, EVAPORATIVE COOLERS, MAKE-UP AIR UNITS, CONTROL SYSTEMS, ETC.

   B. ELECTRICAL CHARACTERISTICS (E.G., KW, HP, AMPS, VOLTAGE, PHASE, ETC.). CONFIRM WITH APPROVED FIRE PROTECTION, FOOD SERVICE, MECHANICAL, PLUMBING, AND SPECIALTY EQUIPMENT SUBMITTAL DRAWINGS.

   C. SIZE ALL FUSES PROTECTING EQUIPMENT PER THE EQUIPMENT MANUFACTURERS NAMEPLATE DATA AND COORDINATED WITH THE NEC.

   D. EXACT LOCATION OF ALL CONTROL PANELS, CONTROL DEVICES, THERMOSTATS, DAMPER MOTORS, TERMINATION POINTS, ETC.

4. THE CONTRACTOR SHALL CONTACT AND OBTAIN FROM POWER AND COMMUNICATION UTILITY COMPANIES, ALL INFORMATION, REQUIREMENTS, CONSTRUCTION DRAWINGS, AND SPECIFICATIONS TO COMPLETE THE UNDERGROUND SERVICE TO THIS PROJECT. INCLUDE IN BASE BID, BUT NOT LIMIT TO, TRENCHING, BACKFILL, TRANSFORMER AND/OR EQUIPMENT CONCRETE PAD(S), PEDESTALS, CONTRIBUTION COSTS, ENGINEERING FEES, AND SERVICE CHARGES FOR ALL SERVICES TO THIS PROJECT. IF THE COST PROPOSAL IS NOT PRESENTED BY EACH UTILITY PRIOR TO THE BID DATE, AN ALLOWANCE SHALL BE INCLUDED IN BASE BID. EACH ALLOWANCE SHALL ONLY APPLY TO WORK REQUIRED BY THE RESPECTIVE UTILITY AND NOT INDICATED AS PART OF THE CONTRACT DOCUMENTS.

7. BRANCH CIRCUIT CONDUCTOR COUNT IS NOT SPECIFICALLY SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDE CONDUCTORS AS FOLLOWS AND ADJUST THE CONDUIT SIZE TO CONFORM TO NEC ANNEX C: TABLES BASED ON SPECIFIC FIELD CONDITIONS.

   A. (1) PHASE CONDUCTOR FOR EACH CIRCUIT POLE CONTAINED WITHIN THE CONDUIT.

   B. (1) NEUTRAL CONDUCTOR FOR EACH INDIVIDUAL CIRCUIT OPERATING AT 120V OR 277V.

   C. (1) EQUIPMENT GROUND CONDUCTOR SIZED BASED ON 250.122.

   D. (1) ISOLATED GROUND CONDUCTOR MATCHING THE EQUIPMENT GROUND WHERE A CIRCUIT SERVES AN ISOLATED GROUND DEVICE.

   E. (1) SWITCH LEG CONDUCTOR FOR EACH SWITCH LEG REQUIRED.

   F. (2) SWITCH LEG TRAVELERS FOR EACH THREE-WAY SWITCH CONTROL REQUIRED.

   G. (4) SWITCH LEG TRAVELERS FOR EACH FOUR-WAY SWITCH CONTROL REQUIRED.

   H. (1) HOT CONDUCTOR FOR EACH CONTINUOUS LIGHTING SYSTEM LOAD REQUIREMENT: EMERGENCY BATTERY PACK (BPB), NIGHT LIGHT, ETC.

   I. CONDUCTOR AMPACITY ADJUSTMENTS SHALL BE APPLIED AS DESCRIBED BY NEC CHAPTER 3 FOR EACH SPECIFIC FIELD CONDITION.

8. GROUT AND SEAL ALL CONDUIT PENETRATIONS OF WALLS AND FLOOR SLABS TO PRESERVE FIRE RATING AND WATERTIGHT INTEGRITY.

9. DO NOT INSTALL ANY EQUIPMENT WHICH WOULD LEAVE INADEQUATE OPERATION OR SERVICING SPACE FOR ANY ITEM FOR ENTIRE PROJECT. DRAWINGS ARE NOT INTENDED TO SHOW IN DETAIL ALL FEATURES OF WORK. CHECK LOCATION OF ELECTRICAL WORK TO DETERMINE IN ADVANCE THAT IT CLEARS ALL OBSTRUCTIONS.

10. ALL WIRING SHALL BE COPPER AND INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED. MINIMUM CONDUCTOR SIZE SHALL BE #12AWG AND CONDUIT 1/2" TRADE SIZE. INSULATION SHALL BE TYPE "THHN/THWN", EXCEPT CONDUCTORS USED FOR AIR CONDITIONING AND CONDUCTORS #2AWG AND LARGER SHALL BE TYPE XHHW-2.

11. CONDUITS SHALL BE SUPPORTED BY FRAMING CHANNEL (UNISTRUT, B-LINE, OR AS ACCEPTED). INTERVALS OF SUPPORT SHALL COMPLY WITH NEC SECTION APPROPRIATE FOR CONDUIT MATERIAL USED.

12. ALL UNDERGROUND COMMUNICATION AND AUDIO/VISUAL CONDUITS THAT STUB UP FROM FLOOR AT MOUNTING BOARDS SHALL BE PROVIDED WITH FLUSH COUPLING; EXTEND CONDUITS 8" ABOVE FINISHED FLOOR, AND LOCATE 12" FROM ONE END.

13. PROVIDE EQUIPMENT GROUND CONDUCTOR IN ALL CONDUIT RUNS EXCEPT RGS AND IMC. SIZE PER NEC 250.122.

14. PROVIDE IDENTIFICATION PER THE IDENTIFICATION OF ELECTRICAL SYSTEMS SPECIFICATION SECTION. CLEARLY INDICATE USE AND AREA SERVED FOR ALL PANELBOARD OVERCURRENT DEVICES PER NEC 408.4.

15. COORDINATE WITH THE ELECTRICAL ENGINEER THE FOLLOWING SPECIAL INSPECTIONS:

   i. GROUND FAULT PROTECTION PERFORMANCE TEST.
   ii. SWITCHBOARDS, PANELBOARDS, MOTOR CONTROL CENTERS, AND OTHER EQUIPMENT RATED 1000 AMPERES OR MORE, OR IN EXCESS OF 600 VOLTS.
   iii. TRANSFORMERS RATED 100 KVA OR MORE SINGLE PHASE AND 300 KVA OR MORE THREE PHASE.

17. PROTECT ADJACENT AREAS FROM DAMAGE DURING THE PROGRESSION OF WORK. PROVIDE TEMPORARY SAFETY BARRIERS AS REQUIRED TO ENSURE SAFETY AND CONTINUED BUILDING OCCUPANCY. DAMAGE TO EXISTING AREAS SHALL BE RESTORED TO EXISTING UNDISTURBED CONDITION AT CONTRACTORS EXPENSE.

18. PROVIDE REQUIRED DUST AND NOISE CONTROL MEASURES TO ENSURE CONTINUED OPERATION OF ADJOINING BUILDING AREAS OR DEPARTMENTS WERE APPLICABLE.

19. NON-METALIC UNDERGROUND CONDUIT INSTALLED OUTSIDE THE BUILDING FOOTPRINT SHALL HAVE A CONTINUOUS TRACEABLE WIRE, #18AWG MINIMUM, INSTALLED WITHIN 6" DIRECTLY ABOVE IT IN ACCORDANCE WITH ARS #40-360-22M. WIRE SHALL EXTEND 24" ABOVE GRADE AT EACH END AND COILED NEATLY. WHERE OCCURRING WITHIN A SWITCHBOARD, SWITCHGEAR OR SIMILAR, TERMINATE COIL ON THE EQUIPMENT GROUND BUS.

# ABBREVIATIONS

| | |
|---|---|
| AF | AMPERE FRAME |
| AIC | AMPERES INTERRUPTING CAPACITY |
| AIR | AMPERES INTERRUPTING RATING |
| AT | AMPERE TRIP |
| ATS | AUTOMATIC TRANSFER SWITCH |
| DP | DISTRIBUTION PANELBOARD |
| DS | DISTRIBUTION SECTION, SWITCHBOARD, OR SWITCHGEAR |
| GFP | GROUND FAULT PROTECTION |
| ICCB | INSULATED CASE CIRCUIT BREAKER (UL 489) |
| P | POLE |
| PH | PHASE |
| PNL | PANELBOARD |
| SCA | AVAILABLE SHORT-CIRCUIT CURRENT (IN AMPERES) |
| SCCR | SHORT-CIRCUIT CURRENT RATING |
| SES | SERVICE ENTRANCE SWITCHBOARD |
| SWGR | SWITCHGEAR |
| SWBD | SWITCHBOARD |
| XFMR | TRANSFORMER |
| XFR | TRANSFORMER |
| AFF | ABOVE FINISHED FLOOR (TO CENTER LINE OF ITEM DEVICE/EQUIPMENT) |
| AFG | ABOVE FINISH GRADE (TO CENTER LINE OF ITEM DEVICE/EQUIPMENT) |
| AHJ | AUTHORITY HAVING JURISDICTION |
| C | CONDUIT |
| CKT | CIRCUIT |
| DP | DISTRIBUTION PANELBOARD |
| EC | EMPTY CONDUIT |
| EQ | EQUIPMENT |
| EX | EXISTING, REMAIN |
| GF, GFI, GFCI | GROUND FAULT CIRCUIT INTERRUPTER DEVICE |
| GND, GRD | GROUND |
| HP | HORSEPOWER |
| ISO | ISOLATED |
| JB | JUNCTION BOX |
| KVA | KILOVOLT-AMPERE |
| KW | KILOWATT |
| MCB | MAIN CIRCUIT BREAKER |
| MLO | MAIN LUGS ONLY |
| N | NEUTRAL |
| PF | POWER FACTOR |
| PNL | PANELBOARD |
| UGT | UNDERGROUND TELEPHONE |
| V | VOLT |
| VA | VOLT-AMPERES |
| VR | VANDAL RESISTANT |
| WP | WEATHERPROOF |

# ELECTRICAL SYMBOLS (ONE-LINE DIAGRAMS)

(NOT ALL SYMBOLS SHOWN MAY BE REFLECTED ON THE PLANS)

- EQUIPMENT ENCLOSURE
- CIRCUIT BREAKER - AMPERAGE AND NUMBER OF POLES INDICATED
- SWITCH - AMPERAGE AND NUMBER OF POLES INDICATED
- FUSE - AMPERAGE TRIP RATING AND TYPE AS INDICATED
- FUSIBLE DISCONNECT SWITCH - AMPERAGE & NUMBER OF POLES, FUSE - AMPERAGE TRIP RATING AND TYPE AS INDICATED
- DRAW-OUT DEVICE (USED IN PAIRS)
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- METER - ROUND; UTILITY, SQUARE; CUSTOMER
- DRY-TYPE STEP-DOWN TRANSFORMER KVA, K-RATING, VOLTAGE RATIO, PHASE, MINIMUM IMPEDANCE, AND GROUNDING ELECTRODE SIZE INDICATED
- STARTER: NEMA SIZE INDICATED
- CONNECTION / TERMINATION
- GROUND
- MOTOR - RATED HP AND FULL LOAD CURRENT AS INDICATED
- ENGINE - GENERATOR: TYPE, FUEL TYPE, KW, KVA, PF, RATED VOLTAGE, AND FULL LOAD OUTPUT CURRENT AS INDICATED
- CIRCUIT INDICATOR FOR SES & DISTTRIBUTION BOARDS
- PANELBOARD, MAINLUGS AND MAIN CIRCUIT BREAKER TYPE
- TRANSFER SWITCH - NEC CLASSIFICATION, AUTOMATIC / MANUAL, TYPE, RATED CURRENT, PHASES, VOLTS, POLES, AND WITHSTAND CURRENT RATING AS INDICATED
- ISOLATION BYPASS TRANSFER SWITCH - NEC CLASSIFICATION, AUTOMATIC / MANUAL, TYPE, RATED CURRENT, PHASES, VOLTS, POLES, AND WITHSTAND CURRENT RATING AS INDICATED
- BUSSWORK INTERNAL TO EQUIPMENT
- ANSI CONTROL DEVICE AS INDICATED
- ELEVATOR CONTROLLER WITH SHUNT-TRIP, FUSIBLE DISCONNECT SWITCH - AMPERAGE & NUMBER OF POLES, FUSE - AMPERAGE TRIP RATING AND TYPE AS INDICATED

**ELEVATOR**

- CONTROLS CONTACT

# ELECTRICAL SYMBOLS (GENERAL)

(NOT ALL SYMBOLS SHOWN MAY BE REFLECTED ON THE PLANS)

- JUNCTION BOX IN AN ACCESSIBLE LOCATION
- JUNCTION BOX WITH FLEXIBLE METALLIC CONDUIT CONNECTION TO EQUIPMENT
- DUPLEX RECEPTACLE. SLASH INDICATES OUTLET MOUNTED ABOVE COUNTER (THIS APPLIES TO ALL TYPES OF OUTLETS) (CONFIRM HEIGHT, LOCATION, AND COLOR WITH ARCHITECT)
- QUADRUPLEX RECEPTACLE OUTLET
- SWITCH, SINGLE POLE, SPST
- FUSED DISCONNECT SWITCH, NF SUBSCRIPT INDICATES NON-FUSED, REFERENCE EQUIPMENT SCHEDULE IF APPLICABLE
- COMBINATION MOTOR CONTROLLER, NEMA SIZE AS INDICATED & FUSED DISCONNECT SWITCH
- CARD READER, CLOSE RANGE INDALA
- TRANSFORMER
- PANELBOARD
- CONDUIT, EXPOSED
- CONDUIT, CONCEALED IN OR UNDER FLOOR CONSTRUCTION.
- CONDUIT, CONCEALED IN OR UNDER FLOOR CONSTRUCTION. UPPER IS POWER/CONTROL, LOWER IS SPECIAL SYSTEMS.
- HOMERUN TO PANEL BOARD AS INDICATED.

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/17/2017 | CITY COMMENTS | AJB |

LSW Engineers
ARIZONA, INCORPORATED
2333 West Northern Avenue Telephone 602.249.1320
Phoenix, Arizona 85021 Facsimile 602.336.3276
www.lswphx.com


ELECTRICAL SYMBOLS

Hotel Valley Ho
Parking Lot Access Gate

6850 E Main Street
Scottsdale, AZ, 85251

Registered Professional Engineer (Specialty)
CERTIFICATE NO.
43861
ADAM J. BAGBY
Date Signed 12-20-17
ARIZONA U.S.A.
EXPIRES: 03/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| AL | AJB | AJB |

| DATE | JOB NO. |
|---|---|
| 02-20-2017 | 2017-013.000 |

SHEET NO.
E-001

DIVISION 26

1. GENERAL CONDITIONS

1.1. THE GENERAL PROVISIONS OF THE CONTRACT, INCLUDING THE CONDITIONS OF THE CONTRACT (GENERAL, SUPPLEMENTARY AND OTHER CONDITIONS) AND DIVISION 1 - GENERAL REQUIREMENTS AS APPROPRIATE, APPLY TO THE WORK SPECIFIED IN THIS SECTION.

2. SCOPE OF WORK

2.1. THE WORK INCLUDED UNDER THIS SECTION CONSISTS OF FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR AND THE PERFORMING OF ALL FUNCTIONS, EXCEPT AS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE DRAWINGS TO BE PERFORMED BY OTHERS, FOR THE INSTALLATION AND PLACING INTO OPERATION OF A COMPLETE ELECTRICAL SYSTEM AS SPECIFIED AND SHOWN ON THE DRAWINGS.

3. GENERAL DESCRIPTION

3.1. THE WORK IN GENERAL SHALL CONSIST OF, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING:

3.1.1. FURNISHING AND INSTALLING ALL FIXTURES WITH LAMPS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN UNLESS NOTED.

3.1.2. FURNISHING AND INSTALLING ALL ELECTRICAL WORK, PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.

3.1.3. FURNISHING AND INSTALLING ALL TELEPHONE OUTLETS, DATA OUTLETS, CONDUITS WITH PULL STRINGS AND TELEPHONE MOUNTING BOARDS INCLUDING CONDUIT FROM TELEPHONE MOUNTING BOARD TO THE BUILDING ENTRANCE AS INDICATED ON THE PLAN.

3.1.4. FURNISHING AND INSTALLING A COMPLETE FIRE ALARM SYSTEM AS INDICATED ON PLANS.

3.1.5. INCLUDE $ XXXXXXXXX ALLOWANCE FOR POWER, TELEPHONE, AND CATV COMPANY UTILITY SERVICE CHARGES. DIFFERENCE BETWEEN ACTUAL COST AND ALLOWANCE TO BE CREDITED OR BILLED TO THE OWNER.

3.1.6. FURNISHING AND INSTALLING ALL MOTOR STARTERS AND CONTROL COMPONENTS, NOT SPECIFICALLY SPECIFIED TO BE FURNISHED IN ACCORDANCE WITH OTHER SECTIONS OF THE SPECIFICATIONS.

3.1.7. FURNISHING AND INSTALLING ALL POWER AND WIRING EXCEPT THAT WHICH IS PRE-WIRED IN FACTORY ASSEMBLED EQUIPMENT.

3.1.8. INSTALLING ALL LINE VOLTAGE MECHANICAL CONTROL WIRING AND ASSOCIATED CONTROLS WHICH ARE FURNISHED BY THE MECHANICAL DIVISION (LOW VOLTAGE CONTROL WIRING AND CONTROLS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL DIVISION).

3.1.9. PAINTING WORK AS DESCRIBED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS. CLEAN AND PREPARE ALL SURFACES READY FOR PAINTING.

3.1.10. PROVIDE TEMPORARY CONSTRUCTION POWER AS OUTLINED BELOW. THIS SERVICE SHALL BE MAINTAINED THROUGHOUT THE ENTIRE JOB AS THE WORK PROGRESSES. PROVIDE OUTLETS AT CONVENIENT POINTS AND IN SUFFICIENT NUMBERS SO THAT NO EXTENSION CORD OVER 50 FEET IN LENGTH IS REQUIRED TO REACH ANY WORK POINT. MAINTAIN GENERAL LIGHTING IN CORRIDORS, STAIRS, BASEMENT AND OTHER AREAS NOT RECEIVING SUFFICIENT DAYLIGHT REQUIRED FOR SAFETY. REMOVE TEMPORARY WORK AS RAPIDLY AS REQUIRED FOR OR ALLOWED BY INSTALLATION OF PERMANENT WORK.

3.1.11. CERTAIN ITEMS OF WORK BY OTHER TRADES WILL BE NECESSARY FOR THE COMPLETION OF WORK UNDER THIS DIVISION. COOPERATE WITH OTHER TRADES AND ARRANGE FOR THESE ITEMS TO BE PERFORMED IN ORDERLY COURSE.

3.1.12. THIS CONTRACTOR SHALL REVIEW THE MECHANICAL CONTROL REQUIREMENTS AS SPECIFIED AND SHOWN ON THE DRAWINGS AND SHALL FURNISH AND INSTALL ALL NECESSARY CONDUIT, WIRING, BOXES, PROTECTIVE DEVICES, SWITCHES, ETC., FOR THE COMPLETION AND PROPER OPERATION OF THE SYSTEM.

3.1.13. REVIEW ALL DRAWINGS AND ALL SPECIFICATIONS FOR EACH SECTION OF WORK. UNLESS SPECIFICALLY NOTED OTHERWISE, HEREIN OR ELSEWHERE, FURNISH AND INSTALL ITEMS OF ANY ELECTRICAL NATURE REQUIRED FOR COMPLETION OF WORK FOR OTHER TRADES, WHETHER OR NOT SAME IS SHOWN OR NOTED IN THIS OR OTHER SECTIONS.

3.2. TERMS USED THROUGHOUT THE PLAN DOCUMENTS ARE INTENDED TO BE INTERPRETED SPECIFICALLY AS HEREINAFTER DEFINED AND WHERE NOT SPECIFICALLY MENTIONED, PER INDUSTRY COMMON INTERPRETATIONS. DEFINITIONS ARE AS FOLLOWS:

3.2.1. CONCEALED: HIDDEN FROM SIGHT, AS IN TRENCHES, CHASES, HOLLOW CONSTRUCTION, ABOVE FURRED SPACES, SUSPENDED CEILINGS (ACOUSTICAL OR PLASTIC TYPE), OR EXPOSED TO VIEW ONLY IN TUNNELS, ATTICS, SHAFTS, CRAWL SPACES, UNFINISHED SPACES, OR OTHER AREAS SOLELY FOR MAINTENANCE AND REPAIR.

3.2.2. EXPOSED: NOT CONCEALED.

3.2.3. UNFINISHED SPACE: A ROOM OR SPACE THAT IS ORDINARILY ACCESSIBLE ONLY TO BUILDING MAINTENANCE PERSONNEL, A ROOM NOTED ON THE "FINISH SCHEDULE" WITH EXPOSED AND UNPAINTED CONSTRUCTION FOR WALLS, FLOOR OR CEILINGS, OR SPECIFICALLY MENTIONED AS "UNFINISHED."

3.2.4. FINISHED SPACES: ANY SPACE ORDINARILY VISIBLE TO THE VISITING PUBLIC, INCLUDING EXTERIOR AREAS.

3.2.5. WIRING: INCLUDES, IN ADDITION TO CONDUCTORS, ALL RACEWAYS, CONDUIT, FITTINGS, BOXES, SWITCHES, HANGERS AND OTHER ACCESSORIES RELATED TO SUCH WIRING.

3.2.6. REGULATING AUTHORITIES: ALL GOVERNMENTAL, UTILITY, AND FIRE PROTECTION AUTHORITIES HAVING JURISDICTION.

3.2.7. PROVIDE: TO SUPPLY, ERECT, INSTALL, AND CONNECT UP COMPLETE, THE PARTICULAR WORK REFERRED TO, IN READINESS FOR REGULAR OPERATION.

3.2.8. FURNISH: TO SUPPLY AND DELIVER TO THE JOB.

3.2.9. INSTALL: TO SET IN PLACE, ERECT, AND CONNECT UP COMPLETE, THE PARTICULAR WORK REFERRED TO, IN READINESS FOR REGULAR OPERATION.

3.2.10. APPROVED EQUAL: EQUIPMENT OR MATERIALS WHICH, IN THE OPINION OF THE ARCHITECT, IS EQUAL IN QUALITY, DURABILITY, APPEARANCE, STRENGTH, DESIGN AND PERFORMANCE TO EQUIPMENT OR MATERIAL SPECIFIED AND WILL FUNCTION ADEQUATELY IN ACCORDANCE WITH THE GENERAL DESIGN.

4. REGULATIONS AND CODES

4.1. THE CONTRACTOR MUST COMPLY WITH ALL STATE, MUNICIPAL AND FEDERAL SAFETY LAWS, CONSTRUCTION CODES, ORDINANCES AND REGULATIONS RELATING TO BUILDING AND PUBLIC HEALTH AND SAFETY. IN ADDITION, COMPLY WITH RULES AND REGULATIONS OF THE STATE FIRE PROTECTION CODE. FIRE PROTECTION MATERIAL MUST BEAR THE FIRE UNDERWRITERS LABORATORIES LABEL.

5. GENERAL REQUIREMENTS

5.1. THE CONTRACTOR SHALL EXAMINE THE PREMISES AND SATISFY THEMSELVES OF EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING THEIR PART OF THE WORK OR THAT WILL IN ANY MANNER AFFECT THE WORK UNDER THE CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHER TRADES SO THAT THE INSTALLATIONS OF ALL EQUIPMENT MAY BE PROPERLY COORDINATED.

5.2. ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE, WITH CONNECTION, ETC., IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATING AND SERVICING. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE MANNER AND METHOD OF THE INSTALLATION, WHILE THE SPECIFICATIONS AND FIXTURE LIST DENOTE THE TYPE AND QUALITY OF MATERIAL AND WORKMANSHIP TO BE USED. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER WHOSE DECISION SHALL BE FINAL. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR AFTER AWARD OF THE CONTRACT.

6. EQUIPMENT AND MATERIAL

6.1. ALL MATERIALS FURNISHED UNDER THIS CONTRACT SHALL BE NEW (EXCEPT AS NOTED), FREE FROM DEFECTS OF ANY CHARACTER, SHALL CONFORM WITH THE STANDARDS OF THE UNDERWRITERS LABORATORIES, INC. (U.L.) (OR OTHER NATIONALLY RECOGNIZED LABORATORY), IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED AND SHALL BE SO LABELED. IT IS THE INTENTION OF THESE SPECIFICATIONS TO INDICATE A STANDARD OF QUALITY FOR ALL MATERIALS INCORPORATED IN THIS WORK, AND WHERE MATERIALS ARE NOT SPECIFIED HEREIN AND ARE REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION, THESE MATERIALS SHALL BE OF FIRST QUALITY FOR USE INTENDED. MANUFACTURERS OF SIMILAR QUALITY PRODUCTS WILL BE CONSIDERED UNLESS THE SPECIFICATIONS OR DRAWINGS INDICATE OTHERWISE.

6.2. MATERIALS SHALL BE SUITABLE FOR INTENDED USE AND LOCATION. UNLESS OTHERWISE SHOWN USE ENCLOSURE TYPES NEMA-1 FOR INTERIOR AREAS AND NEMA-3R FOR EXTERIOR AREAS AND NEMA-4 FOR WET INTERIOR LOCATIONS.

6.3. THE ARCHITECT/ENGINEER DECISION AS TO EQUAL IN GRADE AND QUALITY SHALL RULE AND BE FINAL FOR ALL ELECTRICAL MATERIALS INCORPORATED IN THIS WORK. WHERE TWO OR MORE SIMILAR TYPE ITEMS ARE FURNISHED, ALL SHALL BE OF THE SAME MANUFACTURER (E.G., ALL DISCONNECT SWITCHES SHALL BE OF THE SAME MANUFACTURER) UNLESS OTHERWISE NOTED HEREIN OR SHOWN ON THE DRAWINGS. ALL MATERIAL AND INSTALLATION METHODS USED SHALL BE IN ACCORDANCE WITH THE LATEST AND APPROVED ELECTRICAL AND MECHANICAL ENGINEERING PRACTICES.

7. INSERTS, ANCHORS, SLEEVES, OPENINGS

7.1. CONTRACTOR SHALL LAYOUT AND INSTALL HIS WORK IN ADVANCE OF POURING CONCRETE. PROVIDE ALL SLEEVES AND/OR OPENINGS THROUGH FLOORS OR WALLS REQUIRED FOR ELECTRICAL CONDUITS OR DUCTS.

7.2. SLEEVES SHALL BE OF RIGID CONDUIT OR GALVANIZED SHEET STEEL RIGIDLY SUPPORTED AND SUITABLY PACKED TO PREVENT ENTRANCE OF WET CONCRETE.

7.3. INSERTS AND ANCHORS SHALL BE FURNISHED AND INSTALLED FOR SUPPORT OF WORK UNDER THIS DIVISION. EXPANDABLE LEAD TYPE ANCHORS INSTALLED IN CONCRETE WITH MINIMUM SURFACE DAMAGE, AS MANUFACTURED BY ACKERMAN-JOHNSON, PIERCE, DIAMOND OR HILTI. TOGGLE BOLTS, OR "MOLLY ANCHORS," WHERE INSTALLED IN CONCRETE BLOCKWALLS.

7.4. 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.

8. CUTTING AND PATCHING

8.1. PLAN AND LAYOUT WORK AS NECESSARY TO PROVIDE FOR PROPER INSTALLATION AND MINIMIZE CUTTING AND PATCHING. CUT COMPLETED CONSTRUCTION WORK ONLY IF SLEEVES, OPENINGS, CHASES, ETC., WERE INADVERTENTLY OMITTED OR WERE NOT IN THEIR CORRECT LOCATION, AND ONLY WITH SPECIFIC PERMISSION OF THE ARCHITECT. MAKE THE NECESSARY CORRECTIONS AT NO COST TO THE OWNER. AVOID EXCESSIVE CUTTING AND DO NOT CUT STRUCTURAL MEMBERS WITHOUT THE CONSENT OF THE ARCHITECT. IN NO CASE SHALL REINFORCING STEEL BE CUT WITHOUT SPECIFIC WRITTEN PERMISSION OF THE ARCHITECT.

8.2. PROVIDE SLEEVES, CAPS, PLATES, ESCUTCHEONS, FLASHINGS, ETC., REQUIRED TO FILL OR CLOSE THE OPENINGS. PROVIDE FINAL GROUTING, CONCRETE, ASPHALT, MASONRY, PAINTING, AND OTHER MATERIALS AS REQUIRED. MAKE REPAIRS IN LIKE AND KIND FOR EXACT MATCHING OF SURFACES AND FINISHES.

9. EXCAVATION AND BACKFILL

9.1. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL EXCAVATION, COMPACTION, FILL, BACKFILL, CUTTING, FITTING, REPAIRING AND FINISHING OF ALL WORK NECESSARY FOR THE INSTALLATION OF ALL EQUIPMENT UNDER THIS SPECIFICATION. PERFORM ALL NECESSARY EXCAVATION, SHORING AND BACKFILLING REQUIRED FOR THE PROPER LAYING OF ALL PIPES AND CONDUITS INSIDE THE BUILDING AND PREMISES, AND OUTSIDE AS MAY BE NECESSARY. REMOVE ALL EXCESS EXCAVATED MATERIALS FROM THE SITE, OR AS OTHERWISE DIRECTED BY ARCHITECT. EARTHWORK SHALL BE DONE IN ACCORDANCE WITH LATEST INDUSTRY STANDARDS.

9.2. EXCAVATE ALL TRENCHES OPEN CUT, KEEP TRENCH BANKS AS NEARLY VERTICAL AS PRACTICABLE, AND SHEET AND BRACE TRENCHES WHERE REQUIRED FOR STABILITY AND SAFETY. EXCAVATE TRENCHES TRUE TO LINE AND MAKE BOTTOMS NO WIDER THAN NECESSARY TO PROVIDE AMPLE WORK ROOM. GRADE TRENCH BOTTOMS ACCURATELY. MACHINE GRADE ONLY TO THE TOP LINE OF THE CONDUITS, DOING THE REMAINDER BY HAND. DO NOT CUT ANY TRENCH NEAR OR UNDER FOOTINGS WITHOUT FIRST CONSULTING ARCHITECT. ALL TRENCHING SHALL COMPLY WITH OSHA STANDARDS AND REGULATIONS.

9.3. BACKFILLING SHALL BE DONE IN ONE FOOT LAYERS, WITH EACH LAYER TAMPED BEFORE ANOTHER LAYER IS ADDED. NO STONES OR COARSE LUMPS SHALL BE LAID DIRECTLY ON CONDUITS. PROVIDE RED WARNING TAPE IN ALL ELECTRICAL TRENCHES AT 12" BELOW FINISHED GRADE.

9.4. TRENCHES SHALL BE FILLED WITH THE EXCAVATED MATERIAL. SOD, IF ANY, SHALL BE REMOVED IN CUT SECTIONS AND REPLACED IN THE SAME MANNER.

9.5. PROVIDE PUMPS AND DRAINAGE OF ALL OPEN TRENCHES WHEN INSTALLING ELECTRICAL DUCT AND WIRING.

9.6. COVER NO WORK UNTIL INSPECTED, TESTED AND APPROVED. WHERE WORK IS COVERED BEFORE INSPECTION AND TESTING HAS BEEN COMPLETED, UNCOVER IT, AND WHEN INSPECTED, TESTED AND APPROVED, RESTORE ALL WORK TO ORIGINAL PROPER CONDITION.

10. CONCRETE

10.1. WHERE USED FOR STRUCTURES TO BE PROVIDED UNDER THE CONTRACT SUCH AS BASES, ETC., CONCRETE WORK AND ASSOCIATED REINFORCING SHALL BE AS SPECIFIED UNDER THAT DIVISION.

11. SERVICE ENTRANCE EQUIPMENT

11.1. SERVICE ENTRANCE EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPAL GOVERNING BODY AND SERVING UTILITY. SHOP DRAWINGS SHALL BE SUBMITTED TO THE SERVING UTILITY FOR WRITTEN APPROVAL BEFORE ORDERING EQUIPMENT.

11.2. LABEL EQUIPMENT AND EACH INDIVIDUAL OVERCURRENT DEVICE PER THIS DIVISION.

11.3. ACCEPTED MANUFACTURERS ARE: SQUARE D, EATON, SIEMENS, GENERAL ELECTRIC.

12. PANELBOARDS - NOT USED

13. STARTERS, CONTACTORS, CONTROLS

13.1. ALL MOTOR STARTERS SHALL BE FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS UNLESS AN INTEGRAL PART OF EQUIPMENT OR NOTED AS FURNISHED WITH EQUIPMENT SPECIFIED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS.

13.2. ALL STARTERS SHALL HAVE OVERLOAD PROTECTION IN ALL PHASE LINES. FURNISH AND INSTALL THE PROPER SIZE OVERLOAD HEATER ELEMENTS DETERMINED FROM FULL LOAD NAMEPLATE READINGS ON MOTORS AND COMPENSATION FOR AMBIENT TEMPERATURE IN ALL STARTERS WHETHER THEY BE FURNISHED UNDER THIS SECTION OR OTHER SECTIONS.

13.3. SEPARATELY MOUNTED MOTOR STARTERS SHALL BE ACROSS-THE-LINE NON-REVERSING COMBINATION MAGNETIC STARTER WITH 24V COIL, FUSED DISCONNECT SWITCH, AND (2) NO/NC AUXILIARY CONTACTS FOR INTERLOCKING OF CONTROLS. PROVIDE HAND-OFF-AUTO SELECTOR SWITCH AND RUN LED PILOT LIGHT IN COVER. VERIFY CONTROL VOLTAGE W/CONTROLS CONTRACTOR AND PILOT LIGHT COLOR W/OWNER PRIOR TO ORDERING. SWITCHBOARD MOUNTED STARTERS SHALL BE SAME AS SEPARATELY MOUNTED TYPE EXCEPT WITH 120V COIL. STARTERS SHALL HAVE AN INTEGRAL CONTROL CIRCUIT TRANSFORMER WITH PRIMARY AND SECONDARY FUSING OR SEPARATE 120V SOURCE FOR CONTROL. PROVIDE WITH CONTROL CIRCUIT DISCONNECT SWITCH IN COVER. EQUAL TO SQUARE D.

13.4. MANUAL STARTERS SHALL BE HORSEPOWER, VOLTAGE AND PHASE RATED WITH OVERLOAD PROTECTION AND GREEN "ON" PILOT LIGHT. SURFACE MOUNTED UNLESS NOTED OTHERWISE. EQUAL TO SQUARE D.

13.5. LIGHTING CONTACTORS SHALL BE ELECTRICALLY HELD WITH 120V. COIL. PROVIDE NO. OF 20AMP POLES REQUIRED, RATED AT THE APPROPRIATE VOLTAGE. EQUAL TO "SQUARE D" #L SERIES.

13.6. CONTACTORS SHALL BE ELECTRICALLY HELD WITH 120V. COIL. PROVIDE WITH RATINGS MATCHING INSTALLATION REQUIREMENTS; AMPERAGE, VOLTAGE, PHASE, HP, DUTY, ETC. EQUAL TO "SQUARE D".

13.7. TIMESWITCHES SHALL BE 24 HR, ASTRONOMIC TYPE, WITH 7-DAY BATTERY BACK-UP AND INDIVIDUALLY PROGRAMMABLE RELAYS. MIN. 14,000 SCCR/AIC RATING AT 277V. PROVIDED WITH THE NUMBER OF POLES REQUIRED, RATED AT THE APPROPRIATE VOLTAGE. EQUAL TO "PSI" LITEKEEPER SERIES.

13.8. LABEL PER SECTION 20.

14. TRANSFORMERS - NOT USED

15. CONDUIT

15.1. METALLIC CONDUITS SHALL BE HOT DIPPED GALVANIZED, EQUAL TO CLIFFTON.

15.2. ELECTRIC METALLIC TUBING (EMT) IS PERMITTED FOR EXPOSED WORK ABOVE 6'-0" A.F.F. OR CONCEALED WORK ONLY. EMT IS NOT PERMITTED IN THE FOLLOWING: (1) IN OR UNDER CONCRETE, (2) IN EARTH, (3) IN GROUTED WALLS, (4) EXTERIOR OF BUILDING, (5) WITH DISSIMILAR METALS, (6) WHERE IT WILL BE SUBJECT TO SEVERE PHYSICAL DAMAGE (EITHER DURING OR AFTER INSTALLATION), (7) IN ANY HAZARDOUS (CLASSIFIED LOCATION) EXCEPT AS PERMITTED BY 502- 4, 503-3 AND 504-20, (8) WITHOUT AN EQUIPMENT GROUNDING CONDUCTOR. PROVIDE EQUIPMENT GROUNDING CONDUCTOR PER NEC 250.122.

15.3. PVC CONDUITS SHALL BE SCHEDULE 40 EQUAL TO CARLON, OR AS ACCEPTED. PVC IS PERMITTED FOR UNDERGROUND CIRCUITS. PVC SHALL NOT BE USED ABOVE GRADE EXCEPT WITHIN CONCRETE ENCASEMENTS. CONDUIT FITTINGS SHALL BE OF THE SAME MANUFACTURER AS THE CONDUIT. GLUE JOINTS SHALL BE MADE AS RECOMMENDED BY THE CONDUIT MANUFACTURER. CONDUITS AND FITTINGS SHALL BE STORED OUT OF DIRECT SUNLIGHT. PROVIDE RIDGID GALVANIZED STEEL ELBOWS AND RISERS (NO MINIMUM SIZE). PROVIDE EQUIPMENT GROUNDING CONDUCTOR PER NEC 250.122.

15.4. RIGID GALVANIZED OR SHERADIZED STEEL (RGS) SHALL BE USED FOR ALL EXPOSED CONDUIT BELOW 6'-0" A.F.F. OR AS NOTED ON DRAWINGS. WHERE USED IN OR UNDER CONCRETE OR IN EARTH, SHALL BE CODE APPROVED PVC COATED OR HALF LAP WRAPPED WITH POLYKEN #900 TAPE OR AS ACCEPTED.

15.5. INSTALL EXPOSED RACEWAYS PARALLEL AND PERPENDICULAR TO NEARBY SURFACES OR STRUCTURAL MEMBERS AND FOLLOW THE SURFACE CONTOURS AS MUCH AS PRACTICAL.

15.6. RUN EXPOSED, PARALLEL, OR BANKED RACEWAYS TOGETHER. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM THE SAME CENTER LINE SO THAT THE BENDS ARE PARALLEL. FACTORY ELBOWS MAY BE USED IN BANKED RUNS ONLY WHERE THEY CAN BE INSTALLED PARALLEL. THIS REQUIRES THAT THERE BE A CHANGE IN THE PLANE OF THE RUN SUCH AS FROM WALL TO CEILING AND THAT THE RACEWAYS BE OF THE SAME SIZE. IN OTHER CASES PROVIDE FIELD BENDS FOR PARALLEL RACEWAYS.

16. WIRE

16.1. SOFT DRAWN ANNEALED COPPER (UNLESS OTHERWISE NOTED ON PLANS) HAVING CONDUCTIVITY OF NOT LESS THAN 98% OF THAT OF PURE COPPER, UNIFORM IN CROSS SECTION, FREE FROM FLAWS, SCALES, AND OTHER IMPERFECTIONS. ALL WIRE LARGER THAN #10 SHALL BE STRANDED.

16.2. INSULATION: TYPE THHN/THWN, OR XHHW-2. SEE GENERAL NOTES ON DRAWINGS FOR SPECIFIC APPLICATIONS.

16.3. SIZES: NO WIRE SMALLER THAN #12 UNLESS OTHERWISE NOTED ON DRAWINGS.

17. MISCELLANEOUS MATERIALS:

17.1. SAFETY SWITCHES: HEAVY DUTY, FUSED REJECTION TYPE, MINIMUM 200,000 A.I.C. RATED. "NF" INDICATES NOT FUSED. WHERE DOWNSTREAM OF VFD, PROVIDE INTERLOCK CONTACTS.

17.1.1. LABEL PER SECTION 20.

17.1.2. ACCEPTED MANUFACTURERS ARE: SQUARE D, EATON, GENERAL ELECTRIC OR SAME MANUFACTURERS AS DISTRIBUTION EQUIPMENT.

17.2. FUSES: "BUSSMANN", "FERRAZ SHAWMUT", OR "LITTEL FUSE" MFG. REJECTION TYPE, DUAL ELEMENT TIME DELAY. BUSSMANN CAT. NO.'S NOTED ON PLANS. NO SUBSTITUTIONS UNLESS BY PRIOR WRITTEN APPROVAL FROM ENGINEER, OR AS NOTED ON DRAWINGS.

17.3. CONDUIT STRAP: HEAVY GAUGE STEEL SNAP-ON TYPE.

17.4. ELECTRICAL METALLIC TUBING FITTINGS: STEEL COMPRESSION TYPE. DIE CAST ZINC FITTINGS SHALL NOT BE USED. CONNECTORS SHALL HAVE INSULATED BUSHINGS. EQUAL TO T&B.

17.5. RIGID CONDUIT LOCKNUTS AND BUSHINGS: EQUAL TO T&B.

17.6. FLEXIBLE CONDUIT AND FITTINGS: EQUAL TO AFC CABLE SYSTEMS. PROVIDE LIQUID TIGHT CONDUIT AND FITTINGS FOR ALL EXTERIOR AND EQUIPMENT CONNECTIONS.

17.7. OUTLET BOXES, PLASTER RINGS, PULL, AND JUNCTION BOXES, ETC: EQUAL TO RACO. ZINC COATED OR CADMIUM PLATED SHEET STEEL FOR INDOOR LOCATIONS, CAST ALUMINUM FOR OUTDOOR LOCATIONS.

17.7.1. FOR ALL LIGHT FIXTURES: OCTAGON OR 4" SQUARE BOXES.

17.7.2. FOR SWITCHES AND RECEPTACLES: 4" OR 4-11/16" SQUARE BOXES.

17.7.3. FOR DATA AND TELEPHONE OUTLETS: 4-11/16" SQUARE BOXES, SINGLE GANG MUD RINGS.

17.7.4. JUNCTION AND PULL BOXES: 4" SQUARE MINIMUM SIZE. PROVIDE WITH SCREW FASTENED COVERS LOCATED IN ACCESSIBLE LOCATIONS.

17.8. HANDHOLE ENCLOSURES: PRE-CAST CONCRETE, SIZE PER PLANS. STEEL DIAMOND PLATE LID, TRAFFIC RATED IN DRIVE AND PARKING AREAS. PERMANENTLY IDENTIFY THE UTILITY CONTAINED WITHIN ON THE LID. UTILITY VAULT CO. OR AS ACCEPTED. PROVIDE AND INSTALL PER 314.30. PROVIDE PEA GRAVEL DRY WELL BELOW BOTTOM OF THE BOX, SIZE PER PLANS, MINIMUM 6'\0 X 24" DEEP.

17.9. CONDULETS: EQUAL TO CROUSE-HINDS.

17.10. WIRE AND CABLE: EQUAL TO GENERAL CABLE AND/OR SIMPLEX.

17.11. DEVICES: HUBBELL, LEVITON, OR AS ACCEPTED. RECEPTACLES: HUBBELL DEVICE CAT. NO.S - DUPLEX-20 AMP #5362, ISOLATED GROUND - 20 AMP #IG-5362, GFCI- 20 AMP #GF-5362. SWITCHES: HUBBELL DEVICE CAT. NO.S - 20 AMP #1221 SINGLE POLE, 1222 DOUBLE POLE, 1223 THREE WAY, 1224 FOUR WAY. COLOR SELECTED BY ARCHITECT.

17.12. DEVICES: HUBBELL, LEVITON, OR AS ACCEPTED. RECEPTACLES MEDICAL GRADE: HUBBELL DEVICE CAT. NO.S - DUPLEX-20 AMP #8300, ISOLATED GROUND - 20 AMP #IG8300, ISOLATED GROUND W/SURGE SUPPRESSION - 20 AMP #IG8362S, GFCI- 20 AMP #GF8300, TAMPER RESISTANT - 20 AMP #TR8300SG. SWITCHES: HUBBELL DEVICE CAT. NO.S - 20 AMP #1221 SINGLE POLE, 1222 DOUBLE POLE, 1223 THREE WAY, 1224 FOUR WAY. COLOR SELECTED BY ARCHITECT.

17.13. DEVICE PLATES: HUBBELL, LEVITON, OR AS ACCEPTED. NYLON IN INTERIOR AREAS, STAINLESS STEEL IN KITCHEN, SERVERY, NOURISHMENT, RECEIVING AND DOCK AREAS, OR AS NOTED ON DRAWINGS. ZINC DIE CAST FLIP LID MOUNTED HORIZONTALLY FOR EXTERIOR OR WEATHERPROOF LOCATIONS. COLOR SELECTED BY ARCHITECT.

17.14. LIGHTING FIXTURES: EQUAL TO AS SHOWN ON FIXTURE SCHEDULE OR DESCRIBED ON DRAWINGS, COMPLETE WITH LAMPS IN ORIGINAL CARTONS AND ALL CANOPIES, STEMS, HANGERS AND ACCESSORIES INCLUDING ALL STRUCTURAL MEMBERS REQUIRED FOR PROPER MOUNTING. FLUORESCENT BALLASTS SHALL BE RAPID START OR PROGRAM RAPID START, HIGH FREQUENCY ELECTRONIC, <10% THD TYPE, POWER FACTOR >95%, BALLAST FACTOR >95%. HID BALLASTS SHALL BE HIGH POWER FACTOR CWA TYPE. LED DRIVERS SHALL BE INTEGRAL WITH THE FIXTURE. BALLASTS SHALL BE CEC CERTIFIED. SUBMIT SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR ACCEPTANCE BY THE SAME. SUBMIT SHOP DRAWINGS TO ARCHITECT/ENGINEER FOR ACCEPTANCE BY THE SAME.

17.15. LAMPS: G.E. OR AS ACCEPTED. FLUORESCENT AND LED LAMPS SHALL HAVE MINIMUM CRI OF 80. MR-16 LAMPS SHALL HAVE LAMP LIFE RATING OF 5000HR OR GREATER. UNLESS SCHEDULED OTHERWISE INCANDESCENT AND HID LAMPS SHALL BE FROSTED. LAMPS SHALL BE RATED FOR THE MAXIMUM RATED WATTAGE OF FIXTURE UNLESS OTHERWISE SHOWN ON DRAWINGS.

17.16. WIRE BASKET TRAY REQUIREMENTS

17.16.1. PROVIDE COOPER B-LINE "FLEXTRAY" (NO SUBSTITUTIONS WITHOUT PRIOR APPROVAL BY THE ENGINEER AND AT&T ITO).

17.16.2. MATERIALS SHALL BE CARBON STEEL WIRE, ASTM A 510, GRADE 1008. WIRE WELDED, BENT, AND SURFACE TREATED AFTER MANUFACTURE.

17.16.3. FINISH FOR CARBON STEEL WIRE AFTER WELDING AND BENDING OF MESH SHALL BE ELECTRODEPOSITED ZINC PLATING: ASTM B 633, TYPE III, SC-1.

17.16.4. CABLE TRAY SHALL CONSIST OF CONTINUOUS, RIGID, WELDED STEEL WIRE MESH CABLE MANAGEMENT SYSTEM, TO ALLOW CONTINUOUS VENTILATION OF CABLES AND MAXIMUM DISSIPATION OF HEAT, WITH UL CLASSIFIED SPLICES WHERE TRAY ACTS AS EQUIPMENT GROUNDING CONDUCTOR (EGC). WIRE MESH CABLE TRAY SHALL HAVE CONTINUOUS SAFE-T-EDGE T-WELDED TOP SIDE WIRE TO PROTECT CABLE INSULATION AND INSTALLERS OR ENGINEER ACCEPTED EQUIVALENT MEANS OF PROTECTION.

17.16.5. PROVIDE SPLICES, SUPPORTS, AND OTHER FITTINGS NECESSARY FOR A COMPLETE, CONTINUOUSLY GROUNDED SYSTEM.

17.16.6. MESH SHALL BE 2 X 4 INCHES (50 X 100 MM).

17.16.7. WIRE DIAMETER SHALL BE AS NECESSARY TO MEET THE APPLICATION LOAD REQUIREMENTS; TO OPTIMIZE TRAY STRENGTH; AND TO ALLOW TRAY TO REMAIN LIGHTWEIGHT.

17.16.8. CABLE TRAY MAY BE FILLED TO 40% OF TOTAL FILL CAPACITY. SIZE CABLE TRAY TO ACCOMMODATE FUTURE CABLING CHANGES OR ADDITIONS

17.16.9. FITTINGS: TEES, CROSSES, RISERS, ELBOWS, AND OTHER FITTINGS AS INDICATED, OF SAME MATERIALS AND FINISHES AS CABLE TRAY.

17.16.10. BARRIER STRIPS: SAME MATERIALS AND FINISHES AS CABLE TRAY.

17.16.11. CABLE TRAY SUPPORTS AND CONNECTORS, INCLUDING BONDING JUMPERS, AS RECOMMENDED BY CABLE TRAY MANUFACTURER.

18. CLEANUP OF PREMISES

18.1. CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES CLEAR OF WASTE MATERIALS AND DEBRIS CAUSED BY HIS EMPLOYEES AND OPERATION. EQUIPMENT NOT REQUIRED IN THE WORK SHALL BE REMOVED PRIOR TO THE TERMINATION OF THE CONTRACT.

19. TESTS AND INSPECTIONS

19.1. CONTRACTOR SHALL TEST WIRING AND DEVICES AS SECTIONS ARE COMPLETED AND SHALL CORRECT ALL DEFECTS IMMEDIATELY AT HIS OWN EXPENSE, INCLUDING ANY DAMAGE TO WALLS, CEILINGS, FLOOR OR OTHER PORTIONS OF THE BUILDING WHICH MAY RESULT FROM REPLACING DEFECTIVE EQUIPMENT.

19.2. FURNISH ALL METERS, CABLE, CONNECTIONS AND APPARATUS NECESSARY FOR MAKING TESTS.

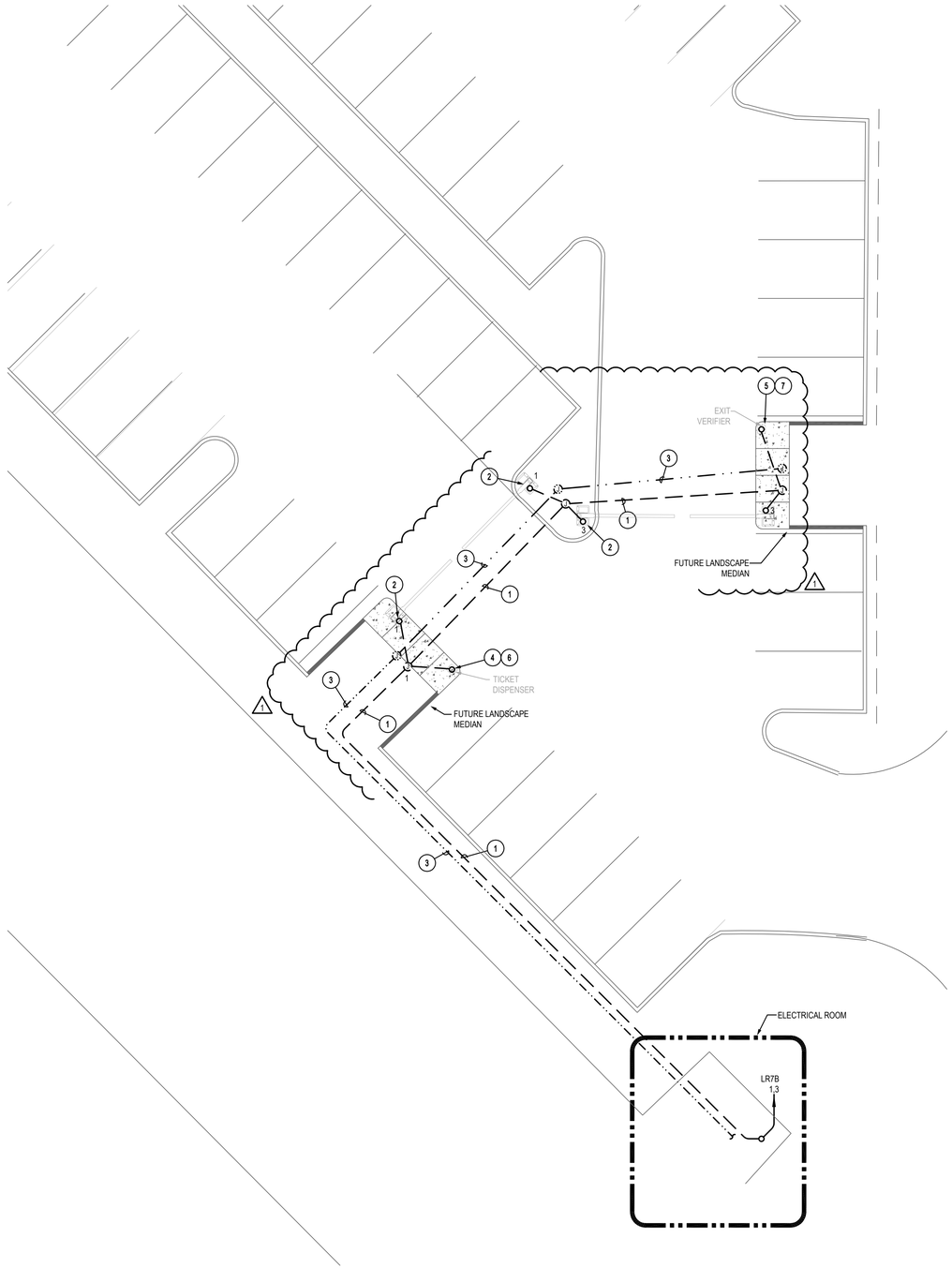
19.3. TEST SYSTEM FOR SHORTS AND GROUNDS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. ANY DEVICE, APPARATUS OR FIXTURE INSTALLED SHOWING SUBSTANDARD PERFORMANCE SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ARCHITECT/ENGINEER.

19.4. MEGGER ALL SYSTEMS NEUTRALS TO INSURE THE NEUTRAL IS NOT GROUNDED WITHIN THE SYSTEM.

19.5. ALL EQUIPMENT RATED AT 1,000 AMPS OR MORE, OR 480 VOLTS SHALL BE TESTED FOR INSULATION BREAKDOWN PRIOR TO ITS BEING ENERGIZED. SUCH EQUIPMENT SHALL WITHSTAND FOR A PERIOD OF ONE MINUTE WITHOUT BREAKDOWN, THE APPLICATION OF A 60H

# KEYED NOTES (#)

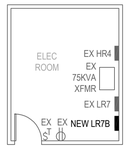
1. 1"C. FOR POWER CONDUCTORS.
2. 120V, 1Ø CONNECTION TO GATE DRIVER (110W).
3. 3/4"C. EMPTY CONDUIT.
4. 120V, 1Ø CONNECTION FOR TICKET DISPENSER (5.3A).
5. 120V, 1Ø CONNECTION FOR EXIT VERIFIER (5.3A).
6. VERIFY TICKET DISPENSER LOCATION IN FIELD PRIOR TO ROUGH-IN.
7. VERIFY EXIT VERIFIER LOCATION IN FIELD PRIOR TO ROUGH-IN.




## ELECTRICAL SITE PLAN

NORTH SCALE: 1" = 10'-0"

0' 10' 20'




## ELECTRICAL ROOM - FIRST FLOOR

NORTH SCALE: 1/8" = 1'-0"

0' 8' 16'

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ELECTRICAL POWER PLANS

**Hotel Valley Ho**
**Parking Lot Access Gate**

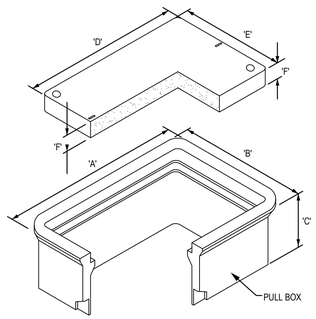
**6850 E Main Street**
**Scottsdale, AZ, 85251**

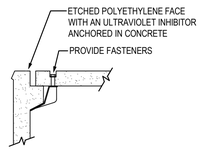
Registered Professional Engineer (Electrical)
CERTIFICATE NO
43861
ADAM J. BAGBY
Date Signed 03.20.17
ARIZONA U.S.A.
EXPIRES: 03/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| AL | AJB | AJB |

| DATE | JOB NO. |
|---|---|
| 02-20-2017 | 2017-013.000 |

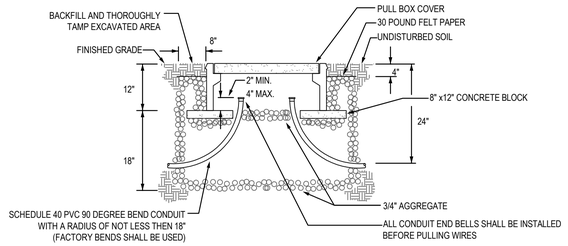
SHEET NO.
E-002




HOLD DOWN BOLT DETAIL


LID 'A'

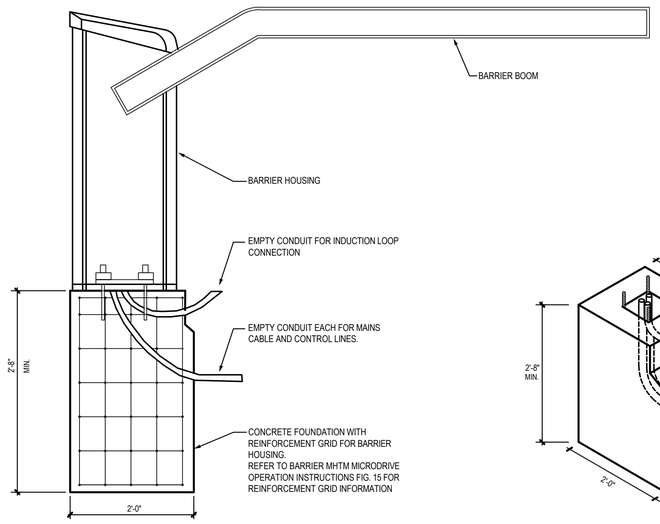


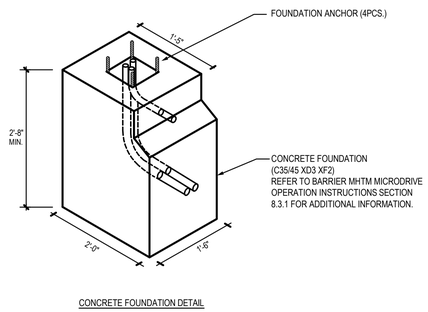

## NOTES

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END AND SIDE KNOCKOUTS, AND NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" HIGH LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED (TO MATCH EXISTING).
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.
5. ALL CABLE AND CONDUCTOR SPLICES SHALL BE CONNECTED AND INSULATED WITH A TYCO ELECTRONICS GELCAP-SL OR NSI INDUSTRIES ESSLK-2/0; OR CONNECTED WITH COPPER COMPRESSION H-TAP CONNECTOR OR APPROVED EQUAL AND INSULATED WITH 3M SCOTCHCAST KIT 85 SERIES, TYCO ELECTRONICS GELCAP SL, NSI INDUSTRIES GSS SERIES OR AS ACCEPTED.

## 1 PULL BOX INSTALLATION

NOT TO SCALE




CONCRETE FOUNDATION DETAIL

## 2 BARRIER MHTM MICRODRIVE FOUNDATION

NOT TO SCALE

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Phoenix, Arizona 85021 Facsimile 602.336.3276
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ELECTRICAL DETAILS

# Hotel Valley Ho
# Parking Lot Access Gate

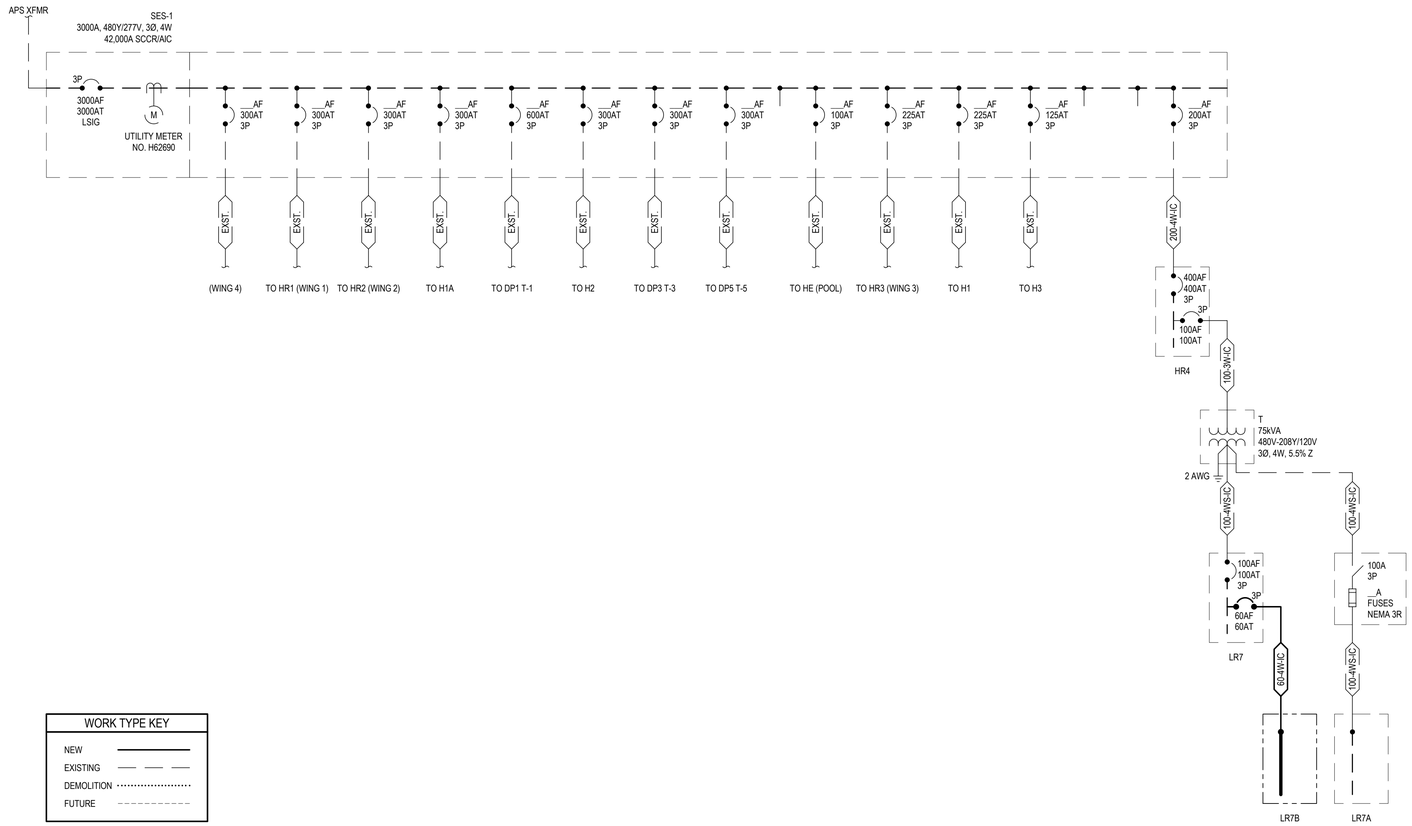
8850 E Main Street
Scottsdale, AZ, 85251

Registered Professional Engineer (Electrical)
CERTIFICATE NO.
43861
ADAM J.
BAGBY
Date Signed 12-5-17
ARIZONA U.S.A.
EXPIRES: 03/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| AL | AJB | AJB |

| DATE | JOB NO. |
|---|---|
| 02-20-2017 | 2017-013.000 |

SHEET NO.
E-004




WORK TYPE KEY

- NEW
- EXISTING
- DEMOLITION
- FUTURE

1 SES-1 ONE-LINE DIAGRAM

NOT TO SCALE

## FEEDER SCHEDULE

| TAG | FEEDER DESCRIPTION | NOTES |
|---|---|---|
| 200-4W-IC | (3) 3/0 AWG, (1) 3/0 AWG NEUTRAL, AND (1) 6 AWG GND IN 2"C. | |
| 100-3W-IC | (3) 1 AWG, AND (1) 8 AWG GND IN 1 1/4"C. | |
| 100-4WS-IC | (3) 1 AWG, (1) 1 AWG NEUTRAL, AND (1) 6 AWG GND IN 1 1/2"C. | |
| 60-4W-IC | (3) 4 AWG, (1) 4 AWG NEUTRAL, AND (1) 10 AWG GND IN 1 1/4"C. | |
| | | |

CONDITION ABBREVIATIONS:

| | |
|---|---|
| IC | INDOOR, CONDUIT IN AIR |
| NL | INDOOR, NON-LINEAR LOADS (NOTE 4) |
| OA | OUTDOOR, 50°C AMBIENT, OTHER THAN ROOFTOPS (NOTE 4) |
| RT | OUTDOOR, 50°C AMBIENT, MIN. 3.5" ABOVE ROOFTOP (NOTE 4) |
| UG | UNDERGROUND (ISOLATED DUCT BANKS ARRANGED PER NEC ANNEX B, FIGURE B.310.2, DETAIL 1, 2, OR 3.) |

NOTES

| | |
|---|---|
| 1 | AMPACITY ADJUSTMENT BASED ON 90°C AMPACITY IN ACCORD WITH NEC 110.14(C). |
| • | USING "NEXT HIGHER STANDARD OVERCURRENT DEVICE RATING (ABOVE THE AMPACITY OF THE CONDUCTORS BEING PROTECTED)" RULE IN ACCORD WITH NEC 240.4(B). |
| † | UPSIZED BASED ON "CIRCULAR MIL AREA OF THE UNGROUNDED CONDUCTORS" PER 250.122(B). |
| ‡ | GROUND SIZE "NOT [...] REQUIRED TO BE LARGER THAN THE CIRCUIT CONDUCTORS SUPPLYING THE EQUIPMENT" IN ACCORD WITH NEC 250.122. |

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ELECTRICAL ONE-LINE DIAGRAM

Hotel Valley Ho
Parking Lot Access Gate

8850 E Main Street
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Registered Professional Engineer (Electrical)
CERTIFICATE NO
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ADAM J.
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Date Signed 12-31-17
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| AL | AJB | AJB |

| DATE | JOB NO. |
|---|---|
| 02-20-2017 | 2017-013.000 |

SHEET NO.
E-005

## LOAD CALCULATION - SES1

**3,000A - 480Y/277V, 3ø, 4W**

| | LOAD (VA) | | |
|---|---|---|---|
| | Ø A | Ø B | Ø C |
| (WING 4) 300A BREAKER | 66,480 | 66,480 | 66,480 |
| HR1 (WING 1) 300A BREAKER | 20,845 | 19,840 | 21,306 |
| HR2 (WING 2) 300A BREAKER | 34,425 | 34,548 | 34,404 |
| H1A 300A BREAKER | 54,048 | 50,512 | 48,540 |
| DP1 T-1 600A BREAKER | 100,972 | 95,788 | 79,604 |
| H2 300A BREAKER | 50,258 | 50,824 | 50,544 |
| DP3 T-3 300A BREAKER | 66,480 | 66,480 | 66,480 |
| DP5 T-5 300A BREAKER | 66,480 | 66,480 | 66,480 |
| HE (POOL) 100A BREAKER | 9,255 | 6,035 | 2,633 |
| HR3 (WING 3) 225A BREAKER | 34,254 | 34,254 | 34,254 |
| H1 225A BREAKER | 49,860 | 49,860 | 49,860 |
| H3 125A BREAKER | 15,000 | 15,000 | 15,000 |
| HR4 (HR) 200A BREAKER | 41,512 | 40,844 | 37,952 |

| | | | |
|---|---|---|---|
| **Total Connected Load (VA):** | **609,869** | **596,945** | **573,537** |
| + 25% of Largest Motor: | 2,383 | 2,383 | 2,383 |
| **Total Code Load (VA):** | **612,252** | **599,328** | **575,920** |
| **Total Code Load (Amps):** | **2,210** | **2,164** | **2,079** |
| **Total Code Load (3ø kVA):** | | **1787.5** | |

**New Panel: LR7B** Mains: 60A L.O. Voltage: 208Y/120V, 3ø, 4W
Mounting: SURFACE (NEMA 1) Type: BOLT-ON Minimum SCCR/A.I.C.: 10,000A

| Use and/or Area Served | C/B | Cir. No. | Load (VA) Ø A | Ø B | Ø C | Cir. No. | C/B | Use and/or Area Served | |
|---|---|---|---|---|---|---|---|---|---|
| (2) GATE DRIVERS | 20 | 1 | 220 | | | 2 | 20 | GUESTROOM TYPE 'A' | T |
| | | 1 | 1,260 | | | | 1 | NOTE 1 | |
| (2) GATE DRIVERS | 20 | 3 | | 220 | | 4 | 20 | GUESTROOM TYPE 'A' | T |
| | | 1 | | 1,260 | | | 1 | NOTE 1 | |
| TICKET DISPENSER | 20 | 5 | | | 636 | 6 | 20 | GUESTROOM TYPE 'A' | T |
| | | 1 | | | 1,260 | | 1 | NOTE 1 | |
| EXIT VERIFIER | 20 | 7 | 636 | | | 8 | | SPACE | |
| | | 1 | | | | | | | |
| SPACE | | 9 | | | | 10 | | SPACE | |
| SPACE | | 11 | | | | 12 | | SPACE | |
| **Total Connected Load (VA):** | | | 2,116 | 1,480 | 1,896 | NOTES: | | | |
| | | | | | | 1 CIRCUIT RELOCATED FROM PANEL LR7 | | | |
| - Hotel Recept Reduction (NEC 220.11 &.13): | | | -630 | -630 | -630 | | | | |
| **Total Code Load (VA):** | | | **1,486** | **850** | **1,266** | | | | |
| **Total Code Load (Amps):** | | | **12** | **7** | **11** | **Total Code Load (3ø kVA): 3.6** | | | |

**Existing Panel: HR4** Mains: 400A C.B. Voltage: 480Y/277V, 3ø, 4W
Mounting: SURFACE (NEMA 1) Type: BOLT-ON Minimum SCCR/A.I.C.: 14,000A

| Use and/or Area Served | C/B | Cir. No. | Load (VA) Ø A | Ø B | Ø C | Cir. No. | C/B | Use and/or Area Served | |
|---|---|---|---|---|---|---|---|---|---|
| SPACE | | 1 | | | | 45 | | (3) GUESTROOM AHU'S 1ST FLOOR | M |
| | | | 9,531 | | | 2 | 1 | | |
| SPACE | | 3 | | | | 45 | | (3) GUESTROOM AHU'S 1ST FLOOR | M |
| | | | | 9,531 | | 4 | 1 | | |
| SPACE | | 5 | | | | 45 | | (3) GUESTROOM AHU'S 2ND FLOOR | M |
| | | | | | 9,531 | 6 | 1 | | |
| SPACE | | 7 | | | | 45 | | (3) GUESTROOM AHU'S 2ND FLOOR | M |
| | | | 9,531 | | | 8 | 1 | | |
| SPACE | | 9 | | | | 45 | | (3) GUESTROOM AHU'S 2ND FLOOR | M |
| | | | | 9,531 | | 10 | 1 | | |
| SPACE | | 11 | | | | 45 | | (3) GUESTROOM AHU'S 2ND FLOOR | M |
| | | | | | 9,531 | 12 | 1 | | |
| SPACE | | 13 | | | | 20 | 1 | (1) GUESTROOM AHU'S 2ND FLOOR | M |
| | | | 3,177 | | | 14 | 1 | | |
| SPACE | | 15 | | | | 20 | 1 | (1) GUESTROOM AHU'S 2ND FLOOR | M |
| | | | | 3,177 | | 16 | 1 | | |
| SPACE | | 17 | | | | 20 | | SPARE | |
| | | | | | | 18 | 1 | | |
| SPACE | | 19 | | | | 20 | | SPARE | |
| | | | | | | 20 | 1 | | |
| SPACE | | 21 | | | | 20 | | SPARE | |
| | | | | | | 22 | 1 | | |
| SPACE | | 23 | | | | | | SPACE | |
| | | | | | | 24 | | | |
| SPACE | | 25 | | | | | | SPACE | |
| | | | | | | 26 | | | |
| SPACE | | 27 | | | | | | SPACE | |
| | | | | | | 28 | | | |
| SPACE | | 29 | | | | | | SPACE | |
| | | | | | | 30 | | | |
| SPACE | | 31 | | | | | | SPACE | |
| | | | | | | 32 | | | |
| SPACE | | 33 | | | | | | SPACE | |
| | | | | | | 34 | | | |
| SPACE | | 35 | | | | | | SPACE | |
| | | | | | | 36 | | | |
| SPACE | | 37 | | | | 100 | | LR7 & LR7A VIA XFMR | |
| | | | 19,273 | | | 38 | | | |
| SPACE | | 39 | | | | | | | |
| | | | | 18,605 | | 40 | | | |
| SPACE | | 41 | | | | | | | |
| | | | | | 18,890 | 42 | 3 | | |
| **Total Connected Load (VA):** | | | 41,512 | 40,844 | 37,952 | NOTES: | | | |
| | | | | | | 1 ALL CIRCUITS ARE EXISTING, UNO. | | | |
| + 25% of Largest Motor: | | | 2,383 | 2,383 | 2,383 | 2 NEW LOADS CONNECTED TO NEW OR EXISTING CIRCUIT BREAKERS ARE SHOWN BOLD-ITALIC | | | |
| **Total Code Load (VA):** | | | **43,895** | **43,227** | **40,335** | | | | |
| **Total Code Load (Amps):** | | | **158** | **156** | **146** | **Total Code Load (3ø kVA): 127.5** | | | |

## Point-to-Point Fault Calculations

(based on Bussmann SPD method and tables) 2/6/2017

| Fault | Location (Node description) | Conductors U.N.O., Busway (B) | | | Conduit or | System | 'C' Value | Combined | Isc | Phase: | 'I' | 'M' | Normal Full | Emerg Full | Max. Full | Min. Equip |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F# | | No. Sets | Size | Length (ft) | (Busway) Type | Voltage | | 'C' Value | Begin | 1 or 3 | Factor | Value | Isc Fault | Isc Fault | Isc Fault | SCCR/WCR |
| 1 | INCOMING FROM UTILITY + Motor Contribution | — | — | — | — | — | — | — | — | — | — | — | 44,346 | | 44,346 | 65,000 |
| 2 | SES-1 | 8 | 500 CU | 400 | Non-Mag (AL) | 480 | 26,706 | 213,648 | 44,346 | 3 | 0.2992 | 0.7697 | 34,132 | | 34,132 | 42,000 |
| 3 | HR4 | 1 | 3/0 CU | 655 | Non-Mag (AL) | 480 | 13,923 | 13,923 | 44,346 | 3 | 7.5191 | 0.1174 | 5,205 | | 5,205 | 7,500 |
| 4 | XMFR T - PRIMARY | 1 | 1 CU | 5 | Mag (CU) | 208 | 7,293 | 7,293 | 3,118 | 3 | 0.0178 | 0.9825 | 3,063 | | 3,063 | 7,500 |
| 5 | XMFR T - SECONDARY | 1 | 1 CU | 5 | Mag (CU) | 208 | 7,293 | 7,293 | 3,063 | 3 | 0.0175 | 0.9828 | 3,011 | | 3,011 | 7,500 |
| 6 | LR7 | 1 | 1 CU | 5 | Mag (CU) | 208 | 7,293 | 7,293 | 3,011 | 3 | 0.0172 | 0.9831 | 2,960 | | 2,960 | 7,500 |
| 7 | LR7B | 1 | 4 CU | 5 | Mag (CU) | 208 | 3,606 | 3,606 | 2,960 | 3 | 0.0323 | 0.9687 | 2,867 | | 2,867 | 7,500 |
| | | | | | | | | | | | | | | | | |

NOTE: STATED LENGTHS ARE FOR CALCULATION PURPOSES and REPRESENT MINIMUM VALUES. DO NOT USE FOR ESTIMATION TAKE-OFFS.

**Existing Panel: LR7** Mains: 100A L.O. Voltage: 208Y/120V, 3ø, 4W
Mounting: SURFACE (NEMA 1) Type: BOLT-ON Minimum SCCR/A.I.C.: 10,000A

| | Use and/or Area Served | C/B | Cir. No. | Load (VA) Ø A | Ø B | Ø C | Cir. No. | C/B | Use and/or Area Served | |
|---|---|---|---|---|---|---|---|---|---|---|
| T | GUESTROOM TYPE 'A' | 20 | 1 | 1,500 | | | 2 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | 1,500 | | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 3 | | 1,500 | | 4 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | 1,500 | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 5 | | | 1,500 | 6 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | | 1,500 | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 7 | 1,500 | | | 8 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | 1,500 | | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 9 | | 1,500 | | 10 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | 1,500 | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 11 | | | 1,500 | 12 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | | 1,500 | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 13 | 1,500 | | | 14 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | 1,500 | | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 15 | | 1,500 | | 16 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | 1,500 | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 17 | | | 1,500 | 18 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | | 1,500 | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 19 | 1,500 | | | 20 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | 1,500 | | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 21 | | 1,500 | | 22 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | 1,500 | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 23 | | | 1,500 | 24 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | | 1,500 | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 25 | 1,500 | | | 26 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | 1,500 | | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 27 | | 1,500 | | 28 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | 1,500 | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 29 | | | 1,500 | 30 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | | 1,500 | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 31 | 1,500 | | | 32 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | 1,500 | | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 33 | | 1,500 | | 34 | 20 | GUESTROOM TYPE 'A' | T |
| | | | 1 | | 1,500 | | | 1 | | |
| T | GUESTROOM TYPE 'A' | 20 | 35 | | | 1,500 | 36 | *60* | ***PANEL LR7B*** | |
| | | | 1 | | | *1,266* | | | | |
| T | GUESTROOM TYPE 'A' | 20 | 37 | 1,500 | | | 38 | | | |
| | | | 1 | *1,486* | | | | | | |
| T | GUESTROOM TYPE 'A' | 20 | 39 | | 1,500 | | 40 | *3* | | |
| | | | 1 | | *850* | | | | | |
| L | ELEC RM LIGHTS, REC, VENT | 20 | 41 | | | 1,500 | 42 | 20 | FA BELL | |
| | | | 1 | | | 180 | | 1 | | |
| | **Total Connected Load (VA):** | | | 20,986 | 20,350 | 19,446 | NOTES: | | | |
| | + 25% of Continuous Load: | | | | | 375 | 1 ALL CIRCUITS ARE EXISTING, UNO. | | | |
| | | | | | | | 2 NEW LOADS CONNECTED TO NEW OR EXISTING CIRCUIT BREAKERS ARE SHOWN BOLD-ITALIC | | | |
| | - Hotel Recept Reduction (NEC 220.11 &.13): | | | -10,997 | -10,997 | -9,305 | | | | |
| | **Total Code Load (VA):** | | | **9,989** | **9,353** | **10,516** | | | | |
| | **Total Code Load (Amps):** | | | **83** | **78** | **88** | **Total Code Load (3ø kVA): 29.9** | | | |

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| 1 | 04/17/2017 | CITY COMMENTS | AJB |

LSW Engineers
ARIZONA, INCORPORATED
2333 West Northern Avenue Telephone 602.249.1320
Phoenix, Arizona 85021 Facsimile 602.336.3276
www.lswphx.com


ELECTRICAL CALCULATIONS

# Hotel Valley Ho
# Parking Lot Access Gate

6850 E Main Street
Scottsdale, AZ, 85251

Registered Professional Engineer (Electrical)
CERTIFICATE NO.
43861
ADAM J.
BAGBY
Date Signed 3-23-17
ARIZONA U.S.A.
EXPIRES: 03/31/18

| DR. BY | DES. BY | CKD. BY |
|---|---|---|
| AL | AJB | AJB |

| DATE | JOB NO. |
|---|---|
| 02-20-2017 | 2017-013.000 |

SHEET NO.
E-006