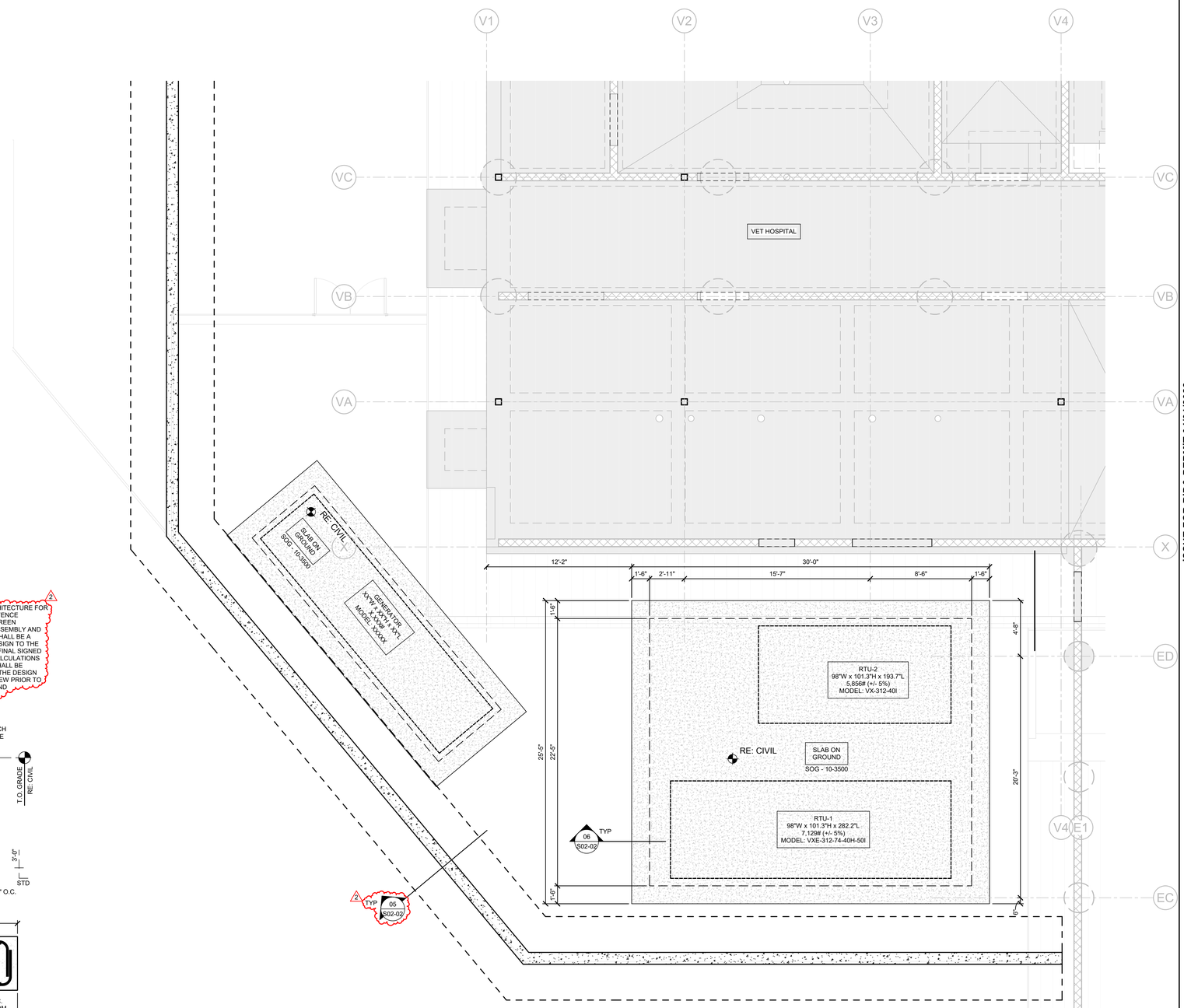
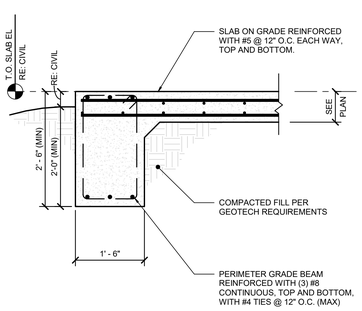
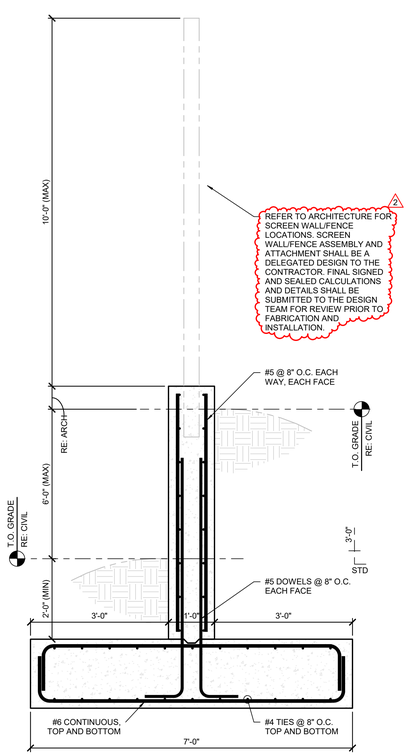




NOTE: REFER TO MEP FOR HOUSEKEEPING PAD REQUIREMENTS. REFER TO "STANDARD HOUSEKEEPING PAD DETAIL" FOR ADDITIONAL INFORMATION.

06 TYPICAL MECHANICAL YARD SECTION
SCALE: 3/4" = 1'-0"



05 TYPICAL SECTION @ RETAINING WALL
SCALE: 3/4" = 1'-0"

04 ENLARGED PARTIAL SITE PLAN
SCALE: 1/4" = 1'-0"

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100,
WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603,
STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150,
HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CAMERON PARK ZOO
1701 N. 4TH STREET, WACO, TEXAS 76701

STATE OF TEXAS
CHRISTOPHER R. NICHOLSON
126208
LICENSED
PROFESSIONAL ENGINEER
Licensed

PROJECT

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

300 AUSTIN AVE.
WACO, TX 76702

KEYPLAN

VET HOSPITAL
EDUCATION CENTER

ISSUE CHART

MARK	ISSUE	DATE
2	ADDENDUM 2	11/09/2022

Job Number 185236.000

TITLE

ENLARGED STRUCTURAL SITE PLAN AND DETAILS

SHEET NUMBER

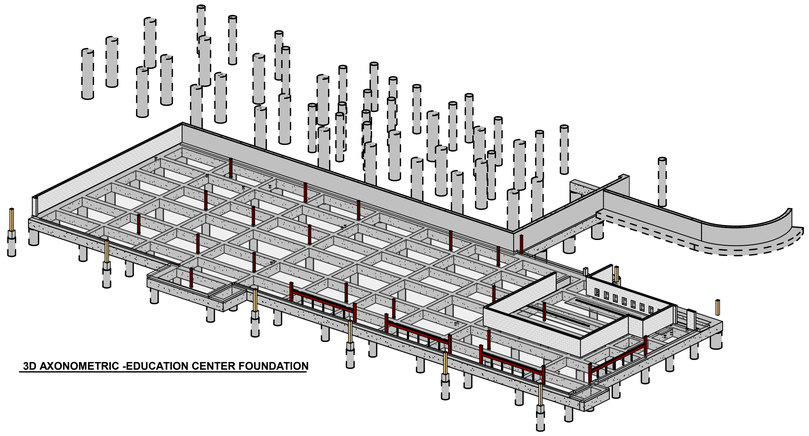
S02-02

ISSUE FOR BID& PERMIT 04/01/2022

© 2022-ENSIGHT HAYNES WHALEY, LLC

11/09/2022 2:52:14 PM BIM 360://Cameron Park Zoo/STRU_CPZ.rvt

NOTE:
3D VIEWS ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. NOT ALL STRUCTURAL ELEMENTS MAY NECESSARILY BE SHOWN. REFERENCE PLANS, ELEVATIONS, AND KEYED DETAILS.



3D AXONOMETRIC -EDUCATION CENTER FOUNDATION

SHEET SERIES NOTES

REFER TO THE FOLLOWING FOR GENERAL SHEET REFERENCES:

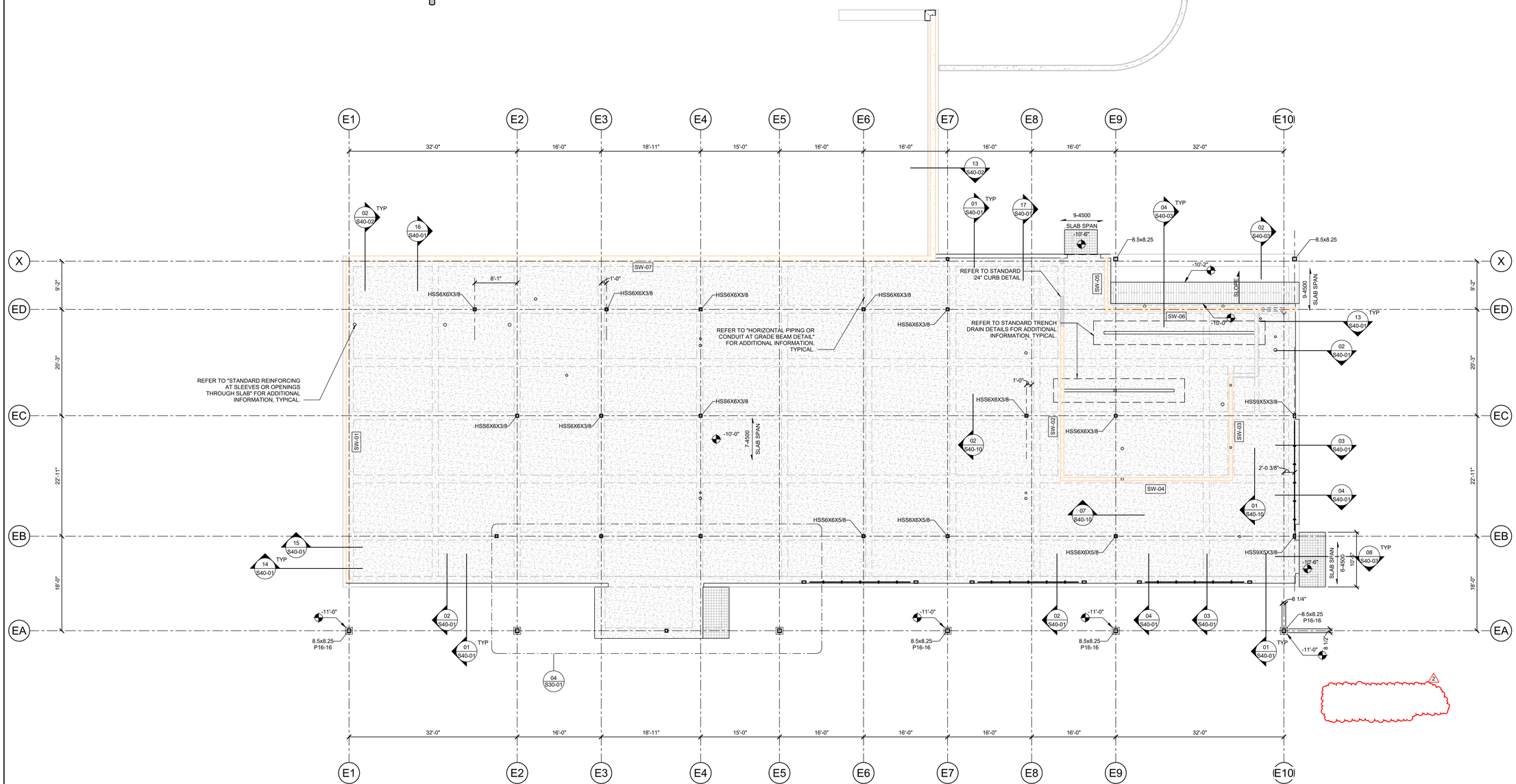
A. S00- SERIES: GENERAL STRUCTURAL NOTES & 3D VIEWS
B. S01- SERIES: STRUCTURAL SITE PLAN
C. S02- SERIES: ENLARGED SITE PLAN
D. S10- SERIES: FOUNDATION AND FRAMING PLANS
E. S30- SERIES: ENLARGED FOUNDATION AND FRAMING PLANS
F. S40- SERIES: FOUNDATION AND STEEL FRAMING SECTIONS AND DETAILS
G. S60- SERIES: STANDARD CONCRETE, CONCRETE MASONRY UNIT, STEEL AND WOOD DETAILS
H. S90- SERIES: STRUCTURAL ELEVATIONS

FOUNDATION PLAN NOTES

1. REFERENCED FINISH FLOOR ELEVATION = (+) 0'-0". RE: CIVIL FOR DATUM ELEVATION (+435.00).
2. REFER TO GENERAL STRUCTURAL NOTES AND STANDARD FOUNDATION DETAILS FOR ADDITIONAL INFORMATION.
3. FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION, WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, SHALL BE REPORTED TO THE ARCHITECT, STRUCTURAL ENGINEER, AND GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
4. CONCRETE SLAB REINFORCING SHALL BE SUPPORTED BY SAND BEARING PLATES. CAST SLAB ON VAPOR RETARDER OVER SUBGRADE PREPARED AND COMPACTED PER THE REQUIREMENTS OUTLINED IN THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
5. GENERAL CONTRACTOR SHALL CONTACT STRUCTURAL ENGINEER IF THERE ARE ANY UTILITIES LINES THAT CONFLICT WITH FOOTINGS PRIOR TO ANY CONSTRUCTION IN THAT AREA.
6. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATION OF FLOOR DRAINS WHETHER OR NOT THEY ARE INDICATED ON THE STRUCTURAL DOCUMENTS.
7. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL DOCUMENTS BEFORE COMMENCING WORK AND SHALL NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES. REFER TO ARCHITECTURAL FOR OTHER DIMENSIONS NOT INDICATED.
8. FOOTINGS ARE CENTERED UNDER COLUMNS. WHERE THERE ARE NO COLUMNS, FOOTINGS ARE CENTERED UNDER GRADE BEAMS OR STRAP BEAMS (U.N.O.).
9. REFER TO ARCHITECTURAL DOCUMENTS FOR ALL SLAB DEPRESSION LOCATIONS AND EXTENTS.
10. VERIFY ALL BRICK LEDGES AND EXTENTS WITH ARCHITECTURAL DOCUMENTS.
11. ALL UNDERGROUND PIPING AND CONDUIT SHALL BE SUPPORTED FROM THE STRUCTURAL SLAB, UNLESS NOTED OTHERWISE. REFER TO PLUMBING FOR HANGING REQUIREMENTS.

FOUNDATION PLAN LEGEND

- ## / - X-X" — DENOTES SHAFT DIAMETER (EXAMPLE).
- DENOTES TOP OF PIER ELEVATION W/ RESPECT TO FIN FLOOR +0'-0" (EXAMPLE).
- CMU-# — INDICATES LOAD-BEARING CONCRETE MASONRY UNIT WALL
- DENOTES NOMINAL CMU WIDTH
- (+/-) ##'-##" — DENOTES TOP ELEVATION OF STURCTURAL ELEMENT WITH RESPECT TO FINISH FLOOR (+) 0'-0" (CIVIL DATUM +435.00).
- INDICATES CONCRETE PLINTH/PILASTER
- PXX-XX — DENOTES CONCRETE PLINTH DEPTH (INCHES)
- DENOTES CONCRETE PLINTH WIDTH (INCHES)
- XX-XX / SLAB SPAN — DENOTES SLAB THICKNESS (INCHES)
- DENOTES CONCRETE COMPRESSIVE STRENGTH (PSI)
- SOG - ##-#### — DENOTES SLAB THICKNESS (INCHES)
- DENOTES CONCRETE COMPRESSIVE STRENGTH (PSI)
- DENOTES "SLAB ON GROUND"



01 FOUNDATION PLAN - LEVEL 01 - EDUCATION CENTER
SCALE: 1/8" = 1'-0"

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100,
WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603,
STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150,
HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CAMERON PARK ZOO
1701 N. 4TH STREET, WACO, TEXAS 76701

STATE OF TEXAS
CHRISTOPHER R. NICHOLSON
126208
LICENSED PROFESSIONAL ENGINEER

LOCATION
PROJECT

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

300 AUSTIN AVE.
WACO, TX 76702

ISSUE FOR BID& PERMIT 04/01/2022

KEYPLAN

VET HOSPITAL
EDUCATION CENTER

ISSUE CHART

MARK	ISSUE	DATE
2	ADDENDUM 2	11/09/2022

Job Number 185236.000

TITLE

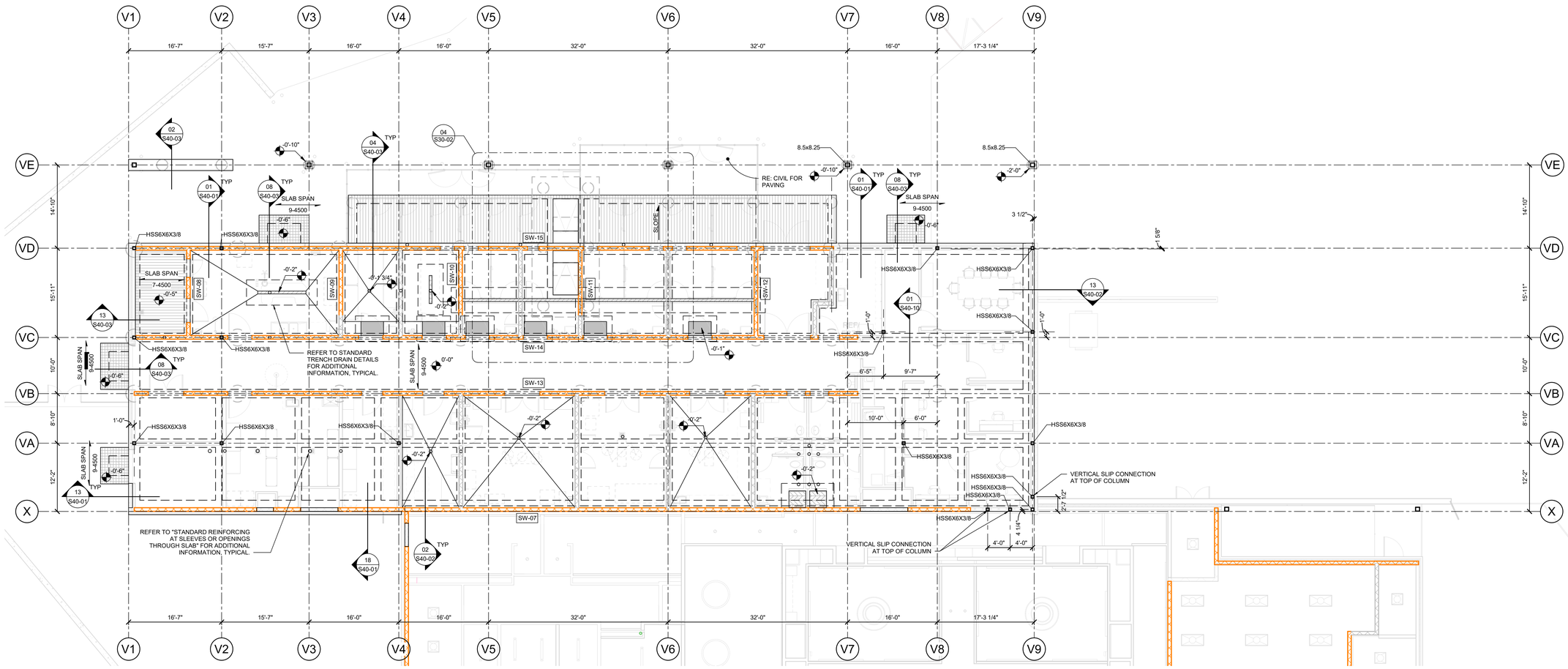
FOUNDATION PLAN - EDUCATION CENTER - STRUCTURAL SLAB

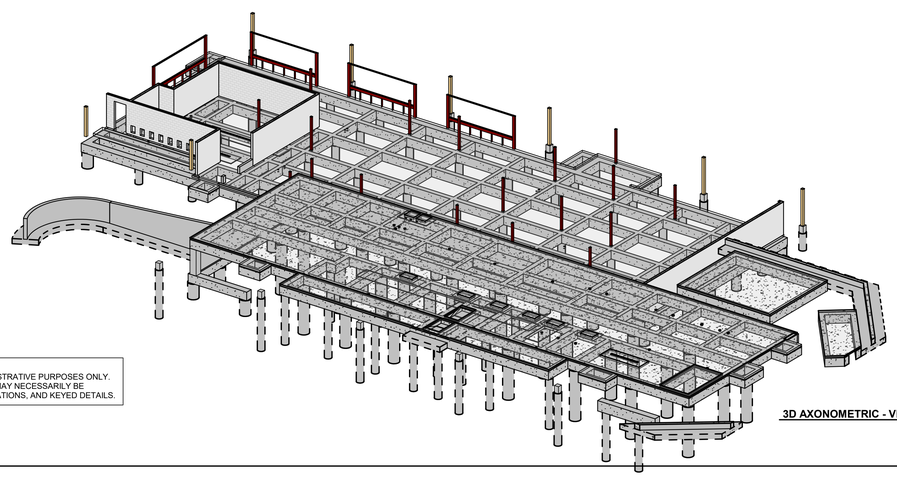
SHEET NUMBER

S10-01SS

© 2022-ENSIGHT HAYNES WHALEY, LLC

11/8/2022 2:17:26 PM BIM 360://Cameron Park Zoo/STRU_CPZ.rvt





NOTE
3D VIEWS ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. NOT ALL STRUCTURAL ELEMENTS MAY NECESSARILY BE SHOWN. REFERENCE PLANS, ELEVATIONS, AND KEYED DETAILS.

3D AXONOMETRIC - VET CLINIC FOUNDATION

SHEET SERIES NOTES

REFER TO THE FOLLOWING FOR GENERAL SHEET REFERENCES:

A. S00- SERIES: GENERAL STRUCTURAL NOTES & 3D VIEWS
B. S01- SERIES: STRUCTURAL SITE PLAN
C. S02- SERIES: ENLARGED SITE PLAN
D. S10- SERIES: FOUNDATION AND FRAMING PLANS
E. S30- SERIES: ENLARGED FOUNDATION AND FRAMING PLANS
F. S40- SERIES: FOUNDATION AND STEEL FRAMING SECTIONS AND DETAILS
G. S60- SERIES: STANDARD CONCRETE, CONCRETE MASONRY UNIT, STEEL AND WOOD DETAILS
H. S90- SERIES: STRUCTURAL ELEVATIONS

FOUNDATION PLAN NOTES

1. REFERENCED FINISH FLOOR ELEVATION = (+) 0'-0". RE: CIVIL FOR DATUM ELEVATION (+435.00).
2. REFER TO GENERAL STRUCTURAL NOTES AND STANDARD FOUNDATION DETAILS FOR ADDITIONAL INFORMATION.
3. FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION, WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, SHALL BE REPORTED TO THE ARCHITECT, STRUCTURAL ENGINEER, AND GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
4. CONCRETE SLAB REINFORCING SHALL BE SUPPORTED BY SAND BEARING PLATES. CAST SLAB ON VAPOR RETARDER OVER SUBGRADE PREPARED AND COMPACTED PER THE REQUIREMENTS OUTLINED IN THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
5. GENERAL CONTRACTOR SHALL CONTACT STRUCTURAL ENGINEER IF THERE ARE ANY UTILITIES LINES THAT CONFLICT WITH FOOTINGS PRIOR TO ANY CONSTRUCTION IN THAT AREA.
6. GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATION OF FLOOR DRAINS WHETHER OR NOT THEY ARE INDICATED ON THE STRUCTURAL DOCUMENTS.
7. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS WITH ARCHITECTURAL DOCUMENTS BEFORE COMMENCING WORK AND SHALL NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES. REFER TO ARCHITECTURAL FOR OTHER DIMENSIONS NOT INDICATED.
8. FOOTINGS ARE CENTERED UNDER COLUMNS. WHERE THERE ARE NO COLUMNS, FOOTINGS ARE CENTERED UNDER GRADE BEAMS OR STRAP BEAMS (U.N.O.).
9. REFER TO ARCHITECTURAL DOCUMENTS FOR ALL SLAB DEPRESSION LOCATIONS AND EXTENTS.
10. VERIFY ALL BRICK LEDGES AND EXTENTS WITH ARCHITECTURAL DOCUMENTS.
11. ALL UNDERGROUND PIPING AND CONDUIT SHALL BE SUPPORTED FROM THE STRUCTURAL SLAB, UNLESS NOTED OTHERWISE. REFER TO PLUMBING FOR HANGING REQUIREMENTS.

FOUNDATION PLAN LEGEND

- DENOTES SHAFT DIAMETER (EXAMPLE). (##)
- DENOTES TOP OF PIER ELEVATION W/ RESPECT TO FIN FLOOR +0'-0" (EXAMPLE). (- X-X")
- INDICATES LOAD-BEARING CONCRETE MASONRY UNIT WALL (CMU-#)
- DENOTES NOMINAL CMU WIDTH
- DENOTES TOP ELEVATION OF STURCTURAL ELEMENT WITH RESPECT TO FINISH FLOOR (+) 0'-0" (CIVIL DATUM +435.00). ((+/-) ##'-##")
- INDICATES CONCRETE PLINTH/PILASTER (PXX-XX)
- DENOTES CONCRETE PLINTH DEPTH (INCHES)
- DENOTES CONCRETE PLINTH WIDTH (INCHES)
- DENOTES SLAB THICKNESS (INCHES) (XX-XX SLAB SPAN)
- DENOTES CONCRETE COMPRESSIVE STRENGTH (PSI)
- DENOTES SLAB THICKNESS (INCHES) (SOG - ##-####)
- DENOTES CONCRETE COMPRESSIVE STRENGTH (PSI)
- DENOTES "SLAB ON GROUND"

01 FOUNDATION PLAN - VET HOSPITAL
SCALE: 1/8" = 1'-0"

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100,
WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603,
STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150,
HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CAMERON PARK ZOO
1701 N. 4TH STREET, WACO, TEXAS 76701

STATE OF TEXAS
CHRISTOPHER R. NICHOLSON
126208
LICENSED PROFESSIONAL ENGINEER
Licensed

PROJECT

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

300 AUSTIN AVE.
WACO, TX 76702

ISSUE FOR BID& PERMIT 04/01/2022

KEYPLAN

VET HOSPITAL
EDUCATION CENTER

ISSUE CHART

MARK	ISSUE	DATE
2	ADDENDUM 2	11/09/2022

Job Number 185236.000

TITLE

FOUNDATION PLAN - VET HOSPITAL - STRUCTURAL SLAB

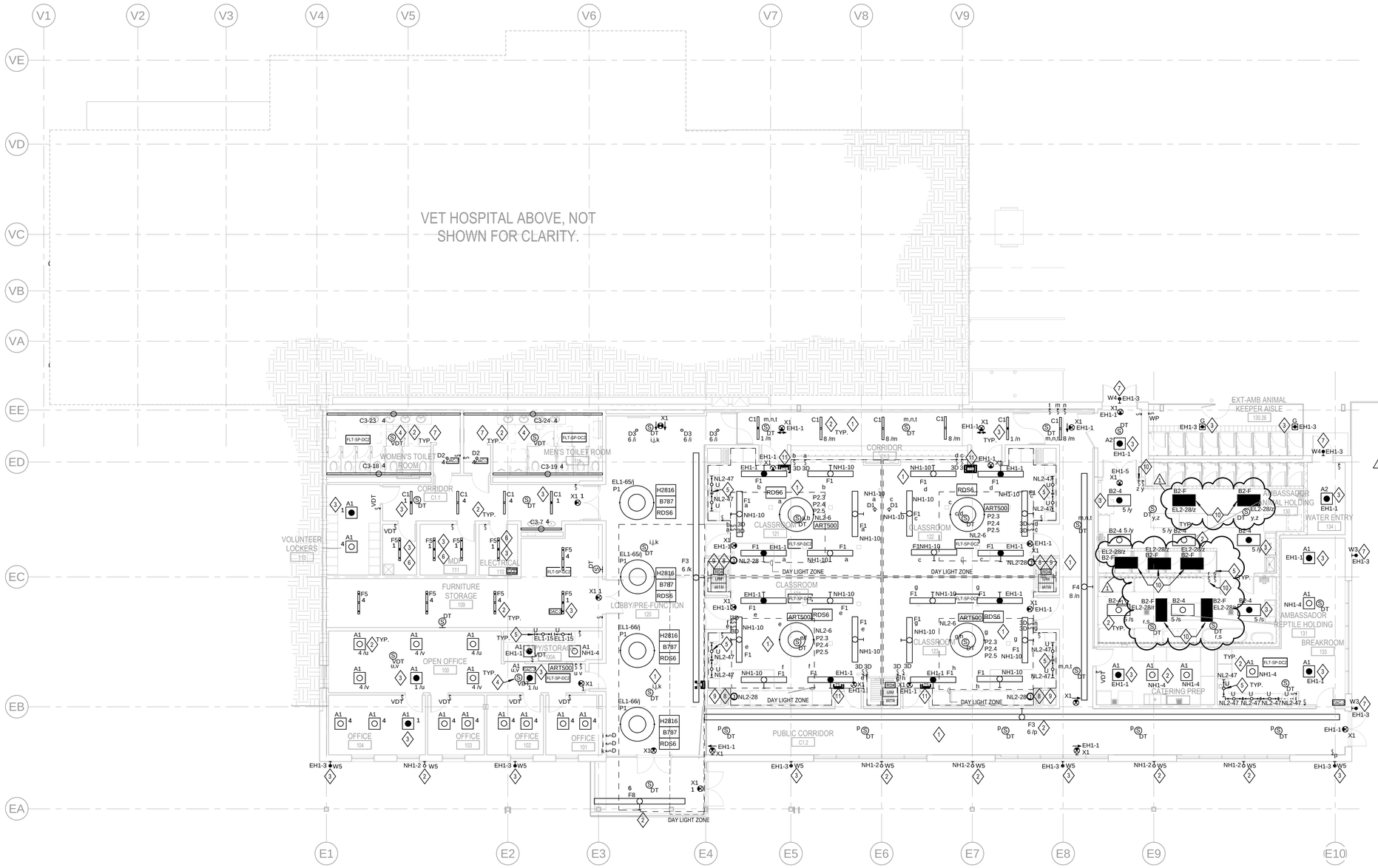
SHEET NUMBER

2
S10-02SS

© 2022-ENSIGHT HAYNES WHALEY, LLC

11/8/2022 2:17:30 PM BIM 360://Cameron Park Zoo/STRU_CPZ.rvt

ILUMIN+ LIGHTING CONTROLS LEGEND	
SYMBOL	DESCRIPTION
CS	CEILING SENSOR VAC/OCC (CATALOG #OAC-DT-1000-R)
PC	EXTERIOR PHOTO CELL SENSOR (CATALOG #PPS-5)
$ OS	OCCUPANCY WALL SENSOR SWITCH (CATALOG #ONW-D-1001-MV-N)
$ LV	LOW VOLTAGE MOMENTARY SWITCH (CATALOG #FDW-XTSB-W)
$ LV6	LOW VOLTAGE MOMENTARY SWITCH (CATALOG #FDW-XTSB-W)
TS	TOUCH SCREEN SWITCH (CATALOG #TSE80-B)
DAC-2	SWITCH PACK (CATALOG #FLT-DAC-DALI-DC2)
LCP	LIGHTING CONTROL PANEL (CATALOG #ILM-3301) + (ILS-0010)
FLT-SP-DC2	SENSOR DALI POWER PACK (CATALOG #FLT-SP-MV-DC2)
XXFT CBL	ROOM CONTROLLER CAT5 CABLE (CATALOG #755-XX-GN)
TSI-1-NA	TOUCHSCREEN INTERFACE (CATALOG #TSI-1-NA)
SI-2-NA-CP	ILUMIN+ PARTITION SENSOR (CATALOG #SI-2-NA-CP)
IRTR	INFRARED TRANSMITTER AND RECIEVER (CATALOG #IRTR)
EXPS-15V	POWER SUPPLY (CATALOG #EXPS-15V)
UIM	INTERFACE MODULE (CATALOG #UIM)
RD4	SWITCH PACK (CATALOG #SP20-RD4)
ART500	TOUCH PANEL DMX CONTROLLER
H2816 &B7787	DMX512 EMERGENCY PANEL
RDS6	PDM/DMX SPLITTER AND OPTIMIZER



1 LIGHTING OVERALL FLOOR PLAN - LEVEL 01 - EDUCATION CENTER

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

0 4' 8' 16'

GENERAL NOTES

A. REFER TO SHEET E00-00 FOR SYMBOLS AND ABBREVIATIONS.

B. REFER TO SHEET E62-01 FOR LIGHT FIXTURE SCHEDULE.

C. REFER TO ARCHITECTURAL ELEVATIONS AND FLOOR PLANS FOR EXACT DEVICE LOCATIONS AND ORIENTATION. ELECTRICAL DRAWINGS INDICATE DEVICE QUANTITIES AND RELATIVE LOCATION BUT EXACT LOCATION AND ELEVATION SHALL BE PER ARCHITECTURAL DRAWINGS. IN THE ABSENCE OF AN ARCHITECTURAL ELEVATION, ELECTRICAL DRAWINGS SHALL TAKE PRECEDENCE.

D. OCCUPANCY SENSORS SHALL CONTROL ALL LUMINAIRES IN ROOM WHICH THEY ARE INSTALLED. PROVIDE QUANTITY OF SENSORS AS REQUIRED FOR FULL COVERAGE OF ROOM. IN ROOMS WITH MORE THAN ONE SENSOR ALL SENSORS SHALL BE TIED TOGETHER. PROVIDE ADDITIONAL RELAY TO CONTROL 120V LUMINAIRES (AND RECEPTACLES) WHERE INDICATED TO BE CONTROLLED.

E. ALL WALL MOUNTED 0-10V DIMMERS SHALL TURN LIGHTS ON AND OFF. ALL DIMMED LIGHTING IS TO BE CONTROLLED TO FULL OFF. DIMMING TO LOWEST RANGE OF LIGHT OUTPUT IS NOT ACCEPTABLE.

F. CONTRACTOR TO ADJUST LIGHTING LAYOUT IN MEP SPACES AS EQUIPMENT DICTATES.

G. COORDINATE WORK WITH OTHER TRADES AS REQUIRED TO PROVIDE COMPLETE SYSTEMS AND AVOID CONFLICTS.

H. MOUNT LIGHT SWITCHES AT 44" AFF, AS MEASURED FROM BOTTOM OF BOX.

I. SUPPORT FIXTURES IN LAY-IN GRID CEILINGS INDEPENDENTLY OF GRID BY A MINIMUM OF FOUR #9 GALVANIZED WIRES ATTACHED TO THE FIXTURE AT EACH CORNER.

J. COORDINATE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT, BOTH CURRENT AND FUTURE. KEEP CONDUITS TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

K. VOLTAGE DROP TO LAST DEVICE ON BRANCH CIRCUITS SHALL NOT EXCEED 3 PERCENT FROM PANEL. INCREASE BRANCH CIRCUIT CONDUCTOR SIZES AS REQUIRED TO ALLOW FOR CIRCUIT LENGTH.

L. DO NOT LOCATE JUNCTION BOXES ABOVE HARD CEILINGS. ALL CONNECTIONS TO FIXTURES IN A HARD CEILING WILL COME FROM A JUNCTION BOX LOCATED IN AN ACCESSIBLE AREA OUTIDE OF THE ROOM.

M. FIXTURES SHALL NOT BE DAISY CHAINED TOGETHER. EACH FIXTRE SHALL HAVE ONLY ONE FLEXIBLE CONDUIT CONNECTION FROM A JUNCTION BOX LOCATED WITHIN 6 FEET.

N. LIGHT FIXTURES, WIRING DEVICES, AND EQUIPMENT SHALL BE LISTED AND LABELED BY A NRTL.

O. MARK JUNCTION BOX COVERS USING PERMANENT MARKER INDICATING THE PANEL AND CIRCUIT NUMBERS SERVING THE JUNCTION BOX.

P. MARK SWITCH COVERPLATES USING APPROVED LABEL MAKER INDICATING THE PANEL AND CIRCUIT NUMBERS SERVING THE SWITCH(ES).

Q. CIRCUIT EXIT SIGNS, EMERGENCY EGRESS FIXTURES, AND EMERGENCY BALLASTS TO LIGHTING CIRCUIT IN THE SPACE AND CIRCUIT AHEAD OF CONTROL DEVICES.

R. CIRCUIT EXTERIOR LIGHTS THROUGH PHOTOCELL/TIMECLOCK/BAS-CONTROLLED LIGHTING CONTACTOR.

S. BOTTOM OF LIGHT FIXTURES SHALL NOT BE MOUNTED BELOW 8'-2" A.F.F.

SHEET KEYED NOTES

1. LIGHTING CONTROL ZONES WITHIN THIS SPACE SHALL BE CONTROLLED SUCH THAT THE DIRECT LIGHTING COMPONENT OF EACH FIXTURE WITHIN THIS SPACE BE PLACED ON ONE ZONE AND THE INDIRECT LIGHTING COMPONENT OF EACH FIXTURE BE PLACED ON A SEPERATE ZONE AS NOTED.

2. LIGHT FIXTURES DESIGNATED AS NORMAL POWER SHALL BE POWERED VIA NORMAL POWER LIGHTING CIRCUIT ON SERVING PANEL "NH1" AS SHOWN ON PLAN AND ON PANEL SCHEDULE SHEET. TYPICAL FOR ALL NEW NORMAL POWER LIGHT FIXTURES IN THE SPACE.

3. LIGHT FIXTURES DESIGNATED AS EMERGENCY LIGHTING (WITH DARK HATCH) EMERGENCY POWER SHALL BE POWERED VIA EMERGENCY POWER LIGHTING CIRCUIT ON SERVING PANEL "EH1" AS SHOWN ON PANEL SCHEDULE.

4. THE DUALTECHNOLOGY VACANCY SENSOR FINAL LOCATION ON THE CEILING GRID SYSTEM SHALL BE FIELD COORDINATED TO PROVIDE THE OPTIMAL SENSOR COVERAGE. THE OPERATIONAL OF THE VACANCY SENSOR IS TO TURN "OFF" BOTH LIGHTING ZONES (a, b) IN THE SPACE WHEN THE SPACE IS NOT OCCUPIED.

5. UNDER CABINET LIGHTS SHALL BE FED FROM NEAREST 120V RECEPTACLE CIRCUIT SERVING THIS AREA.

6. LIGHTING FIXTURE WITHIN THIS ROOM TO BE CHAIN SUSPENDED AT +10'0". IN MDF/ELECTRICAL AND JANITOR ROOMS COORDINATE LOCATION WITH DUCT WORK, PIPING ETC. TO PROVIDE OPTIMUM LIGHTING.

7. LIGHT FIXTURE(S) IN THIS AREA SHALL BE WET LOCATION LISTED. RE: ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

8. J-BOX FOR ELECTROSHADE MOTOR. TYPICAL WHERE SHOWN CONNECTED TO AN IQ/MLC MOTOR LOGIC CONTROLLER. SEE KEYED NOTE 9.

9. ELECTROSHADE IQ/MLC MOTOR LOGIC CONTROLLER. CIRCUIT TO NO MORE THAN FOUR (4) ELECTROSHADE MOTORS VIA (4) 12 AWG, 1/2"C. PROVIDE A DEDICATED CIRCUIT FORM EACH MOTOR J-BOX TO THE IQ/MLC MOTOR CONTROLLER. FIELD COORDINATE THE EXACT LOCATIONS OF ALL MOTOR J-BOXES AND THE IQ/MLC CONTROLLER TO ENSURE THEY ARE READILY ACCESSIBLE. THE A/V CONTRACTOR SHALL FIELD SET DIP SWITCHES ON THE CONTROLLERS TO ENSURE THAT FOR EACH ROOM OPERATION OF THE ELECTROSHADES (WHERE PRESENT) IS AS FOLLOWS: 1) ALL EXTERIOR WINDOW SUNSCREENS OPERATE IN UNISON, 2) ALL EXTERIOR WINDOW BLACKOUT SHADES OPERATE IN UNISON.

10. FULL SPECTRUM FLUORESCENT LIGHTING SHALL BE OPERATED BY SEPERATE LIGHT SWITCH RATED AT 120V, AS SHOWN ON PLAN AND MODEL NUMBER EQUAL TO 'GROW-FLT44' BY HYDROFARM. COORDINATE WITH ARCHITECT FOR FINAL SELECTION AND FINISH OPTION PRIOR TO INSTALLATION.

11. PROVIDE TIME SWITCH AS SHOWN ON PLAN, TO CONTROL LIGHTING FIXTURES WHEN (4) CLASSROOMS ARE COMBINED FOR SHARED EVENTS. PROVIDE ALL NECESARY CONNECTION FOR WORKING SYSTEM. COORDINATE WITH LIGHTING CONSULTANT/ARCHITECT FOR FINAL LOCATION OF TIME SWITCH IN EACH SPACE.

ISSUE FOR BID & PERMIT 04/01/2022

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100, WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603, STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150, HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CITY OF WACO
P.O. BOX 2570, WACO, TX 76702

STATE OF TEXAS
DHARMESH J. SHAH
118778
LICENSED PROFESSIONAL ENGINEER
11/09/2022

Texas Registered Engineering Firm F-8301

PROJECT

CAMERON PARK ZOO

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

P.O. BOX 2570, WACO, TX 76702

KEYPLAN

VET HOSPITAL
EDUCATION CENTER

TRUE NORTH **ISSUE CHART**

MARK	ISSUE	DATE
1	ADDENDUM # 2	11/09/2022

Job Number 185236.000

TITLE

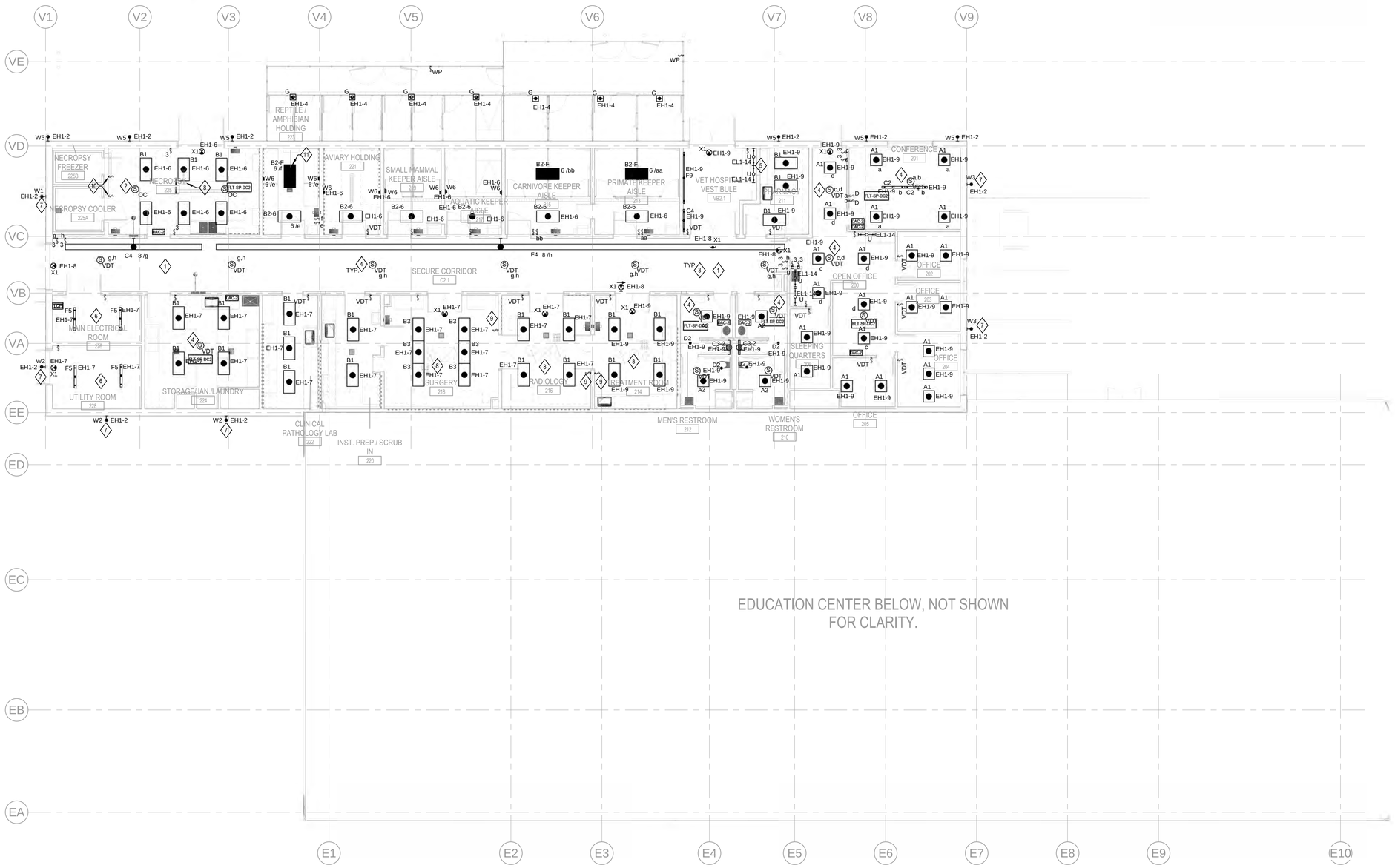
LIGHTING OVERALL FLOOR PLAN - LEVEL 01 - EDUCATION CENTER

SHEET NUMBER

E10-01

© 2020 Perkins and Will

11/9/2022 10:24:38 AM BIM 360://Cameron Park Zoo/22180-00_ELECTRICAL_WACO-CAMERON PARK ZOO_R21.rvt



1 **LIGHTING OVERALL FLOOR PLAN - LEVEL 02 - VET HOSPITAL**

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

0 4' 8' 16'

ILUMIN+ LIGHTING CONTROLS LEGEND

SYMBOL	DESCRIPTION
CS	CEILING SENSOR VAC/OCC (CATALOG #OAC-DT-1000-R)
PC	EXTERIOR PHOTO CELL SENSOR (CATALOG #PPS-5)
OS	OCCUPANCY WALL SENSOR SWITCH (CATALOG #ONW-D-1001-MV-N)
LV	LOW VOLTAGE MOMENTARY SWITCH (CATALOG #FDW-XTSB-W)
LV6	LOW VOLTAGE MOMENTARY SWITCH (CATALOG #FDW-XTSB-W)
TS	TOUCH SCREEN SWITCH (CATALOG #TSE80-B)
DAC-2	SWITCH PACK (CATALOG #FLT-DAC-DALI-DC2)
LCP	LIGHTING CONTROL PANEL (CATALOG #ILM-3301) + (ILS-0010)
FLT-SP-DC2	SENSOR DALI POWER PACK (CATALOG #FLT-SP-MV-DC2)
XXFT CBL	ROOM CONTROLLER CAT5 CABLE (CATALOG #755-XX-GN)
TSI-1-NA	TOUCHSCREEN INTERFACE (CATALOG #TSI-1-NA)
SI-2-NA-CP	ILUMIN+ PARTITION SENSOR (CATALOG #SI-2-NA-CP)
IRTR	INFRARED TRANSMITTER AND RECIEVER (CATALOG #IRTR)
EXPS-15V	POWER SUPPLY (CATALOG #EXPS-15V)
UIM	INTERFACE MODULE (CATALOG #UIM)
RD4	SWITCH PACK (CATALOG #SP20-RD4)

GENERAL NOTES

A. REFER TO SHEET E00-00 FOR SYMBOLS AND ABBREVIATIONS.

B. REFER TO SHEET E62-01 FOR LIGHT FIXTURE SCHEDULE.

C. REFER TO ARCHITECTURAL ELEVATIONS AND FLOOR PLANS FOR EXACT DEVICE LOCATIONS AND ORIENTATION. ELECTRICAL DRAWINGS INDICATE DEVICE QUANTITIES AND RELATIVE LOCATION BUT EXACT LOCATION AND ELEVATION SHALL BE PER ARCHITECTURAL DRAWINGS. IN THE ABSENCE OF AN ARCHITECTURAL ELEVATION, ELECTRICAL DRAWINGS SHALL TAKE PRECEDENCE.

D. OCCUPANCY SENSORS SHALL CONTROL ALL LUMINAIRES IN ROOM WHICH THEY ARE INSTALLED. PROVIDE QUANTITY OF SENSORS AS REQUIRED FOR FULL COVERAGE OF ROOM. IN ROOMS WITH MORE THAN ONE SENSOR ALL SENSORS SHALL BE TIED TOGETHER. PROVIDE ADDITIONAL RELAY TO CONTROL 120V LUMINAIRES (AND RECEPTACLES) WHERE INDICATED TO BE CONTROLLED.

E. ALL WALL MOUNTED 0-10V DIMMERS SHALL TURN LIGHTS ON AND OFF. ALL DIMMED LIGHTING IS TO BE CONTROLLED TO FULL OFF. DIMMING TO LOWEST RANGE OF LIGHT OUTPUT IS NOT ACCEPTABLE.

F. CONTRACTOR TO ADJUST LIGHTING LAYOUT IN MEP SPACES AS EQUIPMENT DICTATES.

G. COORDINATE WORK WITH OTHER TRADES AS REQUIRED TO PROVIDE COMPLETE SYSTEMS AND AVOID CONFLICTS.

H. MOUNT LIGHT SWITCHES AT 44" AFF, AS MEASURED FROM BOTTOM OF BOX.

I. SUPPORT FIXTURES IN LAY-IN GRID CEILINGS INDEPENDENTLY OF GRID BY A MINIMUM OF FOUR #9 GALVANIZED WIRES ATTACHED TO THE FIXTURE AT EACH CORNER.

J. COORDINATE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT, BOTH CURRENT AND FUTURE. KEEP CONDUITS TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.

K. VOLTAGE DROP TO LAST DEVICE ON BRANCH CIRCUITS SHALL NOT EXCEED 3 PERCENT FROM PANEL. INCREASE BRANCH CIRCUIT CONDUCTOR SIZES AS REQUIRED TO ALLOW FOR CIRCUIT LENGTH.

L. DO NOT LOCATE JUNCTION BOXES ABOVE HARD CEILINGS. ALL CONNECTIONS TO FIXTURES IN A HARD CEILING WILL COME FROM A JUNCTION BOX LOCATED IN AN ACCESSIBLE AREA OUTIDE OF THE ROOM.

M. FIXTURES SHALL NOT BE DAISY CHAINED TOGETHER. EACH FIXTRE SHALL HAVE ONLY ONE FLEXIBLE CONDUIT CONNECTION FROM A JUNCTION BOX LOCATED WITHIN 6 FEET.

N. LIGHT FIXTURES, WIRING DEVICES, AND EQUIPMENT SHALL BE LISTED AND LABELED BY A NRTL.

O. MARK JUNCTION BOX COVERS USING PERMANENT MARKER INDICATING THE PANEL AND CIRCUIT NUMBERS SERVING THE JUNCTION BOX.

P. MARK SWITCH COVERPLATES USING APPROVED LABEL MAKER INDICATING THE PANEL AND CIRCUIT NUMBERS SERVING THE SWITCH(ES).

Q. CIRCUIT EXIT SIGNS, EMERGENCY EGRESS FIXTURES, AND EMERGENCY BALLASTS TO LIGHTING CIRCUIT IN THE SPACE AND CIRCUIT AHEAD OF CONTROL DEVICES.

R. CIRCUIT EXTERIOR LIGHTS THROUGH PHOTOCELL/TIMECLOCK/BAS-CONTROLLED LIGHTING CONTACTOR.

S. BOTTOM OF LIGHT FIXTURES SHALL NOT BE MOUNTED BELOW 8'-2" A.F.F

SHEET KEYED NOTES

1. LIGHTING CONTROL ZONES WITHIN THIS SPACE SHALL BE CONTROLLED SUCH THAT THE DIRECT LIGHTING COMPONENT OF EACH FIXTURE WITHIN THIS SPACE BE PLACED ON ONE ZONE AND THE INDIRECT LIGHTING COMPONENT OF EACH FIXTURE BE PLACED ON A SEPERATE ZONE AS NOTED.

2. THE OCCUPANCY SENSOR FINAL LOCATION ON THE CEILING GRID SYSTEM SHALL BE FIELD COORDINATED TO PROVIDE THE OPTIMAL SENSOR COVERAGE. THE OPERATIONAL OF THE OCCUPANCY SENSOR IS TO MANUAL TURN "OFF" BOTH LIGHTING ZONES (a, b) IN THE SPACE.

3. LIGHT FIXTURES DESIGNATED AS EMERGENCY LIGHTING (WITH DARK HATCH) EMERGENCY POWER SHALL BE POWERED VIA EMERGENCY POWER LIGHTING CIRCUIT ON SERVING PANEL "EH1" AS SHOWN ON PANEL SCHEDULE.

4. THE DUALTECHNOLOGY VACANCY SENSOR FINAL LOCATION ON THE CEILING GRID SYSTEM SHALL BE FIELD COORDINATED TO PROVIDE THE OPTIMAL SENSOR COVERAGE. THE OPERATIONAL OF THE VACANCY SENSOR IS TO TURN "OFF" BOTH LIGHTING ZONES (a, b) IN THE SPACE WHEN THE SPACE IS NOT OCCUPIED.

5. UNDER CABINET LIGHTS SHALL BE FED FROM NEAREST 120V RECEPTACLE CIRCUIT SERVING THIS AREA.

6. LIGHTING FIXTURE WITHIN THIS ROOM TO BE CHAIN SUSPENDED AT +10'0". IN ELECTRICAL/UTILITY ROOMS COORDINATE LOCATION WITH DUCT WORK, PIPING ETC. TO PROVIDE OPTIMUM LIGHTING.

7. LIGHT FIXTURE(S) IN THIS AREA SHALL BE WET LOCATION LISTED. RE: ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

8. REFER TO ARCHITECTURAL PLANS FOR MOBILE EXAM LIGHT (OFCI) INFORMATION. CONNECT LIGHT TO ELECTRICAL CIRCUIT SERVING THIS AREA AND ENSURE THE TOTAL OF ELECTRICAL LOAD SHALL NOT EXCEED THE 80% OF CIRCUIT BREAKER ALLOWANCE.

9. LOW VOLTAGE WALL MOUNTED LIGHT SWITCH FOR SURGERY LIGHT AS SHOWN ON PLAN. COORDINATE FINAL LOCATION WITH SUPPLIER.

10. REFER TO EQUIPMENT SUPPLIER FOR EXACT LOCATION OF LIGHT SWITCH TO CONTROL LIGHTING PRIOR TO ROUGH-IN.

11. FULL SPECTRUM FLUORESCENT LIGHTING SHALL BE OPERATED BY SEPERATE LIGHT SWITCH AS SHOWN ON PLAN AND MODEL NUMBER EQUAL TO "GROW-FLT44" BY HYDROFARM. COORDINATE WITH ARCHITECT FOR FINAL SELECTION AND FINISH OPTION PRIOR TO INSTALLATION.

ISSUE FOR BID & PERMIT 04/01/2022

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100,
WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603,
STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150,
HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CITY OF WACO
P.O. BOX 2570, WACO, TX 76702

STATE OF TEXAS
DHARMESH J. SHAH
116778
LICENSED PROFESSIONAL ENGINEER
11/09/2022
Texas Registered Engineering Firm F-8301

PROJECT

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

P.O. BOX 2570, WACO, TX 76702

KEYPLAN

ISSUE CHART

MARK	ISSUE	DATE
1	ADDENDUM # 2	11/09/2022

Job Number 185236.000

TITLE

LIGHTING OVERALL FLOOR PLAN - LEVEL 02 - VET HOSPITAL

SHEET NUMBER

E10-02

© 2020 Perkins and Will

11/9/2022 10:24:42 AM BIM 360://Cameron Park Zoo/22180-00_ELECTRICAL_WACO-CAMERON PARK ZOO_R21.rvt

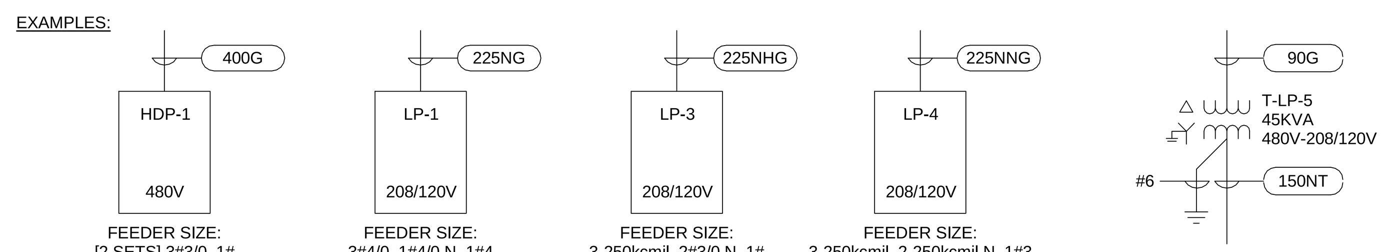
FEEDER SCHEDULE

COPPER

FEEDER TAG	CONDUCTORS (SUFFIX G) 3W, +G	CONDUCTORS (SUFFIX NG) 4W, +G 100% N (NEUTRAL NOT A CURRENT CARRYING CONDUCTOR)	CONDUCTORS (SUFFIX NHG) 4W, +G 150% N (HARMONIC CURRENT <50%)	CONDUCTORS (SUFFIX NNG) 4W, +G 200% N (HARMONIC CONTENT <100%)	CONDUCTORS (SUFFIX NCG) 4W, +G 100% N (NEUTRAL IS A CURRENT CARRYING CONDUCTOR)
15X	3#12, 1#12 G, 3/4"C	3#12, 1#12 N,1#12 G, 3/4"C	3#12, 1#12 N, 1#12 G, 3/4"C	3#12, 1#10 N, 1#12 G, 3/4"C	3#12, 1#12 N, 1#12 G, 3/4"C
20X	3#12, 1#12 G, 3/4"C	3#12, 1#12 N, 1#12 G, 3/4"C	3#12, 1#10 N, 1#12 G, 3/4"C	3#12, 1#8 N, 1#12 G, 3/4"C	3#12, 1#12 N, 1#12 G, 3/4"C
25X	3#10, 1#10 G, 3/4"C	3#10, 1#10 N, 1#10 G, 3/4"C	3#10, 1#8 N, 1#10 G, 3/4"C	3#10, 1#6 N, 1#10 G, 3/4"C	3#10, 1#10 N,1#10 G, 3/4"C
30X	3#10, 1#10 G, 3/4"C	3#10, 1#10 N, 1#10 G, 3/4"C	3#10, 1#6 N, 1#10 G, 3/4"C	3#10, 1#6 N, 1#10 G, 3/4"C	3#10, 1#10 N,1#10 G, 3/4"C
35X	3#8, 1#10 G, 3/4"C	3#8, 1#8 N, 1#10 G, 3/4"C	3#8, 1#6 N, 1#10 G, 1"C	3#8, 1#4 N, 1#10 G, 1"C	3#8, 1#8 N, 1#10 G, 3/4"C
40X	3#8, 1#10 G, 3/4"C	3#8, 1#8 N, 1#10 G, 3/4"C	3#8, 1#6 N, 1#10 G, 1"C	3#8, 1#3 N, 1#10 G, 1"C	3#8, 1#8N, 1#10 G, 3/4"C
45X	3#6, 1#10 G, 3/4"C	3#6, 1#6 N, 1#10 G, 1"C	3#6, 1#4 N, 1#10 G, 1"C	3#6, 1#2 N, 1#10 G, 1"C	3#6, 1#6N, 1#10 G, 3/4"C
50X	3#6, 1#10 G, 3/4"C	3#6, 1#6 N, 1#10 G, 1"C	3#6, 1#4 N, 1#10 G, 1"C	3#6, 1#2 N, 1#10 G, 1"C	3#6, 1#6 N, 1#10 G, 3/4"C
60X	3#4, 1#10 G, 1"C	3#4, 1#4 N, 1#10 G, 1-1/4"C	3#4, 1#2 N, 1#10 G, 1-1/4"C	3#4, 1#1 N, 1#10 G, 1-1/4"C	3#4, 1#4 N, 1#10 G, 1-1/4"C
70X	3#4, 1#8 G, 1"C	3#4, 1#4 N, 1#8 G, 1-1/4"C	3#4, 1#1 N, 1#8 G, 1-1/4"C	3#4, 1#2/0 N, 1#8 G, 1-1/4"C	3#4, 1#4 N, 1#8 G, 1-1/4"C
80X	3#3, 1#8 G, 1-1/4"C	3#3, 1#3 N, 1#8 G, 1-1/4"C	3#3, 1#1 N, 1#8 G, 1-1/4"C	3#3, 1#3/0 N, 1#8 G, 1-1/2"C	3#3, 1#3 N, 1#8 G, 1-1/4"C
90X	3#2, 1#8 G, 1-1/4"C	3#2, 1#2 N, 1#8 G, 1-1/4"C	3#2, 1#1/0 N, 1#8 G, 1-1/4"C	3#2, 1#3/0 N, 1#8 G, 1-1/2"C	3#2, 1#2 N, 1#8 G, 1-1/4"C
100X	3#1, 1#8 G, 1-1/4"C	3#1, 1#1 N, 1#8 G, 1-1/2"C	3#1, 2#1/0 N, 1#8 G, 2"C	3#1, 1#4/0 N, 1#8 G, 2"C	3#1, 1#1 N, 1#8 G, 1-1/2"C
110X	3#1, 1#6 G, 1-1/4"C	3#1, 1#1 N, 1#6 G, 1-1/2"C	3#1, 2#1/0 N, 1#6 G, 2"C	3#1, 1-250kcmil N, 1#6 G, 2"C	3#1, 1#1 N, 1#6 G, 1-1/2"C
125X	3#1, 1#6 G, 1-1/4"C	3#1, 1#1 N, 1#6 G, 1-1/2"C	3#1/0, 2#1/0 N, 1#4 G, 2"C	3#1/0, 1-300kcmil N, 1#4 G, 2"C	3#1/0, 1#1/0 N, 1#4 G, 2"C
150X	3#1/0, 1#6 G, 1-1/2"C	3#1/0, 1#1/0 N, 1#6 G, 2"C	3#2/0, 2#1/0 N, 1#4 G, 2"C	3#2/0, 2#2/0 N, 1#4 G, 2"C	3#2/0, 1#2/0 N, 1#4 G, 2"C
175X	3#2/0, 1#6 G, 1-1/2"C	3#2/0, 1#2/0 N, 1#6 G, 2"C	3#3/0, 2#1/0 N, 1#4 G, 2"C	3#3/0, 2#3/0 N, 1#4 G, 2-1/2"C	3#3/0, 1#3/0 N, 1#4 G, 2"C
200X	3#3/0, 1#6 G, 2"C	3#3/0, 1#3/0 N, 1#6 G, 2"C	3#4/0, 2#2/0 N, 1#4 G, 2-1/2"C	3#4/0, 2#4/0 N, 1#4 G, 2-1/2"C	3#4/0, 1#4/0 N, 1#4 G, 2-1/2"C
225X	3#4/0, 1#4 G, 2"C	3#4/0, 1#4/0 N, 1#4 G, 2-1/2"C	3-250kcmil, 2#3/0 N, 1#3 G, 2-1/2"C	3-250kcmil, 2-250kcmil N, 1#3 G, 3"C	3-250kcmil, 1-250kcmil N, 1#3 G, 2-1/2"C
250X	3-250kcmil, 1#4 G, 2"C	3-250kcmil, 1-250kcmil N, 1#4 G, 2-1/2"C	3-300kcmil, 2#4/0 N, 1#3 G, 3"C	3-300kcmil, 2-300kcmil N, 1#3 G, 3"C	3-300kcmil, 1-300kcmil N, 1#3 G, 3"C
300X	3-350kcmil, 1#4 G, 2-1/2"C	3-350kcmil, 1-350kcmil N, 1#4 G, 3"C	3-400kcmil, 2-250kcmil N, 1#3 G, 3"C	3-400kcmil, 2-400kcmil N, 1#3 G, 3-1/2"C	3-400kcmil, 1-400kcmil N, 1#3 G, 3"C
350X	3-500kcmil, 1#3 G, 3"C	3-500kcmil, 1-500kcmil N, 1#3 G, 3-1/2"C	[2 SETS] 3#3/0, 2#1/0 N, 1#3 G, 2-1/2"C	[2 SETS] 3#3/0, 2#3/0 N, 1#3 G, 2-1/2"C	[2 SETS] 3#3/0, 1#3/0 N, 1#3 G, 2"C
400X	[2 SETS] 3#3/0, 1#3 G, 2"C	[2 SETS] 3#3/0, 1#3/0 N, 1#3 G, 2"C	[2 SETS] 3#4/0, 2#2/0 N, 1#2 G, 2-1/2"C	[2 SETS] 3#4/0, 2#4/0 N, 1#2 G, 2-1/2"C	[2 SETS] 3#4/0, 1#4/0 N, 1#2 G, 2-1/2"C
450X	[2 SETS] 3#4/0, 1#2 G, 2"C	[2 SETS] 3#4/0, 1#4/0 N, 1#2 G, 2-1/2"C	[2 SETS] 3-250kcmil, 2#3/0 N, 1#1 G, 3"C	[2 SETS] 3-250kcmil, 2-250kcmil N, 1#1 G, 3"C	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#1 G, 2-1/2"C
500X	[2 SETS] 3-250kcmil, 1#2 G, 2"C	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#2 G, 2-1/2"C	[2 SETS] 3-300kcmil, 2#4/0 N, 1#1 G, 3"C	[2 SETS] 3-300kcmil, 2-300kcmil N, 1#1 G, 3"C	[2 SETS] 3-300kcmil, 1-300kcmil N, 1#1 G, 3"C
600X	[2 SETS] 3-350kcmil, 1#1 G, 2-1/2"C	[2 SETS] 3-350kcmil, 1-350kcmil N, 1#1 G, 3"C	[2 SETS] 3-400kcmil, 2-250kcmil N, 1#1/0 G, 3"C	[2 SETS] 3-400kcmil, 2-400kcmil N, 1#1/0 G, 3-1/2"C	[2 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 G, 3"C
700X	[2 SETS] 3-500kcmil, 1#1/0 G, 3"C	[2 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 G, 3-1/2"C	[3 SETS] 3-300kcmil, 2#3/0 N, 1#1/0 G, 3"C	[3 SETS] 3-300kcmil, 2-300kcmil N, 1#1/0 G, 3"C	[3 SETS] 3-300kcmil, 1-300kcmil N, 1#1/0 G, 3"C
750X	[2 SETS] 3-500kcmil, 1#1/0 G, 3"C	[2 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 G, 3-1/2"C	[3 SETS] 3-300kcmil, 2#4/0 N, 1#1/0 G, 3"C	[3 SETS] 3-300kcmil, 2-300kcmil N, 1#1/0 G, 3"C	[3 SETS] 3-300kcmil, 1-300kcmil N, 1#1/0 G, 3"C
800X	[3 SETS] 3-300kcmil, 1#1/0 G, 2-1/2"C	[3 SETS] 3-300kcmil, 1-300kcmil N, 1#1/0 G, 3"C	[3 SETS] 3-350kcmil, 2#4/0 N, 1#2/0 G, 3"C	[3 SETS] 3-350kcmil, 2-350kcmil N, 1#2/0 G, 3"C	[3 SETS] 3-350kcmil, 1-350kcmil N, 1#2/0 G, 3"C
900X	[3 SETS] 3-350kcmil, 1#2/0 G, 2-1/2"C	[3 SETS] 3-350kcmil, 1-350kcmil N, 1#2/0 G, 3"C	[3 SETS] 3-400kcmil, 2-250kcmil N, 1#3/0 G, 3"C	[3 SETS] 3-400kcmil, 2-400kcmil N1#3/0 G, 3-1/2"C	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#3/0 G, 3"C
1000X	[3 SETS] 3-400kcmil, 1#2/0 G, 3"C	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#2/0 G, 3"C	[3 SETS] 3-500kcmil, 2-300kcmil N, 1#3/0 G, 3-1/2"C	[3 SETS] 3-500kcmil, 2-500kcmil N, 1#3/0 G, 3-1/2"C	[3 SETS] 3-500kcmil, 1-500kcmil N, 1#3/0 G, 3-1/2"C
1200X	[4 SETS] 3-350kcmil, 1#3/0 G, 2-1/2"C	[4 SETS] 3-350kcmil, 1-350kcmil N, 1#3/0 G, 3"C	[4 SETS] 3-400kcmil, 2-250kcmil N, 1#4/0 G, 3"C	[4 SETS] 3-400kcmil, 2-400kcmil N, 1#4/0 G, 3-1/2"C	[4 SETS] 3-400kcmil, 1-400kcmil N, 1#4/0 G, 3"C
1600X	[5 SETS] 3-400kcmil, 1#4/0 G, 3"C	[5 SETS] 3-400kcmil, 1-400kcmil N, 1#4/0 G, 3"C	[5 SETS] 3-500kcmil, 2-300kcmil N, 1-300kcmil G, 3-1/2"C	[5 SETS] 3-500kcmil, 2-500kcmil N, 1-300kcmil G, 4"C	[5 SETS] 3-500kcmil, 1-500kcmil N, 1-300kcmil G, 3-1/2"C
2000X	[6 SETS] 3-400kcmil, 1-250kcmil G, 3"C	[6 SETS] 3-400kcmil, 1-400kcmil N, 1-250kcmil G, 3"C	[6 SETS] 3-500kcmil, 2-300kcmil N, 1-350kcmil G, 3-1/2"C	[6 SETS] 3-500kcmil, 2-500kcmil N, 1-350kcmil G, 4"C	[6 SETS] 3-500kcmil, 1-500kcmil N, 1-350kcmil G, 3-1/2"C
2500X	[7 SETS] 3-500kcmil, 1-350kcmil G, 3"C	[7 SETS] 3-500kcmil, 1-500kcmil N, 1-350kcmil G, 3-1/2"C	[8 SETS] 3-500kcmil, 2-300kcmil N, 1-400kcmil G, 3-1/2"C	[8 SETS] 3-500kcmil, 2-500kcmil N, 1-400kcmil G, 4"C	[8 SETS] 3-500kcmil, 1-500kcmil N, 1-400kcmil G, 3-1/2"C
3000X	[8 SETS] 3-500kcmil, 1-400kcmil G, 3"C	[8 SETS] 3-500kcmil, 1-500kcmil N, 1-400kcmil G, 3-1/2"C	[9 SETS] 3-500kcmil, 2-300kcmil N, 1-500kcmil G, 3-1/2"C	[9 SETS] 3-500kcmil, 2-500kcmil N, 1-500kcmil G, 4"C	[9 SETS] 3-500kcmil, 1-500kcmil N, 1-500kcmil G, 3-1/2"C
4000X	[11 SETS] 3-500kcmil, 1-500kcmil G, 3"C	[11 SETS] 3-500kcmil, 1-500kcmil N, 1-500kcmil G, 3-1/2"C	[12 SETS] 3-500kcmil, 2-300kcmil N, 2-300kcmil G, 4"C	[12 SETS] 3-500kcmil, 2-500kcmil N, 2-300kcmil G, 4"C	[12 SETS] 3-500kcmil, 1-500kcmil N, 2-300kcmil G, 3-1/2"C
5000X	[14 SETS] 3-500kcmil, 2-350kcmil G, 3-1/2"C	[14 SETS] 3-500kcmil, 1-500kcmil N, 2-350kcmil G, 3-1/2"C	[15 SETS] 3-500kcmil, 2-300kcmil N, 2-400kcmil G, 4"C	[15 SETS] 3-500kcmil, 2-500kcmil N, 2-400kcmil G, 4"C	[15 SETS] 3-500kcmil, 1-500kcmil N, 2-400kcmil G, 4"C

XFMR RATING kVA	REFERENCE TAG	TRANSFORMER GROUNDING ELECTRODE CONDUCTOR (SUFFIX NT)	TRANSFORMER GROUNDING ELECTRODE CONDUCTOR (SUFFIX NHT, NNT, & NCT)	CONDUCTORS (SUFFIX NT) 4W + J 100% N (NEUTRAL NOT A CURRENT CARRYING CONDUCTOR)	CONDUCTORS (SUFFIX NHT) 4W + J 150% N	CONDUCTORS (SUFFIX NNT) 4W + J 200% N	CONDUCTORS (SUFFIX NCT) 4W + J 100% N (NEUTRAL IS A CURRENT CARRYING CONDUCTOR)
9	35XT	#8	#8	3#8, 1#8 N, 1#8 J, 1"C	3#8, 1#6 N, 1#8 J, 1"C	3#8, 1#4 N, 1#8 J, 1"C	3#8, 1#8 N, 1#8 J, 1"C
15	50XT	#8	#8	3#6, 1#6 N, 1#8 J, 1"C	3#6, 1#4 N, 1#8 J, 1"C	3#6, 1#2 N, 1#8 J, 1-1/4"C	3#6, 1#6 N, 1#8 J, 1"C
30	100XT	#6	#6	3#1, 1#1 N, 1#6 J, 1-1/2"C	3#1, 2#1/0 N, 1#6 J, 2"C	3#1, 1#4/0 N, 1#6 J, 2"C	3#1, 1#1 N, 1#6 J, 1-1/2"C
45	150XT	#6	#4	3#1/0, 1#1/0 N, 1#6 J, 2"C	3#2/0, 2#1/0 N, 1#4 J, 2"C	3#2/0, 2#2/0 N, 1#4 J, 2"C	3#2/0, 1#2/0 N, 1#4 J, 2"C
75	250XT	#2	#2	3-250kcmil, 1-250kcmil N, 1#2 J, 2-1/2"C	3-300kcmil, 2#4/0 N, 1#2 J, 3"C	3-300kcmil, 2-300kcmil N, 1#2 J, 3"C	3-300kcmil, 1-300kcmil N, 1#2 J, 3"C
112.5	400XT	#2	#1/0	[2 SETS] 3#3/0, 1#3/0 N, 1#1/0 J, 2"C	[2 SETS] 3#4/0, 2#2/0 N, 1#1/0 J, 2-1/2"C	[2 SETS] 3#4/0, 2#4/0 N, 1#1/0 J, 2-1/2"C	[2 SETS] 3#4/0, 1#4/0 N, 1#1/0 J, 2-1/2"C
150	500XT	#1/0	#1/0	[2 SETS] 3-250kcmil, 1-250kcmil N, 1#1/0 J, 2-1/2"C	[2 SETS] 3-300kcmil, 2#4/0 N, 1#1/0 J, 3"C	[2 SETS] 3-300kcmil, 2-300kcmil N, 1#1/0 J, 3"C	[2 SETS] 3-300kcmil, 1-300kcmil N, 1#1/0 J, 3"C
225	800XT	#2/0	#2/0	[3 SETS] 3-300kcmil, 1-300kcmil N, 1#1/0 J, 3"C	[3 SETS] 3-350kcmil, 2#4/0 N, 1#1/0 J, 3"C	[3 SETS] 3-350kcmil, 2-350kcmil N, 1#1/0 J, 3"C	[3 SETS] 3-350kcmil, 1-350kcmil N, 1#1/0 J, 3"C
300	1000XT	#3/0	#3/0	[3 SETS] 3-400kcmil, 1-400kcmil N, 1#1/0 J, 3"C	[3 SETS] 3-500kcmil, 2-300kcmil N, 1#1/0 J, 3-1/2"C	[3 SETS] 3-500kcmil, 2-500kcmil N, 1#1/0 J, 3-1/2"C	[3 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 J, 3-1/2"C
500	1600XT	#3/0	#3/0	[5 SETS] 3-400kcmil, 1-400ckmil N, 1#1/0 J, 3"C	[5 SETS] 3-500kcmil, 2-300kcmil N, 1#1/0 J, 3-1/2"C	[5 SETS] 3-500kcmil, 2-500kcmil N, 1#1/0 J, 4"C	[5 SETS] 3-500kcmil, 1-500kcmil N, 1#1/0 J, 3-1/2"C

EXAMPLES:



FEEDER SIZE: [2 SETS] 3#3/0, 1#3G, 2"C

FEEDER SIZE: 3#4/0, 1#4/0 N, 1#4 G, 2-1/2"C

FEEDER SIZE: 3-250kcmil, 2#3/0 N, 1#3 G, 2-1/2"

FEEDER SIZE: 3-250kcmil, 2-250kcmil N, 1#3 G, 3"C

FEEDER DESIGNATOR

400G V — FEEDER MODIFIER (IF NEEDED)

FEEDER MODIFIERS :

T = UPSIZED FOR AMBIENT TEMPERATURE

V = UPSIZED FOR VOLTAGE DROP

SCHEDULE LEGEND:

N = NEUTRAL

G = EQUIPMENT GROUNDING CONDUCTOR

J = SUPPLY SIDE BONDING JUMPER

C = CONDUIT

MOTOR WIRING SCHEDULE
(FOR SINGLE SPEED, 480 VOLT MOTORS ONLY)

HORSE POWER	BRANCH CIRCUIT - 480V, 3Ø, 3WIRE	LOCAL FUSED DISCONNECT SWITCH/FUSE
1/2	3#12 & 1#12(G) - 3/4"C.	30/1.4
3/4	3#12 & 1#12(G) - 3/4"C.	30/2
1	3#12 & 1#12(G) - 3/4"C.	30/2.8
1 1/2	3#12 & 1#12(G) - 3/4"C.	30/4
2	3#12 & 1#12(G) - 3/4"C.	30/4.5
3	3#12 & 1#12(G) - 3/4"C.	30/6
5	3#12 & 1#12(G) - 3/4"C.	30/10
7 1/2	3#10 & 1#10(G) - 3/4"C.	30/15
10	3#10 & 1#10(G) - 3/4"C.	30/17.5
15	3#8 & 1#10(G) - 3/4"C.	60/30
20	3#6 & 1#8(G) - 3/4"C.	60/35
25	3#6 & 1#8(G) - 3/4"C.	60/45
30	3#4 & 1#6(G) - 1"C.	100/50
40	3#3 & 1#6(G) - 1 1/4"C.	100/70
50	3#1 & 1#6(G) - 1 1/2"C.	100/90
60	3#1/0 & 1#6(G) - 1 1/2"C.	200/100
75	3#2/0 & 1#4(G) - 2"C.	200/125
100	3#3/0 & 1#2(G) - 2"C.	200/175
125	3#4/0 & 1#2(G) - 2"C.	400/200
150	3#350 & 1#2(G) - 3"C	400/225
200	3#500 & 1#1(G) - 3"C	400/300
250	(2 SETS) 3#4/0 & 1#1(G) - 2"C	600/400
300	(2 SETS) 3#250 & 1#2(G) - 2"C	600/500

MOTOR WIRING SCHEDULE
(FOR SINGLE SPEED, 208 VOLT MOTORS ONLY)

HORSE POWER	BRANCH CIRCUIT - 208V, 3Ø, 3WIRE	LOCAL NON-FUSED DISCONNECT SIZE	LOCAL STARTER NEMA SIZE	LOCAL STARTER TYPE
1/2	3#12 & 1#12(G) - 3/4"C.	30	1	FVNR
3/4	3#12 & 1#12(G) - 3/4"C.	30	1	FVNR
1	3#12 & 1#12(G) - 3/4"C.	30	1	FVNR
1 1/2	3#12 & 1#12(G) - 3/4"C.	30	1	FVNR
2	3#12 & 1#12(G) - 3/4"C.	30	1	FVNR
3	3#10 & 1#10(G) - 3/4"C.	30	1	FVNR
5	3#10 & 1#10(G) - 3/4"C.	30	1	FVNR
7 1/2	3#8 & 1#10(G) - 3/4"C.	30	1	FVNR
10	3#8 & 1#8(G) - 3/4"C.	60	2	FVNR

NOTES:

1. PROVIDE MOTOR STARTER SWITCH IN SIGHT OF MOTOR. MOTOR STARTER SWITCH SHALL BE MOUNTED ADJACENT TO MOTOR IN UNFINISHED SPACES AND 6'-6" A.F.F TO TOP IN FINISHED SPACES.

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLT	LAMPS	MOUNTING	LOCATION / NOTES
A1	Metalux	22CZ2-44-UNV-L835-CD1-U	Volumetric 2x2 w/ Center Lens	UNV	33W LED 3500K	Recessed	Office Areas Typ.
A2	Metalux	22GR-LD5-32-F1-UNV-L835-CD1-U	Prismatic 2x2	UNV	25W LED 3500K	Recessed	Use DF-22W-U flange kit where installed in gyp. Clgs., Back of House Areas Typ.
B1	Metalux	24GR-LD5-64-F1-UNV-L835-CD1-U	Prismatic 2x4	UNV	48W LED 3500K	Recessed	Use DF-24W-U flange kit where installed in gyp. Ceilings
B2-4	FailSafe	FSP-24-47-35-CA080 FPXSURF24 FPSUS2	Wet-Location IP65 2x4, 4700lm	UNV	41W LED 3500K	Recessed	Verify Suspension Length, Ed. Bldg.
B2-6	FailSafe	FSP-24-64-35-CA080 DFCL-2448W-U	Wet-Location IP65 2x4, 6400lm	UNV	60W LED 3500K	Recessed	Vet. Bldg., Use FPXSURF24 Where Surface mounted
B2-F	HydroFarm	FLT44T5-HO-(4)54W	Flourescent, High output T5, 4-54W lamps, 120V	120	54W	Recessed	
B3	Metalux	ORLF-24-4-INS-ASYR-LD4-4STD-40-xxx-EDD1	Flanged Surgical 2x4	120/277	133W LED 4000K	Recessed	
C1	NeoRay	S124DR-S1195D835-GYP-4F0-1-UDD-F-W	4in Recessed Linear w/ Flush Lens	UNV	42W LED 3500K	Recessed	Verify Clg.
C2	NeoRay	S125DR-S610D835-xxx-8'-1-UDD-F-W	5in Recessed Linear w/ Flush Lens	UNV	38W/ft LED 3500K	Recessed	Verify Clg.
C3-2	NeoRay	S124RDRP-S350D835-xxx-2F6-1-UDD-C-W	4in Recessed Perimeter Linear w/ Regressed Corridor Lens	UNV	8W LED 3500K	Recessed	Verify Clg., Vet. Bldg. RR
C3-7	NeoRay	S124RDRP-S350D835-xxx-7F0-1-UDD-C-W	4in Recessed Perimeter Linear w/ Regressed Corridor Lens	UNV	21W LED 3500K	Recessed	Verify Clg., Ed. Bldg. Water Ftn.
C3-18	NeoRay	S124RDRP-S350D835-GYP-18F6-1-UDD-C-W	4in Recessed Perimeter Linear w/ Regressed Corridor Lens	UNV	56W/ft LED 3500K	Recessed	Verify Clg.., Ed. Bldg. Womens RR
C3-19	NeoRay	S124RDRP-S350D835-GYP-19F0-1-UDD-C-W	4in Recessed Perimeter Linear w/ Regressed Corridor Lens	UNV	57w LED 3500K	Recessed	Verify Clg.., Ed. Bldg. Mens RR
C3-23	NeoRay	S124RDRP-S350D835-GYP-23F6-1-UDD-C-W	4in Recessed Perimeter Linear w/ Regressed Corridor Lens	UNV	71W LED 3500K	Recessed	Verify Clg.., Ed. Bldg. Womens RR
C3-24	NeoRay	S124RDRP-S350D835-GYP-24F6-1-UDD-C-W	4in Recessed Perimeter Linear w/ Regressed Corridor Lens	UNV	74W LED 3500K	Recessed	Verify Clg.., Ed. Bldg. Mens RR
C4	NeoRay	S124DRP-S350D835-24F0-xxx-UDD-A-W	4in Recessed Perimeter Linear w/ Corridor Lens	UNV	72W LED 3500K	Recessed	Vet. Bldg. Corridor, Verify Clg.
D1	Portfolio	LDA4A28835DE010-LAR35FL-4LA1HWF	4in Adjustable Downlight w/ 35 deg. Optic	UNV	45W LED 3500K	Recessed	Ed. Bldg. Classrooms
D2	Halo	RL4099S1EWHR-H99TAT	4in Shower-rated Downlight	UNV	12W LED 3500K	Recessed	Restrooms
D3	Portfolio	LD4B20D010-EU4B10208035-4LBW2H	4in Wide Beam Downlight	UNV	21W LED 3500K	Recessed	Ed. Bldg. Lobby
F1	NeoRay	S124DIW-C350D770U835-8F0-2E-UDD-A1-W	4in Wall Mounted Linear w/ Flush Lens	UNV	62W LED 3500K	Wall	Ed. Bldg. Classrooms
F3-44	Nulite	RW4-4B-05L35-UNV-D-22EM-STF-BK-44'-ASYM-EAM6	3.5in Wall Mounted Linear w/ Standoffs	UNV	231W LED 3500K	Wall	
F3-112	Nulite	RW4-4B-05L35-UNV-D-22EM-STF-BK-112'-ASYM-EAM6	3.5in Wall Mounted Linear w/ Standoffs	UNV	588W LED 3500K	Wall	
F4-40	NeoRay	S124DIW-C350D1340U835-40F0-1-UDD-A1-B	4in Wall Mounted Linear w/ Flush Lens	UNV	476W LED 3500K	Wall	Ed. Bldg. East Corridor
F4-100	NeoRay	S124DIW-C350D1340U835-100F0-1-UDD-A1-B	4in Wall Mounted Linear w/ Flush Lens	UNV	1190W LED 3500K	Wall	Vet. Bldg. Corridor
F5	Metalux	4SLSTP5535DD-UNV	4ft LED Narrow Utility Strip	UNV	47W LED 3500K	Surface/ Suspended	Use AYC-Chain/Kit where suspended
F8	NeoRay	S124DIW-C575D470U835-11F6-1E-UDD-A1-B	4in Wall Mounted Linear w/ Flush Lens	UNV	89W LED 3500K	Wall	Ed. Bldg. Vestibule
F9	NeoRay	S124DIW-C575D470U835-8F0-1E-UDD-A1-B	4in Wall Mounted Linear w/ Flush Lens	UNV	62W LED 3500K	Wall	Vet. Bldg. Vestibule
G	Lumark	CLCS15	Ceiling Mounted Area Light	UNV	35W LED 3500K	Ceiling	Outdoor Cages
K	VistaPro	1043-Z-WF-35-D-MV-ND-CS	Landscape Accent Light	UNV	13W LED 3500K	Surface	
P1	ALW	MR3-D5-CAS-RGBW-DMX-LENS-RGBW-DMX-HT-SB-UNV	6' Suspended Direct & Indirect Ring	120/277	471W LED RGBW	Pendant	Verify req. susp. length, Ceiling canopy to cover surface J-box, Independent Up-Dn DMX Control
P2	ALW	MR1.5-3M/6/4/3-CSS-RGBW-DMX-LENS-RGBW-DMX-LENS-SB-UNV	3'/6'/4' Direct & Indirect Ring Chandelier	120/277	1227W LED RGBW	Pendant	Verify req. susp. length, Ceiling canopy to cover surface J-box, Independent Up-Dn DMX Control
U	Halo	HU30BSC24P	2ft Undercabinet w/ Selectable CCT and Convenience USB Plug	UNV	11W LED 3500K	Surface	
X	SureLites	EUR70	Edge-Lit Exit	120/277	2W LED	Recessed	
W1	McGraw	IST-SA1E-740-U-T4W-BZ	Full-Cutoff Wallpack	UNV	58W LED 4000K	Wall	
W2	Lumark	WPMLED20B	Utility Wallpack	UNV	108W LED 4000K	Wall	
W3	Ametrix	ASYX-WM-S2-OD-U-W-L35-1-UNV-Z-R-STD	Wall-Mounted Asymmetric Uplight	UNV	81W LED 4000K	Wall	
W4	Evenlite	WWEMxxCT	Wall-Mounted Architectural Egress Light	UNV	2W LED	Wall	Verify finish
W5	Ligman	ULEE-30051-2x20w-T2-T2-W30-01-120v/277v	Wall-Mounted Architectural Up/Dn Light	120/277	40W LED 4000K	Wall	Mounts over 3" Octagonal J-box
W6	Lumark	XTOR2B-W-BK	Full-Cutoff Wallpack	UNV	18W LED 4000K	Wall	

1. FIXTURE WITH SOLID FILLED SYMBOL SHALL BE CONNECTED TO EMERGENCY POWER. REFER TO LIGHTING DRAWINGS FOR EXACT PANEL/CIRCUIT DETAILS.
2. REFER TO ARCHITECTURAL DRAWINGS FOR CUSTOM DETAILS OF THIS FIXTURE.
3. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT, SWITCHING AND LIGHTING BRANCH CIRCUIT LOAD INFORMATION. REFER TO ARCHITECTURAL DRAWINGS FOR COVE CONSTRUCTION AND ASSOCIATED COVE LIGHT RUN DETAILS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR PENDANT FIXTURE HOUSING FINISH.
5. EXIT SIGNS SHALL BE POWERED VIA THE UNSWITCHED LEG OF THE NEAREST LIGHTING CIRCUIT ON EMERGENCY POWER.
6. REFER TO ARCHITECT FOR EXTETRIOR LIGHT FIXTURE FINISH AND COLOR.
7. ANY PROPOSED EQUAL FIXTURE OR CONTROL SUBSTITUTIONS SHALL BE SUBMITTED 10 DAYS PRIOR TO BID DAY, ACCOMPANIED BY DETAILED SPECIFICATION CUT SHEETS AND PHOTOMETRIC CALCULATIONS OF EVERY AREA WHERE THE PROPOSED SUBSTITUTION FIXTURE IS LOCATED, INCLUDING MAX-MIN, AVE-MIN, FOOT-CANDLE LEVELS & RATIOS CALCULATED AT THE WORK PLANE. ANY MISSING DATA SHALL DEEM THE PROPOSED ALTERNATE / SUBSTITUTE FIXTURE OR CONTROLS, UNACCEPTABLE AND REJECTED WITHOUT FURTHER CONSIDERATION.

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100, WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603, STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150, HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CITY OF WACO
P.O. BOX 2570, WACO, TX 76702

STATE OF TEXAS — DHARMESH J. SHAH — 118778 — LICENSED PROFESSIONAL ENGINEER
11/09/2022

Texas Registered Engineering Firm F-8301

ISSUE FOR BID & PERMIT 04/01/2022

PROJECT

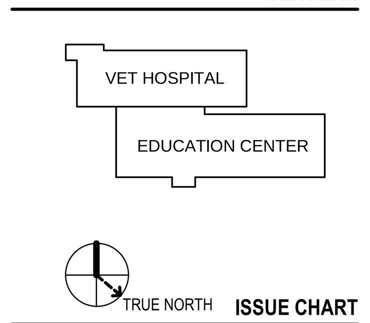
CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO
CAMERON PARK ZOO

P.O. BOX 2570, WACO, TX 76702

KEYPLAN



ISSUE CHART

MARK	ISSUE	DATE
1	ADDENDUM # 2	11/09/2022

Job Number 185236.000

TITLE

ELECTRICAL SCHEDULES

SHEET NUMBER

E62-01

© 2020 Perkins and Will

11/9/2022 10:24:42 AM BIM 360://Cameron Park Zoo/22180-00_ELECTRICAL_WACO-CAMERON PARK ZOO_R21.rvt

MDP

MAIN TYPE: MCB | MAIN RATING: 800 A | BUS RATING: 800 A
VOLTAGE: 480/277 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: VET HOSPITAL,MAIN... | FED FROM: | SCCR: 42 kAIC kA | CALCULATED AVAILABLE FAULT...: 21.7 kAIC (1) kA

REMARKS:

SPACE	DESCRIPTION	CONNECTED LOAD (kVA)	FRAME	TRIP	POLES	BRKR NOTES	NOTES
1	NH1	149.06 kVA	800 A	400 A	3		
2	T-NL1	40.29 kVA	100 A	80 A	3		
3	T-NL2	63.39 kVA	100 A	80 A	3		
4	ATS, 277 V/480 V, THREE PHASE, 4 WIRES,...	281.44 kVA	800 A	500 A	3		
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	12.25 kVA	100%	12.25 kVA
LIGHTING	18.30 kVA	125%	22.87 kVA
MOTOR	211.67 kVA	125% LARGEST, 100% OTHER	228.67 kVA
RECEPTACLES	141.07 kVA	100% FIRST 10KVA, 50% OTHER	75.54 kVA
HEATING	150.89 kVA	125%	188.61 kVA
TOTAL LOAD	534.18 kVA		527.94 kVA
TOTAL AMPS	643 A		635 A

EL2

MAIN TYPE: MLO | MAIN RATING: 400 A | BUS RATING: 400 A
VOLTAGE: 120/208 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: EDUCATION... | FED FROM: EL1 | SCCR: 10 kAIC kA | CALCULATED AVAILABLE FAULT...: 9.2 kAIC (1) kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP	POLES	CKT NO	LEFT SIDE kVA A	LEFT B	LEFT C	RIGHT SIDE kVA A	RIGHT B	RIGHT C	CKT NO	POLES	BRKR AMP	BRKR NOTES	DESCRIPTION
(5) REC - SECURE CORR C2.1		20 A	1	1	0.90			1.50			2	2	20 A		UH-1
RADIOLOGY 216 CLNG UTILITY...		20 A	1	3		1.80			1.50		4	--	--	--	--
RECEPT - 217, 219		20 A	1	5			0.72			2.40	6	3	30 A		CU- COOLER
RACEWAY - RADIOLOGY 216		20 A	1	7	0.90			2.40			8	--	--	--	--
V-23 & V-24 - ROOM 216		20 A	1	9		1.80			2.40		10	--	--	--	--
RACEWAY+LTS - TREATMENT 214		20 A	1	11			1.08			3.65	12	3	45 A		CU- FREEZER
RECEPT - 213,215		20 A	1	13	0.72			3.65			14	--	--	--	--
TRMNT RM 214 CLNG UTILITY PANEL		20 A	1	15		1.80			3.65		16	--	--	--	--
RACEWAY - TREATMENT 214		20 A	1	17			0.90			1.44	18	1	20 A		(4) FFU-1 - SURGERY RM 218
MDF RACK RECEPTACLE		20 A	2	19	0.72			0.19			20	2	15 A		FCU- 2 A&B
--	--	--	--	21		0.72			0.19		22	--	--	--	--
MDF RACK RECEPTACLE		20 A	2	23			0.72			0.19	24	2	15 A		FCU-1 A & B
--	--	--	--	25	0.72			0.19			26	--	--	--	--
MDF RACK RECEPTACLE		20 A	2	27		0.72			1.51		28	1	20 A		AMBASSADOR HOLDING, LIGHTING
--	--	--	--	29			0.72			0.00	30	1	20 A		SPARE
FREEZER DOOR POWER - RM 225B		20 A	1	31	0.22			0.00			32	1	20 A		SPARE
COOLER DOOR POWER - RM 225A		20 A	1	33		0.11			0.00		34	1	20 A		SPARE
COOLER FAN - MECHANICAL YARD		20 A	1	35			0.38			0.00	36	1	20 A		SPARE
FREEZER FAN - MECHANICAL YARD		35 A	2	37	2.25			0.00			38	1	20 A		SPARE
--	--	--	--	39		2.25			0.00		40	1	20 A		SPARE
SPARE		20 A	1	41			0.00			0.00	42	1	20 A		SPARE
SPARE		20 A	1	43	0.00			0.00			44	1	20 A		SPARE
SPARE		20 A	1	45		0.00			0.00		46	1	20 A		SPARE
SPACE		--	1	47			--			0.00	48	1	20 A		SPARE
SPACE		--	1	49	--			0.00			50	1	20 A		SPARE
SPACE		--	1	51		--			0.00		52	1	20 A		SPARE
SPACE		--	1	53			--			--	54	1	--		SPACE
SPACE		--	1	55	--			--			56	1	--		SPACE
SPACE		--	1	57		--			--		58	1	--		SPACE
SPACE		--	1	59			--			--	60	1	--		SPACE
SPACE		--	1	61	--			--			62	1	--		SPACE
SPACE		--	1	63		--			--		64	1	--		SPACE
SPACE		--	1	65			--			--	66	1	--		SPACE

(2)

TOTAL PHASE SUMMARY	A	B	C
PHASE SUBTOTAL (kVA):	14.3...	18.4...	12....
PHASE SUBTOTAL (AMPS):	122 A	156 A	102 A

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.33 kVA	100%	0.33 kVA
LIGHTING	1.51 kVA	125%	1.89 kVA
MOTOR	29.65 kVA	125% LARGEST, 100% OTHER	32.39 kVA
RECEPTACLE	13.50 kVA	100% FIRST 10KVA, 50% OTHER	11.75 kVA
HEATING	0.00 kVA	125%	0.00 kVA
TOTAL LOAD	44.99 kVA		46.36 kVA
TOTAL AMPS	125 A		129 A

EL1

MAIN TYPE: MCB | MAIN RATING: 400 A | BUS RATING: 400 A
VOLTAGE: 120/208 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: EDUCATION CENTER, | FED FROM: T-EL1 | SCCR: 10 kAIC kA | CALCULATED AVAILABLE FAULT...: 9.2 kAIC (1) kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP	POLES	CKT NO	LEFT SIDE kVA A	LEFT B	LEFT C	RIGHT SIDE kVA A	RIGHT B	RIGHT C	CKT NO	POLES	BRKR AMP	BRKR NOTES	DESCRIPTION
RECEPT - CONF 201 POKE-THRU		20 A	1	1	0.18			0.90			2	1	20 A		(5) EXTERIOR REC
RECEPT - OPEN OFFICE 200		20 A	1	3		0.72			0.50		4	1	20 A		FIRE ALARM CONTROL PANEL
(4) P.C REC. - OFFICES 202/03/04/05		20 A	1	5			1.44			0.80	6	1	20 A		REFRIG. - CATERING PREP. 132
RECPT - RESTROOMS 210 & 212		20 A	1	7	0.72			0.80			8	1	20 A		REFRIG. - BREAK RM 133
RECEPT - VESTIBULE VB2.1, CORR....		20 A	1	9		0.54			0.80		10	1	20 A		REFRIG. - BREAK RM 133
(8) RECEPTACLE - PHARMACY 211		20 A	1	11			0.72			1.08	12	1	20 A		(6) RECEPTACLE - AA 131/130
(1) REFRIG/FREEZER - PHARMACY...		20 A	1	13	1.50			0.06			14	1	20 A		U.C LTG - OPEN OFFICE 200
LTG - AA 130/133		20 A	1	15		0.02			0.50		16	2	20 A		NECROPSY FREEZER 225B
COFFE MAKER- OPEN OFFICE 200		20 A	1	17			1.44			0.50	18	--	--	--	--
(4) RECEPT - UTILITY 228		20 A	1	19	0.72			0.60			20	2	20 A		NECROPSY COOLER 225A
RECEPT - STORAGE 224		20 A	1	21		1.08			0.60		22	--	--	--	--
V-60 - -80 FREEZER		20 A	1	23			0.60			0.67	24	3	20 A		V-62 - NECRPOPSY 225
V-59 - STACKED DRYER		20 A	2	25	1.20			0.67			26	--	--	--	--
--	--	--	--	27		1.20			0.67		28	--	--	--	--
V-58 - STACKED WASHER/DRYER		20 A	1	29			2.00			0.72	30	1	20 A		RECEPTACLE - NECROPSY
V-59 - STACKED DRYER		20 A	2	31	1.20			0.73			32	3	20 A		V-63 - NECRPOPSY 225
--	--	--	--	33		1.20			0.73		34	--	--	--	--
RACEWAY - ROOM 222		70 A	1	35			1.26			0.73	36	--	--	--	--
V-54 - ROOM 222		20 A	1	37	1.60			1.92			38	1	20 A		REEL REC - NECROPSY 225
RACEWAY+(1) REC. - ROOM 222		20 A	1	39		1.26			1.08		40	1	20 A		RACEWAY - NECROPSY 225
RACEWAY+(2) REC. - ROOM 220		20 A	1	41			1.26			1.56	42	2	20 A		V-64 - DISSECTION TABLE
V-46 - ROOM 222		20 A	1	43	1.70			1.56			44	--	--	--	--
RACEWAY+(2) REC. - ROOM 220		20 A	1	45		0.36			1.26		46	1	20 A		RACEWAY - REPTILE 223
V-47 - ROOM 222		20 A	1	47			0.75			1.44	48	1	20 A		(1) REC.+RACEWAY - REPTILE 223
V-48 - ROOM 222		20 A	1	49	1.00			1.80			50	1	20 A		(3) REC.+RACEWAY - REPTILE 223
V-44 - ROOM 222		20 A	1	51		1.00			1.26		52	1	20 A		RACEWAY - AVI HOLDING 221
V-33 - ROOM 218		20 A	1	53			0.72			1.26	54	1	20 A		RACEWAY - AVI HOLDING 221
RECEPTACLE - ROOM 218		20 A	1	55	0.36			1.62			56	1	20 A		PAPER TOWEL+1 REC+RACEWY- A...
RECEPT - SURGERY 218		20 A	1	57		0.90			0.60		58	1	20 A		BAS - MAIN ELECTRICAL ROOM 226
SURGERY 218 CLNG UTILITY PANEL		20 A	1	59			1.80			0.60	60	1	20 A		BAS - WATER ENTRY
(6) RECEPTACLES+LTS - SURGERY...		20 A	1	61	0.90			0.80			62	1	20 A		REFRIG. - AA 130
V-26 & V-28+LTS - RADIOLOGY 216		20 A	1	63		0.84			1.80		64	1	20 A		MICROWAVE - OPEN OFFICE 200
LTG TYPE P1 - CORR 120		20 A	1	65			0.67			0.67	66	1	20 A		LTG TYPE P1 - CORR 120

TOTAL PHASE SUMMARY	A	B	C
PHASE SUBTOTAL (kVA):	36.8...	37.3...	34....
PHASE SUBTOTAL (AMPS):	310 A	314 A	291 A

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	2.53 kVA	100%	2.53 kVA
LIGHTING	2.93 kVA	125%	3.66 kVA
MOTOR	32.07 kVA	125% LARGEST, 100% OTHER	34.81 kVA
RECEPTACLE	71.61 kVA	100% FIRST 10KVA, 50% OTHER	40.81 kVA
HEATING	0.00 kVA	125%	0.00 kVA
TOTAL LOAD	109.14 kVA		81.80 kVA
TOTAL AMPS	303 A		227 A

NH1

MAIN TYPE: MCB | MAIN RATING: 400 A | BUS RATING: 400 A
VOLTAGE: 480/277 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: VET HOSPITAL,MAIN... | FED FROM: MDP | SCCR: 22 kAIC kA | CALCULATED AVAILABLE FAULT...: 20.8 kAIC (1) kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP	POLES	CKT NO	LEFT SIDE kVA A	LEFT B	LEFT C	RIGHT SIDE kVA A	RIGHT B	RIGHT C	CKT NO	POLES	BRKR AMP	BRKR NOTES	DESCRIPTION
AT 1-1		20 A	1	1	2.85			0.20			2	1	20 A		EXTERIOR CORR LTS - ED. CENTER
AT 1-2		30 A	3	3		4.07			1.20		4	1	20 A		LTG- EDUCATION CENTER
--	--	--	--	5			4.07			0.97	6	1	20 A		LTG - CORR 120/C1.2 - ED. CENTER
--	--	--	--	7	4.07			0.64			8	1	20 A		LTG - CORR C1.3 - ED. CENTER
AT 1-3		15 A	1	9		2.66			0.99		10	1	20 A		LTG - CLASSROMS - ED. CENTER
AT 1-4		20 A	1	11			2.85			22.67	12	3	125 A		RTU-1
AT 1-5		20 A	3	13	2.75			22.67			14	--	--	--	--
--	--	--	--	15		2.75			22.67		16	--	--	--	--
--	--	--	--	17			2.75			0.00	18	1	20 A		SPARE
AT 1-6		20 A	3	19	2.99			0.00			20	1	20 A		SPARE
--	--	--	--	21		2.99			0.00		22	1	20 A		SPARE
--	--	--	--	23			2.99			0.00	24	1	20 A		SPARE
AT 1-7		20 A	3	25	2.75			0.00			26	1	20 A		SPARE
--	--	--	--	27		2.75			0.00		28	1	20 A		SPARE
--	--	--	--	29			2.75			0.00	30	1	20 A		SPARE
AT 1-8		20 A	3	31	2.75			0.00			32	1	20 A		SPARE
--	--	--	--	33		2.75			0.00		34	1	20 A		SPARE
--	--	--	--	35			2.75			0.00	36	1	20 A		SPARE
AT 1-9		15 A	1	37	2.28			0.00			38	1	20 A		SPARE
AT 1-10		15 A	1	39		2.28			0.00		40	1	20 A		SPARE
AT 1-11		20 A	1	41			3.61			0.00	42	1	20 A		SPARE
AT 1-12		20 A	3	43	1.39			0.00			44	1	20 A		SPARE
--	--	--	--	45		1.39			0.00		46	1	20 A		SPARE
--	--	--	--	47			1.39			--	48	1	--		SPACE
AT 1-13		20 A	3	49	1.55			--			50	1	--		SPACE
--	--	--	--	51		1.55			--		52	1	--		SPACE
--	--	--	--	53			1.55			--	54	1	--		SPACE
AT 1-14, 1-15, 1-16		35 A	1	55	5.74			--			56	1	--		SPACE
SPARE		20 A	1	57		0.00			--		58	1	--		SPACE
SPARE		20 A	1	59			0.00			--	60	1	--		SPACE

TOTAL PHASE SUMMARY	A	B	C
PHASE SUBTOTAL (kVA):	52.6...	48.0...	48....
PHASE SUBTOTAL (AMPS):	190 A	174 A	175 A

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	4.01 kVA	125%	5.01 kVA
MOTOR	68.00 kVA	125% LARGEST, 100% OTHER	85.00 kVA
RECEPTACLE	0.00 kVA	100% FIRST 10KVA, 50% OTHER	0.00 kVA
HEATING	77.05 kVA	125%	96.31 kVA
TOTAL LOAD	149.06 kVA		186.32 kVA
TOTAL AMPS	179 A		224 A

EH1

MAIN TYPE: MCB | MAIN RATING: 500 A | BUS RATING: 500 A
VOLTAGE: 480/277 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: EDUCATION CENTER, | FED FROM: ATS, 277 V/48... | SCCR: 22 kAIC kA | CALCULATED AVAILABLE FAULT...: 16.4 kAIC (1) kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP	POLES	CKT NO	LEFT SIDE kVA A	LEFT B	LEFT C	RIGHT SIDE kVA A	RIGHT B	RIGHT C	CKT NO	POLES	BRKR AMP	BRKR NOTES	DESCRIPTION
EMG. LIGHTING - EDUCATION...		20 A	1	1	1.26			0.78			2	1	20 A		EXTERIOR LTG - VET BLDG.
EMG. EXTERIOR LTG - EDUCATION...		20 A	1	3		0.44			0.25		4	1	20 A		EXTERIOR ANIMAL CAGES-VET...
EMG. LIGHTING AA - ED. CNTR		20 A	1	5			0.29			1.44	6	1	20 A		LTG - MAMMAL VET BLDG.
EMG. LTG SOUTH - VET BLDG		20 A	1	7	1.62			0.20			8	1	20 A		SECURE CORR - C2.1
EMG. LTG- EAST SIDE - VET BLDG		20 A	1	9		1.44			2.66		10	3	20 A		EF-6A & EF-6B
AT 2-1		15 A	1	11			2.04			2.66	12	--	--	--	--
AT 2-2		15 A	1	13	2.94			2.66			14	--	--	--	--
AT 2-3		35 A	3	15		5.47			20.00		16	3	110 A		RTU-2
--	--	--	--	17			5.47			20.00	18	--	--	--	--
--	--	--	--	19	5.47			20.00			20	--	--	--	--
AT 2-4		20 A	1	21		1.50			2.44		22	3	20 A		CU-1
AT 2-5		15 A	3	23			2.59			2.44	24	--	--	--	--
--	--	--	--	25	2.59			2.44			26	--	--	--	--
--	--	--	--	27		2.59			2.44		28	3	20 A		CU-2
AT 2-6		15 A	3	29			2.47			2.44	30	--	--	--	--
--	--	--	--	31	2.47			2.44			32	--	--	--	--
--	--	--	--	33		2.47			3.99		34	1	20 A		AT 2-16
AT 2-7		20 A	1	35			1.33			2.71	36	3	20 A		MV-1
AT 2-8		20 A	1	37	2.23			2.71			38	--	--	--	--
AT 2-9		20 A	3	39		2.72			2.71		40	--	--	--	--
--	--	--	--	41			2.72			--	42	1	--		SPACE
--	--	--	--	43	2.72			--			44	1	--		SPACE
AT 2-10		20 A	3	45		2.56			--		46	1	--		SPACE
--	--	--	--	47			2.56			--	48	1	--		SPACE
--	--	--	--	49	2.56			--			50	1	--		SPACE
AT 2-11		15 A	1	51		1.28			--		52	1	--		SPACE
AT 2-12		15 A	1	53			1.28			--	54	1	--		SPACE
AT 2-13		20 A	1	55	2.90			36.89			56	3	225 A		T-EL1
AT 2-14		20 A	1	57		2.90			37.37		58	--	--	--	--
AT 2-15		20 A	1	59			3.99			34.89	60	--	--	--	--

TOTAL PHASE SUMMARY	A	B	C
PHASE SUBTOTAL (kVA):	94.8...	95.2...	91....
PHASE SUBTOTAL (AMPS):	345 A	346 A	330 A

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	2.53 kVA	100%	2.53 kVA
LIGHTING	10.65 kVA	125%	13.31 kVA
MOTOR	122.81 kVA	125% LARGEST, 100% OTHER	137.81 kVA
RECEPTACLE	71.61 kVA	100% FIRST 10KVA, 50% OTHER	40.81 kVA
HEATING	73.84 kVA	125%	92.30 kVA
TOTAL LOAD	281.44 kVA		286.76 kVA
TOTAL AMPS	339 A		345 A

NL1

MAIN TYPE: MCB | MAIN RATING: 150 A | BUS RATING: 150 A
VOLTAGE: 120/208 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: VET HOSPITAL,MAIN... | FED FROM: T-NL1 | SCCR: 22 kAIC kA | CALCULATED AVAILABLE FAULT...: 12.7 kAIC (1) kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP	POLES	CKT NO	LEFT SIDE kVA A	LEFT B	LEFT C	RIGHT SIDE kVA A	RIGHT B	RIGHT C	CKT NO	POLES	BRKR AMP	BRKR NOTES	DESCRIPTION
GWH-1 & GWH-2		20 A	1	1	0.24			0.50			2	1	20 A		SECURITY PANEL
STACKED WASHER/DRYER - AA131		20 A	1	3		1.00			0.72		4	1	20 A		RECEPT - 213, 215
RECEPT - 205, 206		20 A	1	5			1.08			0.90	6	1	20 A		RECEPT - OPEN OFFICE 200, PHAR...
CEILING REC -REEL - AA131		20 A	1	7	1.92			1.26			8	1	20 A		RECEPT- OFFICE 202-204
RECEPT - MAMMAL HOLDING, DED.		20 A	1	9		0.18			0.18		10	1	20 A		RECEPT - PRIMATE HOLDING, DED.
RECEPT - OFFICE 202-205		20 A	1	11			1.44			1.44	12	1	20 A		RECEPT - CONF 201
RECEPT - PRIMATE HOLDING, DED.		20 A	1	13	0.18			1.92			14	1	20 A		CEILING REC -REEL - AA131
RECEPT - MAMMAL HOLDING, DED.		20 A	1	15		0.18			1.20		16	2	20 A		STACKED WASHER/DRYER - AA131
RECEPT - LARGE ANIMAL HOLDING...		20 A	1	17			0.18			1.20	18	--	--	--	--
RECEPT - EXT. HOLDING, DED.		20 A	1	19	0.18			0.18			20	1	20 A		RECEPT - LARGE ANIMAL HOLDING...
RECEPT - OPEN OFFICE 200...		20 A	1	21		0.18			0.18		22	1	20 A		U/C FRIDGE - OPEN OFFICE 200
RECEPT - EXT. HOLDING, DED.		20 A	1	23			0.18			0.18	24	1	20 A		RECEPT - EXT. HOLDING, DED.
RECEPT - EXT AMBASSADOR...		20 A	1	25	0.18			0.18			26	1	20 A		RECEPT - EXT. HOLDING, DED.
RECEPT - EXT. HOLDING, DED.		20 A	1	27		0.18			0.18		28	1	20 A		RECEPT - LARGE ANIMAL HOLDING...
RECEPT - EXT AMBASSADOR...		20 A	1	29			0.18			0.18	30	1	20 A		RECEPT - EXT AMBASSADOR...
RECEPT - EXT AMBASSADOR...		20 A	1	31	0.18			0.18			32	1	20 A		RECEPT - EXT AMBASSADOR...
RECEPT - EXT AMBASSADOR...		20 A	1	33		0.18			0.18		34	1	20 A		RECEPT - EXT. HOLDING, DED.
RECEPT - AQUATIC HOLDING, DED.		20 A	1	35			0.18			0.18	36	1	20 A		RECEPT - CARNIVORE HOLDING,...
RECEPT - AMBASSADOR HOLDING,...		20 A	1	37	0.18			0.18			38	1	20 A		RECEPT - AQUATIC HOLDING, DED.
RECEPT - EXT AMBASSADOR...		20 A	1	39		0.18			0.18		40	1	20 A		RECEPT - EXT AMBASSADOR...
RECEPT - AMBASSADOR HOLDING,...		20 A	1	41			0.18			0.18	42	1	20 A		RECEPT - AMBASSADOR HOLDING,...
RECEPT - AMBASSADOR HOLDING,...		20 A	1	43	0.18			0.18			44	1	20 A		RECEPT - AMBASSADOR HOLDING,...
RECEPT - EXT. HOLDING, DED.		20 A	1	45		0.54			0.18		46	1	20 A		RECEPT - CARNIVORE HOLDING,...
RECEPT - AMBASSADOR HOLDING		20 A	1	47			0.72			0.18	48	1	20 A		RECEPT - AMBASSADOR HOLDING,...
RECEPT - LARGE ANIMAL HOLDING		20 A	1	49	0.54			0.18			50	1	20 A		RECEPT - AMBASSADOR HOLDING,...
RECEPT - AMBASSADOR HOLDING		20 A	1	51		0.72			0.54		52	1	20 A		RECEPT - EXT. HOLDING
EV CHARGING STATION		40 A	2	53			3.30			0.72	54	1	20 A		RECEPT - EXT AMBASSADOR...
--	--	--	--	55	3.30			0.18			56	1	20 A		RECEPT - AMBASSADOR HOLDING,...
EV CHARGING STATION		40 A	2	57		3.30			0.72		58	1	20 A		RECEPT - 213, 215, 217, 219
--	--	--	--	59			3.30			0.72	60	1	20 A		RECEPT - EXT AMBASSADOR...
CONTROL PANEL- GENERATOR		20 A	1	61	0.25			0.00			62	1	20 A		SPARE
BLOCK HEATER- GENERATOR		20 A	1	63		0.50			0.00		64	1	20 A		SPARE
SPARE		20 A	1	65			0.00			0.00	66	1	20 A		SPARE
SPARE		20 A	1	67	0.00			0.00			68	1	20 A		SPARE
SPARE		20 A	1	69		0.00			0.00		70	1	20 A		SPARE
SPARE		20 A	1	71			0.00			0.00	72	1	20 A		SPARE
SPARE		20 A	1	73	0.00			0.00			74	1	20 A		SPARE
SPARE		20 A	1	75		0.00			0.00		76	1	20 A		SPARE
SPARE		20 A	1	77			0.00			--	78	1	--		SPACE
SPARE		20 A	1	79	0.00			--			80	1	--		SPACE
SPARE		20 A	1	81		0.00			--		82	1	--		SPACE
SPARE		20 A	1	83			0.00			--	84	1	--		SPACE

TOTAL PHASE SUMMARY	A	B	C
PHASE SUBTOTAL (kVA):	12.2...	11.4...	16....
PHASE SUBTOTAL (AMPS):	103 A	95 A	140 A

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	0.00 kVA	100%	0.00 kVA
LIGHTING	0.00 kVA	125%	0.00 kVA
MOTOR	14.69 kVA	125% LARGEST, 100% OTHER	16.34 kVA
RECEPTACLE	25.60 kVA	100% FIRST 10KVA, 50% OTHER	17.80 kVA
HEATING	0.00 kVA	125%	0.00 kVA
TOTAL LOAD	40.29 kVA		34.14 kVA
TOTAL AMPS	112 A		95 A

NL2

MAIN TYPE: MCB | MAIN RATING: 150 A | BUS RATING: 150 A
VOLTAGE: 120/208 Wye | 3 PHASE | 4 WIRE | MOUNTING: SURFACE | ENCLOSURE: TYPE 1, NEMA1
LOCATION: EDUCATION CENTER, | FED FROM: TNL2 | SCCR: 10 kAIC kA | CALCULATED AVAILABLE FAULT...: 5.2 kAIC (1) kA

REMARKS:

DESCRIPTION	BRKR NOTES	BRKR AMP	POLES	CKT NO	LEFT SIDE kVA A	LEFT B	LEFT C	RIGHT SIDE kVA A	RIGHT B	RIGHT C	CKT NO	POLES	BRKR AMP	BRKR NOTES	DESCRIPTION
(9) RECEPTACLE - OFFICES 101/2/3/4		20 A	1	1	1.62			0.90			2	1	20 A		(5) OUTDOOR RECEPTACLE
(4) P.C REC - OFFICES 101/02/03/04		20 A	1	3		1.44			0.86		4	1	20 A		EF-1 & EF-5
(4) P.C RECEPTACLE - OFFICE 100		20 A	1	5			1.44			1.90	6	1	20 A		TYPE P+U.C LIGHTING CRS-ED....
(1) PRINTER - COPY 100A		20 A	1	7	0.10			1.08			8	1	20 A		(6) RECEPTACLE
(7) RECEPTACLE - 109/113 & C1.1		20 A	1	9		1.26			1.67		10	2	25 A		RCP-1
(3) RECEPTACLE - 110/111		20 A	1	11			0.54			1.67	12	--	--	--	--
(3) DRINKING FOUNTAIN - CORR C1.1		20 A	1	13	1.50			1.44			14	1	20 A		MDF RACK REC - MDF 111
(1) HAND DRYER - RR 114		20 A	1	15		1.00			1.44		16	1	20 A		MDF RACK REC - MDF 111
RECEPTACLE+FAUCET - RR 114/115		20 A	1	17			1.44			1.44	18	1	20 A		MDF RACK REC - MDF 111
(1) HAND DRYER - RR 114		20 A	1	19	1.00			1.44			20	1	20 A		MDF RACK REC - MDF 111
(1) HAND DRYER - RR 115		20 A	1	21		1.00			0.18		22	1	20 A		RECEPT - AMBASSADOR HOLDING,...
(1) HAND DRYER - RR 115		20 A	1	23			1.00			0.18	24	1	20 A		RECEPT - AMBASSADOR HOLDING,...
(1) T.V + (5) REC - LOBBY 120		20 A	1	25	1.26			0.18			26	1	20 A		RECEPT - AMBASSADOR HOLDING,...
(2) T.V + (4) RECEPTACLE - CR121		20 A	1	27		1.80			1.60		28	1	20 A		(4) MOTORIZED SHADES-...
(5) FLR REC - CR 121		20 A	1	29			0.90			0.00	30	1	20 A		SPARE
(4) FLR REC - CR 122		20 A	1	31	0.72			0.00			32	1	20 A		SPARE
(2) T.V + (4) RECEPTACLE - CR124		20 A	1	33		1.62			0.00		34	1	20 A		SPARE
(4) FLR REC - CR 124		20 A	1	35			0.72			0.00	36	1	20 A		SPARE
(4) FLR REC - CR 123		20 A	1	37	0.72			0.00			38	1	20 A		SPARE
(6) RECEPTACLE - CORR C1.2 & 3		20 A	1	39		1.08			0.00		40	1	20 A		SPARE
(1) ICE MAKER+(6) REC - CATERING...		20 A	1	41			1.58			0.00	42	1	20 A		SPARE
RECEPTACLE - CATERING RM132		20 A	1	43	1.44			0.00			44	1	20 A		SPARE
FOOD WARMING EQUIPMENT-...		20 A	1	45		1.80			0.00		46	1	20 A		SPARE
U.C LTS+(5) REC-CATERING+BREA...		20 A	1	47			1.04			0.00	48	1	20 A		SPARE
EF-3 & EF-4		20 A	1	49	0.80			0.00			50	1	20 A		SPARE
(5) REC. + (1) ICE MAKER - 133/134		20 A	1	51		1.76			0.00		52	1	20 A		SPARE
(1) COFFEE MAKER - BREAK RM 133		20 A	1	53			1.44			0.00	54	1	20 A		SPARE
(1) MICROWAVE - BREAK RM 133		20 A	1	55	1.80			0.00			56	1	20 A		SPARE
(1) MICROWAVE - BREAK RM 133		20 A	1	57		1.80			0.00		58	1	20 A		SPARE
EF-2		20 A	1	59			1.18			--	60	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	61	0.90			--			62	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	63		0.72			--		64	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	65			0.72			--	66	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	67	0.90			--			68	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	69		1.44			--		70	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	71			1.44			--	72	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	73	1.44			--			74	1	--		SPACE
(1) RACE WAY-AA 131		20 A	1	75		1.44			--		76	1	--		SPACE
RECEPT - AMBASSADOR HOLDING,...		20 A	1	77			0.18			--	78	1	--		SPACE
(6) RECEPTACLES - AA130		20 A	1	79	1.08			--			80	1	--		SPACE
RECEPT - AMBASSADOR HOLDING,...		20 A	1	81		0.18			--		82	1	--		SPACE
RECEPT - AMBASSADOR HOLDING,...		20 A	1	83			0.18			--	84	1	--		SPACE

TOTAL PHASE SUMMARY	A	B	C
PHASE SUBTOTAL (kVA):	20.3...	24.0...	18....
PHASE SUBTOTAL (AMPS):	171 A	202 A	158 A

LOAD CLASSIFICATION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
POWER	9.72 kVA	100%	9.72 kVA
LIGHTING	3.64 kVA	125%	4.55 kVA
MOTOR	6.17 kVA	125% LARGEST, 100% OTHER	7.00 kVA
RECEPTACLE	43.86 kVA	100% FIRST 10KVA, 50% OTHER	26.93 kVA
HEATING	0.00 kVA	125%	0.00 kVA
TOTAL LOAD	63.39 kVA		48.20 kVA
TOTAL AMPS	176 A		134 A

Perkins&Will
1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100, WACO, TEXAS 76701
STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603, STAFFORD, TEXAS 77477
MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150, HOUSTON, TEXAS 77046
LANDSCAPING

OWNER
CITY OF WACO
P.O. BOX 2570, WACO, TX 76702

STATE OF TEXAS
DHARMESH J. SHAH
118778
LICENSED PROFESSIONAL ENGINEER
11/09/2022

Texas Registered Engineering Firm F-8301

PROJECT

CAMERON PARK ZOO

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

P.O. BOX 2570, WACO, TX 76702

ISSUE FOR BID & PERMIT 04/01/2022

KEYPLAN

VET HOSPITAL
EDUCATION CENTER
TRUE NORTH

ISSUE CHART

MARK	ISSUE	DATE
1	PERMIT RESPONSE_v1	9/29/2022
2	ADDENDUM # 2	11/09/2022

Job Number 185236.000

TITLE

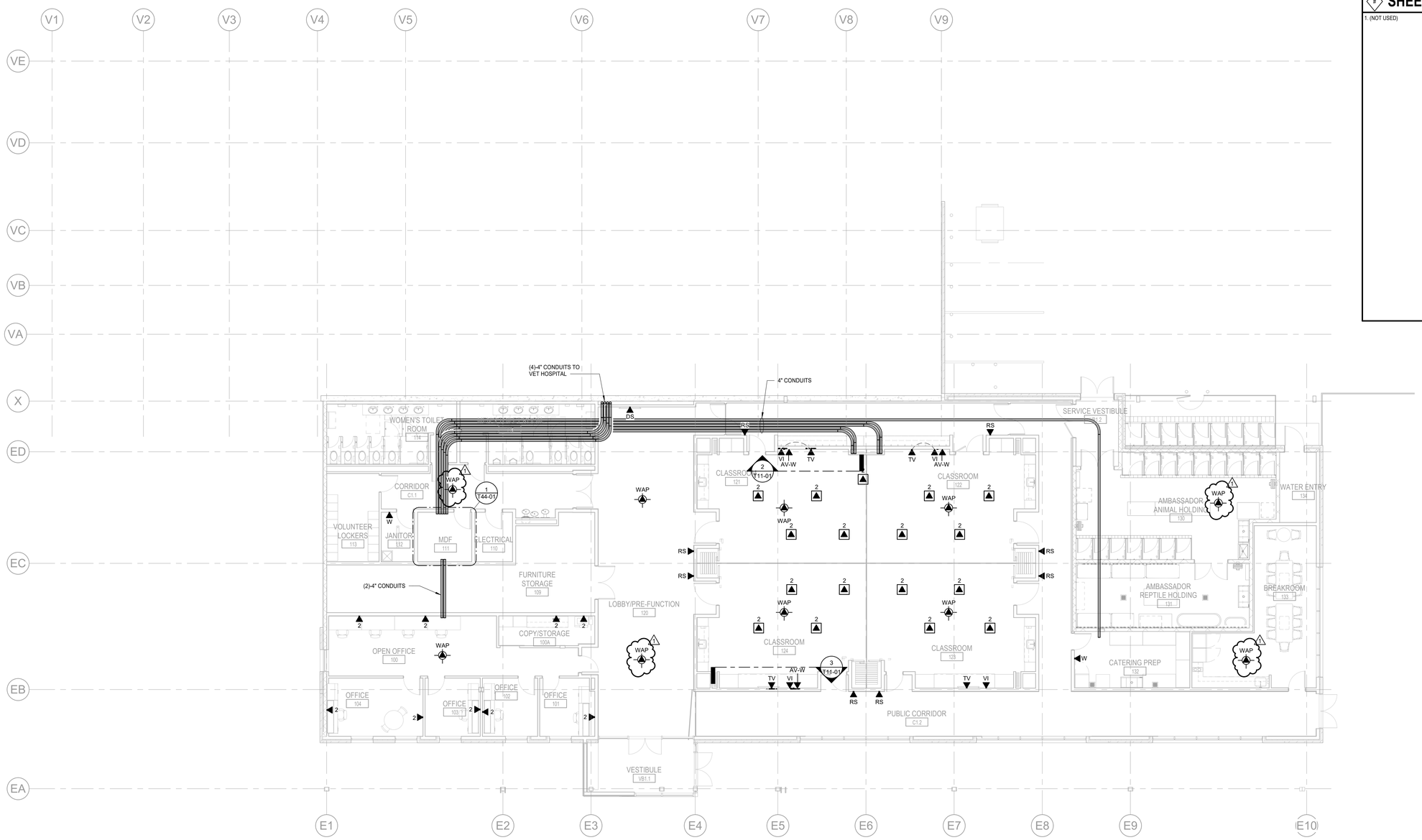
PANEL SCHEDULES

SHEET NUMBER

E62-04

© 2020 Perkins and Will

11/9/2022 10:29:10 AM BIM 360://Cameron Park Zoo/22180-00_ELECTRICAL_WACO-CAMERON PARK ZOO_R21.rvt



1 **TECHNOLOGY OVERALL FLOOR PLAN - LEVEL 01 - EDUCATION CENTER**

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

0 4' 8' 16'

GENERAL NOTES

A. PRIOR TO ROUGH-IN, COORDINATE FINAL LOCATIONS AND ELEVATIONS OF TELECOM OUTLETS AND SYSTEM DEVICES WITH OWNER, ARCHITECTURAL ELEMENTS, AND WORK BY OTHER TRADES.

B. SEAL ALL PENETRATIONS OF FIRE/SMOKE RATED CONSTRUCTION USING AN APPROVED SYSTEM FOR THIS PURPOSE THAT IS UL LISTED AND FM APPROVED.

C. PROVIDE CONDUIT BUSHINGS ON ALL CONDUIT ENDS PRIOR TO INSTALLATION OF DATA CABLES.

D. PROVIDE PLYWOOD BLOCKING IN WALL, FOR ALL FLAT SCREEN DISPLAY MOUNTING BRACKETS. COORDINATE OUTLET LOCATIONS PRIOR TO ROUGH-IN AND PLACING OF MOUNTING BRACKET.

E. PROVIDE PULL BOXES ALONG CONDUIT RUNS TO ENSURE THERE ARE NO MORE THAN TWO 90 DEGREE BENDS AND/OR 100 FEET BETWEEN PULL POINTS.

F. REFER TO ARCHITECTURAL PLANS AND NOTES REGARDING CONDUITS CONCEALED IN THE WALL, FEEDING CEILING MOUNTED AV EQUIPMENT.

G. COORDINATE INSTILLATION HEIGHT OF AV EQUIPMENT AND ROUGH-IN REQUIREMENTS WITH AV DRAWINGS.

H. FINAL WIRELESS ACCESS POINT LOCATIONS AND QUANTITES PROVIDED BY OWNER.

I. CONDUITS TO BE ROUTED IN CONCEALED LOCATIONS FOR WALL MOUNTED EQUIPMENT.

J. REFER TO ARCHITECTURAL DRAWINGS FOR CONDUIT SERVING CEILING MOUNTED EQUIPMENT.

1 K. COORDINATE FINAL MOUNTING DETAIL AND CONDUIT ROUTING WITH ARCHITECT PRIOR TO INSTALLATION OF ALL CEILING MOUNTED WIRELESS ACCESS POINTS.

SHEET KEYED NOTES

1. (NOT USED)

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100,
WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603,
STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150,
HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CITY OF WACO
P.O. BOX 2570, WACO, TX 76702

STATE OF TEXAS
DHARMESH J. SHAH
116778
LICENSED PROFESSIONAL ENGINEER
11/09/2022

Texas Registered Engineering Firm F-8301

PROJECT

CAMERON PARK ZOO

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

P.O. BOX 2570, WACO, TX 76702

KEYPLAN

VET HOSPITAL
EDUCATION CENTER

TRUE NORTH

ISSUE CHART

MARK	ISSUE	DATE
1	ADDENDUM # 2	11/09/2022

Job Number 185236.000

TITLE

TECHNOLOGY OVERALL FLOOR PLAN - LEVEL 01 - EDUCATION CENTER

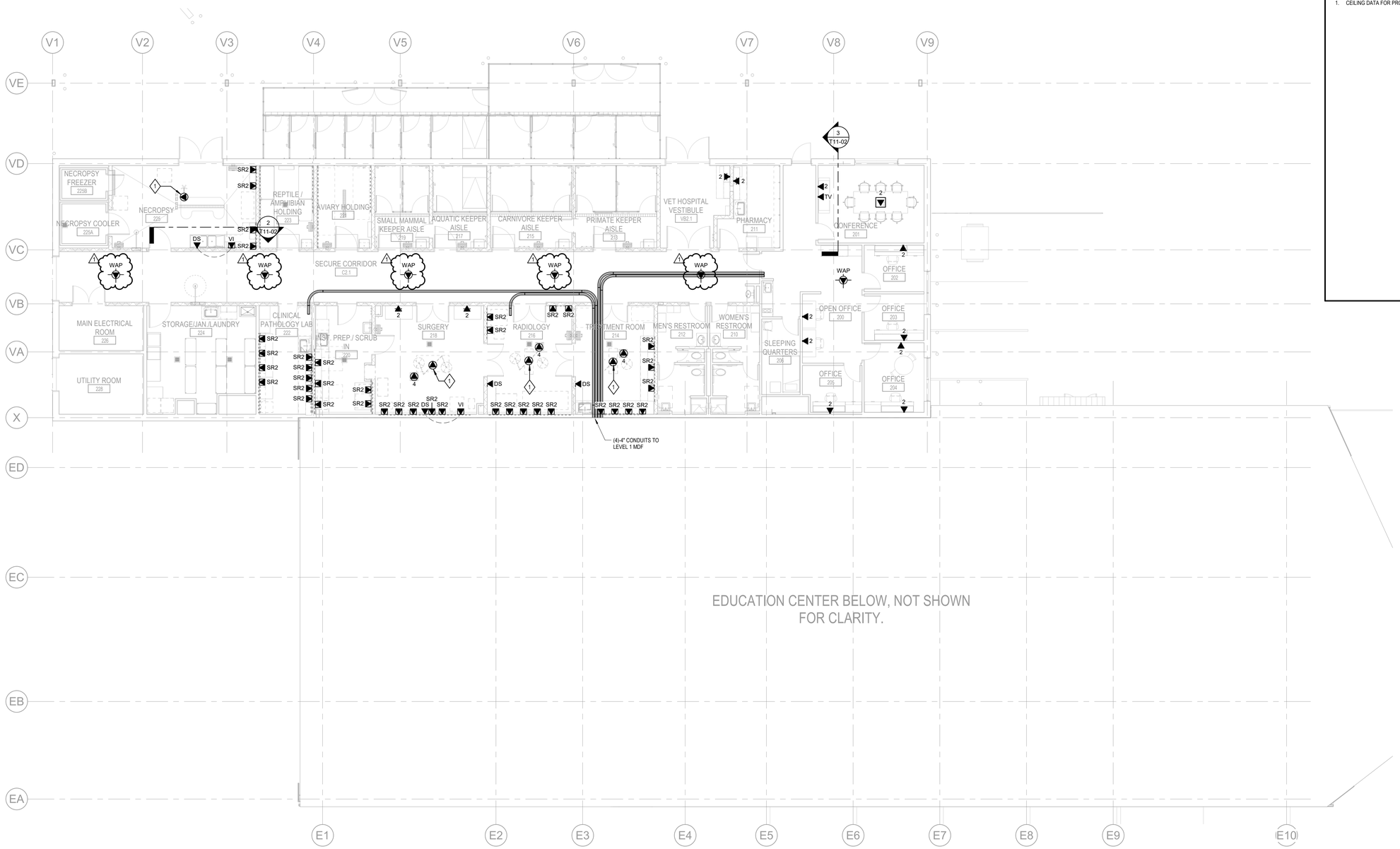
SHEET NUMBER

T10-01

ISSUE FOR BID & PERMIT 04/01/2022

© 2020 Perkins and Will

11/8/2022 6:50:28 PM BIM 360://Cameron Park Zoo/221804-00_TECHNOLOGY_WACO-CAMERON PARK ZOO_R21.rvt



1 **TECHNOLOGY OVERALL FLOOR PLAN - LEVEL 02 - VET HOSPITAL**

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

0 4' 8' 16'

GENERAL NOTES

A. PRIOR TO ROUGH-IN, COORDINATE FINAL LOCATIONS AND ELEVATIONS OF TELECOM OUTLETS AND SYSTEM DEVICES WITH OWNER, ARCHITECTURAL ELEMENTS, AND WORK BY OTHER TRADES.

B. SEAL ALL PENETRATIONS OF FIRE/SMOKE RATED CONSTRUCTION USING AN APPROVED SYSTEM FOR THIS PURPOSE THAT IS UL LISTED AND FM APPROVED.

C. PROVIDE CONDUIT BUSHINGS ON ALL CONDUIT ENDS PRIOR TO INSTALLATION OF DATA CABLES.

D. PROVIDE PLYWOOD BLOCKING IN WALL, FOR ALL FLAT SCREEN DISPLAY MOUNTING BRACKETS. COORDINATE OUTLET LOCATIONS PRIOR TO ROUGH-IN AND PLACING OF MOUNTING BRACKET.

E. PROVIDE PULL BOXES ALONG CONDUIT RUNS TO ENSURE THERE ARE NO MORE THAN TWO 90 DEGREE BENDS AND/OR 100 FEET BETWEEN PULL POINTS.

F. CONDUITS TO BE ROUTED IN CONCEALED LOCATIONS FOR WALL MOUNTED EQUIPMENT.

G. REFER TO ARCHITECTURAL DRAWINGS FOR CONDUIT SERVING CEILING MOUNTED EQUIPMENT.

1 H. COORDINATE FINAL MOUNTING DETAIL AND CONDUIT ROUTING WITH ARCHITECT PRIOR TO INSTALLATION OF ALL CEILING MOUNTED WIRELESS ACCESS POINTS.

SHEET KEYED NOTES

1. CEILING DATA FOR PROCEDURE CAMERA.

Perkins&Will

1001 McKinney
Suite 1300
Houston, TX 77002
t 713.366.4000
f 713.528.3339
www.perkinswill.com

CONSULTANTS

CIVIL
WALKER PARTNERS, LLC
823 WASHINGTON AVENUE, SUITE 100, WACO, TEXAS 76701

STRUCTURAL
ENSIGHT HAYNES WHALEY
12603 SW FREEWAY, SUITE 603, STAFFORD, TEXAS 77477

MEP
AFFILIATED ENGINEERS, INC.
ONE GREENWAY PLAZA, SUITE 150, HOUSTON, TEXAS 77046

LANDSCAPING

OWNER
CITY OF WACO
P.O. BOX 2570, WACO, TX 76702

STATE OF TEXAS
DHARMESH J. SHAH
116778
LICENSED PROFESSIONAL ENGINEER
11/09/2022

Texas Registered Engineering Firm F-8301

PROJECT

CAMERON PARK ZOO

CAMERON PARK ZOO: EDUCATION CENTER & VET HOSPITAL

1701 N. 4TH STREET
WACO, TX 76707

CITY OF WACO

CITY OF WACO CAMERON PARK ZOO

P.O. BOX 2570, WACO, TX 76702

ISSUE FOR BID & PERMIT 04/01/2022

KEYPLAN

TRUE NORTH

ISSUE CHART

MARK	ISSUE	DATE
1	ADDENDUM # 2	11/09/2022

Job Number 185236.000

TITLE

TECHNOLOGY OVERALL FLOOR PLAN - LEVEL 02 - VET HOSPITAL

SHEET NUMBER

T10-02

© 2020 Perkins and Will

11/8/2022 6:45:34 PM BIM 360://Cameron Park Zoo/22180-00_TECHNOLOGY_WACO-CAMERON PARK ZOO_R21.rvt

Edu/Vet Construction Staging & Lay-down Area

10/27/2022, 9:23:53 AM

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.03 0.05 km

Esri, HERE, Garmin, GeoTechnologies, Inc., NGA, USGS

ArcGIS Web AppBuilder

Esri, HERE, Garmin, GeoTechnologies, Inc., NGA, USGS | City of Waco GIS |