RENEW CHEETAH CONSERVATION STATION (CCS) - AFRICA TRAIL
-KUDU

SMITHSONIAN NATIONAL ZOOLOGICAL PARK
3001 CONNECTICUT AVENUE NW
WASHINGTON DC 20008

SF PROJECT NO. 2033108

Architecture
architrave p.c.
420 10th Street SE
Washington DC 20003

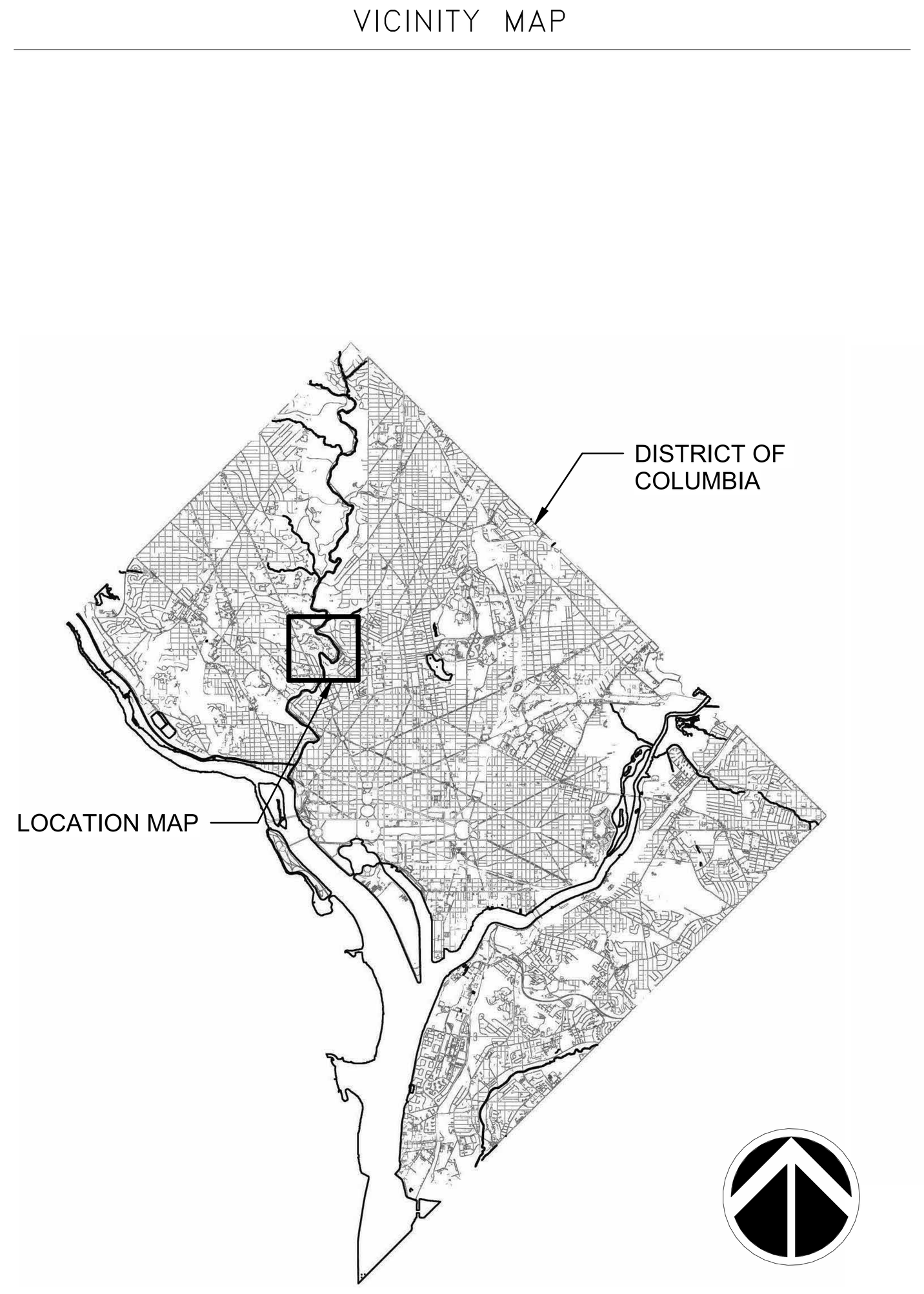
Civil
Bowman Consulting Group Ltd.
13461 Sunrise Valley Drive, Suite 500
Herndon, VA 20171

Zoo Consulting
Jones & Jones
105 South Main Street, Suite 300
Seattle, WA 98104

Structural Engineering
McMullan & Associates
11800 Sunrise Valley Drive, Suite 430
Reston, VA 20191

MEP Engineering
James Posey Associates
11155 Red Run Boulevard, Suite 310
Baltimore, MD 21117

VICINITY MAP



LOCATION MAP

INDEX OF DRAWINGS

3

RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com

OFFICE OF FACILITIES ENGINEERING AND OPERATIONS APPROVAL BLOCK

DM:
DESIGN CHIEF:
R.E.:
OFPPM:
OFM&R:
OSHEM:
OPS:

THIS PROJECT IS APPROVED AS BEING IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF SMITHSONIAN INSTITUTION DIRECTIVE 410.

MICHAEL J. CARRANCHO, P.E., DEPUTY DIRECTOR FOR ENGINEERING AND DESIGN, OPDC

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI - 001 & ASI -002)

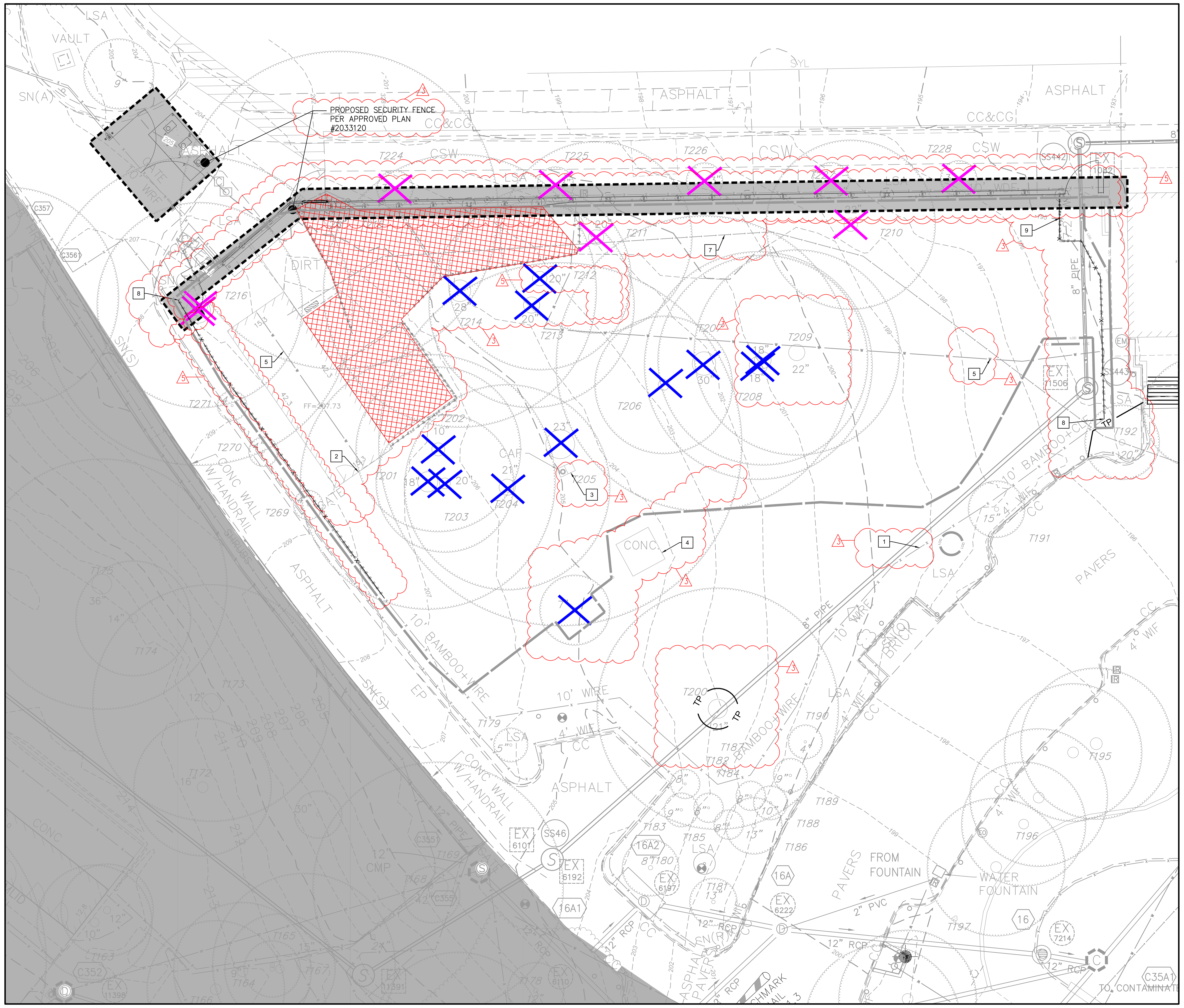
Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	COVER SHEET KUDU

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	OCW	OCW	RW

SHEET NO.	DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
1 OF 29	KG		001	



DEMOLITION SITE PLAN - KUDU YARD (Y6)

1 / KC110

SCALE 1:10

LEGEND

Symbol	Description
(tree symbol)	EXISTING TREE
---330---	EXISTING CONTOUR
—w—	EXISTING WATER LINE
—x—	EXISTING FENCE LINE
	FENCE LINE TO BE REPLACED IN KIND
	FENCE LINE TO BE REMOVED
	CURB TO BE CUT TO 4"
	TREE TO BE REMOVED
	FUTURE WORK BY OTHERS TREE TO BE REMOVED
	DECOMPOSED GRANITE TO BE REMOVED
—TP—	TREE PROTECTION
—LOD—	LIMITS OF DISTURBANCE
	FUTURE WORK BY OTHERS
CAF	CONCRETE ANIMAL FEEDER
CC	CONCRETE CURB
CLF	CHAIN LINK FENCE
CSW	CONCRETE SIDEWALK
LSA	LANDSCAPE AREA
SN	SIGN
WIF	WROUGHT IRON FENCE
WDF	WOOD FENCE
E.T.R.	EXISTING TO REMAIN
E.T.D.	EXISTING TO BE DEMOLISHED

NOTE: REFER TO PLANTING PLAN, SHEET KL102PP, IN THE LANDSCAPE ARCHITECTURE SET FOR THE TREES THAT SHALL BE PRESERVED.

DEMOLITION NOTES:

1. REMOVE AND TRANSPORT ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM ALL DEMOLITION OPERATIONS TO A LEGAL DISPOSAL OFF SITE.
2. PORTIONS OF EXISTING CONDITIONS SHOWN HEREON WAS OBTAINED FROM A FIELD SURVEY CONDUCTED BY BOWMAN CONSULTING IN OCTOBER, 2019. ADDITIONAL GIS INFORMATION HAS BEEN COMPILED TO SUPPLEMENT THIS FIELD SURVEY. BOWMAN MAKES NO REPRESENTATION AND TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE PROVIDED SURVEY/EXISTING CONDITIONS. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND ANY DISCREPANCIES SHALL BE REPORTED TO THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR).
3. ALL UNDERGROUND UTILITY LOCATIONS, INCLUDING WATER, STORM DRAINAGE, SANITARY SEWER, ELECTRICAL, TELEPHONE AND GAS WERE TAKEN FROM AVAILABLE RECORDS AND FIELD VERIFIED WHERE POSSIBLE. THE LOCATION OF ALL UTILITIES SHOWN ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES BY HAND-DIGGING TEST PITS PRIOR TO COMMENCING WORK. REPORT ANY DISCREPANCY TO COTR.
4. ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE INSTALLED BEFORE THE START OF ANY EXCAVATION AND/OR DEMOLITION AS PER DISTRICT OF COLUMBIA EROSION AND CONTROL HANDBOOK. IF ANY ONSITE INSPECTION REVEALS FURTHER EROSION CONTROL MEASURES ARE NECESSARY, THE SAME SHALL BE PROVIDED.
5. NOTE PROXIMITY OF ADJACENT STRUCTURES AND UTILITY LINES. CONTINUED SERVICE OF ALL STRUCTURES AND UTILITIES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS. COORDINATE WITH RESPECTIVE UTILITY COMPANIES AND COTR, SHOULD INTERRUPTION OR RELOCATION OF SERVICE BE REQUIRED.
6. REMOVAL OF ALL FENCES SHALL INCLUDE THE REMOVAL OF THEIR FOUNDATION UNLESS OTHERWISE INDICATED ON THESE DRAWINGS.
7. CONTRACTOR IS RESPONSIBLE FOR LAYOUT, EXTENT AND DESIGN OF SHEETING, SHORING AND SUPPORT OF EXISTING UTILITIES AND ADJACENT STRUCTURES, SHORING, BRACING AND UNDERPINNING SHALL BE DESIGNED BY A STRUCTURAL ENGINEER, LICENSED IN THE DISTRICT OF COLUMBIA, HIRED BY THE CONTRACTOR AS NECESSARY TO ENSURE SUPPORT OF SURROUNDING STRUCTURES AND UTILITIES.
8. PROVIDE PRE-CONSTRUCTION VIDEO OF EXISTING PAVEMENT ON ZOO TRAILS.
9. CONTRACTOR IS TO SAVE TWO LARGE PIECES OF COTTONWOOD AS "DEAD FALL" TO BE INSTALLED AS PERCHING IN THE HORNBILL STALLS AND HOLDING YARD. LOCATION TO BE COORDINATED IN THE FIELD WITH SMITHSONIAN ANIMAL CARE STAFF.
10. CONTRACTOR TO ESTABLISH METAL DEBRIS COLLECTION PROTOCOL DURING CONSTRUCTION INCLUDING A MAGNET TO ENSURE ALL METAL PIECES HAVE BEEN REMOVED.

TREES TO BE REMOVED

T201	17"	COTTONWOOD
T202	18"	COTTONWOOD
T203	15"	COTTONWOOD
T204	16"	COTTONWOOD
T205	17"	COTTONWOOD
T206	10"	COTTONWOOD
T207	30"	COTTONWOOD
T208	19"	WHITE MULBERRY
T213	20"	COTTONWOOD
T214	28"	COTTONWOOD

KEYNOTES:

1. EXISTING FENCE TO REMAIN
2. EXISTING BUILDING TO REMAIN
3. EXISTING CONCRETE PAD AROUND HYDRANT AND DRINKER TO BE DEMOLISHED AND REPLACED
4. EXISTING CONCRETE PAD TO REMAIN
5. EXISTING WATERLINE TO REMAIN
6. KEYNOTE NO LONGER USED
7. ELECTRIC LINE TO REMAIN
8. BEGIN EXISTING FENCE TO BE REPLACED
9. EXISTING CURB TO BE CUT TO 4"

RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

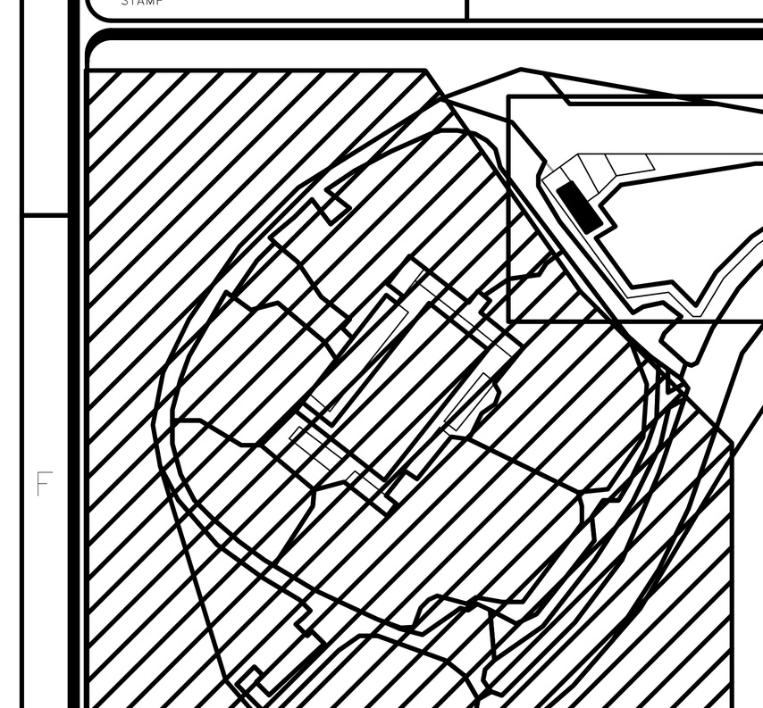
FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

Bowman
13461 Sunrise Valley Drive, Suite 500
Herndon, VA 20171
Phone: (703) 464-1000
Fax: (703) 481-9720
www.bowman.com

DISTRICT OF COLUMBIA · BRADLEY GLATFELTER · No. 907970 · REGISTERED PROFESSIONAL ENGINEER

STAMP



KEY PLAN

10 5 0 10 20
GRAPHIC SCALE
1" = 10'

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI - 001 & ASI - 002)
5	01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

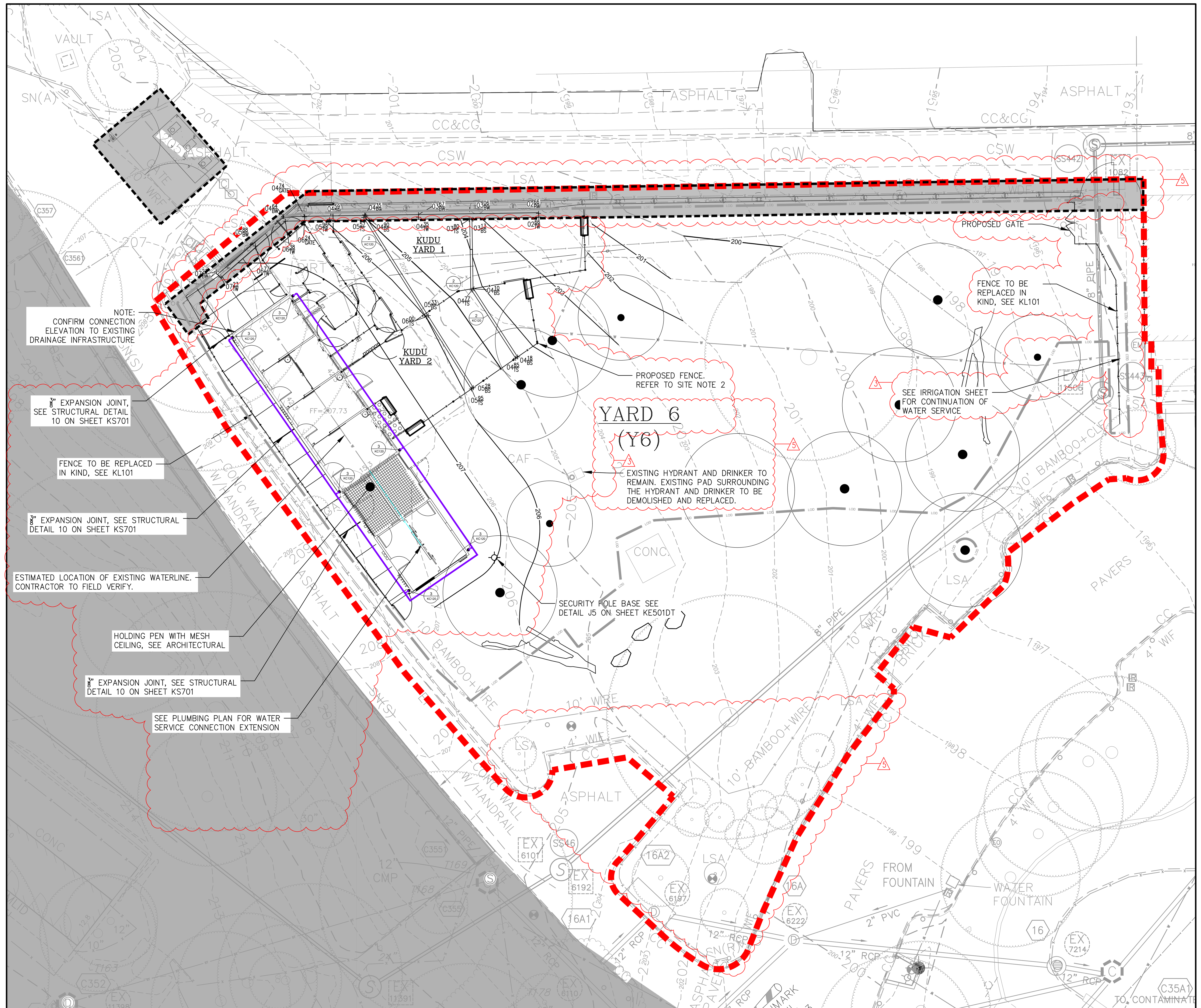
Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	DEMOLITION PLAN
WORKING STAFF	DESIGNED BY EP / DRAWN BY KM / CHECKED BY BG
SHEET NO. 2 OF 29	KC (DISCIPLINE) 1 (TYPE) 10 (SEQUENCE) CD (DRAWING TYPE)

8/9/2023 11:57:49 AM
-XX-## BY Approver Enter Issue Date KUDU MOD 4 100%

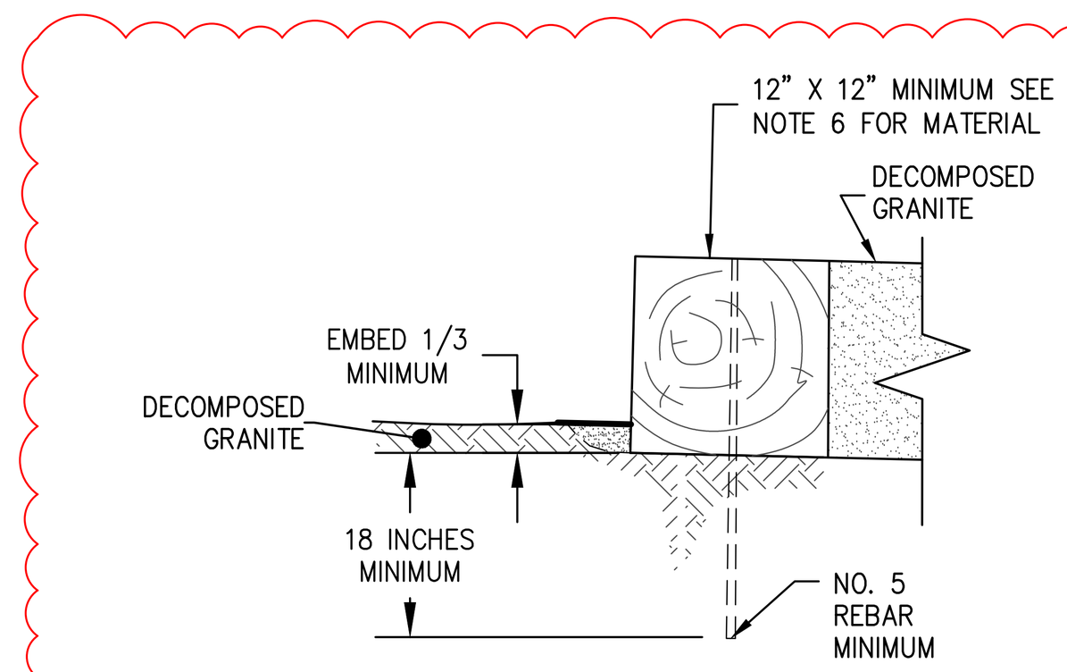
RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

FOR CONSTRUCTION



1 KC120 PROPOSED SITE PLAN KUDU YARD (Y6)

SCALE 1:10



NOTES:

1. PRE-DRILL HOLES FOR REBAR TO PREVENT SPLITTING OF LOGS OR SAWN TIMBERS. RECESS END OF REBAR 1/2 INCH BELOW TOP OF TIMBER.
2. PLACE REBAR 6 INCHES FROM EACH END OF TIMBER WITH MAXIMUM SPACING OF 36 INCHES. FOR STACKED RETAINERS STAGGER JOINTS 24 INCHES MINIMUM.
3. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
4. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
5. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.
6. TIMBER MATERIAL TO BE PRESSURE TREATED OAK.
7. TREATMENT OF THE TIMBERS MUST BE NON-TOXIC AND SAFE FOR ANIMALS. PRODUCT TO BE APPROVED BY ANIMAL CARE STAFF AND THE COTR.

2 KC120CS TIMBER STEP TYPICAL SECTION

SCALE 1:1

LEGEND

	EXISTING TREE
330	PROPOSED CONTOUR
330	EXISTING CONTOUR
	EXISTING WATER LINE
	PROPOSED WATER LINE
X	FENCE LINE TO BE REPLACED IN KIND
	PROPOSED STORM SEWER STRUCTURE
(XX)	PROPOSED STORM DRAIN IDENTIFIER
XX.XX +	PROPOSED SPOT ELEVATION
XX.XX BW +	PROPOSED BOTTOM OF WALL SPOT ELEVATION
XX.XX TW +	PROPOSED TOP OF WALL SPOT ELEVATION
XX.XX TS +	PROPOSED TOP OF STEP SPOT ELEVATION
XX.XX BS +	PROPOSED BOTTOM OF STEP SPOT ELEVATION
	PROPOSED STORM LINE
	LIMITS OF PROJECT
	PROPOSED MANAGEMENT YARD SUBSTRATE 9" DEPTH WASHED DECOMPOSED GRANITE
	PROPOSED PAVING – CONCRETE
	FUTURE WORK BY OTHERS – RETAINING WALL TO BE INCLUDED IN STAMPED SECURITY FENCE PACKAGE
	RENEW CHEETAH CONSERVATION STATION – AFRICA TRAIL PROJECT
	PROPOSED TREE
CAF	CONCRETE ANIMAL FEEDER
CC	CONCRETE CURB
CLF	CHAIN LINK FENCE
CSW	CONCRETE SIDEWALK
LSA	LANDSCAPE AREA
SN	SIGN
WDF	WOOD FENCE
WIF	WROUGHT IRON FENCE
LOD	LIMITS OF DISTURBANCE

SITE NOTES:

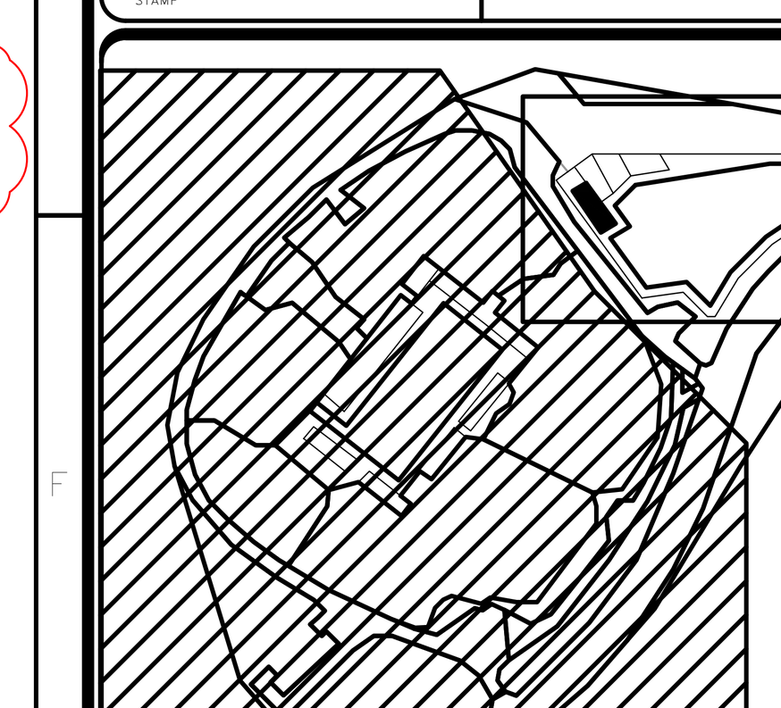
1. WHERE NEW WORK MEETS EXISTING, NOTE FIELD LOCATION AND ELEVATIONS OF EXISTING FEATURES BEFORE BEGINNING CONSTRUCTION AND REPORT ANY DISCREPANCY TO COTR.
2. CONTRACTOR IS TO VERIFY LOCATION OF EXISTING UTILITIES BEFORE PROCEEDING WITH WORK. NOTIFY, COTR AND DC WATER (202-787-4299) BEFORE PROCEEDING WITH ANY EXCAVATIONS. HAND DIG TEST PITS AT ALL UTILITY CROSSINGS AND DETERMINE EXACT CLEARANCE OF ALL PROPOSED INSTALLATIONS WELL IN ADVANCE OF CONSTRUCTION. NOTIFY COTR OF ANY CONFLICTS WITH PLAN ELEVATIONS.
3. ELEVATIONS SHOWN HEREON ARE BASED ON D.C. DATUM.
4. EXISTING SURFACE CONDITIONS DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO MATCH EXISTING CONDITIONS. CONTRACTOR TO COORDINATE EXTENT WITH COTR.
5. IF A 1' MINIMUM VERTICAL CLEARANCE CAN NOT BE MAINTAINED AT UTILITY CROSSING, THE CONTRACTOR IS TO NOTIFY COTR BEFORE PROCEEDING WITH WORK.
6. ALL DEBRIS AND EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED OFF-SITE LOCATION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING SIDEWALK, CURB AND GUTTER TO REMAIN OR TO REPLACE SIDEWALK, CURB AND GUTTER DAMAGED DURING CONSTRUCTION.
8. CONTRACTOR TO ENSURE DOORS SWING ADEQUATELY THROUGH MICRO GRADING.
9. CONDUIT IS INCLUDED IN BASE BID. CONDUCTORS ARE NOT IN BASE BID, AND WILL BE PROVIDED AS PART OF THE RENEW CHEETAH CONSERVATION STATION – AFRICA TRAIL PROJECT.
10. PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR RETAINING WALL IN STAMPED SECURITY FENCE PACKAGE AS A SUBMITTAL FOR REVIEW AND APPROVAL BY COTR.
11. REFER TO SHEET KL102PP FOR PLANTING PLAN.

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

Bowman
13461 Sunrise Valley Drive, Suite 500
Herndon, VA 20171
Phone: (703) 464-1000
Fax: (703) 481-9720
www.bowman.com

DISTRICT OF COLUMBIA — BRADLEY GLATFELTER — No. 907970 — REGISTERED PROFESSIONAL ENGINEER

STAMP



KEY PLAN

GRAPHIC SCALE 1" = 10'

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI – 003 (SEE PROJECT NO. 2033120 FOR ASI – 001 & ASI – 002)
5	01/16/24	ASI – 005 (SEE PROJECT NO. 2033120 FOR ASI – 004)

Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	OVERALL SITE PLAN

DESIGNED BY	DRAWN BY	CHECKED BY
EP	KM	BG

SHEET NO.	DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
3 OF 29	KC	120		CS

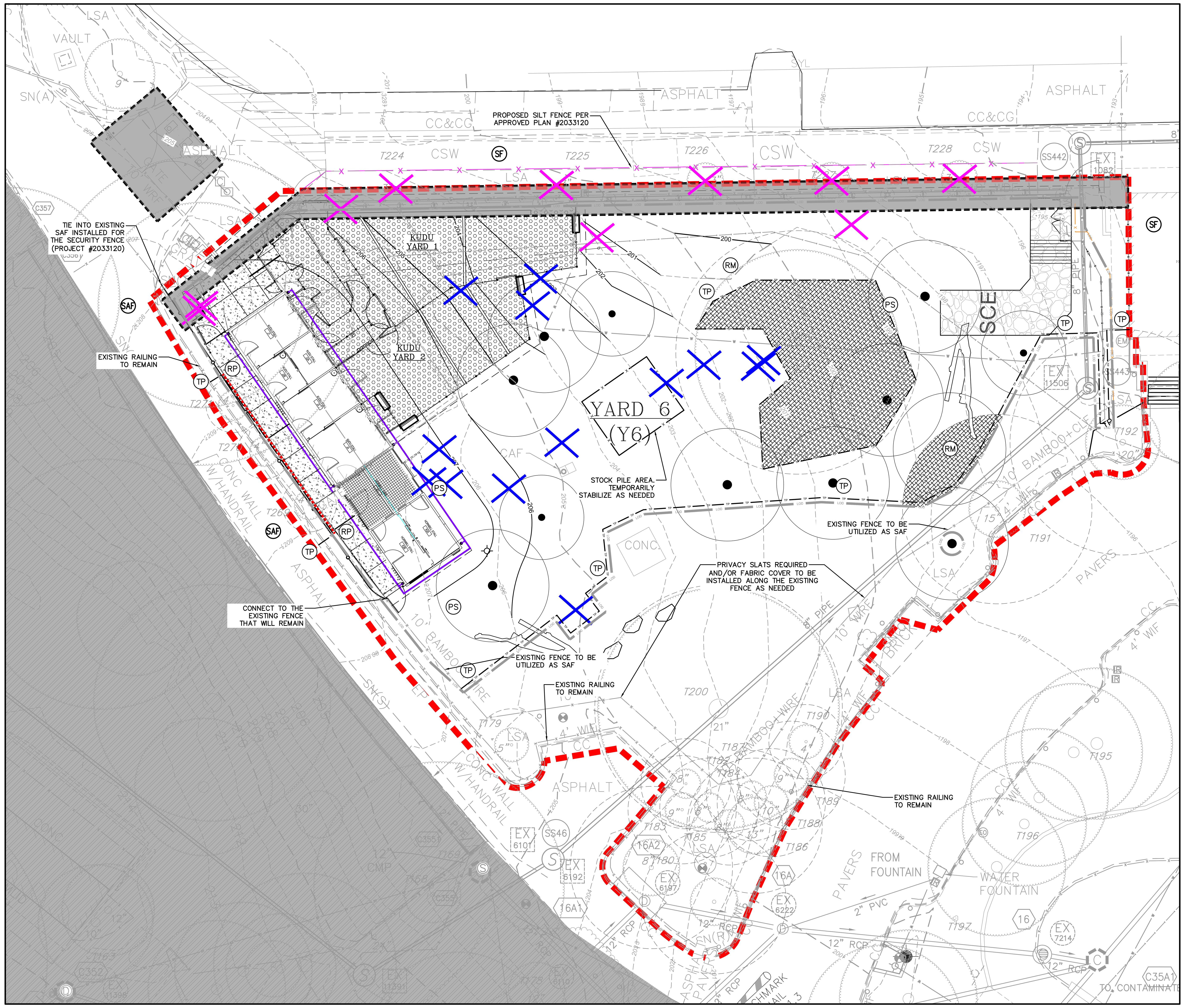
RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

Bowman
13461 Sunrise Valley Drive, Suite 500
Herndon, VA 20171
Phone: (703) 464-1000
Fax: (703) 481-9720
www.bowman.com

DISTRICT OF COLUMBIA – BRADLEY GLATFELTER – No. 907970 – REGISTERED PROFESSIONAL ENGINEER



1 KC130CSC **EROSION AND SEDIMENT CONTROL PLAN**
SCALE 1:10

LEGEND

LIMITS OF DISTURBANCE	— LOD — LOD —	
SILT FENCE PROPOSE IN THIS PLAN	—— x ——	SF, 3 / KC 501 DT
SILT FENCE PER APPROVED PLAN #2033120	—— x ——	SF, 3 / KC 501 DT
SAFETY FENCE (6' CHAIN LINK FENCE)	—— o ——	SAF, 2 / KC 501 DT
ROOT MATTING	RM	
TREE PROTECTION	—— TP ——	2 / KC 501 DT
STABILIZED CONSTRUCTION ENTRANCE	SCE, WASH RACK	1 / KC 501 DT
PERMANENT SEEDING	PS	REFER TO LANDSCAPE ARCHITECT FOR SPECIFICATIONS
KUDU PROJECT LIMITS		
FENCE BY OTHERS – UNDER SEPARATE PERMIT		
RENEW CHEETAH CONSERVATION STATION – AFRICA TRAIL PROJECT		

EROSION AND SEDIMENT CONTROL NARRATIVE - PHASE 1:

CONSTRUCTION ENTRANCE SHALL BE PLACED AS SHOWN ON PLAN IN THE CORNER OF YARD 6. ANY FENCE THAT IS LOCATED WITHIN THIS ENTRANCE SHALL BE REMOVED. ONCE THE CONSTRUCTION ENTRANCE IS ESTABLISHED, PERIMETER SAFETY FENCE WILL BE INSTALLED AS SHOWN AROUND OUTSIDE THE EXISTING FENCE TO PROTECT THE PUBLIC FROM ENTERING THE SITE. THIS WILL FOLLOW PRIMARILY AROUND YARD. A PRE-CONSTRUCTION MEETING MUST BE HELD WITH THE DOEE INSPECTOR PRIOR TO COMMENCEMENT OF WORK. PRIOR TO ANY DEMOLITION, ENSURE ALL E&S CONTROL MEASURES ARE INSTALLED. TEMPORARILY SEED ANY DISTURBED AREAS THAT HAVE NOT REACHED FINAL GRADE, STOCKPILES, OR ANY AREA BEING LEFT IDLE BETWEEN CONSTRUCTION PHASES.

EROSION AND SEDIMENT CONTROL NARRATIVE-DEMO:

INSTALL SAFETY FENCE AROUND PROJECT SITE. LOADING OF DEBRIS WILL TAKE PLACE WITHIN THE PROJECT SITE. CONTROLS TO BE INSTALLED PRIOR TO COMMENCEMENT OF DEMOLITION AND REMOVED AFTER STABILIZATION. CONTACT DC DEPT. OF ENERGY AND ENVIRONMENT, WATERSHED PROTECTION DIVISION AT 202-535-2977 TO SCHEDULE PRE-CONSTRUCTION MEETING.

SEQUENCE OF CONSTRUCTION - DEMO:

1. PRIOR TO INSTALLING SEDIMENT CONTROL MEASURES OR GRADING, A PRE-CONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE DEPARTMENT OF ENERGY AND ENVIRONMENT (DOEE), WATERSHED PROTECTION DIVISION. CONTRACTOR TO CALL (202) 535-2977 TO SCHEDULE THE MEETING. INSPECTOR, THE OWNERS REPRESENTATIVE, THE SITE ENGINEER, AND CONTRACTOR SHALL BE PRESENT AT THE MEETING.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE FOR ACCESS TO SITE.
3. THE LIMITS OF DISTURBANCE FOR THE DEMOLITION PHASE SHALL BE FIELD MARKED PRIOR TO LAND EXCAVATION AND INSTALLATION OF SEDIMENT CONTROL MEASURES.
4. INSTALL SEDIMENT CONTROL DEVICES SUCH AS SAFETY FENCE AND TREE PROTECTION.
5. INSTALL INLET PROTECTION ON DOWNSTREAM INLETS SHOULD EXCESSIVE SEDIMENT LEAVE THE SITE.
6. CONTRACTOR TO ENSURE SEDIMENT CONTROL DEVICES ARE MAINTAINED AND KEPT IN WORKING ORDER THROUGHOUT DURATION OF CONSTRUCTION.
7. DISCONNECT ALL EXISTING UTILITY SERVICES FROM THE BUILDING AS REQUIRED. CONTRACTOR TO FOLLOW STANDARD DEMOLITION PROCEDURE FOR EACH RESPECTIVE UTILITY COMPANY.
8. IF PORTIONS OF THE BUILDING ARE TO BE REMOVED, EXPOSED SURFACE AREAS SHALL BE COVERED WITH BRICKBAT FOR GROUND COVER AND STABILIZED.
9. CONTRACTOR TO BEGIN SITE DEMOLITION. SITE FEATURES TO BE REMOVED AS SHOWN ON DEMOLITION PLAN.
10. ALL DEMOLISHED DEBRIS AND EXCAVATED MATERIALS MUST BE HAULED OFF SITE AND DISPOSED OF IN AN APPROVED LOCATION.

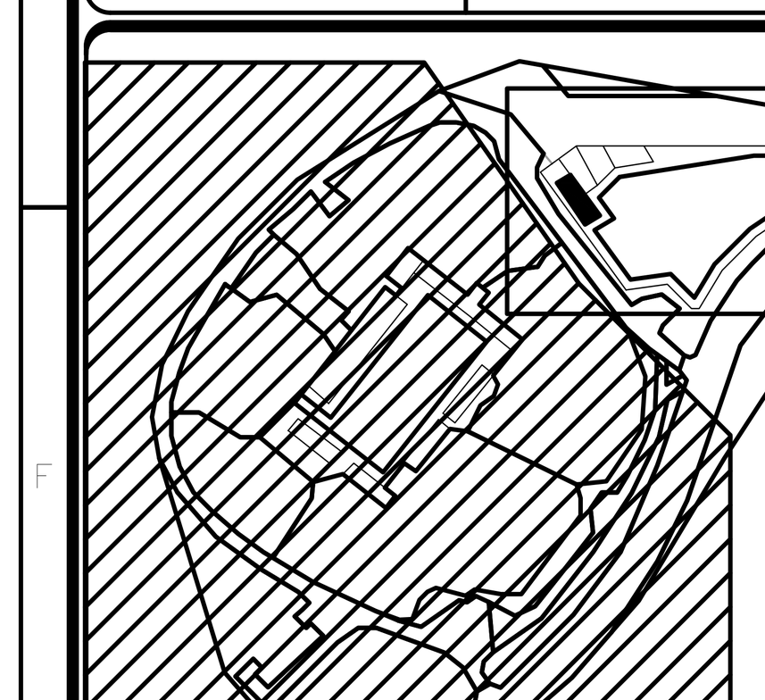
EROSION AND SEDIMENT CONTROL NOTES - DEMO:

1. CONTACT DC WATERSHED PROTECTION DIVISION AT 202-535-1364 TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO MOBILIZATION.
2. THE APPLICANT MUST NOTIFY THE DEPARTMENT OF ENERGY & ENVIRONMENT BY PHONE (202-535-2250) AT LEAST 24 HOURS PRIOR TO START OF GRADING ACTIVITY AND WITHIN TWO (2) WEEKS AFTER COMPLETION OF PROJECT TO REQUEST INSPECTION. IF THERE IS NEED TO MAKE CHANGES OR MODIFICATIONS IN THE APPROVED DESIGN, DEPARTMENT OF THE ENVIRONMENT MUST BE NOTIFIED IMMEDIATELY.
3. CONTRACTOR TO MAINTAIN ON-SITE STAMPED AND SIGNED, SEDIMENT AND EROSION CONTROL DRAWINGS APPROVED BY THE DEPARTMENT OF ENERGY & ENVIRONMENT, WATERSHED PROTECTION DIVISION.
4. NO LATER THAN THE FIRST DAY OF CONSTRUCTION INSTALL SITE ACCESS MEASURES TO MINIMIZE OFF-SITE VEHICLE TRACKING OF SEDIMENTS. EACH CONSTRUCTION ENTRANCE MUST BE STABILIZED AND INCLUDE EACH ADDITIONAL MEASURE REQUIRED TO KEEP SEDIMENT FROM BEING CARRIED ONTO PUBLIC STREETS BY CONSTRUCTION VEHICLES AND WASHED INTO A STORM DRAIN OR WATERWAYS.
5. ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES.
6. DURING CONSTRUCTION ACTIVITIES CONTRACTOR SHALL PERFORM ROUTINE MAINTENANCE TO PREVENT ANY NEW DESTABILIZED AREAS AND SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES IF REQUIRED BY INSPECTOR.
7. SEDIMENT AND EROSION CONTROL MEASURES SHALL NOT BE REMOVED WITHOUT COMPLETE SITE STABILIZATION AND APPROVAL FROM THE INSPECTOR.

UNDERGROUND UTILITY WORK NOTES:

1. WHEN CONDUCTING UNDERGROUND UTILITY WORK DO NOT OPEN MORE THAN FIVE HUNDRED LINEAR FEET (500 FT) OF TRENCH AT ANY ONE TIME.
2. FILTER WATER PUMPED OUT OF TRENCH EXCAVATIONS PRIOR TO DISCHARGING TO THE STORM SYSTEM.
3. PLACE EXCAVATED MATERIAL FOR UTILITY WORK ON THE UPHILL SIDE OF A TRENCH.
4. INSTALL INTERIM OR PERMANENT STABILIZATION IMMEDIATELY AFTER A UTILITY TRENCH IS REFILLED.
5. STEEL PROTECTION PLATES SHALL BE USED BY CONTRACTOR TO PROTECT OPEN EXCAVATED AREAS. ALL OPEN TRENCHES IN THE PUBLIC SPACE WHICH ARE NOT BACKFILL AND COMPACTED BY THE END OF EACH WORK DAY SHALL BE PLATED.

EXACT LOCATION OF CONSTRUCTION ENTRANCE WILL BE DETERMINED IN CONSULTATION WITH THE CONTRACTOR TO ENSURE ADEQUATE SITE ACCESS WHILE MINIMIZING IMPACTS TO ZOO EXPERIENCE AND OPERATIONS.



KEY PLAN

10 5 0 10 20
GRAPHIC SCALE 1" = 10'

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

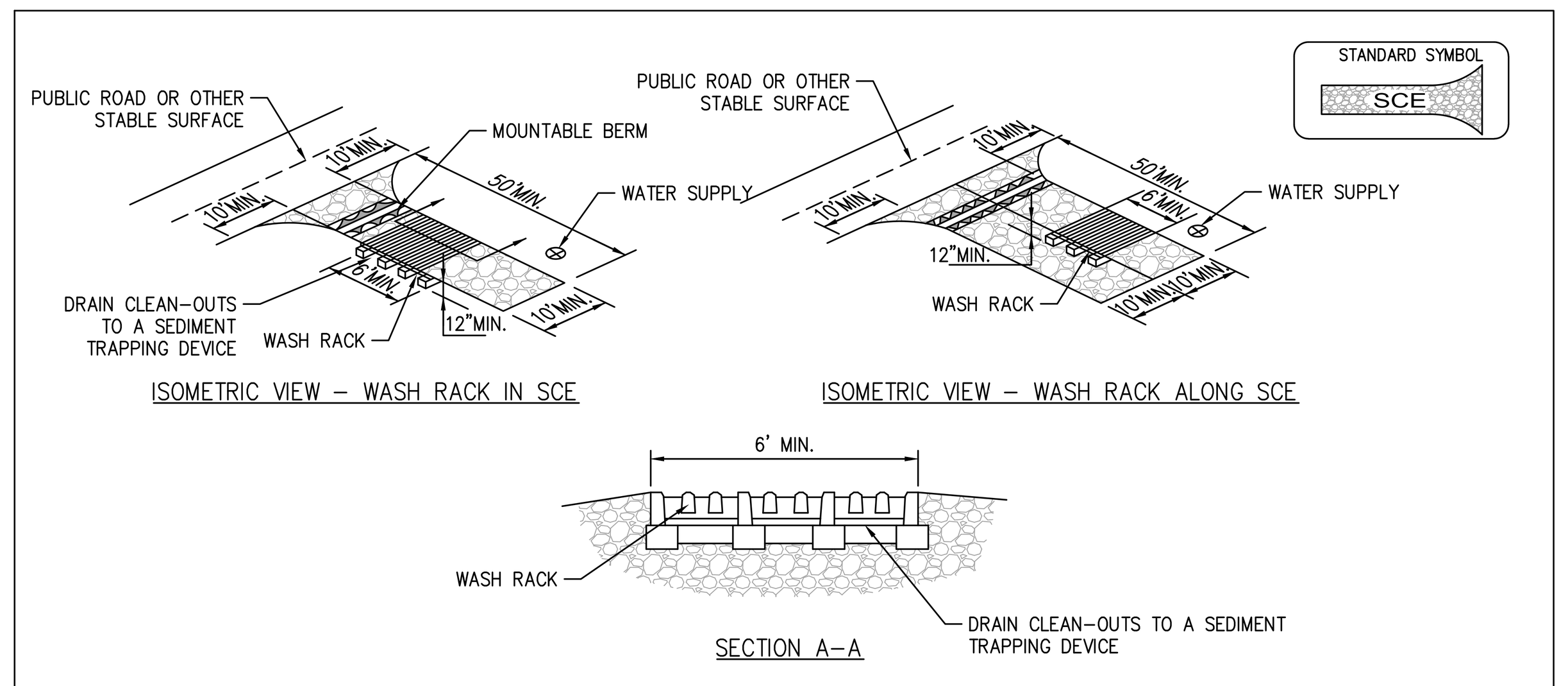
REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI – 003 (SEE PROJECT NO. 2033120 FOR ASI – 001 & ASI – 002)
5	01/16/24	ASI – 005 (SEE PROJECT NO. 2033120 FOR ASI – 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	EROSION AND SEDIMENT CONTROL PLAN

DESIGNED BY	DRAWN BY	CHECKED BY
EP	KM	BG

SHEET NO.	DISCIPLINE	TYPE / SEQUENCE	DRAWING TYPE
4 OF 29	KC	130	CSC



CONSTRUCTION SPECIFICATIONS

1. USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE, USE MINIMUM DIMENSION OF 5 FEET x 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL. APPROACHES TO THE WASH RACK SHOULD BE A MINIMUM OF 25 FEET ON BOTH SIDES.
2. INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE SCE.
3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
4. KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT IF DAMAGED, REPAIR OR REPLACE WASH RACK.

DATE | APPR | REVISED | ISSUED: | REFERENCE

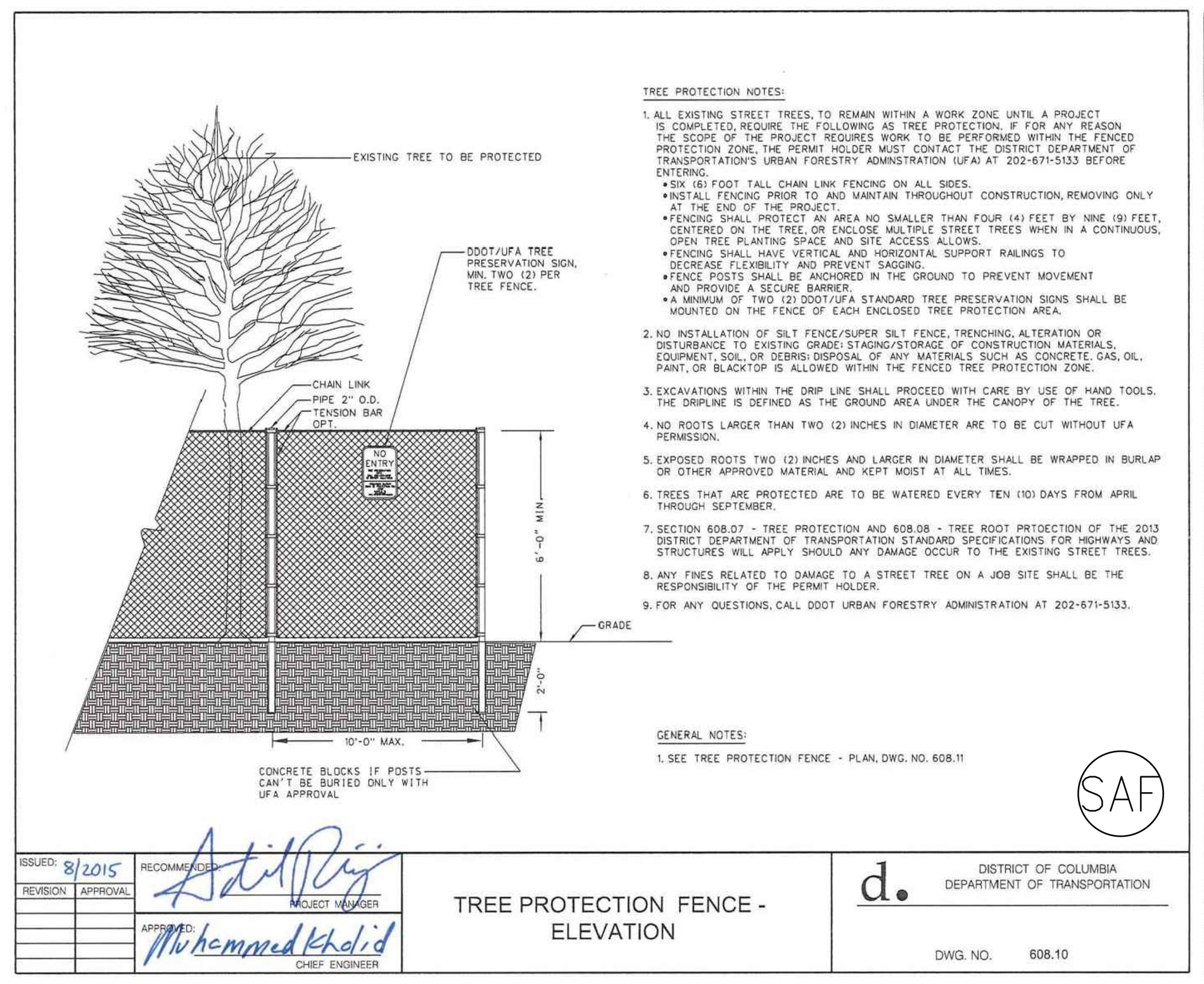
STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK

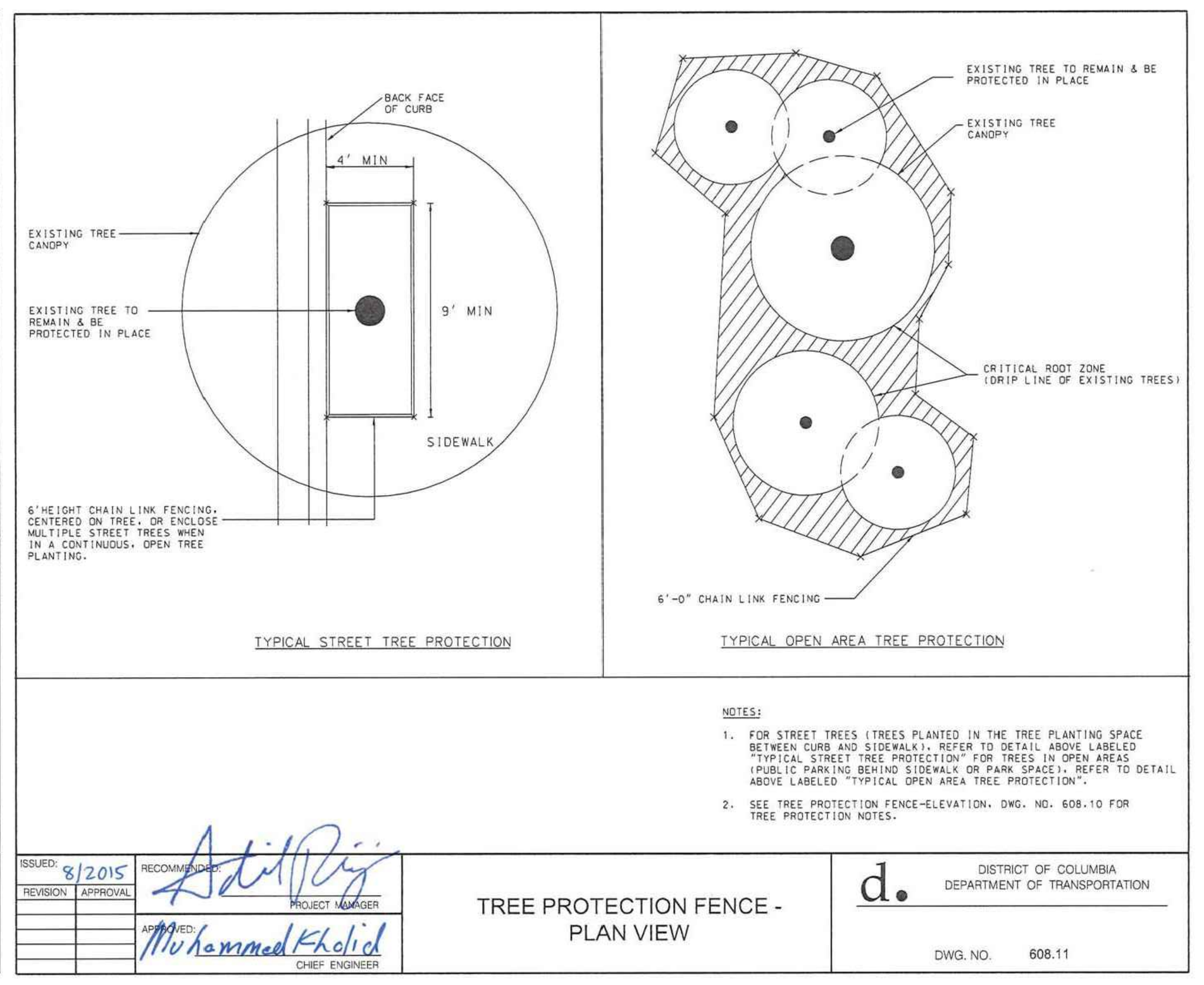
DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

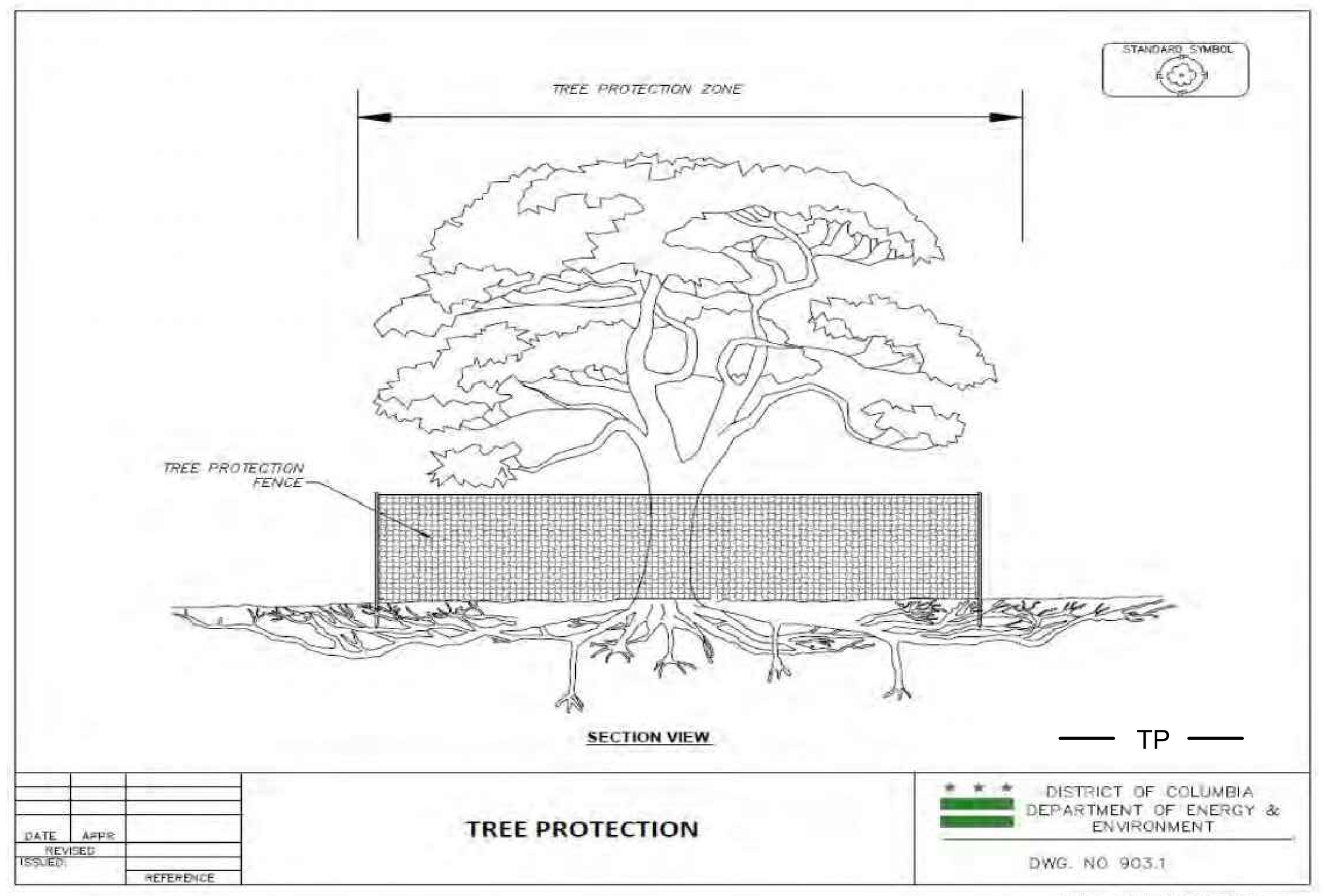
DWG. NO. 202.1

1 (KC130CSC) STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK

SCALE : NTS



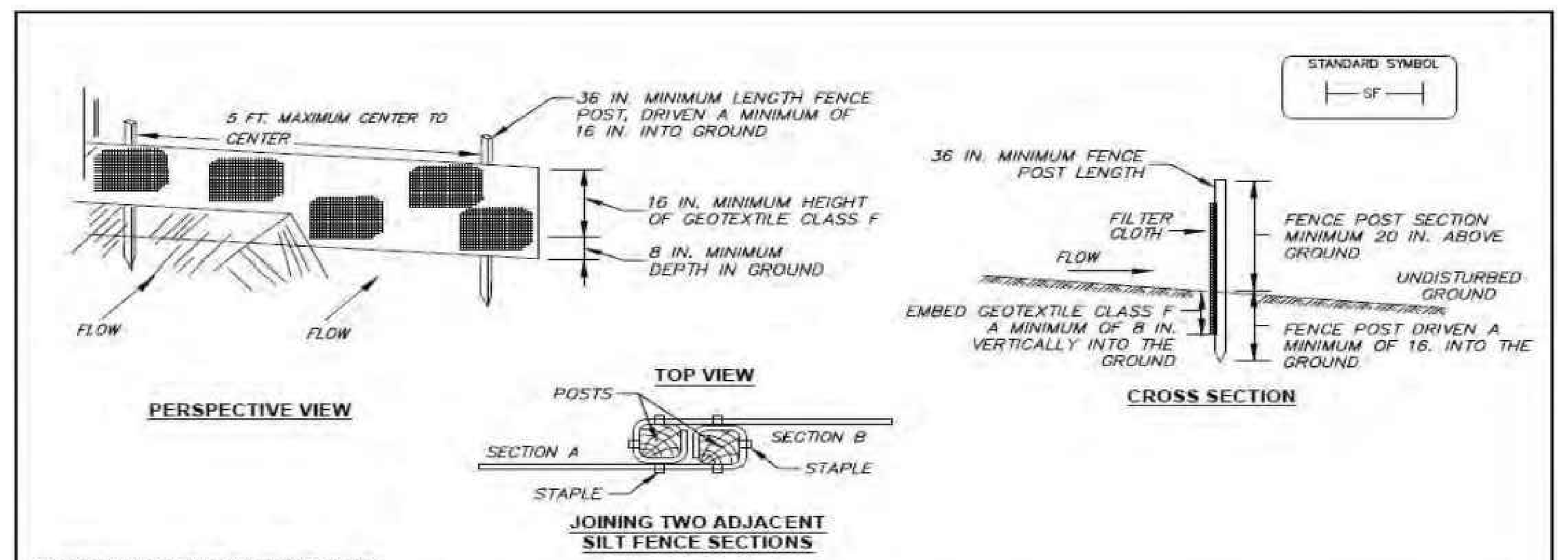




Detail 77 – 903.1 Tree Protection

2 (KC130CSC) TREE PROTECTION

SCALE : NTS



CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS MUST BE A MINIMUM OF 36 IN. LONG DRIVEN 16 IN. MINIMUM INTO THE GROUND. WOOD POSTS MUST BE OF SOUND QUALITY HARDWOOD WITH 1–1/2 IN. MINIMUM WIDTH WHEN SQUARE CUT, OR 1–3/4 IN. MINIMUM DIAMETER WHEN ROUND. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
2. FASTEN GEOTEXTILE SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION AND MUST MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F (FROM TABLE 3.2–SEE BELOW):

PROPERTY	VALUE	TEST METHOD
TENSILE STRENGTH	50 LBS/IN (MIN.)	ASTM D–4595
TENSILE MODULUS	20 LBS/IN (MIN.)	ASTM D–4595
FLOW RATE	0.3 GAL/FT² /MINUTE (MAX.)	ASTM D–5141
FILTERING EFFICIENCY	75% (MIN.)	ASTM D–5141

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, OVERLAP, FOLD, AND STAPLE THEM TO PREVENT SEDIMENT BYPASS.
4. INSPECT SILT FENCE AFTER EACH RAINFALL EVENT, AT LEAST DAILY DURING SUSTAINED RAINFALL EVENTS, AND MAINTAIN WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 30% OF THE FABRIC HEIGHT.

DATE | APPR | REVISED | ISSUED: | REFERENCE

SILT FENCE-1

DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 301.1

3 (KC130CSC) SILT FENCE

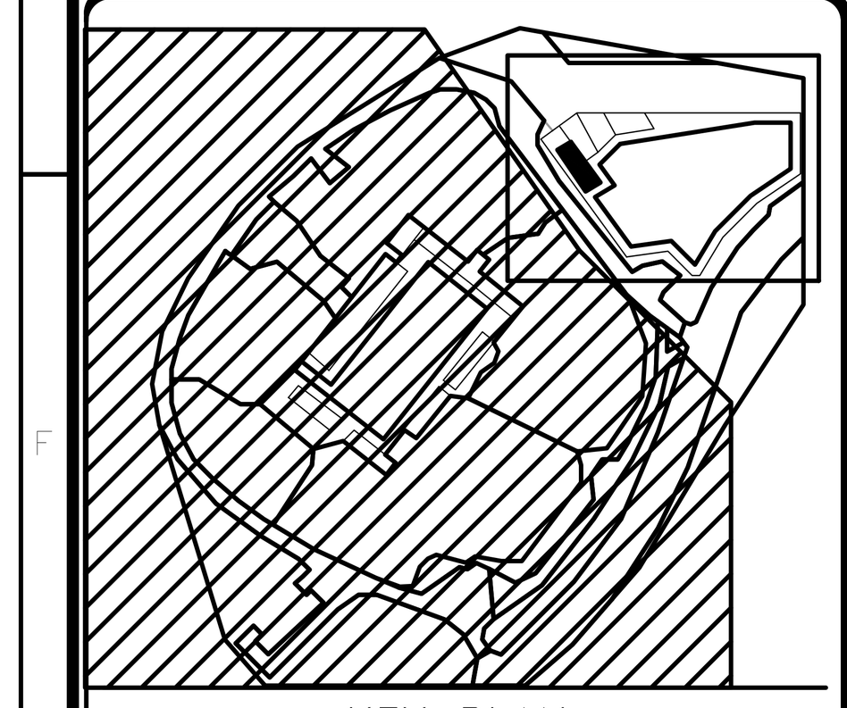
SCALE : NTS

RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com

Bowman
13461 Sunrise Valley Drive, Suite 500
Herndon, VA 20171
Phone: (703) 464-1000
Fax: (703) 481-9720
www.bowman.com



KEY PLAN

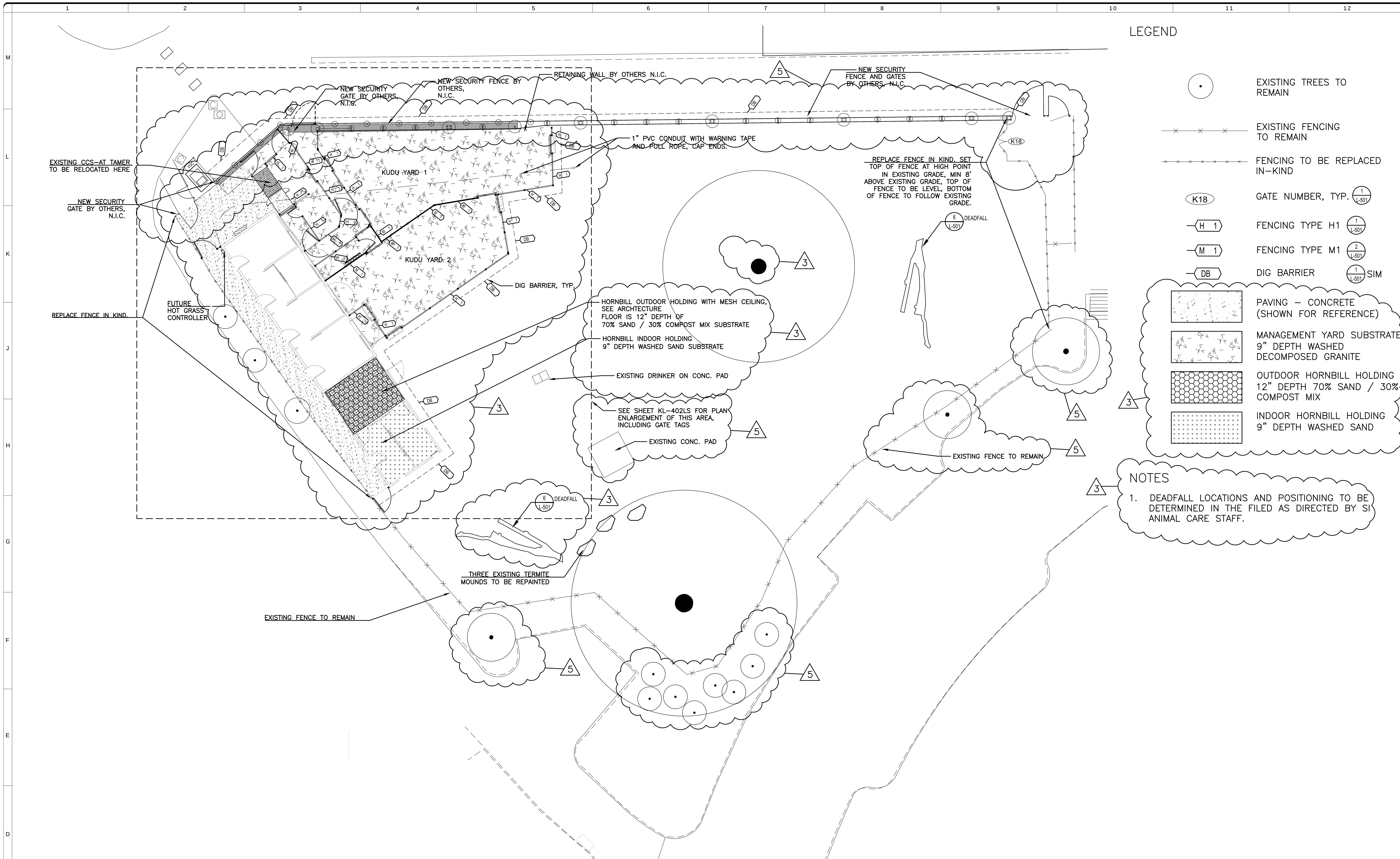
GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI – 003 (SEE PROJECT NO. 2033120 FOR ASI – 001 & ASI – 002)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	EROSION AND SEDIMENT CONTROL DETAILS
WORKING STAFF	EP (DESIGNED BY) / KM (DRAWN BY) / BG (CHECKED BY)
SHEET NO.	5 OF 29
DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE	KC / 501 / DT



1 L-101 KUDU YARD IMPROVEMENTS
SCALE = 1/8" = 1'-0'

RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE.
Washington DC 20003
202.544.1640
architravep.com

JONES & JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com

KEY PLAN

0 4' 8' 16'
1/8"=1'-0"
GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
003	11/03/23	ASI -003 (SEE PROJECT NO. 2033120 FOR ASI-001 & ASI-002)
005	01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU YARD IMPROVEMENTS

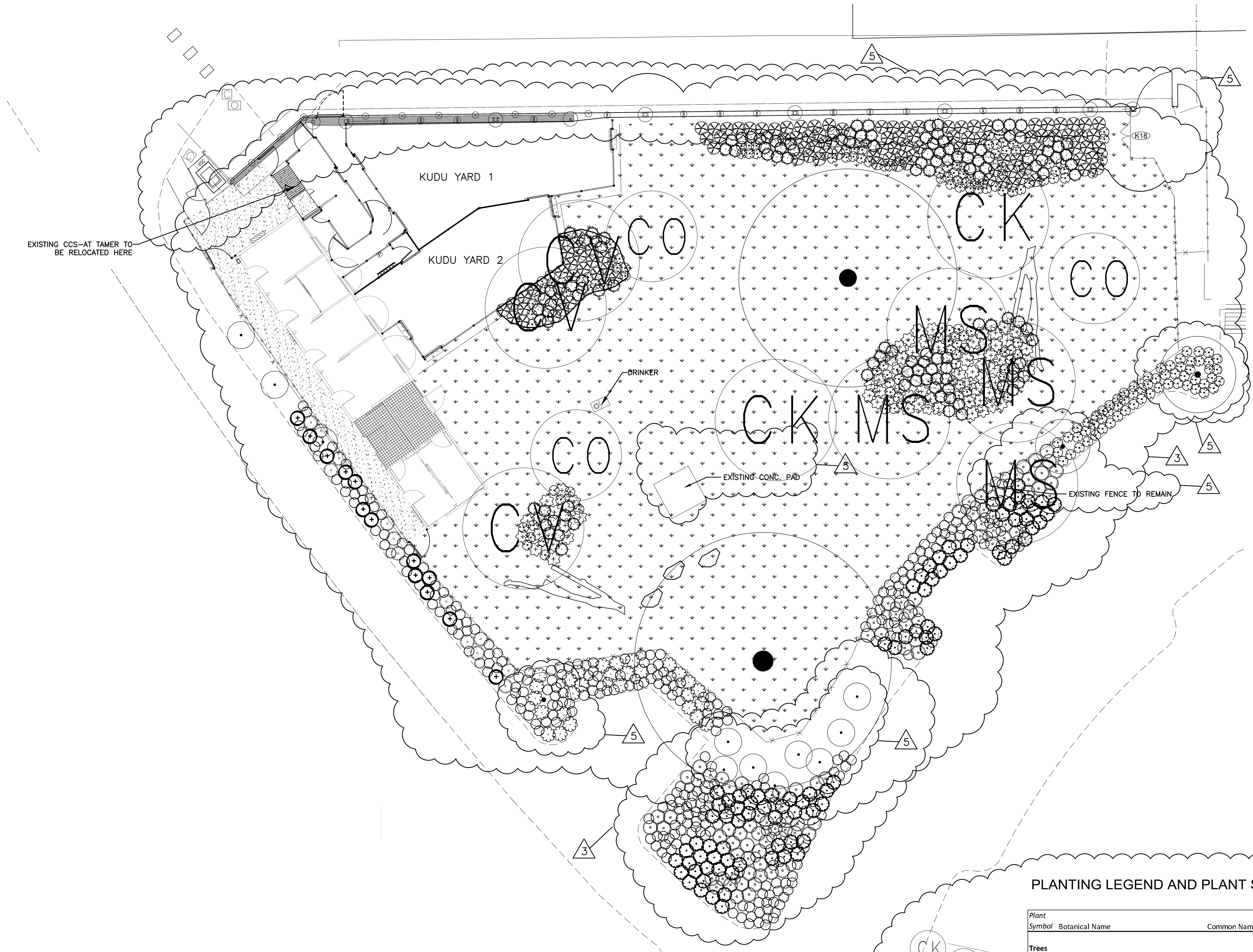
DESIGNED BY	DRAWN BY	CHECKED BY
DAD	MES	DAD

SHEET NO. 6 OF 29

DISCIPLINE	TYPE SEQUENCE	DRAWING TYPE
KL	101	LS

RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

FOR CONSTRUCTION



KUDU YARD PLANTING PLAN
SCALE = 1/8" = 1'-0'

LEGEND

EXISTING TREES TO REMAIN

NOTES

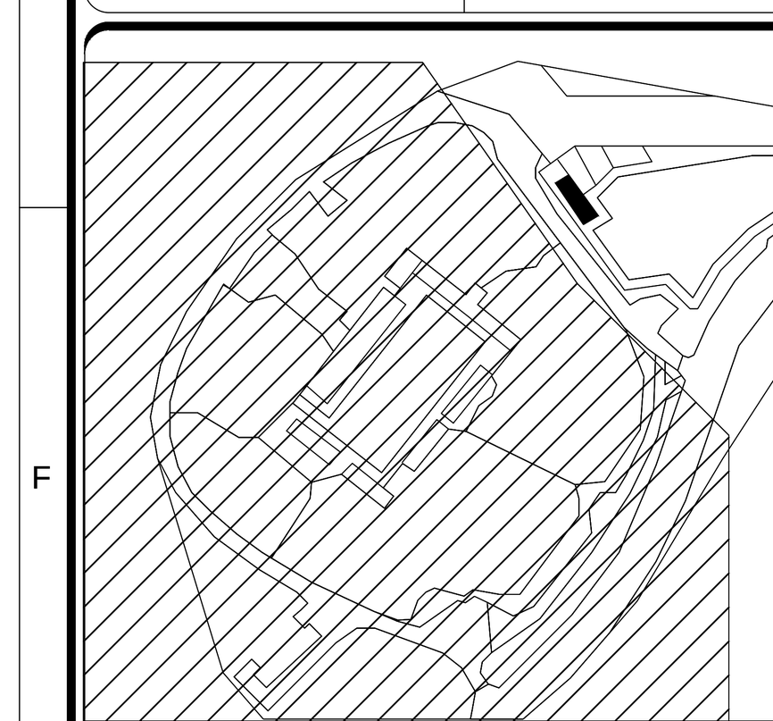
1. PRIOR TO PLANT AND GRASS SEED INSTALLATION, CONTRACTOR IS REQUIRED TO SWEEP THE ENTIRE SITE TO COLLECT ANY CONSTRUCTION DEBRIS (WOOD CUTS, PLASTICS, TRASH, ETC.). CONTRACTOR IS REQUIRED TO ALSO SWEEP THE ENTIRE SITE WITH A LARGE MAGNET TO COLLECT ANY METAL DEBRIS GENERATED AS PART OF THE CONSTRUCTION PROCESS. HORNBILLS IN PARTICULAR ARE NOTORIOUS FOR FINDING AND CONSUMING DROPPED BITS OF METAL AND CAN END UP WITH SERIOUS MEDICAL PROBLEMS AS A RESULT.
2. TWO LARGE PIECES OF COTTONWOOD DEAD FALL SALVAGED DURING DEMOLITION TO BE INSTALLED AS PERCHING IN THE HORNBILL STALLS AND HOLDING YARD. LOCATIONS TO BE DETERMINED IN THE FIELD AS DIRECTED BY SI ANIMAL CARE STAFF.

PLANTING LEGEND AND PLANT SCHEDULE

Plant Symbol	Botanical Name	Common Name	Size	Qty	Spacing	Notes
Trees						
CK	*Cladastris kentukea*	Yellowwood	2" cal.	2	as shown	
CO	*Celtis occidentalis*	Common Hackberry	2" cal.	3	as shown	
CV	*Chionanthus virginicus*	White Fringe Tree	4" cal.	3	as shown	
MS	*Magnolia stellata*	Star Magnolia	3" cal.	4	as shown	
Shrubs						
	Distylium 'Blue Cascade'	Blue Cascade Evergreen Distylium	5 gal	66	as shown	
	Salix purpurea 'Nana'	Purple Willow 'Nana'	5 gal	112	as shown	
Groundcovers and Perennials						
	Achillea millefolium 'Moonshine'	Moonshine Yarrow	5 gal	28	24" o.c.	
	Agastache 'Kudos'® - Coral	Coral Dwarf Hybrid Hyssop	1 gal	13	24" o.c.	
	Agastache aurantiaca 'Tango'	Tango Hybrid Hyssop	1 gal	13	24" o.c.	
	Amsonia taberaemontana	Blue Star	5 gal	90	24" o.c.	
	Hypericum calcyinum	St. John's Wort	1 gal	89	24" o.c.	
	Salvia hybrida 'Arctic Blaze'® Red	Salvia Arctic Blaze® Red		133		
Grasses for Shrub bed areas						
	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal	197	24" o.c.	
	Nassella tenuissima	Mexican Feather Grass	1 gal	312	24" o.c.	
Grasses for overseeding the Kudu Habitat - 12,300 s.f in total						
	Zoo Mix as supplied by Newsome Seed, Inc	APPROX. 12,135 s.f.				See Spec Section 329200 - Turf and Grasses

architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com

JONES & JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com



KEY PLAN

GRAPHIC SCALE(S)
0 4' 8' 16' — 1/8"=1'-0"
0 6" 1' 2' — 1"=1'-0"

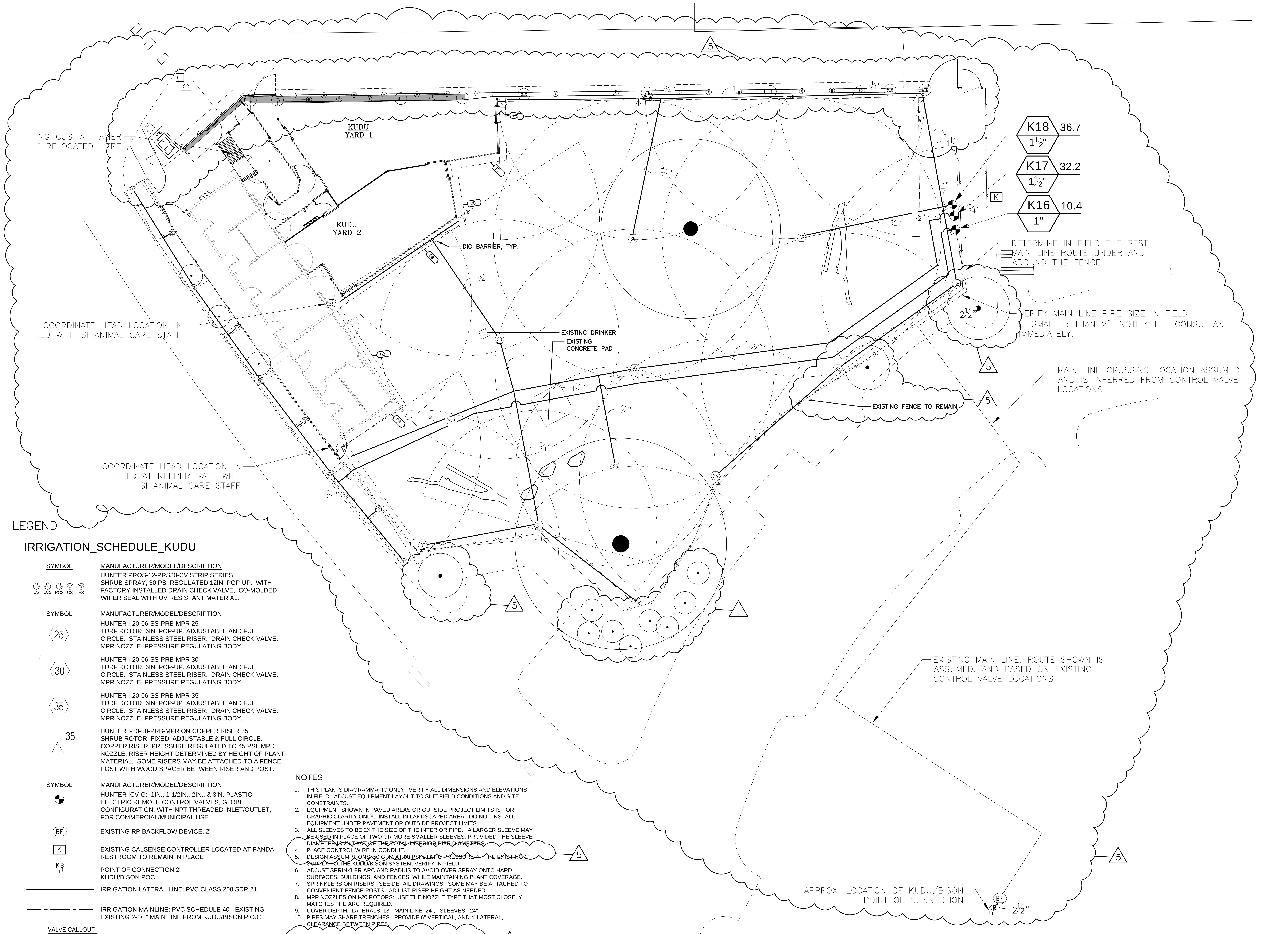
DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
003	11/03/23	ASI -003 (SEE PROJECT NO. 2033120 FOR ASI-001 & ASI-002)
005	01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU YARD PLANTING PLAN
DESIGNED BY	DAD
DRAWN BY	MES
CHECKED BY	DAD

SHEET NO. 7 OF 29 — KL 102 PP



LEGEND

IRRIGATION_SCHEDULE_KUDU

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
ES LCS RCS CS SS	HUNTER PROS-12-PRS30-CV STRIP SERIES SHRUB SPRAY, 30 PSI REGULATED 12IN. POP-UP. WITH FACTORY INSTALLED DRAIN CHECK VALVE. CO-MOLDED WIPER SEAL WITH UV RESISTANT MATERIAL.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
25	HUNTER I-20-06-SS-PRB-MPR 25 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. MPR NOZZLE. PRESSURE REGULATING BODY.
30	HUNTER I-20-06-SS-PRB-MPR 30 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. MPR NOZZLE. PRESSURE REGULATING BODY.
35	HUNTER I-20-06-SS-PRB-MPR 35 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE AND FULL CIRCLE. STAINLESS STEEL RISER. DRAIN CHECK VALVE. MPR NOZZLE. PRESSURE REGULATING BODY.
35	HUNTER I-20-00-PRB-MPR ON COPPER RISER 35 SHRUB ROTOR, FIXED. ADJUSTABLE & FULL CIRCLE. COPPER RISER. PRESSURE REGULATED TO 45 PSI. MPR NOZZLE. RISER HEIGHT DETERMINED BY HEIGHT OF PLANT MATERIAL. SOME RISERS MAY BE ATTACHED TO A FENCE POST WITH WOOD SPACER BETWEEN RISER AND POST.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G: 1IN., 1-1/2IN., 2IN., & 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
BF	EXISTING RP BACKFLOW DEVICE. 2"
K	EXISTING CALSENSE CONTROLLER LOCATED AT PANDA RESTROOM TO REMAIN IN PLACE
KB	POINT OF CONNECTION 2" KUDU/BISON POC
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21
	IRRIGATION MAINLINE: PVC SCHEDULE 40 - EXISTING EXISTING 2-1/2" MAIN LINE FROM KUDU/BISON P.O.C.

VALVE CALLOUT
- # — VALVE NUMBER
- # — VALVE FLOW
- #" — VALVE SIZE

VALVE SCHEDULE KUDU

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC	PRECIP
K16	Hunter ICV-G	1"	Shrub Spray	10.4	37.1		1.6 in/h
K17	Hunter ICV-G	1-1/2"	Turf Rotor	36.41	49.5	64.1	0.66 in/h
K18	Hunter ICV-G	1-1/2"	Turf Rotor	36.7	49.5	64.1	0.63 in/h

5

NOTES

1. THIS PLAN IS DIAGRAMMATIC ONLY. VERIFY ALL DIMENSIONS AND ELEVATIONS IN FIELD. ADJUST EQUIPMENT LAYOUT TO SUIT FIELD CONDITIONS AND SITE CONSTRAINTS.
2. EQUIPMENT SHOWN IN PAVED AREAS OR OUTSIDE PROJECT LIMITS IS FOR GRAPHIC CLARITY ONLY. INSTALL IN LANDSCAPED AREA. DO NOT INSTALL EQUIPMENT UNDER PAVEMENT OR OUTSIDE PROJECT LIMITS.
3. ALL SLEEVES TO BE 2X THE SIZE OF THE INTERIOR PIPE. A LARGER SLEEVE MAY BE USED IN PLACE OF TWO OR MORE SMALLER SLEEVES, PROVIDED THE SLEEVE DIAMETER IS 2X THAT OF THE TOTAL INTERIOR PIPE DIAMETERS.
4. PLACE CONTROL WIRE IN CONDUIT.
5. DESIGN ASSUMPTIONS: 50 GPM AT 80 PSI STATIC PRESSURE AT THE EXISTING 2" SUPPLY TO THE KUDU/BISON SYSTEM. VERIFY IN FIELD.
6. ADJUST SPRINKLER ARC AND RADIUS TO AVOID OVER SPRAY ONTO HARD SURFACES, BUILDINGS, AND FENCES, WHILE MAINTAINING PLANT COVERAGE.
7. SPRINKLERS ON RISERS: SEE DETAIL DRAWINGS. SOME MAY BE ATTACHED TO CONVENIENT FENCE POSTS. ADJUST RISER HEIGHT AS NEEDED.
8. MPR NOZZLES ON I-20 ROTORS: USE THE NOZZLE TYPE THAT MOST CLOSELY MATCHES THE ARC REQUIRED.
9. COVER DEPTH: LATERALS, 18"; MAIN LINE, 24"; SLEEVES: 24".
10. PIPES MAY SHARE TRENCHES. PROVIDE 6" VERTICAL, AND 4' LATERAL, CLEARANCE BETWEEN PIPES.

5

DIG BARRIER, TYP.
CONTRACTOR TO COORDINATE LATERAL AND MAINLINES WITH DIG BARRIER

1 KL-107 KUDU YARD IRRIGATION PLAN
SCALE = 1/8" = 1'-0'

RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
architrave p.c.
420 10th STR. SE
Washington DC 20003
202.544.1640
architravep.com

JONES & JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com

DISTRICT OF COLUMBIA — DUANE A. DIETZ — LAR40000081 — exp. 4-30-2025 — LICENSED LANDSCAPE ARCHITECT

KEY PLAN

0 4' 8' 16'
1/8"=1'-0"
GRAPHIC SCALE(S)

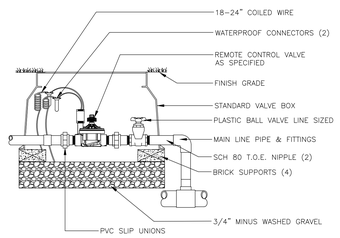
DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
003	11/03/23	ASI -003 (SEE PROJECT NO. 2033120 FOR ASI-001 & ASI-002)
005	01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

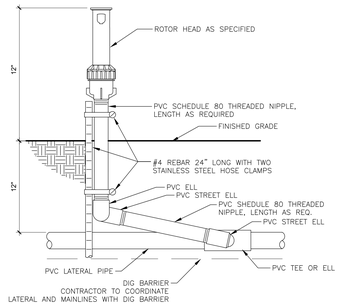
BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU YARD IRRIGATION PLAN
WORKING STAFF	DESIGNED BY: DAD; DRAWN BY: MES; CHECKED BY: DAD
SHEET NO.	8 of 29
DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE	KL 107 LI

NOTE: PROVIDE GOPHER SCREEN OR GEOTEXTILE CLOTHBELOW GRAVEL: WRAP UP SIDES OF BOX. PREVENT SOIL INTRUSION THROUGH PIPE PENETRATION AREAS.



1 REMOTE CONTROL VALVE WITH ISOLATION VALVE

NTS 328406.13–04

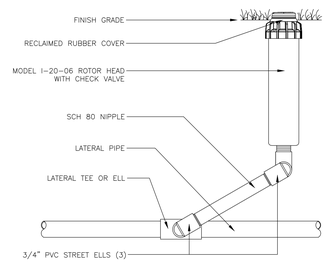


2 SHRUB ROTOR ON FIXED RISER

3" = 1'–0" FX–IR–FX–HEAD–11

3 NOT USED

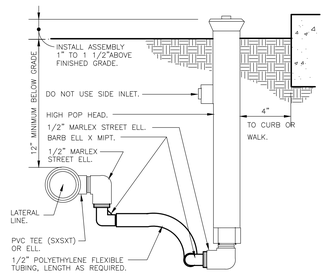
NOTE: WHEN USING LARGER GPM NOZZLES, BEWARE OF HIGH FRICTION LOSS IN SWING JOINTS.



4 I-20-06 ROTOR HEAD WITH 3/4" PVC STREET ELLS

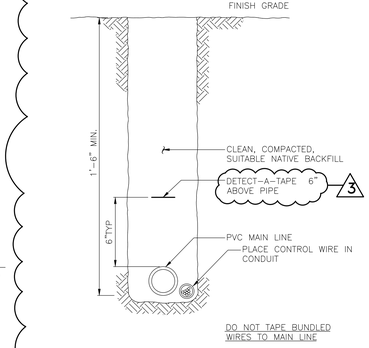
3" = 1'–0" FX–IR–HUNT–ROTR–11

NOTE: WHEN USING LARGER GPM NOZZLES, BEWARE OF HIGH FRICTION LOSS IN SWING JOINTS.



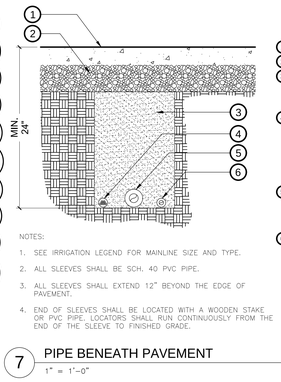
5 SHRUB SPRAY HIGHPOP W/FLEX ASSEMBLY

3" = 1'–0" FX–IR–FX–HEAD–09



6 TRENCHING DETAIL

NOT TO SCALE DETAIL–FILE



1. PAVEMENT
2. BASE ROCK
3. CLEAN BACKFILL, 95% RELATIVE COMPACTION UNDER PAVING OR PER CIVIL ENGINEER'S PLANS.
4. CONTROL WIRES, SLEEVE UNDER PAVING. INSTALL ADJACENT TO PRESSURIZED MAINLINE, BUNDLE SHALL BE NO MORE THAN 50% OF PIPE DIAMETER
5. MAINLINE, SLEEVE UNDER PAVING TO BE TWO TIMES THE DIAMETER OF THE PRESSURIZED MAINLINE PIPE
6. NON–PRESSURIZED LINE, SLEEVE UNDER PAVING TO BE BE TWO TIMES THE DIAMETER OF THE LATERAL LINE

NOTES:

1. SEE IRRIGATION LEGEND FOR MAINLINE SIZE AND TYPE.
2. ALL SLEEVES SHALL BE SCH. 40 PVC PIPE.
3. ALL SLEEVES SHALL EXTEND 12" BEYOND THE EDGE OF PAVEMENT.
4. END OF SLEEVES SHALL BE LOCATED WITH A WOODEN STAKE OR PVC PIPE. LOCATORS SHALL RUN CONTINUOUSLY FROM THE END OF THE SLEEVE TO FINISHED GRADE.

7 PIPE BENEATH PAVEMENT

1" = 1'–0" FX–IR–FX–AUXEQ–05

RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.

architrave p.c.
420 10th STR. SE.
Washington DC 20003
202.544.1640
architravep.com

JONES JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 3702
www.jonesandjones.com

DISTRICT OF COLUMBIA — DUANE A. DIRTZ — exp. 4-30-2025 — LAR40000281 — LICENSED LANDSCAPE ARCHITECT — STAMP

KEY PLAN

0 6" 1' 2'
1"=1'–0"

GRAPHIC SCALE(S)

ISSUE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION # DATE	REVISION DESCRIPTION
003 11/03/25	ASI –003 (SEE PROJECT NO. 2033120 FOR ASI–002 & ASI–003)
005 01/16/24	ASI – 005 (SEE PROJECT NO. 2033120 FOR ASI – 004)

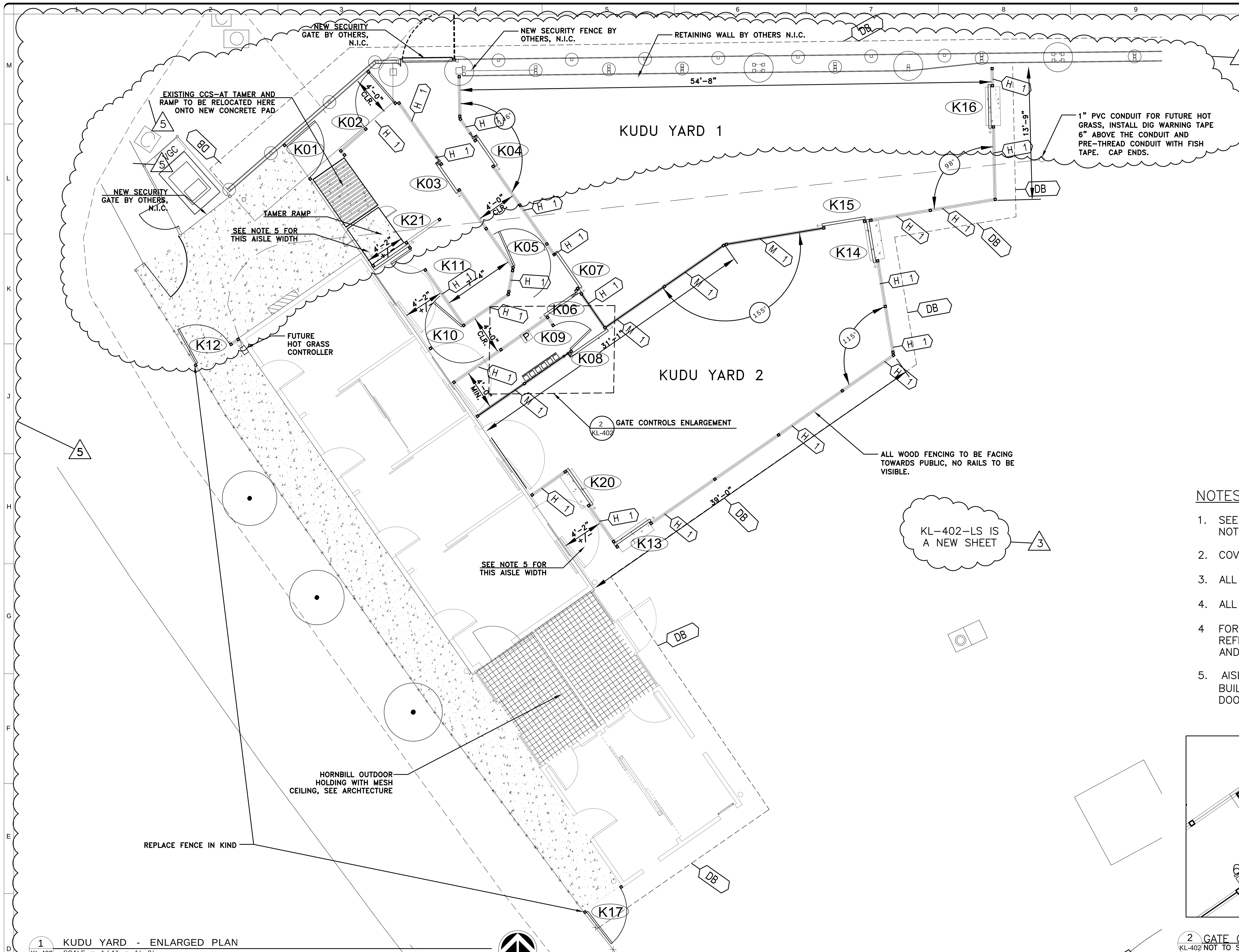
Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME / ADDRESS	NZPCI CHEETAH CONSERVATION STATION–AFRICA TRAIL 3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.36
DRAWING TITLE / WORKING STAFF	IRRIGATION DETAILS — DESIGNED BY: DAD — DRAWN BY: MES — CHECKED BY: DAD
SHEET NO.	9 OF 29

KL (DISCIPLINE) 108 (SEQUENCE) DT (DRAWING TYPE)

6/7/2023 1:09:17 PM
KA 101 BY Approver Enter Issue Date FINAL CD



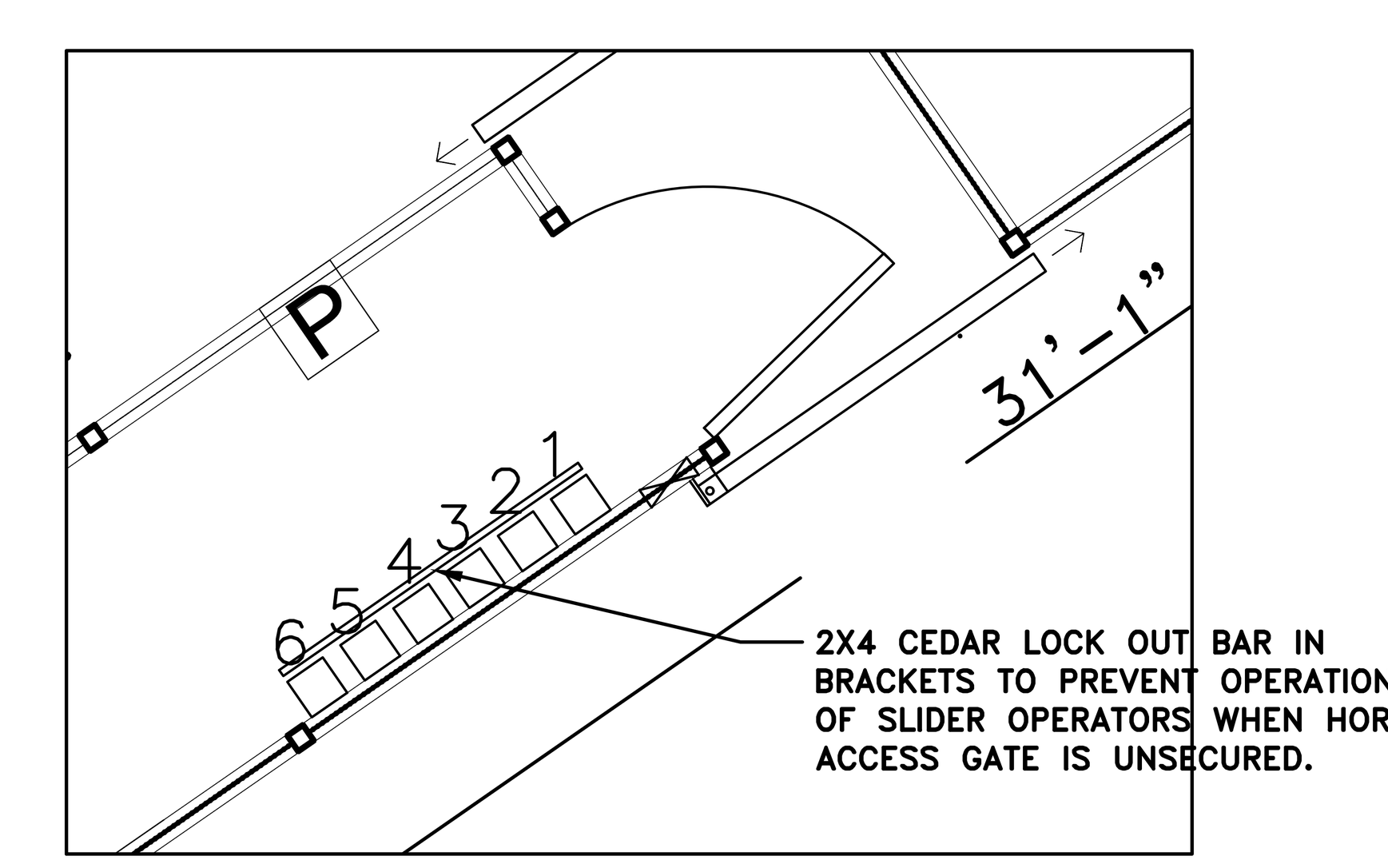
1 KL-402 KUDU YARD - ENLARGED PLAN
SCALE = 1/4" = 1'-0'

LEGEND

- EXISTING TREES TO REMAIN
- EXISTING FENCING TO REMAIN
- FENCING TO BE REPLACED IN-KIND
- K18 — GATE NUMBER, TYP.
- H1 — FENCING TYPE H1 (1/KL-501)
- P — VIEWING PORTAL IN FENCING TYPE H1 (1/KL-501)
- M1 — FENCING TYPE M1 (2/KL-501)
- DB — DIG BARRIER (1/KL-501 SIM)
- PAVING - CONCRETE (SHOWN FOR REFERENCE)

NOTES

1. SEE KL-101LS FOR LOCATIONS OF MANAGEMENT YARD SUBSTRATES, NOT SHOWN HERE FOR CLARITY.
2. COVER ALL PULLEY CABLES
3. ALL FENCING SHALL BE BLACK (POSTS, RAILS, MESH)
4. ALL HARDWARE SHALL BE STAINLESS STEEL (HINGES, BOLTS, ETC.)
4 FOR FURTHER INFORMATION ON THE 1" PVC HOT WIRE CONDUIT, REFER TO SPECIFICATION SECTION 260544 UNDERGROUND DUCTS AND UTILITY STRUCTURES.
5. AISLE WIDTH TO ALLOW FOR FULL OPERATION OF EXISTING BUILDING SWING DOORS WITH A MAX. 1" GAP BETWEEN EXISTING DOOR AND NEW FENCE.



2 KL-402 GATE CONTROLS ENLARGEMENT
NOT TO SCALE

SPECIALTY GATE SCHEDULE — KUDU YARD

GATE NUMBER	CONTROL NUMBER	DETAIL NUMBER	DESCRIPTION	MATERIAL	HEIGHT	WIDTH	FRAME	HSS FINISH	RAILS	REMARKS	
K01	N/A	4/L-501	SWING GATE	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K02	N/A	4/L-501	SWING GATE	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K03	N/A	5/L-501	SLIDING GATE, MANUAL	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	3'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LOCK TABS & ACCESS PORT	SEE DETAIL 8/KL 501DT
K04	N/A	5/L-501	SLIDING GATE, MANUAL	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	3'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LOCK TABS & ACCESS PORT	SEE DETAIL 8/KL 501DT
K05	N/A	4/L-501	SWING GATE; OPENS 180° +	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K06	N/A	5/L-501	SLIDING GATE, MANUAL	2"x6" CEDAR BOARDS, 8" SQ. PORTAL IN FENCE NEXT TO GATE	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LOCK TABS & ACCESS PORT	SEE DETAIL 8/KL 501DTt
K07	1	5/L-501	SLIDING GATE	2"x2"x6GA GALV WOVEN WIRE MESH, 2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		
K08	N/A	5/L-501	SLIDING GATE, MANUAL	2"x2"x6GA GALV WOVEN WIRE MESH, 2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LOCK TABS & ACCESS PORT	SEE DETAIL 8/KL 501DT
K09	N/A	4/L-501	SWING GATE TO CORRIDOR	2"x2"x6GA GALV WOVEN WIRE MESH, 2"x6" CEDAR BOARDS	8'-0"	3'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K10	N/A	4/L-501	SWING GATE; OPENS 180° +	2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K11	N/A	4/L-501	SWING GATE TO TAMER AREA	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	2'-6"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K12	N/A	4/L-501	SWING GATE	2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K13*	5	5/L-501	SLIDING GATE YARD 2 TO EXHIBIT	2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		
K14*	4	5/L-501	SLIDING GATE YARD 2 TO EXHIBIT	2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		
K15	3	5/L-501	SLIDING GATE BTW YARDS 1 & 2	2"x2"x6GA GALV WOVEN WIRE MESH, 2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		
K16*	2	5/L-501	SLIDING GATE YARD 1 TO EXHIBIT	2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		
K17	N/A	4/L-501	SWING GATE TO EXHIBIT	2"x6" CEDAR BOARDS, 8" SQ. VIEW PORTAL IN GATE	8'-0"	4'-3"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	LATCH 5/16" THICK MIN.	
K18	N/A	4/L-501	DOUBLE SWING GATE AT HORT ACCESS - SEE KL-101 FOR LOCATION	2"x6" CEDAR BOARDS	8'-0"	6'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL	DOUBLE SWING, LATCH 5/16"	
K19			NOT USED								
K20*	6	5/L-501	SLIDING GATE TO YARD 2	2"x6" CEDAR BOARDS	8'-0"	2'-6"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		
K21	N/A	5/L-501	SLIDING GATE TO TAMER, MANUAL	2"x6" CEDAR BOARDS	8'-0"	4'-0"	HSS 3"x3"x3/16" SQ STL GATE FRAME, WELDED	GALV/HPC	3"x3"x3/16" TUBE STEEL		

*= 2'x1.5'x5' CONC. SLAB UNDER GATE THAT ANCHORS DIG BARRIER, TOP OF SLAB 2" BELOW BOTTOM OF GATE

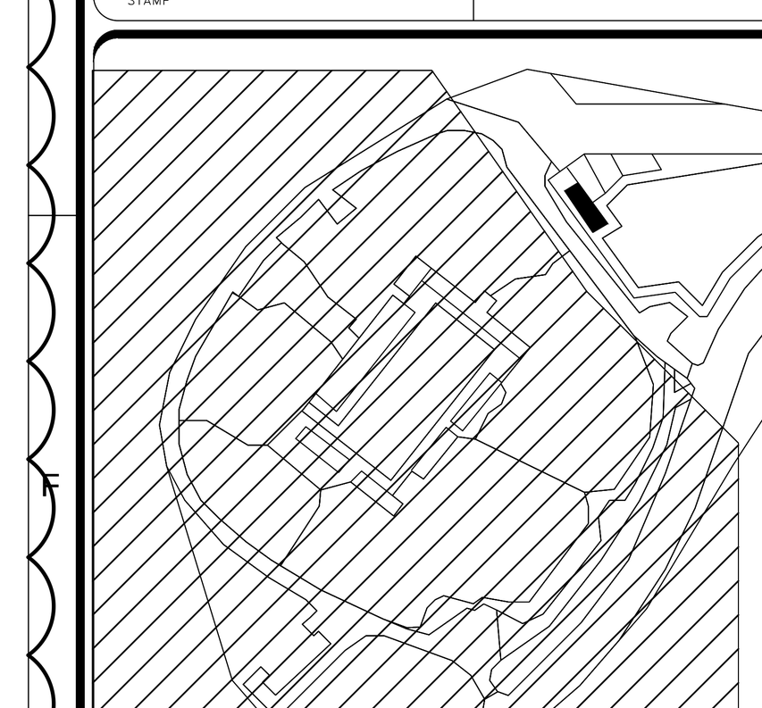
2 KL-402 GATE SCHEDULE

RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

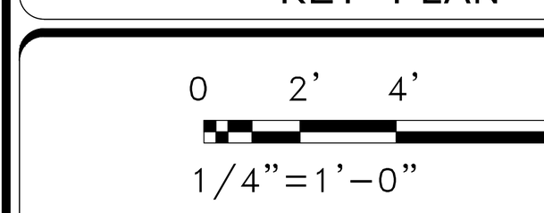
FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE
Washington DC 20003
202.544.1640
architravep.com

JONES & JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com



KEY PLAN



GRAPHIC SCALE(S)

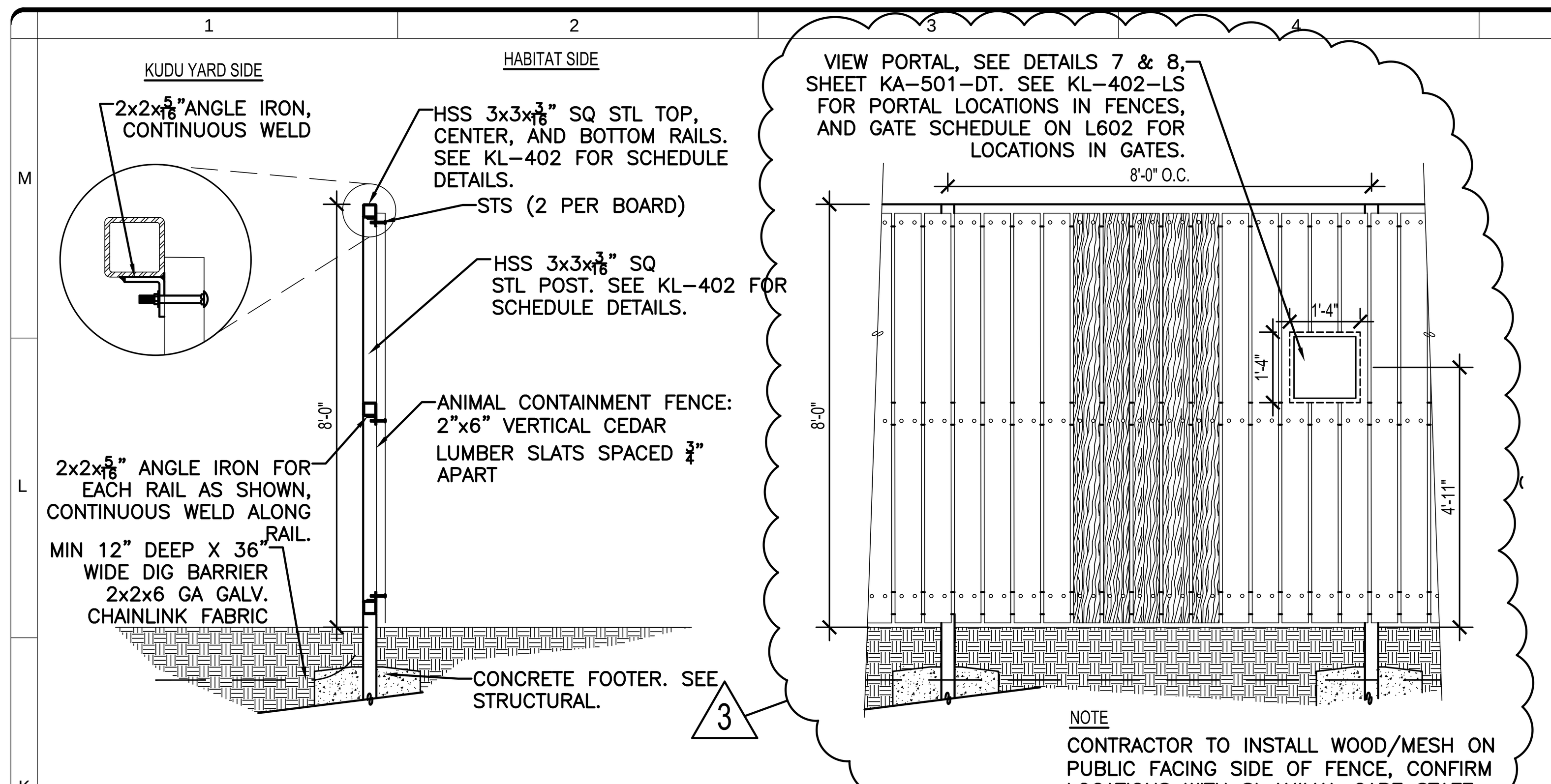
DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
003	11/03/23	ASI -003 (SEE PROJECT NO. 2033120 FOR ASI-001 & ASI-002)
005	01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

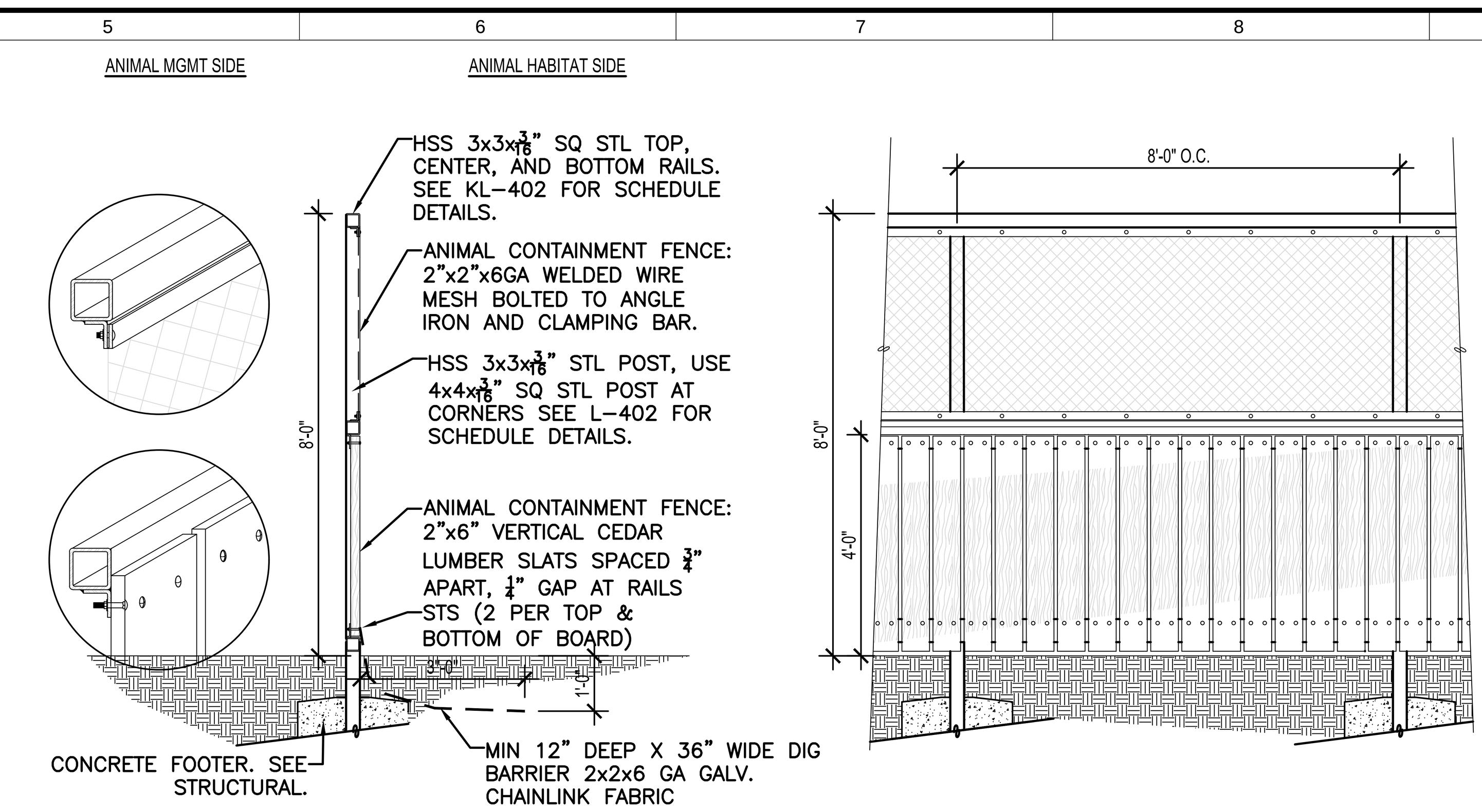
Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU YARD ENLARGEMENT
WORKING STAFF	DAD (DESIGNED BY), MES (DRAWN BY), DAD (CHECKED BY)

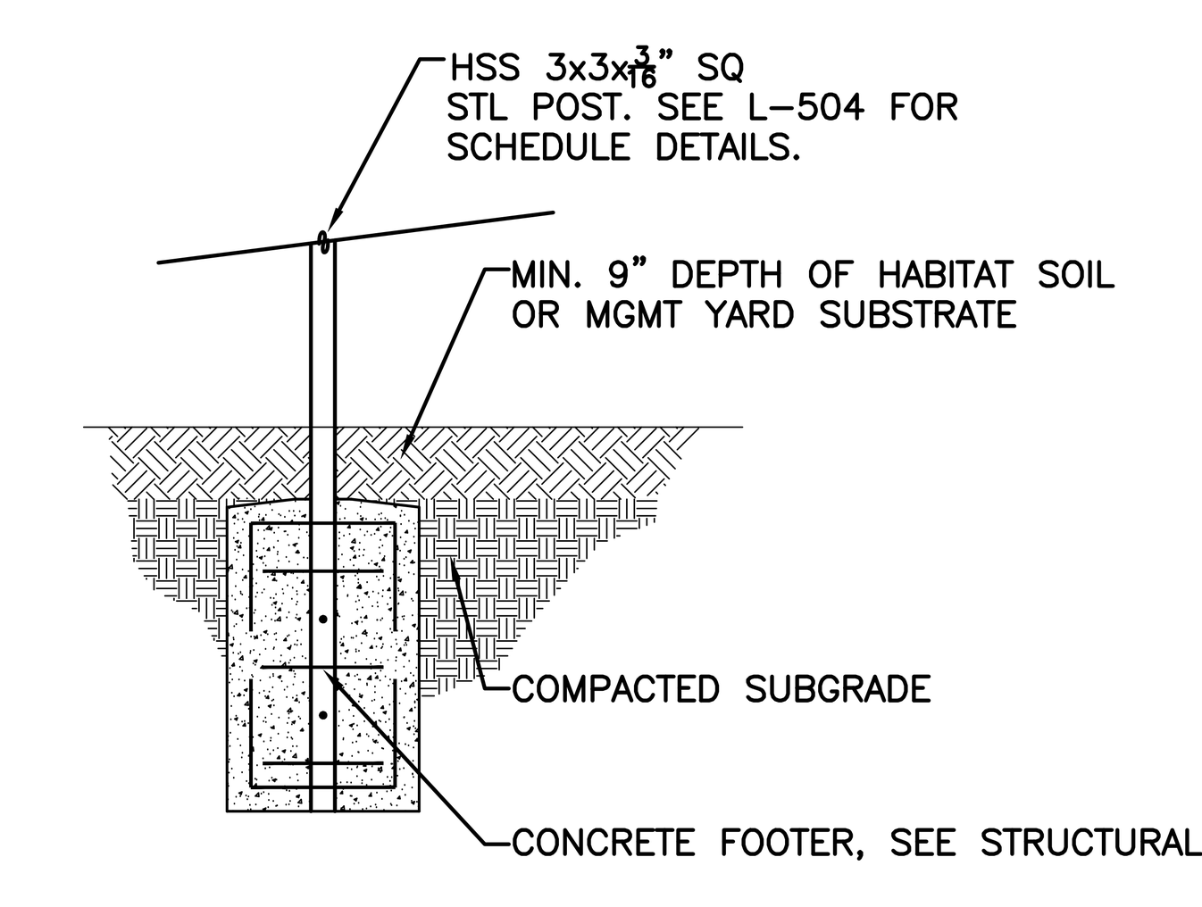
KL 402 LS
DISCIPLINE TYPE SEQUENCE DRAWING TYPE



1 HABITAT FENCING TYPE H1
KL-501 SCALE=1/2"=1'-0"

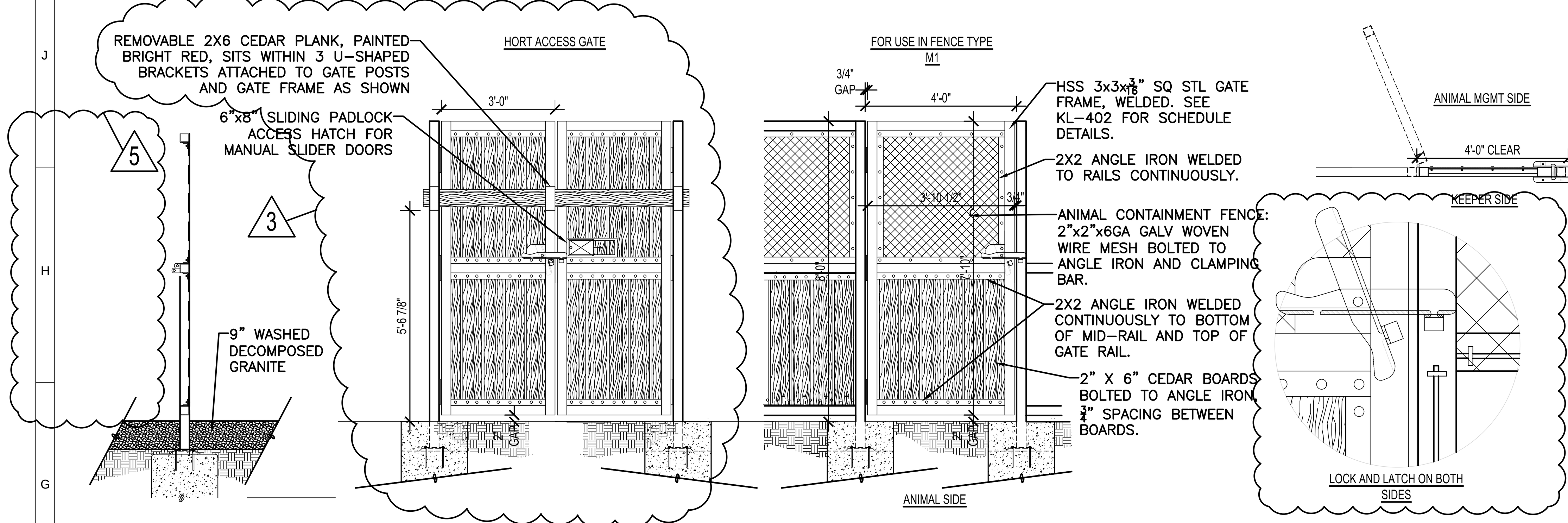


2 MANAGEMENT FENCING TYPE M1
KL-501 SCALE=1/2"=1'-0"

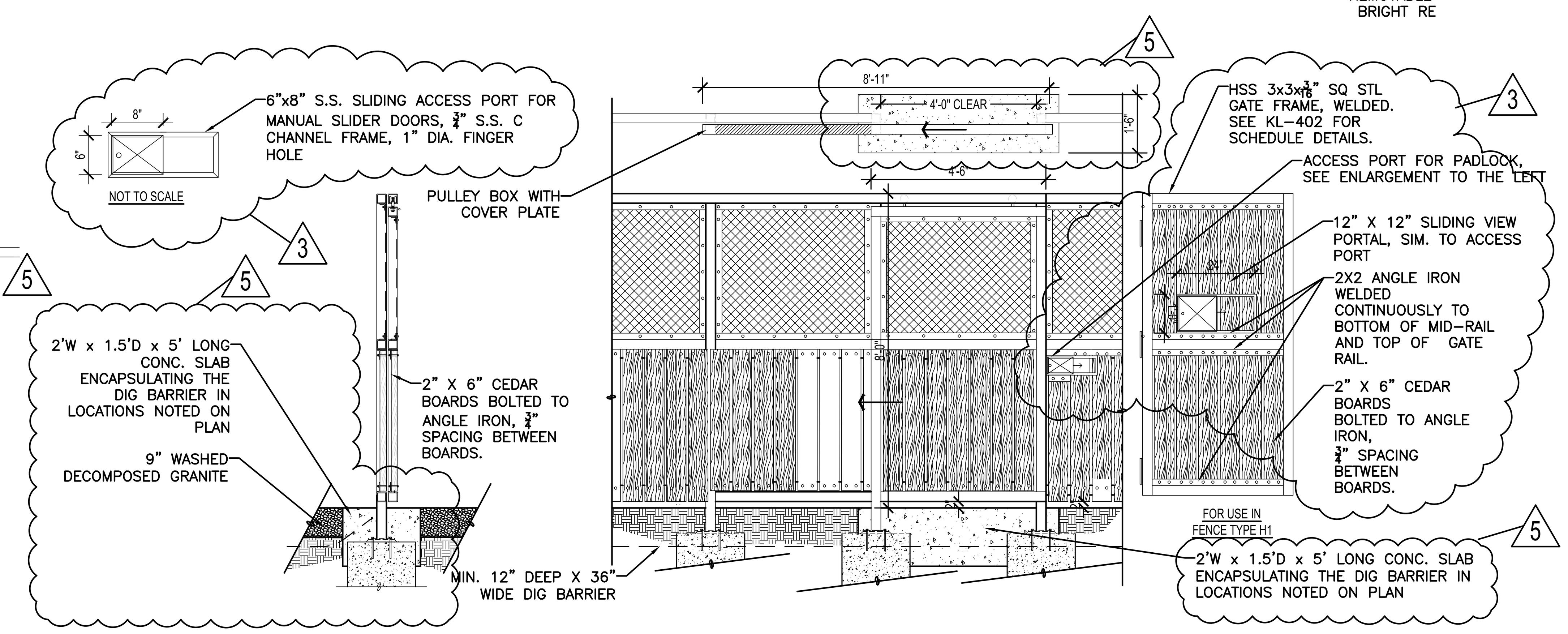


3 TYPICAL FENCE POST FOOTER (NON-PAVED AREA)
KL-501 SCALE=1/2"=1'-0"

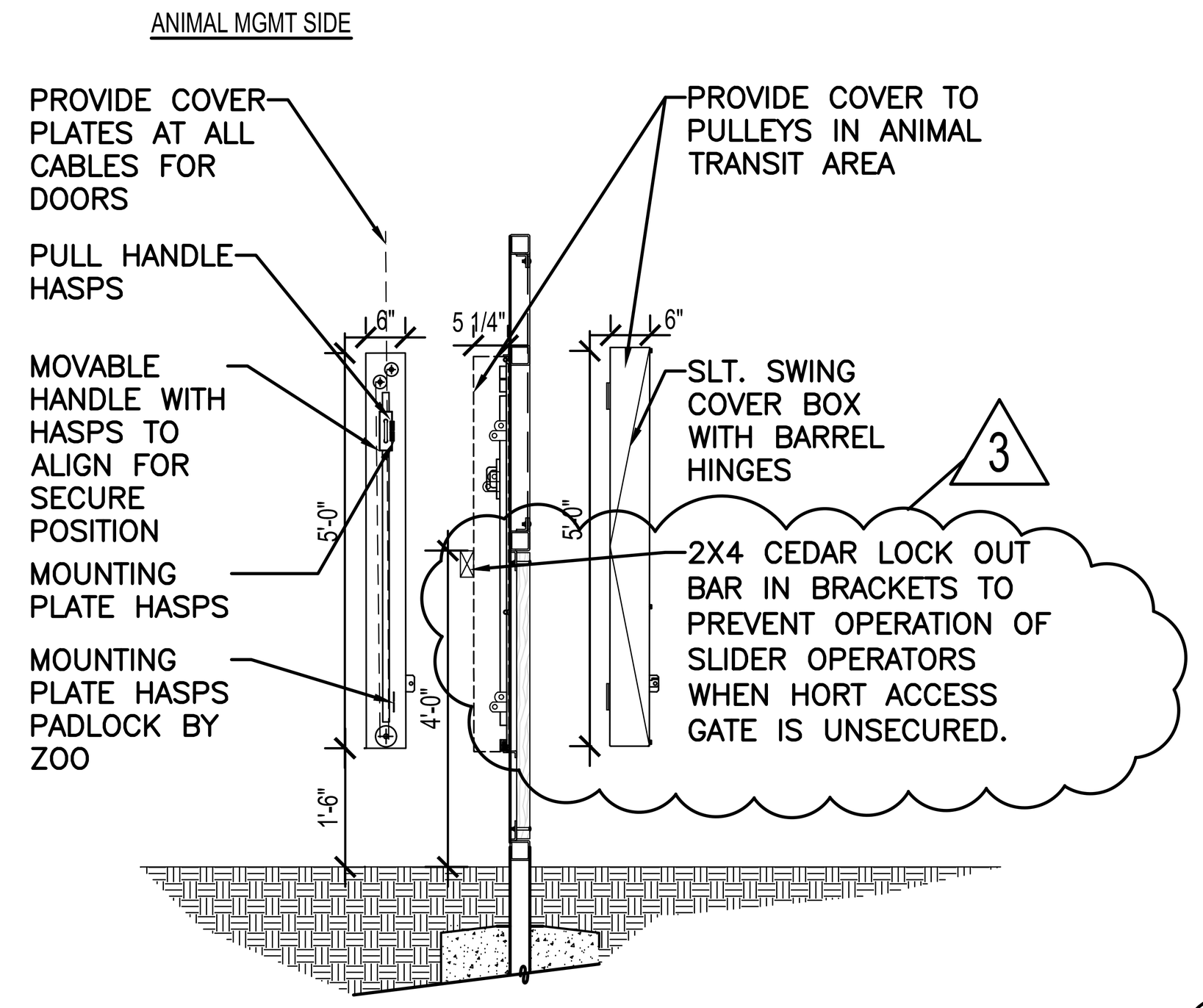
NOTE: FENCING MATERIAL VARIES. SEE L402 FOR FENCE TYPE.



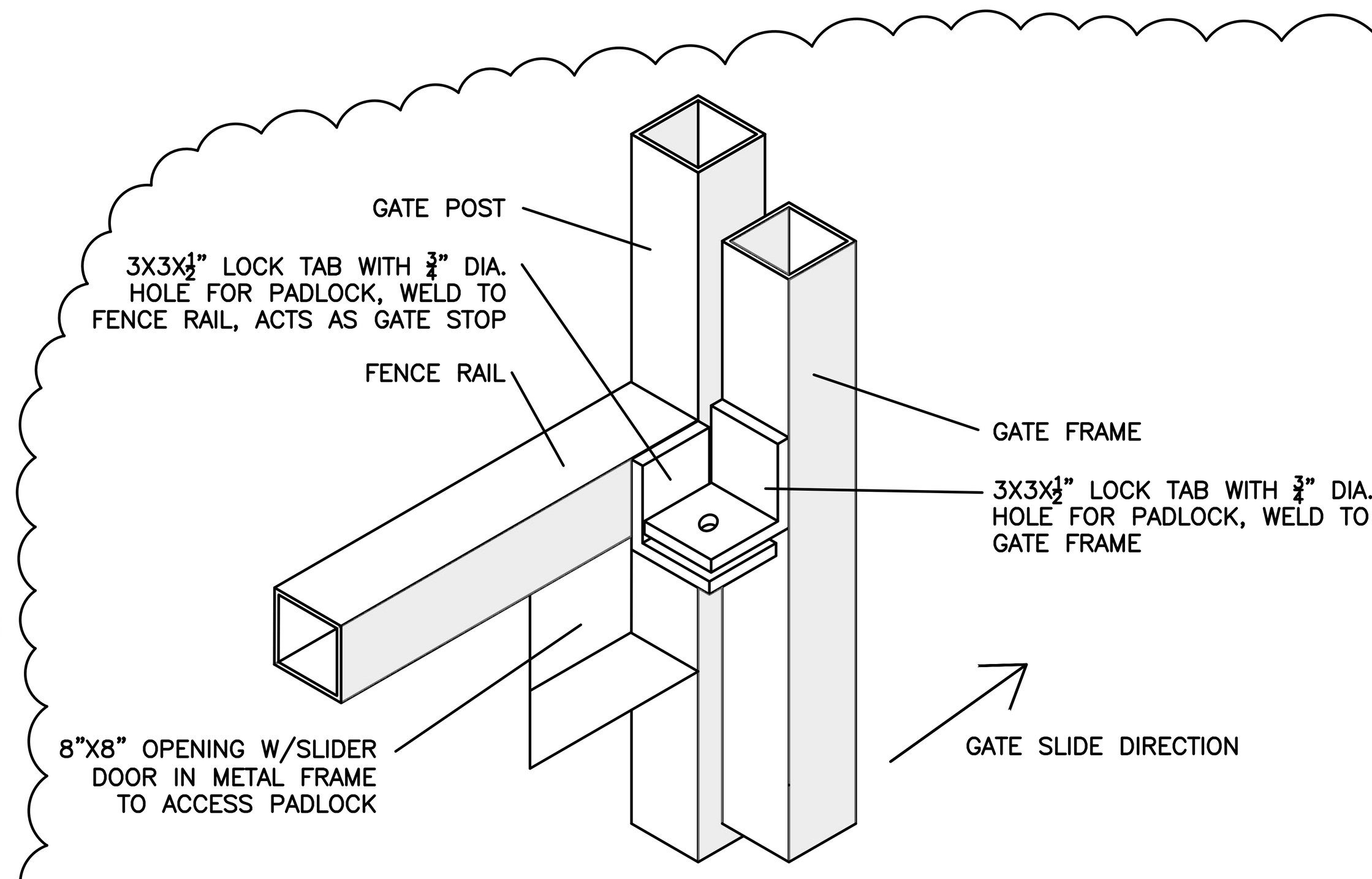
4 SINGLE SWING GATE - KUDU MANAGEMENT AND DOUBLE SWING GATE - HORT ACCESS
KL-501 SCALE=1/2"=1'-0"



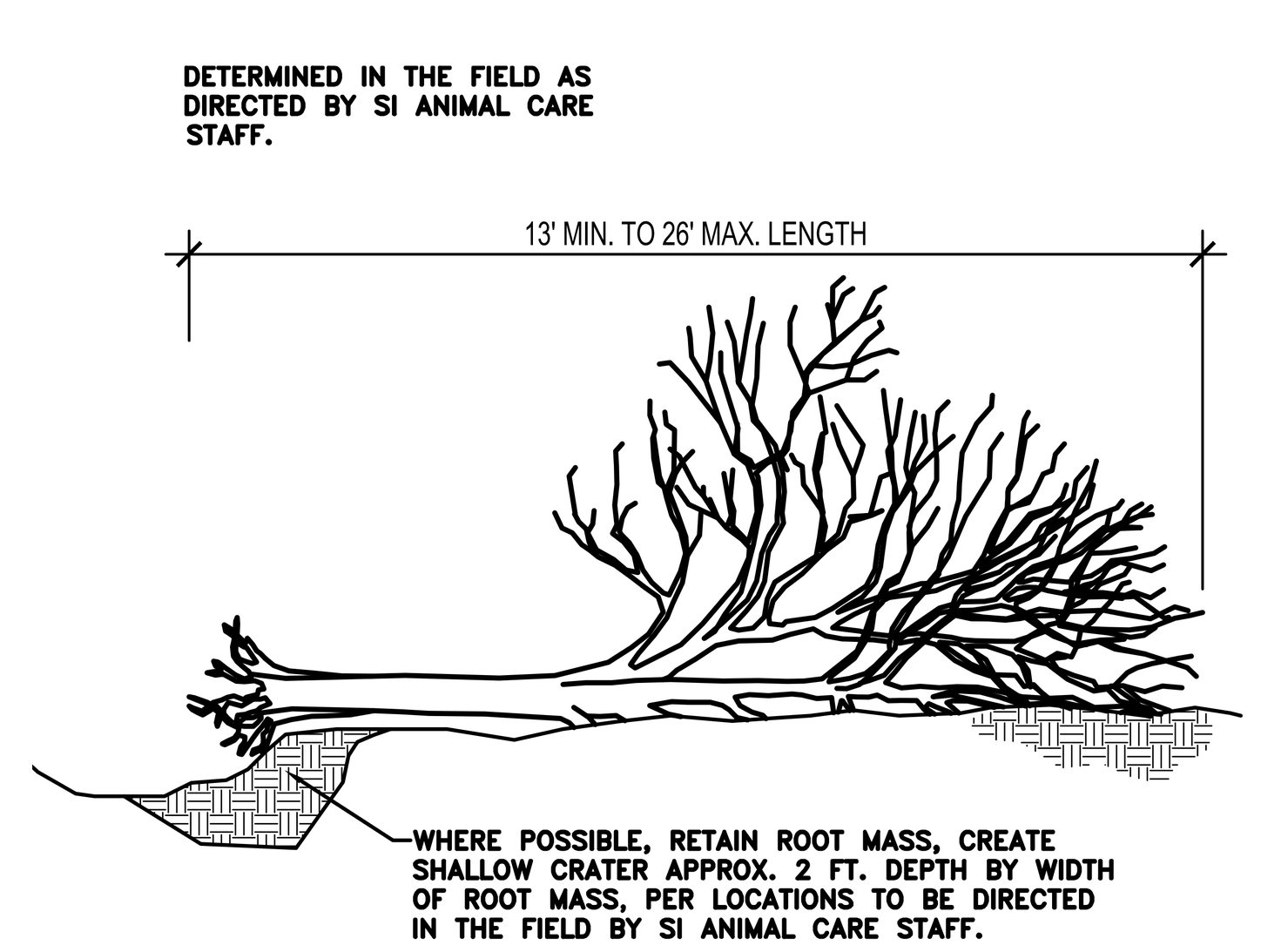
5 SLIDING GATE - KUDU MANAGEMENT
KL-501 SCALE=1/2"=1'-0"



6 SLIDING GATE PULLEY
KL-501 SCALE=1/2"=1'-0"

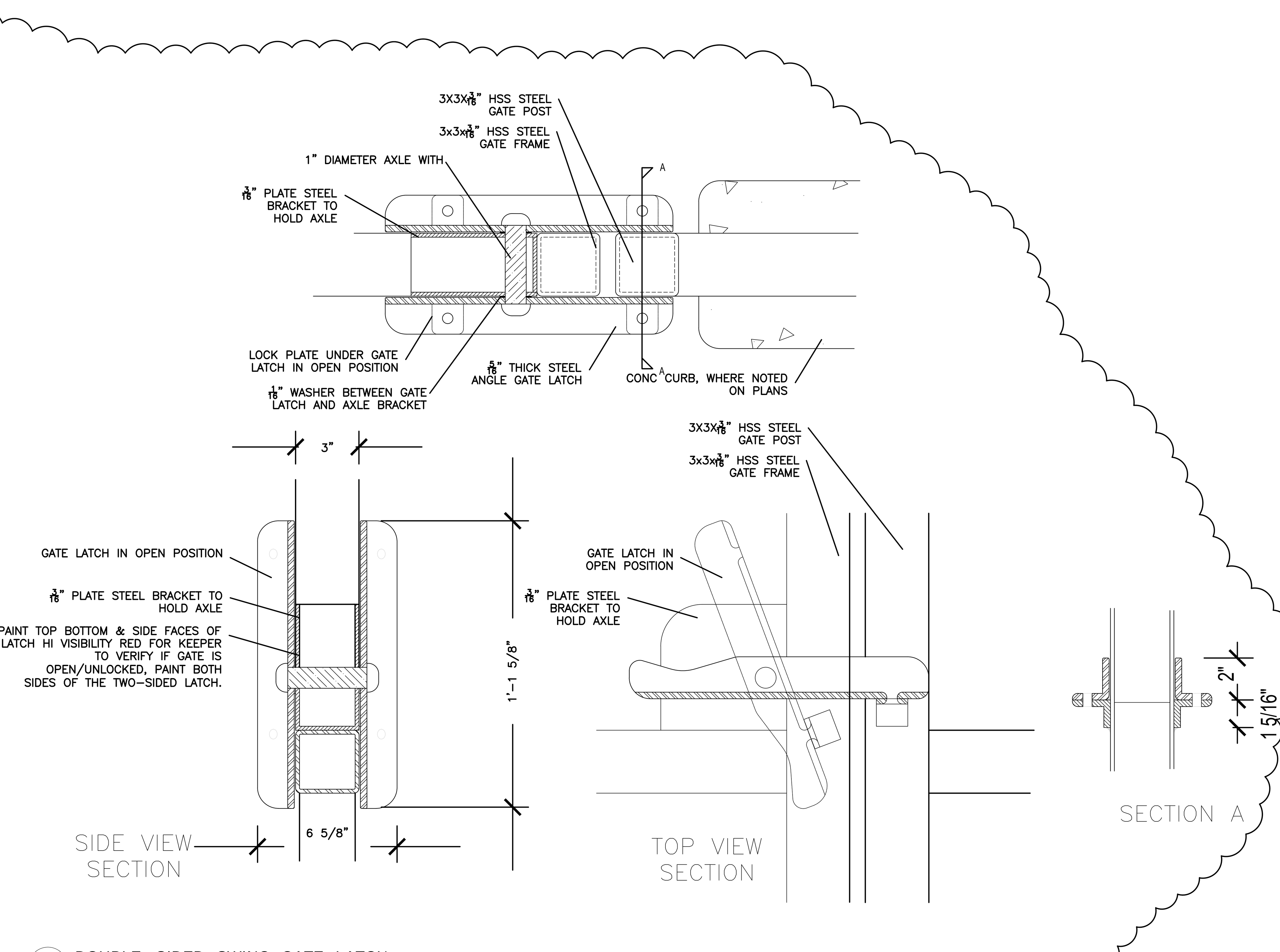


8 LOCK TABS FOR MANUAL SLIDING GATES
KL-501 SCALE=NOT TO SCALE



10 DEADFALL
KL-501 NOT TO SCALE

DET_24.DWG



7 DOUBLE-SIDED SWING GATE LATCH
KL-501 SCALE=NOT TO SCALE

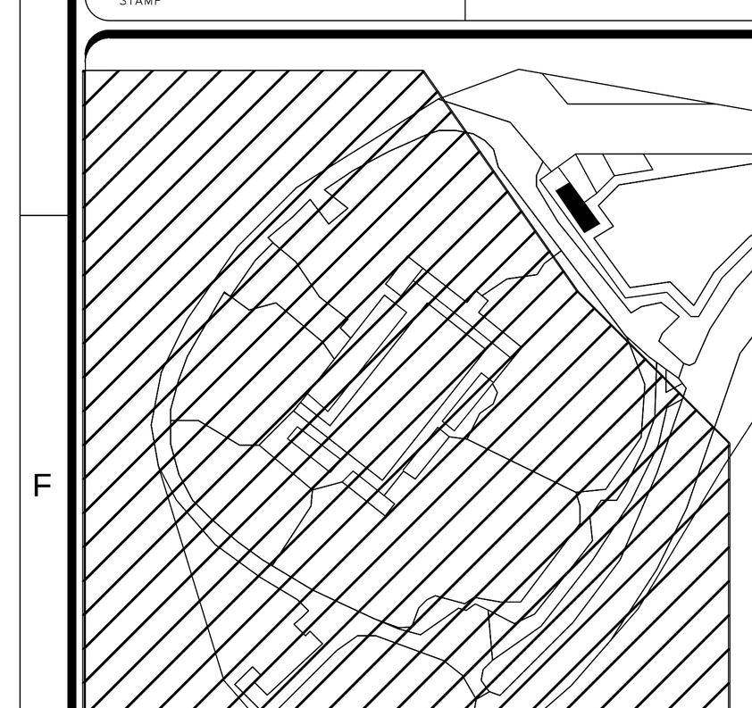
RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE.
Washington DC 20003
202.544.164C
architravep.com

JONES JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com

DISTRICT OF COLUMBIA
DUANE A. DIETZ
LAR40000...
exp. 4-30-2025
LICENSED LANDSCAPE ARCHITECT
STAMP



KEY PLAN

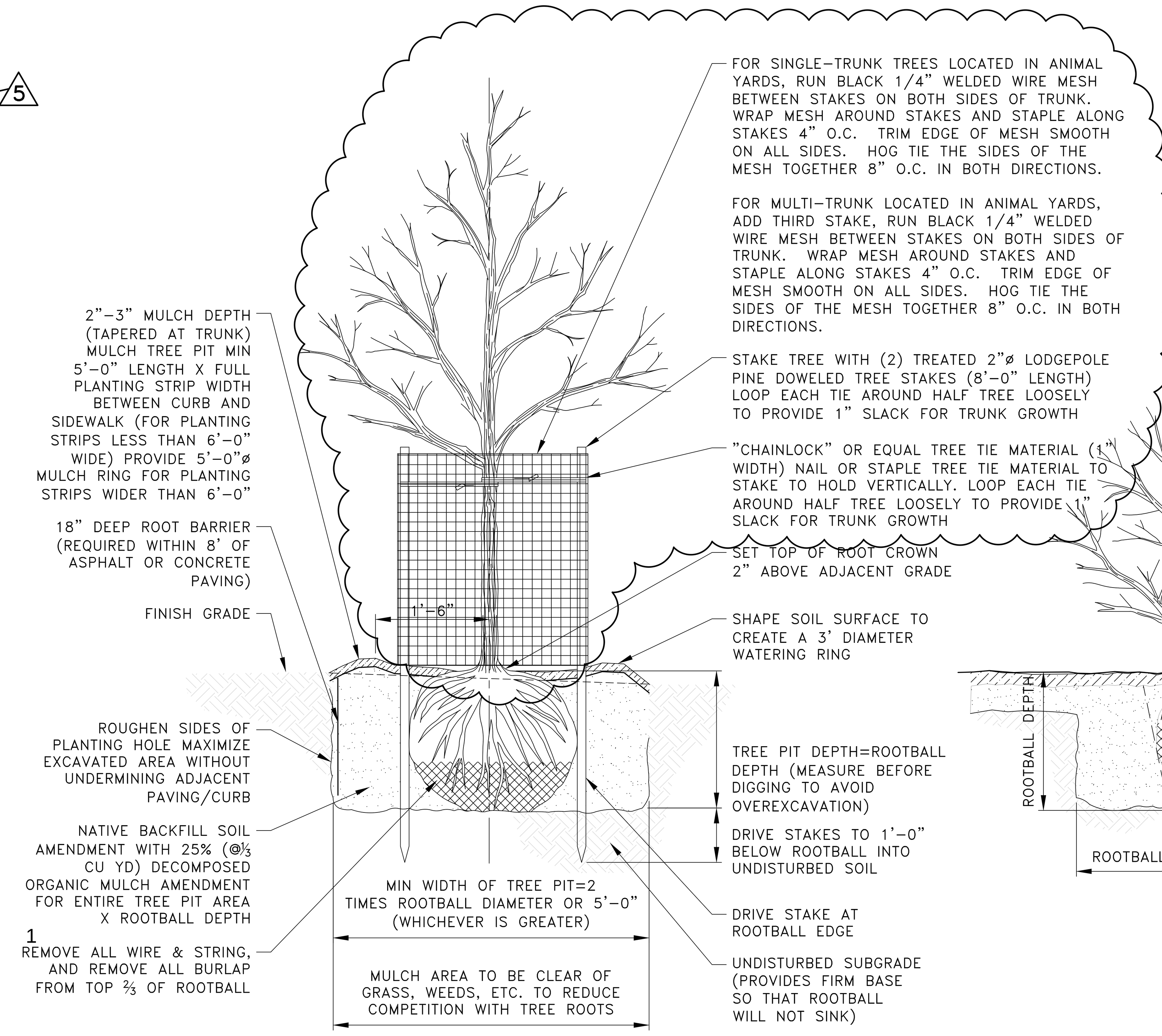
0 1' 2' 4'
1/2"=1'-0"
GRAPHIC SCALE(S)

11/03/23	KUDU MOD 4 FINAL CD
003 11/03/23	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI-001 & ASI-002)
005 01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI-004)

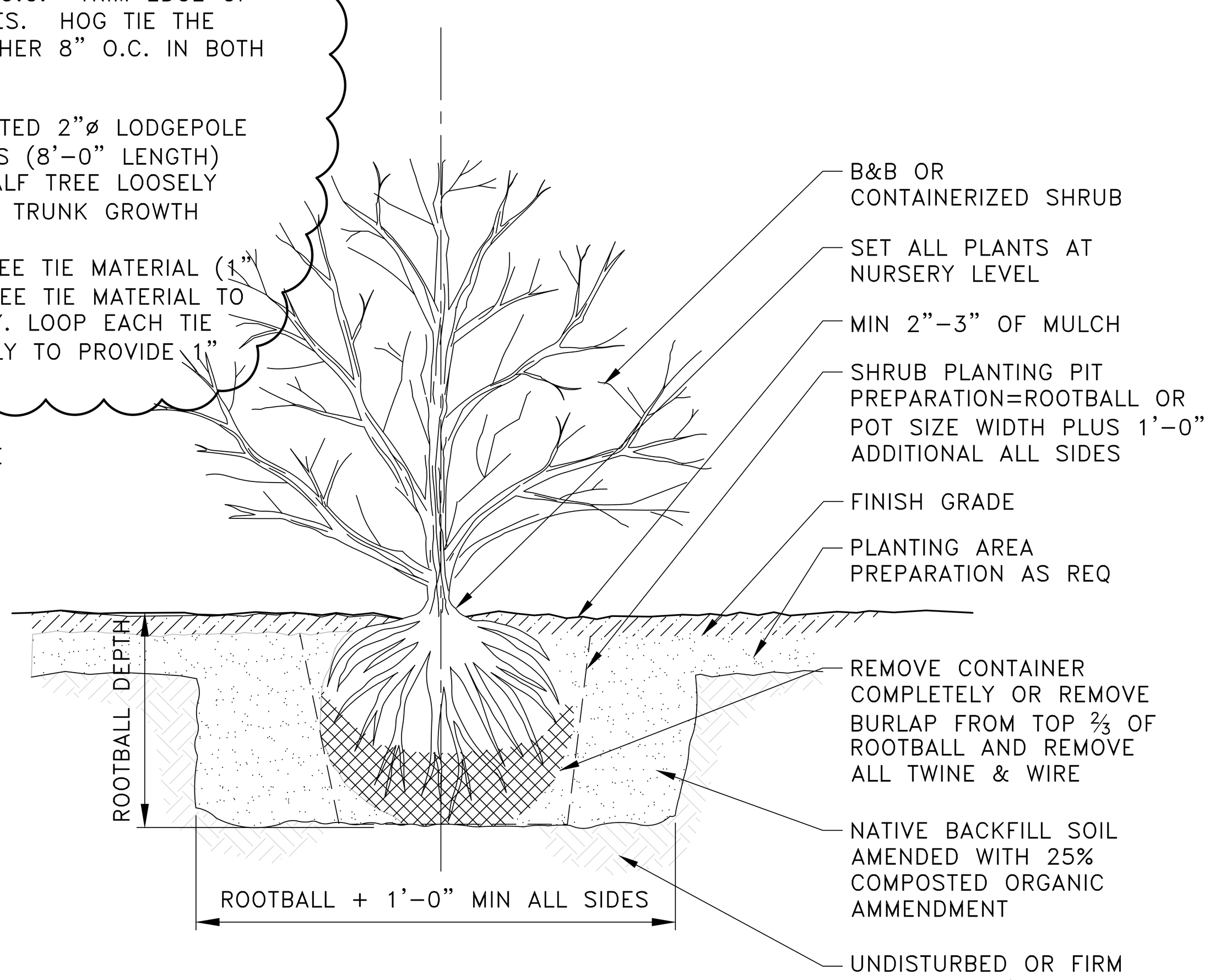
Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SI PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU DETAILS
DESIGNED BY / DRAWN BY / CHECKED BY	DAD / MES / DAD

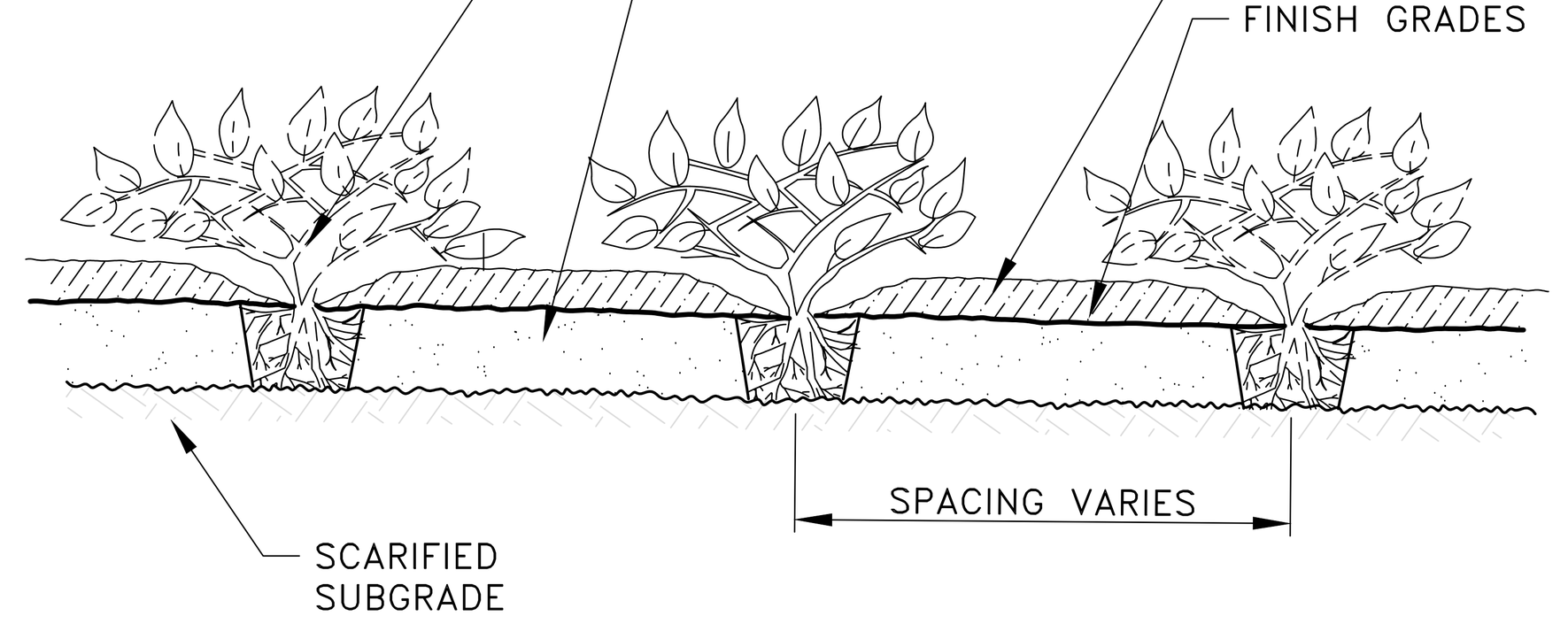
SHEET NO. 11 OF 29 — KL 501 DT



1 TYPICAL TREE PLANTING
KL-502 SCALE: NOT TO SCALE



2 TYPICAL SHRUB PLANTING
KL-502 SCALE: NOT TO SCALE



3 TYPICAL GROUNDCOVER AND PERENNIAL PLANTING
KL-502 SCALE: NOT TO SCALE

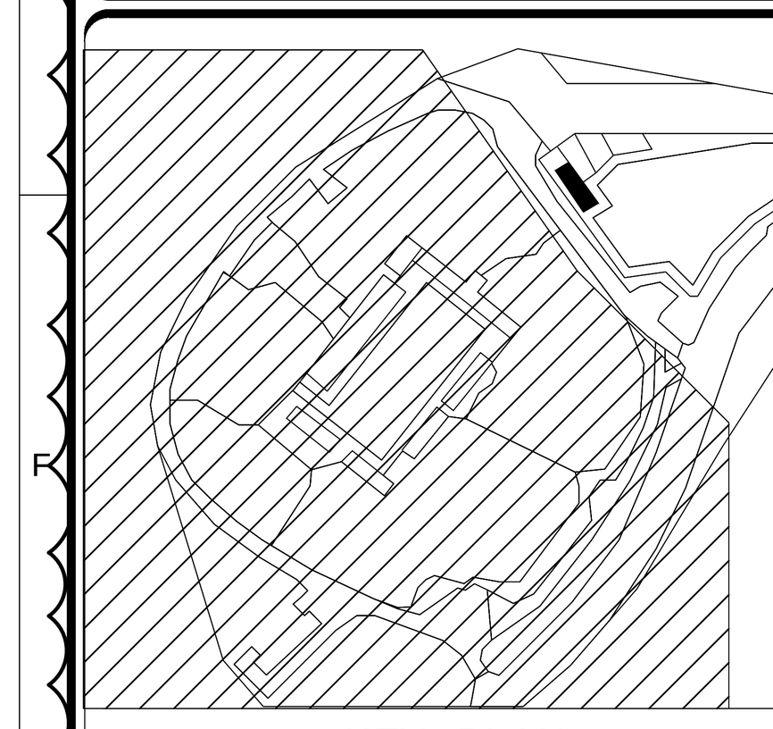
RENEW CHEETAH CONSERVATION STATION - AFRICA TRAIL - KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

JONES JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com

DISTRICT OF COLUMBIA
DUANE A. DIETZ
exp. 4-30-2025
LAR40000081
LICENSED LANDSCAPE ARCHITECT
STAMP



KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
003	11/03/23	ASI –003 (SEE PROJECT NO. 2033120 FOR ASI–001 & ASI–002)
005	01/16/24	ASI – 005 (SEE PROJECT NO. 2033120 FOR ASI – 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION–AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION–AFRICA TRAIL–KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU YARD PLANTING DETAILS

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	DAD	MES	DAD

SHEET NO.	DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
12 OF 29	KL		502	DT

DESIGN NOTES

I. CODES AND STANDARDS

A. WORK SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT & THE INTERNATIONAL BUILDING CODE, 2018.

II. DESIGN AND LOADING CRITERIA

A. ALL CODES, REFERENCES AND STANDARDS REFERRED TO SHALL BE THE CURRENT VERSION UNLESS A DIFFERENT VERSION IS LISTED IN THE BUILDING CODE.

B. SNOW LOAD
1. GROUND SNOW LOAD: (PG) = 25 PSF
2. SNOW EXPOSURE FACTOR (CE): = 1.0
3. IMPORTANCE FACTOR (I): = 1.0
4. THERMAL FACTOR (CT): = 1.0
5. FLAT ROOF SNOW LOAD (PF): = 17.5 PSF
6. ROOF LIVE LOAD: = 30 PSF

C. SEISMIC LOAD
1. RISK CATEGORY = II
2. SEISMIC IMPORTANCE FACTOR (I): = 1.0
3. SEISMIC DESIGN CATEGORY = B

D. WIND LOAD
1. ULTIMATE WIND SPEED: = 115 MPH
2. RISK CATEGORY: = II
3. EXPOSURE = B
4. INTERNAL PRESSURE COEFF: = ± 0.18
5. COMPONENT AND CLADDING:
FOR WALL = 32 PSF MAX
FOR ROOF = 45 PSF MAX

E. MINIMUM LIVE LOADS:
1. VISITOR BARRIER:
a) 50 LB/FT UNIFORM LOAD APPLIED HORIZONTALLY APPLIED ALONG RAILING
b) MAXIMUM OF 200 LB CONCENTRATED LOAD OR END REACTION RESULTING FROM 50 LB/FT UNIFORM LOAD APPLIED HORIZONTALLY ANYWHERE ALONG THE POST
c) HORIZONTAL LOAD APPLIED AT 42" ABOVE GROUND
d) ABOVE LOADS ARE NOT APPLIED CONCURRENTLY

3

2. CHAIN LINK FENCE AND GATE:
a) NO LESS THAN VISITOR BARRIER LOADS ABOVE
b) 200 LB CONCENTRATED LOAD APPLIED VERTICALLY

F. EARTH PRESSURE
1. ASSUMED DESIGN LATERAL PRESSURE FOR RETAINING WALLS = 45 PSF

III. CONCRETE AND REINFORCING

A. CONCRETE WORK SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318. AS MODIFIED BY IBC.

B. CONCRETE DESIGN IS IN ACCORDANCE WITH "STRENGTH DESIGN METHOD."

C. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS (F'C) SHALL BE:
1. FOOTINGS: = 3,500 PSI

D. CONCRETE MATERIALS:
1. CEMENT: ASTM C-150 TYPE I OR III
2. CEMENT SUBSTITUTES: ASTM C-595 TYPE '1P' (LIMIT TO 25% MAX CEMENTITIOUS CONTENT BY WEIGHT.)
3. AGGREGATES: ASTM C-33 (NORMAL WEIGHT)
4. AIR-ENTRAINING ADMIX: ASTM C-260

E. CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 6%, +/- 1%.

F. THOROUGHLY COMPACT CONCRETE DURING PLACEMENT AND WORKED AROUND EMBEDDED ITEMS AND INTO CORNERS OF FORMS.

G. LOCATE AND SECURE ALL ITEMS EMBEDDED IN CONCRETE. VERIFY LOCATION OF EMBEDMENT PLATES PRIOR TO CONCRETE PLACEMENT.

H. CONCRETE SLUMP SHALL = 4" PLUS OR MINUS 1".

I. REINFORCING BARS #3 THRU #11 SHALL BE DEFORMED AND IN ACCORDANCE WITH "SPECIFICATIONS FOR DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT" ASTM A-615. GRADE 60 KSI.

J. SUBMIT SHOP DRAWINGS FOR REINFORCEMENT TO THE COTR FOR APPROVAL. PREPARE DRAWINGS UNDER THE SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE LOCAL JURISDICTION DETAILING FABRICATING, BENDING, AND PLACING CONCRETE REINFORCEMENT. COMPLY WITH ACI 315 AND ACI DETAILING MANUAL SP-66, SHOWING BAR SCHEDULES, STIRRUP SPACING, BENT BAR DIAGRAMS, AND ARRANGEMENT OF CONCRETE REINFORCEMENT. INCLUDE SPECIAL REINFORCING REQUIRED FOR OPENINGS THROUGH CONCRETE STRUCTURES.

K. BARS MARKED CONTINUOUS (CONT) SHALL BE LAPPED IN ACCORDANCE WITH REQUIREMENTS FOR SPLICES AS DEFINED IN ACI 318, MINIMUM 50 BAR DIAMETERS, UNLESS INDICATED OTHERWISE. COLUMN VERTICAL REINFORCING SHALL BE SPLICED AS SHOWN IN COLUMN DETAILS.

L. BAR LENGTHS SHOWN ON PLAN DO NOT INCLUDE LENGTH OF HOOK WHERE A HOOK IS INDICATED. PROVIDE STANDARD HOOK UNLESS DETAILED OTHERWISE.

M. MINIMUM CONCRETE COVER BETWEEN FACE OF REINFORCING BAR AND FACE OF CONCRETE SHALL BE AS FOLLOWS:
1. CONCRETE CAST AGAINST EARTH = 3"
2. FORMED CONCRETE EXPOSED TO WEATHER OR EARTH = 2"
3. FORMED CONCRETE NOT EXPOSED TO WEATHER = 1"

IV. GENERAL

A. INFORMATION SHOWN REGARDING EXISTING CONDITIONS HAS BEEN OBTAINED BY LIMITED VISUAL OBSERVATIONS, GPR SCANS, TEST PITS, AND LIMITED EXISTING DRAWINGS.

B. MEASURE AND PROVIDE ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE JOB SITE PRIOR TO CONSTRUCTION AND THE SUBMISSION OF SHOP DRAWINGS, AND NOTIFY THE COTR IMMEDIATELY OF ANY DISCREPANCIES. VERIFICATION AND NOTIFICATION SHALL PROCEED 4 WEEKS PRIOR TO THE START OF WORK SO THAT ANY NECESSARY CHANGES CAN BE MADE WITHOUT DELAYING THE PROJECT SCHEDULE.

C. DETAILS, SECTIONS, AND NOTES SHOWN ON THESE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR CONDITIONS ELSEWHERE UNLESS OTHERWISE SHOWN OR NOTED.

D. SHOP DRAWINGS SUBMITTED TO THE COTR SHALL BEAR THE CONTRACTOR'S STAMP, DATE AND SIGNATURE VERIFYING DOCUMENTS HAVE BEEN REVIEWED AND CORRECTED FOR CONFORMANCE TO AND COORDINATION WITH CONTRACT DOCUMENTS.

E. FABRICATION SHALL PROCEED ONLY AFTER SHOP DRAWING APPROVAL BY THE ENGINEER.

F. DO NOT REPRODUCE ANY PORTION OF CONTRACT DOCUMENTS IN THE SHOP DRAWINGS.

G. INSPECTION REPORTS AND MATERIALS TESTING REPORTS SHALL BE SUBMITTED TO THE COTR IN A TIMELY MANNER SUCH THAT CONSTRUCTION DELAY WILL BE AVOIDED.

H. MEANS AND METHODS OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

V. POST- INSTALLED ANCHORS

A. EXCEPT WHERE INDICATED ON THE DRAWINGS, PROVIDE POST-INSTALLED ANCHORS CONSISTING OF THE FOLLOWING ANCHOR TYPES COTR.
1. REBAR DOWELING INTO CONCRETE:
a) ADHESIVE ANCHORS FOR CRACKED AND UNCRACKED CONCRETE USE:
(1) HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3187.
(2) FAST CURE ADHESIVE WITH HOLLOW DRILL BIT AND SELF CLEANING VACUUM SYSTEM WITH CONTINUOUSLY DEFORMED REBAR WITH ICC ESR APPROVALS.
2. ANCHORAGE TO SOLID GROUTED MASONRY: M
a) ADHESIVE ANCHORS USE:
(1) HILTI HIT-HY 270 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT AND VACUUM PER ICC ESR-4143.
(2) STEEL ANCHOR ELEMENT SHALL BE HILTI HAS CONTINUOUSLY THREADED ROD OR CONTINUOUSLY DEFORMED STEEL REBAR.
(3) FAST CURE ADHESIVE WITH HOLLOW DRILL BIT AND SELF CLEANING VACUUM SYSTEM WITH ICC ESR APPROVALS.
(4) STEEL ANCHOR ELEMENT SHALL BE STAMPED ON THE END TO SHOW GRADE OF STEEL AND OVERALL ANCHOR LENGTH FOR INSPECTION PURPOSES OR CONTINUOUSLY DEFORMED STEEL REBAR.
3. ANCHORAGE TO HOLLOW OR MULTI-WYTHE MASONRY:
a) ADHESIVE ANCHORS USE:
(1) HILTI HIT-HY 270 MASONRY ADHESIVE ANCHORING SYSTEM PER ICC ESR-4143, DEWALT/POWERS AC100+GOLD MASONRY ADHESIVE ANCHORING SYSTEM PER ICC ESR-3200, (OR EQUAL).
(2) STEEL ANCHOR ELEMENT SHALL BE HILTI HAS-E CONTINUOUSLY THREADED ROD, ASTM GRADE 36 STANDARD THREADED ROD, OR CONTINUOUSLY DEFORMED STEEL REBAR.
(3) THE APPROPRIATE SIZE SCREEN TUBE SHALL BE USED PER ADHESIVE MANUFACTURER'S RECOMMENDATION

B. SUBSTITUTION REQUESTS FOR ALTERNATE POST INSTALLED ANCHOR PRODUCTS MUST BE APPROVED IN WRITING BY THE COTR PRIOR TO USE AND PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.

C. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.

D. INSTALL OVERHEAD ADHESIVE ANCHORS USING A PISTON PLUG SYSTEM AS PER MANUFACTURER'S INSTRUCTIONS.

E. ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. SUBMIT WRITTEN CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

F. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.

G. INSTALL ACNHORS IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AND A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.

H. INSTALL ANCHORS IN CONCRETE AT LEAST 50 DEGREES AT THE TIME OF INSTALLATION.

I. INSTALL ANCHORS IN CONCRETE IN INDOOR ANCHOR APPLICATIONS THAT IS DRY.

J. LOCATE EXISTING REINFORCING BARS, EMBEDDED CONDUIT OR OTHER ITEMS IN THE CONCRETE STRUCTURE WHICH MAY CONFLICT WITH PROPOSED ANCHOR LOCATIONS BY HILTI FERROSCAN, GPR, X-RAY PACHOMETER, CHIPPING OR OTHER MEANS. REVIEW THE EXISTING STRUCTURAL DRAWINGS AND LOCATE THE POSITION OF THE REINFORCING BARS OR ANY OTHER EMBEDDED ITEMS AT THE LOCATIONS OF THE CONCRETE ANCHORS PRIOR TO SCANNING. MARK THE LOCATION OF EMBEDDED ITEMS AND THE PROPOSED ANCHOR LOCATIONS ON THE CONCRETE SURFACE AND NOTIFY THE COTR IF THERE APPEARS TO BE A CONFLICT. EXERCISE CARE IN CORING OR DRILLING TO AVOID DAMAGING EXISTING REINFORCING OR EMBEDDED ITEMS BY FIRST DRILLING A SMALL PILOT HOLE. NOTIFY THE COTR IF REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED DURING DRILLING. TAKE PRECAUTIONS AS NECESSARY TO ALSO AVOID DAMAGING ANY ACTIVE ELECTRICAL AND TELECOMMUNICATIONS CONDUIT.

K. PROVIDE MECHANICAL ANCHORS THAT HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC 193 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION

L. PROVIDE ADHESIVE ANCHORS THAT HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR USE IN CRACKED, UNCRACKED AND SEISMIC CONCRETE APPLICATIONS.

M. INSTALL ADHESIVE ANCHORS IN HORIZONTAL TO VERTICAL OVERHEAD ORIENTATIONS THAT ARE TO SUPPORT SUSTAINED TENSION LOADS BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI (ACI 318-11 D.9.2.2). SUBMIT PROOF OF CURRENT CERTIFICATION FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

VI. TESTING AND INSPECTION

THE CONTRACTOR SHALL RETAIN THE SERVICES OF A TESTING AND INSPECTION AGENCY TO PERFORM THE SERVICES SPECIFIED.

A. MINIMUM SERVICES PROVIDED SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE LOCAL JURISDICTION.

B. FAILURE TO RETAIN A TESTING AGENCY TO PROVIDE REQUIRED SERVICES OR A FAILURE TO SUBMIT SIGNED AND SEALED REPORTS SHALL BE CONSIDERED NON-COMPLIANCE WITH CONTRACT DOCUMENTS.

C. CONSTRUCTION CONSIDERED NON-COMPLIANT SHALL BE REMOVED AND REPLACED.

D. ALL TESTING AND INSPECTION SHALL BE UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE LOCAL JURISDICTION.

E. PRELIMINARY HANDWRITTEN SITE VISIT REPORTS CONFIRMING VERBAL DISCUSSIONS SHALL BE PROVIDED TO THE CONTRACTOR ON RESULTS OF INSPECTIONS PRIOR TO LEAVING JOB SITE.

F. FINAL REPORTS SHALL BE SUBMITTED TO THE COTR IN A TIMELY MANNER, BUT NO LATER THAN TEN (10) DAYS FOLLOWING INSPECTION OR TESTING. UNDER THE NAME AND SIGNATURE OF THE INSPECTOR AND LICENSURE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER RESPONSIBLE FOR TESTING AND INSPECTION.

G. INSPECTION SHALL MINIMALLY INCLUDE THE FOLLOWING:
1. FOUNDATIONS & EARTHWORK: FOOTINGS, FILLS, SLAB SUB-GRADE, PERIMETER AND UNDERFLOOR DRAINAGE SYSTEMS.
2. REINFORCING: LOCATION, ASTM DESIGNATION, BAR SIZES, TYPE (PLAIN OR EPOXY COATED), QUANTITY, PLACEMENT, SPACING, AND CLEARANCES.
3. CONCRETE: ALL STRUCTURAL CONCRETE; LOCATION, STRENGTH, TYPE (NORMAL OR LIGHTWEIGHT), SLUMP, PLACEMENT, AIR TEMPERATURE, CURING AND WEATHER ACCOMMODATIONS AND CONCRETE ADDITIVES.
4. STRUCTURAL STEEL: LOCATION, ASTM DESIGNATION, MEMBER SIZES, TYPE (PLAIN, PAINTED, GALVANIZED, STAINLESS), PLACEMENT AND CONNECTIONS INCLUDING WELDS, BOLTS, POST INSTALLED ANCHORS, AND HEADED STUDS.
5. MASONRY: MASONRY INSPECTION FOR QUALITY ASSURANCE LEVEL 2 AS DEFINED IN THE MASONRY SPECIFICATIONS AND INCLUDE INSPECTION OF UNITS, GROUT, REINFORCING, ANCHOR BOLTS AND LINTELS AT A MINIMUM. AS MASONRY CONSTRUCTION BEGINS, VERIFY THE FOLLOWING ARE IN COMPLIANCE: PROPORTIONS OF SITE PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS, LOCATION OF REINFORCEMENT AND CONNECTORS. PRIOR TO GROUTING, VERIFY THE FOLLOWING ARE IN COMPLIANCE: GROUT SPACE, GRADE AND SIZE OF REINFORCEMENT, PLACEMENT OF REINFORCEMENT, ANCHORS, TIES, AND CONNECTORS, PROPORTIONS OF SITE PREPARED GROUT, AND CONSTRUCTION OF MORTAR JOINTS. VERIFY PLACEMENT OF GROUT, PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.

H. MATERIAL TESTING SHALL MINIMALLY INCLUDE THE FOLLOWING:
1. FOUNDATION & EARTHWORK: SOIL BEARING CAPACITIES AND COMPACTION DENSITIES.
2. REINFORCING: YIELD AND ULTIMATE STRENGTHS. (MILL REPORTS ARE ACCEPTABLE.)
3. CONCRETE: SLUMP TESTS; EVERY THIRD TRUCKLOAD OF CONCRETE AND IN ADDITION, ONE FOR EACH SET OF STRENGTH-TEST CYLINDERS AT PREPARATION. STRENGTH TESTS; ONE SET OF CYLINDERS FOR MAXIMUM OF EACH 50 CY OF CONCRETE PLACEMENT. ONE SET OF CYLINDERS FOR EACH 2500 SQUARE SLAB AREA.
4. STRUCTURAL STEEL: YIELD AND ULTIMATE STRENGTHS. (MILL REPORTS ARE ACCEPTABLE.)
5. MASONRY: MATERIALS CERTIFICATES AND VERIFICATION OF F'M PRIOR TO CONSTRUCTION.
CONDUCT MASONRY PRISM TESTS IN CONFORMANCE WITH ASTM E447 METHOD B AT A FREQUENCY OF ONE TEST PER WEEK.

I. COMPLY WITH CODE REQUIREMENTS AND THE FOLLOWING:
1. CONCRETE CYLINDERS: ONE SET OF 8 LABORATORY CURED 4x8 CYLINDERS SHALL BE TAKEN FOR EACH DAY'S POUR FOR EACH MIX: (3) 7-DAY, (3) 28-DAY, (2) HOLD;
2. ONE SET OF 6 FIELD CURED 4x8 CYLINDERS SHALL BE TAKEN FOR EACH DAY'S POUR FOR EACH MIX (3) 7 -DAY, (3) 28-DAY.

J. FIELD CURED CYLINDERS SHALL BE CURED IN ACCORDANCE WITH CODE REQUIREMENTS OR IF NOT APPLICABLE THEN CURED IN SAME CONDITIONS AS CONCRETE IN WORK.

VII. STRUCTURAL STEEL

A. STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS AND THE "MANUAL OF STEEL CONSTRUCTION" FIFTEENTH EDITION.

B. STRUCTURAL STEEL:
1. STRUCTURAL STEEL SHAPES & PLATES: ASTM A-36 FY = 36,000 PSI
2. HOLLOW SECTIONS (HSS) SQUARE & RECTANGULAR: ASTM A-500B FY = 46,000 PSI
3. HIGH STRENGTH BOLTS: ASTM A-325 CONN TYPE-N
4. ANCHOR RODS: ASTM F-1554 GR 36 OR GR 55 W/ WELDABILITY SUPPLEMENT S1.

C. UNLESS OTHERWISE NOTED, A-325 BOLTS SHALL BE TIGHTENED TO THE "SNUG TIGHT" CONDITION DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. THE SNUG-TIGHT CONDITION MUST ENSURE THAT THE PLIES OF THE CONNECTED MATERIAL HAVE BEEN BROUGHT INTO FIRM CONTACT.

D. WELDING SHALL CONFORM TO REQUIREMENTS OF THE "STRUCTURAL WELDING CODE" AWS D1.1-08. USE 70 KSI LOW-HYDROGEN ELECTRODES.

E. UNLESS GALVANIZED OR TO RECEIVE SPRAY-APPLIED FIREPROOFING, STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT AND ONE FIELD TOUCH-UP COAT OF RUST-INHIBITING PAINT AFTER ERECTION.

F. NO FABRICATION SHALL PROCEED PRIOR TO SHOP DRAWINGS APPROVAL.

G. DEVELOPMENT OF STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUPERVISED BY A REGISTERED PROFESSIONAL ENGINEER REGISTERED IN PROJECT JURISDICTION AND SHALL INCLUDE DETAILS FOR APPLICATION AND ASSEMBLY OF ALL STRUCTURAL MEMBERS. INCLUDE DETAILS OF CUTS, CONNECTIONS, HOLES, AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS 2.1 SYMBOLS SHOWING SIZE, LENGTH AND TYPE OF EACH WELD. SHOP DRAWINGS SHALL BE SUBMITTED TO THE COTR FOR APPROVAL.

H. ALL MISCELLANEOUS STEEL CONNECTIONS SHALL BE WELDED ALL AROUND WITH 1/4-INCH FILLET WELD UNLESS OTHERWISE NOTED, EXCEPT FOR SLOTTED CONNECTIONS.

I. PROVIDE HANDRAILS AND GUARDRAILS THAT ARE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR THE MOST RESTRICTIVE OF THE LOADS GIVEN AND APPLICABLE DESIGN CODE. DESIGN COMBINED POST/RAILING DEFLECTION NOT TO EXCEED 0.75", THE LIMITS IN ASTM E985 OR LIMITATION OF MATERIAL USED AS INFILL, WHICHEVER IS MORE RESTRICTIVE. SUBMIT SHOP DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT JURISDICTION TO THE COTR INDICATING ALL MEMBERS AND CONNECTIONS.

VIII. DEMOLITION

A. ALL MEANS AND METHODS OF SAFELY REMOVING ALL EXISTING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

B. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION OPERATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF AND PROCEDURES FOR THE REQUIRED TEMPORARY SHORING. THE DESIGN PROCEDURES SHALL CONFORM TO ALL GOVERNING CODES AND SAFETY REQUIREMENTS.

C. CONTRACTOR IS RESPONSIBLE FOR MEASURES TO SAFEGUARD THAT NO PERSONNEL WILL BE ABOVE AREAS WHERE OVERHEAD DEMOLITION EQUIPMENT IS IN USE AND UNDER AREAS WHERE TOP SURFACE IS BEING DEMOLISHED.

IX. EARTHWORK

A. ALLOWABLE SOIL BEARING PRESSURE FOR ALL SHALLOW FOOTINGS IS ASSUMED AT 1,500 PSF. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED, FOOTINGS SHALL BE OVER EXCAVATED AND REPLACED WITH LEAN CONCRETE, F'C = 2000 PSI.

B. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW EXTERIOR GRADE, UNLESS NOTED OTHERWISE.

C. FILL WILL BE REQUIRED FOR SITE GRADING IN BUILDING AREAS, AND AS BACKFILL AGAINST WALLS BELOW GRADE.

D. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, NATURAL OR CRUSHED SAND, MDOT MD-CR6.

E. FILL MATERIAL SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 8 INCHES LOOSE THICKNESS, TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D-698.

F. INDIVIDUAL BORROW AREAS, BOTH FROM ON-SITE AND OFF-SITE SOURCES, SHALL BE SAMPLED AND TESTED TO VERIFY CLASSIFICATION OF MATERIALS PRIOR TO THEIR USE AT FILL.

G. AFTER COMPLETION OF COMPACTED FILL OPERATION IN BUILDING AREAS, CONSTRUCTION OF BUILDING ELEMENTS SHALL BEGIN IMMEDIATELY, OR THE FINISHED SUBGRADE SHALL BE PROTECTED FROM EXPOSURE TO INCLEMENT WEATHER CONDITIONS.

H. PLACE SLABS ON GRADE ON ONE LAYER OF VAPOR BARRIERS OVER MINIMUM OF SIX INCHES OF COMPACTED GRANULAR FILL WITH ½ INCH OF FINE GRADED GRANULAR MATERIAL ON TOP.

I. GRANULAR FILL; CLEAN MIXTURE OF CRUSHED STONE OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448, SIZE 57, WITH 100 PERCENT PASSING A 1-1/2-INCH SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.

J. PROVIDE TEMPORARY BRACING AND SHORING, AS REQUIRED, TO ENSURE VERTICAL AND LATERAL STABILITY OF THE ENTIRE STRUCTURE OR PORTION THEREOF DURING CONSTRUCTION.

K. TEMPORARY BRACING SHALL BE PROVIDED FOR ALL WALLS SUBJECT TO UNBALANCED BACKFILL. BRACE WALL PLUMB UNTIL STABILIZING ELEMENT ABOVE IS IN PLACE.

L. ANY REQUIRED TEMPORARY SHORING SHALL BE IN CONFORMANCE WITH OSHA REGULATIONS. UNBRACED EXCAVATIONS SHALL BE SLOPED NO GREATER THAN (1.5) HORIZONTAL TO (1) VERTICAL.

M. LOCATE ALL UNDERGROUND UTILITIES IN VICINITY OF FOUNDATIONS AND DETERMINE IF A CONFLICT EXISTS. PROVIDE INFORMATION ON LOCATION SIZE AND ELEVATION OF UTILITIES PRIOR TO START OF WORK SO THAT ANY NECESSARY CHANGES CAN BE MADE WITHOUT DELAYING THE PROJECT SCHEDULE.

3

X. WOOD AND TIMBER FRAMING MATERIALS

A. PROVIDE LUMBER AND TIMBER DESIGN, FABRICATION AND ERECTION IN ACCORDANCE WITH:
1. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION."
2. "AMERICAN SOFTWOOD LUMBER STANDARDS."
3. GRADES FOR JOISTS, BEAMS AND POSTS: SOUTHERN PINE #1 WITH MAXIMUM MOISTURE CONTENT 19%.

SAWN LUMBER MINIMUM MEMBER PROPERTIES:
1. LINTELS AND BEAMS
a) FLEXURE: FB = 1000 PSI
b) SHEAR: FV = 175 PSI
c) MODULUS OF ELASTICITY E = 1,600,000 PSI
2. WALL STUDS:
a) FLEXURE: FB = 675 PSI
b) COMPRESSION PARALLEL TO GRAIN: FC"= 405 PSI
c) MODULUS OF ELASTICITY E = 1,200,000 PSI

B. PLACE WALLS STUDS @ 16" O.C. (UNLESS NOTED OTHERWISE) PROVIDE MINIMUM DOUBLE STUDS AT ENDS OF WALLS AND AT DOOR AND WINDOW JAMBS. PROVIDE MINIMUM TRIPLE STUDS AT WALL INTERSECTIONS AND CORNERS. PROVIDE FIRE STOPS AS REQUIRED BY CODE. PROVIDE SINGLE BOTTOM PLATE AND DOUBLE CAP PLATES FOR WALL FRAMING, UNLESS NOTED OTHERWISE. STAGGER CAP PLATE SPLICES MINIMUM 6'-0".

C. PLYWOOD SHALL BE IN ACCORDANCE WITH SPECIFICATIONS OF THE "AMERICAN PLYWOOD ASSOCIATION," RATED AND PRODUCT STANDARD P-1. (RATED ORIENTED STRAND BOARD EQUIVALENTS MAY BE PROVIDED IN LIEU OF PLYWOOD.)
1. EXTERIOR WALL SUB-SIDING & SUB-ROOFING: EXTERIOR GRADE.
2. INTERIOR WALL AND SUB-FLOORING: INTERIOR GRADE.

D. PROVIDE ALL ROOF AND WALL SHEATHING AS 5/8-INCH, CDX, APA STRUCTURAL I RATED SHEATHING, EXPOSURE I, PER THE "AMERICAN PLYWOOD ASSOCIATION" UNO.

E. PRE-ENGINEERED WOOD ROOF TRUSSES AND TRUSS LATERAL BRACING ARE TO BE DESIGNED BY THE MANUFACTURER FOR THE LOADS GIVEN IN CONFORMANCE WITH ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION" AND ALL CODE REQUIRED LOADING CONDITIONS. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL TRUSS DIMENSIONS AND TRUSS CONFIGURATIONS. PROVIDE SHOP DRAWINGS WITH A TRUSS LAYOUT DRAWING.

F. PROVIDE PRE-ENGINEERED WOOD TRUSSES WITH METAL PLATE CONNECTORS, CONFORMING TO "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION," ANSI/TPI 1.

G. FOR PRE-ENGINEERED WOOD ROOF TRUSS SHOP DRAWINGS, INDICATE BOTH TEMPORARY AND PERMANENT LATERAL BRACING. IN ACCORDANCE WITH TPI HIB "COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED TRUSSES", AND TPI DSB "RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES." LATERAL BRACING LOADS IMPOSED ON TO THE BUILDING STRUCTURE SHALL BE CLEARLY INDICATED ON SHOP DRAWINGS. PROVIDE ALL SHOP DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT SUBMITTED TO THE COTR FOR APPROVAL.

H. PRE-ENGINEERED WOOD TRUSS ENGINEER SHALL CONSIDER ALL APPLICABLE DESIGN LOAD CASES AS REQUIRED BY APPLICABLE CODES.

I. PROVIDE ANCHOR RODS FOR WOOD FRAMING IN ACCORDANCE WITH ASTM F-1554, GR WITH WELDABILITY SUPPLEMENT, S1.

J. PROVIDE MIN. 2" BEARING FOR STANDARD LUMBER BEAMS.

K. PROVIDE ALL WOOD TOP PLATE SPLICES STAGGERED 6'-0" MINIMUM.

L. PROVIDE ALL WALL SHEATHING CONTINUOUS BETWEEN TOP PLATES AND BOTTOM PLATE OF WALL ABOVE.

M. PROVIDE MULTIPLE MEMBERS FASTENED TOGETHER WITH 16D NAILS @ 12" O.C. AS FOLLOWS:
1. TO 8" DEEP ONE ROW STAGGERED
2. 9" TO 12" DEEP TWO ROWS
3. GREATER THAN 13" DEEP THREE ROWS.

N. ALL LINTELS TO BE 2-(2 X 12) (U.N.O.) SUPPORTED ON DOUBLE STUDS. PROVIDE DOUBLE STUDS NAILED TOGETHER WITH 10D AT 6" O.C.

O. NAIL FRAMING PER RECOMMENDED WOOD FASTENING SCHEDULE IN IBC TABLE 2304.10.1 UNLESS NOTED OTHERWISE. PROVIDE BLOCKING, BRIDGING, BRACING PER IBC AND NDS.

P. PROVIDE ROOF SHEATHING LAID BETWEEN THE EDGES OF THE ROOF, CONTINUOUSLY UNDER ROOF CAP-TRUSSES (DORMER FRAMING) AND OTHER OVER-BUILDS. CAP-TRUSS LOWER CHORD TO REST CONTINUOUSLY ON ROOF SHEATHING AND BE SECURELY FASTENED TO ROOF TRUSSES BELOW.

ABBREVIATION INDEX FOR STRUCTURAL DRAWINGS

@	AT
&	AND
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
ARCH	ARCHITECTURAL, ARCHITECT
ASTM	AMERICAN STANDARDS OF TESTING MATERIALS
B.B.	BOND BEAM
BLDG	BUILDING
BM	BEAM
B OR BOTT.	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CLR	CLEAR
COEFF	COEFFICIENT
COL	COLUMN
CONC	CONCRETE
COTR	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE
CONT	CONTINUOUS
D	DEPTH
DEMO	DEMOLITION
DIAG.	DIAGONAL
DN	DOWN
DWG	DRAWING
EA	EACH
EW	EACH WAY
EF	EACH FACE
ELEV	ELEVATION
EQ	EQUAL
EXIST, EX	EXISTING
F'c	CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS
FTG	FOOTING
FULL HT.	FULL HEIGHT
GA	GAGE
GALV.	GALVANIZED
GR	GRADE
GPR	GROUND PENETRATING RADAR
HDS	HEADED STUDS
HORIZ	HORIZONTAL
IF	INSIDE FACE
KSI	KIPS PER SQUARE INCH
LG	LONG
MAX	MAXIMUM
MIN	MINIMUM
N.S.	NON-SHRINK
NTS.	NOT TO SCALE
O.C.	ON CENTER
OF	OUTSIDE FACE
OPNG	OPENING
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
REINF.	REINFORCEMENT
SIM.	SIMILAR
SOG	SLAB ON GRADE
SF	SQUARE FEET
STD	STANDARD
T.	TOP
T/FTG	TOP OF FOOTING
T/SLAB	TOP OF SLAB
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD
VERT	VERTICAL
WWF	WELD WIRE FABRIC
W	WIDTH
W/	WITH

RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

mcmullan
CONSULTING ENGINEERS
11800 SUNRISE VALLEY DR, STE 430 RESTON, VA 20191
(703) 556 - 0651 www.mcmse.com

DISTRICT OF COLUMBIA
DOUGLAS EDWARD BOND
No. 904903
LICENSED
PROFESSIONAL ENGINEER

STAMP

KEY PLAN

GRAPHIC SCALE(S)

DATE 11/03/23
SUBMISSION KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI - 001 & ASI -002)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME: NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL KUDU
ADDRESS: 3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE: RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD4
SF PROJECT NUMBER: 2033108
A/E PROJECT NUMBER: 1401.39
DRAWING TITLE: DESIGN NOTES AND ABBREVIATIONS

DESIGNED BY	DRAWN BY	CHECKED BY
SCP	AA/SO	CN

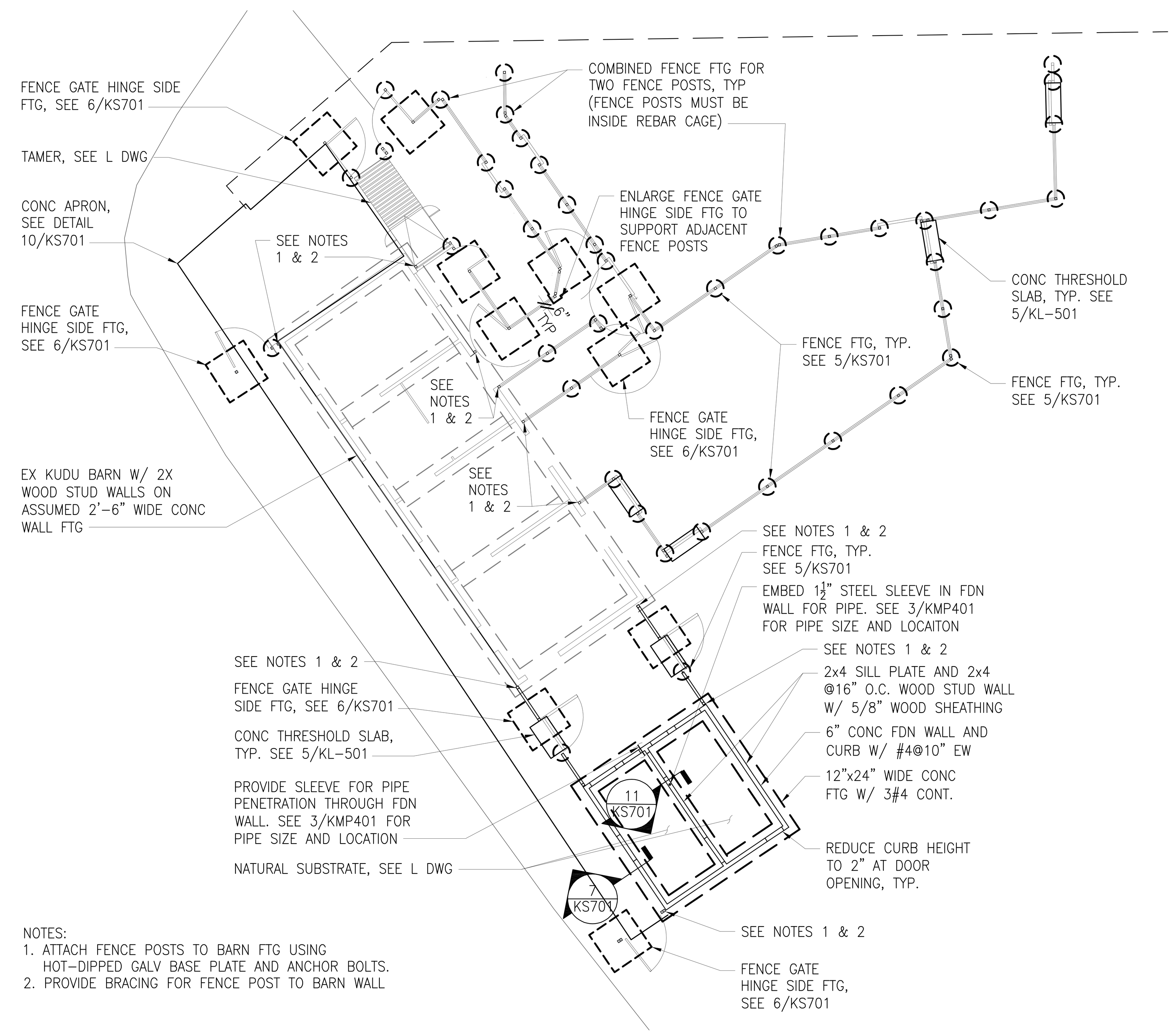
SHEET NO. 13 OF 29

DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
KS	0	01	FP

2/11/2022 12:51:35 PM
A-102FP BY Approver Enter Issue Date PRE-35% SCHEMATIC DESIGN

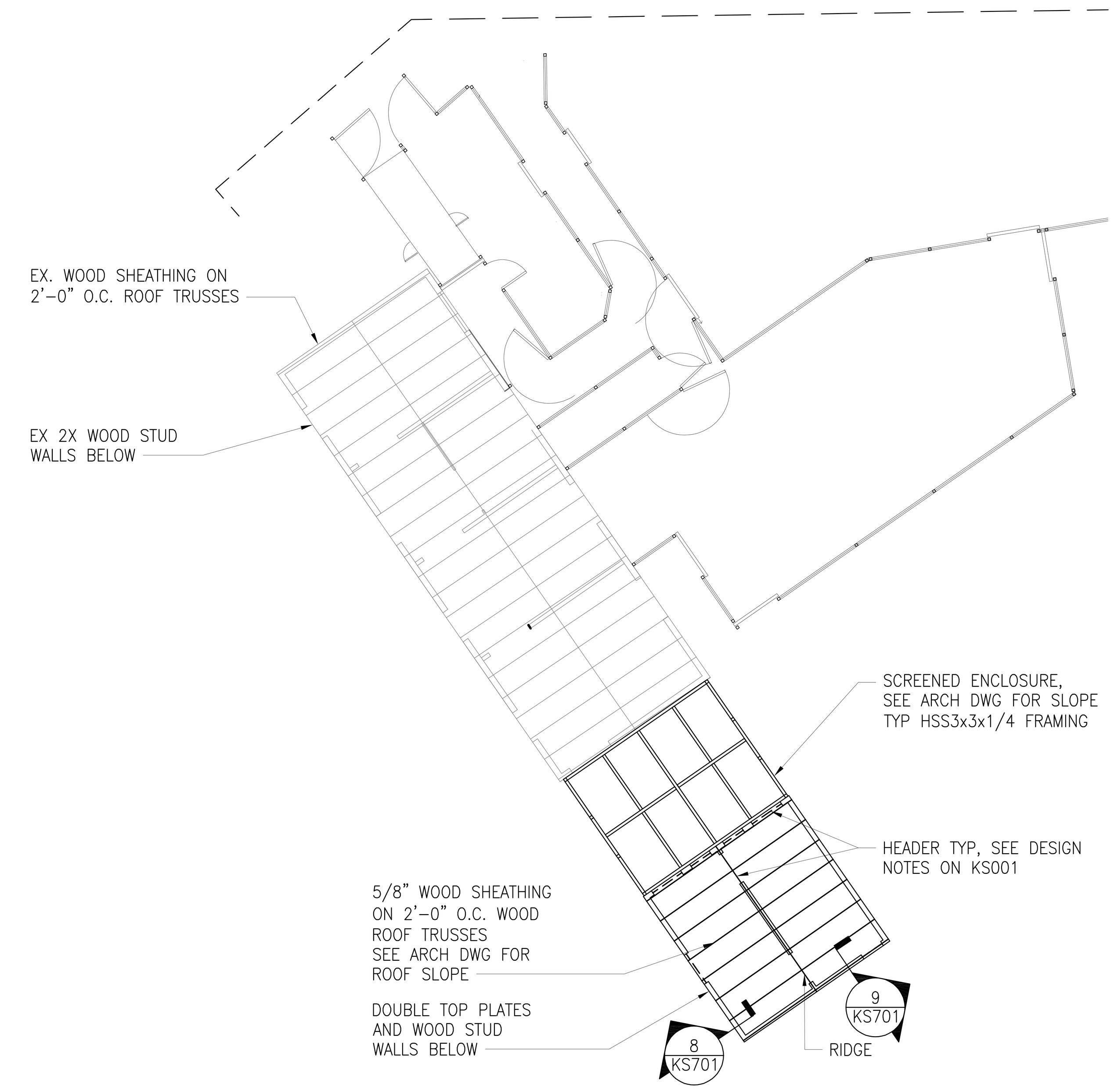
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

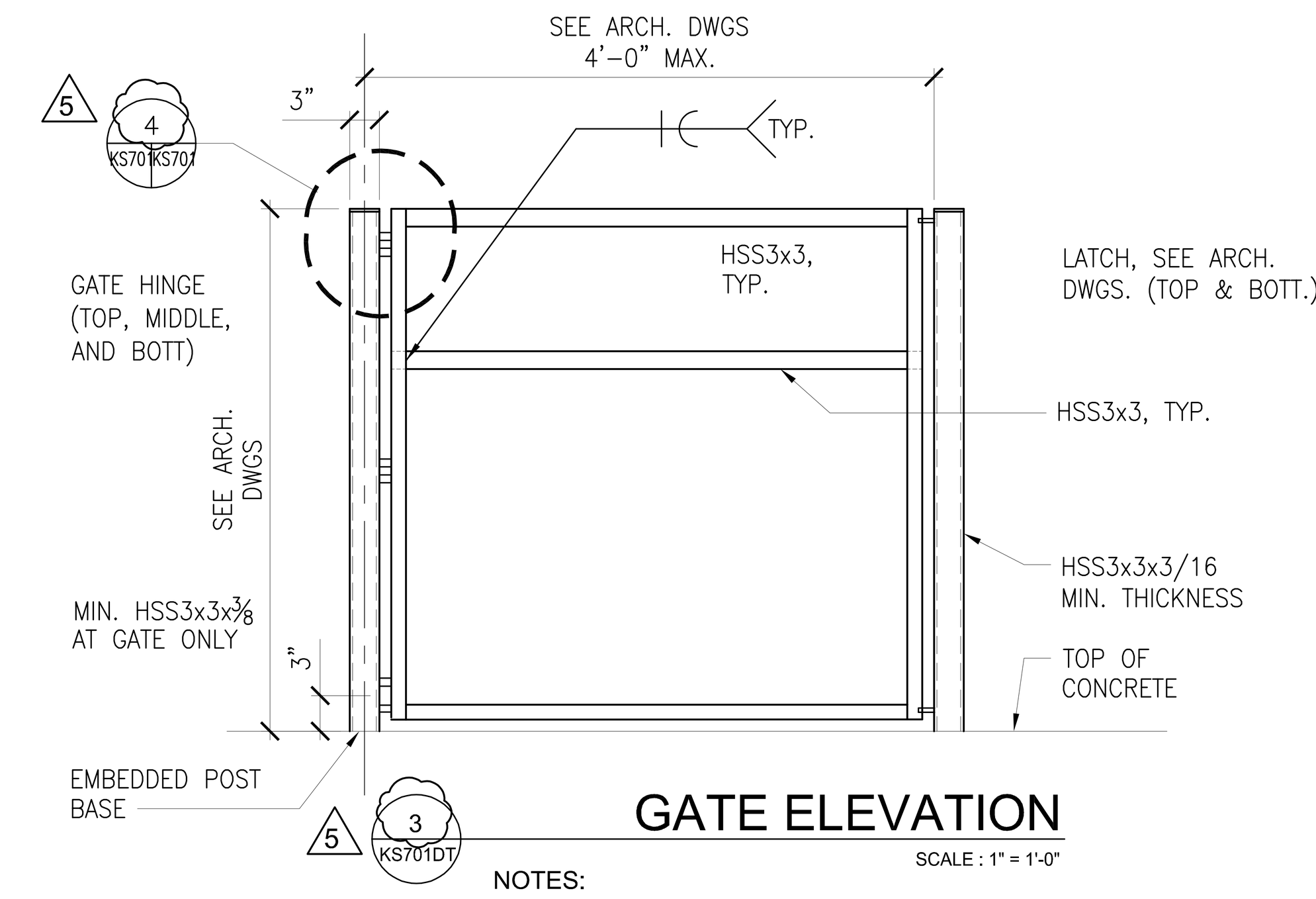


NOTES:
1. ATTACH FENCE POSTS TO BARN FTG USING HOT-DIPPED GALV BASE PLATE AND ANCHOR BOLTS.
2. PROVIDE BRACING FOR FENCE POST TO BARN WALL

1 KS701DT **FOUNDATION PLAN** SCALE : 1/8" = 1'-0"

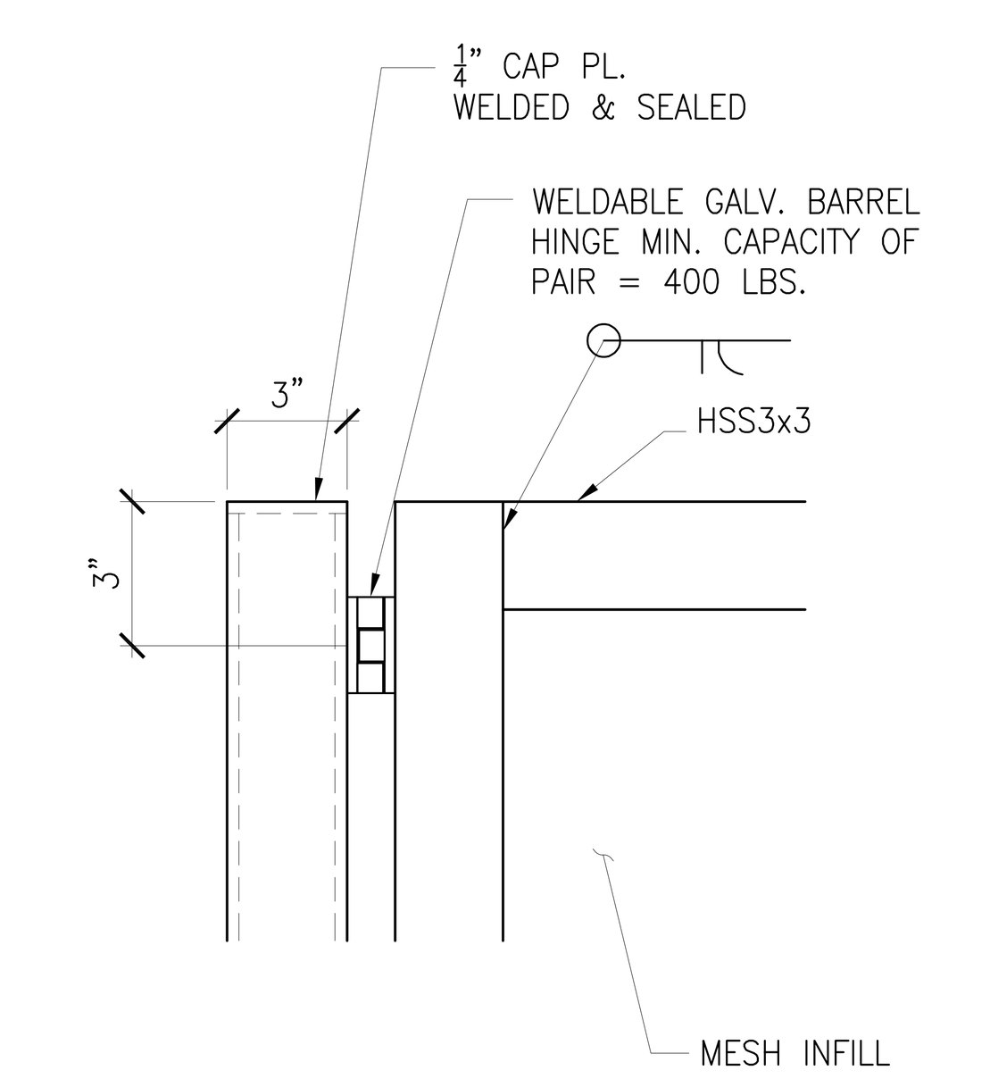


2 KS701DT **ROOF FRAMING PLAN** SCALE : 1/8" = 1'-0"

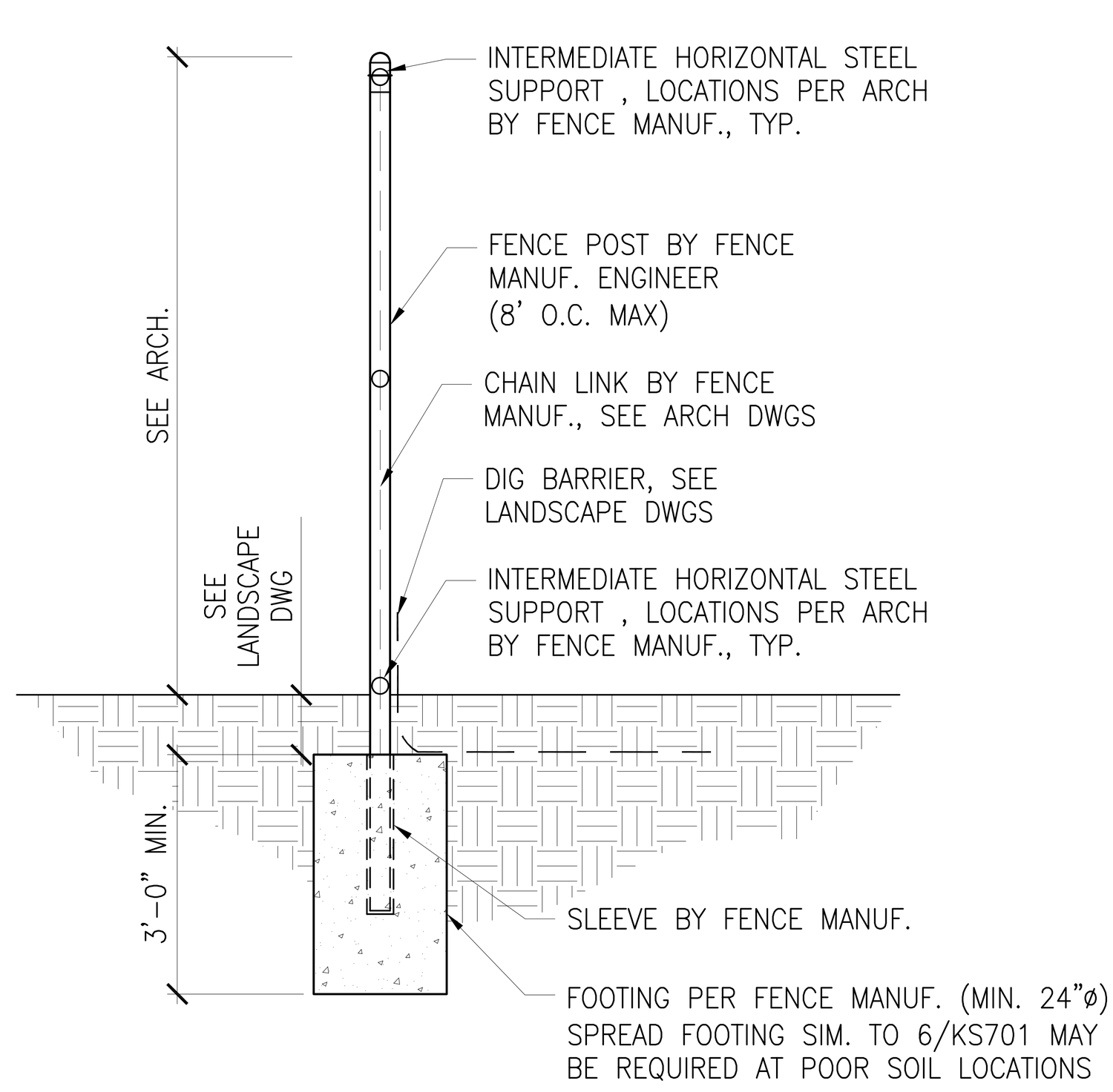


3 KS701DT **GATE ELEVATION** SCALE : 1" = 1'-0"

NOTES:
1. SEE ARCH AND LANDSCAPE DRAWINGS FOR GATE LOCATIONS AND GEOMETRY.

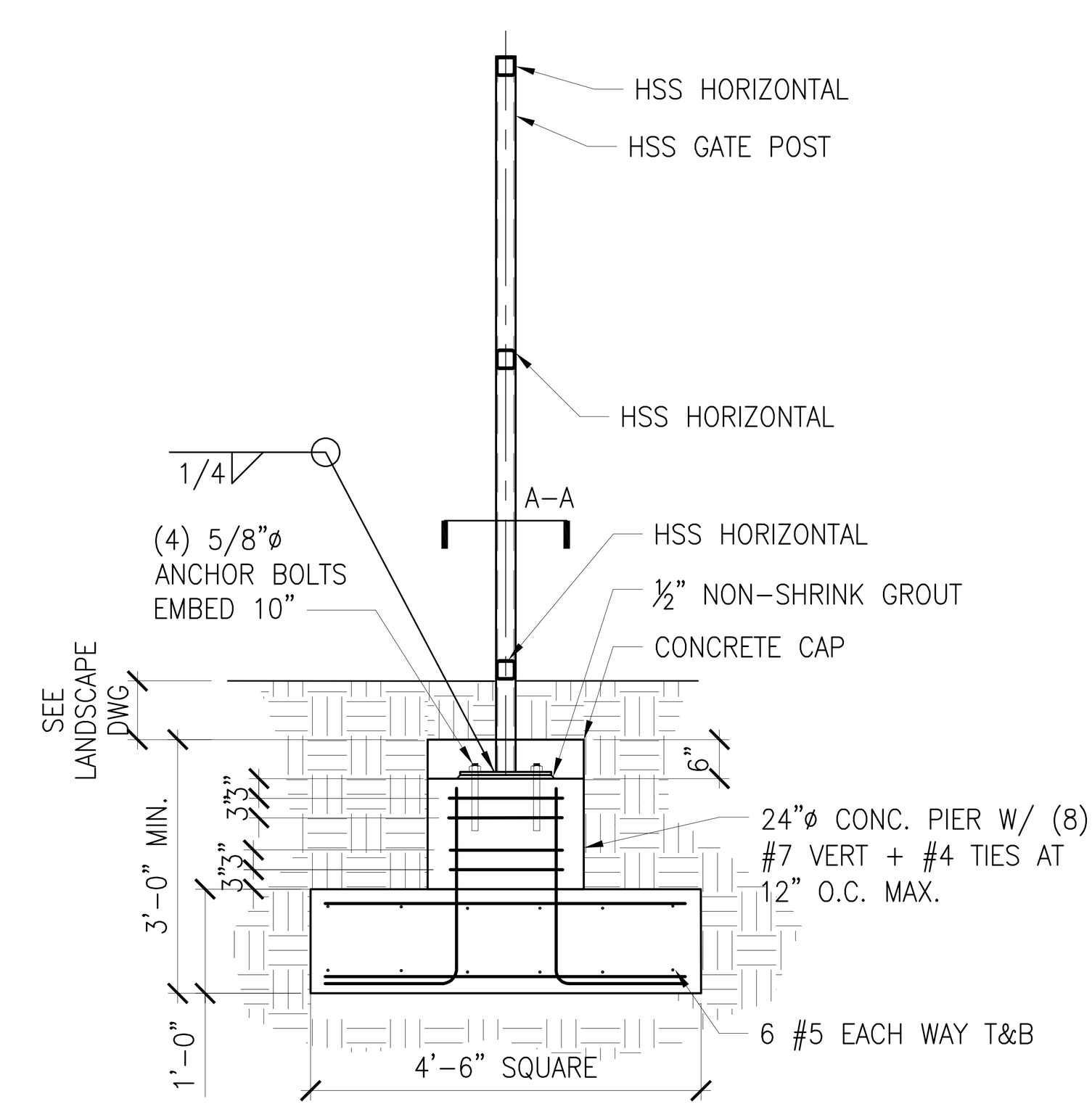


4 KS701DT **GATE DETAIL AT HINGE** SCALE : 3" = 1'-0"



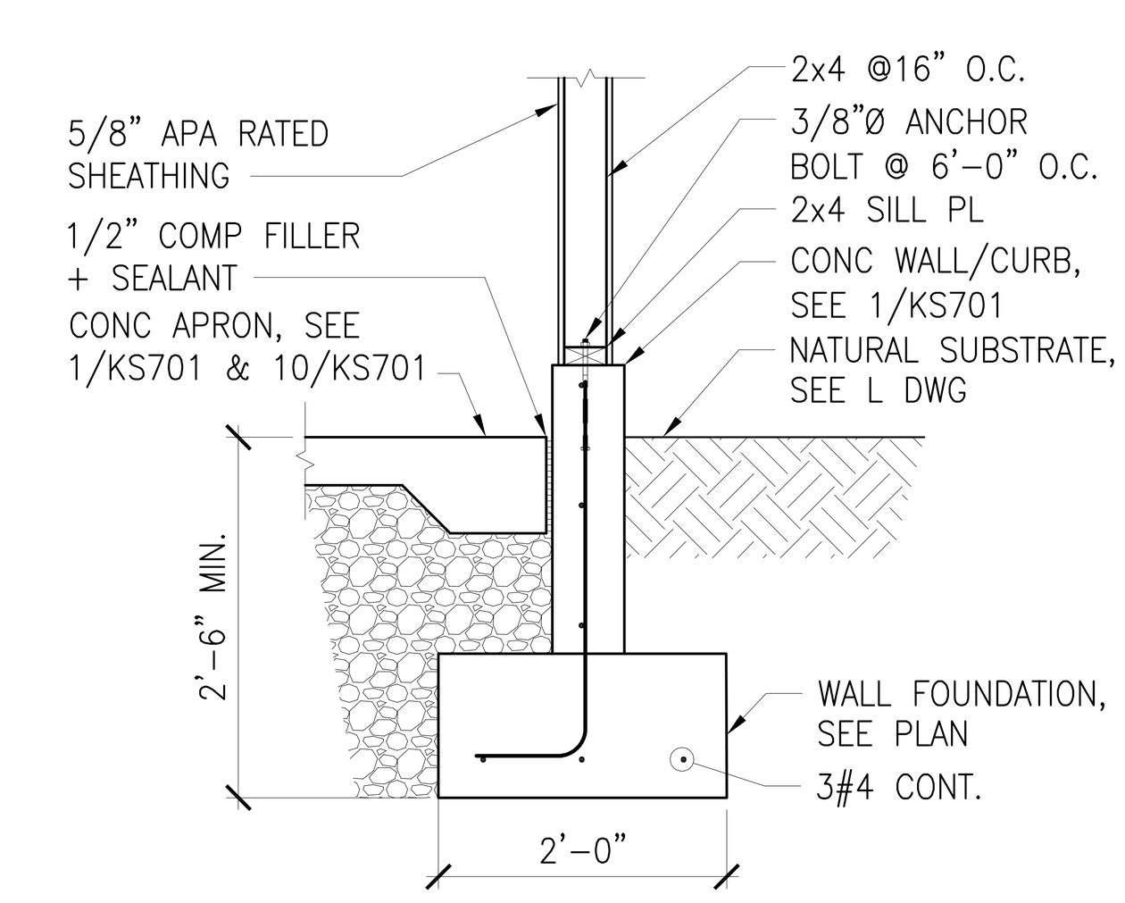
5 KS701DT **TYPICAL FENCE POST AND SLIDE GATE POST FDN DETAIL** SCALE : 1/2" = 1'-0"

NOTE:
1. FENCE TO BE PRE-ENGINEERED FOR LOADS REQUIRED AS NOTED ON DESIGN NOTES AND SPECIFICATIONS.
2. SEE 1/KS-701 FOR FENCE POST FOUNDATION SHOWN AS ◯.

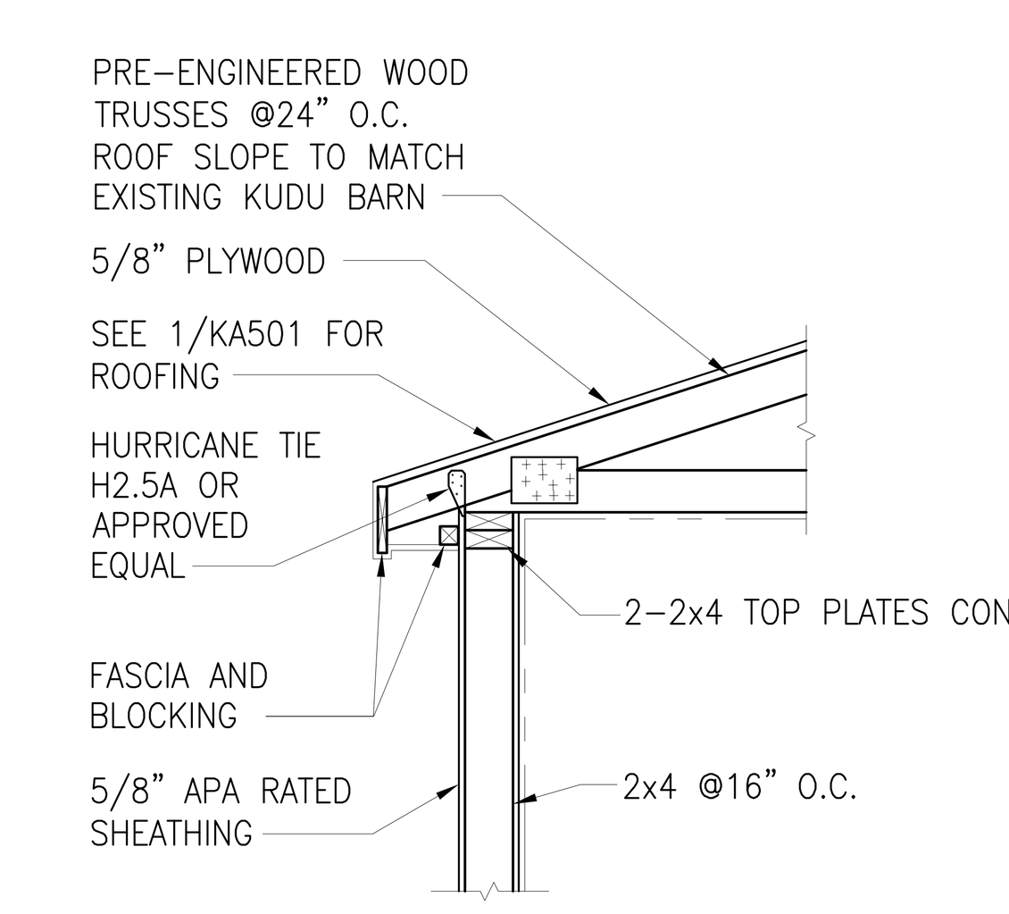


6 KS701DT **FENCE GATE POST FDN DETAIL** SCALE : 1/2" = 1'-0"

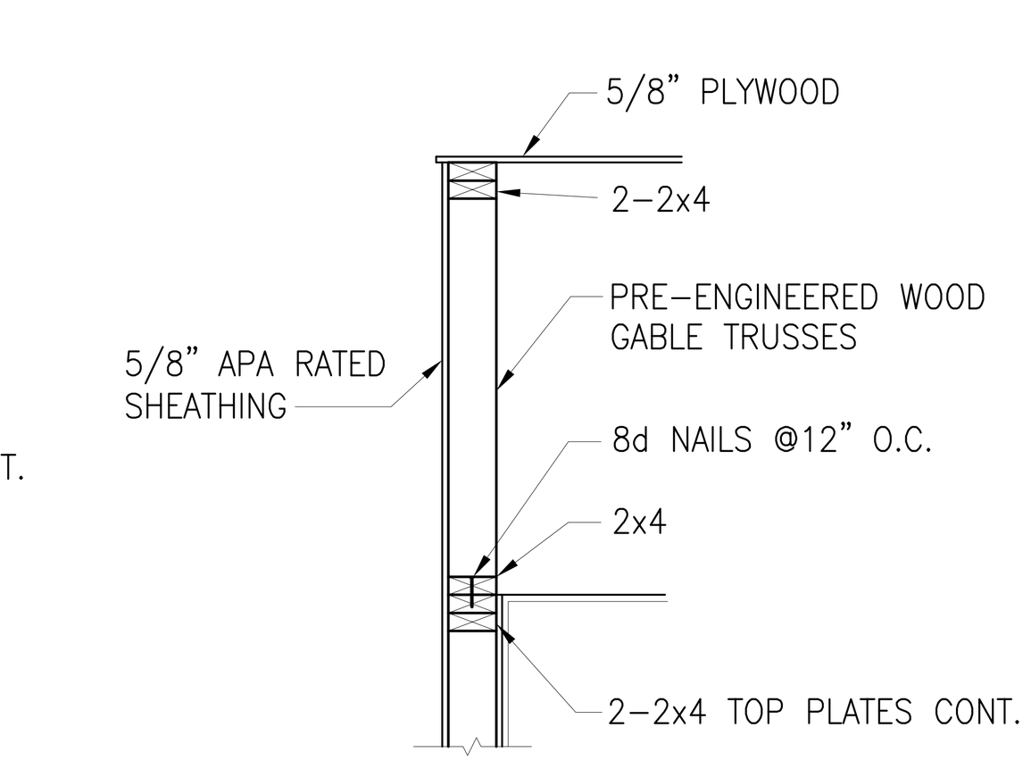
NOTE:
1. SEE LANDSCAPE DWGS. FOR PRELIMINARY FENCE MEMBER SIZES. FENCE TO BE PRE-ENGINEERED FOR LOADS REQUIRED AS NOTED ON DESIGN NOTES AND SPECIFICATIONS.
2. FOUNDATION LOCATED ON HINGE SIDE OF THE DOOR ONLY. SEE 1/KS-701 FOR FENCE GATE POST FOUNDATION SHOWN AS ⬚.



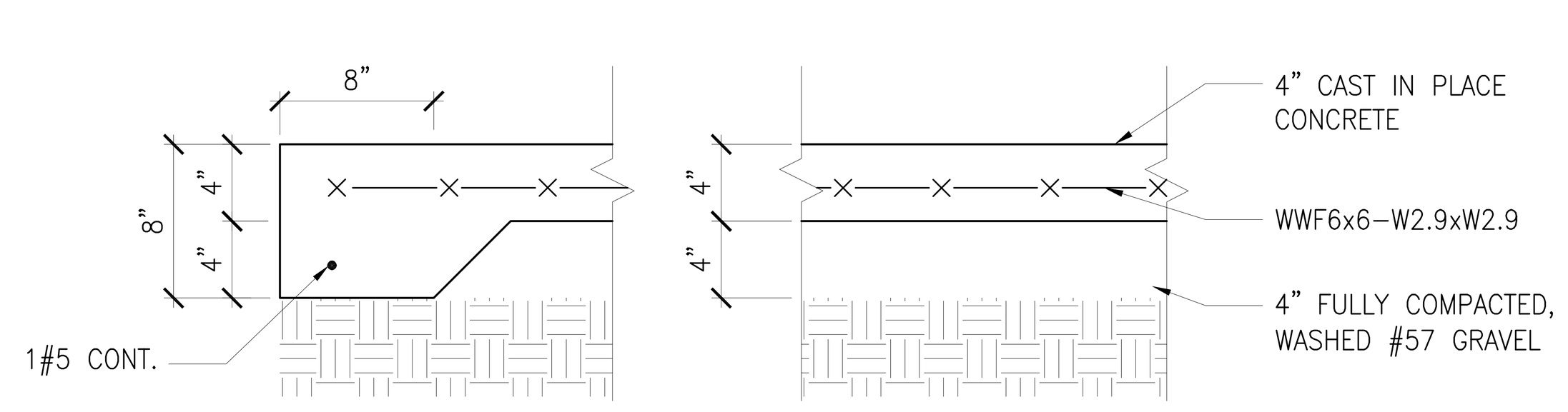
7 KS701DT **FDN WALL SECTION** SCALE : 3/4" = 1'-0"



8 KS701DT **TRUSS BEARING DETAIL** SCALE : 3/4" = 1'-0"

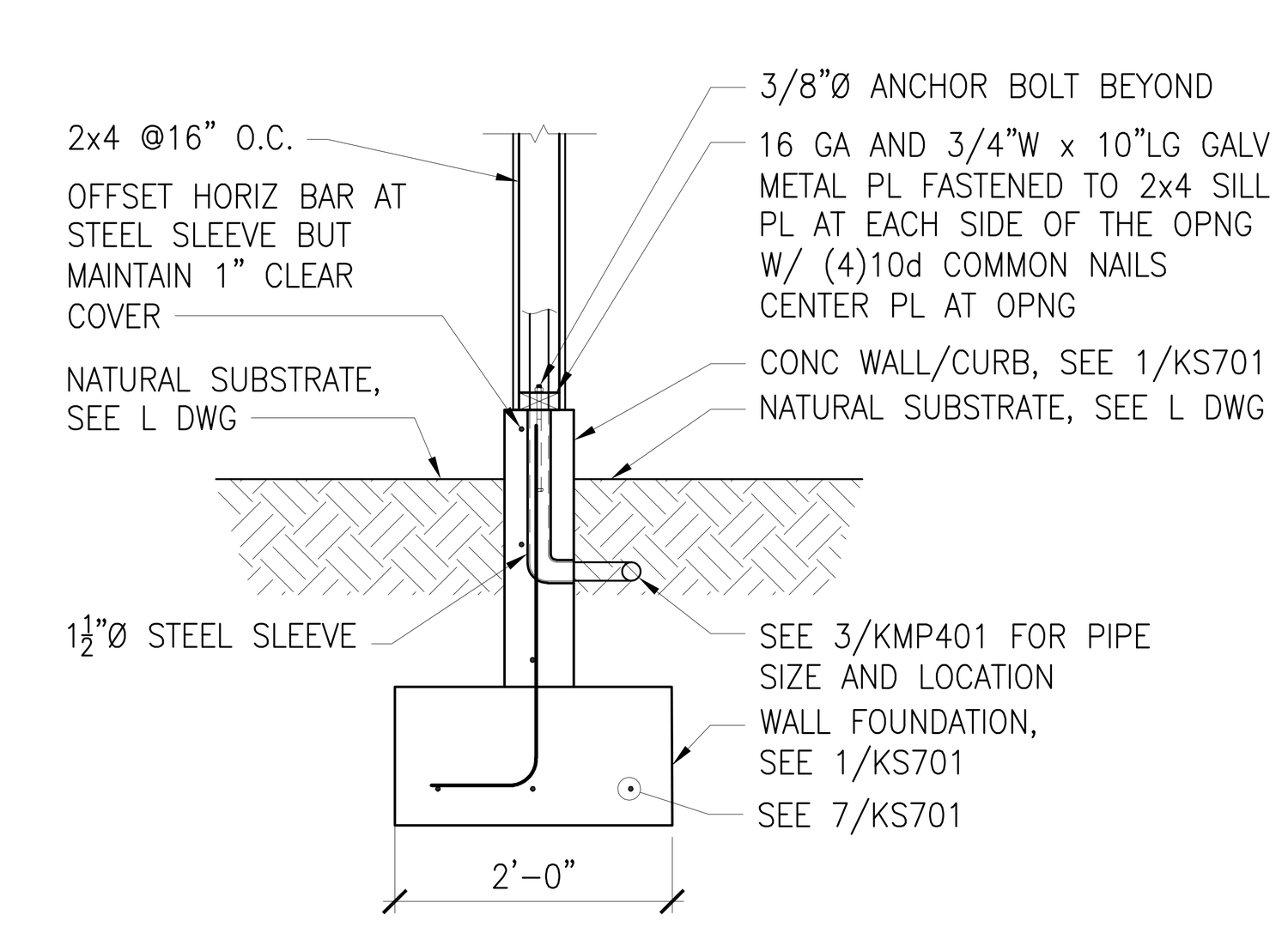


9 KS701DT **GABLE WALL DETAIL** SCALE : 3/4" = 1'-0"



NOTES:
1. THICKENED SLAB EDGE TYPICAL AT NONBUILDING PERIMETERS OF THE CONCRETE KEEPER AREA.
2. PROVIDE HAND TOOLED TRANSVERSE AND LOAGITUDINAL CONTROL JOINTS, STRUCK AT 6' O.C. TO FORM A SQUARE STRIKE PATTERN, TYP.
3. PROVIDE 3/8" EXPANSION JOINTS AT 25' MAX O.C. AND BETWEEN CAST IN PLACE CONCRETE AND BUILDING WALLS, FENCES, AND OTHER SITE FEATURES, TYP. SEE KA-100 SP FOR EXPANSION JOINT LOCATIONS.

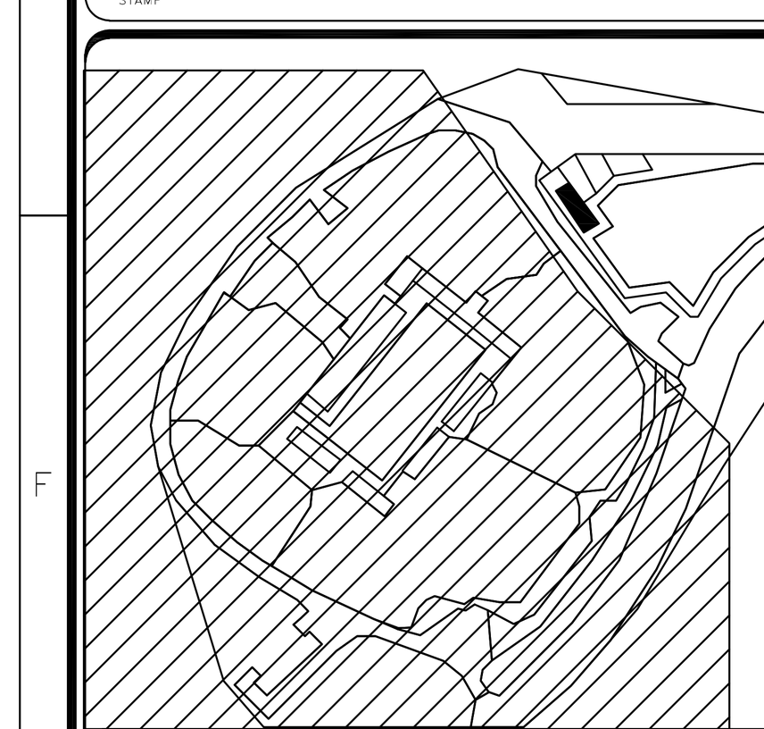
10 KS701DT **TYPICAL CONCRETE APRON DETAIL** SCALE : 1 1/2" = 1'-0"



11 KS701DT **FDN WALL SECTION** SCALE : 3/4" = 1'-0"

GRAPHIC SCALE(S)

SCALE: 1/8"=1'-0"
SCALE: 1/2"=1'-0"
SCALE: 3/4"=1'-0"
SCALE: 1"=1'-0"
SCALE: 1 1/2"=1'-0"
SCALE: 3"=1'-0"


KEY PLAN

architrave p.c.
420 10th STR. SE. Washington DC 20003
202.544.1640
architravep.com

mcmullan CONSULTING ENGINEERS
11800 SUNRISE VALLEY DR, STE 430 RESTON, VA 20191
(703) 556 - 0651 www.mcmse.com

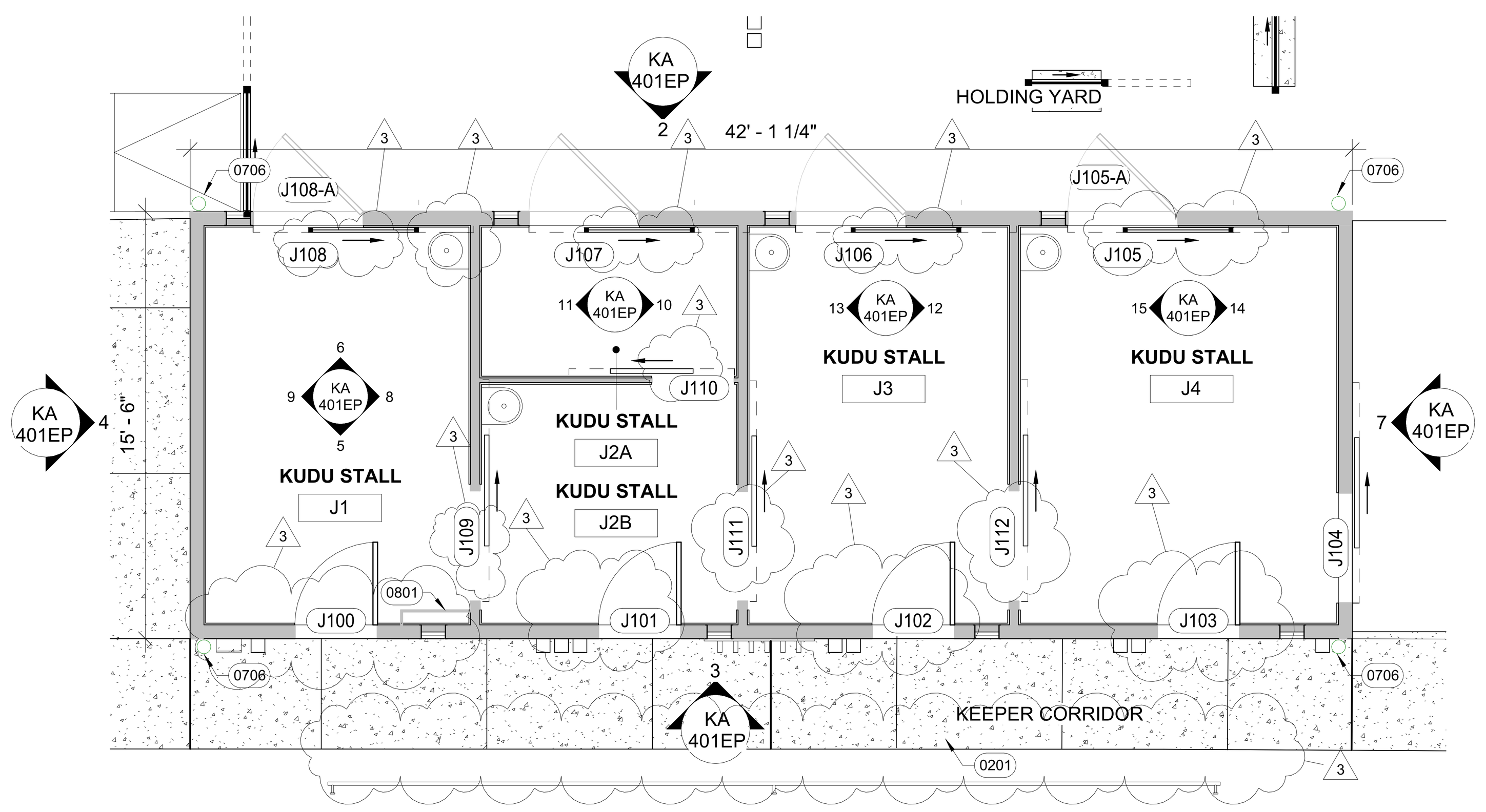
DISTRICT OF COLUMBIA — DOUGLAS EDWARD BOND — No. 904903 — LICENSED PROFESSIONAL ENGINEER

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

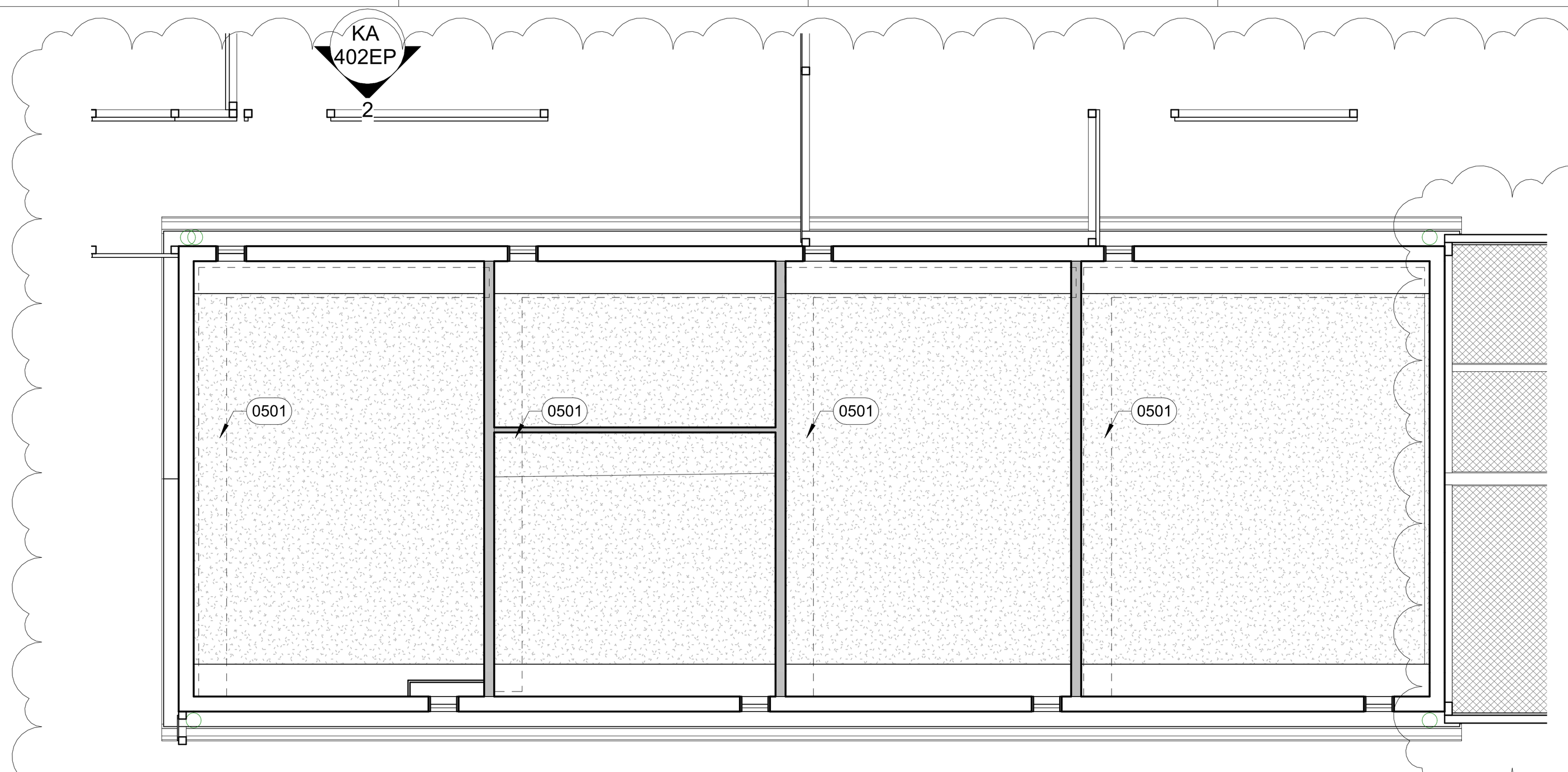
11/03/23	KUDU MOD 4 FINAL CD
BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD4
SI PROJECT NUMBER	2033108
	1401.39
DRAWING TITLE	KUDU PLANS AND DETAILS
	SCP / AA/SO / CN
SHEET NO. 14 of 29	KS701DT

RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

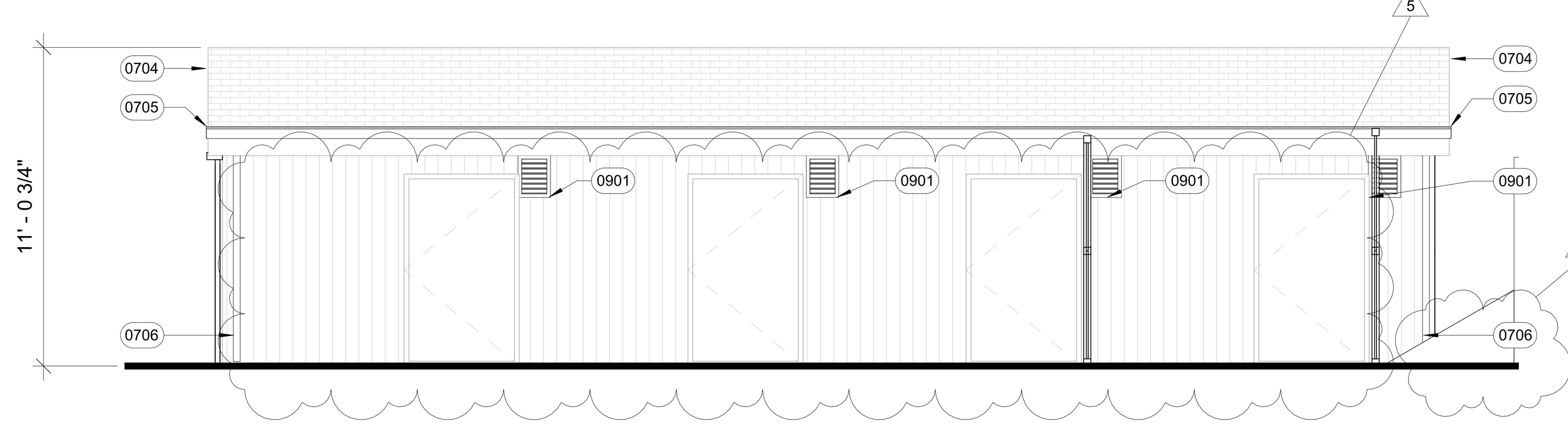
FOR CONSTRUCTION



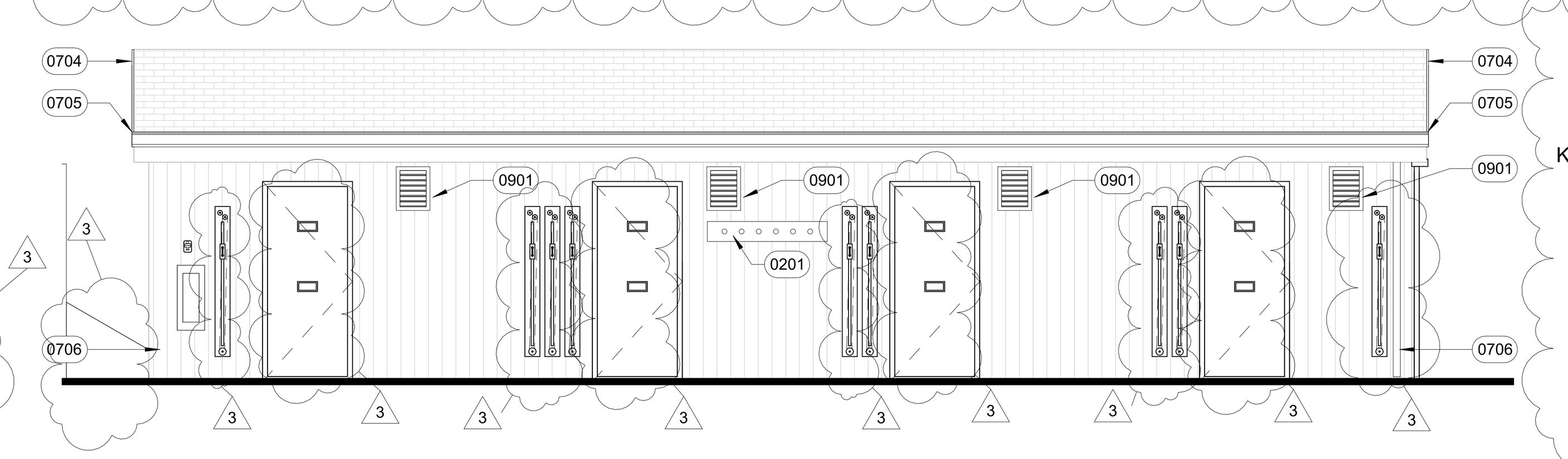
1 KA 401EP ENLARGED PLAN - BARN J
SCALE = 1/4" = 1'-0"



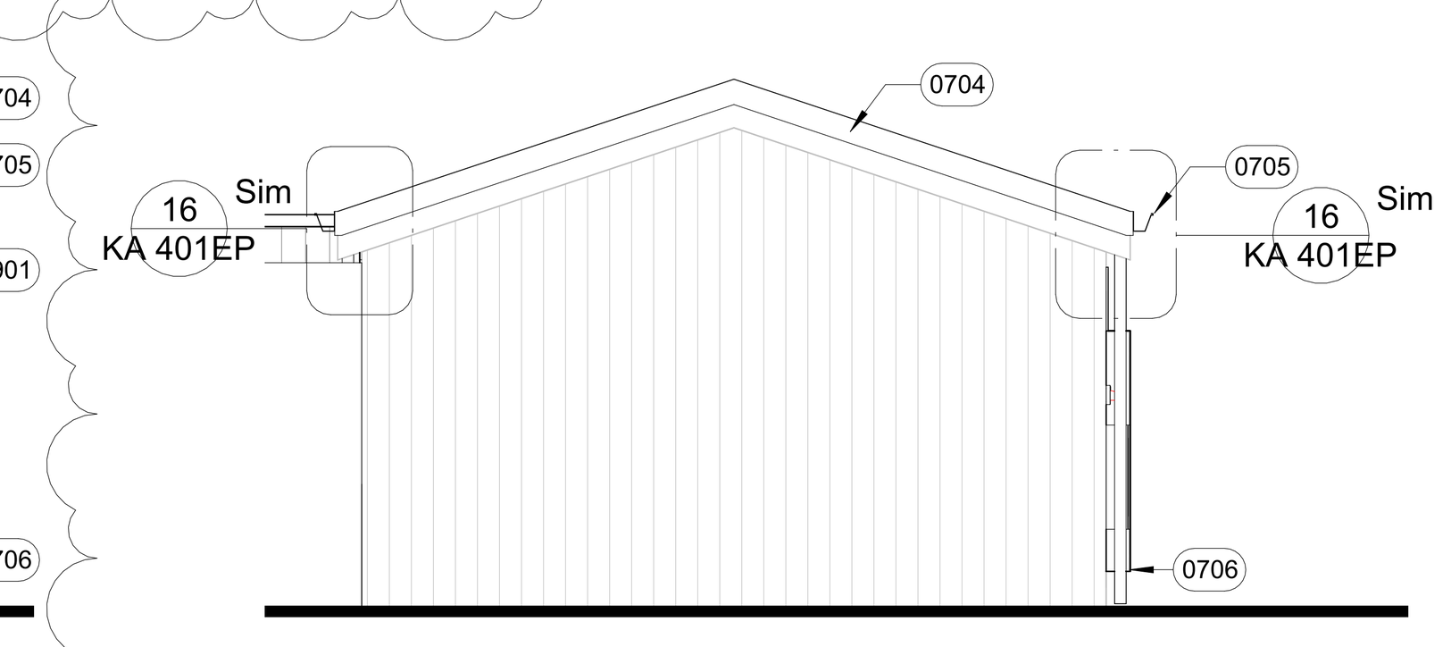
19 KA 401EP TYP EXISTING KUDU BARN CEILING CONDITION
SCALE = 1/4" = 1'-0"



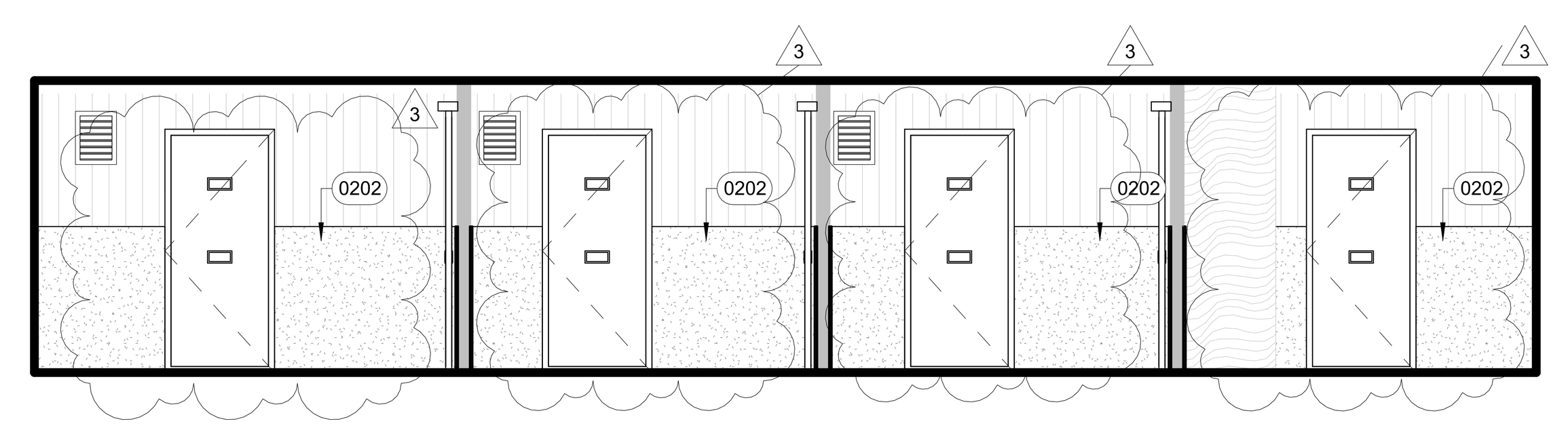
2 KA 401EP ELEVATION - BARN J SW
SCALE = 1/4" = 1'-0"



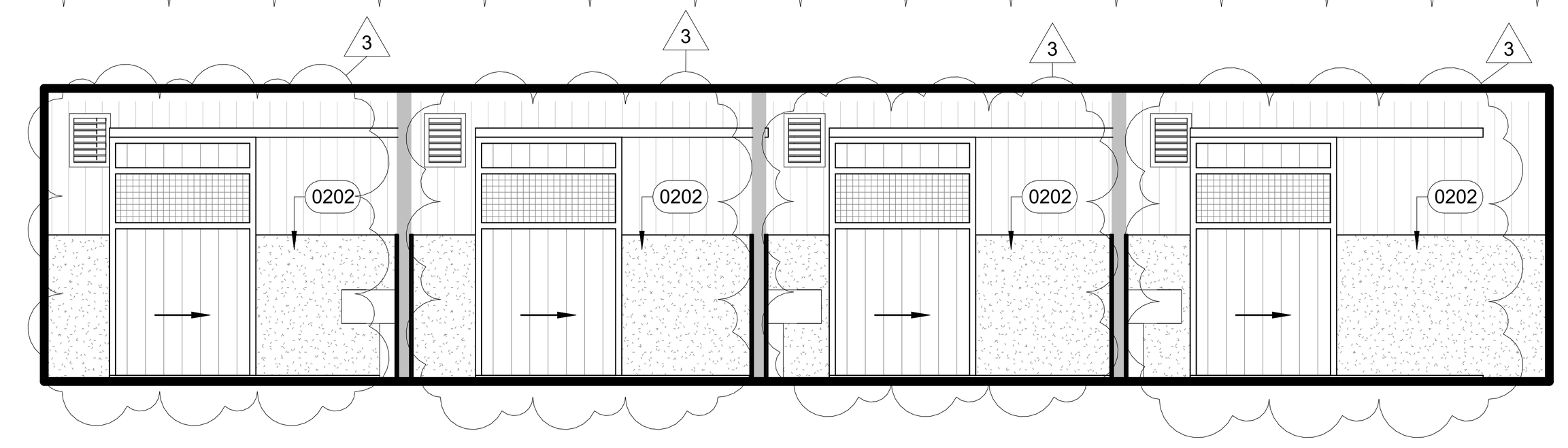
3 KA 401EP ELEVATION - BARN J NE
SCALE = 1/4" = 1'-0"



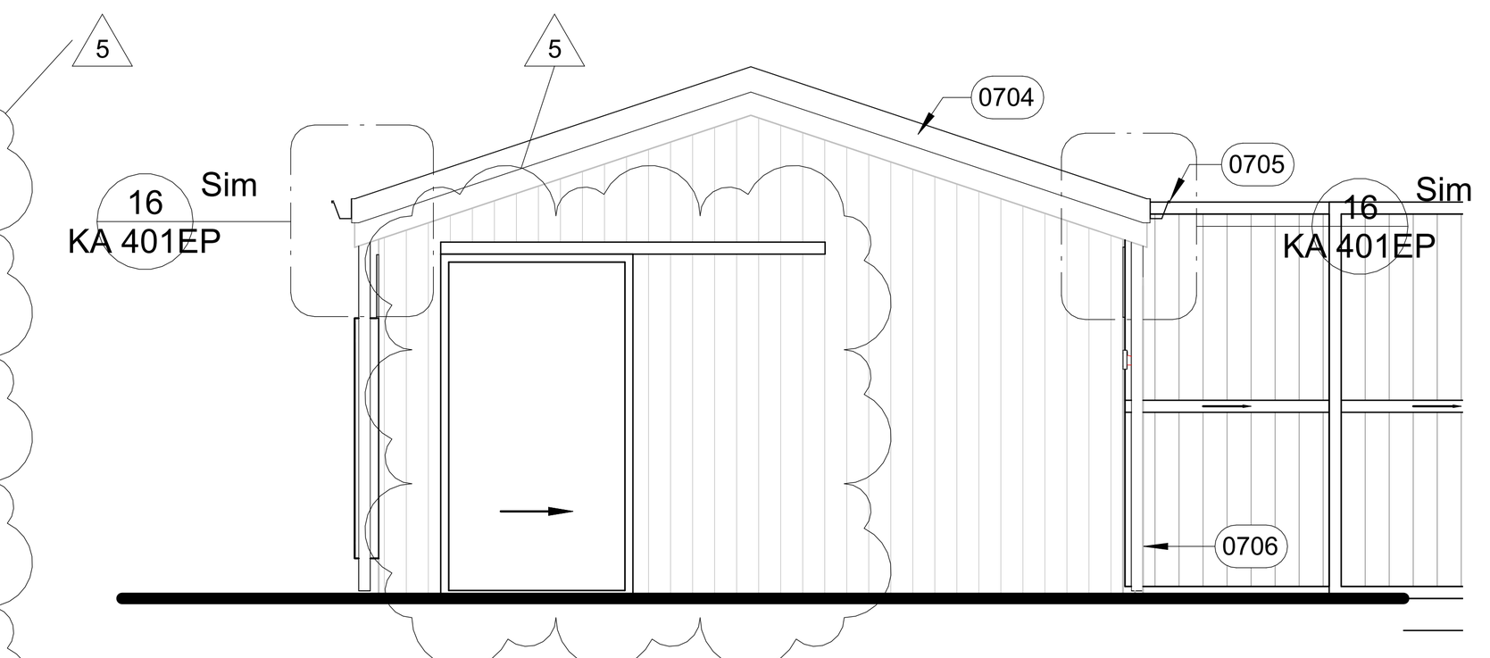
4 KA 401EP ELEVATION - BARN J NW
SCALE = 1/4" = 1'-0"



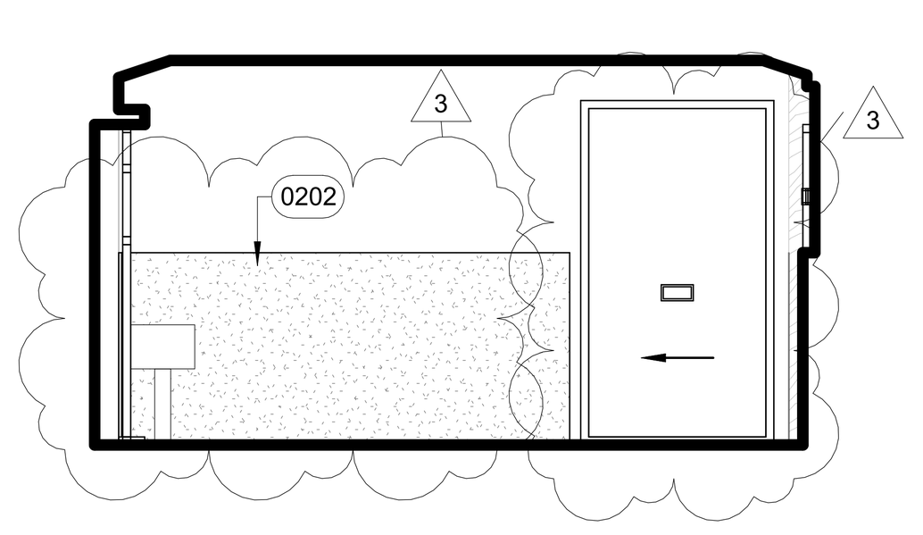
5 KA 401EP INTERIOR ELEVATION - BARN J SW
SCALE = 1/4" = 1'-0"



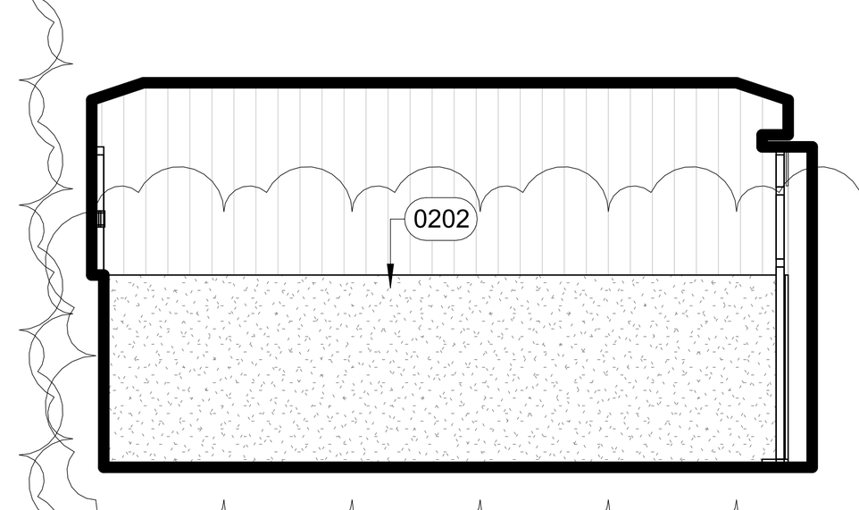
6 KA 401EP INTERIOR ELEVATION - BARN J NE
SCALE = 1/4" = 1'-0"



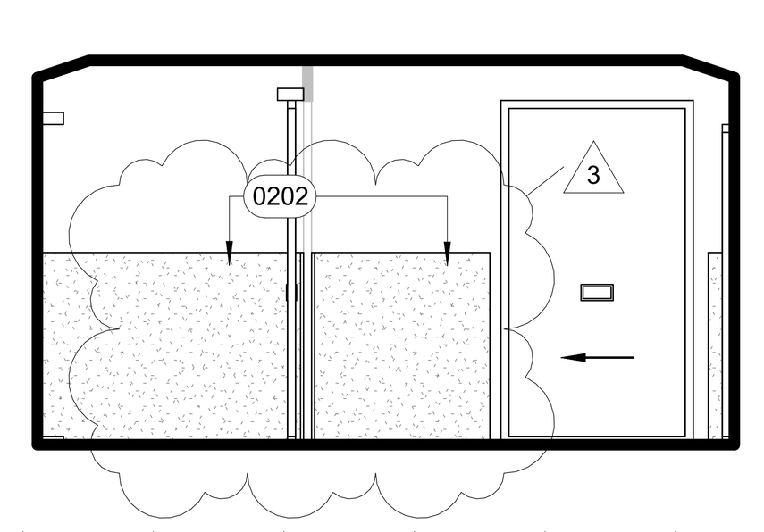
7 KA 401EP ELEVATION - BARN J SE
SCALE = 1/4" = 1'-0"



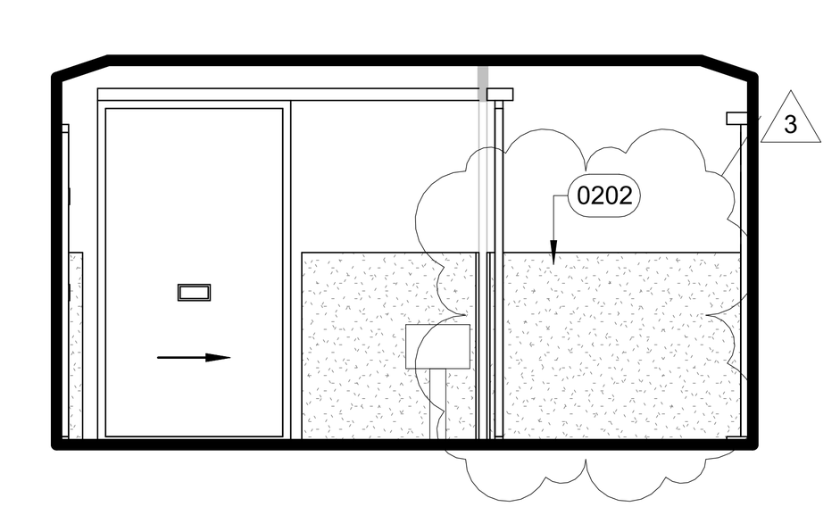
8 KA 401EP STALL J1 SE
SCALE = 1/4" = 1'-0"



9 KA 401EP STALL J1 NW
SCALE = 1/4" = 1'-0"

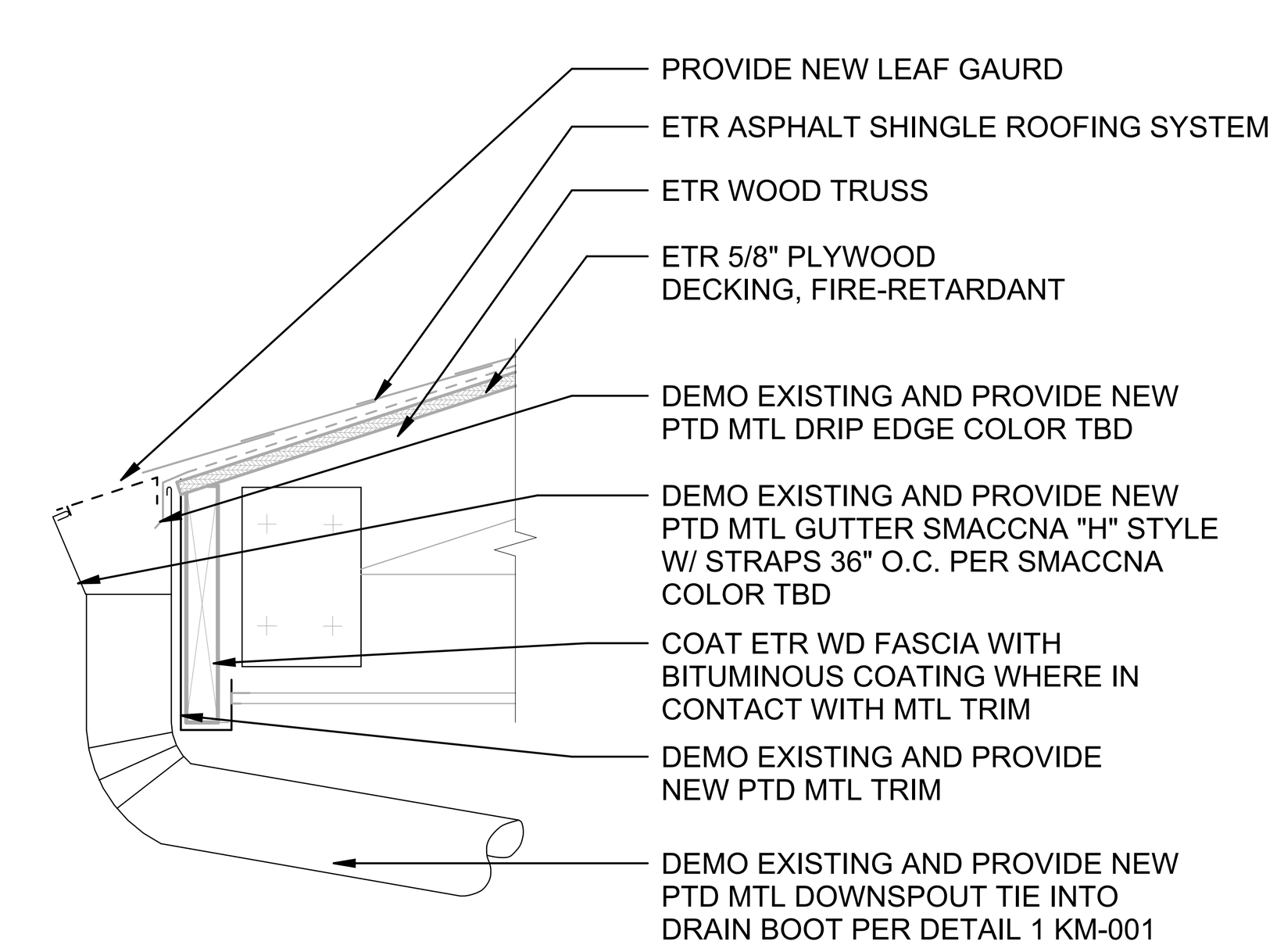


10 KA 401EP STALL J2A & J2B SE
SCALE = 1/4" = 1'-0"

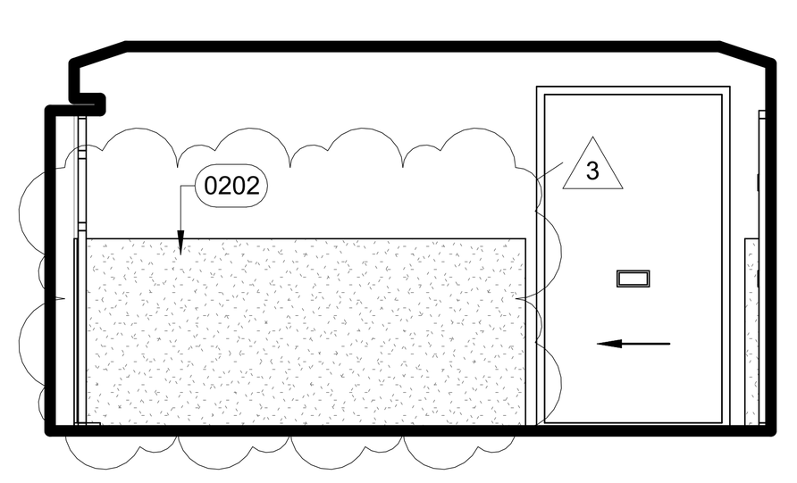


11 KA 401EP STALL J2A & J2B NW
SCALE = 1/4" = 1'-0"

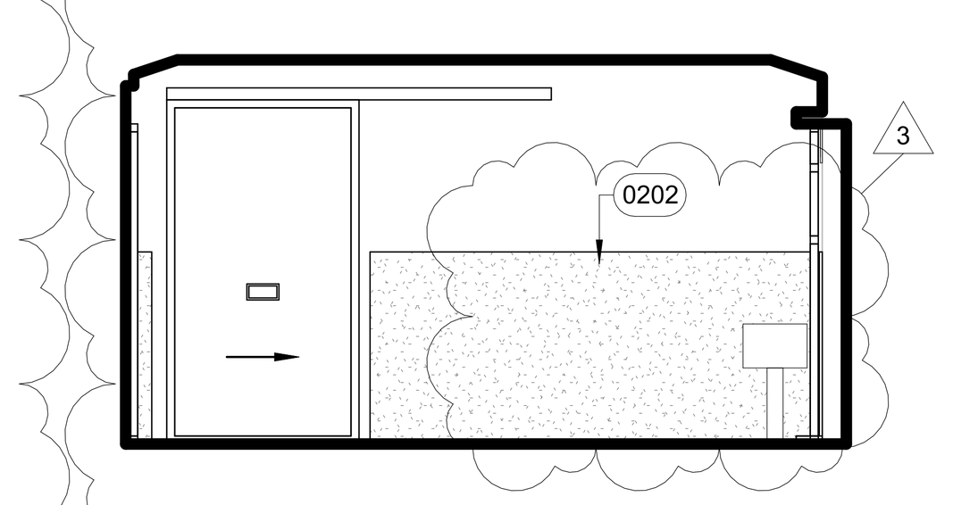
INTERIOR ELEVATIONS



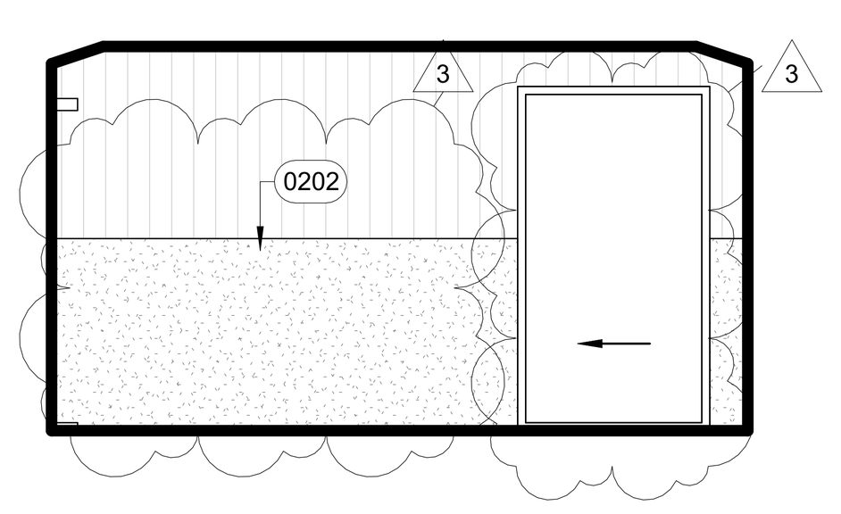
16 KA 401EP DEMO EXISTING AND PROVIDE NEW GUTTER AND DOWNSPOUTS AT EXST ROOF
SCALE = 1 1/2" = 1'-0"



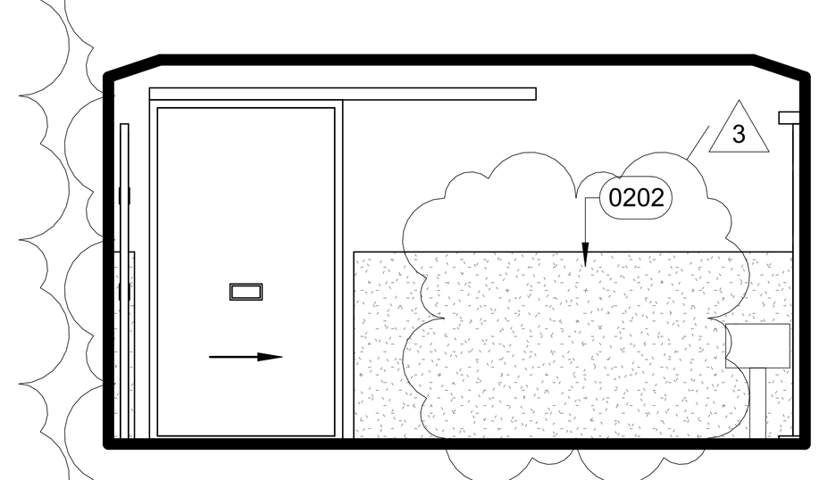
12 KA 401EP STALL J3 SE
SCALE = 1/4" = 1'-0"



13 KA 401EP STALL J3 NW
SCALE = 1/4" = 1'-0"

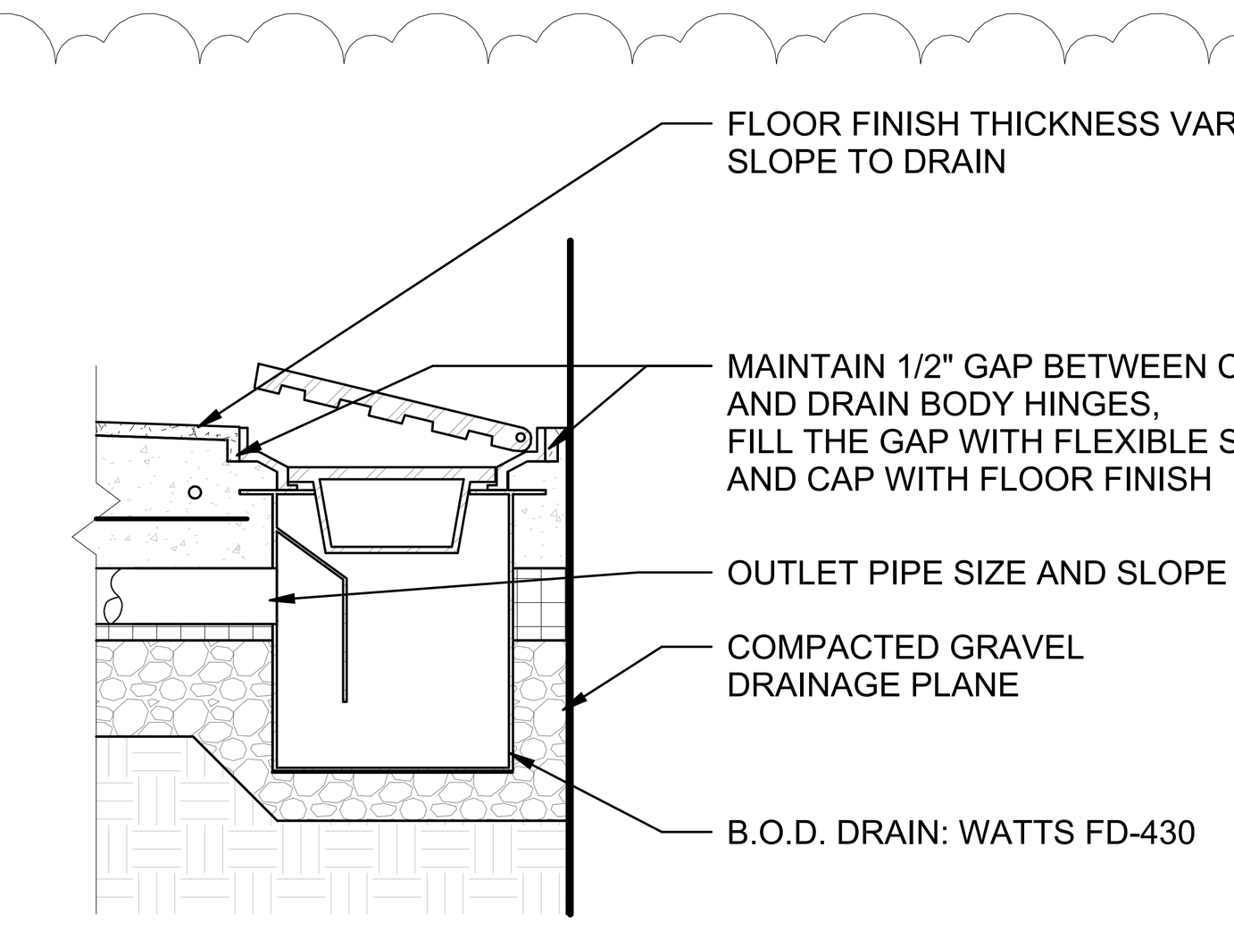


14 KA 401EP STALL J4 SE
SCALE = 1/4" = 1'-0"



15 KA 401EP STALL J4 NW
SCALE = 1/4" = 1'-0"

INTERIOR ELEVATIONS



17 KA 401EP TYP FLOOR TO FLOOR DRAIN
SCALE = 1 1/2" = 1'-0"

SHEET NOTES

1. SCRAPE AND PAINT ALL INTERIOR AND EXTERIOR WALLS COLOR SHERWIN WILLIAMS 6005 FOLKSTONE
2. SCRAPE AND PAINT ALL DOORS AND DOOR FRAMES COLOR SHERWIN WILLIAMS 6005 FOLKSTONE
3. ALL FLOORS TO RECEIVE RESINOUS FLOORING (BOD ABACUS)
4. PROVIDE SI PEST MANAGEMENT APPROVED SWEEPS AND VERTICAL GASKETS FOR ALL DOORS. BOD (XCLUDER® RODENT PROOF DOOR SWEEPS AND XCLUDER VERTICAL DOOR SEALS)

BID OPTION

1. DEMO EXISTING ASPHALT SHINGLES AND INSTALL NEW ASPHALT SHINGLES

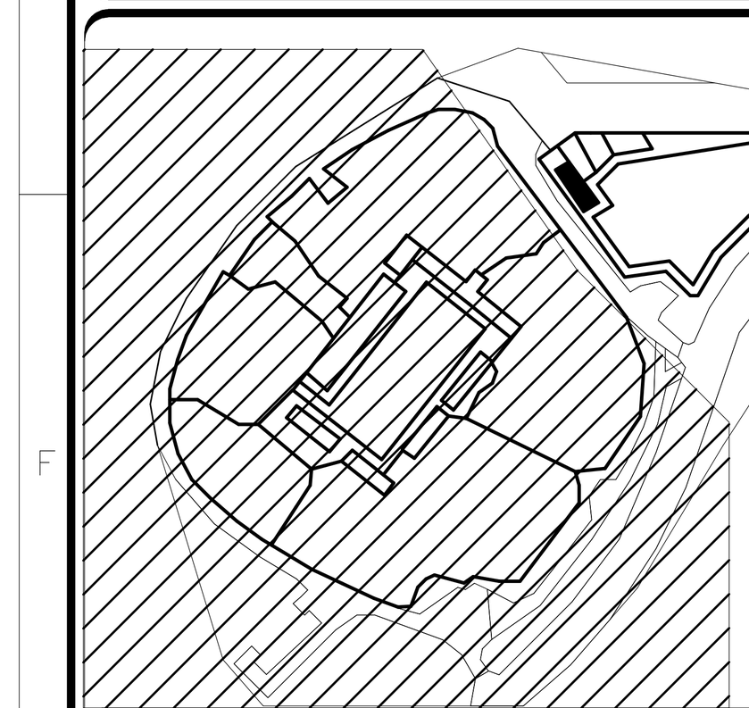
KEY NOTES

0201	REMOVE AND REINSTALL EXISTING RACK
0202	REMOVE AND REINSTALL DETERIORATED WAINSCOTING, INSPECT FOR MOLD AT 4 LOCATIONS PER COTR
0501	PROVIDED 14 GA S.S. CUSTOM CABLE TRAY TO FULLY SEPARATE ETR ROPE DOOR CONTROL SYSTEMS- TIGHT TO ETR CEILING
0704	DEMO EXISTING AND PROVIDED NEW FASCIA ON ETR ROOF
0705	DEMO EXISTING AND PROVIDED NEW GUTTER DETAIL 16 A401
0706	DEMO EXISTING AND PROVIDED NEW DOWNSPOUT DETAIL 16 A401
0801	REMOVE FACE OF EXISTING PLYWOOD CHASE RE-INSTALL PLYWOOD FACE AS ACCESS PANEL WITH CONTINUOUS PIANO HINGE AND LATCH
0901	CLEAN AND PAINT EXTERIOR LOUVERS
0902	PLASTIC WAINSCOTING MATCH EXST.

SYMBOL LEGEND

- PAINT ETR EXTERIOR AND INTERIOR WALLS
- ASPHALT SHINGLE ROOF
- PLASTIC WAINSCOTING

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com



KEY PLAN

0 2' 4' 8'
1/4"=1'-0"
0 1/2" 1' 1 1/2'
1 1/2"=1'-0"

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI - 001 & ASI -002)
5	01/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

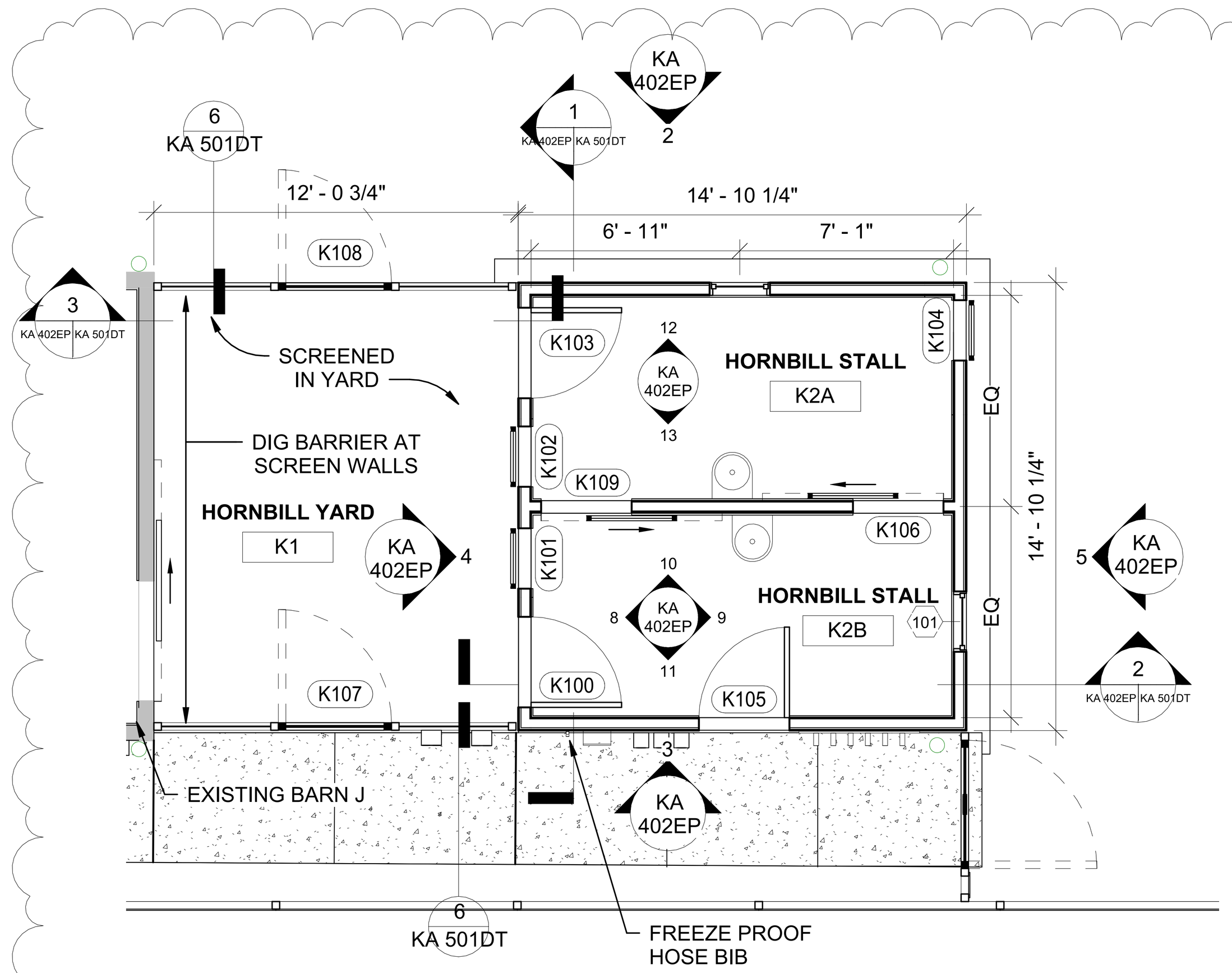
BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	FLOOR PLAN AND ELEVATIONS - BARN J (KUDU)
WORKING STAFF	OCW (DESIGNED BY) / OCW (DRAWN BY) / RW (CHECKED BY)

SHEET NO. 15 OF 29

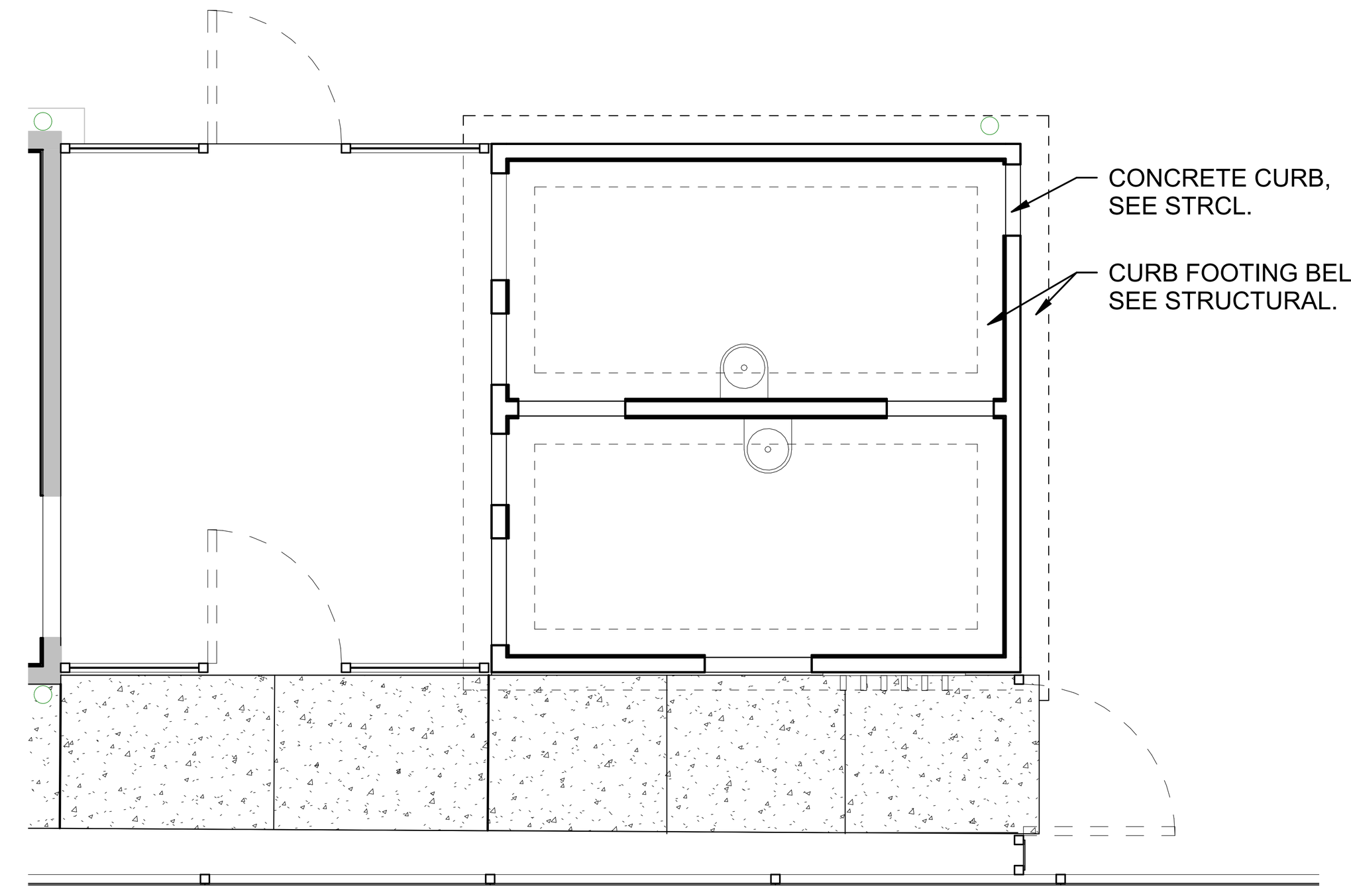
KA 401EP (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)

RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

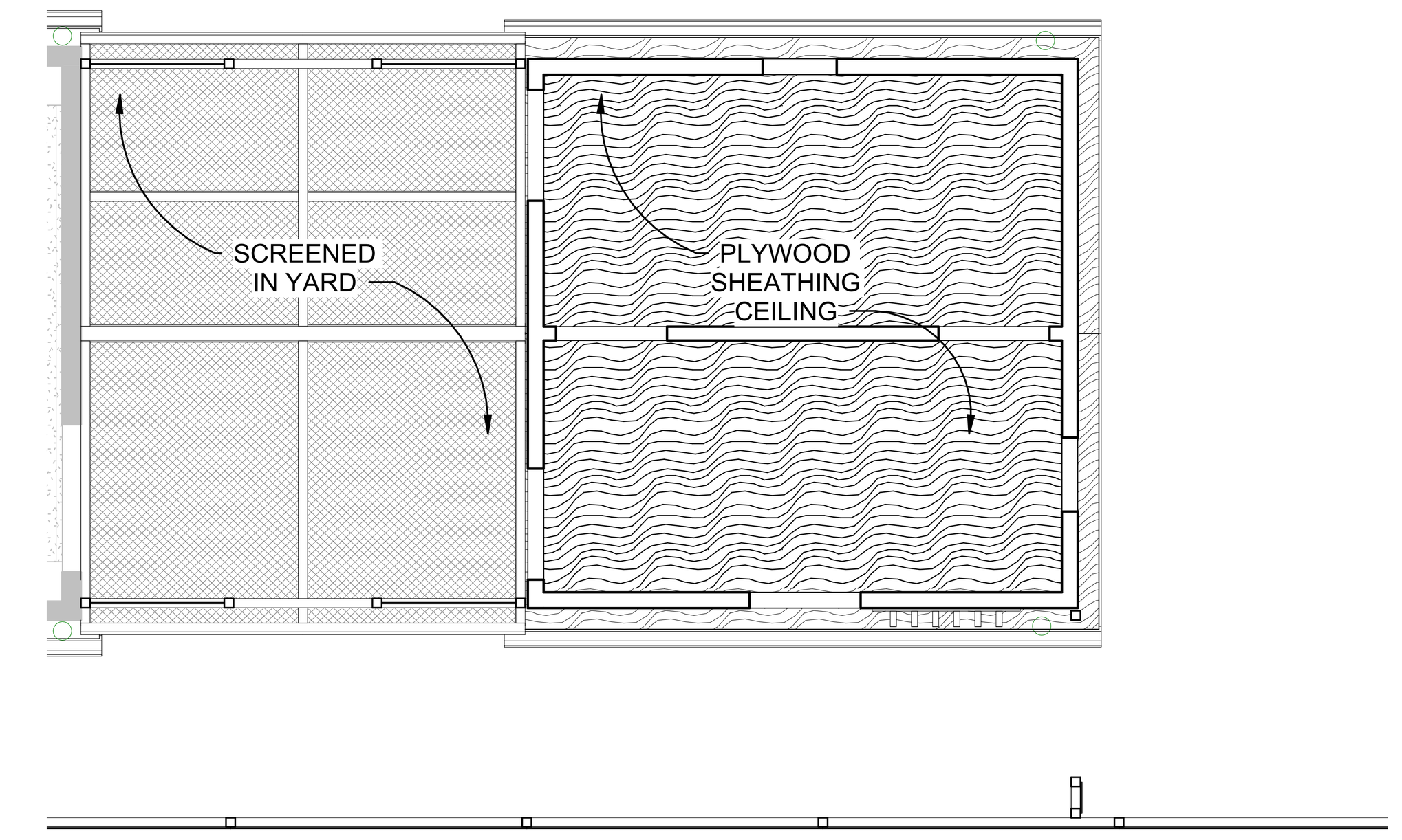
FOR CONSTRUCTION



1 KA 402EP ENLARGED PLAN - BARN __
SCALE = 1/4" = 1'-0"



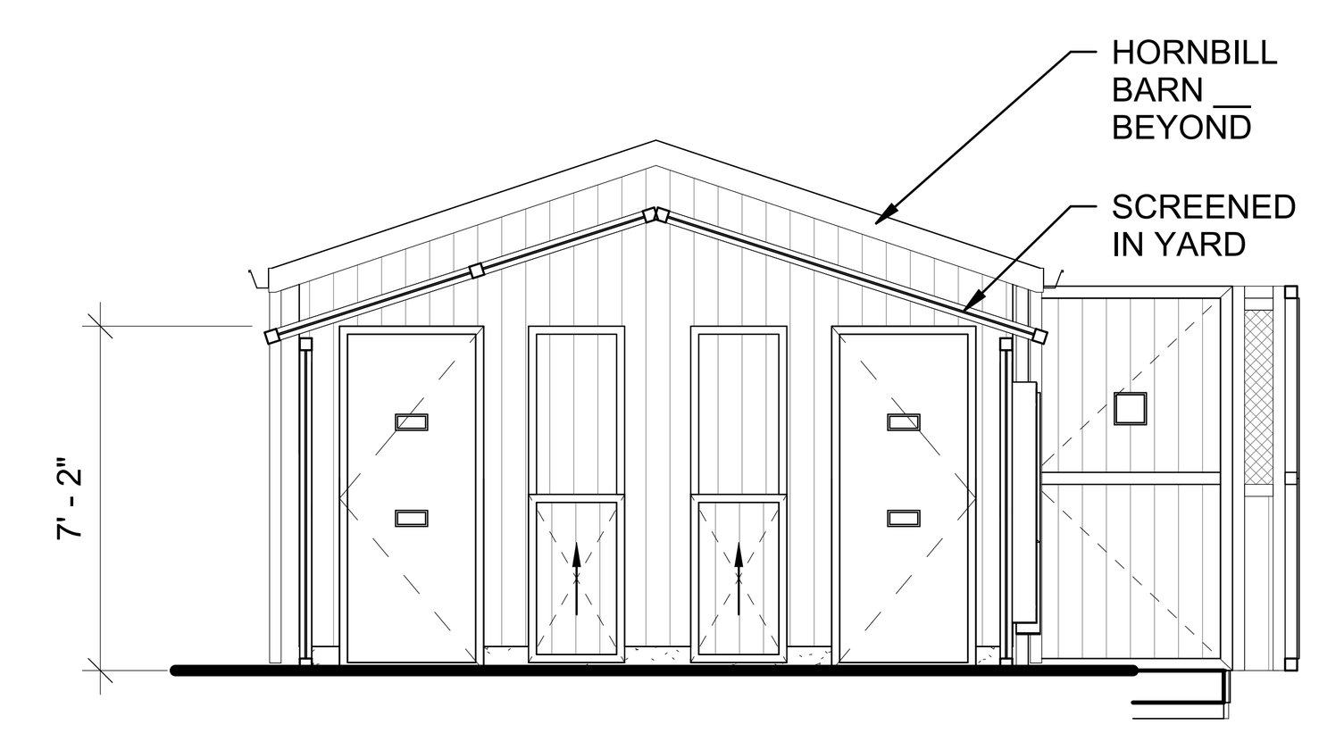
14 KA 402EP CURB/ FOUNDATION PLAN
SCALE = 1/4" = 1'-0"



15 KA 402EP RCP - BARN __
SCALE = 1/4" = 1'-0"

0201	REMOVE AND REINSTALL EXISTING RACK
0202	REMOVE AND REINSTALL DETERIORATED WAINSCOTING, INSPECT FOR MOLD AT 4 LOCATIONS PER COTR
0501	PROVIDED 14 GA S.S. CUSTOM CABLE TRAY TO FULLY SEPARATE ETR ROPE DOOR CONTROL SYSTEMS- TIGHT TO ETR CEILING
0704	DEMO EXISTING AND PROVIDED NEW FASCIA ON ETR ROOF
0705	DEMO EXISTING AND PROVIDED NEW GUTTER DETAIL 16 A401
0706	DEMO EXISTING AND PROVIDED NEW DOWNSPOUT DETAIL 16 A401
0801	REMOVE FACE OF EXISTING PLYWOOD CHASE RE-INSTALL PLYWOOD FACE AS ACCESS PANEL WITH CONTINUOUS PIANO HINGE AND LATCH
0901	CLEAN AND PAINT EXTERIOR LOUVERS
0902	PLASTIC WAINSCOTING MATCH EXST.
1001	FIRE EXTINGUISHER CABINET

3 KA 402EP ELEVATION - BARNS J & __ NE
SCALE = 1/4" = 1'-0"



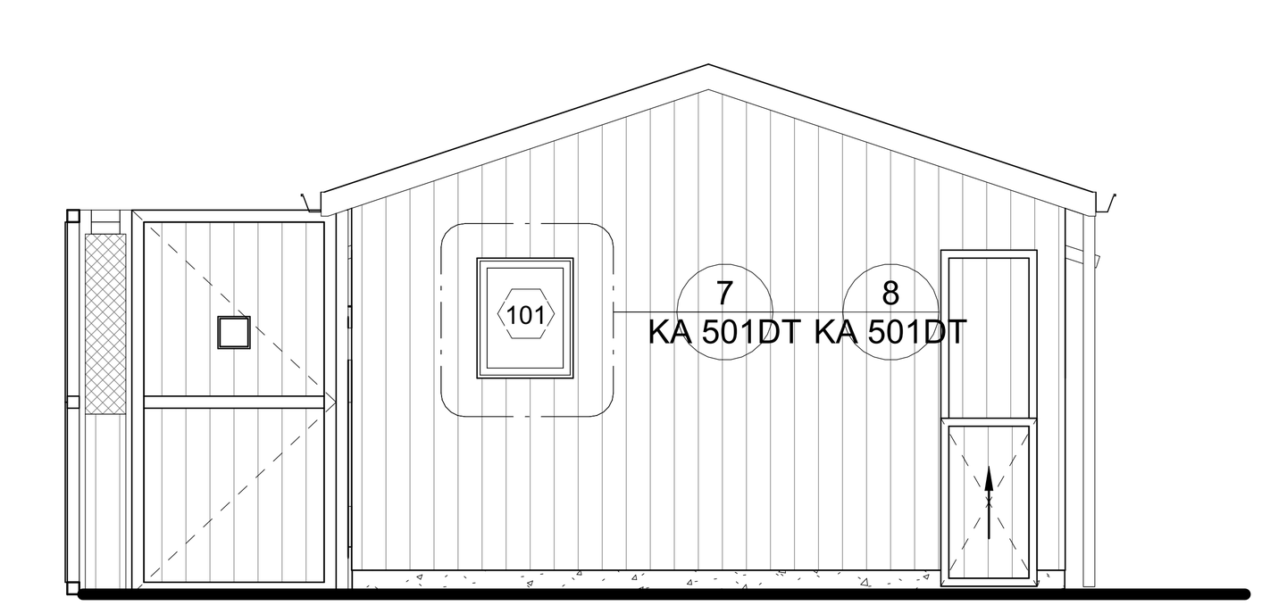
4 KA 402EP ELEVATION - BARN __ NW
SCALE = 1/4" = 1'-0"

PAINT ETR EXTERIOR AND INTERIOR WALLS

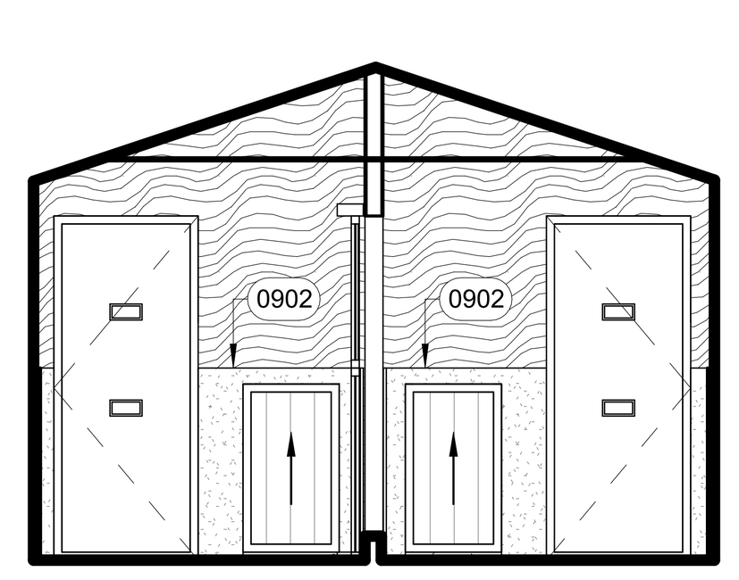
ASPHALT SHINGLE ROOF

PLASTIC WAINSCOTING

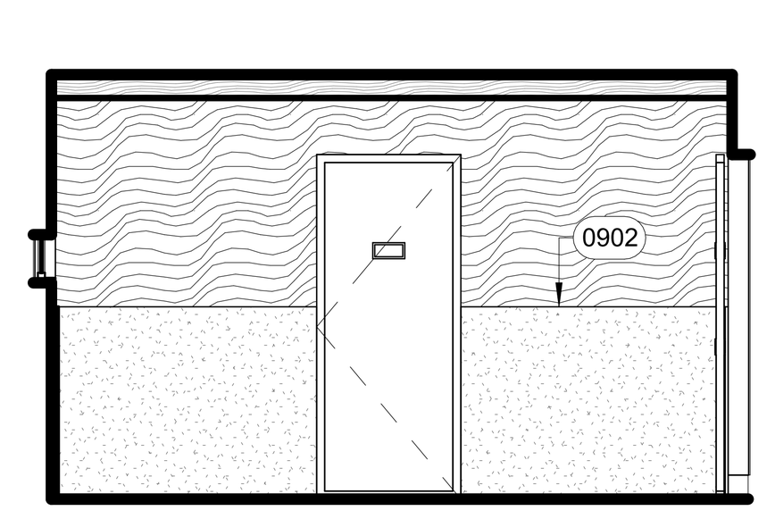
2 KA 402EP ELEVATION - BARNS J & __ SW
SCALE = 1/4" = 1'-0"



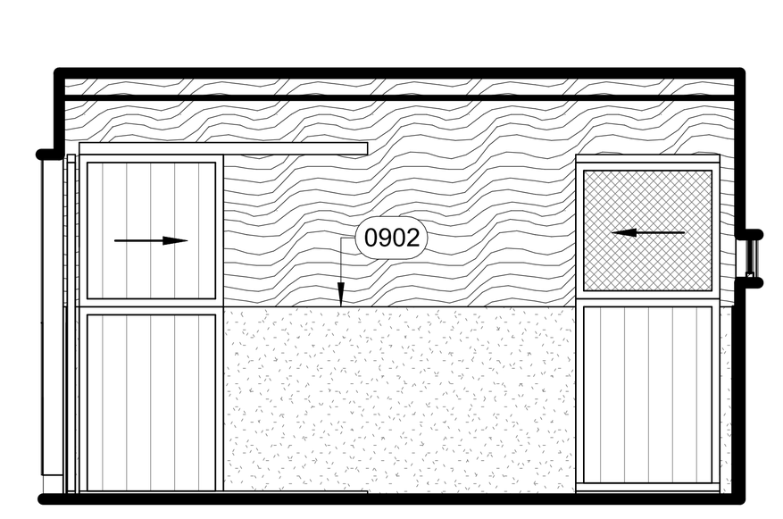
5 KA 402EP ELEVATION - BARN __ SE
SCALE = 1/4" = 1'-0"



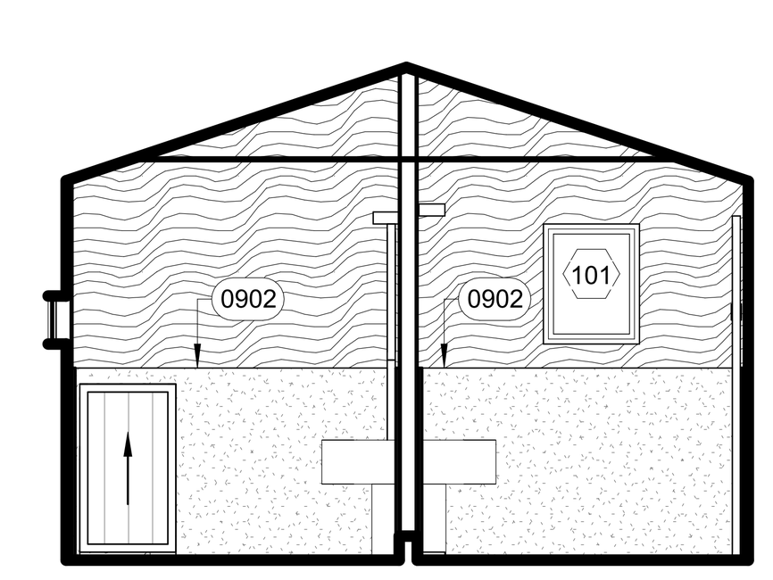
8 KA 402EP STALLS __1&2 NW
SCALE = 1/4" = 1'-0"



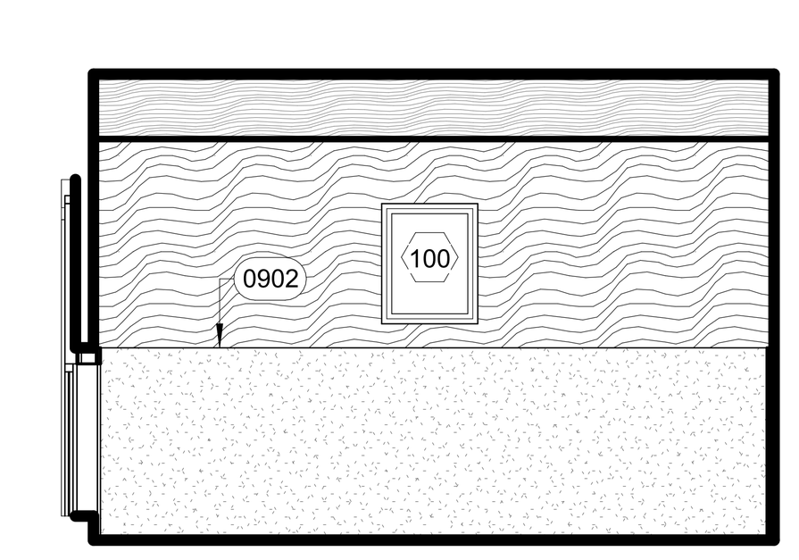
11 KA 402EP STALL __1 SW
SCALE = 1/4" = 1'-0"



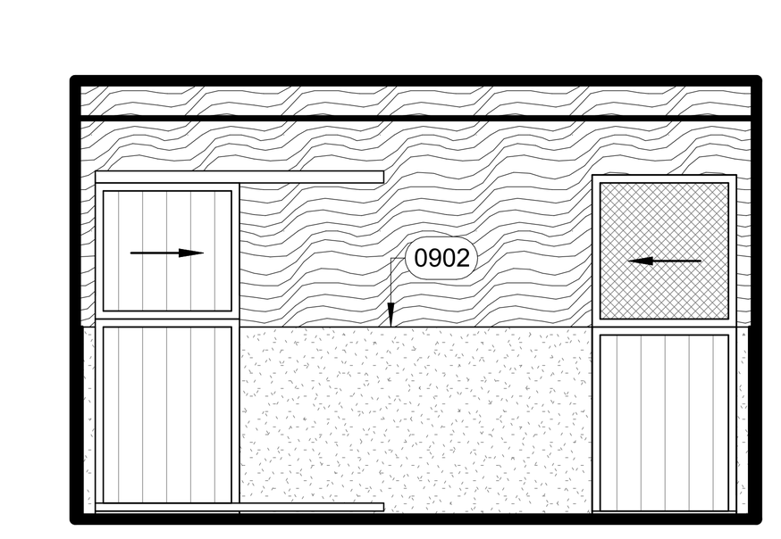
10 KA 402EP STALL __1 NE
SCALE = 1/4" = 1'-0"



9 KA 402EP STALLS __1&2 SE
SCALE = 1/4" = 1'-0"

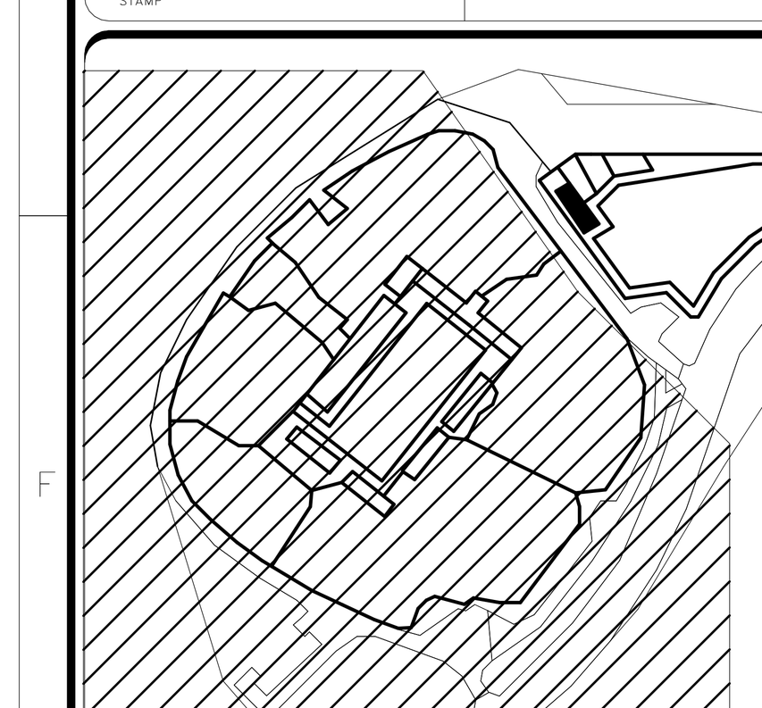


12 KA 402EP STALL __2 NE
SCALE = 1/4" = 1'-0"



13 KA 402EP STALL __2 SW
SCALE = 1/4" = 1'-0"

architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com
DISTRICT OF COLUMBIA
OWEN WEINSTEIN
ARC200969
LICENSED ARCHITECT



KEY PLAN

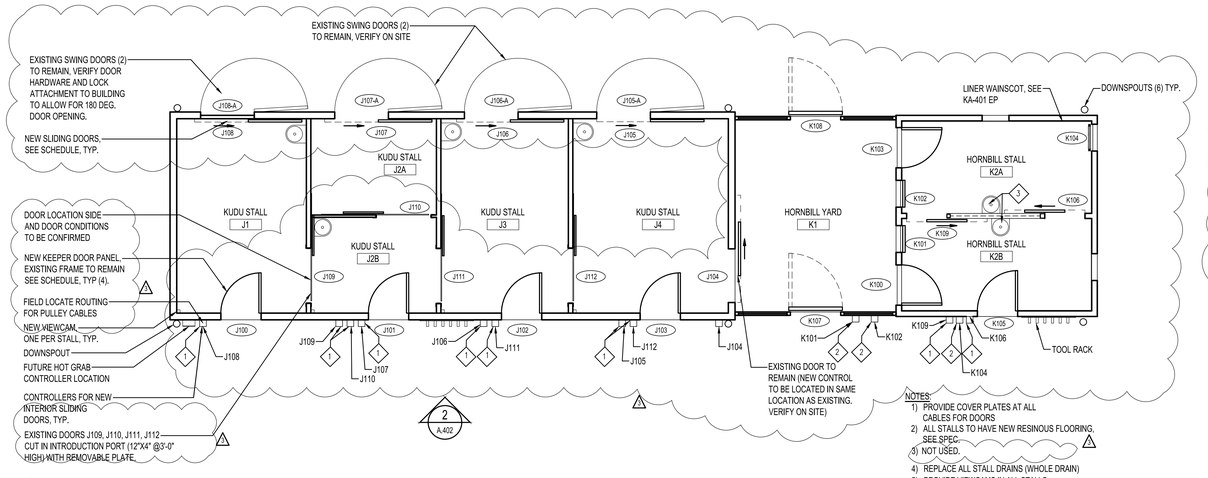
1/4"=1'-0"

GRAPHIC SCALE(S)

DATE	11/03/23
SUBMISSION	KUDU MOD 4 FINAL CD
REVISION # DATE	3 11/03/23
REVISION DESCRIPTION	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI - 001 & ASI -002)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	FLOOR PLAN AND ELEVATIONS - BARN J (HORNBILL)
DESIGNED BY	OCW
DRAWN BY	OCW
CHECKED BY	RW



1 KA-403

FLOOR PLAN - KUDU BARN
SCALE = 1/4" = 1'-0'

NOTES:
1) PROVIDE COVER PLATES AT ALL CABLES FOR DOORS
2) ALL STALLS TO HAVE NEW RESINOUS FLOORING, SEE SPEC.
3) NOT USED.
4) REPLACE ALL STALL DRAINS (WHOLE DRAIN)
5) PROVIDE VIEWCAMS IN ALL STALLS
6) REPLACE STALL 1 SIDE SLIDE DOOR WITH SOLID CORE WOOD DOOR (A2.1)
7) PROVIDE FULL LENGTH BLOCKING TO SUPPORT OPERATORS

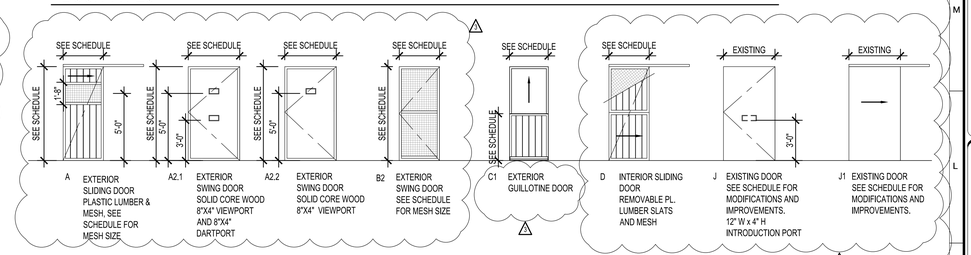
FLOOR PLAN KEY

1 DOOR OPERATOR TYPE I
2 DOOR OPERATOR TYPE 2
3 PLUMBED ANIMAL DRINKER, 13" NELSON DRINKER 730-10W

2 KA-403

ELEVATION - KUDU BARN
SCALE = 1/4" = 1'-0'

DOOR TYPES



3 KA-403

ANIMAL DOOR SCHEDULES AND TYPES
SCALE = 1/4" = 1'-0'

SPECIALTY DOOR & GATE SCHEDULE
KUDU AND HORNBILL BARN ANIMAL DOORS

DOOR NO.	ROOM NAME	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR MATL.	DOOR FINISH	FRAME MATL.	FRAME FINISH	REMARKS
J100	J1	A2.1	3'-0"	6'-8"	SOLID CORE WOOD	EXIST.	EXIST.	EXIST.	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
J101	J2B	A2.1	3'-0"	6'-8"	SOLID CORE WOOD	EXIST.	EXIST.	EXIST.	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
J102	J3	A2.1	3'-0"	6'-8"	SOLID CORE WOOD	EXIST.	EXIST.	EXIST.	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
J103	J4	A2.1	3'-0"	6'-8"	SOLID CORE WOOD	EXIST.	EXIST.	EXIST.	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
J104	J4	J	EXIST.	EXIST.	EXIST.				ADD/ REPLACE DOOR OPERATOR TO DOOR OPERATOR TYPE 1
J105	J4	A	4'-0"	6'-8"	PL LUMBER BOARDS WITH STL MESH	GALV / PTD	PL/STL	GALV / PTD	2"x2" 6 GA WOVEN WIRE MESH GALVANIZED/ PAINTED
J105-A	J4	J	EXIST.	EXIST.	EXIST.				EXISTING SWING DOOR, VERIFY HARDWARE ON FIELD TO ALLOW FOR DOOR OPENING 180 DEG. PROVIDE LATCH TO SECURE DOOR OPEN POSITION.
J106	J3	A	4'-0"	6'-8"	PL LUMBER BOARDS WITH STL MESH	GALV / PTD	PL/STL	GALV / PTD	2"x2" 6 GA WOVEN WIRE MESH GALVANIZED/ PAINTED
J106-A	J3	J	EXIST.	EXIST.	EXIST.				EXISTING SWING DOOR, VERIFY HARDWARE ON FIELD TO ALLOW FOR DOOR OPENING 180 DEG. PROVIDE LATCH TO SECURE DOOR OPEN POSITION.
J107	J2A	A	4'-0"	6'-8"	PL LUMBER BOARDS WITH STL MESH	GALV / PTD	PL/STL	GALV / PTD	2"x2" 6 GA WOVEN WIRE MESH GALVANIZED/ PAINTED
J107-A	J2A	J	EXIST.	EXIST.	EXIST.				EXISTING SWING DOOR, VERIFY HARDWARE ON FIELD TO ALLOW FOR DOOR OPENING 180 DEG. PROVIDE LATCH TO SECURE DOOR OPEN POSITION.
J108	J1	A	4'-0"	6'-8"	PL LUMBER BOARDS WITH STL MESH	GALV / PTD	PL/STL	GALV / PTD	2"x2" 6 GA WOVEN WIRE MESH GALVANIZED/ PAINTED
J108-A	J1	J	EXIST.	EXIST.	EXIST.				EXISTING SWING DOOR, VERIFY HARDWARE ON FIELD TO ALLOW FOR DOOR OPENING 180 DEG. PROVIDE LATCH TO SECURE DOOR OPEN POSITION.
J109	J2B	J	EXIST.	EXIST.	EXIST.				ADD/ REPLACE DOOR OPERATOR TO DOOR OPERATOR TYPE 1. ADD INTRODUCTION PORT
J110	J2A	J	EXIST.	EXIST.	EXIST.				ADD/ REPLACE DOOR OPERATOR TO DOOR OPERATOR TYPE 1. ADD INTRODUCTION PORT
J111	J3	J	EXIST.	EXIST.	EXIST.				ADD/ REPLACE DOOR OPERATOR TO DOOR OPERATOR TYPE 1. ADD INTRODUCTION PORT
J112	J4	J	EXIST.	EXIST.	EXIST.				ADD/ REPLACE DOOR OPERATOR TO DOOR OPERATOR TYPE 1. ADD INTRODUCTION PORT
K100	K2B	A2.1	3'-0"	7'-2"	SOLID CORE WOOD	PTD	WD	PTD	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
K101	K2B	C1	2'-0"	3'-6"	PLASTIC LUMBER	GALV / PTD	STL	GALV / PTD	GUILLOTINE- DO NOT PAINT MOVING PARTS, CABLES, ETC.
K102	K2A	C1	2'-0"	3'-6"	PLASTIC LUMBER	GALV / PTD	STL	GALV / PTD	GUILLOTINE- DO NOT PAINT MOVING PARTS, CABLES, ETC.
K103	K2A	A2.1	3'-0"	7'-2"	SOLID CORE WOOD	PTD	WD	PTD	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
K104	K2A	C1	2'-0"	3'-6"	PLASTIC LUMBER	GALV / PTD	STL	GALV / PTD	GUILLOTINE- DO NOT PAINT MOVING PARTS, CABLES, ETC.
K105	K2B	A2.2	3'-0"	7'-2"	SOLID CORE WOOD	PTD	WD	PTD	NEW FRP DOOR PANEL, NEW FRP PANEL. ADD VIEWPORT AND DARTPORT
K106	K2A	D	3'-0"	7'-2"	PL LUMBER BOARDS WITH STL MESH	GALV / PTD	PL/STL	GALV / PTD	2"x2" 8 GA WOVEN WIRE MESH GALVANIZED/ PAINTED
K107	K1	B2	3'-9"	6'-8"	2"x2" 8 GA WOVEN WIRE MESH GALVANIZED	GALV / PTD	STL	GALV / PTD	
K108	K1	B2	3'-9"	6'-8"	2"x2" 8 GA WOVEN WIRE MESH GALVANIZED	GALV / PTD	STL	GALV / PTD	
K109	K2A	D	3'-0"	7'-2"	PL LUMBER BOARDS WITH STL MESH	GALV	PL/STL	GALV	2"x2" 8 GA WOVEN WIRE MESH GALVANIZED/ PAINTED

LEGEND

PTD	PAINTED
STL	STEEL
INSUL	INSULATED
PL	PLASTIC

NOTES: VERIFY ALL EXISTING FRAMES AND DOOR OPENING ON SITE.
VERIFY ALL PULLEY CONTROL LOCATIONS ON SITE.
NO MORE THAN 3 PULLEY TURNS.

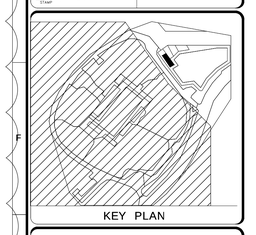
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE.
Washington DC 20003
202.544.1640
architravep.com

JONES JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 3702
www.jonesandjones.com

DISTRICT OF COLUMBIA — STEPHANIE JONES — REGISTERED — LICENSED ARCHITECT



KEY PLAN

0 2' 4' 8'
1/4"=1'-0"
GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI - 003 (SEE PROJECT NO. 2033120 FOR ASI - 001 & 002)
5	07/16/24	ASI - 005 (SEE PROJECT NO. 2033120 FOR ASI - 004)

Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME / ADDRESS	NZPCI CHEETAH CONSERVATION STATION - AFRICA TRAIL 3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CCS - AT KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU BARN, HORNBILL YARD & HORNBILL BARN DETAILS
WORKING STAFF	NVA (DESIGNED BY) / PAG (DRAWN BY) / MCC (CHECKED BY)
SHEET NO.	17 OF 28
	KA 403 FP (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)

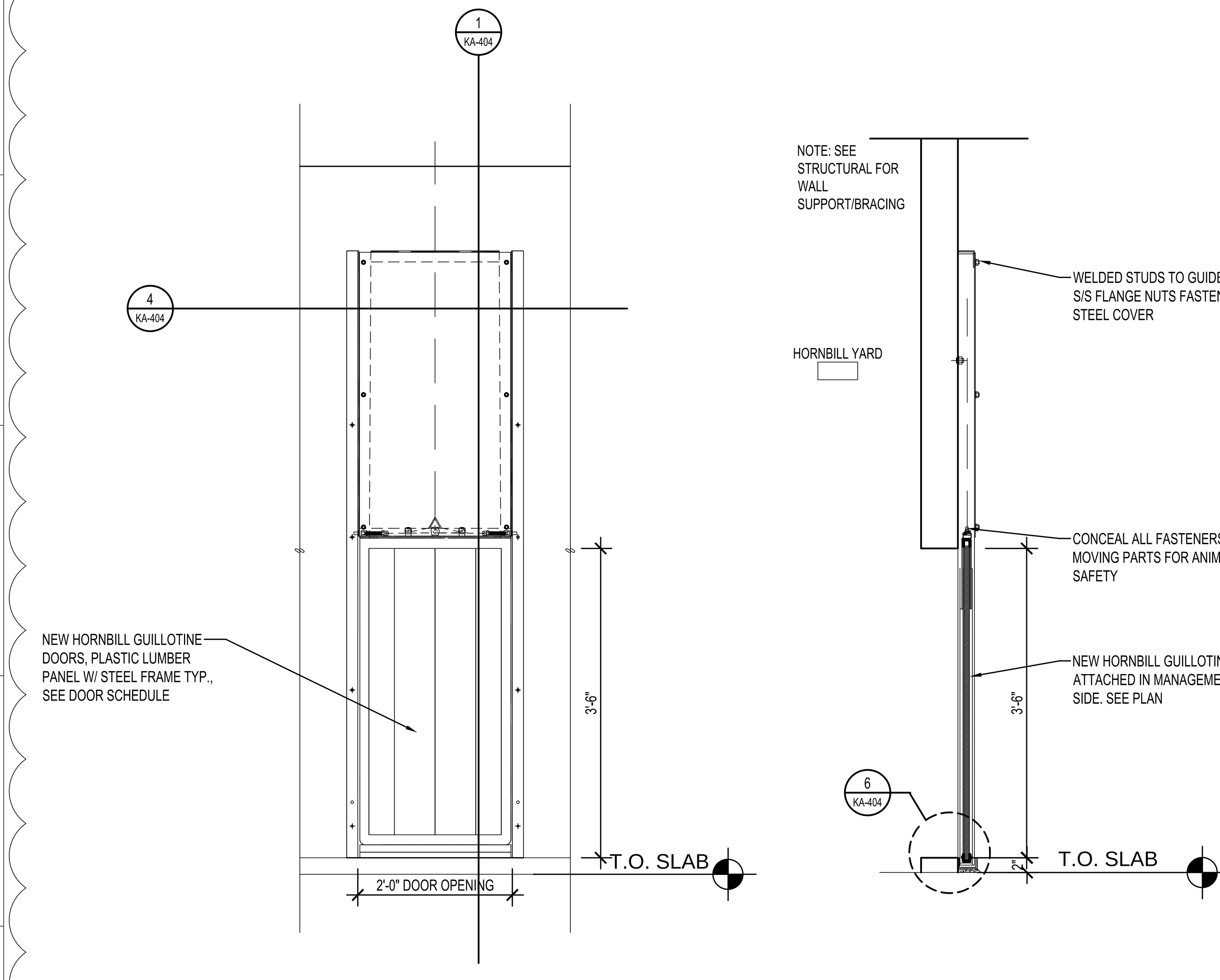
6/7/2023 1:09:17 PM
KA 101 BY Approver Enter Issue Date FINAL CD

RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

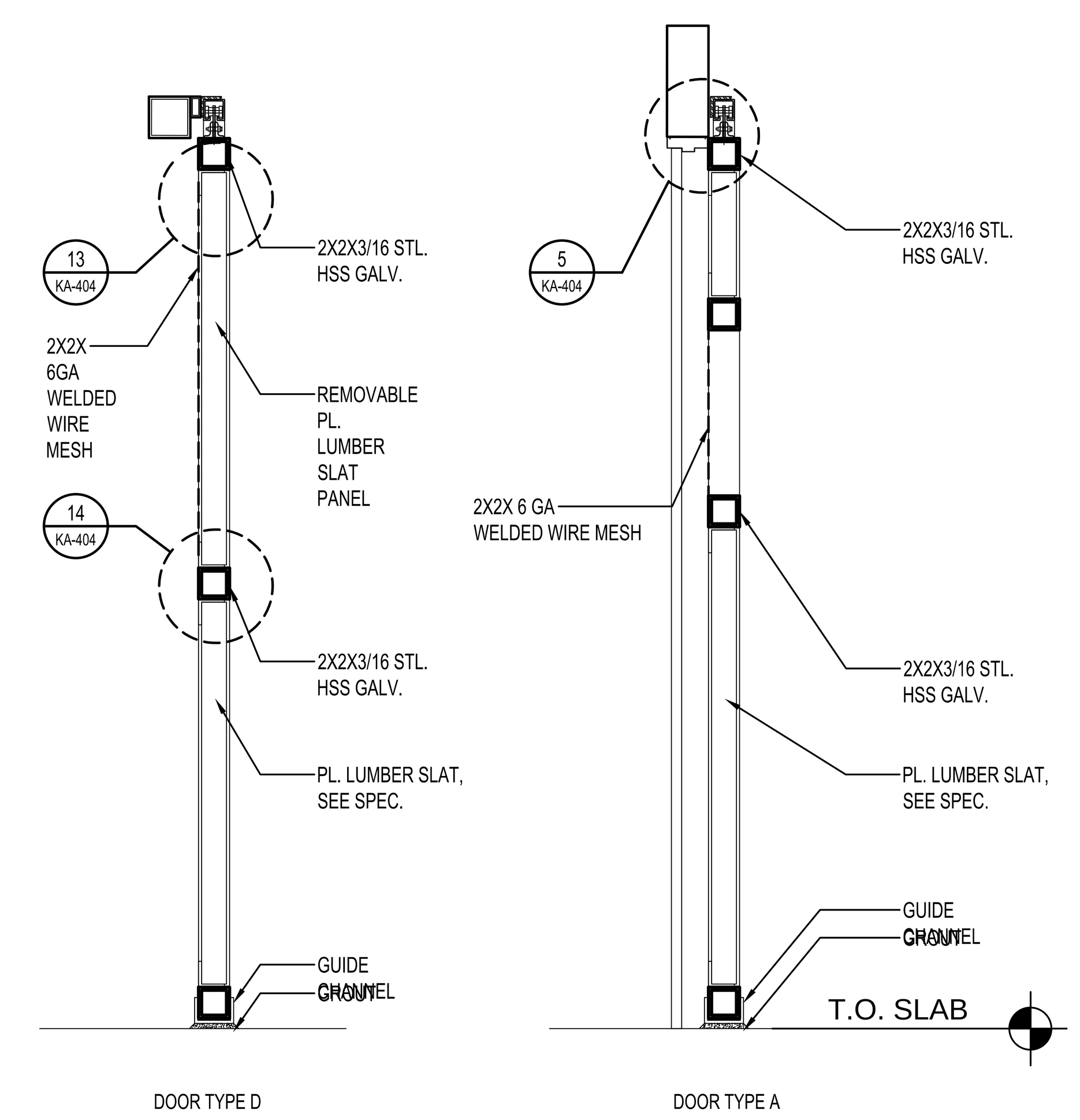
FOR CONSTRUCTION

architrave p.c.
architrave p.c.
420 10th STR. SE.
Washington DC 20003
202.544.164C
architravep.com

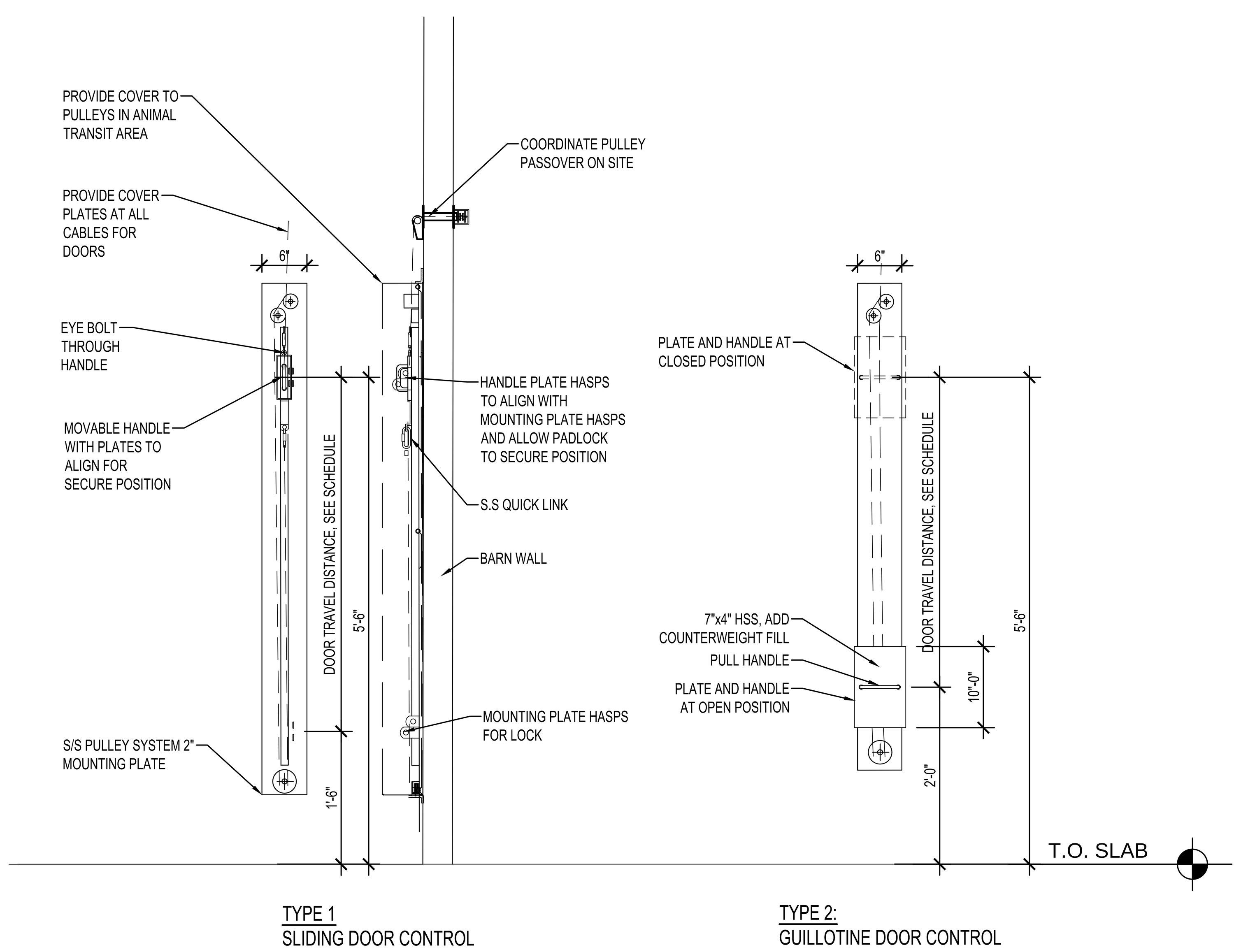
JONES JONES
ARCHITECTS
LANDSCAPE ARCHITECTS
PLANNERS
105 SOUTH MAIN STREET
SUITE 300
SEATTLE, WA 98104
206 624 5702
www.jonesandjones.com



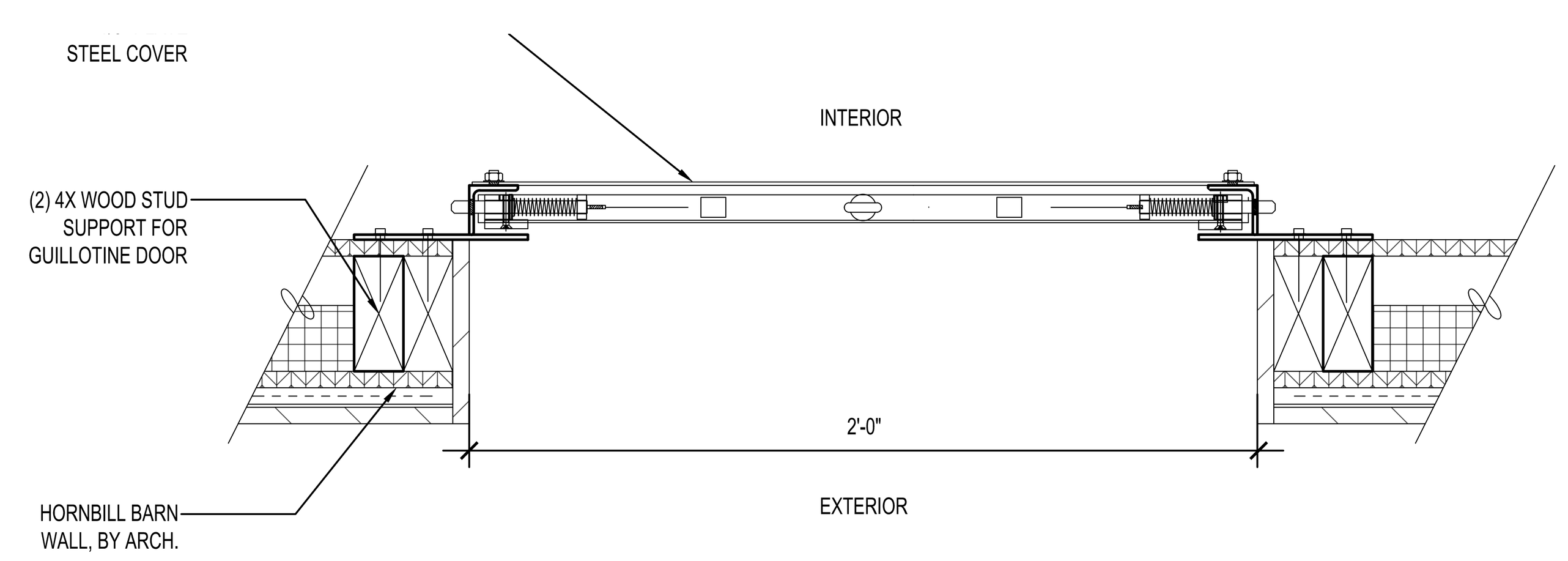
1 KA-404 GUILLOTINE DOOR ELEVATION & SECTION - HORNBILL YARD
SCALE = 1" = 1'-0"



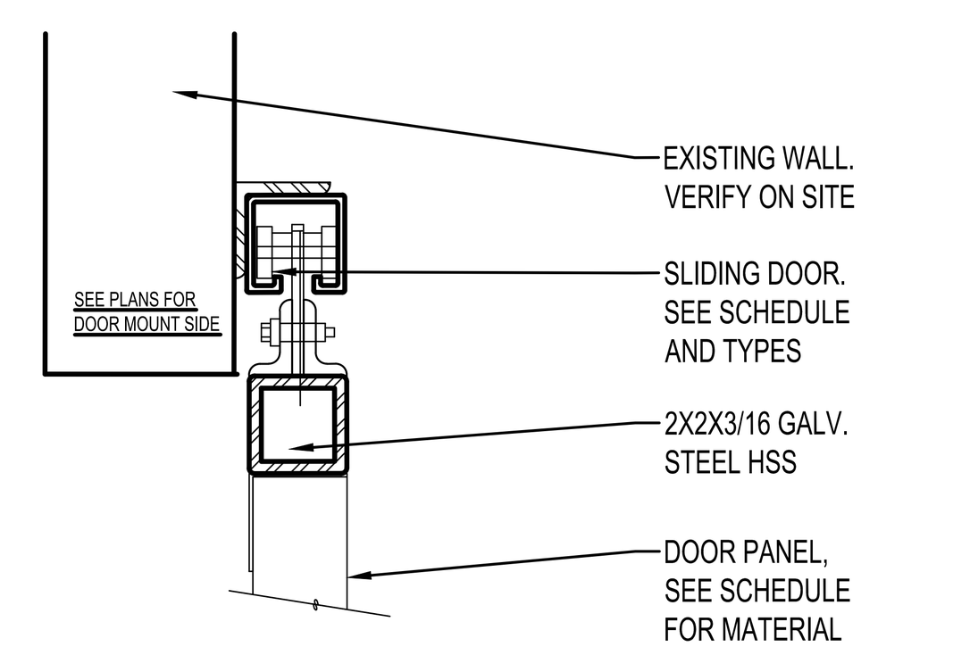
2 KA-404 SECTIONS - DOOR TYPES D&A
SCALE = 1" = 1'-0"



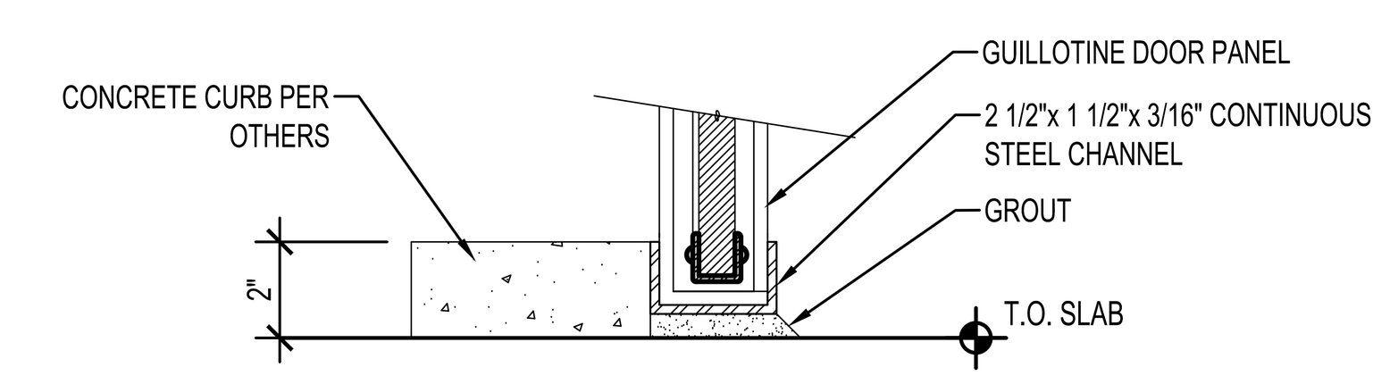
3 KA-404 SINGLE DOOR PULLEY OPERATOR
SCALE = 1" = 1'-0"



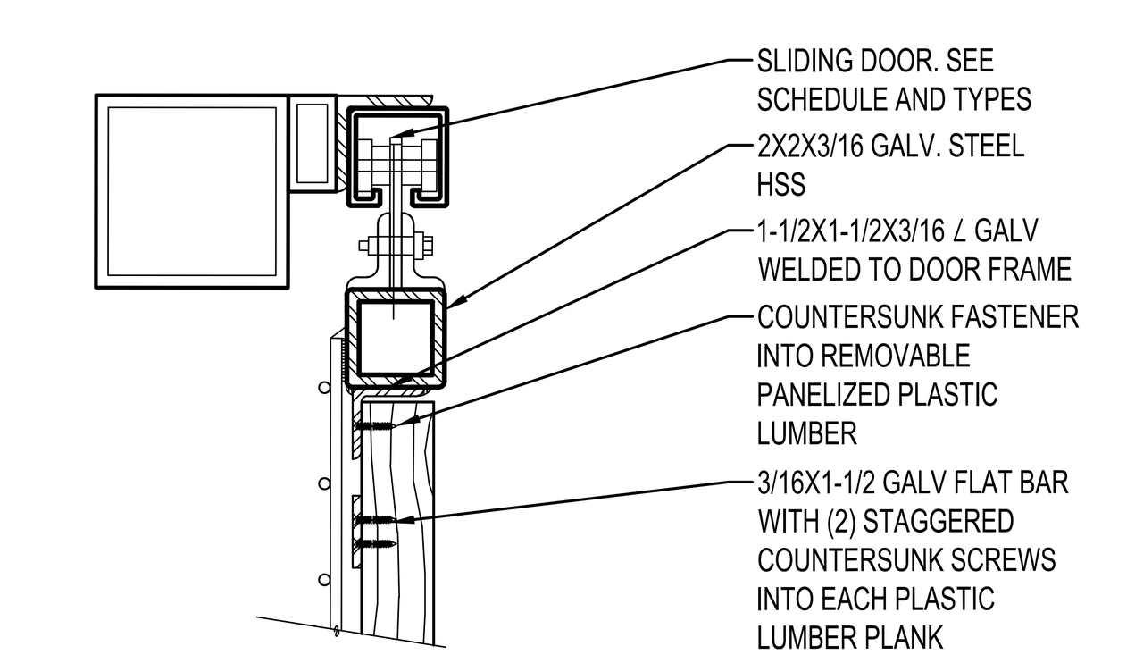
4 KA-404 GUILLOTINE DOOR PLAN - HORNBILL YARD
SCALE = 3" = 1'-0"



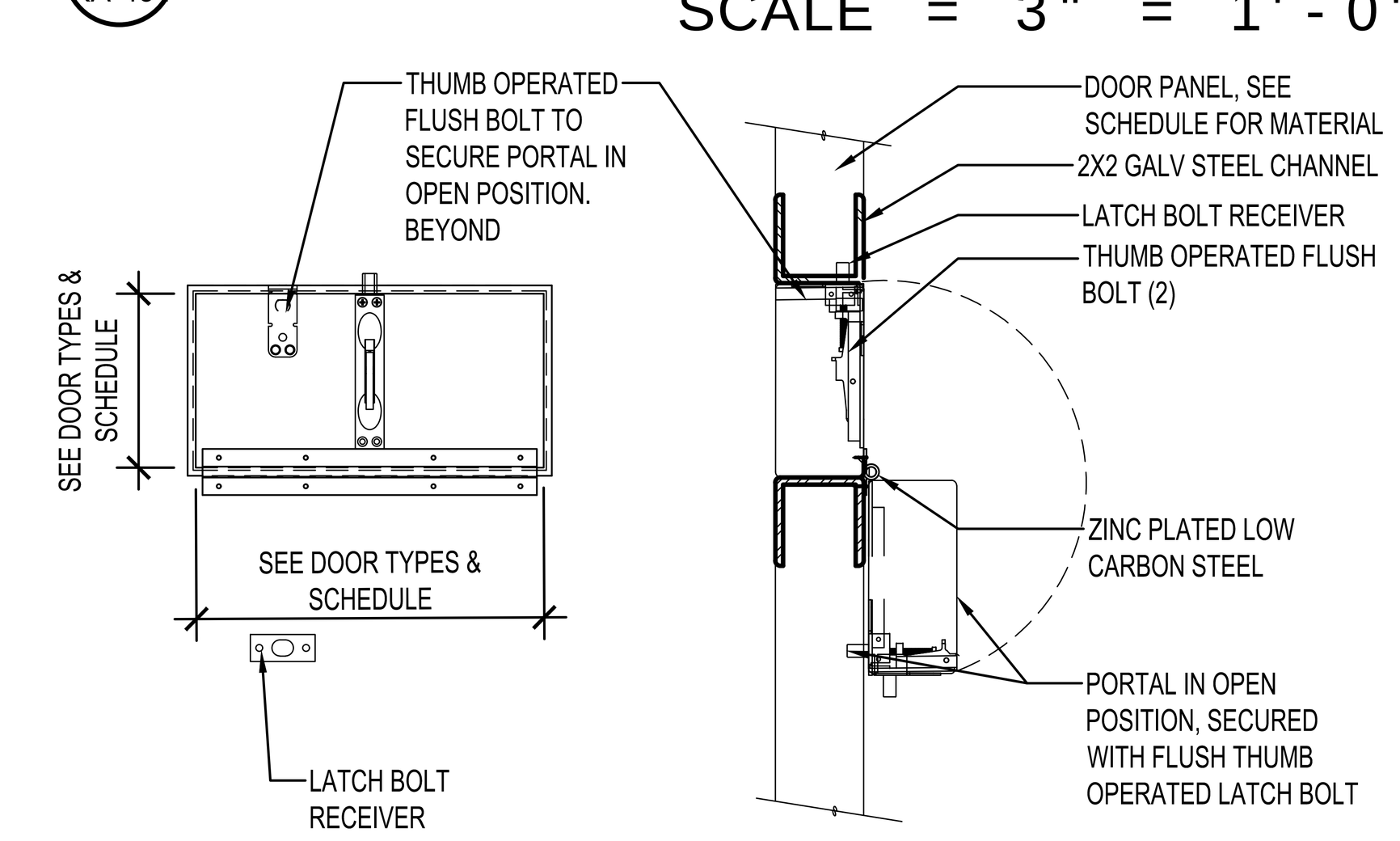
5 KA-404 SLIDING DOOR
SCALE = 3" = 1'-0"



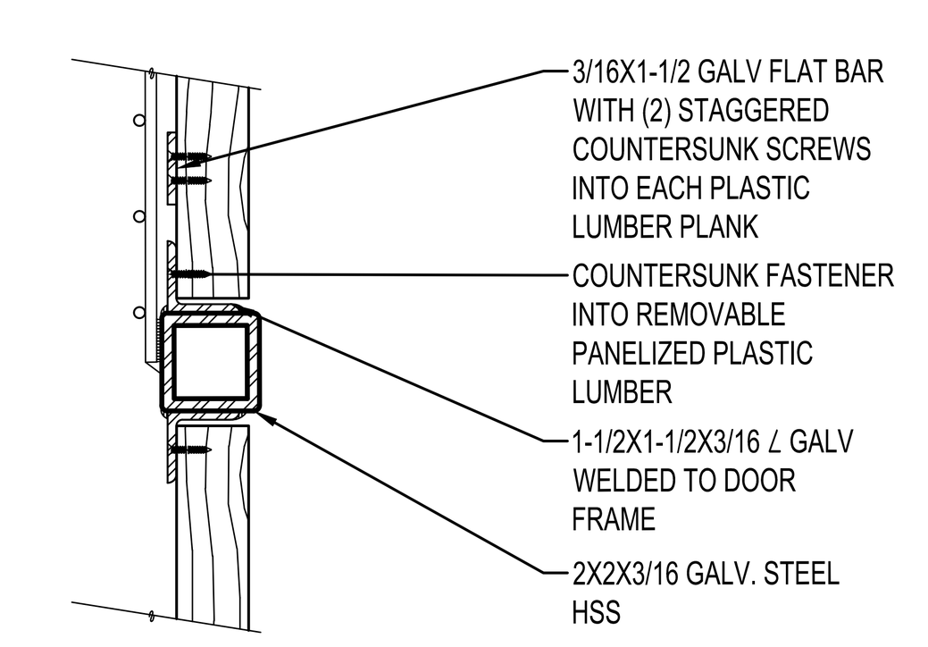
6 KA-404 GUILLOTINE DOOR DETAIL
SCALE = 3" = 1'-0"



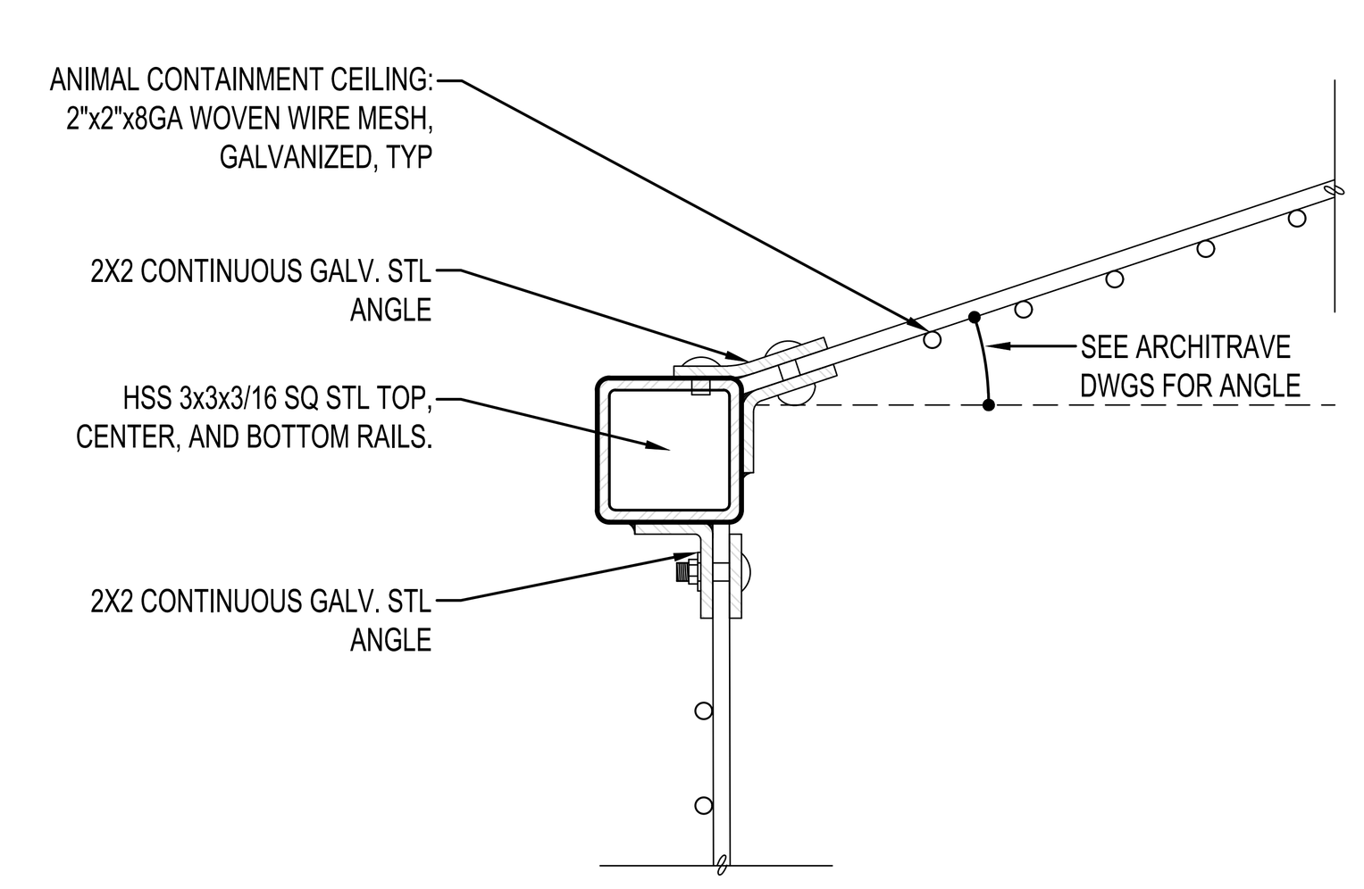
13 KA-404 DOOR 'D' DOOR DETAIL
SCALE = 3" = 1'-0"



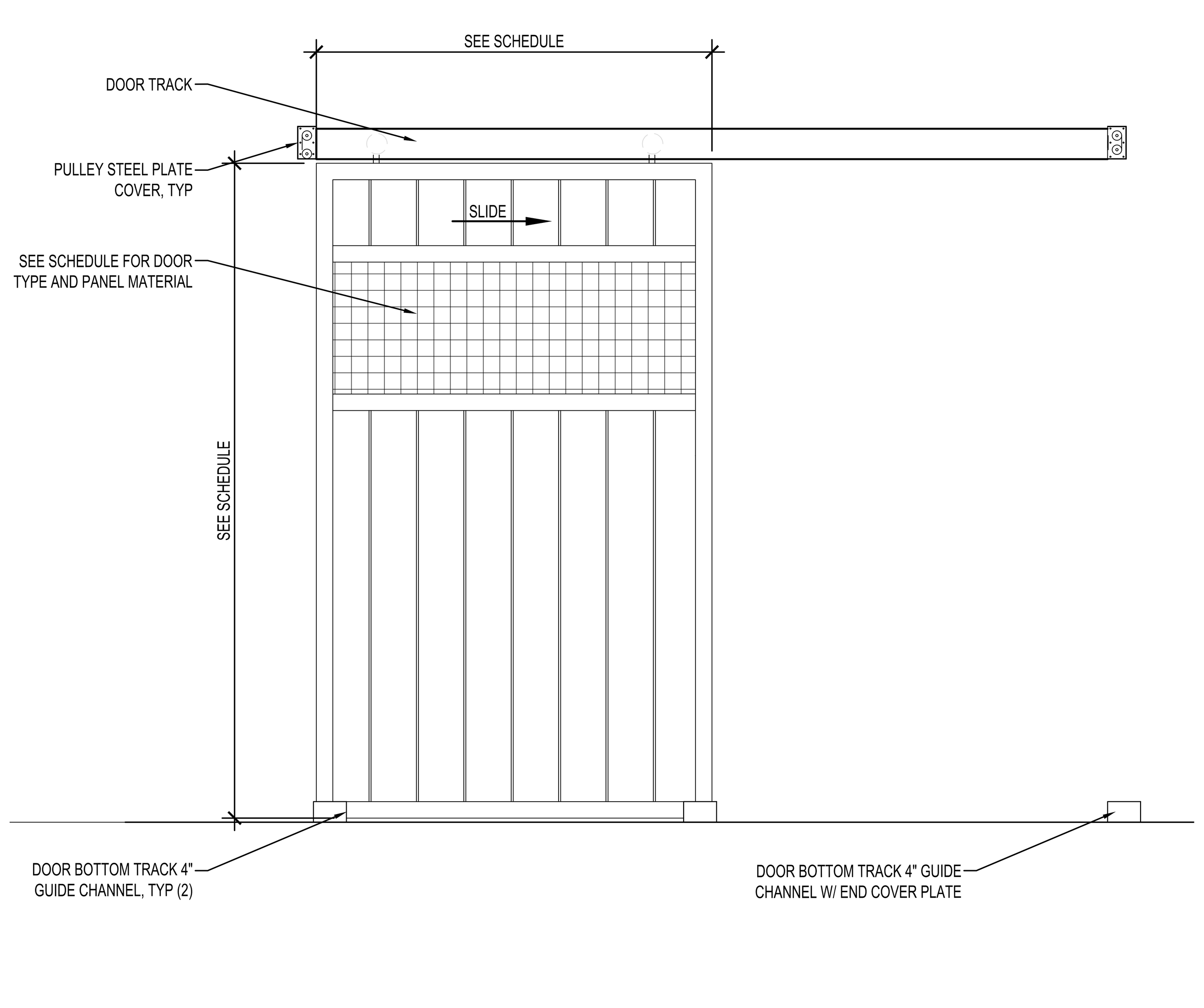
11 KA-404 VIEWPORT, DARTPORT & INTRODUCTION PORT DETAIL
SCALE = 3" = 1'-0"



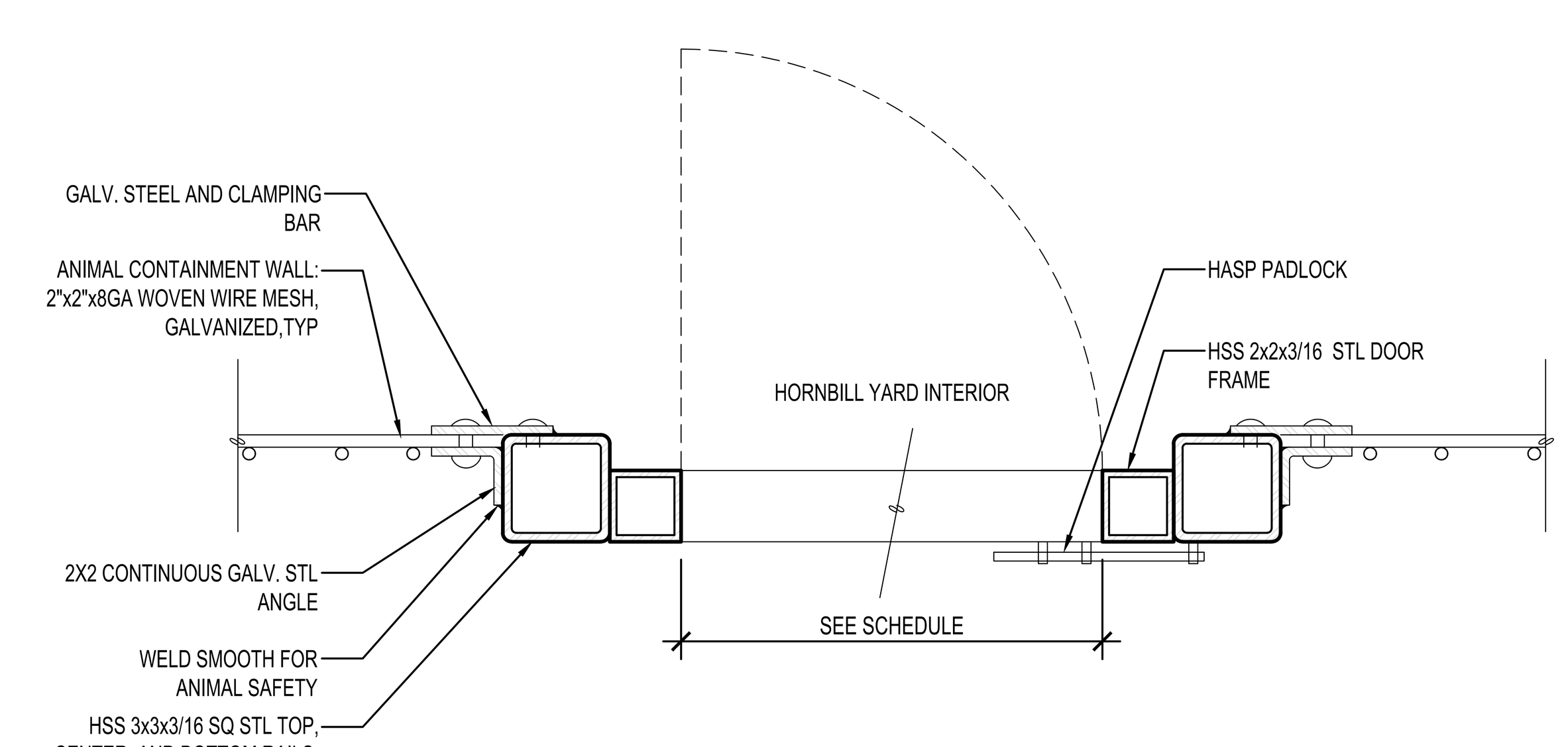
14 KA-404 DOOR 'D' DOOR DETAIL
SCALE = 3" = 1'-0"



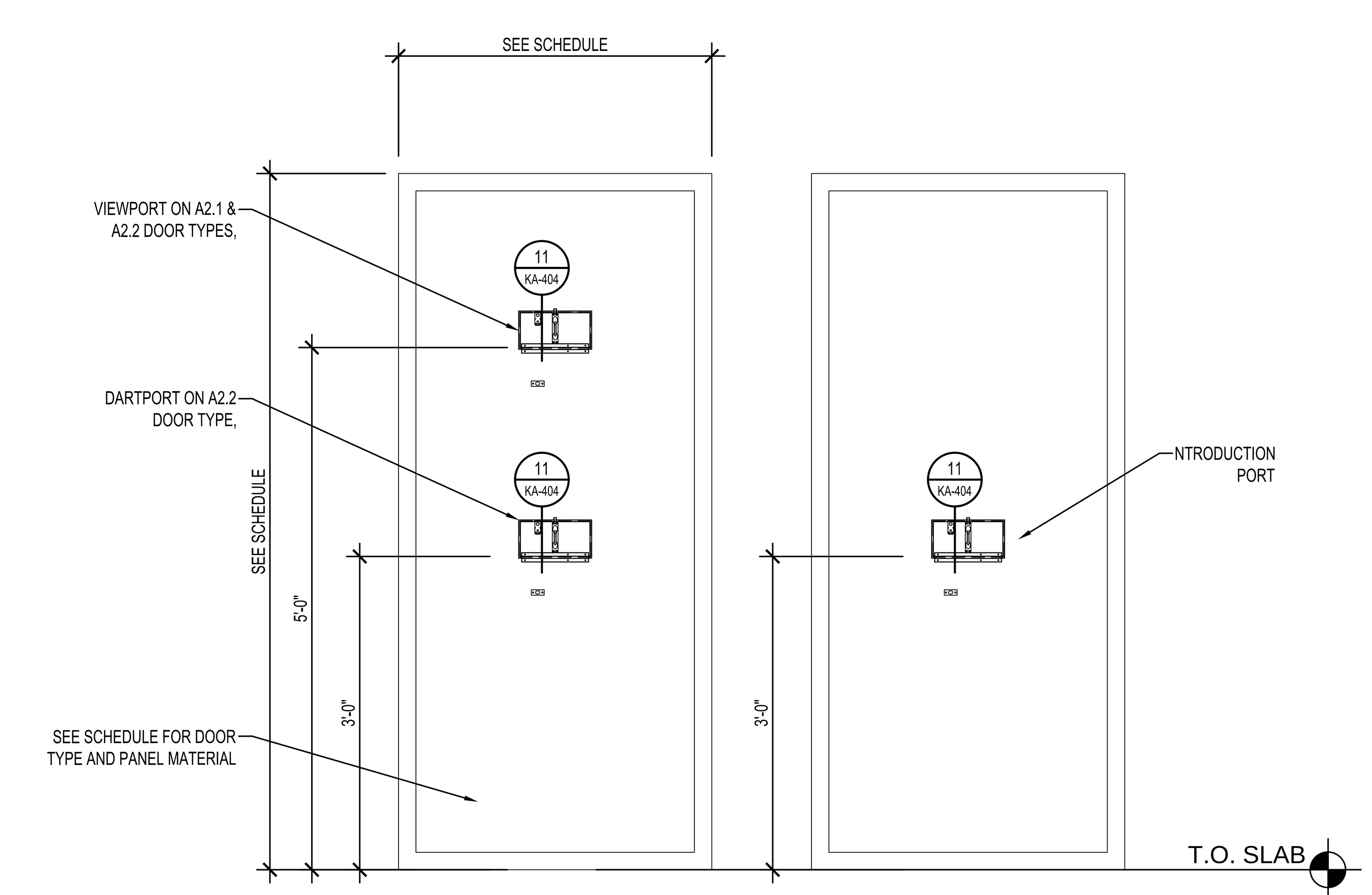
8 KA-404 ENCLOSURE DETAIL - HORNBILL YARD
SCALE = 3" = 1'-0"



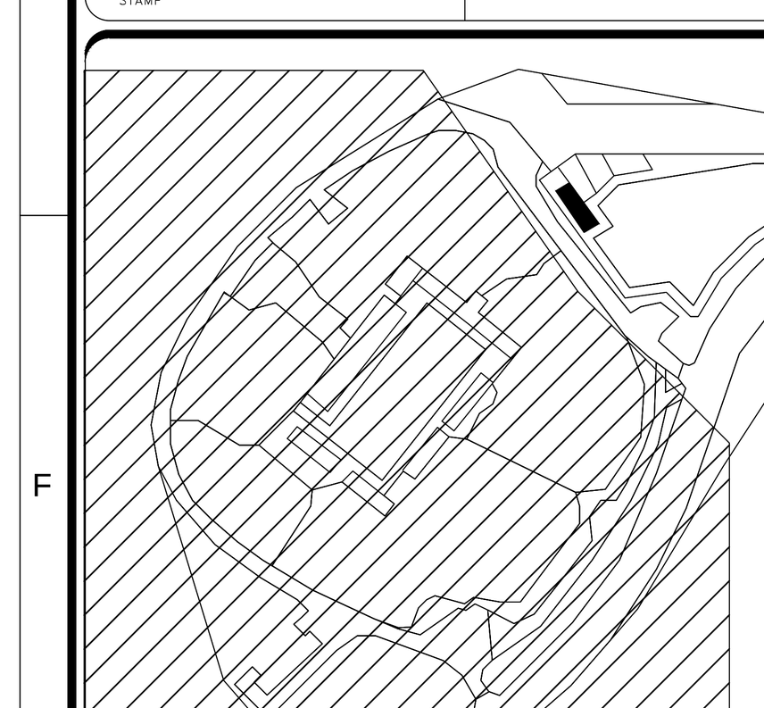
7 KA-404 SLIDING DOOR ELEVATION & SECTION - KUDU BARN
SCALE = 1" = 1'-0"



10 KA-404 ENCLOSURE DETAIL - HORNBILL YARD
SCALE = 3" = 1'-0"



12 KA-404 ELEVATION - DOOR TYPES A2.1 / A2.2 & J
SCALE = 1" = 1'-0"



KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI – 003 (SEE PROJECT NO. 2033120 FOR ASI – 001 & ASI –002)
5	01/16/24	ASI – 005 (SEE PROJECT NO. 2033120 FOR ASI – 004)

Smithsonian Institution

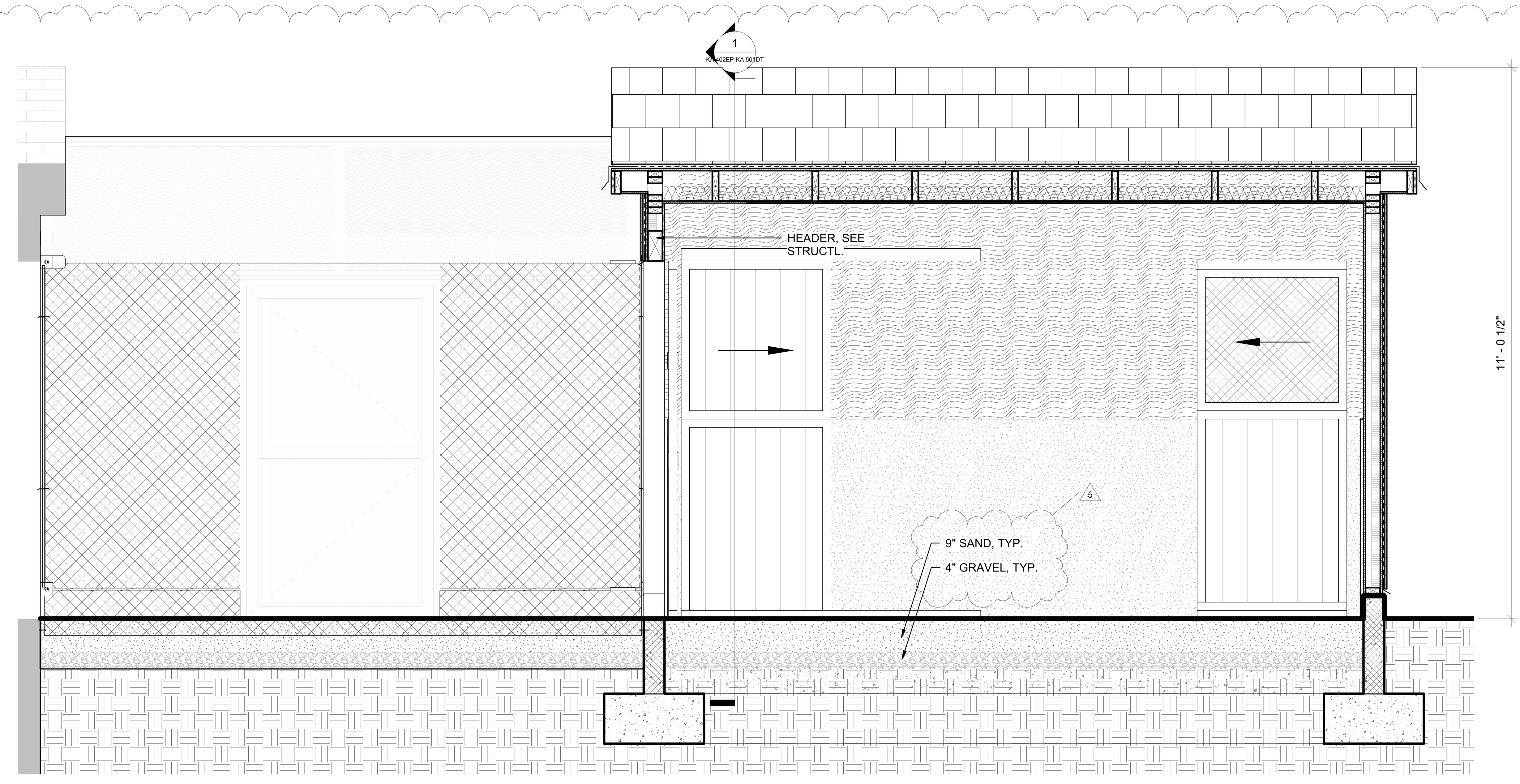
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION - AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CCS - AT KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU BARN, HORNBILL YARD & HORNBILL BARN DETAILS

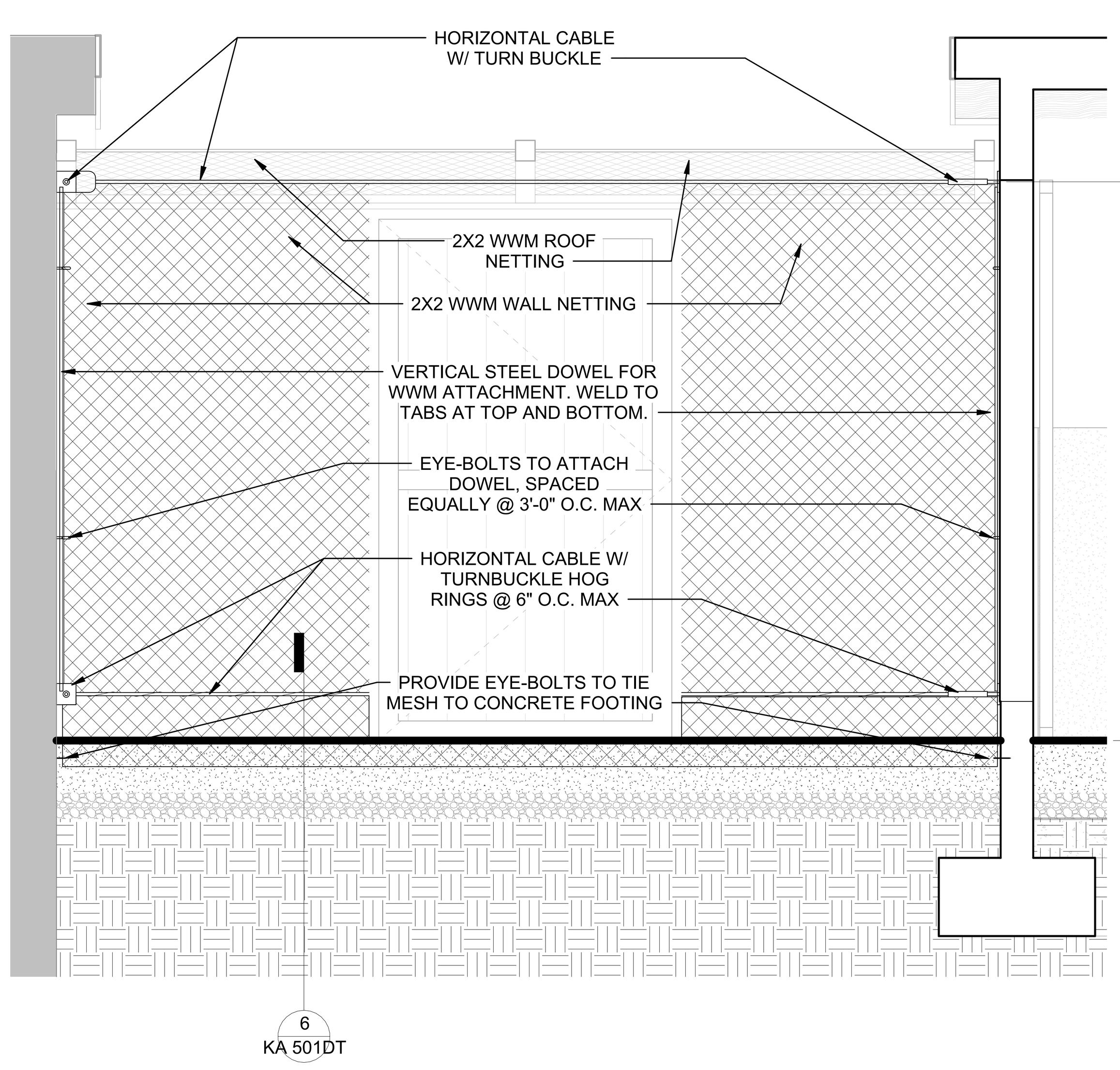
DESIGNED BY	DRAWN BY	CHECKED BY
PAG	PAG	MCC

SHEET NO. 18 OF 29

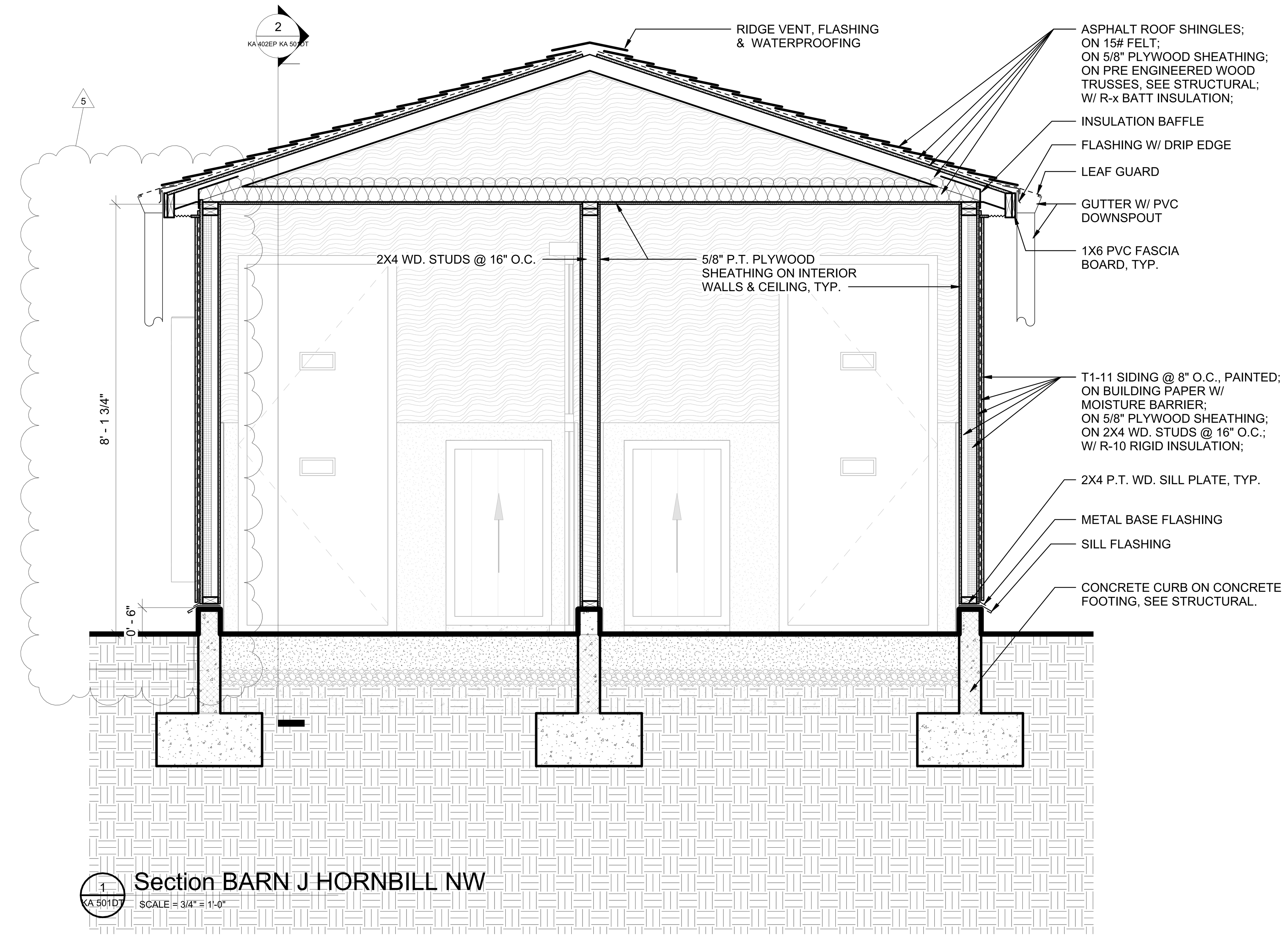
DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
KA	404		DT



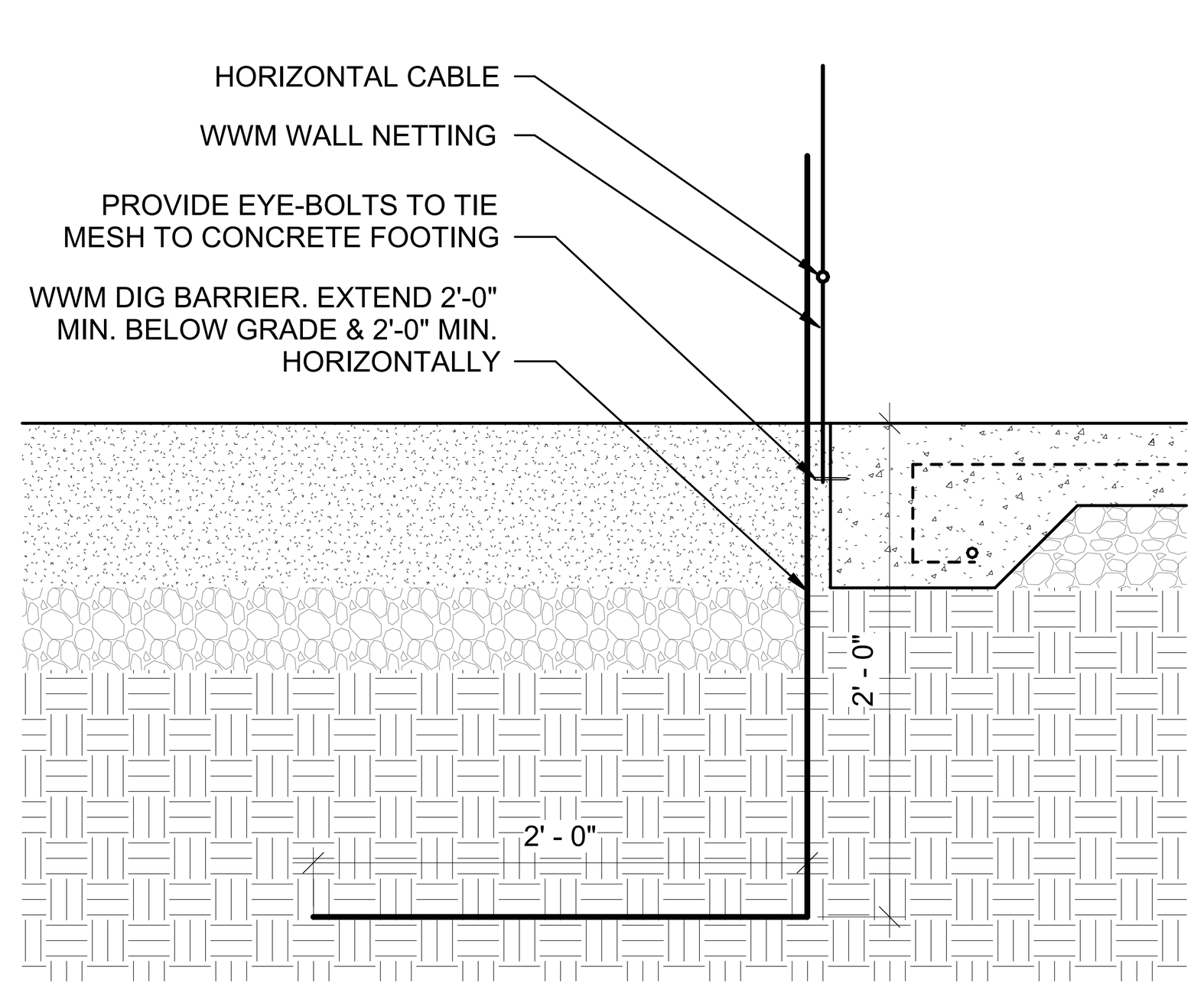
2 KA 501DT Section BARN J (HORNBILL) NE
SCALE = 3/4" = 1'-0"



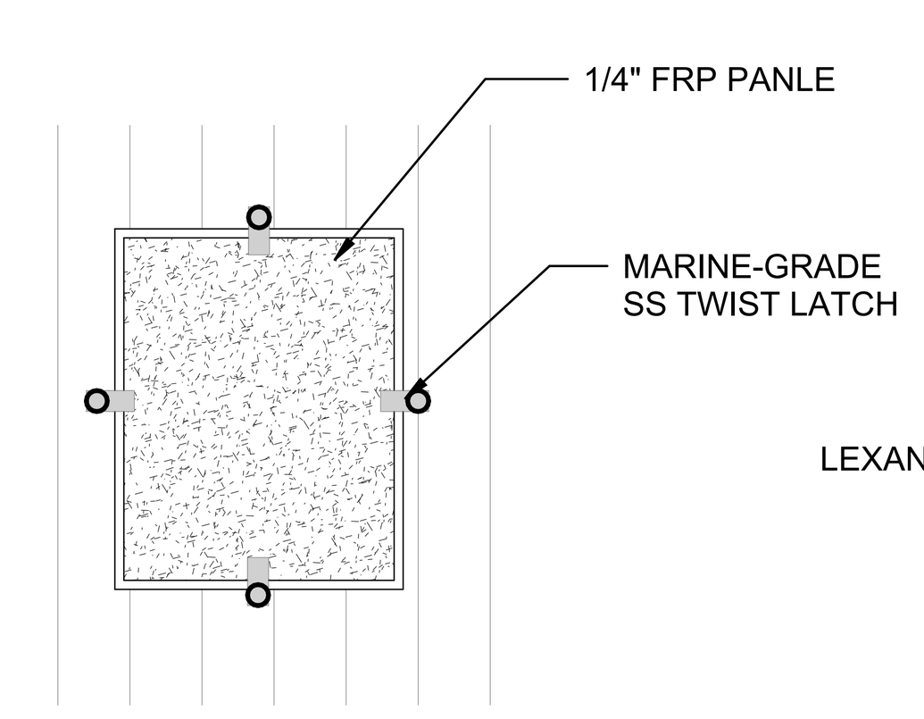
3 KA 501DT WWM NETTING ENCLOSURE SECTION
SCALE = 3/4" = 1'-0"



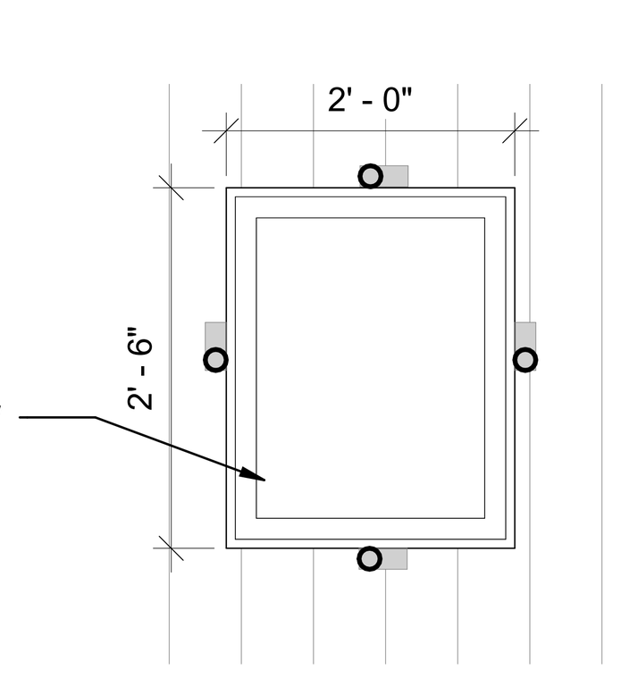
1 KA 501DT Section BARN J HORNBILL NW
SCALE = 3/4" = 1'-0"



6 KA 501DT THICKENED SLAB EDGE @ HORNBILL YARD
SCALE = 1 1/2" = 1'-0"



7 KA 402EP KA 501DT WINDOW COVER CLOSED
SCALE = 3/4" = 1'-0"

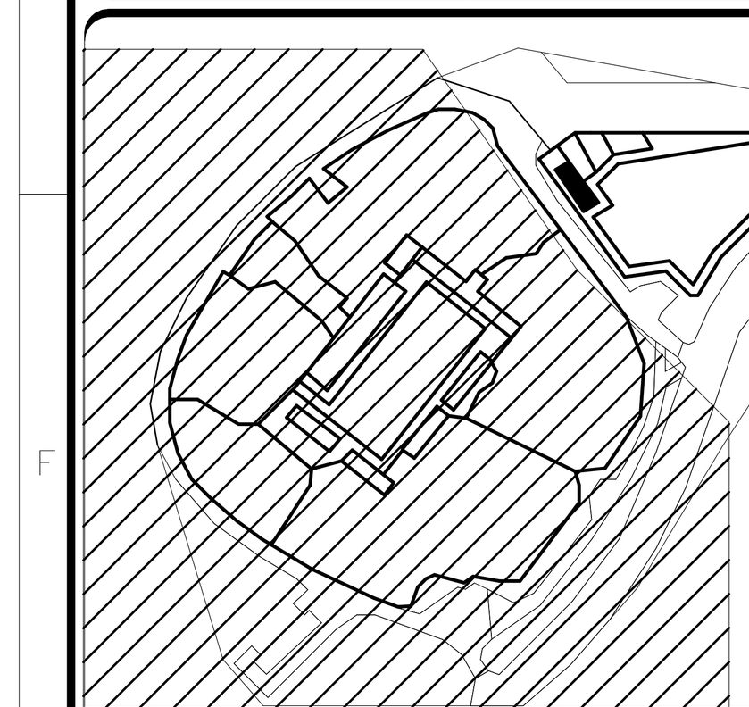


8 KA 402EP KA 501DT WINDOW COVER OPEN
SCALE = 3/4" = 1'-0"

RENEW CHEETAH CONSERVATION STATION-AFRICAN TRAIL-KUDU MOD 4

NOT FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com


KEY PLAN

0 1' 2' 3'
3/4"=1'-0"
GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI – 003 (SEE PROJECT NO. 2033120 FOR ASI – 001 & ASI –002)
5	01/16/24	ASI – 005 (SEE PROJECT NO. 2033120 FOR ASI – 004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION–AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION–AFRICAN TRAIL–KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	FLOOR PLAN AND ELEVATIONS – BARN J (HORNBILL)
WORKING STAFF	DESIGNED BY: OCW; DRAWN BY: OCW; CHECKED BY: RW

SHEET NO. 19 OF 29

KA 501DT (DISCIPLINE: KA; TYPE: 5; SEQUENCE: 01; DRAWING TYPE: DT)

RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates

DRAIN SCHEDULE

DESIGNATION	TYPE	USE	MANUFACTURER AND MODEL NUMBER	STRAINER	NOTES
FD-A	FLOOR DRAIN	ANIMAL HOLDING	WATTS FD-430	12.75"x12.75" STRAINER	1,2

NOTES:

1. DRAIN STRAINER INSTALLED FLUSH WITH FINISHED FLOOR.
2. STRAINER TO BE EPOXY COATED & HEEL PROOF.

FAN SCHEDULE

DESIGN	AREA SERVED	DUTY	CFM	SP (IN WC)	SONES	FAN RPM (APPROX)	HP (WATTS)	WHEEL DIA (IN)	CABINET SIZE (INCHES) LENGTH	HEIGHT	DEPTH	WEIGHT (LBS)	FAN TYPE	DRIVE	MFR'S NO. (TWIN CITY)	ELEC	CONTROL	NOTES
EF-J-1	STALL J1	EXHAUST	575	0.3	8.4	1,018	1/6	14	21 1/4	21 1/4	21 3/4	35	WALL	DIRECT	TCPE-141A	120V-1PH	A	1,2,3
EF-J-2	STALL J2A & J2B	EXHAUST	500	0.3	8.2	985	1/6	14	21 1/4	21 1/4	21 3/4	35	WALL	DIRECT	TCPE-141A	120V-1PH	A	1,2,3
EF-J-4	STALL J3	EXHAUST	400	0.3	7.6	1,370	1/6	10	15 1/4	15 1/4	12 3/4	25	WALL	DIRECT	TCPE-102AE	120V-1PH	A	1,2,3
EF-J-5	STALL J4	EXHAUST	550	0.3	8.3	1,141	1/6	14	21 1/4	21 1/4	21 3/4	35	WALL	DIRECT	TCPE-141A	120V-1PH	A	1,2,3
EF-J-6	STALL K2A	EXHAUST	375	0.3	7.6	1,427	1/8	10	15 1/4	15 1/4	12 3/4	25	WALL	DIRECT	TCPE-101A	120V-1PH	A	1,2,3
EF-J-7	STALL K2B	EXHAUST	375	0.3	7.6	1,427	1/8	10	15 1/4	15 1/4	12 3/4	25	WALL	DIRECT	TCPE-101A	120V-1PH	A	1,2,3

NOTES:

1. PROVIDE WITH ALUMINUM BACKDRAFT DAMPER.
2. PROVIDE WITH EC MOTOR.
3. PROVIDE WITH UNIT MOUNTED DISCONNECT SWITCH.

CONTROLS (SEE ATC SEQUENCES):

A. ROOM TEMPERATURE SENSOR

PROPELLER UNIT HEATER SCHEDULE

DESIGN	AREA SERVED	RATED KW	MIN. MBH REQUIRED	CABINET SIZE LENGTH	HEIGHT	DEPTH	HP	RATED AMPS	ELEC	BASIS OF DESIGN MFR'S MODEL NO. (MODINE)	CONTROL TYPE	NOTES
EPUH-1	J1 STALL	6.5	21.75	22 5/8	19 1/8	22 5/8	1/2	40.2	208V-1P	HEX5-208160-075	SINGLE	1,2,3
EPUH-2	J2A STALL	3.3	9	22 5/8	19 1/8	22 5/8	1/2	28.1	208V-1P	HEX5-208160-050	SINGLE	1,2,3
EPUH-3	J2B STALL	3.3	9.3	22 5/8	19 1/8	22 5/8	1/2	28.1	208V-1P	HEX5-208160-050	SINGLE	1,2,3
EPUH-4	J3 STALL	4.9	14.7	22 5/8	19 1/8	22 5/8	1/2	28.1	208V-1P	HEX5-208160-050	SINGLE	1,2,3
EPUH-5	J4 STALL	6.5	20.4	22 5/8	19 1/8	22 5/8	1/2	40.2	208V-1P	HEX5-208160-075	SINGLE	1,2,3
EPUH-6	K2A STALL	3.4	11.4	22 5/8	19 1/8	22 5/8	1/2	28.1	208V-1P	HEX5-208160-050	SINGLE	1,2,3
EPUH-7	K2B STALL	4.9	13.2	22 5/8	19 1/8	22 5/8	1/2	28.1	208V-1P	HEX5-208160-050	SINGLE	1,2,3

TYPES

EPUH - ELECTRIC PROPELLER UNIT HEATER

NOTES

1. 70 DEGREE F EAT.
2. UNIT CONNECTED TO BAS, PROVIDE ALL LOW-VOLTAGE TRANSFORMERS AND RELAYS AS REQUIRED FOR CONNECTION TO BAS.
3. ~~PROVIDE WITH SURFACE MOUNTING KIT.~~

DDC - INPUT/OUTPUT POINT SCHEDULE

	INPUT TO DDC																					OUTPUT FROM DDC									SYSTEM FEATURES						GENERAL			
	ANALOG										BINARY											ANALOG						BINARY			ALARMS									
SYSTEM APPARATUS OR AREA POINT DESCRIPTION	TEMPERATURE	PRESSURE	CFM	FLOW METER	RELATIVE HUMIDITY	POSITION	CONCENTRATION / LEVEL	SPEED	GPM	NOT USED	STATUS	CURRENT SENSING RELAY	ACTIVATION SWITCH	FREEZESTAT	FILTER DP	END SWITCH	EMERGENCY SWITCH	GALLONS (CONSUMPTION)	FLOW SWITCH	ALARM	OCCUPIED / UNOCCUPIED	SETPOINT ADJUSTMENT	POSITION	HUMIDITY	CUSTUM	ELECTRIC HEATING COIL MODULATION	SPEED	OFF/ON	OPEN-CLOSE	ENABLE / DISABLE	FAILURE	HIGH ANALOG	LOW ANALOG	HIGH BINARY	LOW BINARY	FAULT (GENERAL)	COLOR GRAPHICS	INTERFACE W/ EQUIPMENT CONTROLS		SUPPLEMENTARY NOTES
GLOBAL POINTS																																					X			USE SENSOR PROVIDED UNDER MAIN CCS PROJECT
OA TEMPERATURE	X																																							USE SENSOR PROVIDED UNDER MAIN CCS PROJECT
OA HUMIDITY					X																																			USE SENSOR PROVIDED UNDER MAIN CCS PROJECT
STALL TEMPERATURE	X																														X	X	X							MONITORING ONLY
EF																																					X			FAN CONTROL SEQUENCE A
EXHAUST FAN												X																			X									
ROOM TEMPERATURE SENSOR	X																															X								
TIMED FAN KILL SWITCH											X																													NOTE 1
ELECTRIC UNIT HEATERS (ANIMAL STALLS)												X																			X						X			NOTE 1
ROOM TEMPERATURE SENSOR	X																																X							
FAN																												X												

NOTES:

1. SEE SEQUENCE OF OPERATION FOR INTENT OF KILL SWITCH, COORDINATE TIME SETTINGS WITH OFMR AND ACS.

MECHANICAL SYMBOLS AND ABBREVIATIONS

GENERAL

SYMBOL	ABBR.	TYPE OF PIPE
3/9	--	DETAIL OR DIAGRAM NO. 3 SHOWN ON DRAWING NO. 9
3/7 9	--	SECTION NO. 3 FROM DRAWING NO. 7 SHOWN ON DRAWING NO. 9 (ARROW DENOTES SECTION)
	--	POINT OF CONNECTION, NEW TO EXISTING
	--	DEMOLITION WORK TERMINATION POINT
1	--	SYMBOL FOR SPECIFIC NOTE. NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.
	ø	INDICATES DIAMETER
	ABV	ABOVE
	AFF	ABOVE FINISHED FLOOR
	ALUM	ALUMINUM
	APD	AIR PRESSURE DROP
	ASSOC	ASSOCIATED
	BLDG	BUILDING
	BLW	BELOW
	BTM	BOTTOM
	CI	CAST IRON
	CLG	CEILING
	CONC	CONCRETE
	CONN	CONNECT, CONNECTION
	CONT'N	CONTINUATION
	DESG	DESIGNATION
	DIA	DIAMETER
	DWG	DRAWING
	ELEV	ELEVATION OR ELEVATOR
	EPUH	ELECTRIC PROPELLER UNIT HEATER
	ETR	EXISTING TO REMAIN
	EX	EXISTING
	F	FAHRENHEIT
	FL	FLOOR
	FT	FEET
	GALV	GALVANIZED
	GPM	GALLONS PER MINUTE
	IN	INCH, INCHES
	LB(S)	POUND(S)
	LF	LINEAR FEET
	MAX	MAXIMUM
	MBH	THOUSAND BTU'S PER HOUR
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MIN	MINIMUM
	MTD	MOUNTED
	NC	NORMALLY CLOSED
	NIC	NOT IN CONTRACT
	NO	NORMALLY OPEN
	OC	ON CENTER
	PSIG	POUNDS PER SQUARE INCH GAUGE
	PSI	POUNDS PER SQUARE INCH
	REQ'D	REQUIRED
	RX	REMOVE EXISTING
	SF	SQUARE FEET
	S/M	SHEET METAL
	SPEC	SPECIFICATION
	SQ	SQUARE
	TEMP	TEMPERATURE
	TYP	TYPICAL
	UON	UNLESS OTHERWISE NOTED
	W/	WITH
	W/O	WITHOUT

HVAC

SYMBOL	ABBR.	ITEM
	EA	EXHAUST AIR
	EG	EXHAUST GRILLE
	EXH	EXHAUST
	GR	GRILLE
	OAI	OUTDOOR AIR INTAKE
	OA	OUTDOOR AIR
	REG	REGISTER

PLUMBING

SYMBOL	ABBR.	ITEM
	CW	DOMESTIC COLD WATER PIPE
	WH	WALL HYDRANT
	HB	HOSE BIBB

CONTROLS

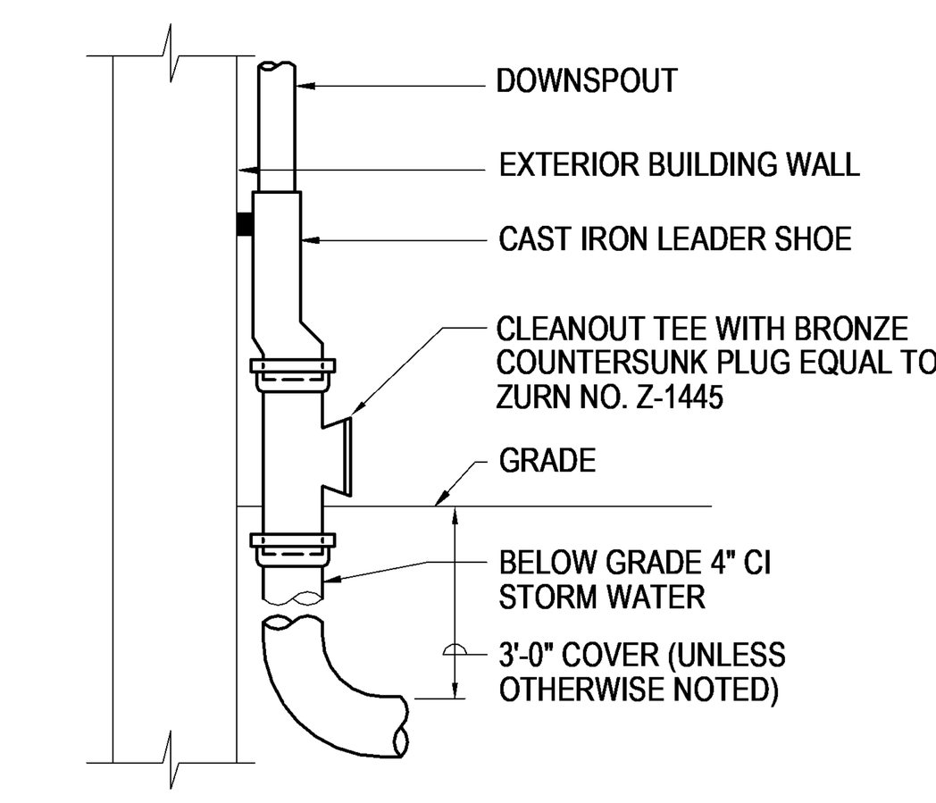
SYMBOL	ABBR.	ITEM
	--	TEMPERATURE SENSOR

ELECTRICAL

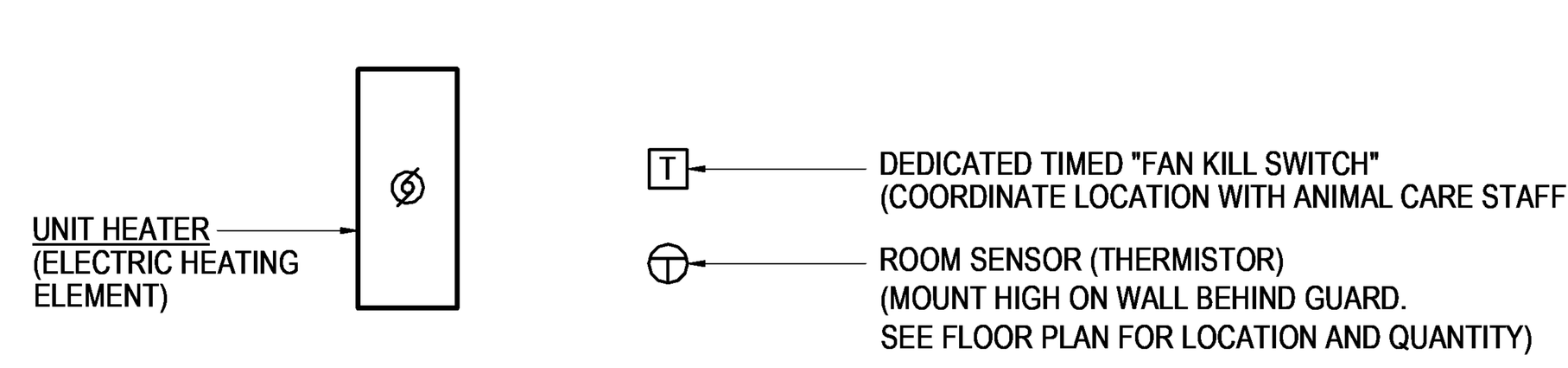
SYMBOL	ABBR.	ITEM
	ELEC	ELECTRIC
	FLA	FULL LOAD AMPERES
	HP	HORSEPOWER
	LRA	LOCKED ROTOR AMPERES
	MCA	MINIMUM CIRCUIT AMPACITY
	MOP	MAXIMUM OVERCURRENT PROTECTION
	RLA	RUNNING LOAD AMPERES

EQUIPMENT

SYMBOL	ABBR.	ITEM
	EF	EXHAUST FAN
	EPUH	ELECTRIC PROPELLER UNIT HEATER



DETAIL 1 / KM-001
EXTERIOR DOWNSPOUT TO UNDERGROUND STORM WATER CONNECTION
NOT TO SCALE



PROPELLER UNIT HEATER OPERATION

A. GENERAL:

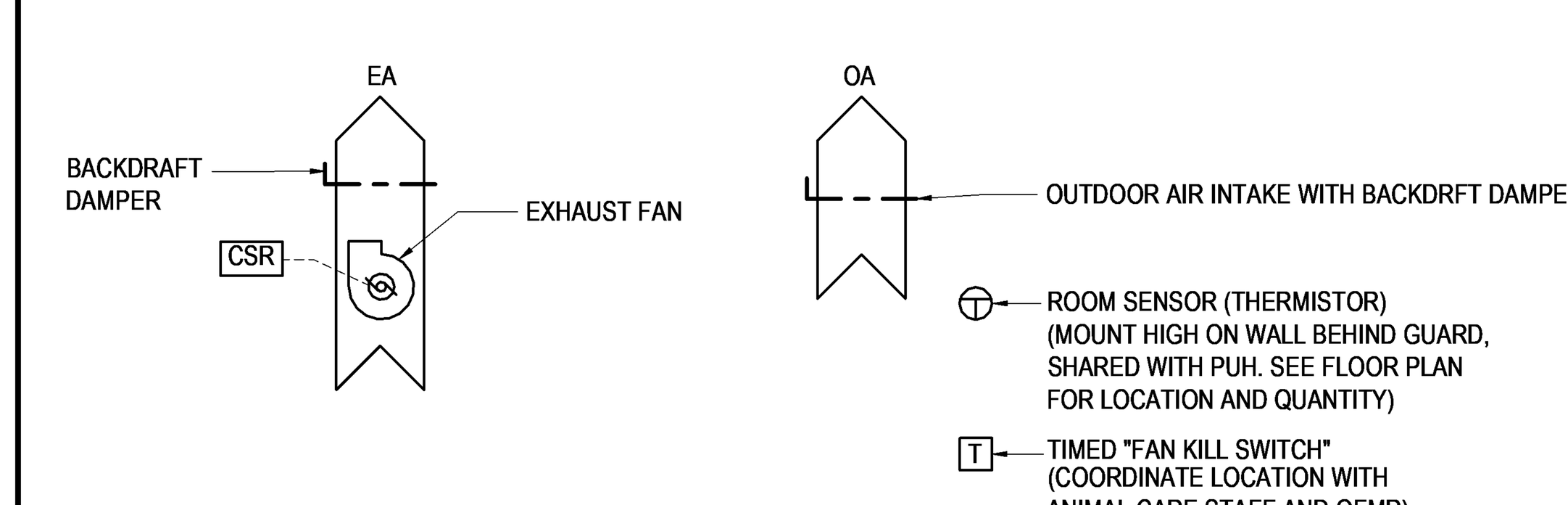
1. ALL PROPELLER UNIT HEATERS SHALL BE PROVIDED WITH DDC CONTROLS FOR UNIT OPERATION AND MONITORING.
2. UNIT HEATERS SHALL INITIALLY BE SETUP TO HAVE THE FAN CONTINUOUSLY RUNNING. THE INTENT IS TO PROVIDE BACKGROUND AMBIENT NOISE (WITHOUT ON/OFF NOISE BEING A NUISANCE FOR THE ANIMALS) AND TO PROVIDE ADDITIONAL AIR CIRCULATION IN THE ANIMAL STALLS. DURING COMMISSIONING OF THIS PROJECT THE SEQUENCE MAY NEED TO BE ADJUSTED PENDING OBSERVATIONS FROM THE ANIMALS AND ANIMAL CARE STAFF.
3. A TIMED "FAN KILL SWITCH" SHALL BE INSTALLED (LOCATION AND DURATION SHALL BE COORDINATED WITH ANIMAL CARE STAFF AND OFMR. THE INTENT OF THE "FAN KILL SWITCH" IS TO PROVIDE THE ANIMAL CARE STAFF THE ABILITY TO TEMPORARILY TURN OFF UNIT HEATER FANS AND GENERAL EXHAUST FANS FOR ANY ANIMALS THAT MAY BE SCARED FROM THE NOISE BEING GENERATED. TIMED "FAN KILL SWITCH" SHALL ONLY BE IMPLEMENTED WHEN THE SPACE TEMPERATURE IS ABOVE 50°F.

B. OPERATION:

1. UNIT HEATER FAN SHALL BE ENERGIZED AND RUN CONTINUOUSLY.
2. UNIT HEATER SHALL MODULATE ELECTRIC HEATING ELEMENT TO MAINTAIN THE SETPOINT (70°F, ADJUSTABLE) OF THE ROOM TEMPERATURE SENSOR. WHEN THE ROOM TEMPERATURE SENSOR IS SATISFIED; THE ELECTRIC HEATING ELEMENT SHALL DEENERGIZE AND THE FAN CONTINUE TO OPERATE CONTINUOUSLY.

C. SAFETY CONTROLS:

1. IF THE PUH FAN FAILS TO OPERATE, AS SENSED BY ITS CURRENT SENSING RELAY OR THE SPACE TEMPERATURE FALLS 5°F BELOW THE SETPOINT AN ALARM SHALL BE SENT TO THE BAS



EXHAUST FAN WITH ROOM TEMPERATURE CONTROL AND COMPANION OA INTAKE DAMPER

(SEQUENCE A)

A. GENERAL:

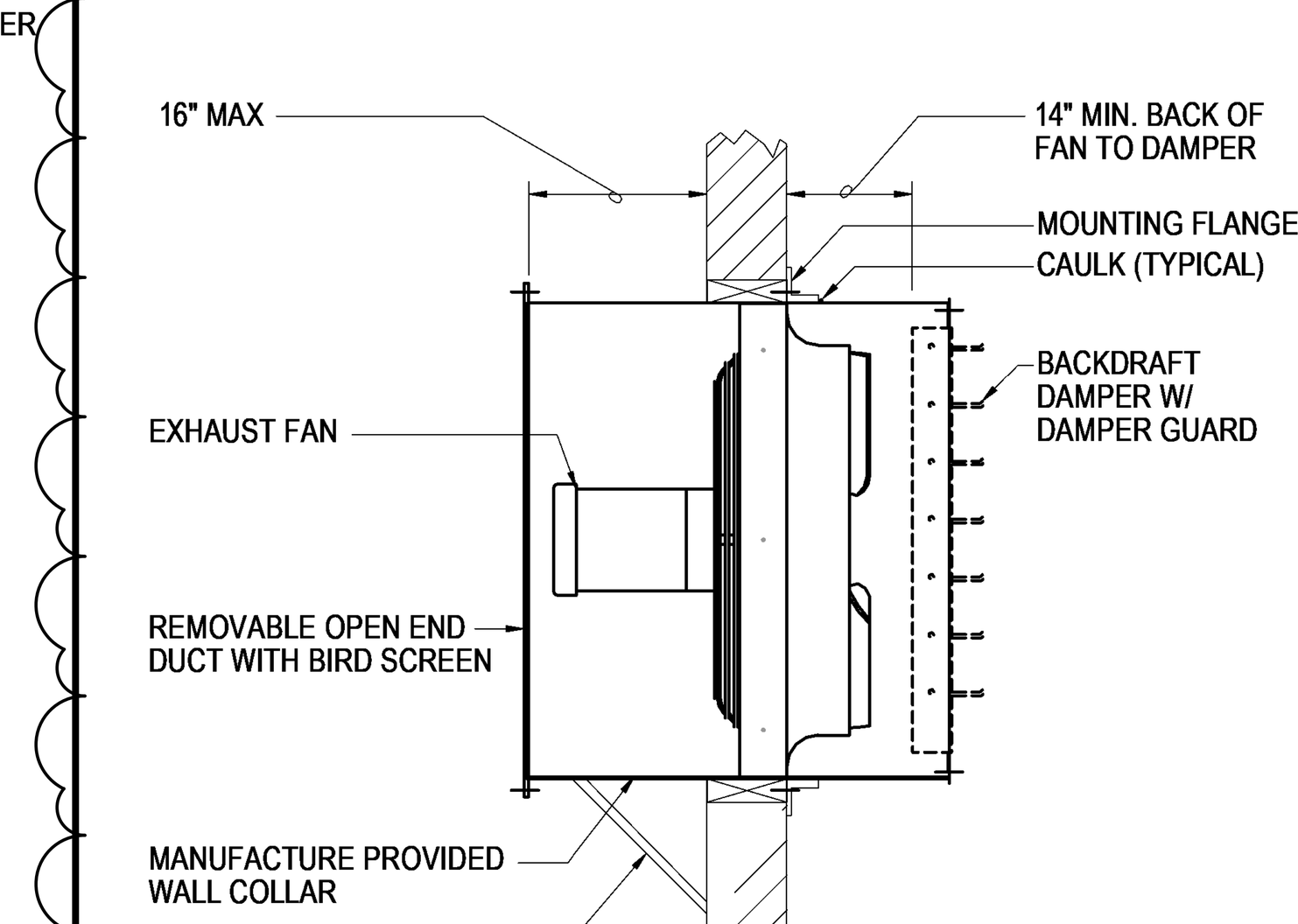
1. A TIMED "FAN KILL SWITCH" SHALL BE INSTALLED (LOCATION AND DURATION SHALL BE COORDINATED WITH ANIMAL CARE STAFF AND OFMR. THE INTENT OF THE "FAN KILL SWITCH" IS TO PROVIDE THE ANIMAL CARE STAFF THE ABILITY TO TEMPORARILY TURN OFF EXHAUST FAN FOR ANY ANIMALS THAT MAY BE SCARED FROM THE NOISE BEING GENERATED. TIMED "FAN KILL SWITCH" SHALL ONLY BE IMPLEMENTED WHEN THE SPACE TEMPERATURE IS ABOVE 50°F.

B. OPERATION

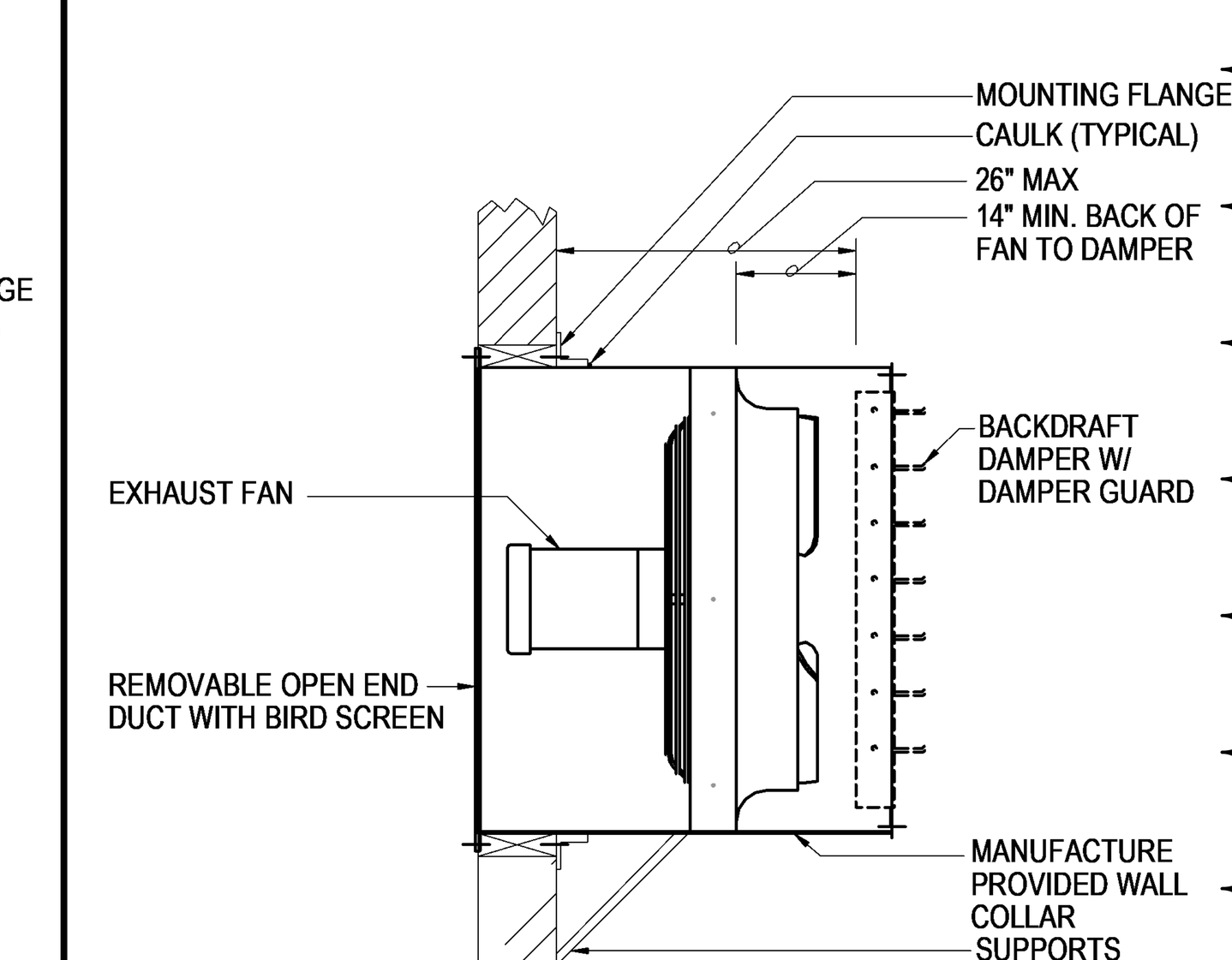
1. UPON A RISE IN THE SPACE TEMPERATURE ABOVE THE SETPOINT OF THE SENSORS (70°F, ADJUSTABLE), THE EXHAUST FAN MOTOR SHALL BE ENERGIZED AND RUN CONTINUOUSLY.
2. UPON A DROP IN SPACE TEMPERATURE (5°F BELOW SETPOINT, ADJUSTABLE), THE EXHAUST FAN SHALL BE DEENERGIZED.

C. SAFETY CONTROLS:

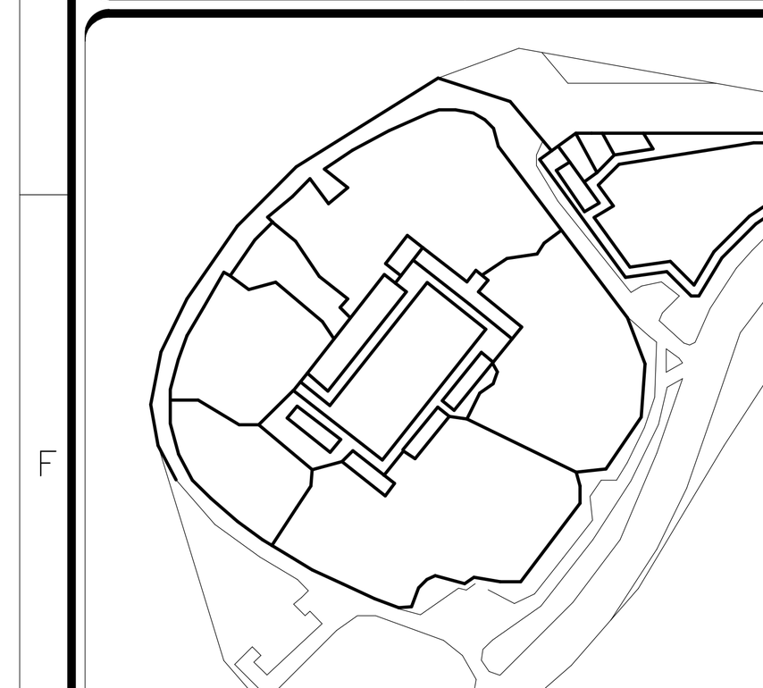
1. IF ANY FAN FAILS TO OPERATE AN ALARM SHALL BE SENT TO THE BASE.



DETAIL 2 / KM-001
EXHAUST FAN MIDDLE OF WALL COLLAR
NOT TO SCALE



DETAIL 3 / KM-001
EXHAUST FAN FLUSH W/ INTERIOR WALL COLLAR
NOT TO SCALE



KEY PLAN

GRAPHIC SCALE(S)

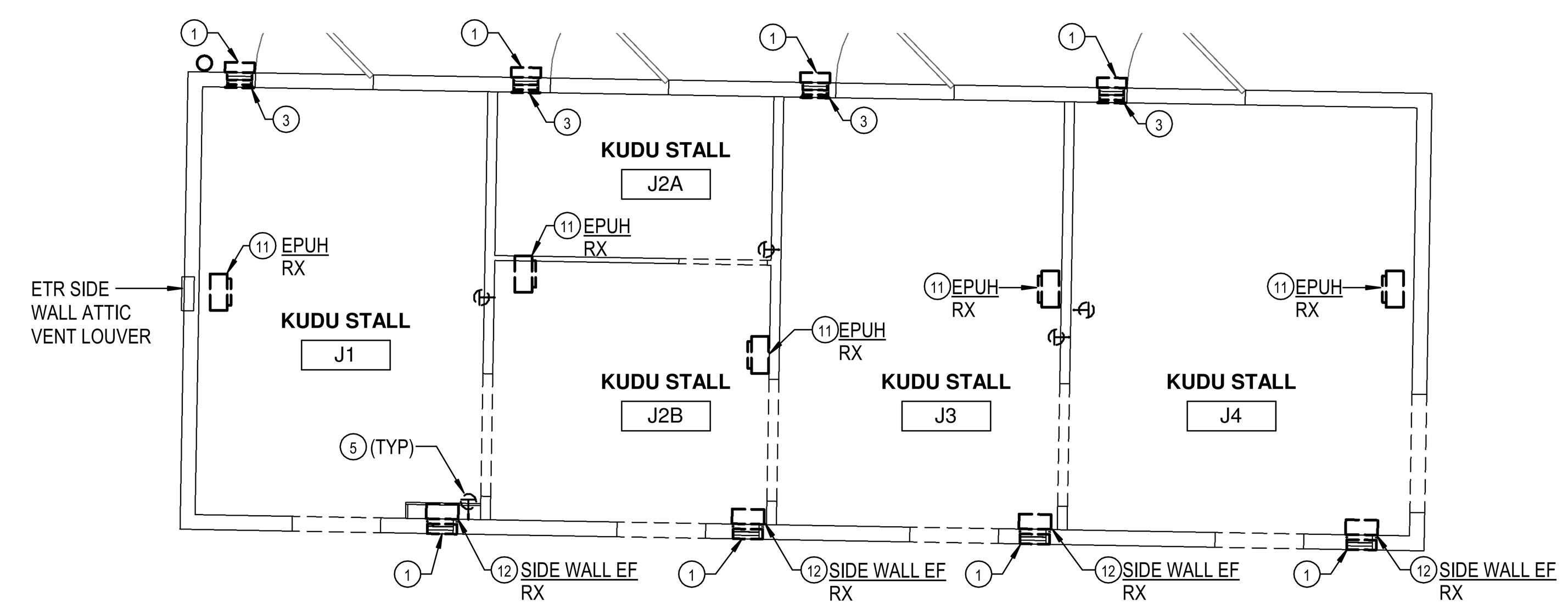
DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI-003 (SEE PROJECT NO. 2033120 FOR ASI-001 AND ASI-002)

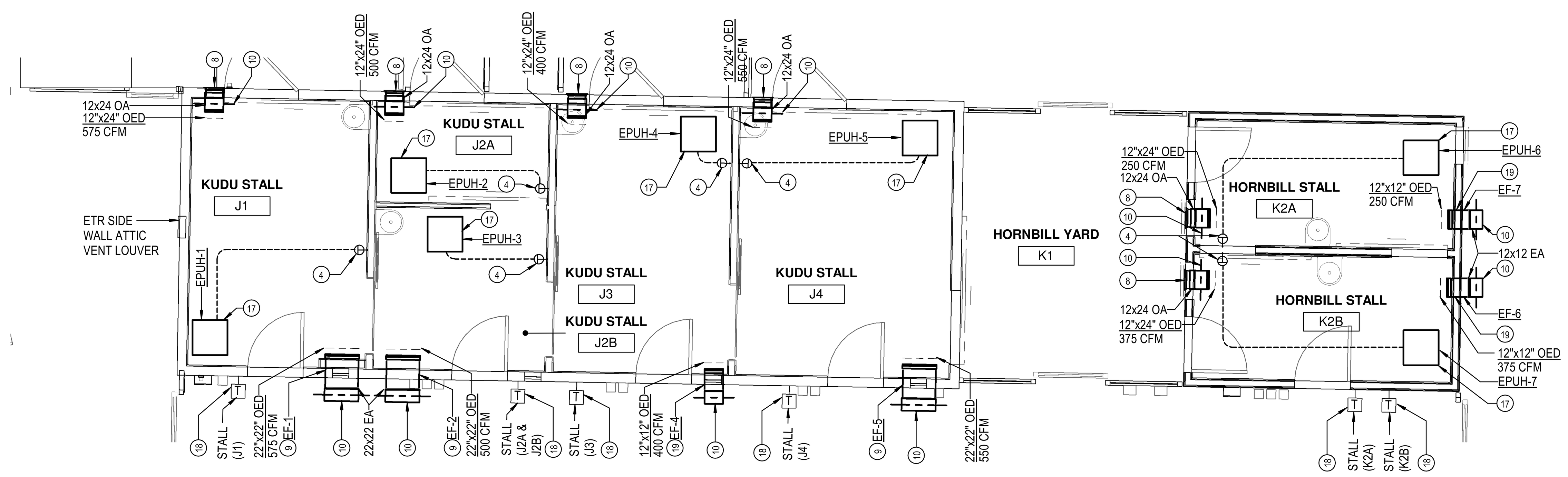
Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

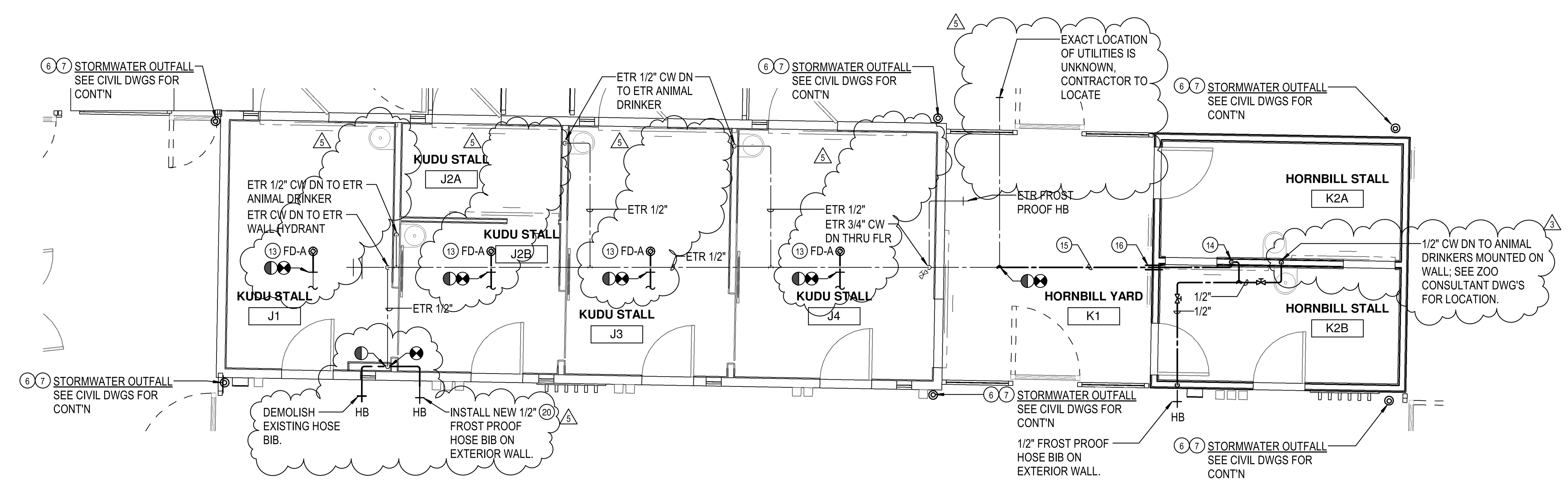
BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	HVAC LEGEND
DESIGNED BY	AG
DRAWN BY	AG
CHECKED BY	ZH
SHEET NO.	12 OF 29
DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE	KM-001



KUDU BARN - HVAC - DEMOLITION WORK
SCALE = 1/4" = 1'-0"



KUDU BARN - HVAC - NEW WORK
SCALE = 1/4" = 1'-0"



KUDU BARN - PLUMBING - DEMO / NEW WORK
SCALE = 1/4" = 1'-0"

KUDU FLOOR DRAINS

EXISTING FLOOR DRAIN QUANTITY AND SANITARY SYSTEM SIZE AND LAYOUT UNKNOWN. CONFIRM QUANTITY OF FLOOR DRAINS AND LOCATIONS PRIOR TO THE START OF WORK. SCOPE EXISTING SANITARY PIPING SYSTEM TO CONFIRM CONDITION AND PIPING LAYOUT. PROVIDED A REPORT TO COTR WITH FINDINGS AND AWAIT FURTHER DIRECTION.

GENERAL NOTES:

A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY MECHANICAL AND RELATED ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.

C. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (——) SHALL REMAIN.

SPECIFIC NOTES:

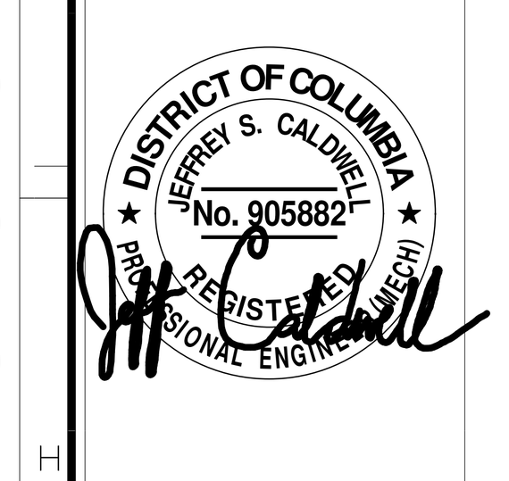
1. RX 12"x16" (WxH) EXTERNAL LOUVER.
2. RX EF T-STAT, MOUNTED APPROXIMATELY 77" AFF (TYPICAL).
3. RX INTAKE GRILLE.
4. PROVIDE TEMPERATURE THERMISTER , MOUNT APPROXIMATELY 77" AFF. CONNECT TEMPERATURE SENSOR TO SIEMENS BUILDING AUTOMATION SYSTEM (BAS) SERVING CHEETAH CONSERVATION STATION.
5. RX SIDE WALL EXHAUST FAN TEMPERATURE SENSOR.
6. ARCHITECTURAL DOWNSOUT; SEE ARCHITECTURAL DRAWINGS.
7. STORMWATER DOWNSPOUT BOOT; SEE DETAIL 1/KM-001.
8. LOUVER TO MATCH INDICATED DUCT SIZE, BOD LOUVER IS RUSKIN MODEL ELF6350DMP, SEE ARCH DRAWINGS.
9. MANUFACTURER PROVIED WALL COLLOAR WITH BIRD SCREEN, EXHAUST FAN, AND BACKDRAFT DAMPER. SEE DETAIL 2/KM-001.
10. BACKDRAFT DAMPER, TYPICAL.
11. RX ALL POWER CONNECTIONS AND APPURTENANCES ASSOCIATED WITH EPUH. CAREFULLY REMOVE AND SALVAGE EPUH AND RETURN TO NZP.
12. RX ALL POWER CONNECTIONS AND APPURTENANCES ASSOCIATED WITH EF.
13. REMOVE EXISTING FLOOR DRAIN AND PROVIDE NEW FLOOR DRAIN. CONFIRM PIPE SIZE PRIOR TO ORDERING. SEE ARCHITECTURAL DRAWINGS FOR INSTALLTION REQUIREMENTS.
14. 1/2" CW DN WITHIN STUD WALL TO 1" PVC CARRIER PIPE. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
15. 1/2" PEX COLD WATER SERVICE PIPE WITHIN 1" PVC CARRIER PIPE.
16. PROVIDE PIPE SLEEVE, SEE STRUCTURAL DRAWINGS.
17. FINAL LOCATION TO BE DETERMINED IN THE FIELD WITH ANIMAL CARE STAFF AND OFMR.
18. MOMENTARY SWITCH TIED TO ALL PUH FANS AND EXHAUST FANS IN ASSOCIATED BARN, COORDINATE LOCATION WITH ANIMAL CARE STAFF & OFMR.
19. MANUFACTURER PROVIED WALL COLLOAR WITH BIRD SCREEN, EXHAUST FAN, AND BACKDRAFT DAMPER. SEE DETAIL 3/KM-001.
20. COORDINATE EXACT LOCATION WITH BAS AND ELECTRICAL INFRASTRUCTURE.

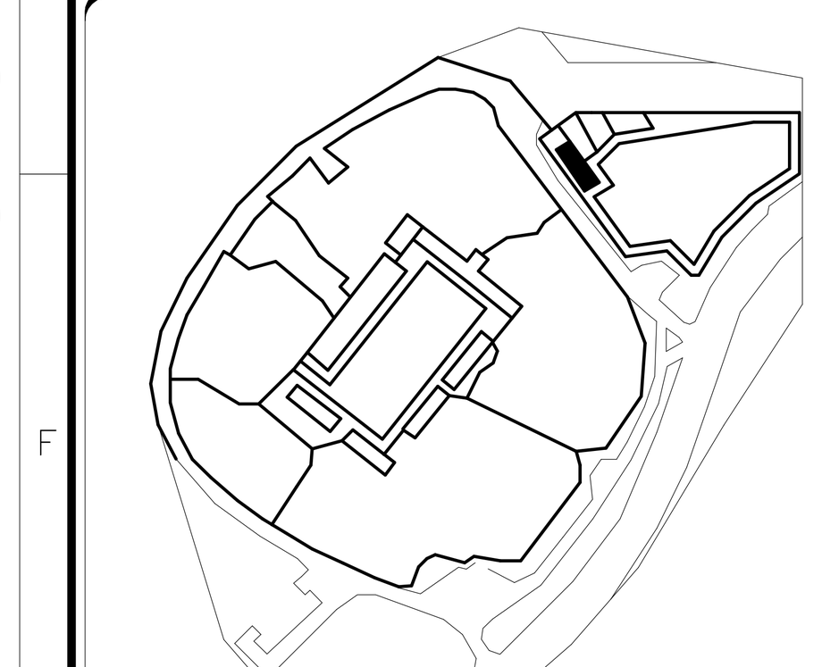
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com





GRAPHIC SCALE(S): 0 2' 4' 8' — 1/4"=1'-0"

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI-003 (SEE PROJECT NO. 2033120 FOR ASI-001 AND ASI-002)
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU BARN - PART PLAN - HVAC & PLUMBING
WORKING STAFF	MRH (DESIGNED BY) / MRH (DRAWN BY) / TMC (CHECKED BY)
SHEET NO.	13 OF 29
	KMP-401

ELECTRICAL SYMBOLS AND ABBREVATIONS

DEMOLITION

REMOVE EXISTING CONDUCTORS AND CABLE ASSEMBLIES. REMOVE EXISTING RACEWAYS UNLESS OTHERWISE NOTED. RACEWAYS EMBEDDED IN MASONRY MAY BE ABANDONED. HASH MARKS (IF ANY) INDICATE NUMBER OF FIBERS OR CATEGORY CABLES REPRESENTED BY A LINE.

REMOVE EXISTING DUPLEX OR DOUBLE-DUPLEX NEMA 5-20R RECEPTACLE. REMOVE BOX. REMOVE ASSOCIATED WIRING TO SOURCE UNLESS OTHERWISE NOTED.

DISCONNECT EXISTING ELECTRIC MOTOR (AND ASSOCIATED DISCONNECTING MEANS, IF ANY). REMOVE ASSOCIATED WIRING TO SOURCE UNLESS OTHERWISE NOTED.

REMOVE EXISTING SWITCH. REMOVE ASSOCIATED WIRING TO SOURCE UNLESS OTHERWISE INDICATED.

REMOVE EXISTING CEILING-, WALL-, OR PENDANT-MOUNTED LUMINAIRE. REMOVE ASSOCIATED WIRING TO SOURCE UNLESS OTHERWISE INDICATED.

REMOVE EXISTING EXIT SIGN. REMOVE ASSOCIATED WIRING TO SOURCE UNLESS OTHERWISE INDICATED.

REMOVE EXISTING SMOKE DETECTOR. REMOVE ASSOCIATED WIRING TO SOURCE. MAINTAIN REMAINDER OF FIRE ALARM SYSTEM FULLY OPERATIONAL.

REMOVE EXISTING FIRE ALARM CEILING-MOUNTED SPEAKER OR STROBE OR SPEAKER/STROBE. MAINTAIN REMAINDER OF FIRE ALARM SYSTEM FULLY OPERATIONAL.

REMOVE EXISTING FIRE ALARM PULL STATION. MAINTAIN REMAINDER OF FIRE ALARM SYSTEM FULLY OPERATIONAL.

REMOVE EXISTING SECURITY DEVICE AND WIRING TO SOURCE. MAINTAIN EXISTING TO REMAIN SECURITY DEVICES IN OPERATION. COORDINATE WORK WITH SI OPS AND COTR.

REMOVE EXISTING CEILING- OR WALL-MOUNTED JUNCTION BOX WITH BLANK COVER PLATE. REMOVE ASSOCIATED WIRING TO SOURCE UNLESS OTHERWISE NOTED.

DISCONNECT EXISTING EQUIPMENT OR REMOVE EXISTING SPECIAL CONNECTION AS NOTED. REMOVE ASSOCIATED WIRING TO SOURCE.

REMOVE EXISTING SAFETY SWITCH AND ASSOCIATED WIRING TO SOURCE.

REMOVE EXISTING PANELBOARD AND ASSOCIATED WIRING TO SOURCE.

REMOVE EXISTING COMMUNICATIONS OUTLET AND ASSOCIATED WIRING TO SOURCE.

REMOVE EXISTING CONTACTOR AND ASSOCIATED WIRING TO SOURCE.

REMOVE EXISTING PHOTOCELL AND ASSOCIATED WIRING TO SOURCE.

REMOVE EXISTING NEMA 6-30R RECEPTACLE AND WIRING TO SOURCE. DISCONNECT AND REMOVE EXISTING ELECTRIC UNIT HEATER ASSOCIATED WITH OUTLET. TURN UNIT HEATER OVER TO COTR.

EXISTING TO REMAIN

—E— EXISTING TO REMAIN CONDUCTORS AND ASSOCIATED CABLE AND RACEWAY.

—EFO— EXISTING TO REMAIN FIBER OPTIC CABLE.

EXISTING TO REMAIN RECEPTACLE.

EXISTING TO REMAIN FIRE ALARM PULL STATION.

EXISTING TO REMAIN FIRE ALARM NOTIFICATION APPLIANCE.

EXISTING TO REMAIN SPECIAL RECEPTACLE OR CONNECTION AS INDICATED.

EXISTING TO REMAIN HEAT DETECTOR.

WIRING

RACEWAY AND CONDUCTORS. RUN RACEWAY CONCEALED IN WALLS AND ABOVE CEILINGS. (RACEWAY MAY BE RUN EXPOSED IN SUPPORT SPACES SUCH AS MECHANICAL AND ELECTRICAL ROOMS OR IN LOADING DOCKS AND RECEIVING ROOMS). PROVIDE PULL ROPE FOR EMPTY RACEWAY. NUMBER OF HASH MARKS INDICATES NUMBER OF CONDUCTORS LESS GROUND. WHERE THERE ARE NO HASH MARKS, TWO CONDUCTORS PLUS GROUND ARE INDICATED.

HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS UNLESS OTHERWISE NOTED. NUMBER OF HASH MARKS INDICATES NUMBER OF PHASE AND NEUTRAL CONDUCTORS LESS GROUND UNLESS OTHERWISE NOTED. WHERE NO HASH MARKS APPEAR, TWO CONDUCTORS PLUS GROUND ARE IMPLIED. PROVIDE EQUIPMENT GROUNDING CONDUCTOR. REFER TO PANEL SCHEDULES FOR CONDUCTOR AND RACEWAY SIZES UNLESS OTHERWISE NOTED.

WIRING CONTINUES.

WIRING CONTINUES DOWN.

WIRING CONTINUES UP.

RACEWAY STUB WITH PLASTIC BUSHING.

UNDERGROUND WIRING. FOR DIRECT-BURIED CONDUIT, SEE DETAIL K9/E501DT. FOR CONCRETE-ENCASED CONDUIT, SEE DETAIL E9/E501DT.

—BAS— TWO 129MM (5") RACEWAYS FOR BUILDING AUTOMATION SYSTEM CONDUCTORS, RUN EXPOSED. ROUTE IS DIAGRAMMATIC. COORDINATE WITH OTHER WORK.

- -BAS- - TWO 129MM (5") RACEWAYS FOR BUILDING AUTOMATION SYSTEM CONDUCTORS, RUN UNDERGROUND WITH 76MM (3") SEPARATION BETWEEN THEM. ROUTE IS DIAGRAMMATIC. COORDINATE WITH OTHER WORK.

—T— TEMPORARY WIRING.

CEILING-MOUNTED JUNCTION BOX WITH BLANK COVER PLATE.

WALL-MOUNTED JUNCTION BOX WITH BLANK COVER PLATE.

—LV— LOW-VOLTAGE WIRING AS INDICATED.

- -LV- - CATEGORY 5E CABLE IN RACEWAY, UNLESS OTHERWISE NOTED.

COIL OF RELAY, CONTACTOR, STARTER, OR OTHER DEVICE AS INDICATED.

NORMALLY OPEN CONTACTS.

RELAY.

POWER

SPECIAL RECEPTACLE OR CONNECTION TO EQUIPMENT AS NOTED.

DUPLEX GROUNDING TYPE NEMA 5-20R CONVENIENCE RECEPTACLE, EIGHTEEN INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

DUPLEX GROUNDING TYPE NEMA 5-20R CONVENIENCE RECEPTACLE, FORTY-EIGHT INCHES ABOVE FINISHED FLOOR OR EIGHT INCHES ABOVE COUNTER UNLESS OTHERWISE NOTED.

G — RECEPTACLE AS ABOVE, GROUND-FAULT CIRCUIT INTERRUPTER TYPE, FORTY-EIGHT INCHES ABOVE FINISHED FLOOR OR EIGHT INCHES ABOVE COUNTER UNLESS OTHERWISE NOTED.

G WP — RECEPTACLE AS ABOVE, GROUND-FAULT CIRCUIT INTERRUPTER TYPE, FORTY-EIGHT INCHES ABOVE FINISHED FLOOR OR GRADE UNLESS OTHERWISE NOTED, IN WEATHERPROOF BOX WITH EXTRA-DUTY IN-USE METAL COVER.

G WP — RECEPTACLE AS ABOVE, GROUND-FAULT CIRCUIT INTERRUPTER TYPE, FORTY-EIGHT INCHES ABOVE FINISHED FLOOR OR GRADE UNLESS OTHERWISE NOTED, IN WEATHERPROOF BOX WITH EXTRA-DUTY IN-USE METAL COVER, ON STANDBY OR EMERGENCY POWER.

G HD — RECEPTACLE AS ABOVE, GROUND-FAULT INTERRUPTER TYPE, ON STANDBY POWER. INSTALL SEVEN FEET ABOVE FINISHED FLOOR OR ONE INCH ABOVE DOOR FRAME / DOOR TRACK, WHICHEVER IS LOWER, UNLESS OTHERWISE NOTED. PROVIDE IN WATERPROOF BOX WITH WATERPROOF WHEN NOT IN USE COVER. THESE RECEPTACLES WILL BE HOSED DOWN ON OCCASION.

QUADRUPLEX (DOUBLE DUPLEX) RECEPTACLE, GROUNDING TYPE NEMA 5-20R CONVENIENCE RECEPTACLE, EIGHTEEN INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

ANY RECEPTACLE ABOVE THAT IS ON AN EMERGENCY OR OPTIONAL STANDBY POWER CIRCUIT.

P — RECEPTACLE CONTROL POWER PACK ASSOCIATED WITH MOTION SENSOR(S). MOUNT ON WALL 2' ABOVE DOOR FRAME IN ROOMS WITHOUT CEILINGS. IN ROOMS WITH CEILINGS, MOUNT ON WALL ABOVE CEILING ABOVE DOOR. ONLY ONE SHOWN; PROVIDE ONE PER CIRCUIT IN ROOM SERVING CONTROLLED RECEPTACLES. SEE DIAGRAM A1/E601DG.

CONNECTION TO ELECTRIC MOTOR.

D — SAFETY SWITCH DISCONNECT, RATED FULL HORSEPOWER AS NEEDED UNLESS OTHERWISE NOTED.

S_2 — TWO-POLE HORSEPOWER RATED TOGGLE SWITCH, 20 AMPS, 208 VOL, NEMA ONE ENCLOSURE.

ELECTRICAL PANELBOARD (NEW OR EXISTING) 120/208-VOLT, SURFACE-MOUNTED.

D_S — MANUAL MOTOR STARTER.

M — MAGNETIC MOTOR STARTER

M/D — COMBINATION MOTOR STARTER-DISCONNECT

MD, V — VARIABLE FREQUENCY DRIVE

SPD — SURGE PROTECTIVE DEVICE

SYSTEMS

DATA OUTLET, EIGHTEEN INCHES ABOVE FINISHED FLOOR OR GRADE UNLESS OTHERWISE INDICATED, WITH PULL ROPE IN 1" RACEWAY (UNLESS OTHER SIZE IS NOTED) TO MAIN DISTRIBUTION FRAME. FLUSH OR SURFACE MOUNTED. SMITHSONIAN'S OCIO WILL ARRANGE FOR CAT 6 CABLE TO BE PULLED AND TERMINATED.

WP — DATA OUTLET AS ABOVE, IN WEATHERPROOF BOX WITH WEATHERPROOF IN USE, EXTRA-DUTY COVER, SURFACE-MOUNTED.

D — DATA OUTLET BOX FOR TEMPORARY NETWORK CONNECTIONS. TWO-GANG ALUMINUM FD BOX WITH BLANK WEATHERPROOF COVER. 1 INCH BELOW CEILING. LOCATION IS APPROXIMATE. COORDINATE INSTALLATION WITH OTHER WORK ON WALL. SEE DIAGRAM K8/KE602DG.

DH — DATA OUTLET BOX FOR TEMPORARY NETWORK CONNECTION HOME RUN. TWO-GANG ALUMINUM FD BOX WITH BLANK WEATHERPROOF COVER. 1 INCH BELOW CEILING OR EAVE. LOCATION IS APPROXIMATE. COORDINATE INSTALLATION WITH OTHER WORK ON WALL. SEE DIAGRAM K8/KE602DG.

INFORMATION TECHNOLOGY EQUIPMENT PROVIDED BY SMITHSONIAN.

POLE WITH SECURITY CAMERA. PROVIDE PROVIDE 27MM (1") PVC UNDERGROUND TO NEAREST BARN SECURITY PULL BOX.SEE DETAIL J5/KE501DT. SEE DIAGRAM K1/KE601DG. SEE DIAGRAM F5/E602DG. PROVIDE CABLE BACK TO CAMERA SERVER.

LIGHTING

LINEAR LED LUMINAIRE(S), TYPE AS DESIGNATED. NOTE THAT A "B3" LUMINIARE IS A PAIR OF TWO 2' LUMINAIRES END TO END.

CEILING OUTLET AND TYPE R RED LUMINAIRE. NOTE- TYPE R LUMINAIRES ARE DEPICTED USING A MANUFACTURER'S REVIT OBJECT AND THE CORRESPONDING ANNOTATION ON THIS SCHEDULE WILL NOT BE A PERFECT MATCH.

SURFACE-MOUNTED OUTLET AND FLOOD LUMINAIRE, TYPE AS DESIGNATED.

L — OUTDOOR MOTION SENSOR FOR LIGHTING CONTROL, WALL-MOUNTED, WITH BUILT-IN PHOTOCELL FOR DAYLIGHT SENSING, BUILT-IN 120V RELAY, AND LENS AS NEEDED.

S_{WP} — STALL LIGHTING CONTROL STATION: TWO SINGLE-POLE TOGGLE SWITCHES IN A WEATHERPROOF BOX, AND ONE SINGLE-POLE TOGGLE SWITCH IN A WEATHERPROOF BOX. STATION ALSO INCLUDES ONE TIME SWITCH IN A NEMA 3R ENCLOSURE. SEE DETAIL J1/KE501DT. SEE DIAGRAMS F9/KE601DG AND K6/KE601DG. MOUNT 57" ABOVE GRADE. LOCATIONS ARE DIAGRAMMATIC. SEE ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS. COORDINATE LOCATION WITH SLIDING DOORS AND DOOR OPERATORS.

OTHER

REMOVABLE BOLLARD. SEE CIVIL DRAWINGS. SEE DETAIL E1/E501DT. LOCATIONS OF BOLLARDS ARE DIAGRAMMATIC. HAND-DIG POST HOLES FOR BOLLARDS. WHERE AN EXISTING TO REMAIN UNDERGROUND UTILITY IS ENCOUNTERED, FILL HOLE AND INSTALL BOLLARD AT A DIFFERENT LOCATION. ADDITIONAL BOLLARDS MAY BE NECESSARY TO FULLFILL THE DESIGN INTENT OF PREVENTING A VEHICLE FROM DRIVING THROUGH THE BOLLARD BARRIER. BOLLARDS SHALL BE SPACED NO LESS THAN THREE FEET AND NO MORE THAN FIVE FEET APART.

GROUND ROD IN FLOOR OF MANHOLE.

TELECOMMUNICATIONS MAIN GROUNDING BUSBAR OR INTERSYSTEM BONDING TERMINATION BONDING BUSBAR AS NOTED. SEE DETAIL B9/KE501DT. SEE DIAGRAM A9/KE602DG.

ABBREVIATIONS

A	AMPS, AMPERES
A/C	AIR CONDITIONING EQUIPMENT
AIC	AMPERE INTERRUPTING CAPACITY
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASSIS	ASSISTANT
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
BAS	BUILDING AUTOMATION SYSTEM
C	CONDUIT OR OTHER RACEWAY, CONDUCTOR
CAT	UNSHIELDED TWISTED PAIR ETHERNET CABLE OF THE ANSI/TIA-565 CATEGORY INDICATED (E.G., 'CAT-5' IS CATEGORY 5 CABLE)
CB	CIRCUIT BREAKER
CCS	CHEETAH CONSERVATION STATION
COMP	COMPRESSOR
CONT	CONTINUATION
CORR	CORRIDOR
COTR	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE
CRI	COLOR RENDERING INDEX
DC	DIRECT CURRENT
DEMO	DEMOLITION
DIA	DIAMETER
DIN	DEUTSCHES INSTITUT FÜR NORMUNG
DX	DISCONNECT EXISTING
EF	EXHAUST FAN WITH INTEGRAL DISCONNECT SWITCH
ELEC	ELECTRIC, ELECTRICAL
ELV	ELECTRONIC LOW VOLTAGE
EM, EMER	EMERGENCY
EPUH	ELECTRIC PROPELLER UNIT HEATER
ETR	EXISTING TO REMAIN
EWH	ELECTRIC WATER HEATER
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FDA	FOOD AND DRUG ADMINISTRATION
FLA	FULL LOAD AMPERES
FO	FIBER OPTIC, FIBER OPTIC CABLE
FSS	FUSED SAFETY SWITCH
G	GROUND, EQUIPMENT GROUNDING CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTING
GTD	GENERATOR TRANSFER DEVICE
HD	HOSE DOWN, SUITABLE FOR USE IN HOSED-DOWN AREAS
HP	HORSEPOWER
HPU	HYDRAULIC POWER UNIT(S)
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IBT	INTERSYSTEM BONDING TERMINATION
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION
IP	INGRESS PROTECTION CODE AS DEFINED BY IEC STANDARD 60529
IT	INFORMATION TECHNOLOGY
K, °K	DEGREES KELVIN (COLOR TEMPERATURE)
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MIL
KN	KILONEWTON
KV	KILOVOLTS
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
LM, lm	LUMEN
LTG	LIGHTING
LT	LIGHTING
M^2	SQUARE METER
MA	MILLIAMPERE
MCA	MINIMUM CIRCUIT AMPACITY
MFA	MAXIMUM FUSE AMPERES
MIN	MINIMUM
MM	MILLIMETER
MOCP	MAXIMUM OVERCURRENT PROTECTION
MPa	MEGAPASCALS
MV	MEDIUM VOLTAGE
NAC	NOTIFICATION APPLIANCE CIRCUIT
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NZP	NATIONAL ZOOLOGICAL PARK ("THE ZOO")
O/C, OC	ON CENTER
P	POLE
PACS	PHYSICAL ACCESS CONTROL SYSTEM
PSI	POUNDS/SQUARE INCH
POE	POWER OVER ETHERNET
PUH	PROPELLER UNIT HEATER
QUAD	QUADRUPLEX, DOUBLE DUPLEX (RECEPTACLE)
R	RADIUS
RCP	REFLECTED CEILING PLAN
REC	RECEPTACLE
RM	ROOM
RX	REMOVE EXISTING
SEC	SECURITY
SI	SMITHSONIAN INSTITUTION
SLC	SIGNALING LINE CIRCUIT
SS	SAFETY SWITCH, STAINLESS STEEL
SWGR	SWITCHGEAR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TELECOM	TELECOMMUNICATIONS
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
U.S.	UNITED STATES, UNITED STATES OF AMERICA
V	VOLT
VAC	VOLT (ALTERNATING CURRENT)
VDC	VOLT (DIRECT CURRENT)
VRT	VARIABLE REFRIGERANT TERMINAL UNIT
W	WATT, WIDE, WIRE
WAP	WIRELESS ACCESS POINT
WIRING	CONDUCTORS, WITH ASSOCIATED RACEWAY OR CABLE ASSEMBLY
WP	WEATHERPROOF
Z	IMPEDANCE
@	AT, EACH
Ø	PHASE

UNITS OF MEASURE: UNITED STATES CUSTOMARY SYSTEM TO INTERNATIONAL SYSTEM

ONE HORSEPOWER EQUALS 746 WATTS.
ONE INCH EQUALS 25.4 MILLIMETERS.
ONE FOOT EQUALS 304.8 MILLIMETERS.
ONE POUND EQUALS 4.45 NEWTONS.
ONE POUND PER SQUARE INCH EQUALS 6895 PASCALS

NOTES

A. PRIOR TO ROUGH-IN, VERIFY EXACT LOCATION OF SPECIALTY WIRING DEVICES WITH EQUIPMENT SPECIFIED UNDER OTHER DIVISIONS OR SUPPLIED BY GOVERNMENT.

B. MOUNTING HEIGHTS ARE TO THE CENTER OF DEVICES, AND TO THE UNDERSIDES OF LUMINAIRES, UNLESS OTHERWISE NOTED.

C. MANY OF THESE SYMBOLS AND ABBREVIATIONS APPEAR IN THE DRAWINGS OF THE MAIN 'RENEW CHEETAH CONSERVATION STATION' PROJECT, BUT NOT IN THE KUDU DRAWINGS. THOSE SYMBOLS ARE INCLUDED HERE FOR INFORMATION ONLY.

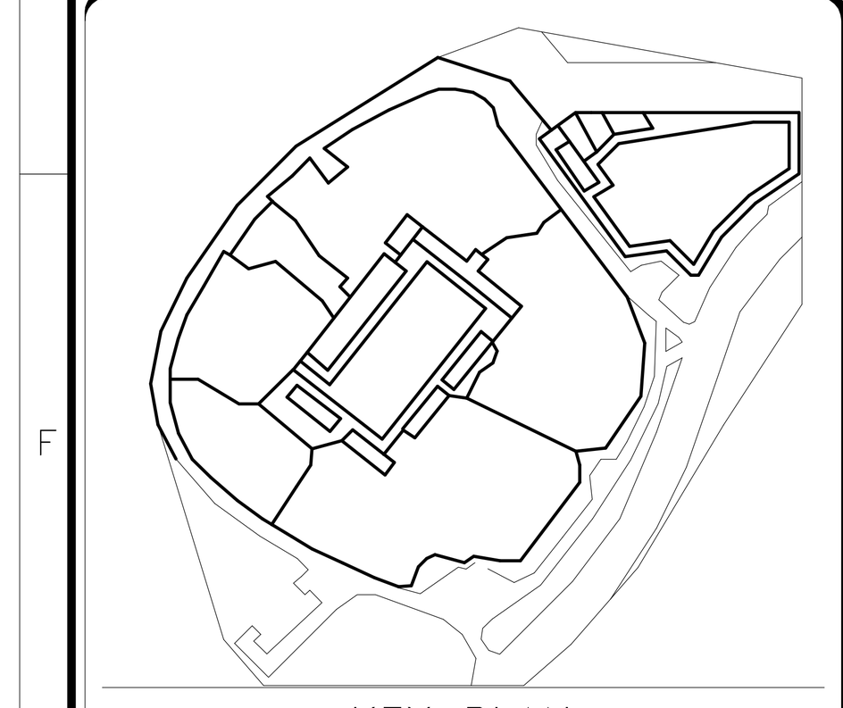
KUDU ELECTRICAL DRAWING INDEX

RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com



KEY PLAN

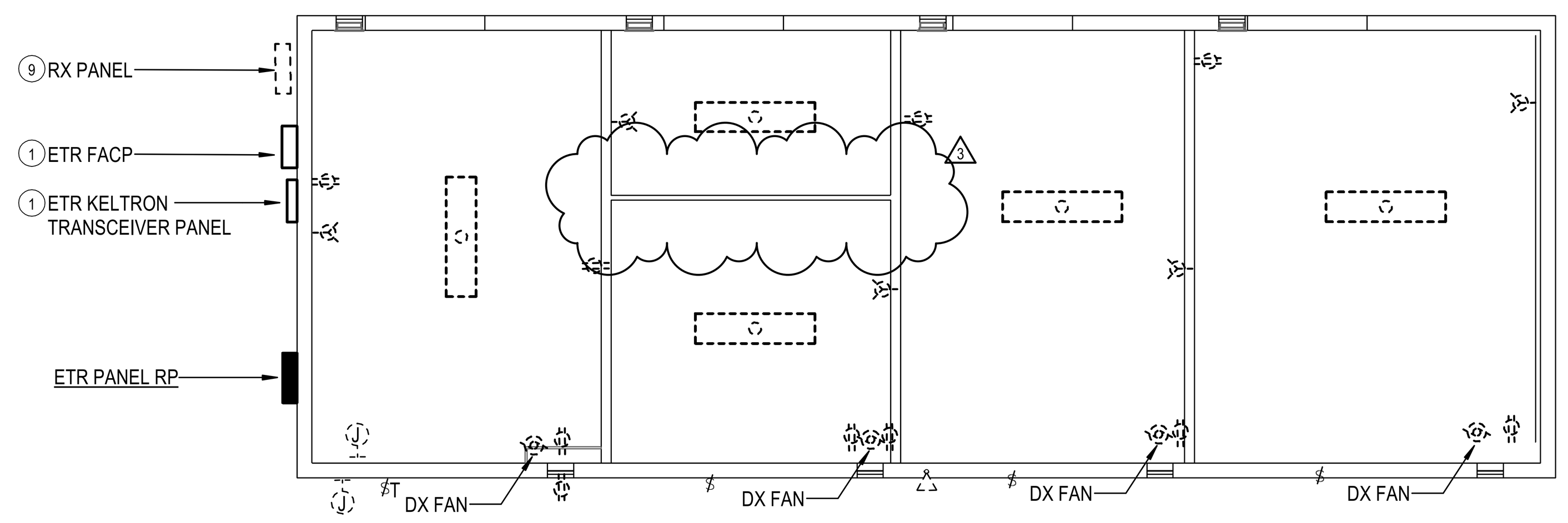
GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

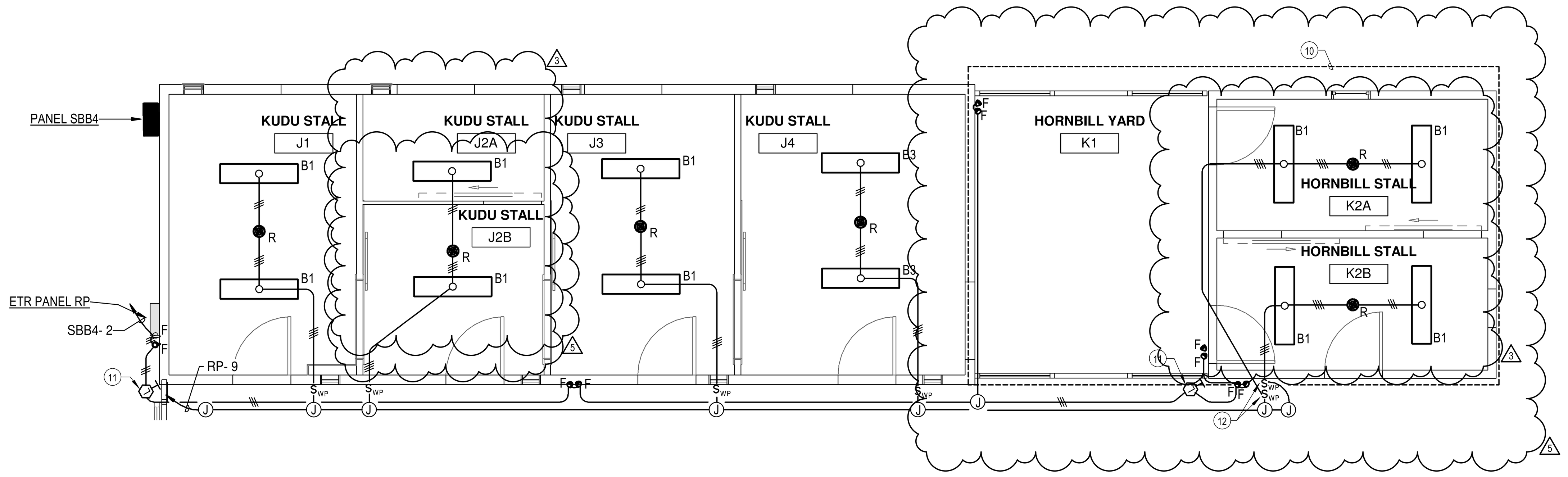
REVISION #	DATE	REVISION DESCRIPTION
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

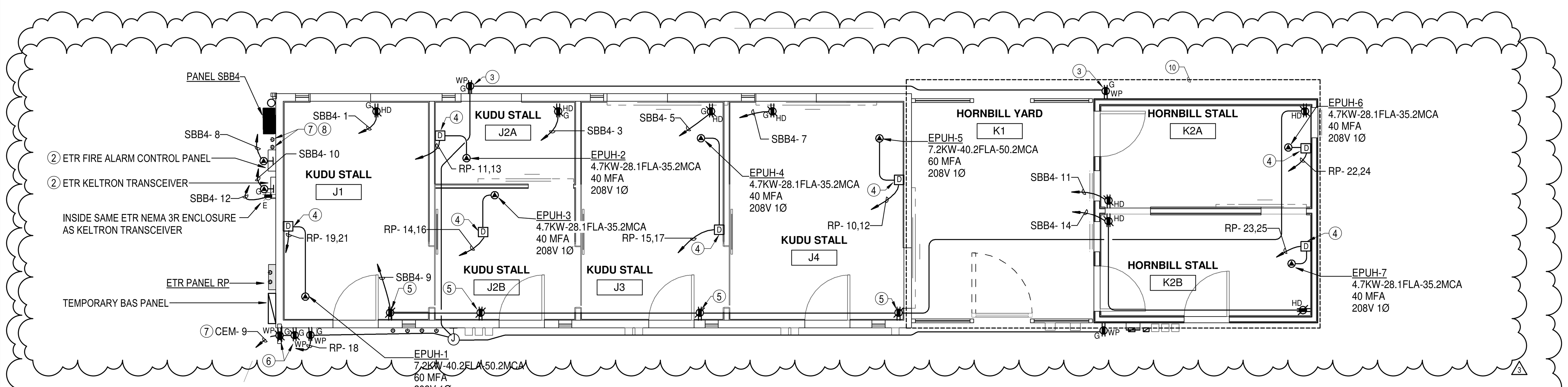
BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION—AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION—AFRICA TRAIL—KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL SYMBOLS AND ABBREVIATIONS
WORKING STAFF	MRH (DESIGNED BY), MRH (DRAWN BY), TMC (CHECKED BY)



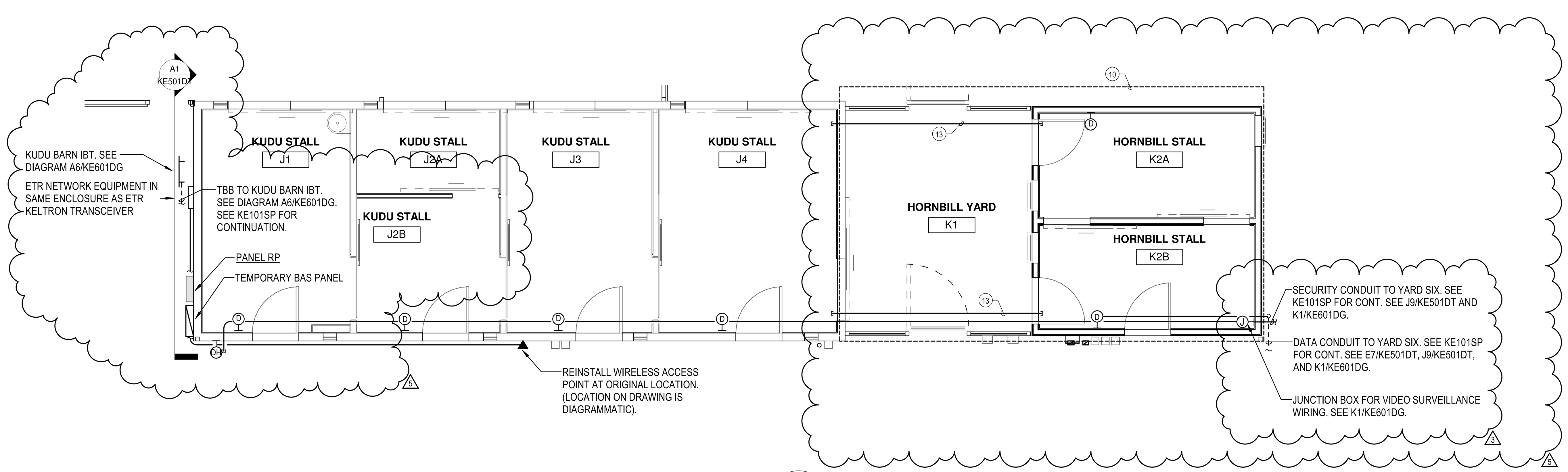
K2 KE101 KUDU BARN - DEMO PLAN
SCALE = 1/4" = 1'-0"



G2 KE101 KUDU BARN - LIGHTING RCP - NEW WORK
SCALE = 1/4" = 1'-0"



E2 KE101 KUDU BARN - POWER PLAN - NEW WORK
SCALE = 1/4" = 1'-0"



A2 KE101 KUDU BARN - SYSTEMS PLAN - NEW WORK
SCALE = 1/4" = 1'-0"

GENERAL NOTES:

A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (- – -) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (———) SHALL REMAIN.

C. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION BUT WHICH ARE TO REMAIN SHALL BE MADE CONTINUOUS.

D. COORDINATE WITH MECHANICAL WORK SHOWN ON MECHANICAL DRAWINGS AND PROVIDE DISCONNECTIONS AND NEW CONNECTIONS OF MECHANICAL EQUIPMENT AS INDICATED AND REQUIRED.

E. WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, EXTEND EXISTING WIRE AND RACEWAY TO NEW LOCATION AS REQUIRED.

F. IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE BLANK COVER PLATES FOR DEVICES REMOVED.

G. NOT ALL WIRING TO BE REMOVED IS INDICATED ON THE DRAWINGS.

H. BEFORE CUTTING ANY SECURITY RACEWAYS OR CABLES, COORDINATE WITH COTR. DO NOT PROCEED WITHOUT APPROVAL.

I. DO NOT INSTALL ELECTRICAL WORK IN A WAY THAT WILL IMPEDE ACCESS TO AND MAINTENANCE OF OTHER EQUIPMENT, OR THAT WILL OBSCURE NAMEPLATES AND OTHER TEXT ON EQUIPMENT.

SPECIFIC NOTES:

1. PROVIDE TEMPORARY POWER AS NEEDED TO KEEP FIRE ALARM CONTROL PANEL AND KELTRON TRANSCEIVER PANEL IN OPERATION DURING CONSTRUCTION.

2. EQUIPMENT HAS BATTERIES FOR EMERGENCY POWER.

3. MOUNT SEVEN FEET ABOVE FINISHED GRADE.

4. TWO-POLE SIXTY-AMPERE 250-VOLT FUSED SAFETY SWITCH, NEMA 4X STAINLESS STEEL, SIX INCHES BELOW CEILING. COORDINATE LOCATION WITH ELECTRIC PROPELLER UNIT HEATER INSTALLATION. PROVIDE FUSES PER NAMEPLATE OF ELECTRIC PROPELLER UNIT HEATER. IF SWITCH CANNOT BE MOUNTED ON WALL, SUSPEND FROM CEILING NEXT TO UNIT IT SERVES.

5. FOR WALL-MOUNTED PLUG-IN EXHAUST FAN. COORDINATE LOCATION WITH FAN INSTALLATION.

6. PAIR OF DEDICATED RECEPTACLES, 12" APART, FOR CHARGER ("ENERGIZER") FOR ANIMAL CONTROL SYSTEMS: ELECTRIFIED FENCE, ELECTRIC GRASS, AND ELECTRIC VINES. MOUNT 60" ABOVE GRADE. CHARGER WILL BE WALL-MOUNTED NEAR THIS LOCATION. IF CIRCUIT CEM-9 IS NOT AVAILABLE AT TIME OF CONSTRUCTION, TEMPORARILY CONNECT TO CIRCUIT SBB4-6. WHEN CIRCUIT CEM-9 BECOMES AVAILABLE, REMOVE CIRCUIT SSB4-6 AND MARK IT "SPARE" IN THE PANEL DIRECTORY. CONNECT RECEPTACLES TO CEM-9.

7. CONDUIT SHALL BE INSTALLED UNDER THE MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT. PROVIDE CONDUCTORS UNDER THIS PROJECT. SEE KE101SP FOR CONTINUATION.

8. TWO SPARE 1" CONDUITS INSTTALED UNDER THE MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT.

9. PANEL IS SUPPLIED BY FEEDER ORIGINATING IN 200-AMPERE FUSED SWITCH IN PANDA HOUSE. SWITCH SUPPLIES EXISTING KUDU PANEL AND EXISTING TO REMAIN LOADS AT THE PANDA CAFE AND PANDA PLAZA. UNDO SPLICE AT HANDHOLE LV-7 TO DE-ENERGIZE PORITON OF FEEDER TO KUDU BARN. PERFORM NEW SPLICING AS NEEDED TO RESTORE POWER TO THE FEEDER'S EXISTING TO REMAIN LOADS.

10. IN NEW CONSTRUCTION, CONCEAL WIRING IN OR BELOW FLOORS, IN WALLS, AND ABOVE CEILINGS WHERE POSSIBLE.

11. MOUNT UNDER EAVE. PROVIDE LENSE SO THAT MOTION DETECTOR PICKS UP MOTION IN FRONT OF KUDU BARN AND ON SIDE OF KUDU BARN WITH PANELBOARDS. WIRE DETECTORS IN PARALLEL TO CONTROL ALL TYPE F LUMINAIRES AT BARN.

12. COORDINATE LOCATION OF LIGHTING CONTROLS WITH OTHER WORK ON WALL. MOUNT CONTROLS FOR STALL K2B SO BOTTOM OF TIME SWITCH IS ONE INCH ABOVE FIRE EXTINGUISHER CABINET, AND CONTROLS FOR STALL K2A SO BOTTOM OF TIME SWITCH IS ONE INCH ABOVE TIME SWITCH FOR STALL K2B. LABEL EACH CONTROL AS TO WHICH STALL IT CONTROLS.

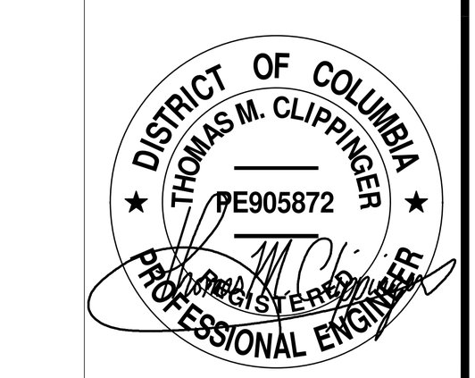
13. 2" ALUMINUM RIGID CONDUIT BETWEEN KUDU STALL AND HORNBILL STALL. RUN ABOVE CHAINLINK "ROOF" OF HORNBILL YARD, AND PENETRATE WALLS BELOW STALL CEILINGS. COORDINATE PENETRATIONS THROUGH STALL WALLS WITH OTHER WORK. SUPPORT CONDUIT OFF OF "ROOF" WITH STAINLESS STEEL FITTINGS AND HARDWARE. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION AND INSTALLATION. SEAL WALL ANNULAR OPENINGS. EXTEND CONDUIT 3" INTO STALLS. TAG CONDUIT ENDS "FOR BUILDING AUTOMATION".

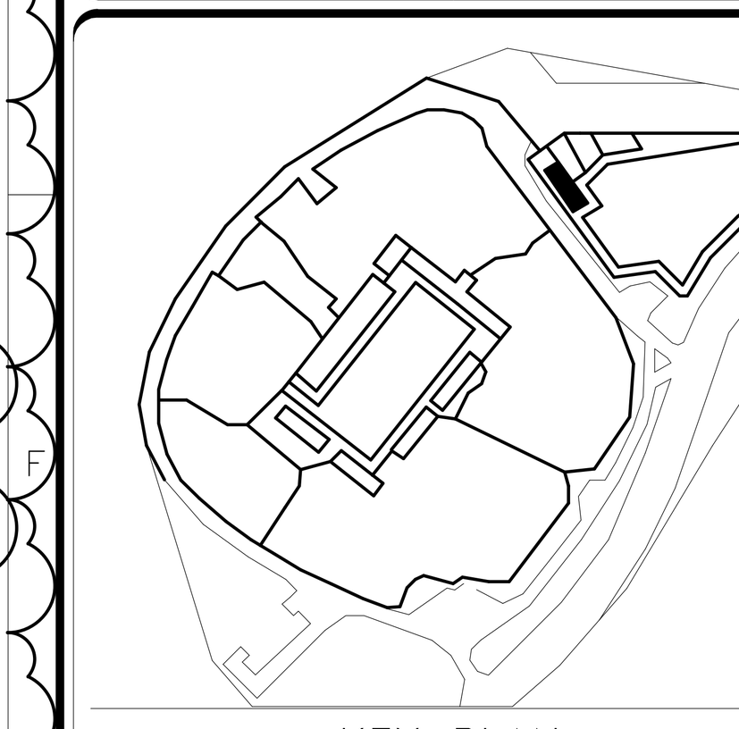
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

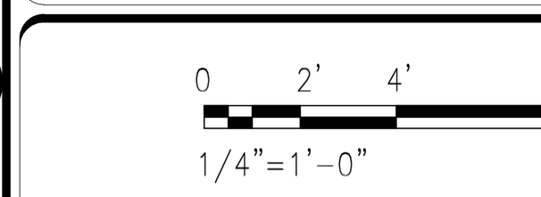
architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 320
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com





KEY PLAN



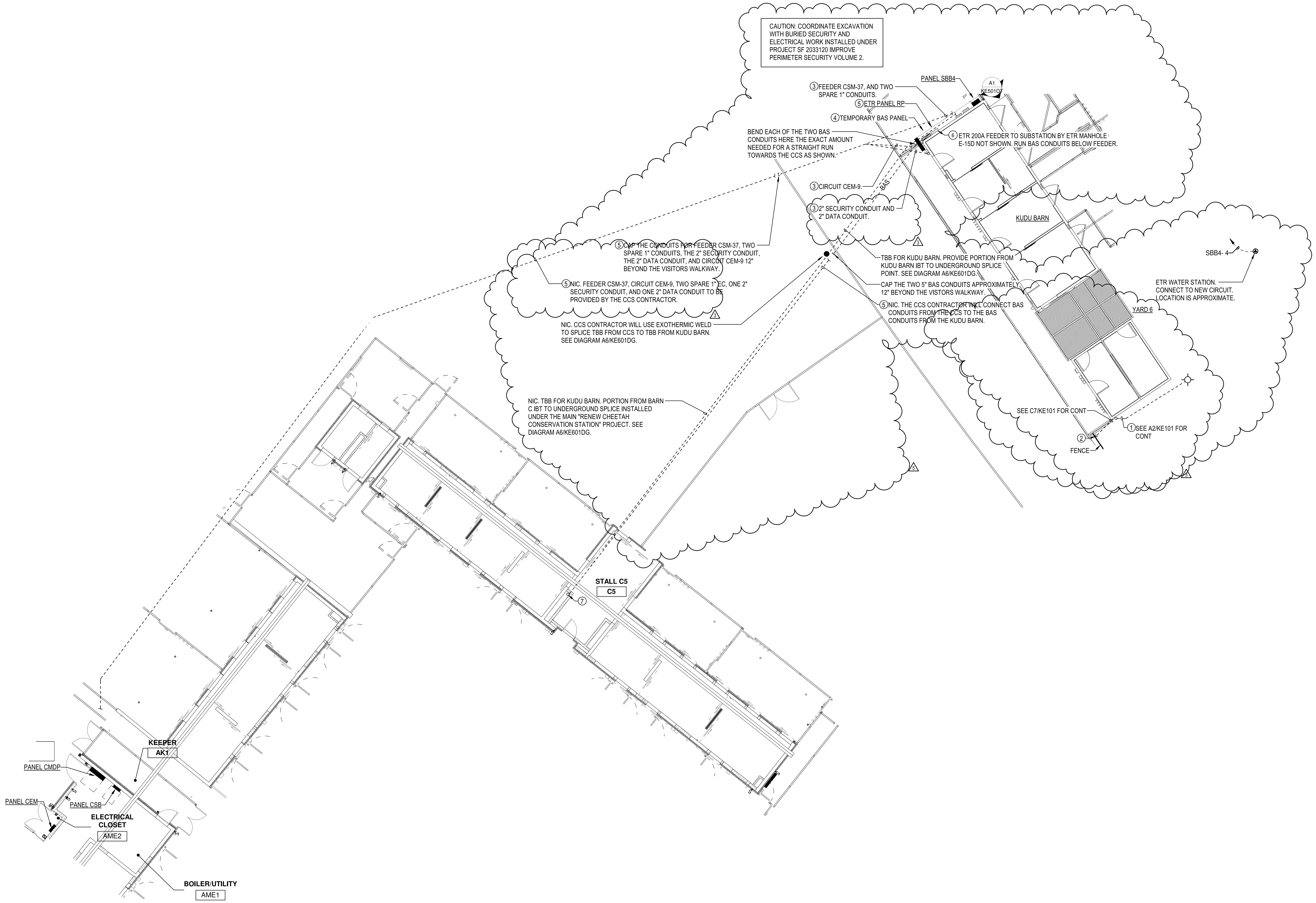
GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI-003 (SEE PROJECT NO. 2033120 FOR ASI-001 AND ASI-002)
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION—AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION—AFRICA TRAIL—KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL PLANS
WORKING STAFF	MRH (DESIGNED BY) / MRH (DRAWN BY) / TMC (CHECKED BY)
SHEET NO.	24 OF 29
DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE	KE 1 01



B3
KE101SP

ELECTRICAL SITE PLAN - KUDU PROJECT

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

GENERAL NOTES:

A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. DO NOT INSTALL ELECTRICAL WORK IN A WAY THAT WILL IMPEDE ACCESS TO AND MAINTENANCE OF OTHER EQUIPMENT, OR THAT WILL OBSCURE NAMEPLATES AND OTHER TEXT ON EQUIPMENT.

C. THE GENERAL LOCATIONS OF UNDERGROUND UTILITIES ARE INDICATED ON THIS PLAN AND ARE NOT TO BE ASSUMED TO BE ACCURATE OR COMPLETE. PRIOR TO ANY EXCAVATING, FIELD CHECK ALL AREAS WITH THE MOST ACCURATE INSTRUMENTS AVAILABLE, SUCH AS FISHER LABS' PIPE AND CABLE LOCATORS.

D. BEFORE CUTTING ANY SECURITY RACEWAYS OR CABLES, COORDINATE WITH COTR. DO NOT PROCEED WITHOUT APPROVAL.

E. COORDINATE UNDERGROUND ELECTRICAL WORK WITH OTHER TRADES' UNDERGROUND UTILITIES.

SPECIFIC NOTES:

1. UNDERGROUND CONDUIT AND CAT 6 CABLE FOR SECURITY POLE BASE IN EXHIBIT YARD. SEE E5/KE501DT AND K1/KE601DG.
2. UNDERGROUND CONDUIT FOR FUTURE DATA TO EXHIBIT YARD. TURN UP INSIDE YARD, AND FASTEN SECURELY TO FENCE, ON EXHIBIT YARD SIDE OF FENCE. CAP CONDUIT STUB. PAINT STUB WITH BITUMINOUS COATING. SEE E5/KE501DT AND K1/KE601DG.
3. PROVIDE THESE CONDUITS FROM THE KUDU BARN TO APPROXIMATELY 12" BEYOND THE VISITORS WALKWAY AND CAP OFF.
4. CONNECT THE TWO 5" BUILDING AUTOMATION SYSTEM CONDUITS TO THE TEMPORARY BUILDING AUTOMATION SYSTEM PANEL.
5. THESE CONDUITS WITH THE ASSOCIATED CONDUCTORS, CABLES, AND TERMINATIONS, ARE PART OF THE MAIN 'RENEW CHEETAH CONSERVATION STATION' CONTRACT. THEY ARE SHOWN HERE FOR INFORMATION ONLY.
6. PANEL AND FEEDER TO BE INSTALLED UNDER PROJECT SF 2033120 IMPROVE PERIMETER SECURITY - VOLUME 2. WORK WILL BE COMPLETED BEFORE THIS PROJECT BEGINS.
7. UNDER THE MAIN 'RENEW CHEETAH CONSERVATION STATION' CONTRACT, RACEWAYS WILL BE RUN UP TO ATTIC AND END IN STUBS AND BUSHINGS.

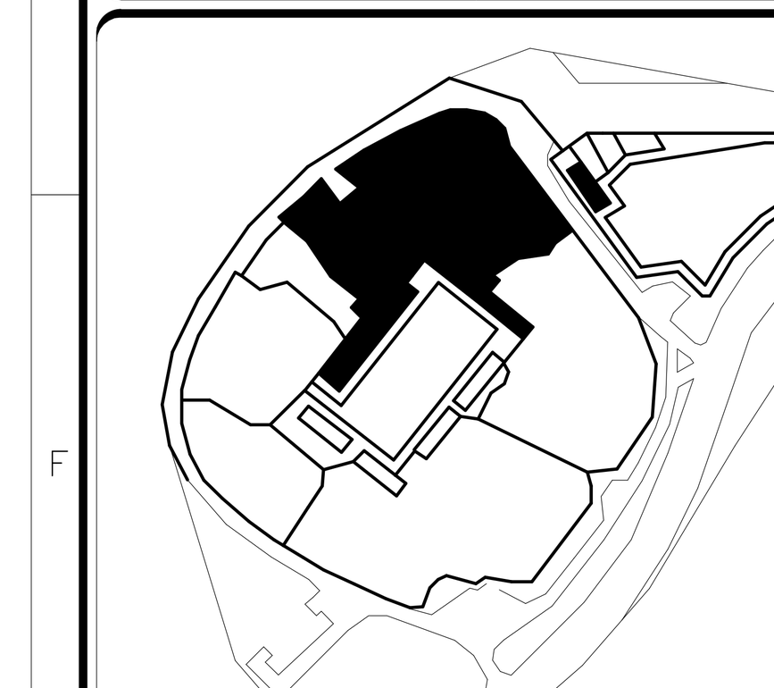
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com

DISTRICT OF COLUMBIA
THOMAS M. CLIPPINGER
PE905872
REGISTERED
PROFESSIONAL ENGINEER



0 4' 8' 16'
1/8"=1'-0"

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI-003 (SEE PROJECT NO. 2033120 FOR ASI-001 AND ASI-002)
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL SITE PLAN
WORKING STAFF	MRH (DESIGNED BY), MRH (DRAWN BY), TMC (CHECKED BY)

SHEET NO. 23 OF 29

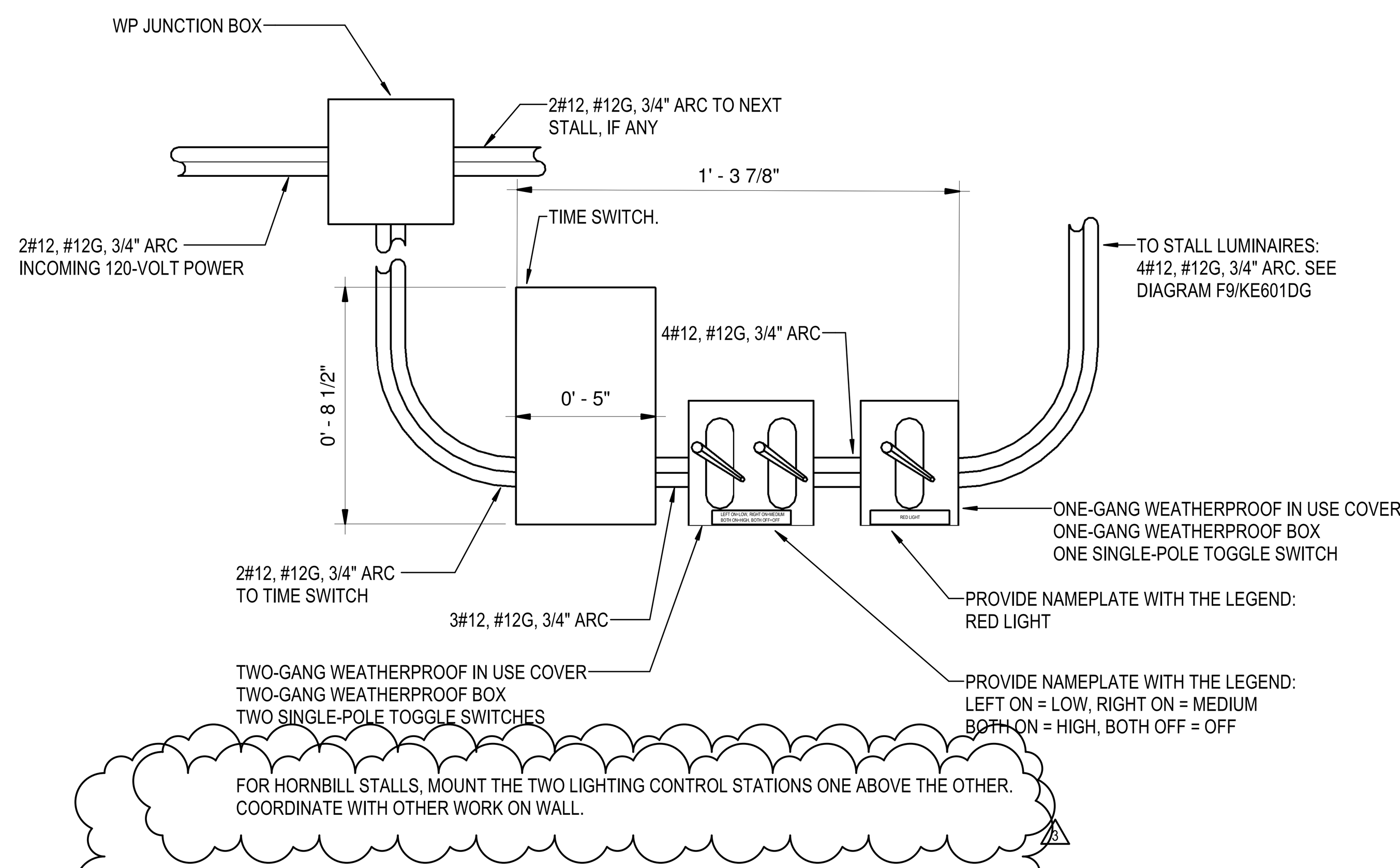
KE 101 SP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

1/18/24 11:29:58 AM
KE101SP BY Approver 11/03/23 Final CD

GENERAL NOTES:

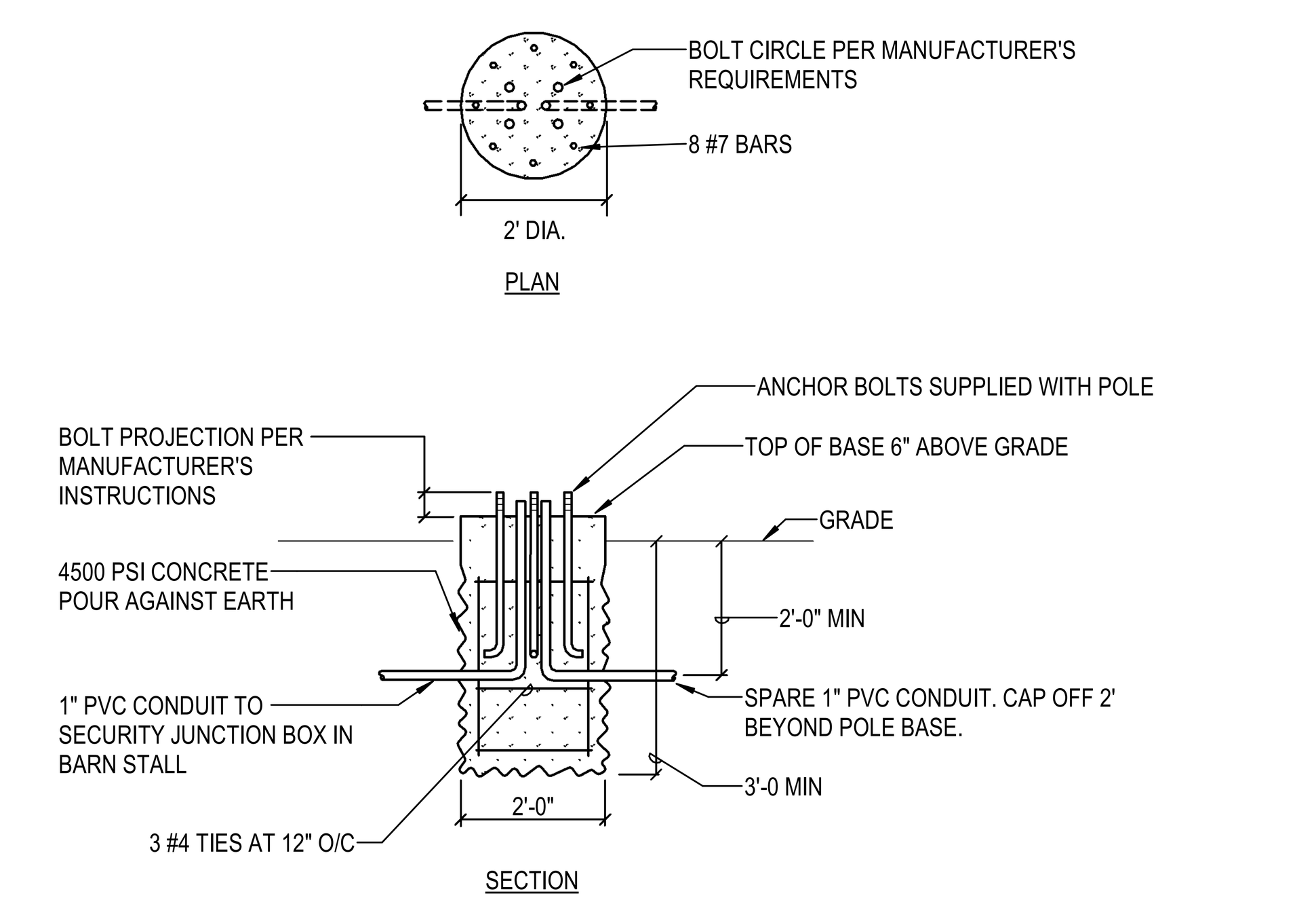
A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. DO NOT INSTALL ELECTRICAL WORK IN A WAY THAT WILL IMPEDE ACCESS TO AND MAINTENANCE OF OTHER EQUIPMENT, OR THAT WILL OBSCURE NAMEPLATES AND OTHER TEXT ON EQUIPMENT.

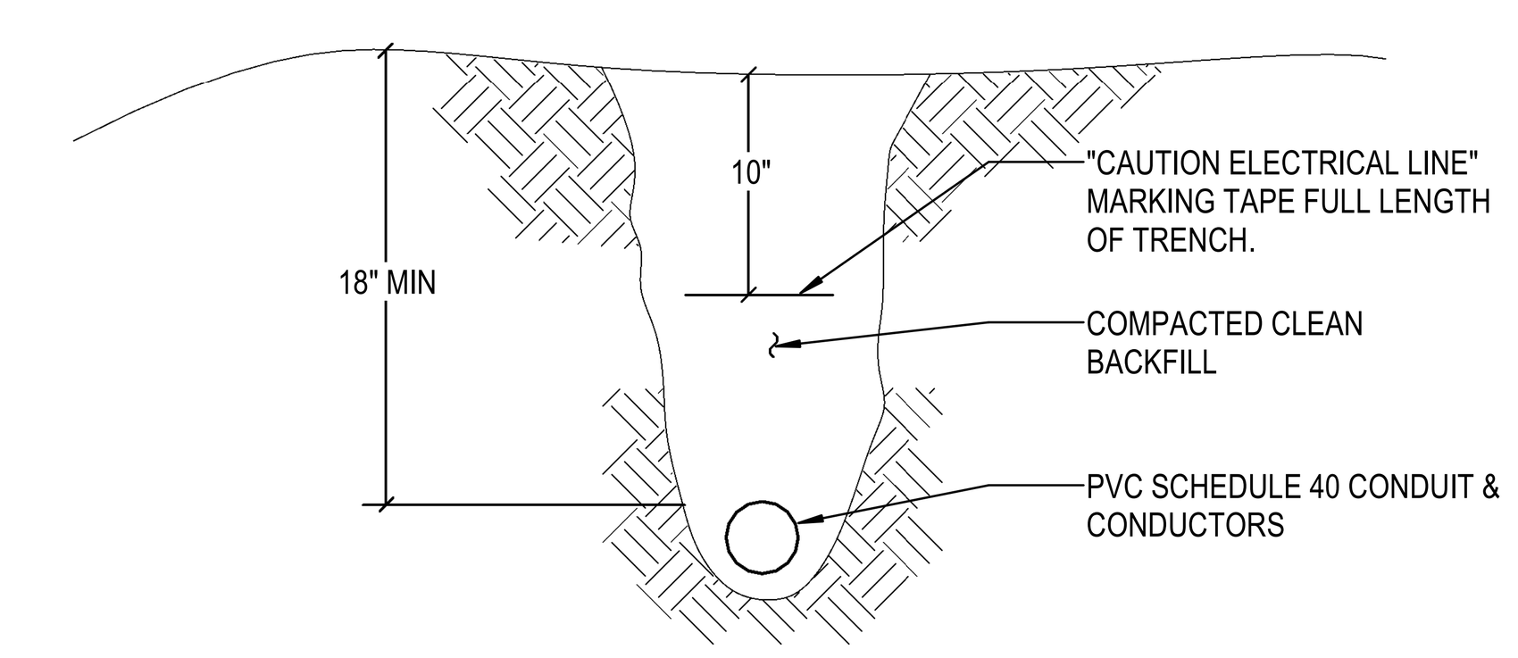


FOR HORNBILL STALLS, MOUNT THE TWO LIGHTING CONTROL STATIONS ONE ABOVE THE OTHER. COORDINATE WITH OTHER WORK ON WALL.

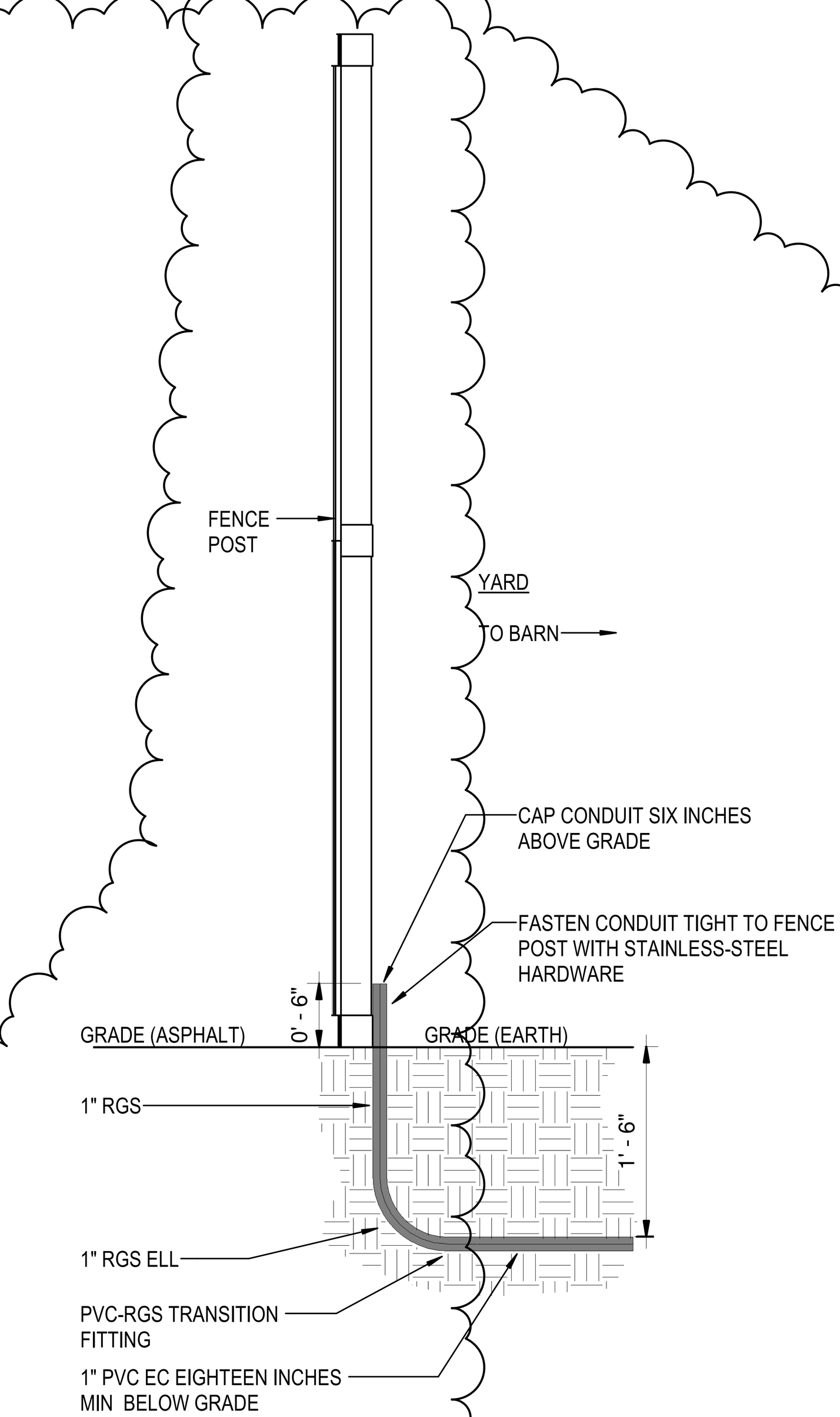
J1 KE501DT **STALL LIGHTING CONTROL STATION**
SCALE = 3" = 1'-0"



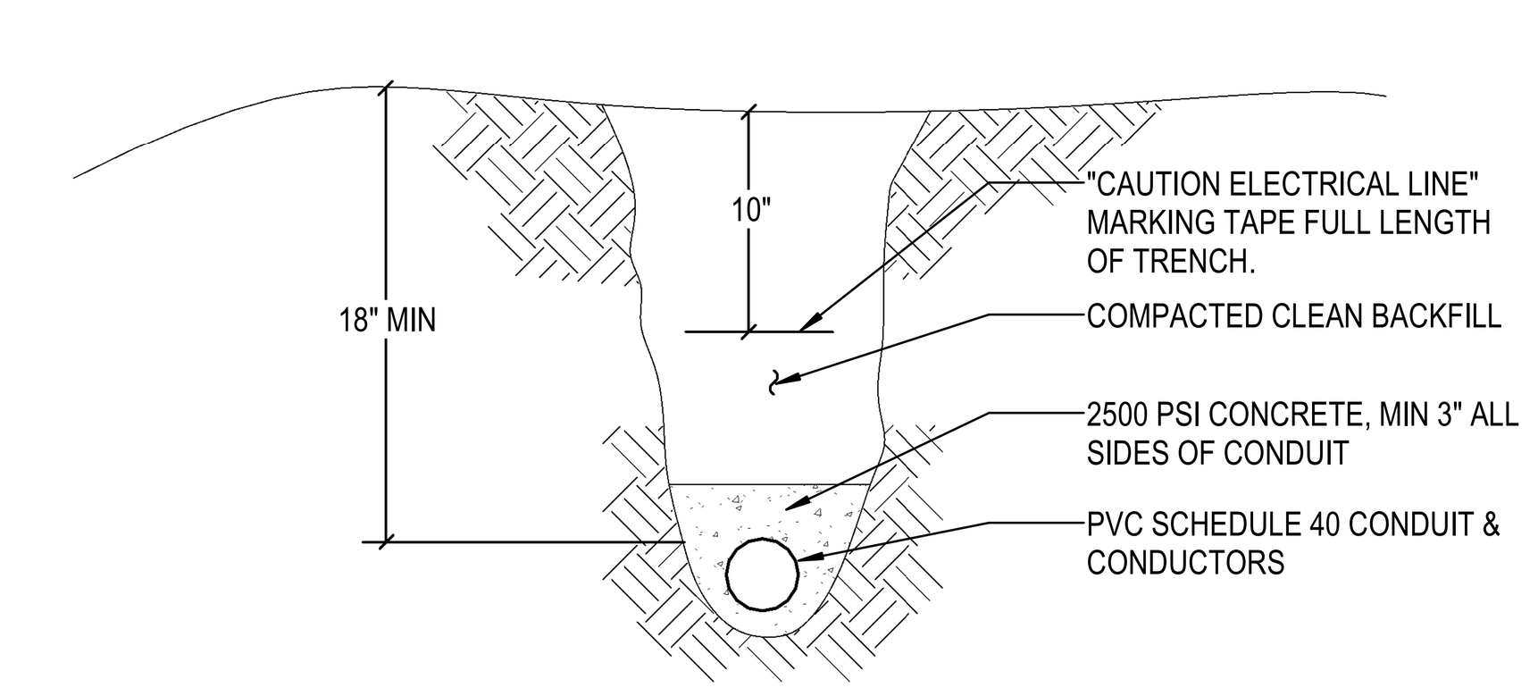
J5 KE501DT **CONCRETE BASE FOR SECURITY CAMERA POLES**
SCALE =NOT TO SCALE



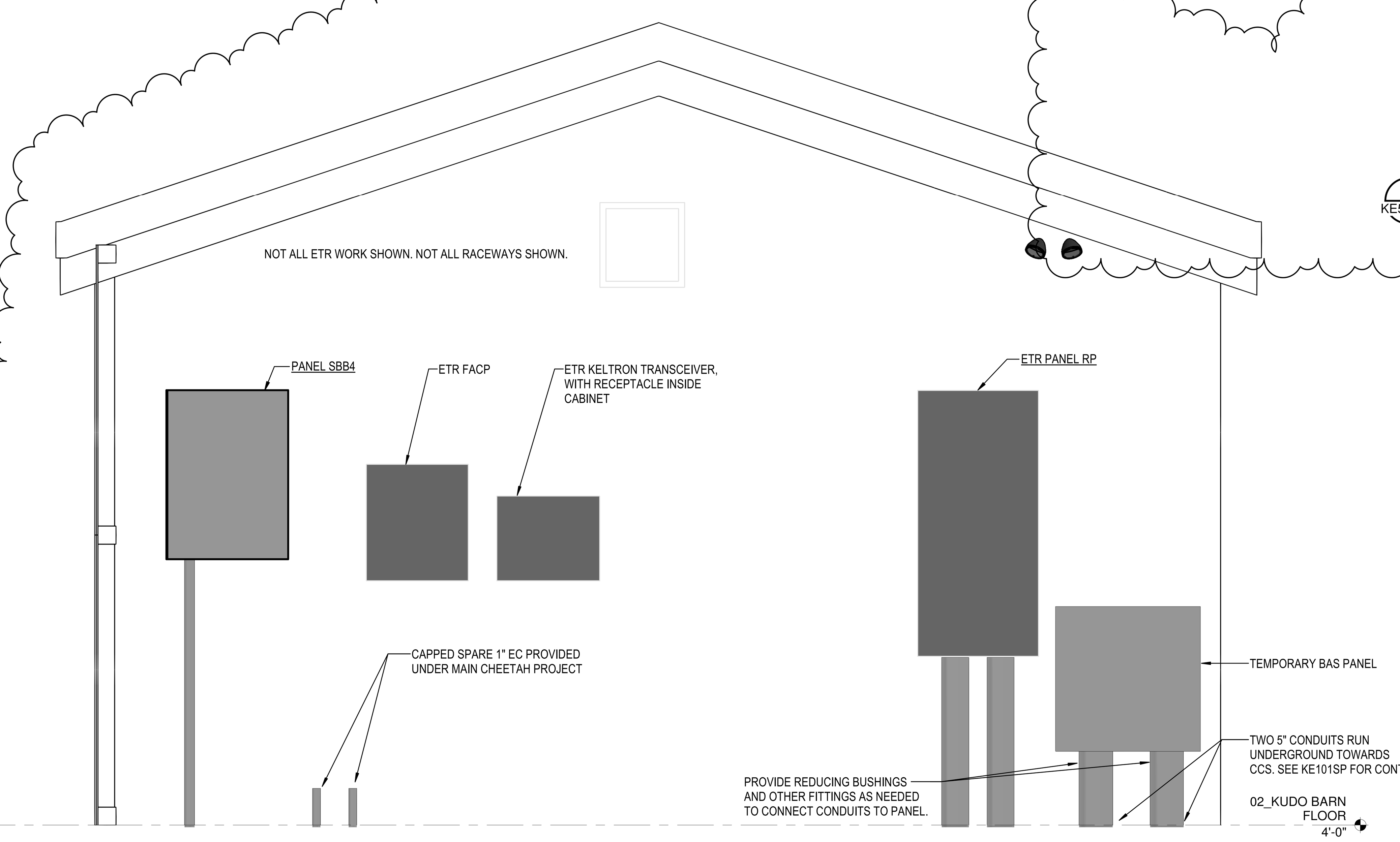
J9 KE501DT **DETAIL - DIRECT BURIED WIRING**
SCALE =NO SCALE



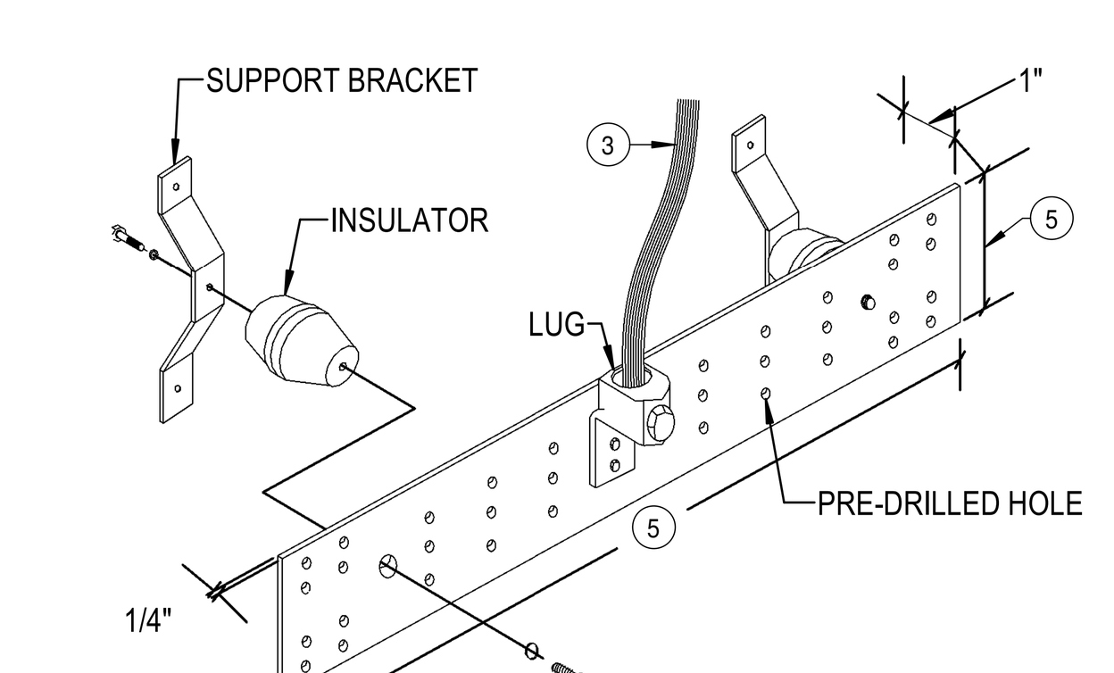
E7 KE501DT **KUDU DATA STUBUP AT YARD FENCE**
SCALE = 1" = 1'-0"



E9 KE501DT **DETAIL - CONCRETE-ENCASED WIRING**
SCALE =NO SCALE



A1 KE501DT **ELEVATION - NORTHWEST WALL**
SCALE = 1" = 1'-0"



BUS BAR DETAIL NOTES:

1. BUS BAR ASSEMBLY SHALL INCLUDE PRE-DRILLED GROUNDING BAR AND HARDWARE KIT; EQUAL TO EATON B-LINE SYSTEMS GROUNDING PRODUCT LINE SBTMBG20.
2. HARDWARE SHALL INCLUDE COMPRESSION LUGS, BOLTS, LOCK WASHERS, AND NUTS AS REQUIRED BY THE MANUFACTURER.
3. INDOORS: BARE COPPER GROUND CONDUCTOR BETWEEN LUG OF GROUND BAR AND GROUND TERMINAL OF EQUIPMENT. TYPICAL FOR EACH PIECE OF EQUIPMENT BONDED TO BAR. IN MANHOLES: BOND EQUIPMENT GROUNDING CONDUCTOR OF EACH CIRCUIT IN MANHOLE TO BAR. BOND MANHOLE GROUND ROD TO BAR WITH #4 BARE COPPER CONDUCTOR. (USE EXOTHERMIC WELD, NOT LUG, FOR CONNECTING GROUNDING ELECTRODE CONDUCTOR TO BUS BAR.)
4. DRILL ADDITIONAL CONNECTIONS AS NEEDED FOR NON-STANDARD LUG CONNECTIONS.
5. GROUNDING BUS BAR WIDTH AND LENGTH: 4" HIGH X 20" LONG UNLESS OTHERWISE NOTED.
6. INDOORS, MOUNT 12" ABOVE FINISHED FLOOR. IN MANHOLES, MOUNT 60" ABOVE FLOOR. OUTDOORS, MOUNT 12" ABOVE FINISHED GRADE.

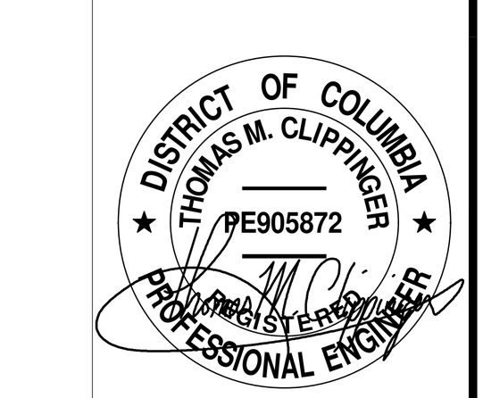
B9 KE501DT **DETAIL - GROUNDING BUS BAR**
SCALE =NO SCALE

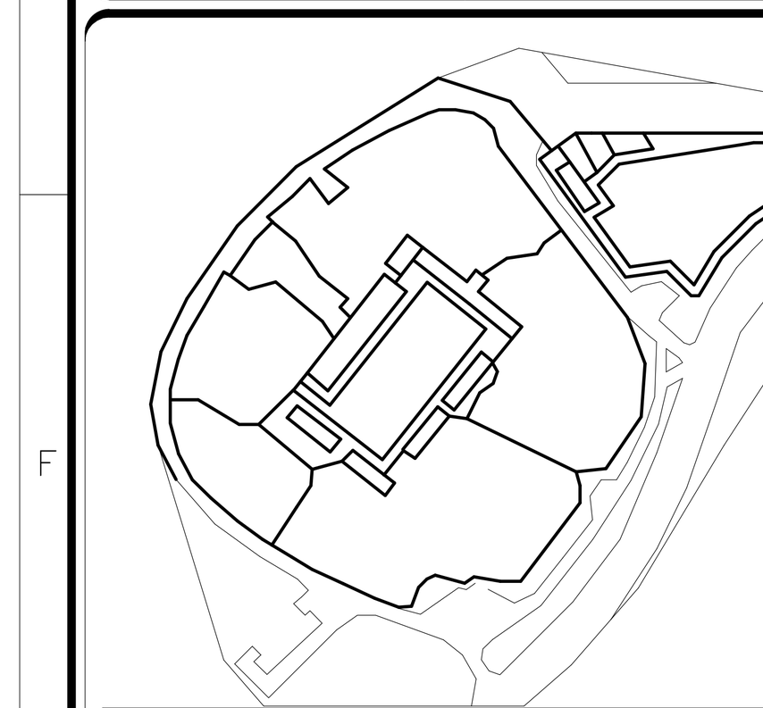
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR, SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers





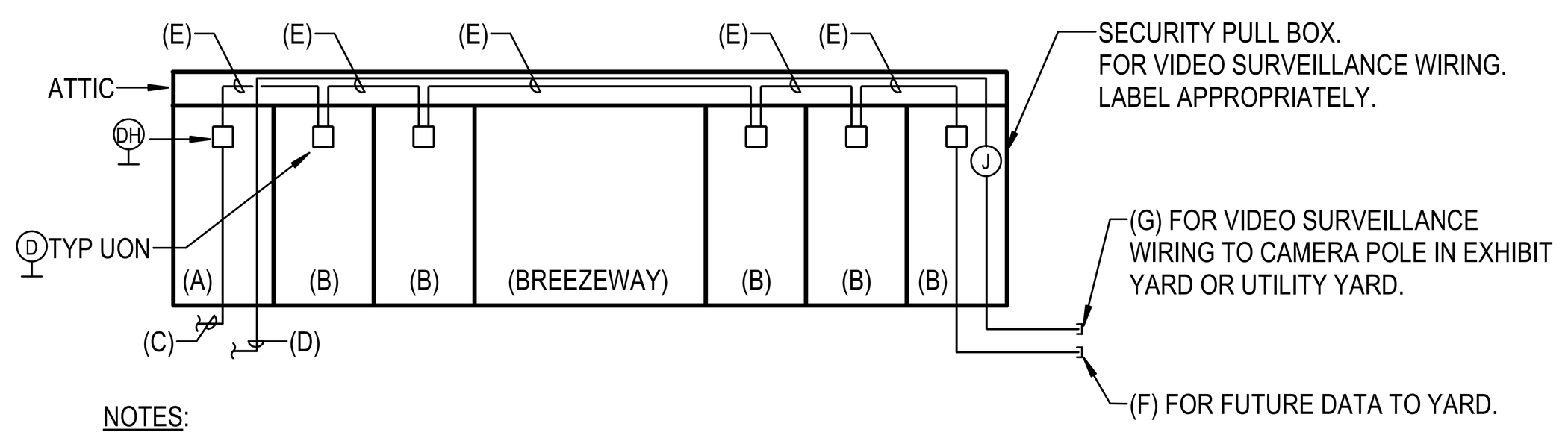
GRAPHIC SCALE(S)
3" = 1'-0"
1" = 1'-0"
1/2" = 1'-0"

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI-003 (SEE PROJECT NO. 2033120 FOR ASI-001 AND ASI-002)
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL DETAILS
WORKING STAFF	MRH (DESIGNED BY), MRH (DRAWN BY), TMC (CHECKED BY)



NOTES:

DIAGRAM SHOWS A BARN WITH THREE STALLS ON ONE SIDE AND THREE STALLS ON ANOTHER. PROVIDE ONE DATA OUTLET BOX PER KUDU AND HORNBILL STALL. DIAGRAM DOES NOT INCLUDE PERMANENT DATA OUTLETS. THESE ARE SHOWN ON THE PLANS..

A. STALL HOUSING BUILDING'S FIRST DATA OUTLET.
B. STALL
C. 2" CONDUIT BACK TO IT ROOM. CONDUIT PROVIDED UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT. UNDER THIS PROJECT, PROVIDE CABLES FOR DATA OUTLETS IN BARN.
D. 2" CONDUIT BACK TO IT ROOM FOR SECURITY WIRING. PORTION OF CONDUIT BETWEEN KUDU BARN AND IT ROOM PROVIDED UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT. UNDER THIS PROJECT, PROVIDE CONDUIT IN KUDU BARN, AND PROVIDE CABLES. SEE DIAGRAM F5/KE602DG.
E. 1" EMPTY CONDUIT WITH PULL ROPE.
F. 1" EMPTY DATA CONDUIT UNDERGROUND TO NEAREST YARD. 18" BELOW GRADE. TURN UP JUST INSIDE FENCE AND CAP 6" ABOVE GRADE. SEE DETAIL E5/KE501DT.
G. 1" SECURITY CONDUIT UNDERGROUND TO NEAREST YARD. 18" BELOW GRADE. RUN UNDERGROUND TO POLE AND COME UP POLE BASE. SEE DETAIL J5/KE-501DT AND DIAGRAM F5/KE602DG.

3

K1 KE601DG DIAGRAM: BARN DATA & SECURITY
SCALE =NOT TO SCALE

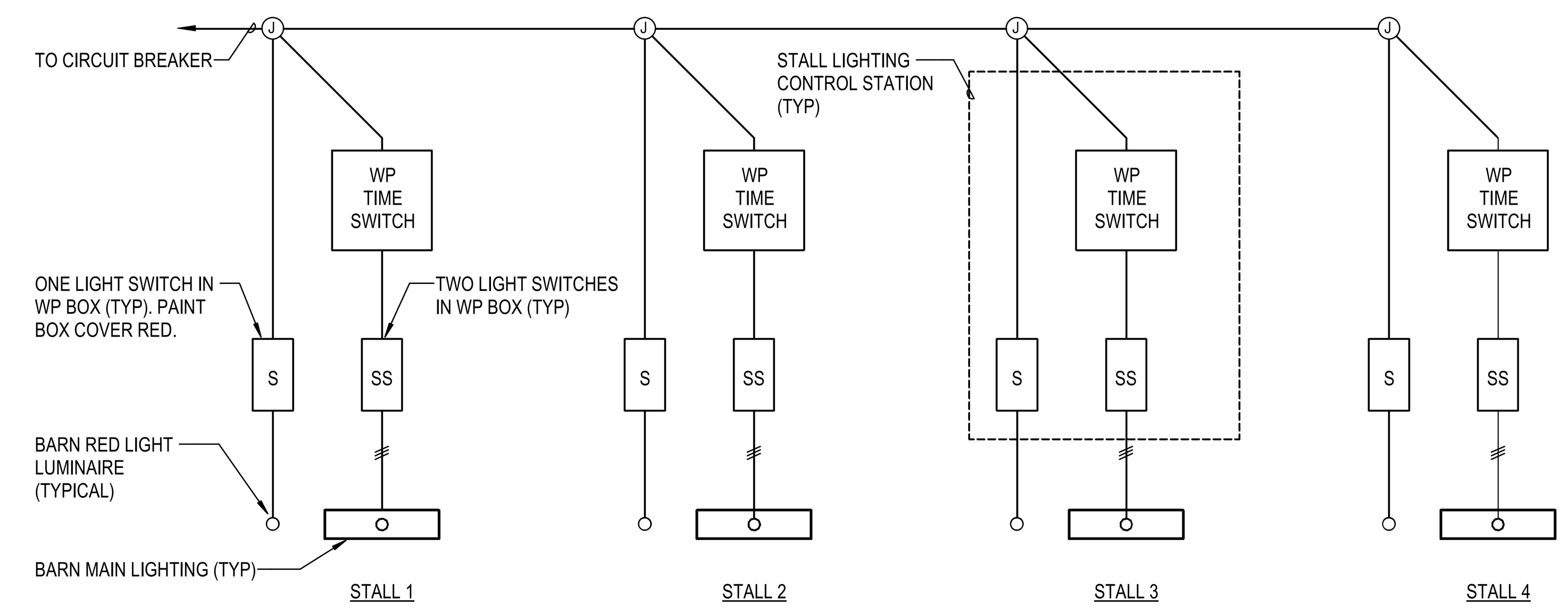


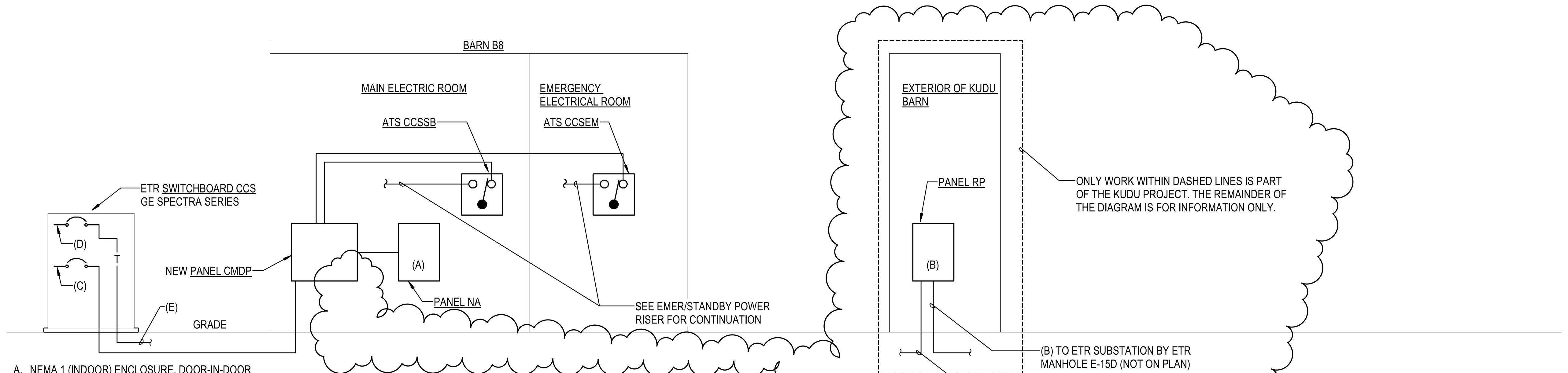
DIAGRAM IS FOR A FOUR=STALL BARN. APPLY DIAGRAM TO OTHER BARNS APPROPRIATELY.

K6 KE601DG DIAGRAM: BARN LIGHTING
SCALE =NO SCALE

GENERAL NOTES:

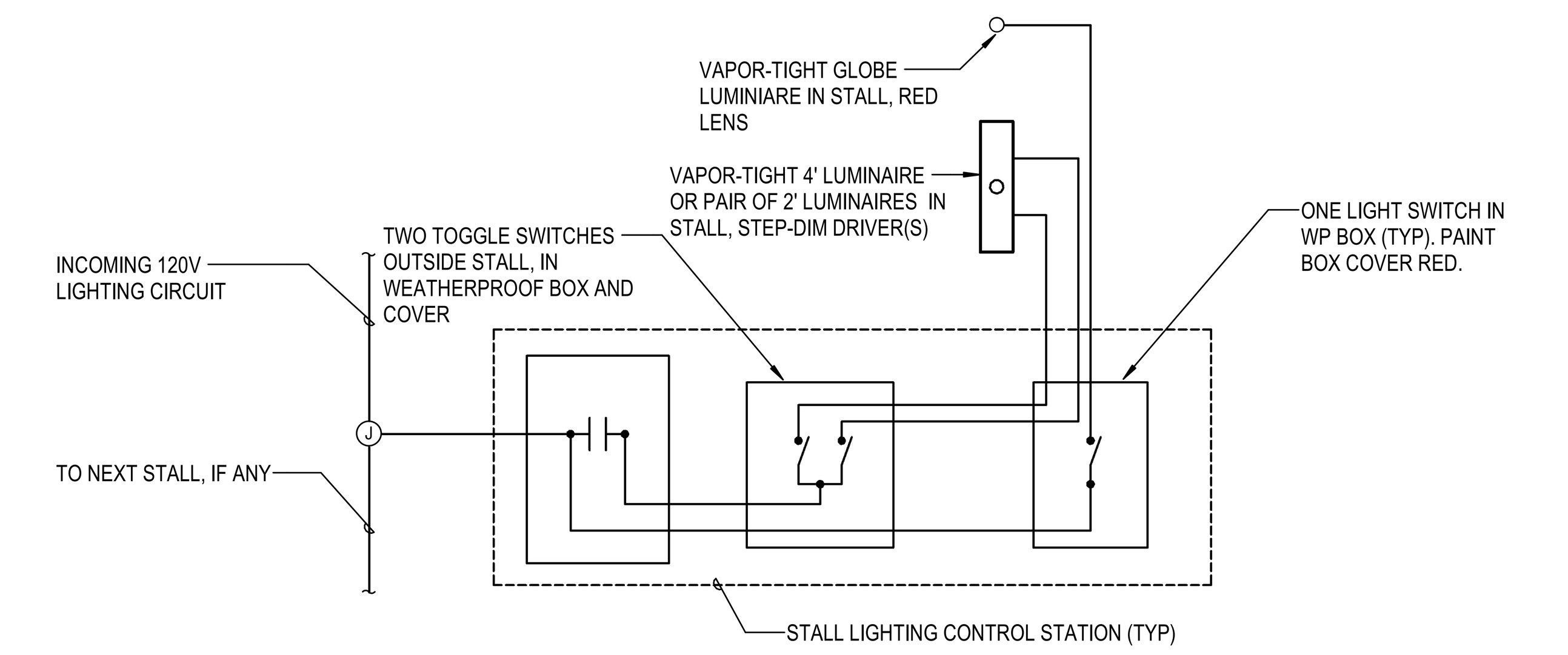
A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. DO NOT INSTALL ELECTRICAL WORK IN A WAY THAT WILL IMPEDE ACCESS TO AND MAINTENANCE OF OTHER EQUIPMENT, OR THAT WILL OBSCURE NAMEPLATES AND OTHER TEXT ON EQUIPMENT.



A. NEMA 1 (INDOOR) ENCLOSURE, DOOR-IN-DOOR
B. PANEL AND FEEDER WILL BE INSTALLED UNDER PROJECT SF 2033120 IMPROVE PERIMETER SECURITY - VOLUME TWO.
C. PROVIDE ABB "SACE Tmax XT7" CIRCUIT BREAKER, WITH ACCESSORIES AS NEEDED TO INSTALL IN SWITCHBOARD. BREAKER SHALL BE 3P-800A, LSI, WITH FULL METERING: INSTANTANEOUS AND PEAK AMPS, VOLTS, KW, AND KVA.
D. PROVIDE TEMPORARY CIRCUIT BREAKER FOR CONSTRUCTION POWER AND POWER TO ETR FIRE ALARM CONTROL PANELS AND KELTRON TRANSCEIVER PANELS). REMOVE TEMPORARY WIRING. CIRCUIT BREAKER SHALL BECOME SPARE AT END OF PROJECT.
E. TEMPORARY FEEDER FOR CONSTRUCTION POWER: 3P-4W-100A-208V.
F. TEMPORARY FEEDER UNTIL STANDBY FEEDER FROM CHEETAH CONSERVATION STATION IS AVAILABLE.

F1 KE601DG DIAGRAM: NORMAL POWER RISER
SCALE =NO SCALE

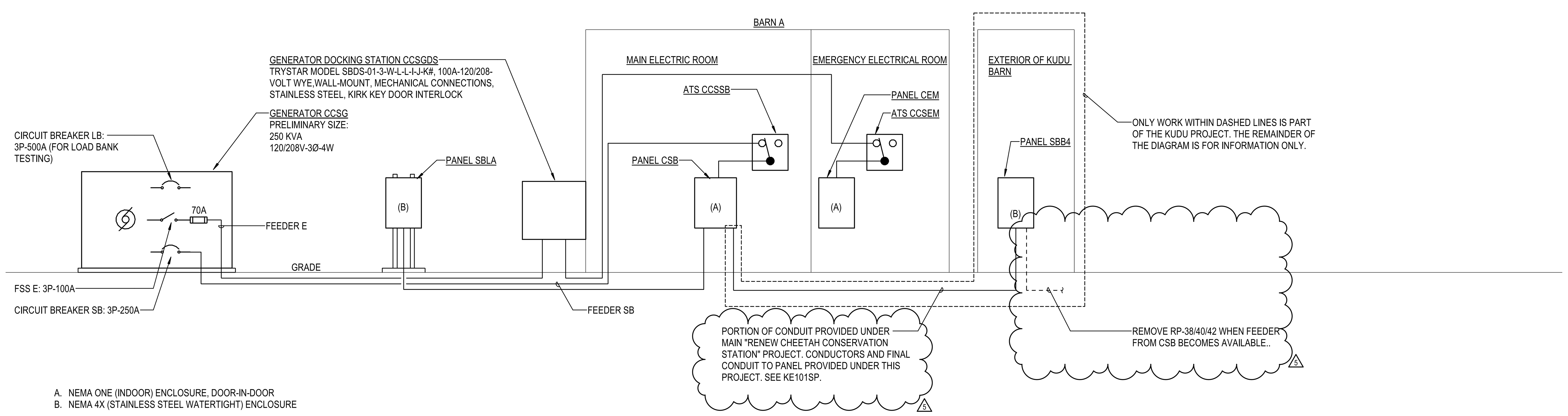


OPERATION

- WITH THE SWITCHES OFF, THERE IS NO LIGHT.
- ZOOKEEPERS CAN CONTROL THE RED GLOBE MANUALLY. THE RED LIGHT IS TO ALLOW KEEPERS TO OBSERVE ANIMALS AT NIGHT WITHOUT DISTURBING THEM.
- THE WHITE LIGHT IS CONTROLLED BY TWO SWITCHES, ALLOWING KEEPERS TO SELECT BETWEEN OFF, 500 LUX (50 FOOTCANDLES), AND TWO LEVELS IN BETWEEN.
- THE TIME SWITCH ALLOWS THE KEEPERS TO PROGRAM THE TIMES OF DAY THAT THE WHITE LIGHT IS ENABLED. THE TIME SWITCH HAS A MANUAL OVERRIDE.

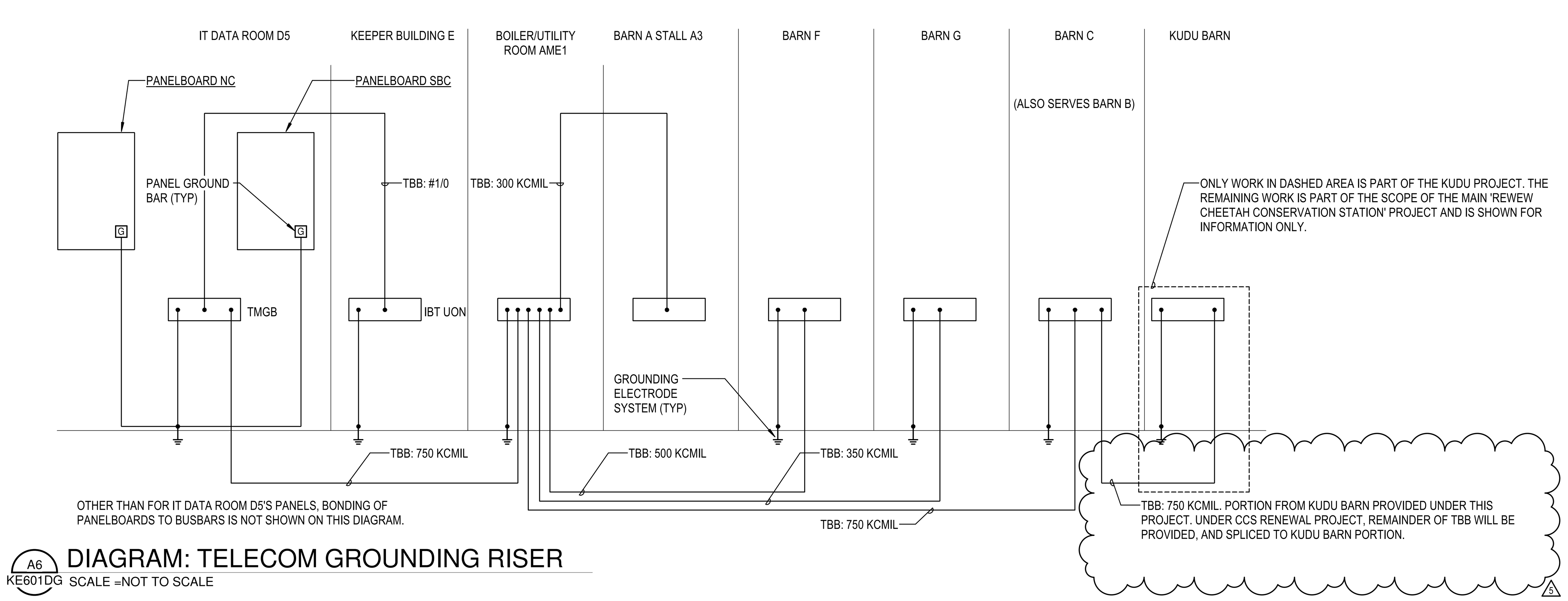
NOTE: ONLY ENERGIZED AND SWITCHED CONDUCTORS SHOWN. GROUNDED (NEUTRAL) AND EQUIPMENT GROUNDING CONDUCTORS NOT INDICATED.

F9 KE601DG DIAGRAM: STALL LIGHTING CONTROL
SCALE =NO SCALE



A. NEMA ONE (INDOOR) ENCLOSURE, DOOR-IN-DOOR
B. NEMA 4X (STAINLESS STEEL WATERTIGHT) ENCLOSURE

C1 KE601DG DIAGRAM: EMER/STANDBY POWER RISER
SCALE =NO SCALE



OTHER THAN FOR IT DATA ROOM D5'S PANELS, BONDING OF PANELBOARDS TO BUSBARS IS NOT SHOWN ON THIS DIAGRAM.

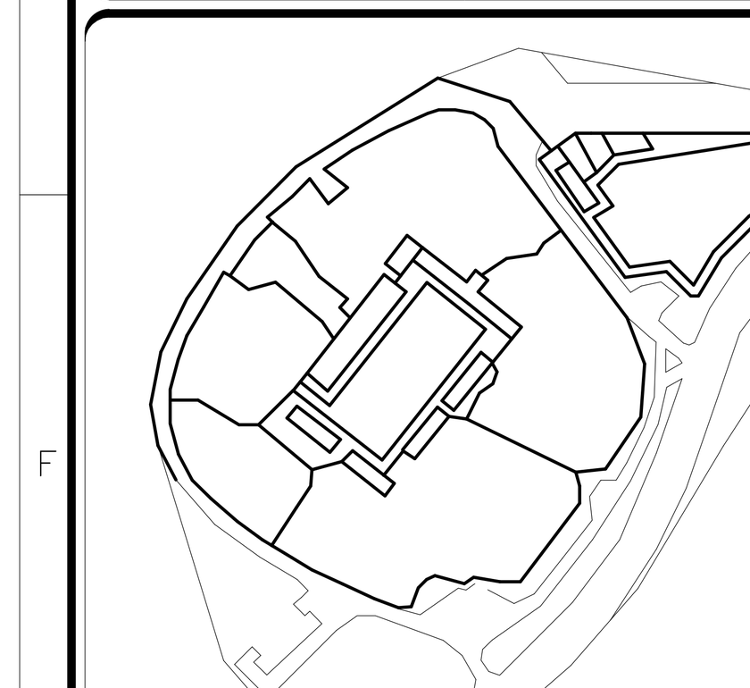
A6 KE601DG DIAGRAM: TELECOM GROUNDING RISER
SCALE =NOT TO SCALE

RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
architrave p.c.
420 10th STR. SE, Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Mechanical & Electrical Consulting Engineers



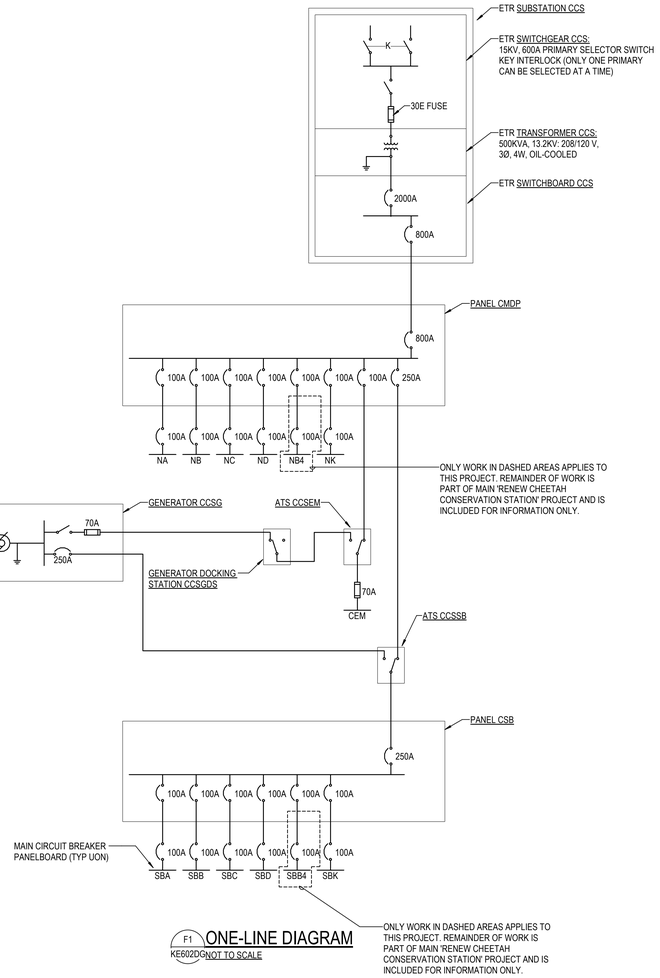
GRAPHIC SCALE(S)

11/03/23 KUDU MOD 4 FINAL CD

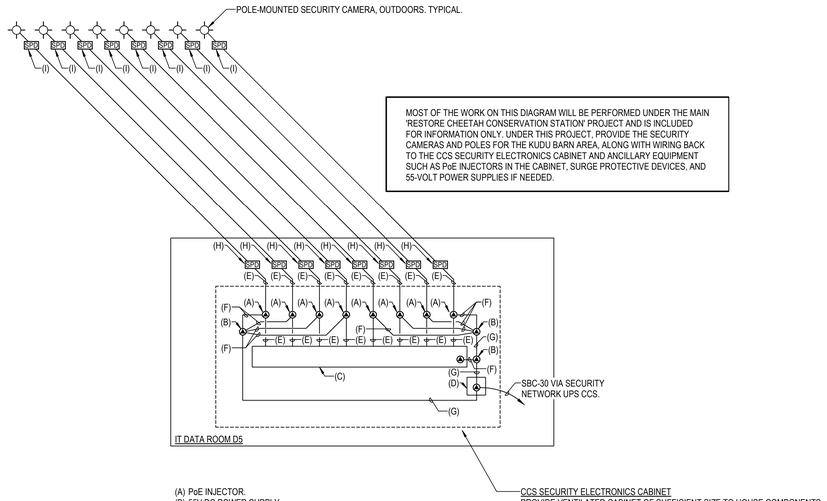
Smithsonian Institution

Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SI PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL DIAGRAMS
WORKING STAFF	MRH / MRH / TMC



F1 ONE-LINE DIAGRAM
KE602DG NOT TO SCALE



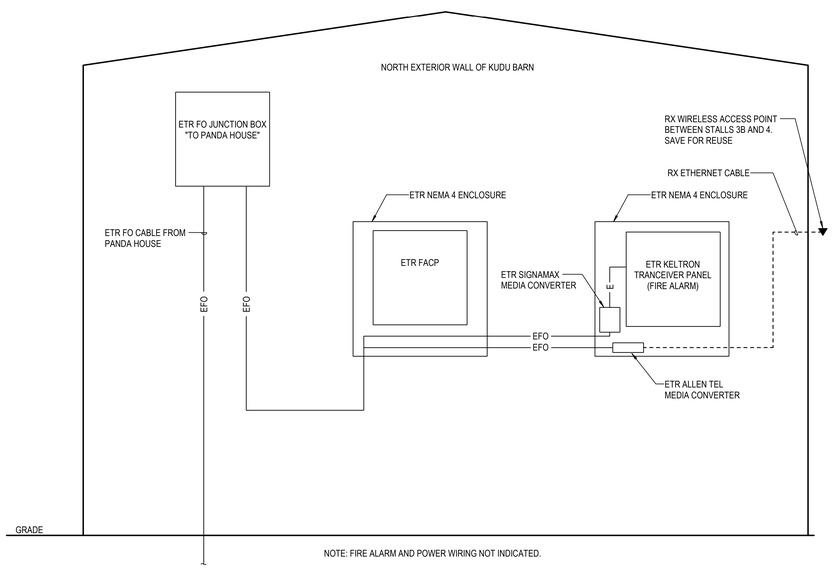
(A) PoE INJECTOR.
(B) 55V DC POWER SUPPLY.
(C) FIBER MODULE CCS. UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT, AN ENVIRONMENTALLY HARDENED 8-PORT FIBER MODULE. WILL BE PROVIDED.
(D) SPLICE BOX FOR POWER FROM SECURITY NETWORK UPS CSS.
(E) CAT 6 CABLE.
(F) 55VDC POWER WIRING.
(G) 120VAC POWER WIRING.
(H) SURGE PROTECTIVE DEVICE FOR PoE, MOUNTED INDOORS.
(I) SURGE PROTECTIVE DEVICE FOR PoE, POLE-MOUNTED.

F5 SECURITY CAMERA ELECTRONICS DIAGRAM
KE602DG SCALE =NO SCALE

GENERAL NOTES:

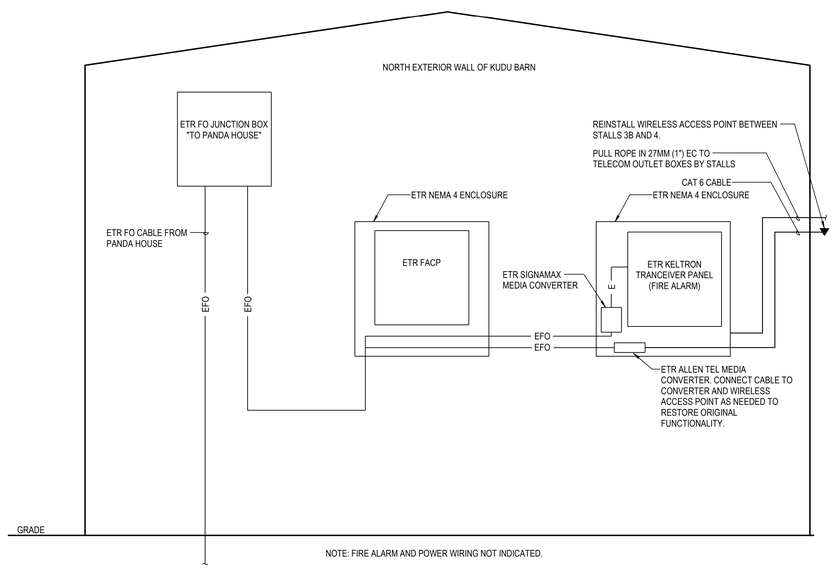
A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. DO NOT INSTALL ELECTRICAL WORK IN A WAY THAT WILL IMPEDE ACCESS TO AND MAINTENANCE OF OTHER EQUIPMENT, OR THAT WILL OBSCURE NAMEPLATES AND OTHER TEXT ON EQUIPMENT.



NOTE: FIRE ALARM AND POWER WIRING NOT INDICATED.

A2 TELECOM KUDU BARN DEMO RISER
KE602DG SCALE =NOT TO SCALE



NOTE: FIRE ALARM AND POWER WIRING NOT INDICATED.

A8 TELECOM KUDU BARN NEW WORK RISER
KE602DG SCALE =NOT TO SCALE

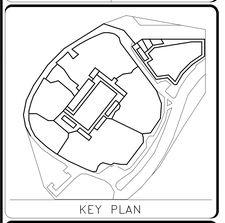
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com

DISTRICT OF COLUMBIA
THOMAS M. CLIPPINGER
#PE905872
PROFESSIONAL ENGINEER



GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL DIAGRAMS
WORKING STAFF	MRH (DESIGNED BY) / MRH (DRAWN BY) / TMC (CHECKED BY)
SHEET NO.	27 OF 29
	KE602DG (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)

1/18/24 11:30:12 AM
KE602DG BY Approver 11/03/23 FINAL CD

KUDU LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	LAMP	DESIGN CRITERIA	MIN EFFICACY	BASIS OF DESIGN MODEL	BASIS OF DESIGN MANUFACTURER	VOLTS	MOUNTING	COMMENTS
B1	FOUR-FOOT LONG VAPOR-TITE STEP DIMMING INDUSTRIAL	LED	7386 lm	120 lm/W	LXEM4-30VL-RFP-ESDU-SSL	COLUMBIA	120 V	SURFACE	1, 2
B3	TWO TWO-FOOT LONG VAPOR-TITE STEP DIMMING INDUSTRIAL	LED	9059 lm	99 lm/W	LXEM2-30HL-RFP-ESDU-SSL	COLUMBIA	120 V	SURFACE	1, 2, 7
F	FLOODLIGHT. IP65 WET LOCATION, 16MM (1/2-INCH) KNUCKLE, ALUMINIUM HOUSING, 7X6 DISTRIBUTION	LED	2420 lm	121 lm/W	LBUL-20-120-3K	HUBBELL	120 V	SURFACE MOUNT ON UNDERSIDE OF EAVE UON	4
R	CEILING-MOUNTED VAPORTITE GLOBE WITH GUARD AND RED LENS	LED	757 lm	149 lm/W	VBGL-1-VGL-RD	HUBBELL	120 V	SURFACE - CEILING	5

GENERAL NOTES:

A. COORDINATE INSTALLATION OF LUMINAIRES WITH FIELD CONDITIONS.
B. CONFIRM DRIVERS ARE COMPATIBLE WITH LIGHTING CONTROL SYSTEM.
C. PROVIDE COMPONENTS AND FITTINGS NECESSARY FOR A COMPLETE OPERATIONAL INSTALLATION.
D. INSTALL LUMINAIRES, DRIVERS, AND OTHER COMPONENTS PER MANUFACTURER'S DIRECTION..

SPECIFIC NOTES:

1. COORDINATE ELEVATION AND PRECISE LOCATION WITH OTHER WORK IN SPACE.
2. WHERE CEILING IS LOWER THAN 8',
   A. IF CEILING IS FLAT, SURFACE MOUNT TO CEILING UON.
   B. IF CEILING IS NOT FLAT, PENDENT MOUNT SO THAT THERE IS 1" BETWEEN LUMINIARE AND LOWEST POINT OF CEILING ABOVE LUMINAIRE.
3. NOT USED.
4. MOUNT EACH PAIR TO BOTTOM OF A SINGLE WEATHERPROOF BOX. MOUNT TO UNDERSIDE OF EAVE. AIM AS DIRECTED BY COTR.
5. LUMEN RATING IS FOR LAMP, PRIOR TO EFFECT OF RED GLOBE.
6. NOT USED.
7. FOR EACH B3 OR B3E LUMINAIRE SYMBOL, PROVIDE TWO TWO-FOOT LUMINAIRES LINED UP END TO END.

SPECIFIC NOTES:

(1) PANELBOARD PROVIDED UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT. UNDER THIS PROJECT, PROVIDE THE FEEDER FROM THE CIRCUIT BREAKER INDICATED TO PANEL SBB4. (FEEDER CONDUIT PROVIDED UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT.)

(2) PANELBOARD PROVIDED UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT. UNDER THIS PROJECT, PROVIDE THE CIRCUIT FROM THE FUSED SWITCH INDICATED TO RECEPTACLES AT KUDU BARN. (CIRCUIT CONDUIT PROVIDED UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT.)

(3) PANELBOARD PROVIDED UNDER PROJECT SF 2033120 "IMPROVE PERIMETER SECURITY - VOLUME 2". UNDER THIS PROJECT, PROVIDE THE CIRCUIT BREAKERS OTHER THAN THE EXISTING ONES IN SPACES ONE THROUGH EIGHT.

WIRING PANEL SCHEDULE RP

(3) → 120/208 Wye | 3 PHASE 4 WIRE | 400 AMP MAINS | SURFACE

CIRCUIT	DESCRIPTION	WIRE/ CONDUIT	POLE	AMP	A	A	B	B	C	C	AMP	POLE	WIRE/ CONDUIT	DESCRIPTION	CIRCUIT
1	ETR HPU EQUIPMENT	ETR	3	50 A	5.6	0.7					20 A	1	ETR	ETR SEC BOLLARD HEAT TRACE	2
3							5.6	0.0			20 A	1	--	SPARE	4
5									5.6	0.0	20 A	1	--	SPARE	6
7	SPARE	--	1	20 A	0.0	0.0					20 A	1	--	SPARE	8
9	LTG. - KUDU BARN	#12-3/4"C	1	20 A			0.9	4.2			60 A	2	2#6, #8G 3/4"C	EPUH-5, STALL J4	10
11	EPUH-2, STALL J2A	2#8, #10G 3/4"C	2	40 A					2.9	4.2					12
13					2.9	2.9					40 A	2	2#8, #10G 3/4"C	EPUH-3, STALL J2B	14
15	EPUH-4, STALL J4	2#8, #10G 3/4"C	2	40 A			2.9	2.9							16
17									2.9	0.7	20 A	1	#12-3/4"C	REC. - KUDU BARN EXTERIOR	18
19	EPUH-1, STALL J1	2#6, #8G 3/4"C	2	60 A	4.2	0.2					20 A	1	#8 - 1"C	REC - PEDESTRIAN WALKWAY...	20
21							4.2	2.9			40 A	2	2#8, #10G 3/4"C	EPUH-6, STALL K2A	22
23	EPUH-7, STALL K2B	2#8, #10G 3/4"C	2	40 A					2.9	2.9					24
25					2.9	--					--	1	--	SPACE & PROVISION	26
27	SPACE & PROVISION	--	1	--			--	--			--	1	--	SPACE & PROVISION	28
29	SPACE & PROVISION	--	1	--					--	--	--	1	--	SPACE & PROVISION	30
31	SPACE & PROVISION	--	1	--	--	--					--	1	--	SPACE & PROVISION	32
33	SPACE & PROVISION	--	1	--			--	--			--	1	--	SPACE & PROVISION	34
35	SPACE & PROVISION	--	1	--					--	0.0	20 A	1	--	BAS PANEL. SEE NOTES..	36
37	SPACE & PROVISION	--	1	--	--	0.0					100 A	3	--	TEMPORARY FEED TO PANEL SBB4. SEE NOTES.	38
39	SPACE & PROVISION	--	1	--			--	0.0							40
41	SPACE & PROVISION	--	1	--					--	0.0					42
					19.4		23.6		22.2						

CONNECTED LOAD = 65.2 KVA — MAIN BREAKER 400 A AMPS
DEMAND LOAD = 65.2 KVA — NUMBER OF SECTIONS 1
MIN AIC RATING = 22,000 AMPS SYMMETRICAL — LOCATION

LOAD	LOAD CLASSIFICATION	DESCRIPTION	CONNECTED (VA)	DEMAND (VA)	PANEL TOTALS	
ELEV	ELEVATOR	PER NEC TABLE 620.14	0 VA	0 VA		
EQP	EQUIPMENT	100% CONTINUOUS LOAD	0 VA	0 VA	TOTAL LOAD (CONNECTED):	65.2 kVA
KIT	KITCHEN EQUIPMENT	PER NEC TABLE 220.56	0 VA	0 VA	TOTAL CURRENT (CONNECTED):	181 A
LIGHTING	LIGHTING	100% CONTINUOUS LOAD	0 VA	0 VA		
LTG	LIGHTING (LTG)	100% CONTINUOUS LOAD	803 VA	803 VA	TOTAL LOAD (DEMAND):	65238 VA
M1	MECHANICAL (M1)	100% CONTINUOUS LOAD	0 VA	0 VA	TOTAL CURRENT (DEMAND):	181 A
MECH	MECHANICAL	100% CONTINUOUS LOAD	63469 VA	63469 VA		
REC	RECEPTACLE	PER NEC TABLE 220.44	900 VA	900 VA		

NOTES:

PANEL TO BE INSTALLED AS PART OF PROJECT SF 2033120: IMPROVE PERIMETER SECURITY-VOLUME 2. CIRCUIT BREAKERS IN POLE SPACES 1 THROUGH EIGHT PROVIDED UNDER THAT PROJECT. CIRCUIT 1/3/5 AND CIRCUIT 2 ARE ETR. PROVIDE SPARE BREAKERS IN POLE SPACES 20, 36, AND 38/40/42.. UNDER MAIN CHEETAH CONSERVATION STATION RENEWAL PROJECT, SPARE CIRCUIT BREAKER #20 SHALL BE USED TO SUPPLY CIRCUIT INDICATED. BREAKER 38/40/42 SHALL FEED PANEL SBB4 WITH 4#3, #8G, 1.5"C. SPARE CIRCUIT BREAKER #36 SHALL FEED TEMPORARY BAS PANEL WITH 2#12, #12G, 3/4"C. ONCE FEEDER FROM THE CCS FOR PANEL SBB4 IS AVAILABLE, REMOVE RP-38/40/42 WIRING. WHEN TEMPORARY BAS PANEL IS REMOVED, REMOVE RP-36. WHEN CIRCUITS ARE REMOVED, UPDATE PANEL SCHEDULE TO INDICATE BREAKER IS SPARE. AND.CLOSE OPENINGS IN PANELBOARD CREATED BY REMOVAL OF RACEWAY.

FUSED WIRING PANEL SCHEDULE CEM

(2) → 120/208 VOLTS | 3 PHASE 4 WIRE | 100 AMP MAINS | SURFACE

CIRCUIT	DESCRIPTION	WIRE/ CONDUIT	SWITCH POLE	FUSE AMP	A	A	B	B	C	C	FUSE AMP	SWITCH POLE	WIRE/ CONDUIT	DESCRIPTION	CIRCUIT
1	SPARE	--	1	20 A	0.0	0.1					20 A	1	#12-3/4"C	LTG- UTILITY & EMER ELEC RMS	2
3	LTG. - KEEPER AK1	#12-3/4"C	1	20 A			0.0	1.0			20 A	1	#10-3/4"C	LTG. - KEEPERS OFFICES	4
5	LTG. - BARN A EXTERIOR	#8-1"C	1	20 A					0.4	0.1	20 A	1	#10-3/4"C	LTG. - BARN E BREEZEWAY	6
7	ELECTRIFIED FENCES, GRASS, ETC	#12-3/4"C	1	20 A	1.8	0.5					20 A	1	#10-3/4"C	FIRE ALARM PANEL ROOM D5 (1)	8
9	KUDU ELECTRIFIED FENCE, ETC (2)	#8-1"C	1	20 A			0.4	0.2			20 A	1	#10-3/4"C	KELTRON TRANSCEIVER RM D5 (1)	10
11	SPRINKLER RISER CONTROLS	#12-3/4"C	1	15 A					0.1	2.2	20 A	1	#10-3/4"C	SPRINKLER AIR COMP & N2 GEN	12
13	SPD	4#10, #10G, 1"C	3	30 A	0.0	--					--	1	--	SPACE & PROVISION	14
15							0.0	--			--	1	--	SPACE & PROVISION	16
17									0.0	--	--	1	--	SPACE & PROVISION	18
					2.4		1.6		2.7						

CONNECTED LOAD = 6.8 KVA — MAIN NON-FUSED DISCONNECT SWITCH 100 A AMPS
DEMAND LOAD = 6.8 KVA — NUMBER OF SECTIONS 1
MIN AIC RATING = 22,000 AMPS SYMMETRICAL — LOCATION HOOF STOCK B8

LOAD	LOAD CLASSIFICATION	DESCRIPTION	CONNECTED (VA)	DEMAND (VA)	PANEL TOTALS	
ELEV	ELEVATOR	PER NEC TABLE 620.14	0 VA	0 VA		
EQP	EQUIPMENT	100% CONTINUOUS LOAD	780 VA	780 VA	TOTAL LOAD (CONNECTED):	6.8 kVA
KIT	KITCHEN EQUIPMENT	PER NEC TABLE 220.56	0 VA	0 VA	TOTAL CURRENT (CONNECTED):	19 A
LTG	LIGHTING	100% CONTINUOUS LOAD	855 VA	855 VA		
MECH	MECHANICAL	100% CONTINUOUS LOAD	2952 VA	2952 VA	TOTAL LOAD (DEMAND):	6750 VA
REC	RECEPTACLE	PER NEC TABLE 220.44	2160 VA	2160 VA	TOTAL CURRENT (DEMAND):	19 A

NOTES:

(1) MARK SWITCH RED TO INDICATE FIRE ALARM SYSTEM LOAD. LOCK SWITCH IN 'ON' POSITION.
(2) CONDUIT INSTALLED UNDER RENEW CHEETAH CONSERVATION STATION PROJECT. CONDUCTORS INSTALLED UNDER KUDU PROJECT.

WIRING PANEL SCHEDULE SBB4

120/208 VOLTS | 3 PHASE 4 WIRE | 100 AMP MAINS | SURFACE

CIRCUIT	DESCRIPTION	WIRE/ CONDUIT	POLE	AMP	A	A	B	B	C	C	AMP	POLE	WIRE/ CONDUIT	DESCRIPTION	CIRCUIT
1	REC. - KUDU FARM STALL	#12-3/4"C	1	20 A	0.2	0.2					20 A	1	#12-3/4"C	LTG. - KUDU BARN EXTERIOR	2
3	REC. - KUDU FARM STALL	#12-3/4"C	1	20 A			0.2	1.0			20 A	1	#8 - 1"C	ETR WATER STATION IN YARD	4
5	REC. - KUDU FARM STALL	#12-3/4"C	1	20 A					0.2	1.0	20 A	1	#12-3/4"C	ELECTRIC FENCE OR GRASS (3)	6
7	REC. - KUDU FARM STALL	#12-3/4"C	1	20 A	0.2	0.5					20 A	1	#12-3/4"C	FIRE ALARM PANEL (2)	8
9	STALL FAN RECEPTACLES	#12-3/4"C	1	20 A			0.7	0.5			20 A	1	#12-3/4"C	KELTRON TRANSCEIVER (2)	10
11	HORNBILL SE STALL HD RECS	#12-34/"C	1	20 A					0.4	0.2	20 A	1	#12-3/4"C	KELTRON TRANCEIVER REC (2)	12
13	SPARE	--	1	20 A	0.0	0.4					20 A	1	#12-3/4"C	HORNBILL NW STALL HD RECS	14
15	SPARE	--	1	20 A			0.0	0.0			20 A	1	--	SPARE	16
17	SPARE	--	1	20 A					0.0	0.0	20 A	1	--	SPARE	18
19	SPARE	--	1	20 A	0.0	0.0					20 A	1	--	SPARE	20
21	SPARE	--	1	20 A			0.0	0.0			20 A	1	--	SPARE	22
23	SPARE	--	1	20 A					0.0	0.0	20 A	1	--	SPARE	24
25	SPACE & PROVISION	--	1	--	--	--					--	1	--	SPACE & PROVISION	26
27	SPACE & PROVISION	--	1	--			--	--			--	1	--	SPACE & PROVISION	28
29	SPACE & PROVISION	--	1	--					--	--	--	1	--	SPACE & PROVISION	30
					1.4		2.4		1.7						

CONNECTED LOAD = 5.5 KVA — MAIN BREAKER 100 A AMPS
DEMAND LOAD = 5.5 KVA — NUMBER OF SECTIONS 1
MIN AIC RATING = 10,000 AMPS SYMMETRICAL — LOCATION

LOAD	LOAD CLASSIFICATION	DESCRIPTION	CONNECTED (VA)	DEMAND (VA)	PANEL TOTALS	
ELEV	ELEVATOR	PER NEC TABLE 620.14	0 VA	0 VA		
EQP	EQUIPMENT	100% CONTINUOUS LOAD	2000 VA	2000 VA	TOTAL LOAD (CONNECTED):	5.5 kVA
KIT	KITCHEN EQUIPMENT	PER NEC TABLE 220.56	0 VA	0 VA	TOTAL CURRENT (CONNECTED):	15 A
LIGHTING	LIGHTING	100% CONTINUOUS LOAD	0 VA	0 VA		
LTG	LIGHTING (LTG)	100% CONTINUOUS LOAD	200 VA	200 VA	TOTAL LOAD (DEMAND):	5540 VA
M1	MECHANICAL (M1)	100% CONTINUOUS LOAD	0 VA	0 VA	TOTAL CURRENT (DEMAND):	15 A
MECH	MECHANICAL	100% CONTINUOUS LOAD	1000 VA	1000 VA		
REC	RECEPTACLE	PER NEC TABLE 220.44	2340 VA	2340 VA		

NOTES:

(1) PROVIDE CLASS B GFCI CIRCUIT BREAKER.
(2) MARK CIRCUIT BREAKER RED TO INDICATE FIRE ALARM SYSTEM LOAD. PROVIDE CIRCUIT BREAKER LOCK.
(3) USE UNTIL CIRCUIT CEM-9 IS AVAILABLE. ONCE CIRCUIT CEM-9 IS AVAILABLE, THIS CIRCUIT BECOMES SPARE.

WIRING PANEL SCHEDULE CSB

(1) → 120/208 VOLTS | 3 PHASE 4 WIRE | 600 AMP MAINS | SURFACE

CIRCUIT	DESCRIPTION	WIRE/ CONDUIT	POLE	AMP	A	A	B	B	C	C	AMP	POLE	WIRE/ CONDUIT	DESCRIPTION	CIRCUIT
1	REC. - STALL A7	#12 - 3/4"C	1	20 A	0.4	0.5					20 A	1	#12 - 3/4"C	REC. - BOILER/UTILITY A3	2
3	EF-A3	#12 - 3/4"C	1	20 A			1.2	0.0			15 A	1	#12 - 3/4"C	PUH-A3	4
5	REC. - STALL A6	#12 - 3/4"C	1	20 A					0.4	1.4	20 A	1	#12 - 3/4"C	BOILER B1	6
7	REC. - STALL A5	#12 - 3/4"C	1	20 A	0.4	--					--	1	--	SHUNT TRIP FOR BKR ABOVE	8
9	REC. - STALL A2	#12 - 3/4"C	1	20 A			0.4	1.4			20 A	1	#12 - 3/4"C	BOILER B2	10
11	EF-A1	#12 - 3/4"C	1	20 A					1.2	--	--	1	--	SHUNT TRIP FOR BKR ABOVE	12
13	REC. - STALL A1	#12 - 3/4"C	1	20 A	0.4	1.0					15 A	1	#12 - 3/4"C	EF-A2	14
15	PUH-A1	#12 - 3/4"C	1	20 A			0.0	0.4			20 A	3	3#12 #12G 3/4"C	PUMP P1 (HEATING WATER) 3 HP	16
17	PUH-A2	#12 - 3/4"C	1	20 A					0.0	0.4					18
19	PUH-A4	#12 - 3/4"C	1	20 A	0.0	0.4									20
21	PUH-A5	#12 - 3/4"C	1	20 A			0.0	--			--	1	--	SHUNT TRIP FOR BKR ABOVE	22
23	PUH-A6	#12 - 3/4"C	1	20 A					0.0	0.4	20 A	3	3#12 #12G 3/4"C	PUMP P2 (HEATING WATER) 3 HP STANDBY	24
25	PANELBOARD SBLA	4#3/0 #4G 2-1/2"C	3	200 A	17.6	0.4									26
27							16.1	0.4							28
29									15.0	--	--	1	--	SHUNT TRIP FOR BKR ABOVE	30
31	PANELBOARD SBF	4#1/0 #4G 2"C	3	100 A	5.9	10.6					200 A	3	4#3/0 #6G 2-1/2"C	PANELBOARD SBC	32
33							6.5	6.5							34
35									5.2	9.7					36
37	PANELBOARD SBB4 (3)	4#2 #6G 1-1/2"C	3	100 A	1.4	1.8					100 A	3	4#3 #8G 1-1/4"C	PANELBOARD SBK	38
39							2.4	2.0							40
41									1.7	1.0					42
43	EPUH-A1	#12 - 3/4"C	1	20 A	0.0	2.9					100 A	3	4#3 #8G 1-1/4"C	PANELBOARD SBB	44
45	YARD 1 CHEETAH DEN HEAT	#8 - 1"C	1	15 A			0.5	2.4							46
47	ANIMAL DRINKER YARD 1 (2)	#8 - 1"C	1	20 A					0.2	3.5					48
49	LTG - EXTERIOR STEP LIGHTS	#10-3/4"C	1	20 A	0.5	--					--	1	--	SPACE & PROVISION	50
51	SPACE & PROVISION	--	1	--			--	--			--	1	--	SPACE & PROVISION	52
53	SPACE & PROVISION	--	1	--					--	--	--	1	--	SPACE & PROVISION	54
55	SPACE & PROVISION	--	1	--	--	--					--	1	--	SPACE & PROVISION	56
57	SPACE & PROVISION	--	1	--			--	--			--	1	--	SPACE & PROVISION	58
59	SPACE & PROVISION	--	1	--					--	--	--	1	--	SPACE & PROVISION	60
					44.2		40.2		40.2						

CONNECTED LOAD = 124.7 KVA — MAIN BREAKER 600 A AMPS
DEMAND LOAD = 117.6 KVA — NUMBER OF SECTIONS 1
MIN AIC RATING = 22,000 AMPS SYMMETRICAL — LOCATION HOOF STOCK B8

LOAD	LOAD CLASSIFICATION	DESCRIPTION	CONNECTED (VA)	DEMAND (VA)	PANEL TOTALS	
ELEV	ELEVATOR	PER NEC TABLE 620.14	0 VA	0 VA		
EQP	EQUIPMENT	100% CONTINUOUS LOAD	15510 VA	15510 VA	TOTAL LOAD (CONNECTED):	124.7 kVA
KIT	KITCHEN EQUIPMENT	PER NEC TABLE 220.56	0 VA	0 VA	TOTAL CURRENT (CONNECTED):	346 A
LIGHTING	LIGHTING	100% CONTINUOUS LOAD	191 VA	191 VA		
LTG	LIGHTING (LTG)	100% CONTINUOUS LOAD	40342 VA	40342 VA	TOTAL LOAD (DEMAND):	117644 VA
M1	MECHANICAL (M1)	100% CONTINUOUS LOAD	20292 VA	20292 VA	TOTAL CURRENT (DEMAND):	327 A
MECH	MECHANICAL	100% CONTINUOUS LOAD	25494 VA	25494 VA		
REC	RECEPTACLE	PER NEC TABLE 220.44	21630 VA	15815 VA		

NOTES:

1. PUMPS P1 AND P2 DO NOT RUN SIMULTANEOUSLY.
2. PROVIDE CLASS B GFCI CIRCUIT BREAKER.
3. PROVIDE CIRCUIT BREAKER AND CONDUIT UNDER MAIN "RENEW CHEETAH CONSERVATION STATION" PROJECT. PROVIDE CONDUCTORS UNDER KUDU BARN PROJECT.

KEY PLAN

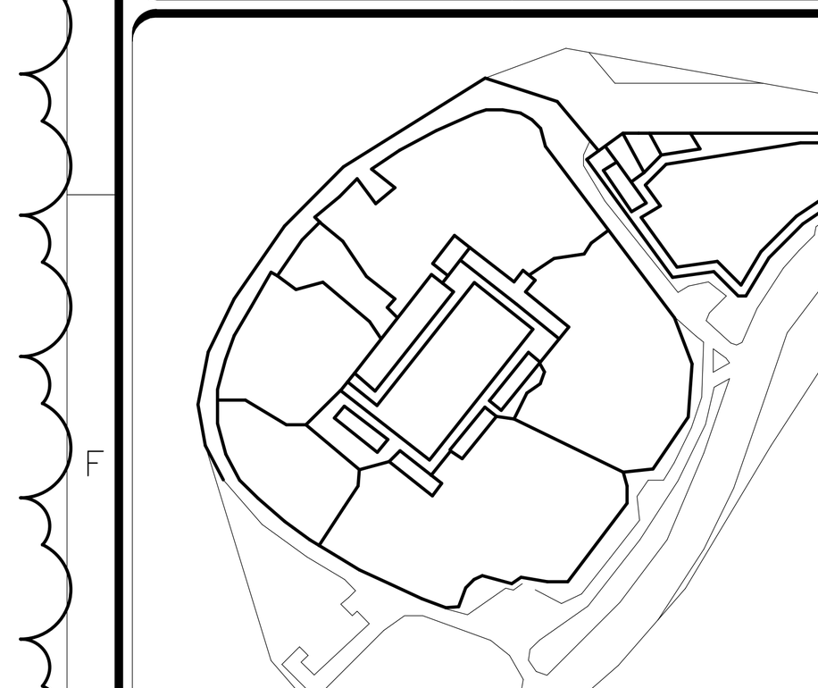
RP	SBB4
CEM	CSB

RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com



KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	ELECTRICAL SCHEDULES
WORKING STAFF	MRH (DESIGNED BY) / MRH (DRAWN BY) / TMC (CHECKED BY)
SHEET NO.	28 OF 29
	KE 6 03 SH (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)

FIRE ALARM SYMBOLS AND ABBREVIATIONS

DEMOLITION

- REMOVE EXISTING CONDUCTORS AND CABLE ASSEMBLIES. REMOVE EXISTING RACEWAYS UNLESS OTHERWISE NOTED. RACEWAYS EMBEDDED IN MASONRY MAY BE ABANDONED. HASH MARKS (IF ANY) INDICATE NUMBER OF FIBERS OR CATEGORY CABLES REPRESENTED BY A LINE.
- REMOVE EXISTING SMOKE DETECTOR. REMOVE ASSOCIATED WIRING TO SOURCE. MAINTAIN REMAINDER OF FIRE ALARM SYSTEM FULLY OPERATIONAL.
- REMOVE EXISTING FIRE ALARM CEILING-MOUNTED SPEAKER OR STROBE OR SPEAKER/STROBE. MAINTAIN REMAINDER OF FIRE ALARM SYSTEM FULLY OPERATIONAL.
- REMOVE EXISTING FIRE ALARM PULL STATION. MAINTAIN REMAINDER OF FIRE ALARM SYSTEM FULLY OPERATIONAL.

EXISTING TO REMAIN

- EXISTING TO REMAIN CONDUCTORS AND ASSOCIATED CABLE AND RACEWAY.
- EXISTING TO REMAIN FIRE ALARM PULL STATION.
- EXISTING TO REMAIN FIRE ALARM NOTIFICATION APPLIANCE.
- EXISTING TO REMAIN HEAT DETECTOR.

NEW WORK

- RACEWAY AND CONDUCTORS. RUN RACEWAY CONCEALED IN WALLS AND ABOVE CEILINGS. (RACEWAY MAY BE RUN EXPOSED IN EXISTING CONSTRUCTION).
- WIRING CONTINUES.
- HIGH-FIDELITY FIRE ALARM COMBINATION SPEAKER/STROBE, EIGHTY INCHES FROM FINISHED FLOOR TO BOTTOM OF BOX OR SIX INCHES BELOW CEILING, WHICHEVER IS LOWER.
- WP OUTDOOR SPEAKER STROBE, EIGHTY INCHES FROM GRADE TO BOTTOM OF BOX OR SIX INCHES BELOW LOWEST POINT OF EAVE, WHICHEVER IS LOWER.
- FIRE ALARM FLASHING INDICATING LIGHT, WALL-MOUNTED EIGHTY INCHES FROM FINISHED FLOOR TO BOTTOM OF BOX OR SIX INCHES BELOW CEILING, WHICHEVER IS LOWER.
- FIRE ALARM SYSTEM SMOKE DETECTOR.
- FIRE ALARM SYSTEM WEATHERPROOF HEAT DETECTOR
- MM FIRE ALARM SYSTEM MONITORING MODULE.
- FIRE ALARM MANUAL PULL STATION, WALL-MOUNTED ON RECESSED OUTLET BOX, TOP OF BOX 1219 MM (48") ABOVE FINISHED FLOOR.

NOTES

A. PRIOR TO ROUGH-IN, VERIFY EXACT LOCATION OF SPECIALTY WIRING DEVICES WITH EQUIPMENT SPECIFIED UNDER OTHER DIVISIONS OR SUPPLIED BY GOVERNMENT.

B. MOUNTING HEIGHTS ARE TO THE CENTER OF WALL-MOUNTED DEVICES AND TO THE BOTTOMS OF CEILING-MOUNTED AND PENDANT-MOUNTED DEVICES UNLESS OTHERWISE NOTED.

C. MANY OF THESE SYMBOLS AND ABBREVIATIONS APPEAR IN THE DRAWINGS OF THE MAIN 'RENEW CHEETAH CONSERVATION STATION' PROJECT, BUT NOT IN THE KUDU DRAWINGS. THOSE SYMBOLS ARE INCLUDED HERE FOR INFORMATION ONLY.

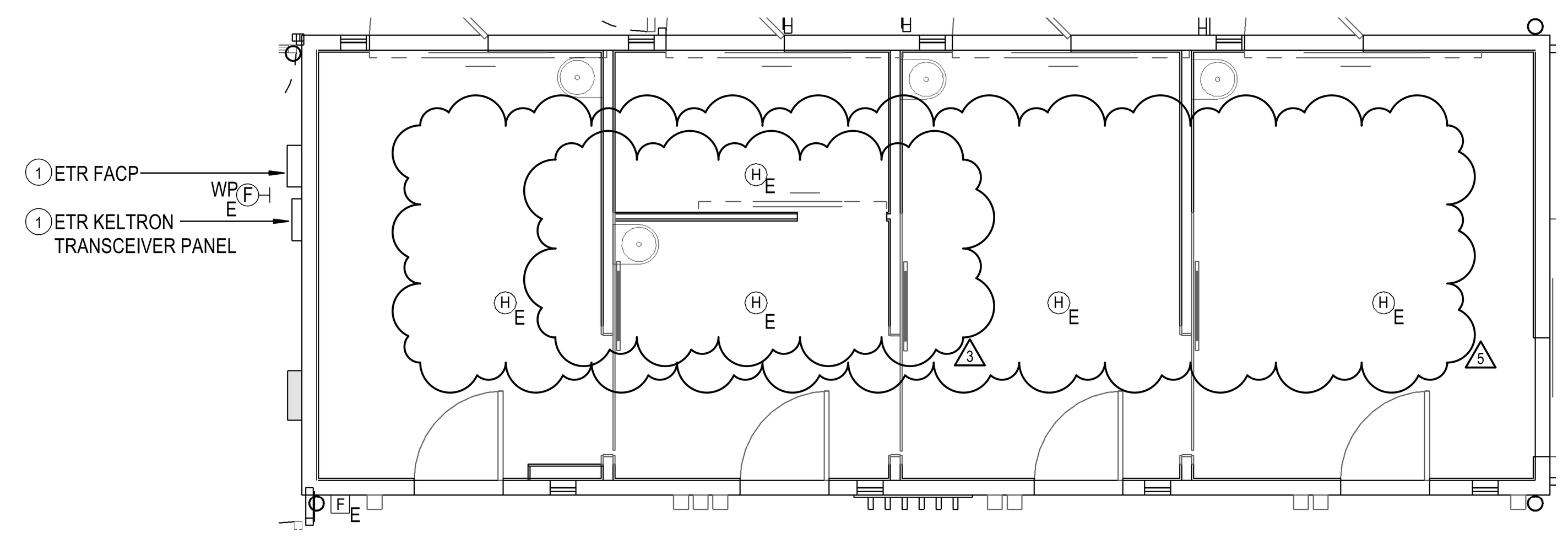
ABBREVIATIONS

AC	ALTERNATING CURRENT
ETR	EXISTING TO REMAIN
FACP	FIRE ALARM CONTROL PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NZP	NATIONAL ZOOLOGICAL PARK ("THE ZOO")
WIRING	CONDUCTORS, WITH ASSOCIATED RACEWAY OR CABLE ASSEMBLY
WP	WEATHERPROOF

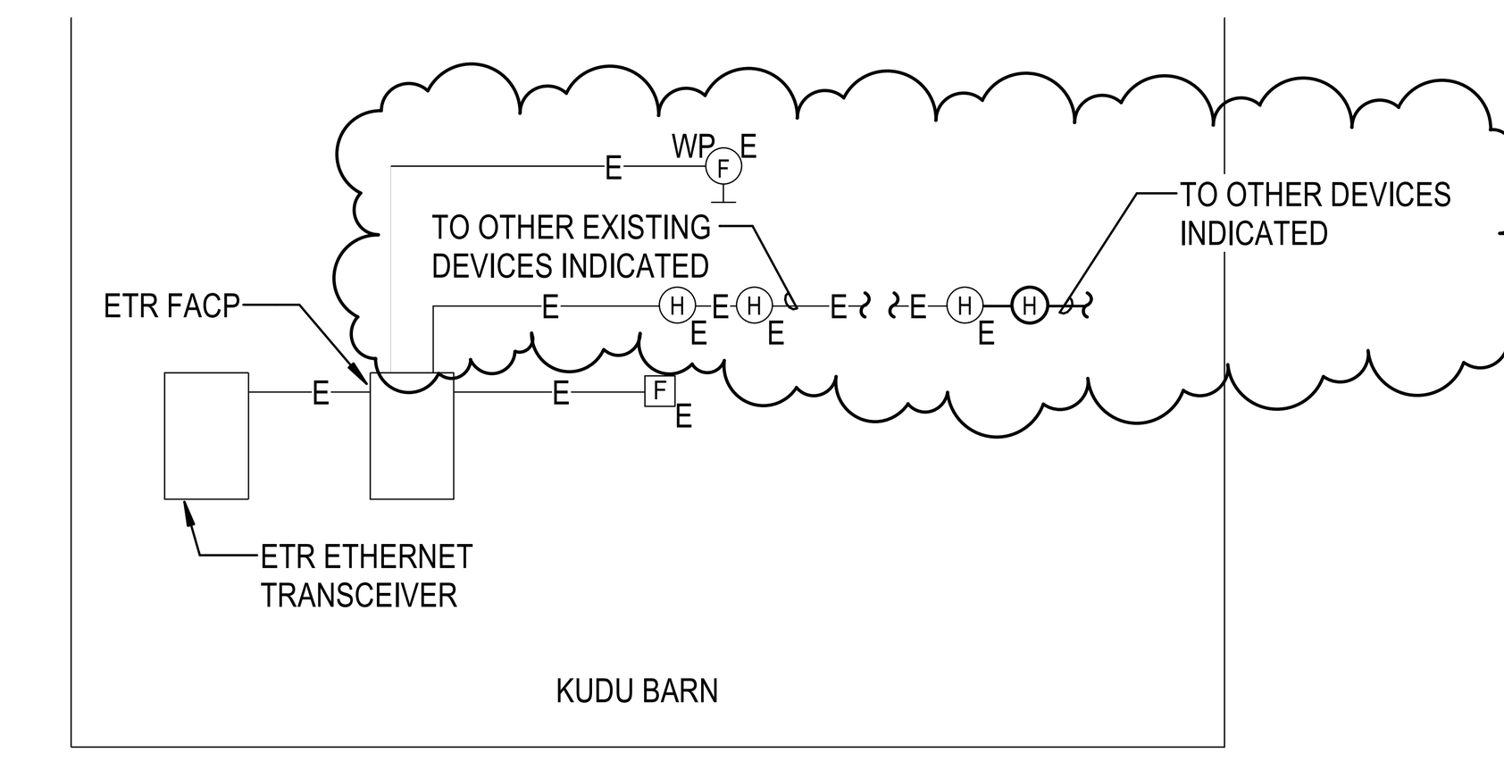
5

	INTIATE ALARM CONDITION IN FACP AND NZP OPS CONTROL ROOM	INITIATE SUPERVISORY CONDITION IN FACP AND NZP OPS CONTROL ROOM	INITIATE TROUBLE CONDITION IN FACP AND NZP OPS CONTROL ROOM	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE AUDIBLE TROUBLE SIGNAL	DISPLAY ADDRESSIBLE ZONE INDICATOR	ACTUATE EVACUATION SIGNALS	TRANSMIT EVENT TO THE KELTRON WORK STATION AT NZP OPS CONTROL ROOM
MANUAL PULL STATION	●					●	●	●
OUTDOOR HEAT DETECTOR	●					●	●	●
FIRE ALARM AC POWER FAILURE		●		●				●
SYSTEM TROUBLE CONDITION			●		●			●
REMOVAL OR DISABLING OF ANY DEVICE			●		●			●
REPLACEMENT OF INITIATING DEVICE WITH WRONG TYPE			●		●			●
OPEN CIRCUIT			●		●			●
GROUND FAULT			●		●			●
NOTIFICATION APPLIANCE SHORT CIRCUIT			●		●			●

A1 KF101FA KUDU FIRE ALARM MATRIX
SCALE =NO SCALE



J5 KF101FA KUDU BARN - FIRE ALARM DEMO PLAN
SCALE = 1/4" = 1'-0"



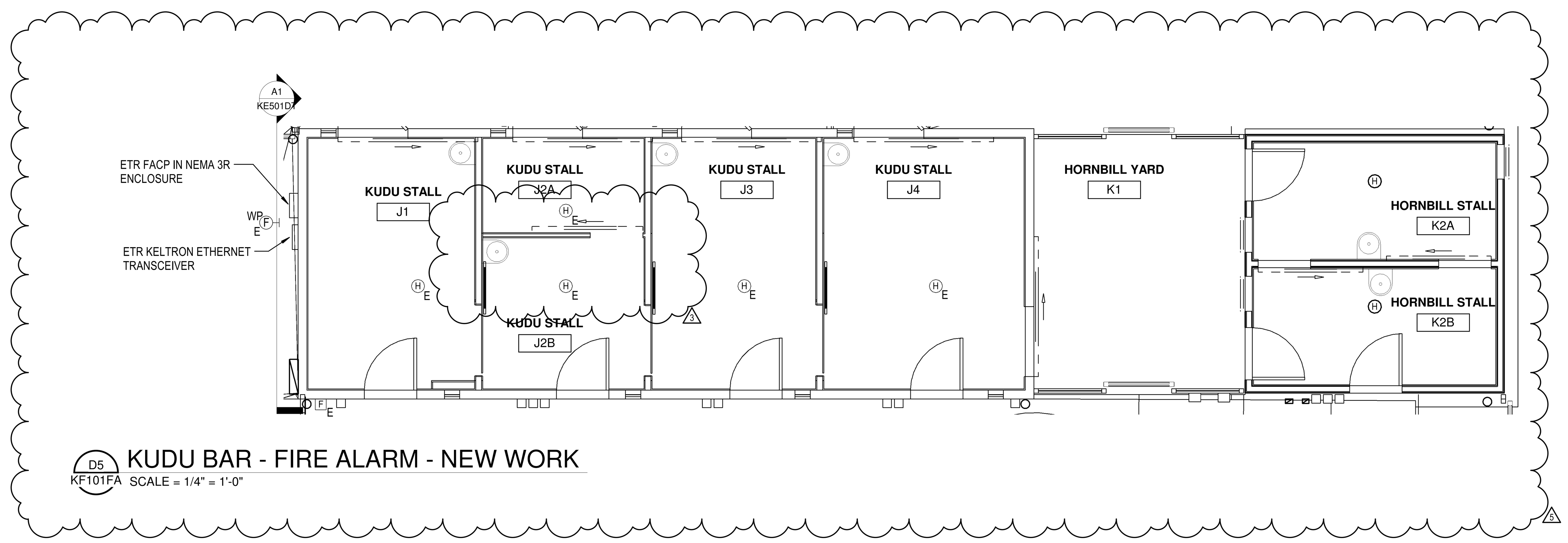
J10 KF101FA KUDU FIRE ALARM RISER
SCALE =NO SCALE

GENERAL NOTES:

A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE COTR IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.

B. DO NOT INSTALL ELECTRICAL WORK IN A WAY THAT WILL IMPEDE ACCESS TO AND MAINTENANCE OF OTHER EQUIPMENT, OR THAT WILL OBSCURE NAMEPLATES AND OTHER TEXT ON EQUIPMENT.

C. SEE SHEET KE001 FOR FIRE ALARM SYMBOLS AND ABBREVIATIONS.



D5 KF101FA KUDU BAR - FIRE ALARM - NEW WORK
SCALE = 1/4" = 1'-0"

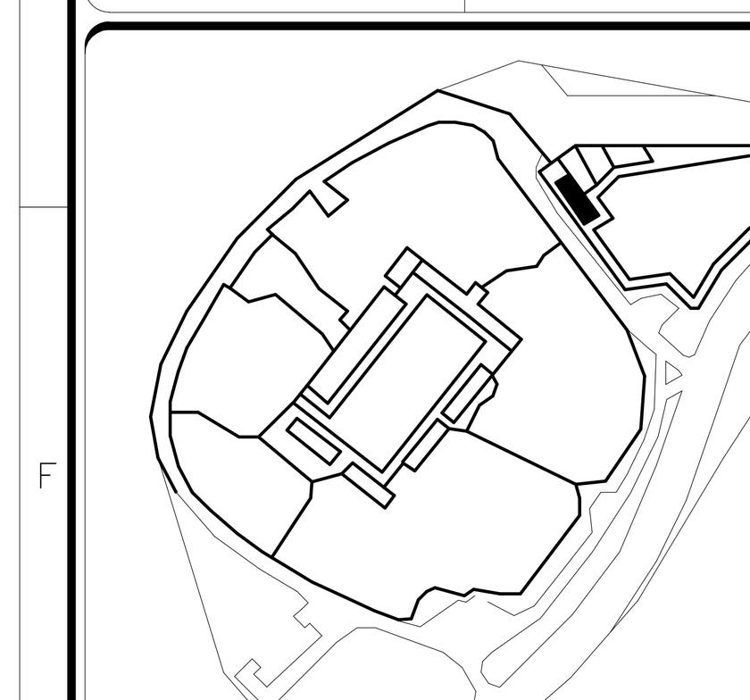
RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4

FOR CONSTRUCTION

architrave p.c.
420 10th STR. SE,
Washington DC 20003
202.544.1640
architravep.com

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com

DISTRICT OF COLUMBIA THOMAS M. CLIPPINGER PE905872 REGISTERED PROFESSIONAL ENGINEER



0 2' 4' 8'
1/4"=1'-0"

GRAPHIC SCALE(S)

DATE	SUBMISSION
11/03/23	KUDU MOD 4 FINAL CD

REVISION #	DATE	REVISION DESCRIPTION
3	11/03/23	ASI-003 (SEE PROJECT NO. 2033120 FOR ASI-001 AND ASI-002)
5	01/16/24	ASI-005 (SEE PROJECT NO. 2033120 FOR ASI-004)

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	NZPCI CHEETAH CONSERVATION STATION-AFRICA TRAIL
ADDRESS	3001 CONNECTICUT AVENUE, WASHINGTON DC
PROJECT TITLE	RENEW CHEETAH CONSERVATION STATION-AFRICA TRAIL-KUDU MOD 4
SF PROJECT NUMBER	2033108
A/E PROJECT NUMBER	1401.39
DRAWING TITLE	KUDU BARN - FIRE ALARM

DESIGNED BY	DRAWN BY	CHECKED BY
MRH	MRH	TMC

SHEET NO. 29 OF 29

KF101FA (DISCIPLINE KF, TYPE 1, SEQUENCE 01, DRAWING TYPE FA)