CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
PHASE 1 - EARLY SITE
ISSUED FOR BID

SMITHSONIAN INSTITUTION (SI)

NATIONAL ZOOLOGICAL CONSERVATION BIOLOGY INSTITUTE (NZCBI)

3001 Connecticut Avenue NW
Washington, DC 20008

OPDC PROJECT NO.: 2533105

FOR REFERENCE ONLY

ARCHITECTURE / LANDSCAPE / HISTORIC PRESERVATION / MECHANICAL / PLUMBING/ ELECTRICAL/ LIGHTING/ LIFE & SAFETY & FIRE PROTECTION
SmithGroup
1700 New York Avenue NW, Suite 100
Washington, DC 20006
Phone: 202-842-2100

SURVEYOR
Wiles Mench
100 M Street SE #320
Washington, DC 20003
Phone: 202-638-4040

CIVIL ENGINEERING
Sorba
22365 Broderick Drive, Suite 265
Dulles, Virginia 20166
Phone: 571-771-0273

GEOTECHNICAL ENGINEER
Haley & Aldrich
8245 Boone Blvd, Suite 510
Vienna, VA
Phone: 860-209-1783

IRRIGATION
Hines Inc.
323 W Drake Rd
Fort Collins, CO 80526
Phone: 970-282-1800

STRUCTURAL ENGINEERING
TYLin
1053 31st St NW
Washington, DC 20007
Phone: 202-333-6230

ZOO SPECIALIST
SHR Studios
600 Winslow Way E, Suite 115
Bainbridge Island, WA 98110
Phone: 206-842-8332

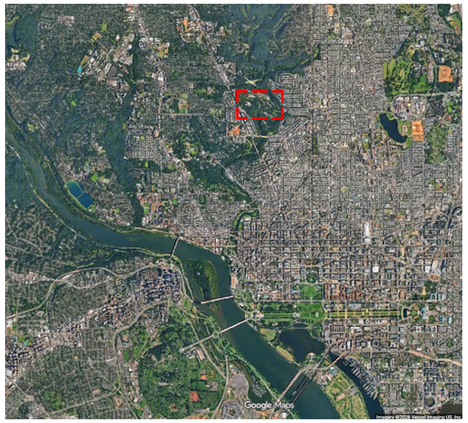
TELECOMM
BrightTree Studios
301 Brush Creek Road
Warrendale PA 15086
Phone: 412-212-7515

SECURITY
M2H Protection
14 West Main Street, Suite 2A
Middletown, MD 21769
Phone: 301-371-6047

ACOUSTICS
Metropolitan Acoustics
1628 JFK Boulevard
8 Penn Center, Suite 1902
Philadelphia, PA 19103
Phone: 215-248-4352

DOOR HARDWARE
Studio 08
1628 JFK Boulevard
8 Penn Center, Suite 1902
Philadelphia, PA 19103
Phone: 215-248-4352

VICINITY MAP



LOCATION MAP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

SMITHSONIAN OPDC
APPROVAL BLOCK

DM:
DESIGN CHIEF:
R.E.:
OPPM:
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., ASSOCIATE DIRECTOR, OPDC

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME / ADDRESS	ARABIAN LEOPARD FACILITY (ALF) 3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
SF PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	COVER SHEET - PHASE 1
WORKING STAFF	DS (DESIGNED BY) / KJ (DRAWN BY) / MR (CHECKED BY)
SHEET NO.	GE-001CS (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)

4/2/2026 9:34:43 AM
GE-001CS BY Approver 03/30/2026 FINAL CONSTRUCTION DOCUMENTS

SHEET NUMBERING SYSTEM

NUMBERING SYSTEM:

SHEET NUMBERING SYSTEM

A-101FP

- DISCIPLINE CODE
- SHEET TYPE
- SHEET SEQUENCE (# WITHIN SERIES)
- DRAWING TYPE CODE

FILE NAMING SYSTEM

□□□□□□-A□-101FP.□□□

- SI FACILITIES PROJECT NUMBER
- DISCIPLINE CODE
- SHEET TYPE
- SHEET SEQUENCE (# WITHIN SERIES)
- DRAWING TYPE CODE
- FILE TYPE

NUMBERING CODES:

DISCIPLINE CODES
(for both model and sheet files)

GENERAL
G - All General
GC - General Contract
GE - General Early Site Package
GR - General Resource

SURVEY/MAPPING
V - All Survey/Mapping
VA - Aerial Survey
VF - Field Survey
VH* - Hydrographic Survey
VI - Digital Survey
VU - Combined Utilities

CIVIL
C - All Civil
CB* - Civil Beach Re-nourishment
CD - Civil Demolition
CE* - Civil Ecosystem Restoration
CF* - Civil Flood Control
CG - Civil Grading
CI - Civil Improvements
CN* - Civil Navigation
CO* - Civil Operation and Maintenance
CP - Civil Paving
CH* - Civil Shore Protection
CR* - Civil Recreation
CS - Civil Site
CX* - Civil Security
CT - Civil Transportation
CU - Civil Utilities

CIVIL WORKS
W-** - Civil Works

UTILITIES
U- All Other Utilities

GEOTECHNICAL
B - All Geotechnical

LANDSCAPE
L - All Landscape
LD - Landscape Demolition
LG - Landscape Grading
LI - Landscape Irrigation
LL - Landscape Lighting
LP - Landscape Planting
LR - Landscape Relocation
LS - Landscape Site

STRUCTURAL
S - All Structural
SD - Structural Demolition
SS - Structural Site
SB - Structural Substructure
SF - Structural Framing
SR* - Structural Reinforcement
ST* - Superstructure
SC* - Structural Components

ARCHITECTURAL
A - Architectural
AS - Architectural Site
AD - Architectural Demolition
AE - Architectural Elements
AI - Architectural Interiors
AF - Architectural Finishes
AG - Architectural Graphics
AL** - Life Safety

INTERIORS
I - All Interiors
ID - Interior Demolition
IN - Interior Design
IF - Interior Furnishings
IG - Interior Graphics

SI CUSTOM
AA - Accessibility
EV - Elevator
EX - Exhibits
GS - Graphics
SS - Special - Systems

HISTORIC PRESERVATION
PH - Historic Preservation

EQUIPMENT
Q - All Equipment
QA - Athletic Equipment
QB - Bank Equipment
QC - Dry Cleaning Equipment
QD - Detention Equipment
QE - Educational Equipment
QF - Food Service Equipment
QH - Hospital Equipment
QL - Laboratory Equipment
QM - Maintenance Equipment
QP - Parking Lot Equipment
QR - Retail Equipment
QS - Site Equipment
QT - Theatrical Equipment
QV - Video/Photographic Equip.
QY - Security Equipment

MECHANICAL
M - All Mechanical
MS - Mechanical Site
MD - Mechanical Demolition
MH - Mechanical HVAC
MP - Mechanical Piping
MI - Mechanical Instrumentation
MY* - Mechanical Hydraulic Sys.

PLUMBING
P - All Plumbing
PS - Plumbing Site
PD - Plumbing Demolition
PP - Plumbing Piping
PQ - Plumbing Equipment
PL - Plumbing

FIRE PROTECTION
F - All Fire Protection
FA - Fire Detection and Alarm
FX - Fire Suppression
FD** - Fire Protection Demolition

ELECTRICAL
E- All Electrical
EA* - Elec. Airfield Lighting & Navaids
ES - Electrical Site
EC* - Electrical Cathodic Protection
EG* - Electrical Grounding
ED - Electrical Demolition
EP - Electrical Interior Power
EL - Electrical Interior Lighting
EI - Electrical Instrumentation
EY - Elec. Interior Auxiliary Systems
ET - Electrical Telecommunication

TELE-COMMUNICATIONS
T - All Telecommunications
TD* - Telecom. Demolition
TA - Audio Visual
TC - Clock and Program
TI - Intercom
TM - Monitoring
TN Data Networks
TS* - Supervisory Control & Data Acquisition (SCADA) systems & equipment
TT - Telephone
TY - Security (Access control & Alarms)

HAZARDOUS MATERIALS
HA - Asbestos
HC - Chemicals
HL - Lead
HP - PCB
HR - Refrigerants

SHOP DRAWINGS
Z- Contractor/Shop Dwgs.

OPERATIONS
O - Operations

OTHERS
X- Other Disciplines

PROCESS
D - All Process
DS - Process Site
DD - Process Demolition
DL - Process Liquids
DG - Process Gases
DP - Process Piping
DQ - Process Equipment
DE - Process Electrical
DI - Process Instrumentation

RESOURCE
R - All Resource
RC - Resource Civil
RS - Resource Structural
RA - Resource Architectural
RM - Resource Mechanical
RE - Resource Electrical

SHEET TYPE DESIGNATORS:

SHEET TYPE DESIGNATORS
(for sheet files only)
0 - General - (Symbols, notes, etc.)
1 - Plans
2 - Elevations
3 - Sections
4 - Large Scale (plans, elevations, etc.)
5 - Details
6 - Schedules and Diagrams
7 - User Defined
8 - User Defined
9 - 3D Views

DRAWING TYPE CODES:

DRAWING TYPE CODES
(for model files, specific to all disciplines)

ALL DSICIPLINES
FP - Floor Plan
DP - Demolition Plan
SP - Site Plan
QP - Equipment Plan
XP - Existing Plan
RO - Roof Plan
EL - Elevation
SC - Section
DT - Detail
SH - Schedule
3D - Isometric/3D
DG - Diagrams

GENERAL
BS - Border Sheet
KP - Key Plan
CS - Cover Sheet

CIVIL
EP - Environmental Plan
GP - Grading Plan
RP - Road/Topographic Plan
SV - Survey
UP - Utility Plan

STRUCTURAL
FP - Framing Plan
NP - Foundation Plan

ARCHITECTURAL/ INTERIORS
EP - Enlarged Plan
CP - Ceiling Plan
RP - Furniture Plan
NP - Finish Plans

MECHANICAL
CP - Control Plan
HP - HVAC - Ductwork Plan
PP - Piping Plan

ELECTRICAL
CP - Communication
GP - Grounding
LP - Lighting
PP - Power

PLUMBING
PP - Plumbing Plan

FIRE - PROTECTION
VP - Evacuation Plan
KP - Sprinkler Plan

TELECOMMUNICATIONS
DP - Data
TP - Telephone

PROJECT GENERAL NOTES

THE FOLLOWING PROJECT GENERAL NOTES APPLY TO THE ENTIRE DRAWING SET AND ARE NOT SPECIFIC TO ANY ONE DISCIPLINE, UNLESS OTHERWISE NOTED:

A. THE DRAWING SET AND SPECIFICATIONS (PROJECT MANUAL) ARE COMPLEMENTARY AND ESTABLISH DETAILED MINIMUM REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT.

B. THE DRAWING SET CONSISTS OF ALL SHEETS LISTED BY THE SHEET INDEX. THE WORK DESCRIBED BY THE DRAWINGS OF ANY ONE DISCIPLINE MAY BE AFFECTED BY THE WORK DESCRIBED ON DRAWINGS OF ANOTHER DISCIPLINE AND MAY REQUIRE REFERENCE TO DRAWINGS OF ANOTHER DISCIPLINE. AS SUCH, DO NOT DISTRIBUTE OR UTILIZE PARTIAL DRAWINGS SETS.

C. COLUMN GRID LINES IDENTIFIED BY A LETTER DESIGNATION ARE PARALLEL, UNLESS OTHERWISE NOTED. COLUMN GRID LINES IDENTIFIED BY A NUMBER DESIGNATION ARE PARALLEL AND ARE PERPENDICULAR TO THOSE WITH LETTER DESIGNATIONS, UNLESS OTHERWISE NOTED.

D. DISCIPLINE GENERAL NOTES, SYMBOLS AND DEFINITIONS APPLICABLE TO EACH DISCIPLINE'S DRAWINGS MAY BE FOUND AT THE FRONT OF EACH DISCIPLINE'S PORTION OF THE DRAWING SET AND ARE LISTED IN THE SHEET INDEX.

E. UNLESS INDICATED OTHERWISE, THE 'ARCHITECTURAL' SERIES DRAWINGS TAKE PRECEDENCE FOR THE FINISHED APPEARANCE AND LOCATION OF ALL EXPOSED ELEMENTS OF THE WORK OF ALL TRADES, INCLUDING THAT WORK WHICH IS ILLUSTRATED PRIMARILY ON DRAWINGS OF OTHER DISCIPLINES.

F. THE DRAWINGS MAY MAKE REFERENCE TO OR ILLUSTRATE ITEMS WHICH ARE NOT PART OF THE WORK OF THE CONTRACT. THESE "NOT IN CONTRACT" ITEMS AS INDICATED ARE REFERENCED OR ILLUSTRATED FOR THE CONTRACTOR'S REFERENCE, INFORMATION AND COORDINATION ONLY.

G. EXISTING CONDITIONS, IF SHOWN, ARE FROM AVAILABLE RECORD DRAWINGS AND/OR VISUAL FIELD SURVEYS. VERIFY ACTUAL EXISTING CONDITIONS AT THE SITE PRIOR TO SUBMITTING A BID. NOTIFY THE ARCHITECT, IN WRITING AND PRIOR TO SUBMITTING A BID, OF ANY DISCREPANCIES.

H. TAKE PRECAUTIONS TO MAINTAIN AND PROTECT NEW WORK AS WELL AS EXISTING SYSTEMS AND ELEMENTS. IF ANY, WHICH ARE TO REMAIN OR BE SALVAGED. SYSTEMS AND ELEMENTS TEMPORARILY REMOVED FOR THE PURPOSE OF PROTECTION SHALL BE REINSTALLED IN THEIR ORIGINAL LOCATION AND WORKING CONDITION . ANY DAMAGE TO SUCH SYSTEMS AND ELEMENTS SHALL BE IMMEDIATELY REPAIRED IN A MANNER ACEPTABLE TO THE ARCHITECT. IF SATISFACTORY REPAIRS CANNOT BE MADE, REPLACE SYSTEMS AND ELEMENTS WITH "LIKE NEW" QUALITY ACCEPTABLE TO THE ARCHITECT, ALL AT NO ADDITIONAL COST.

J. ALL PARTS OF THE WORK, INCLUDING BUT NOT LIMITED TO MATERIALS, METHODS, OR ASSEMBLIES, MUST COMPLY WITH THE REQUIREMENTS OF THE GOVERNING CODES AND REGULATIONS OF ALL FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION OVER THE PROJECT, AS WELL AS THOSE GREATER REQUIREMENTS INDICATED BY THE CONTRACT DOCUMENTS. NO PART OF THE CONTRACT DOCUMENTS MAY BE CONSTRUED TO REQUIRE OR ALLOW WORK CONTRARY TO A GOVERNING CODE OR REGULATION.

K. IDENTIFY AND NOTIFY THE ARCHITECT OF CONFLICTS BETWEEN THE WORK OF DIFFERENT PARTIES AT THE EARLIEST POSSIBLE DATE SO AS TO ALLOW REASONABLE AND ADEQUATE TIME FOR THE CONFLICT TO BE RESOLVED WITHOUT DELAYING THE WORK. ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS MUST BE APPROVED IN ADVANCE BY THE ARCHITECT AND OWNER.

L. REVIEW AND COORDINATE THE WORK OF ALL OTHER PARTIES PERFORMING WORK AT THE PROJECT, INCLUDING BUT NOT LIMITED TO, DELEGATED DESIGN ENTITIES, TRADES AND SUPPLIERS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BEFORE COMMENCING CONSTRUCTION, AND ASSURE THAT ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR IN THE CONTRACT DOCUMENTS, WHICH MIGHT AFFECT THE WORK OF THAT PARTY.

M. DO NOT SCALE THE DRAWINGS FOR DIMENSIONAL INFORMATION. NOTIFY THE ARCHITECT IN WRITING IMMEDIATELY IF DIMENSIONAL INFORMATION CANNOT BE DETERMINED FROM THE DRAWINGS OR IF DIMENSIONS ARE IN CONFLICT WITH OTHER DRAWINGS.

PROJECT DESCRIPTION

THE CONSTRUCT ARABIAN LEOPARD FACILITY IS LOCATED AT THE EXISTING ANIMAL HABITAT SITES OF ZOO IN YOUR BACKYARD AND AMERICAN BISON HABITAT. THE PROJECT WILL CONSIST OF THE DEMOLITION OF EXISTING STRUCTURES ON-SITE TO ALLOW FOR THE CONSTRUCTION OF A NEW CARE BUILDING AND FULL ENCLOSURE FOR THE LEOPARDS THAT ENCOMPASSES 3 HABITATS (WEST HABITAT, EAST HABITAT, AND OFF-VIEW HABITAT).

THE ANIMAL HABITATS WILL BE THEMED TO MIMIC THE NATURAL HABITAT OF THE ARABIAN PENINSULA WITH FAUX ROCKWORK, DEADFALL TREES, VEGETATION, BOULDERS, AND A VARIETY OF ELEVATIONS TO ALLOW THE ANIMALS TO PERCH AS THEY WOULD IN THEIR NATURAL ENVIRONMENT.

THE CARE BUILDING WILL PROVIDE QUARTERS FOR THE ANIMALS AS WELL AS A DAYROOM TO ALLOW FOR YEAR ROUND VIEWING. THERE WILL ALSO BE A SMALL WORKSPACE FOR ANIMAL KEEPERS TO EAT AND COMPLETE OFFICE WORK.

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GENERAL NOTES - PHASE 1

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	N/A	JR	KJ

SHEET NO. GE-002CS
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

4/2/2026 9:34:47 AM
GE-002CS BY Approver 03/30/2026 FINAL CONSTRUCTION DOCUMENTS

SHEET INDEX

NOTE: 'R' DENOTES SHEETS ISSUED FOR REFERENCE ONLY

SHEET NO.	SHEET NAME	PHASE 1: ISSUED FOR BID 4/2/26	PHASE 1: ADDENDUM 1 5/11/26
GENERAL			
GE-001CS	COVER SHEET - PHASE 1	X	
GE-002CS	GENERAL NOTES - PHASE 1	X	
GE-003CS	SHEET INDEX - PHASE 1	X	X
CIVIL			
C-001CS	COVER SHEET	X	X
C-002CS	NOTES, LEGEND, AND ABBREVIATIONS	X	
C-100XP	EXISTING CONDITIONS	X	
C-110DP	DEMOLITION PLAN - SITE	X	X
C-111DP	DEMOLITION PLAN - TREE	X	X
C-112DP	DEMOLITION PLAN - UTILITY	X	X
C-130GP	GRADING PLAN	R	
C-131GP	GRADING PLAN	R	
C-132GP	GRADING PLAN	R	
C-133GP	GRADING PLAN	R	
C-134GP	GRADING PLAN	R	
C-135GP	GRADING PLAN	R	
C-136GP	GRADING PLAN	R	
C-140EP	EROSION & SEDIMENT CONTROL PLAN - PH1	X	X
C-145EP	EROSION & SEDIMENT CONTROL PLAN - PH2	X	
C-150SP	SITE PLAN	R	
C-151SP	SITE PLAN	R	
C-152SP	SITE PLAN	R	
C-153SP	SITE PLAN	R	
C-154SP	SITE PLAN	R	
C-155SP	SITE PLAN	R	
C-156SP	SITE PLAN	R	
C-160UP	UTILITY PLAN	X	X
C-161UP	UTILITY PLAN	X	X
C-162UP	UTILITY PLAN	X	X
C-163UP	UTILITY PLAN	X	X
C-164UP	UTILITY PLAN	X	X
C-165UP	UTILITY PLAN	X	
C-166UP	UTILITY PLAN	X	
C-200UP	STORM PROFILES	X	X
C-201UP	STORM PROFILES	X	X
C-202UP	STORM PROFILES	X	X
C-205UP	SANITARY SEWER PROFILES	X	X
C-210UP	CONTAMINATED STORM SEWER PROFILES	X	
C-211UP	CONTAMINATED STORM SEWER PROFILES	X	
C-212UP	CONTAMINATED STORM SEWER PROFILES	X	
C-215UP	WATER PROFILES	X	X
C-216UP	WATER PROFILES	X	
C-217UP	WATER PROFILES	X	
C-218UP	WATER PROFILES	X	
C-220UP	ELECTRIC PROFILES	R	X
C-221UP	ELECTRIC PROFILES	R	X
C-225UP	NATURAL GAS PROFILES	X	
C-230UP	TELECOMMUNICATION PROFILES	R	
C-500DT	EROSION & SEDIMENT CONTROL NOTES	X	
C-501DT	EROSION & SEDIMENT CONTROL NOTES	X	
C-502DT	EROSION & SEDIMENT CONTROL DETAILS	X	X
C-503DT	EROSION & SEDIMENT CONTROL DETAILS	X	X
C-507DT	STORMWATER MANAGEMENT PLAN - DETAILS AND NOTES	X	
C-508DT	STORMWATER MANAGEMENT PLAN - DETAILS AND NOTES	X	
C-510DT	SITE DETAILS	X	
C-515DT	STORM DETAILS	X	
C-516DT	STORM DETAILS	X	
C-520DT	SANITARY DETAILS	X	
C-525DT	CONTAMINATED STORM DETAILS	X	
C-530DT	WATER DETAILS	X	
C-531DT	WATER DETAILS	X	
C-610DT	STORM STRUCTURE SCHEDULE		X
C-620DT	STORM STRUCTURE SCHEDULE		X
C-630DT	WATER STRUCTURE TABLE		X
C-640DT	ELECTRIC STRUCTURE TABLE		X
LANDSCAPE			
LI-101SP	IRRIGATION PLAN		X
LI-201DT	IRRIGATION DETAILS		X
LI-202DT	IRRIGATION DETAILS		X
ELECTRICAL			
E-001CS	ELECTRICAL ABBREVIATIONS AND SYMBOLS		X
E-002CS	ELECTRICAL ABBREVIATIONS AND SYMBOLS		X
E-003CS	ELECTRICAL SCHEDULES		X
ED-100SP	ELECTRICAL DEMOLITION SITE PLAN		X
E-100SP	ELECTRICAL SITE PLANS		X
E-503DT	ELECTRICAL POWER DETAILS		X
E-600SH	ELECTRICAL DIAGRAMS		X
E-601SH	ELECTRICAL VOLTAGE DROP CALCULATION		X

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FOR REFERENCE ONLY

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ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

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600 Maryland Avenue S.W. Suite 5001
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ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SHEET INDEX - PHASE 1

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	N/A	JR	KJ

SHEET NO. 1 OF 35

GE-003CS
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

FOR DOEE STAMP APPROVAL ONLY

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES FOR SHUTOFF, CAPPING AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.
2. CONTRACTOR SHALL REMOVE AND TRANSPORT ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM ALL DEMOLITION OPERATIONS TO A LEGAL AND REGISTERED FACILITY.
3. REMOVAL OF ASPHALT AND CONCRETE PAVEMENT SHALL INCLUDE THE REMOVAL OF ALL SURFACE, BASE AND SUB-BASE MATERIALS.
4. EXISTING CONDITIONS SHOWN HEREON WERE TAKEN FROM A SURVEY PROVIDED BY THE OWNER TO THE DESIGN TEAM. SURVEY WAS COMPLETED BY WILES MENSCH IN 2024.
5. 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 PRIOR TO COMMENCING WORK. REPORT ANY DISCREPANCY TO THE ENGINEER. MARKING LOCATIONS OF EXISTING UTILITIES, CONTACT "MISS UTILITY" AT 202-265-7177, 48-HOURS PRIOR TO ANY EXCAVATION.
6. THE CONTRACTOR MUST HAND-DIG TEST PITS AT ALL UTILITY CROSSINGS TO DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES AS WELL IN DEMOLITION WORK AND PRIOR TO ORDERING PIPE MATERIALS AND STRUCTURES. UTILITIES FOUND DURING DEMOLITION OR CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF ANY CONTRACTOR ENGAGED IN EXCAVATION AT THIS SITE. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY UTILITY FINDINGS WHICH DEVIATE FROM THE CONDITIONS SHOWN.
7. 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.
8. SEE SEDIMENTATION AND EROSION CONTROL PLAN FOR ALL EXISTING TREES TO REMAIN AND BE PROTECTED.
9. NOTE PROXIMITY OF ADJACENT STRUCTURES AND UTILITY LINES AND MAINTAIN CONTINUED SERVICE DURING CONSTRUCTION. COORDINATE WITH RESPECTIVE UTILITY AHJ AND ENGINEER SHOULD RELOCATION OF SERVICE BE REQUIRED.
10. EXISTING UTILITIES (STRUCTURES AND LINES) NOT REQUIRED FOR FUTURE SERVICE TO BE REMOVED TO FACILITATE CONSTRUCTION. UTILITIES TO BE CAPPED AS PER UTILITY PURVEYOR'S STANDARDS AND SPECIFICATIONS. COORDINATE REQUIREMENTS WITH UTILITY PURVEYOR.
11. REMOVAL OF ALL WALLS/RETAINING WALLS AND FENCES SHALL INCLUDE THE REMOVAL OF THEIR FOUNDATION UNLESS OTHERWISE INDICATED ON THESE DRAWINGS.
12. EXISTING WATER AND SEWER SERVICES NOT REQUIRED FOR FUTURE USE TO BE REMOVED TO EXTENT NECESSARY TO FACILITATE NEW CONSTRUCTION. REMAINDER OF SERVICE TO BE CAPPED AT MAIN AND EXISTING VALVES AND TEES TO BE REMOVED PER SI STANDARDS SPECIFICATIONS. COORDINATE REQUIREMENTS WITH CO/COTR. PAVEMENT TO BE REMOVED PER SI DESIGN STANDARDS.
13. CONTRACTOR TO BE 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.
14. NOTIFY CO/CTR PRIOR TO START OF CONSTRUCTION WITHIN THE ADVANCED NOTICE ACCORDING TO SI DESIGN STANDARDS.
15. UNLESS OTHERWISE SHOWN ON THESE DRAWINGS, EXISTING PAVEMENT IS TO REMAIN. PROVIDE PRE-CONSTRUCTION VIDEO OF EXISTING PAVEMENT. EXISTING PAVEMENT, DISTURBED OR DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED PER SI DESIGN STANDARDS AT NO ADDITIONAL COST.
16. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES VERIFY INVERT ELEVATION OF EXISTING UTILITIES. NOTIFY ENGINEER OF ANY DISCREPANCIES WITH INFORMATION SHOWN PRIOR TO ORDERING ANY STRUCTURES.
17. CONTACT "MISS UTILITY" AT 202-265-7177 48 HOURS PRIOR TO CONSTRUCTION.
18. CONTACT DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION-PUBLIC SPACE MAINTENANCE ADMINISTRATION 48 HOURS PRIOR TO START OF CONSTRUCTION AT 202-645-6030 OR 202-645-6031 FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY.
19. ALL PROPOSED UTILITY WORK TO BE PERFORMED UNDER THE INSPECTION OF THE DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY FOR ANY WORK INVOLVING UTILITIES OWNED AND OPERATED BY DC WATER.
20. ~~USE MANHOLE ENTRY SEALS WHERE REQUIRED.~~ 1
21. ~~THE TERM "PROPOSED" IS USED TO IDENTIFY NEW WORK TO BE PROVIDED AND CONSTRUCTED WITH THIS PLAN.~~

TEST PIT NOTE:

TEST PITS ARE REQUIRED AT ALL PROPOSED UTILITY CROSSINGS WITH ALL EXISTING UTILITY LINES TO DETERMINE THE EXACT HORIZONTAL LOCATION, ELEVATION AND ADD SIZE OF THE EXISTING UTILITIES. A MINIMUM OF ONE FOOT VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN EXISTING AND PROPOSED UTILITIES. TEST PITS SHOULD BE COMPLETED PRIOR TO ORDERING ANY STRUCTURES OR PIPE MATERIALS. NOTIFY ENGINEER OF ANY CONFLICT WITH PROPOSED PLANS.

SURVEY NOTES (SURVEY BY WILES MENSCH)

HORIZONTAL DATUM: (MARYLAND STATE PLANE GRID NAD (83/2011).

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

SITE NOTES:

1. WHERE NEW WORK MEETS EXISTING, NOTE FIELD LOCATION AND ELEVATIONS OF EXISTING FEATURES BEFORE BEGINNING CONSTRUCTION AND REPORT ANY DISCREPANCY TO THE ARCHITECT OR ENGINEER.
2. VERIFY LOCATION OF EXISTING UTILITIES BEFORE PROCEEDING WITH WORK. NOTIFY CO/COTR, AND "MISS UTILITY" 202-265-7177 48 HOURS 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 ENGINEER OF ANY CONFLICTS WITH PLAN ELEVATIONS.
3. WORK AND MATERIALS IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE APPLICABLE DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS. ON-SITE WORK AND MATERIALS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE DISTRICT OF COLUMBIA PLUMBING CODE AND SI DESIGN STANDARDS.
4. DIMENSIONS ARE TO FACE OF WALL AND CURB, EDGE OF WALK AND PAVEMENT, CENTERLINE OF COLUMN, PIPE AND UTILITY STRUCTURE. UNLESS OTHERWISE NOTED.
5. FRAMES AND COVERS OF EXISTING STRUCTURES ARE TO BE ADJUSTED TO MATCH NEW FINISHED GRADES.
6. OMISSIONS AND/OR ADDITIONS OF UTILITIES FOUND DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY OF ANY INFORMATION CONCERNING FOUND UTILITY, NOT SHOWN ON PLANS.
7. EXISTING SURFACE CONDITIONS DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO MATCH EXISTING CONDITIONS. CONTRACTOR TO COORDINATE EXTENT WITH ARCHITECT OR ENGINEER.
8. TEST PITS ARE REQUIRED AT ALL LOCATION(S) WHERE PROPOSED UTILITIES CROSS EXISTING UTILITIES. INVESTIGATION(S) TO IDENTIFY HORIZONTAL LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES. THE ENGINEER IS TO BE NOTIFIED OF THIS INFORMATION.
9. IF A 1' MINIMUM VERTICAL CLEARANCE CAN NOT BE MAINTAINED AT UTILITY CROSSING, THE CONTRACTOR IS TO NOTIFY THE ENGINEER BEFORE PROCEEDING WITH WORK.
10. TRANSITION CURB, GUTTER, PAVING AND SIDEWALK TO MEET EXISTING IN LINE AND ON GRADE OR AS DIRECTED BY ENGINEER.
11. ALL DEBRIS AND EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED OFF-SITE LOCATION.
12. ALL ON-SITE WATER LINES TO HAVE A MINIMUM COVER OF 4'-0". WATER FITTINGS SHALL BE PROPERLY TIED AND ANCHORED, PER SI DESIGN STANDARDS.
13. WHERE PORTIONS OF EXISTING BITUMINOUS OR CONCRETE PAVING ARE TO BE REMOVED, THE EXISTING PAVEMENT SHALL BE SAW-CUT.
14. REMOVE FRAMES AND COVERS OF SEWER MANHOLE/INLETS AND/OR WATER MAIN VALVE CASTINGS TO BE ABANDONED AND FILL TO GRADE.
15. ALL CURB SPOT SHOTS ARE TOP OF CURB, UNLESS OTHERWISE NOTED.
16. NOTIFY WASHINGTON GAS AT 202-750-4205, 48 HOURS PRIOR TO ANY EXCAVATION IN THE VICINITY OF ANY TRANSMISSION MAIN. FOR FURTHER INFORMATION OR PROBLEMS, CONTACT MR. CHUCK WHITLEY AT WASHINGTON GAS AT 703-750-4205.
17. PROVIDE A MINIMUM OF 5 FEET HORIZONTAL AND 1 FOOT VERTICAL CLEARANCE BETWEEN 12" DIAMETER AND SMALLER DISTRIBUTION EXISTING GAS FACILITIES AND PROPOSED FACILITIES.
18. PROVIDE A MINIMUM OF 5 FEET HORIZONTAL AND 2 FEET VERTICAL CLEARANCE BETWEEN 16" DIAMETER OR GREATER TRANSMISSION GAS FACILITIES AND PROPOSED FACILITIES.
19. ALL PROPOSED WORK TO BE CONSTRUCTED IN ACCORDANCE WITH SI DESIGN STANDARDS.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING SIDEWALK, CURB AND GUTTER TO REMAIN OR TO REPLACE SIDEWALK, CURB AND GUTTER DAMAGED DURING CONSTRUCTION.
21. EXISTING FULL DEPTH PAVEMENT SECTION, CURB AND GUTTER TO BE REMOVED AND REPLACED TO EXTENT NECESSARY TO FACILITATE CONSTRUCTION OF NEW UTILITIES. MATERIALS TO COMPLY WITH SI DESIGN STANDARDS.
22. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION AND GUIDELINES.
23. MAINTAIN A 15 FOOT PUBLIC WALKWAY AT ALL TIMES FOR PEDESTRIANS IN OLMSTEAD WALK. MAINTAIN A 10 FOOT PUBLIC WALKWAY AT ALL TIMES FOR PEDESTRIANS IN ASIA TRAIL AND PANDA TRAIL. SEE TRAFFIC CONTROL NOTE FOR ANY TRAFFIC CONTROL PLAN REQUIRED FOR THIS PROJECT ON THE ZOO PROPERTY.
24. COORDINATE WITH THE CO/COTR FOR THE PROTOCOL REGARDING THE SALVAGING AND REINSTALLING OF ANY SPECIALTY PAVING

TRAFFIC CONTROL NOTE:

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING TRAFFIC CONTROL PLANS TO MAINTAIN PEDESTRIAN ACCESS ALONG OLMSTEAD WALK AND ASIA TRAIL DURING CONSTRUCTION. PLANS SHALL INCLUDE PHASING, CONSTRUCTION VEHICLE MOVEMENTS, STAGING AREAS, PUBLIC PARKING TO BE OCCUPIED, NUMBER OF CONSTRUCTION VEHICLES ENTERING AND LEAVING THE SITE PER DAY, AND HOURS OF WORK PER DAY. A WORK SAFETY PLAN SHALL ALSO BE PREPARED BY THE GENERAL CONTRACTOR. ALL PLANS SHALL BE SUBMITTED FOR REVIEW TO THE SMITHSONIAN FOR APPROVAL PRIOR TO MOBILIZATION.

ADDITIONAL PLANS REQUIRED BY CONTRACTOR:

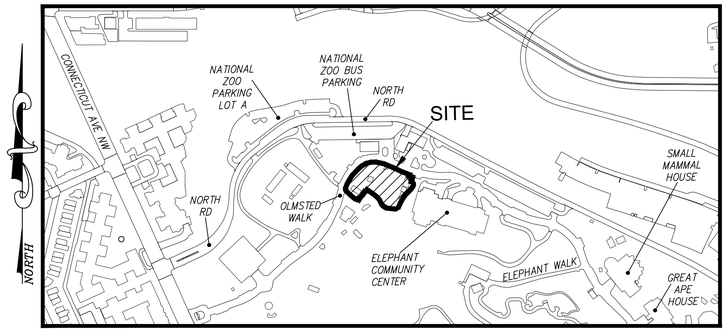
PRIOR TO MOBILIZATION, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING TO THE SMITHSONIAN FOR REVIEW AND APPROVAL:

1. SITE SPECIFIC SAFETY PLAN
2. TRENCHING AND EXCAVATION PLAN
3. SILICA CONTROL PLAN

THESE SHALL BE COMPLETED IN ACCORDANCE WITH THE SMITHSONIAN'S STANDARDS AND SPECIFICATIONS.

DOEE SWM PLAN NO: 8529
DOB NO: BCIV2600099

WORK IN CONFINED SPACE NOTICE:
IF APPLICABLE, ANY WORK IN CONFINED SPACE SHALL COMPLY WITH 29 CFR 1926.1203, CONFINED SPACES IN CONSTRUCTION AND THE SI STANDARDS REGARDING CONFINED SPACE ENTRY.



VICINITY MAP

SCALE 1:300
NATIONAL ZOO AND
CONSERVATION BIOLOGY INSTITUTE
WASHINGTON, DC 20008

CIVIL DRAWING INDEX

Sheet Number	Sheet Title
C-001CS	COVER SHEET
C-002CS	NOTES, LEGEND, AND ABBREVIATIONS
C-100XP	EXISTING CONDITIONS
C-110DP	DEMOLITION PLAN - SITE
C-111DP	DEMOLITION PLAN - TREE
C-112DP	DEMOLITION PLAN - UTILITY
C-130GP	GRADING PLAN
C-131GP	GRADING PLAN
C-132GP	GRADING PLAN
C-133GP	GRADING PLAN
C-134GP	GRADING PLAN
C-135GP	GRADING PLAN
C-136GP	GRADING PLAN
C-140EP	EROSION & SEDIMENT CONTROL PLAN - PH1
C-145EP	EROSION & SEDIMENT CONTROL PLAN - PH2
C-150SP	SITE PLAN
C-151SP	SITE PLAN
C-152SP	SITE PLAN
C-153SP	SITE PLAN
C-154SP	SITE PLAN
C-155SP	SITE PLAN
C-156SP	SITE PLAN
C-160UP	UTILITY PLAN
C-161UP	UTILITY PLAN
C-162UP	UTILITY PLAN
C-164UP	UTILITY PLAN
C-163UP	UTILITY PLAN
C-165UP	UTILITY PLAN
C-166UP	UTILITY PLAN
C-200UP	STORM PROFILES
C-201UP	STORM PROFILES
C-202UP	STORM PROFILES
C-205UP	SANITARY SEWER PROFILES
C-210UP	CONTAMINATED STORM SEWER PROFILES
C-211UP	CONTAMINATED STORM SEWER PROFILES
C-212UP	CONTAMINATED STORM SEWER PROFILES
C-215UP	WATER PROFILES
C-216UP	WATER PROFILES
C-217UP	WATER PROFILES
C-218UP	WATER PROFILES
C-220UP	ELECTRIC PROFILES
~~C-231UP~~ 1	~~ELECTRIC PROFILES~~
~~C-230UP~~	~~TELECOMMUNICATION PROFILES~~
C-500DT	EROSION & SEDIMENT CONTROL NOTES
C-501DT	EROSION & SEDIMENT CONTROL DETAILS
C-502DT	EROSION & SEDIMENT CONTROL DETAILS
C-503DT	EROSION & SEDIMENT CONTROL DETAILS
C-507DT	STORMWATER MANAGEMENT PLAN - DETAILS AND NOTES
C-508DT	STORMWATER MANAGEMENT PLAN - DETAILS AND NOTES
C-510DT	SITE DETAILS
C-515DT	STORM DETAILS
C-516DT	STORM DETAILS
C-520DT	SANITARY DETAILS
C-525DT	CONTAMINATED STORM DETAILS
C-530DT	WATER DETAILS
C-531DT	WATER DETAILS
C-600DT	GEOMETRIC POINT TABLES
C-610DT	STORM STRUCTURE TABLE
C-620DT	SANITARY STRUCTURE TABLE
C-625DT	CONTAMINATED STORM STRUCTURE TABLE
C-630DT	WATER STRUCTURE TABLE
C-640DT	ELECTRIC STRUCTURE TABLE

1

MISS UTILITY
1-800-257-7777
(202-265-7177)

NOTIFY "MISS UTILITY" AT 202-265-7177
96 HOURS IN ADVANCE BEFORE
COMMENCING THE WORK

PROJECT NARRATIVE:

THIS PROJECT REDEVELOPS THE UNUSED HABITAT SPACE PREVIOUSLY USED FOR THE BISON ON THE CAMPUS OF SMITHSONIAN INSTITUTION'S NATIONAL ZOO FOR A NEW ANIMAL HABITAT.

APPROXIMATELY 36,000 SQUARE FEET OF REDEVELOPMENT INCLUDES REROUTING OF EXISTING UTILITIES, INTRODUCTION OF NEW UTILITY PIPING, AND THE EXPANSION OF THE EXISTING CARE BUILDING.

EROSION AND SEDIMENTATION CONTROLS WILL BE REQUIRED. STORMWATER BEST MANAGEMENT PRACTICES, BIORETENTION AND PLANTER BOX, AND THE PRESERVATION OF SELECT EXISTING TREES ARE PLANNED TO MEET RETENTION AND DETENTION REQUIREMENTS.

UTILITY CONTACTS:

SEWER/WATER:	D.C. WATER 5000 OVERLOOK AVE. SW 5TH FLOOR WASHINGTON, DC 20032	-DEXTER HOLMES	(202) 787-4024
ELECTRICITY:	PEPCO 701 9TH STREET NW, ROOM 6005 WASHINGTON, DC 20068	-SARA BISHOP	(202) 872-2977
GAS:	WASHINGTON GAS CO. 6801 INDUSTRIAL ROAD SPRINGFIELD, VA 22151	-VANN JONES	(703) 750-5983
COMMUNICATIONS:	VERIZON COMMUNICATIONS FDC-1 3101 COLUMBIA PIKE CONDUIT GROUP - LOWER LEVEL SILVER SPRING, MD 20904	-MARY POLK	(301) 282-2463

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP
DISTRICT OF COLUMBIA
WILLIAM S. JENKINS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	COVER SHEET
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

SHEET NO. 2 OF 35

C 0 01 CS
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

SURVEY LEGEND
DRAIN MANHOLE
CURB INLET
SEWER MANHOLE
MISSING OR BURIED MANHOLE
GRATE INLET
IRRIGATION CONTROL VALVE
FIRE HYDRANT
WV WATER VALVE
WATER METER
SPRINKLERS HEADS
HANDHOLE
BOLLARD/DRINKING FOUNTAIN/BIRD HOUSE
MAILBOX
SIGN
CONIFEROUS TREE
DECIDUOUS TREE
E UNDERGROUND ELECTRIC
G UNDERGROUND GAS
W UNDERGROUND WATER
UNDERGROUND STORM
S UNDERGROUND STORM (RECORD)
FENCE LINE
TREE LINE
WALK CENTERLINE
GUARD RAIL
LIMITS OF SURVEY
FF FINISHED FLOOR
CONC. CONCRETE
TCP TERRA COTTA PIPE
CLF CHAIN LINK FENCE
WIF WROUGHT IRON FENCE
RCP REINFORCED CONCRETE PIPE
PVC POLYVINYL CHLORIDE
CPP CORRUGATED PLASTIC PIPE
TYP. TYPICAL
C&G CURB AND GUTTER

EXISTING STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
1023 MHD	RIM = 198.73 8" RCP INV.IN = 194.98 8" RCP INV.OUT = 194.93
1024 MHD	RIM = 199.01 8" RCP INV.OUT = 195.36
1027 MHD	RIM = 199.27 8" TCP INV.IN (SW) = 190.84 8" RCP INV.IN (SE) = 191.40 8" TCP INV.OUT = 190.69
1033 MHD	RIM = 202.90 INACCESSIBLE
1249 GI	RIM = 195.82 SILTED UP
1331 MHD	RIM = 198.08 12" TCP INV.IN (SW) = 185.77 4" PVC INV.IN (W) = 191.88 12" TCP INV.OUT = 185.72
1372 MHD	RIM = 193.79 8" RCP INV.IN = 189.90 8" RCP INV.OUT = 189.84
1387 MHD	RIM = 190.72 8" RCP INV.IN (NW) = 186.62 8" RCP INV.IN (SW) = 186.62 8" RCP INV.OUT = 186.47
1389 MHD	RIM = 192.62 8" RCP INV.IN (NW) = 186.44 12" TCP INV.IN (SW) = 184.52 12" RCP INV.OUT = 184.42
1398 MHD	RIM = 194.22 INACCESSIBLE
1440 GI	RIM = 197.71 12" TCP INV.IN = 185.47 12" TCP INV.OUT = 185.47
1636 MHD	RIM = 184.86 12" RCP INV.OUT = 180.05
1655 MHD	RIM = 184.91 12" RCP INV.IN (NW) = 179.03 12" RCP INV.IN (SW) = 180.10 8" RCP INV.IN (NE) = 180.10 12" RCP INV.OUT = 179.00
1747 MHD	RIM = 183.73 6" PVC INV.IN = 178.81 6" PVC INV.OUT = 172.23
1865 MHD	RIM = 179.52 FULL OF WATER
1893 MHD	RIM = 182.24 12" RCP INV.IN = 175.60 18" RCP INV.OUT = 175.46
1894 MHD	RIM = 179.14 18" RCP INV.IN = 173.89 18" RCP INV.OUT = 173.94
1895 GI	RIM = 179.59 6" PVC INV.IN (NE) = 174.23 12" RCP INV.IN (N) = 166.04 6" PVC INV.IN (NW) = 169.45 12" RCP INV.OUT = 165.76
1981 GI	RIM = 181.21 6" PVC INV.IN = 177.13 6" PVC INV.OUT = 176.78
2215 GI	TOP ELEV. = 188.39 15" CPP INV.OUT = 184.29
2219 GI	TOP ELEV = 187.69 12" RCP INV.OUT = 183.79

DEMOLITION LEGEND

EXISTING CONCRETE WALK TO BE REMOVED	DEMOLITION KEYNOTE 1
EXISTING BRICK WALK TO BE REMOVED. COORDINATE WITH CONTRACTING OFFER REGARDING REMOVAL AND SALVAGING REQUIREMENTS.	UTILITY TO BE ABANDONED IN PLACE
	UTILITY TO BE REMOVED
LIMITS OF DISTURBANCE LOD	PROPOSED MJ CAP PER DC WATER STANDARDS
EXISTING TREE AND/OR STUMP REMOVAL	TERMINATE CURB OR UTILITY DEMOLITION
	CRITICAL ROOT ZONE

SITE LEGEND

- NEW BEST MANAGEMENT PRACTICE SEE SHEET C-507DT FOR DETAIL.
- NEW GRASS/PERMANENT SEEDING. REFER TO LANDSCAPE FOR FURTHER INFORMATION.
- NEW PEDESTRIAN CONCRETE PAVEMENT. SEE DETAIL ON SHEET C-510DT FOR PAVEMENT CROSS SECTION. REFER TO LANDSCAPE REGARDING SURFACING.
- NEW VEHICULAR CONCRETE PAVEMENT. SEE DETAIL ON SHEET C-510DT.
- OLMSTEAD BRICK PAVING REPAIR. MATCH EXISTING ADJACENT. COORDINATE WITH CONTRACTING OFFICER REGARDING USING SALVAGED BRICKS OR NEW BRICKS.
- ASIA TRAIL CONCRETE PAVING REPAIR. MATCH EXISTING ADJACENT.
- NEW HABITAT ROCKS. REFER TO EXHIBIT REGARDING MATERIAL. REFER TO STRUCTURAL REGARDING FOUNDATION.
- NEW HABITAT SURFACING. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- NEW HABITAT POND WATER OVER HABITAT ROCKS. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- TOP OF EARTHEN BERM
- RIPRAP FOREBAY/RIPAP EROSION STONE. SEE DETAILS ON SHEET C-507DT.
- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

UTILITY LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	S-N3 S-N3
NEW SANITARY SEWER LINE	
NEW WATER LINE	
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

EROSION LEGEND PHASE 1 & 2

LIMITS OF DISTURBANCE	LOD	
SILT FENCE	SF	SF
SILT FENCE ON PAVEMENT	SFOP	SFP
SAFETY FENCE	X	SAF
TREE PROTECTION	TP	TP
CURB INLET PROTECTION		CIP
AT GRADE INLET PROTECTION		AGIP
ROOT PRUNING TREE PROTECTION ALONG EXISTING WALL		TP
LANDSCAPE PERMANENT STABILIZATION. REFER TO LANDSCAPE PLANS FOR DETAILS.		
EXHIBIT PERMANENT STABILIZATION. REFER TO EXHIBIT PLANS FOR DETAILS.		

GRADING LEGEND

LIMITS OF DISTURBANCE	LOD
EXISTING CONTOURS	190
PROPOSED CONTOURS	190
PROPOSED SPOT ELEVATIONS	76 96
BW = BOTTOM OF WALL	
MAT = MATCH EXISTING ELEVATION	
TW = TOP OF WALL	
ES = EDGE OF SIDEWALK	
TC = TOP OF CURB	
EP = EDGE OF PAVEMENT	
FL = FLOW LINE	
TOP = TOP OF STRUCTURE	
FFE = FINISH FLOOR ELEVATION	

ABBREVIATIONS:

'	FOOT/FEET
"	INCH/INCHES
&	AND
$	U.S. DOLLARS
%	PERCENT
#	NUMBER
@	AT
°	DEGREE
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICALS
AC	ACRE
ACI	AMERICAN CONCRETE INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX.	APPROXIMATE
ASPH.	ASPHALT
BC	BITUMINOUS CONCRETE
BC	BOLLARD & CHAIN
BFP	BACK-FLOW PREVENTION
BLDG/BLDG.	BUILDING
BMP(S)	BEST MANAGEMENT PRACTICE(S)
BOC	BOTTOM OF CURB
BRK	BRICK
BW	BOTTOM OF WALL
CALH	CONSTRUCT ARABIAN LEOPARD HABITAT
CC	CONCRETE CURB
CC	COMPACTED COVER
CDA	CONTRIBUTING DRAINAGE AREA
CF	CUBIC FOOT/CUBIC FEET
CFR	CODE FEDERAL REGULATIONS
CFS	CUBIC FEETS PER SECOND
CG	CURB & GUTTER
CI	CURB INLET
CJ	CONTRACTION JOINT CENTER
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CN	CURVE NUMBER
CO	CLEAN OUT
CO.	COMPANY
CONC.	CONCRETE
COMB	COMBINE(D)
COMP	COMPUTED
COMM	TELECOM
CO/COTR	CONTRACTING OFFICER/ CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE
CPP	CRUMPLER PLASTIC PIPE
CRZ	CRITICAL ROOT ZONE
CW	CHILL WATER
CY	CUBIC YARD
DATR	DEPICTED ACCORDING TO RECORD
DB	DUCTBANK
DBH	DIAMETER BREAST HEIGHT
DC/D.C.	DISTRICT OF COLUMBIA
DCMR	DISTRICT OF COLUMBIA MUNICIPAL REGULATION(S)
DDOT	DISTRICT DEPARTMENT OF TRANSPORTATION
DI	DRAIN INLET
DIP	DUCTILE IRON PIPE
DOB	DEPARTMENT OF BUILDINGS
DOEE	DEPARTMENT OF ENERGY AND ENVIRONMENT
DOM	DOMESTIC
DRP	DRIP
DWG(S)	DRAWING(S)
ELEC	ELECTRIC
EC	END OF CURB ELECTRIC(AL)
E.G.	FOR EXAMPLE
EJ	EXPANSION JOINT
ELEV/ELEV.	ELEVATION
ENT	ENTRANCE
EOI	END OF INFORMATION
EPA	ENVIRONMENTAL PROTECTION AGENCY
ESC	EROSION AND SEDIMENT CONTROL
ETC.	SO ON AND SO FORTH
EX/EX.	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR
FFO+X	FINISHED FLOOR OUTSIDE+ DISTANCE
FFTH	FINISHED FLOOR THRESHOLD
FFI	FINISHED FLOOR INSIDE
FH	FIRE HYDRANT
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FL	FLOW LINE
FOD	FULL OF DEBRIS
FOW	FULL OF WATER
FR	FROM
FT	FEET/FOOT
GAL.	GALLON
G	GAS
GIS	GEOGRAPHIC INFORMATION SYSTEMS
GRD	GUARD
GRNT	GRANITE
HABT	HABITAT
HORIZ/HORIZ.	HORIZONTAL
I.D.	INNER DIAMETER
I.E.	SUCH AS
IMP	IMPERVIOUS
IP	IRON PIPE
INV	INVERT
LB/LB.	POUND
LP	LIGHT POLE/LOW POINT
MAT	MATCH
MAX.	MAXIMUM
MH	MANHOLE (STRUCTURE)
MIN.	MINIMUM
MJ	MECHANICAL JOINT
MM	MILLIMETER
MST	MEASURED
NAD	NORTH AMERICAN DATUM
NAT	NATURAL
NAVD	NORTH AMERICAN VERTICAL DATUM
NE	NORTHEAST
NO/NO.	NUMBER
N.W.A.	NORTHWEST
O.C.	ON CENTER
OD	OUTER DIAMETER
O/H	OVERHEAD
OHE	OVERHEAD LINE ELECTRIC
PCC	PORTLAND CEMENT CONCRETE
PM	PARKING METER
POB	POINT OF BEGINNING
PROP/PROP.	PROPOSED
PSI/PSI.	POUND PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
(QLB)	QUALITY LEVEL B (DESIGNATION)
(QLC)	QUALITY LEVEL C (SURVEYED FEATURES)
(QLD)	QUALITY LEVEL D (RECORDS)
R	RADIAL
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
REC	RECORD
REQ.	REQUIRED
RET.	RETAINING WALL
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SDR	STANDARD DIAMETER RATIO
SDA	SITE DRAINAGE AREA
SEW	SEWER
SF	STORM FILTER
SF/SQ.FT.	SQUARE FEET
SG	SMITHSONIAN GARDENS
SI	SMITHSONIAN INSTITUTION
SIB	SMITHSONIAN INSTITUTION BUILDING
SMRv	STORMWATER RETENTION VOLUME
SSWR	SEWER
STA	STATION
STD	STANDARD
STM	STEAM
STRM	STORM
STY	STORY (FLOOR)
SW/S.W.	SOUTHWEST
S/W	SIDEWALK
SWM	STORMWATER MANAGEMENT
SWMP	STORMWATER MANAGEMENT PROGRAM
T	TELEPHONE
TEMP	TEMPORARY
TNK	TRUNK
TOC	TOP OF CURB
TRCH	TRENCH
TV	TELEVISION
TW	TOP OF WALL
TYP.	TYPICAL
UGE	UNDERGROUND ELECTRIC
UNK	UNKNOWN
UOS	UNLESS OTHERWISE STATED
UTIL	UTILITY
VERT	VERTICAL
W	WATER
W/	WITH
WIF	WROUGHT IRON FENCE
WL	WATER LINE
WM	WATER METER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
X-ING	CROSSING

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. ADKINS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	NOTES, LEGEND, AND ABBREVIATIONS
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 002 CS (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

3/13/2026 11:19:18 AM
XX-XXXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

1 EXISTING CONDITIONS
C-100XP SCALE = 1" = 20'

GENERAL NOTES:

1. THE INFORMATION SHOWN RESULTS FROM A FIELD SURVEY BY WILES MENSCH, LAST DATE OF FIELD SURVEY APRIL 25, 2025.
2. NO TITLE REPORT FURNISHED, EASEMENTS AND/OR OTHER ENCUMBRANCES OF RECORD MAY EXIST AND ARE NOT SHOWN HEREON.
3. ELEVATIONS SHOWN ARE REFERENCED TO NAVD88 DATUM.
3. VISIBLE ABOVE GROUND UTILITIES HAVE BEEN SHOWN. THIS SURVEY REPRESENTS SUBSURFACE UTILITY DESIGNATION QUALITY LEVEL C.
4. PROPERTY IS IDENTIFIED AS ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS IDENTIFIED ON FIRM COMMUNITY PANEL 11000100016C, EFFECTIVE DATE SEPTEMBER 27, 2010.
5. AS OF APRIL 29, 2025, THE PROPERTY IS UNZONED AS DELINEATED ON THE ZONING MAP FROM DISTRICT OF COLUMBIA'S OFFICE OF ZONING (http://maps.dcoz.dc.gov/zr16); MINIMUM BUILDING SETBACK, MAXIMUM PERMITTED FLOOR AREA RATIOS, AND MAXIMUM BUILDING HEIGHTS ARE BASED UPON INTERPRETATIONS OF THE PROPOSED USE BY THE DISTRICT OF COLUMBIA ZONING OFFICE.
6. INFORMATION SHOWN OUTSIDE THE LIMITS OF SURVEY OR SCREENED IS FROM RECORD AND CAD DATA PROVIDED BY THE SMITHSONIAN INSTITUTION OR ACQUIRED FROM DC GIS.

DOB PERMIT STAMP

SURVEY LEGEND
DRAIN MANHOLE
CURB INLET
SEWER MANHOLE
MISSING OR BURIED MANHOLE
GRATE INLET
IRRIGATION CONTROL VALVE
FIRE HYDRANT
WATER VALVE
WATER METER
SPRINKLERS HEADS
HANDHOLE
BOLLARD/DRINKING FOUNTAIN/BIRD HOUSE
MAILBOX
SIGN
CONIFEROUS TREE
DECIDUOUS TREE
UNDERGROUND ELECTRIC
UNDERGROUND GAS
UNDERGROUND WATER
UNDERGROUND STORM
UNDERGROUND STORM (RECORD)
FENCE LINE
TREE LINE
WALK CENTERLINE
GUARD RAIL
LIMITS OF SURVEY
FF FINISHED FLOOR
CONC. CONCRETE
TCP TERRA COTTA PIPE
CLF CHAIN LINK FENCE
WIF WROUGHT IRON FENCE
RCP REINFORCED CONCRETE PIPE
PVC POLYVINYL CHLORIDE
CPP CORRUGATED PLASTIC PIPE
TYP. TYPICAL
C&G CURB AND GUTTER

EXISTING STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
1023 MHD	RIM = 198.73 8" RCP INV.IN = 194.98 8" RCP INV.OUT = 194.93
1024 MHD	RIM = 199.01 8" RCP INV.OUT = 195.36
1027 MHD	RIM = 199.27 8" TCP INV.IN (SW) = 190.84 8" RCP INV.IN (SE) = 191.40 8" TCP INV.OUT = 190.89
1033 MHD	RIM = 202.90 INACCESSIBLE
1249 GI	RIM = 195.82 SILTED UP
1331 MHD	RIM = 198.08 12" TCP INV.IN (SW) = 185.77 4" PVC INV.IN (W) = 191.88 12" TCP INV.OUT = 185.72
1372 MHD	RIM = 193.79 8" RCP INV.IN = 189.90 8" RCP INV.OUT = 189.84
1387 MHD	RIM = 190.72 8" RCP INV.IN (NW) = 186.62 8" RCP INV.IN (SW) = 186.62 8" RCP INV.OUT = 186.47
1389 MHD	RIM = 192.62 8" RCP INV.IN (NW) = 186.44 12" TCP INV.IN (SW) = 184.52 12" RCP INV.OUT = 184.42
1398 MHD	RIM = 194.22 INACCESSIBLE
1440 GI	RIM = 197.71 12" TCP INV.IN = 185.47 12" TCP INV.OUT = 185.47
1636 MHD	RIM = 184.86 12" RCP INV.OUT = 180.05
1655 MHD	RIM = 184.91 12" RCP INV.IN (NW) = 179.03 12" RCP INV.IN (SW) = 180.10 8" RCP INV.IN (NE) = 180.10 12" RCP INV.OUT = 179.00
1747 MHD	RIM = 183.73 6" PVC INV.IN = 178.81 6" PVC INV.OUT = 172.23
1865 MHD	RIM = 179.52 FULL OF WATER
1893 MHD	RIM = 182.24 12" RCP INV.IN = 175.60 18" RCP INV.OUT = 175.46
1894 MHD	RIM = 179.14 18" RCP INV.IN = 173.89 18" RCP INV.OUT = 173.94
1895 GI	RIM = 179.59 6" PVC INV.IN (NE) = 174.23 12" RCP INV.IN (N) = 166.04 6" PVC INV.IN (NW) = 169.45 12" RCP INV.OUT = 165.76
1981 GI	RIM = 181.21 6" PVC INV.IN = 177.13 6" PVC INV.OUT = 176.78
2215 GI	TOP ELEV. = 188.39 15" CPP INV.OUT = 184.29
2219 GI	TOP ELEV = 187.69 12" RCP INV.OUT = 183.79

LEGEND
- DESIGNATION, ELEVATION AND APPROXIMATE LOCATION OF TEST BORINGS PERFORMED BY HALEY & ALDRICH
- DESIGNATION, ELEVATION AND APPROXIMATE LOCATION OF HISTORIC TEST BORINGS PERFORMED BY SCHNABEL

PRELIMINARY NOT FOR CONSTRUCTION

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. MENSCH
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	EXISTING CONDITIONS

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO.	C	1 00	XP
OF	DISCIPLINE	TYPE SEQUENCE	DRAWING TYPE

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/18/2026 35% DESIGN DEVELOPMENT

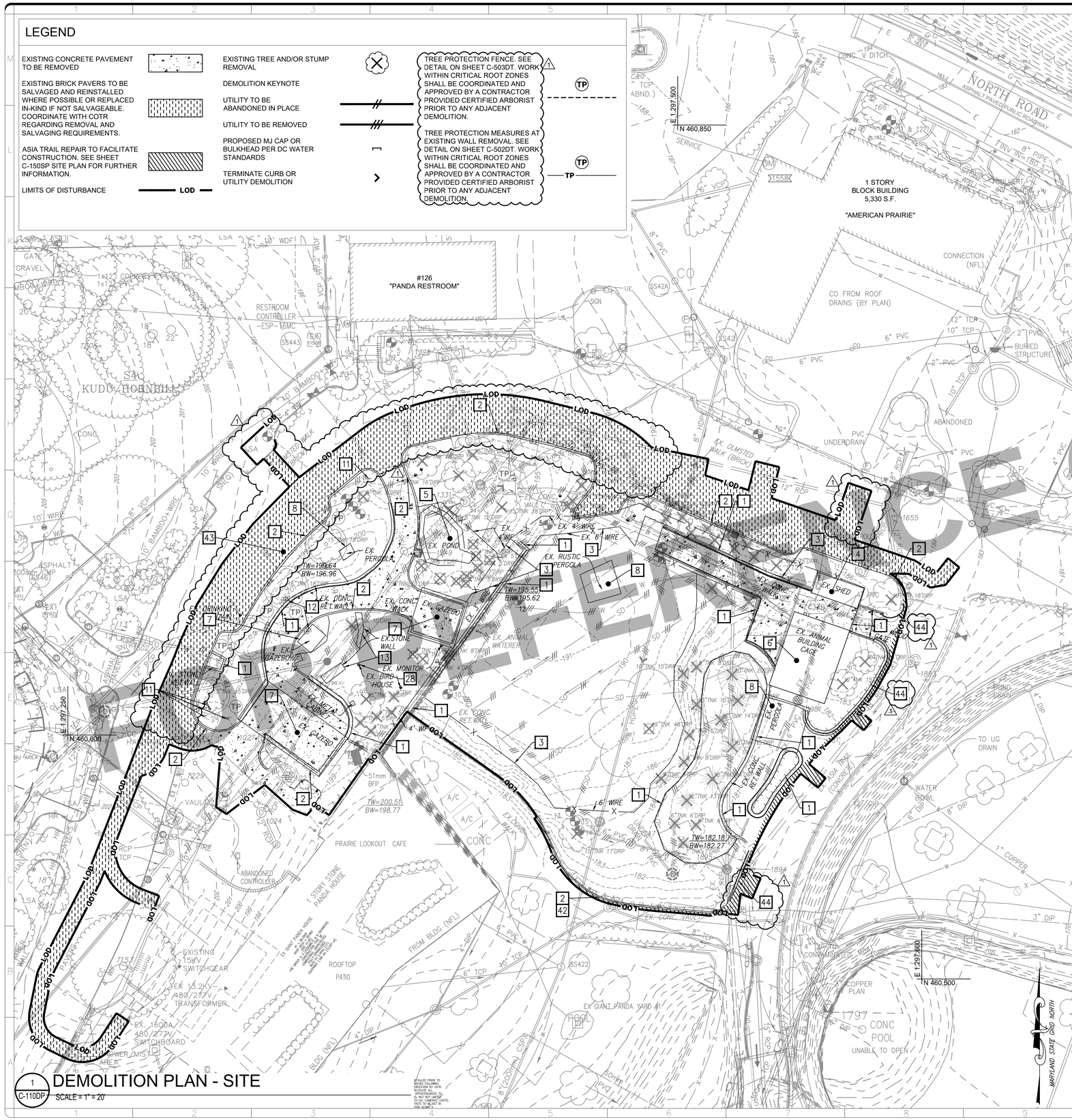
ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

LEGEND

- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- EXISTING BRICK PAVERS TO BE SALVAGED AND REINSTALLED WHERE POSSIBLE OR REPLACED IN-KIND IF NOT SALVAGEABLE. COORDINATE WITH COTR REGARDING REMOVAL AND SALVAGING REQUIREMENTS.
- ASIA TRAIL REPAIR TO FACILITATE CONSTRUCTION. SEE SHEET C-150SP SITE PLAN FOR FURTHER INFORMATION.
- LIMITS OF DISTURBANCE — LOD
- EXISTING TREE AND/OR STUMP REMOVAL
- DEMOLITION KEYNOTE
- UTILITY TO BE ABANDONED IN PLACE
- UTILITY TO BE REMOVED
- PROPOSED MJ CAP OR BULKHEAD PER DC WATER STANDARDS
- TERMINATE CURB OR UTILITY DEMOLITION
- TREE PROTECTION FENCE. SEE DETAIL ON SHEET C-503DT. WORK WITHIN CRITICAL ROOT ZONES SHALL BE COORDINATED AND APPROVED BY A CONTRACTOR PROVIDED CERTIFIED ARBORIST PRIOR TO ANY ADJACENT DEMOLITION. — TP
- TREE PROTECTION MEASURES AT EXISTING WALL REMOVAL. SEE DETAIL ON SHEET C-502DT. WORK WITHIN CRITICAL ROOT ZONES SHALL BE COORDINATED AND APPROVED BY A CONTRACTOR PROVIDED CERTIFIED ARBORIST PRIOR TO ANY ADJACENT DEMOLITION. — TP



1 C-110DP DEMOLITION PLAN - SITE
SCALE = 1" = 20'

DEMOLITION NOTES

1. EXISTING IRRIGATION MAIN AND SERVICE LINES ARE PRESENT WITHIN THE SITE AND PROJECT CONSTRUCTION WILL DISTURB THEM. CONTRACTOR TO COORDINATE WITH COTR REGARDING THE SCHEDULING OF ANY IRRIGATION SERVICE DISRUPTION TO OTHER EXHIBITS.
2. THERE MAY BE ADDITIONAL SITE ELECTRIC NOT DELINEATED ON THIS PLAN THAT SHALL BE RE-ROUTED AS A RESULT OF SITE/CIVIL WORK. THE SITE CONTRACTOR SHALL PERFORM A THOROUGH SURVEY AND ENSURE ALL ELECTRICAL AND MISCELLANEOUS RE-ROUTING HAVE BEEN CAPTURED IN BID.
3. THERE ARE MULTIPLE KIOSKS, VENDING MACHINES AND SALES TENTS INSIDE THE LOD THAT WILL BE SALVAGED AND RELOCATED BY SI PRIOR TO MOBILIZATION.

KEYNOTES

1. EX. CONCRETE RETAINING WALL INCLUDING FOUNDATION TO BE REMOVED.
2. EX. CONCRETE CURB TO BE REMOVED.
3. EX. FENCE TO BE REMOVED.
4. EX. SHED INCLUDING FOUNDATION TO BE REMOVED.
5. EX. CONCRETE POOL INCLUDING FOUNDATION TO BE REMOVED.
6. EX. ANIMAL CARE BUILDING TO BE REMOVED.
7. EX. GAZEBO TO BE REMOVED.
8. EX. PERGOLA TO BE REMOVED.
9. EX. VEGETATION TO BE REMOVED.
10. EX. TREE TO BE REMOVED. TREE REMOVAL INCLUDES REMOVAL OR GRINDING OF STUMPS.
11. EX. SITE SIGN TO BE REMOVED.
12. EX. MAILBOX TO BE REMOVED.
13. EX. STONE WALL TO BE REMOVED.
14. EX. IRRIGATION CONTROLLER AND ENCLOSURE CABINET TO BE REMOVED AND SALVAGED. SEE DEMOLITION NOTE 1 FOR MAINTAINING UNINTERRUPTED SERVICE DURING CONSTRUCTION AND SHEET C-160UP UTILITY PLAN FOR RELOCATED EXISTING IRRIGATION CONTROLLER AND ENCLOSURE CABINET LOCATION.
15. EX. STORM SEWER PIPE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
16. EX. STORM STRUCTURE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
17. EX. WATER LINE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
18. EX. WATER VALVE TO BE REMOVED.
19. EX. DRINKING FOUNTAIN TO BE REMOVED AND REPLACED.
20. EX. ELECTRIC LINE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
21. EX. ELECTRIC HANDHOLE TO BE REMOVED.
22. EX. LIGHT POLE TO BE REMOVED. PROVIDE A TEMPORARY LIGHT IN THE LOCATION WHERE THE EXISTING LIGHT POLE IS BEING REMOVED TO PROVIDE LIGHTING ON OLMSTEAD DURING THE CONSTRUCTION DURATION. LIGHT ASSEMBLY SHALL BE CONVEYED TO THE ABOVE GRADE CONTRACTOR.
23. EX. ANIMAL WATERER TO BE REMOVED.
24. EX. CONTAMINATED SEWER GRATE INLET TO BE REMOVED. STRUCTURE TO BE RAISED TO FINAL GRADE WITH LOCKING MANHOLE BY ABOVE GRADE CONTRACTOR. SALVAGE THE GRATE AND STORE AT LOCATION AS DIRECTED BY COTR.
25. EX. TRENCH DRAIN TO BE REMOVED.
26. EX. IRRIGATION LINE TO BE REMOVED.
27. EX. FIRE HYDRANT TO BE REMOVED AND REPLACED ONCE THE PROPOSED HYDRANT HAS BEEN INSTALLED. THE ABOVE GRADE CONTRACTOR SHALL ADJUST THE PROPOSED HYDRANT TO ALIGN WITH THE NEW CONSTRUCTION GRADES.
28. EX. BIRD HOUSE TO BE REMOVED.
29. EX. HDPE SANITARY SEWER PIPE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED. THIS DEMOLITION SCOPE IS TO BE PERFORMED BY THE ABOVE GROUND CONTRACTOR
30. REMOVE EX. CONTAMINATED SEWER GRATE FRAME AND COVER. REMOVE AND SALVAGE GRATE AND ANY ADJUSTMENT RINGS AND STORE AT LOCATION AS DIRECTED BY COTR.
31. EX. UNDERDRAIN TO BE REMOVED.
32. EX. CONTAMINATED SEWER PIPE TO BE REMOVED. BEFORE COMMENCING WITH DEMOLITION, CONFIRM IF THERE IS ANY UPSTREAM OFFSITE SEWER THAT MUST BE REROUTED TO ENSURE ADEQUATE UPSTREAM DRAINAGE CONVEYANCE.
33. EX. CONTAMINATED SEWER STRUCTURE TO BE REMOVED. BEFORE COMMENCING WITH DEMOLITION, CONFIRM IF THERE IS ANY UPSTREAM OFFSITE SEWER THAT MUST BE REROUTED TO ENSURE ADEQUATE UPSTREAM DRAINAGE CONVEYANCE.
34. EX. BACKFLOW PREVENTER AND ASSOCIATED HANDHOLE TO BE REMOVED. THIS WATERLINE SUPPLIES IRRIGATION SERVICE THROUGHOUT THE ZOO. THE CONTRACTOR SHALL COORDINATE WITH CO/COTR CONCERNING ITS REMOVAL AND THE MEASURES THAT MUST BE TAKEN DURING CONSTRUCTION TO ENSURE IRRIGATION SERVICE IS MAINTAINED.
35. PROTECT EX. STORM SEWER STRUCTURE TO REMAIN. FRAME AND COVER ARE SET TO FINAL GRADE. BY ABOVE GRADE CONTRACTOR.
36. PROTECT EX. SANITARY SEWER PIPE TO REMAIN.
37. CONTRACTOR TO PROTECT EXISTING IRRIGATION VALVE.
38. PROTECT EX. ELECTRICAL STRUCTURE TO REMAIN. ENSURE FRAME AND COVER ARE SET TO FINAL GRADE BY ABOVE GRADE CONTRACTOR.
39. PROTECT EX. TELECOMMUNICATION STRUCTURE TO REMAIN.
40. EX. ELECTRIC LINE TO BE ABANDONED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
41. EX. BAMBOO ARCHES TO BE REMOVED.
42. EX. LANDSCAPE RAIL TO BE REMOVED AND SALVAGED. SALVAGE RAIL FOR REINSTALL BY OTHERS. DOCUMENT AND INCLUDE ALL HARDWARE. DELIVER TO COTR FOR TURNOVER AND REINSTALL.
43. EX. BENCHES TO BE REMOVED AND SALVAGED FOR REINSTALLATION. SALVAGE BENCHES FOR REINSTALL BY OTHERS. DOCUMENT AND INCLUDE ALL HARDWARE. DELIVER TO COTR FOR TURNOVER AND REINSTALL.
44. EX. CARTER ROCK WALL INCLUDING FOUNDATION TO BE REMOVED.
45. EX. WATER LINE OR VALVE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
46. EX. ELECTRIC LINE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.

REFERENCE ONLY

DOB PERMIT STAMP

DISTRICT OF COLUMBIA
MATTHEW S. HOOPES
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	DEMOLITION PLAN - SITE

WORKING STAFF	ST	KK	SM
	DESIGNED BY:	DRAWN BY:	CHECKED BY:

SHEET NO. 3 OF 35

C	1	10	DP
DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

LEGEND

- EXISTING CONCRETE PAVEMENT TO BE REMOVED
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- UTILITY TO BE ABANDONED IN PLACE
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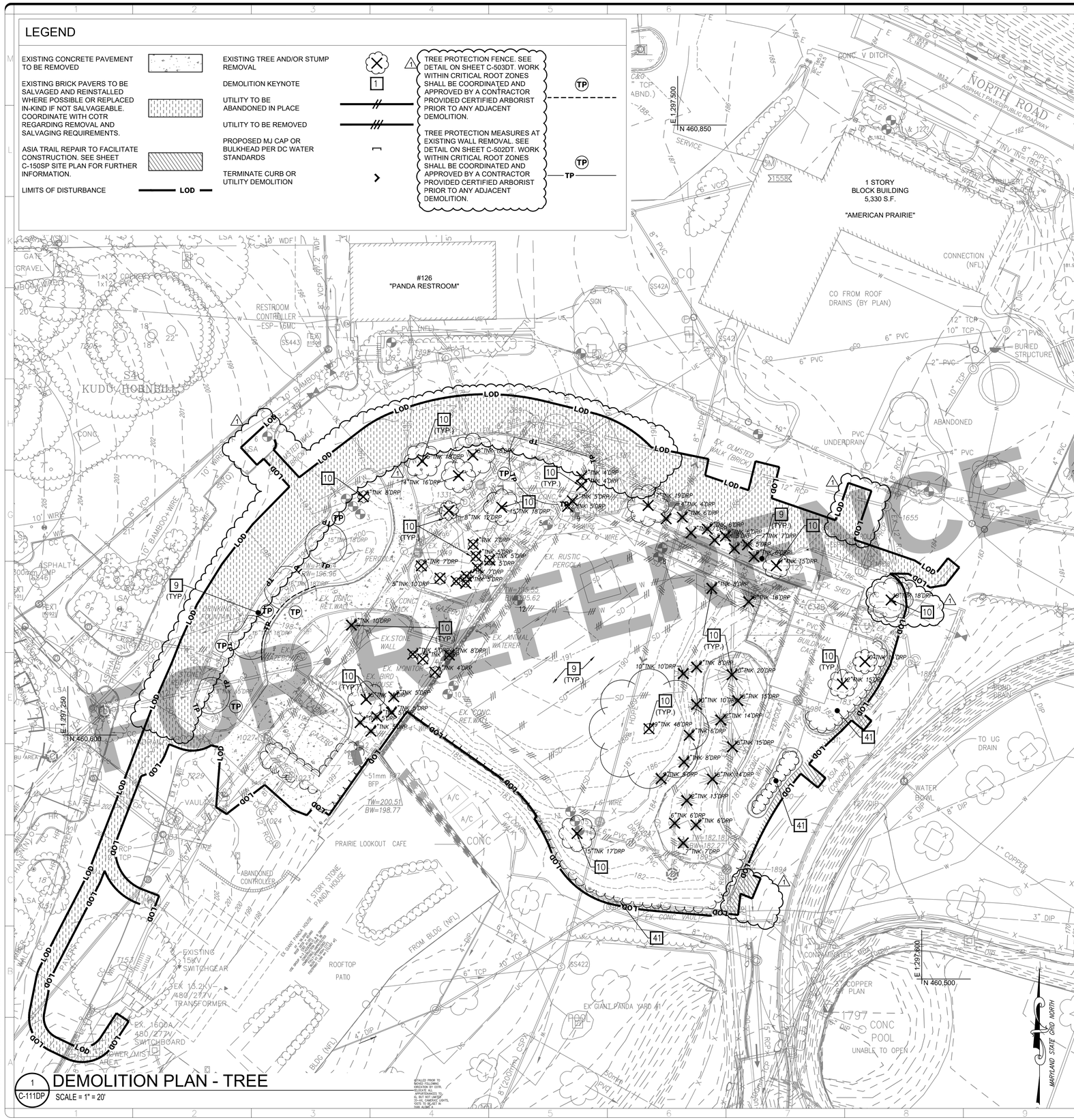

1 C-111DP DEMOLITION PLAN - TREE
SCALE = 1" = 20'

DEMOLITION NOTES

1. EXISTING IRRIGATION MAIN AND SERVICE LINES ARE PRESENT WITHIN THE SITE AND PROJECT CONSTRUCTION WILL DISTURB THEM. CONTRACTOR TO COORDINATE WITH COTR REGARDING THE SCHEDULING OF ANY IRRIGATION SERVICE DISRUPTION TO OTHER EXHIBITS.
2. THERE MAY BE ADDITIONAL SITE ELECTRIC NOT DELINEATED ON THIS PLAN THAT SHALL BE RE-ROUTED AS A RESULT OF SITE/CIVIL WORK. THE SITE CONTRACTOR SHALL PERFORM A THOROUGH SURVEY AND ENSURE ALL ELECTRICAL AND MISCELLANEOUS RE-ROUTING HAVE BEEN CAPTURED IN BID.
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KEYNOTES

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PRELIMINARY NOT FOR CONSTRUCTION

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DOB PERMIT STAMP

DISTRICT OF COLUMBIA
JAMES S. MCCOMAS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	DEMOLITION PLAN - TREE
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

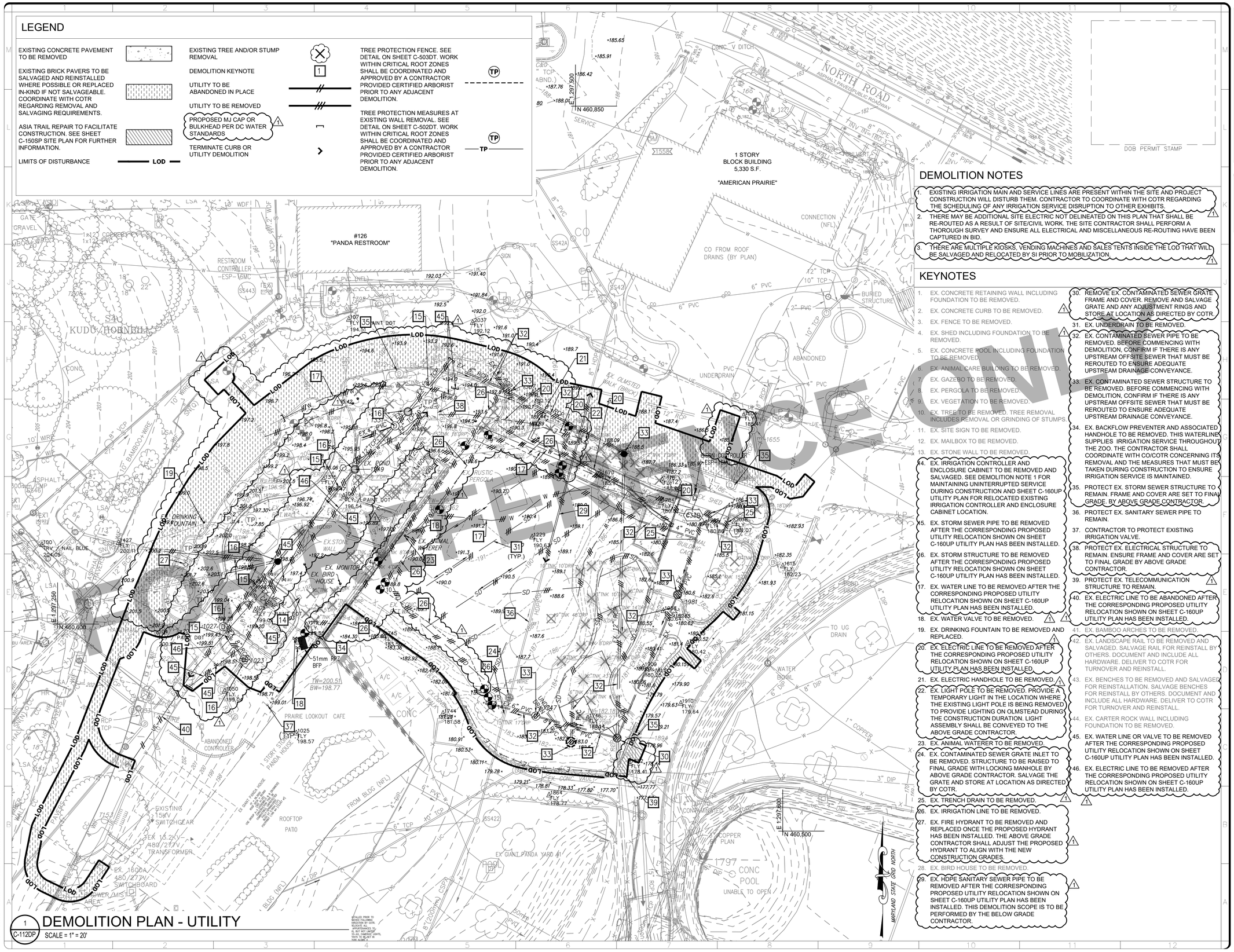
SHEET NO. 4 OF 35

C 111 DP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

LEGEND

- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- EXISTING BRICK PAVERS TO BE SALVAGED AND REINSTALLED WHERE POSSIBLE OR REPLACED IN-KIND IF NOT SALVAGEABLE. COORDINATE WITH COTR REGARDING REMOVAL AND SALVAGING REQUIREMENTS.
- ASIA TRAIL REPAIR TO FACILITATE CONSTRUCTION. SEE SHEET C-150SP SITE PLAN FOR FURTHER INFORMATION.
- LIMITS OF DISTURBANCE — LOD
- EXISTING TREE AND/OR STUMP REMOVAL
- DEMOLITION KEYNOTE
- UTILITY TO BE ABANDONED IN PLACE
- UTILITY TO BE REMOVED
- PROPOSED MJ CAP OR BULKHEAD PER DC WATER STANDARDS
- TERMINATE CURB OR UTILITY DEMOLITION
- TREE PROTECTION FENCE. SEE DETAIL ON SHEET C-503DT. WORK WITHIN CRITICAL ROOT ZONES SHALL BE COORDINATED AND APPROVED BY A CONTRACTOR PROVIDED CERTIFIED ARBORIST PRIOR TO ANY ADJACENT DEMOLITION.
- TREE PROTECTION MEASURES AT EXISTING WALL REMOVAL. SEE DETAIL ON SHEET C-502DT. WORK WITHIN CRITICAL ROOT ZONES SHALL BE COORDINATED AND APPROVED BY A CONTRACTOR PROVIDED CERTIFIED ARBORIST PRIOR TO ANY ADJACENT DEMOLITION.



1 DEMOLITION PLAN - UTILITY
C-112DP SCALE = 1" = 20'

DETAILED PRIOR TO REMOVAL FOLLOWING EXCAVATION BY COTR. ALL ASSOCIATED APPURTENANCES TO, BUT NOT LIMITED ON-ALL CHARGES (UNITS, COST) TO BE LIST IN 300B ALIMEA

DEMOLITION NOTES

1. EXISTING IRRIGATION MAIN AND SERVICE LINES ARE PRESENT WITHIN THE SITE AND PROJECT CONSTRUCTION WILL DISTURB THEM. CONTRACTOR TO COORDINATE WITH COTR REGARDING THE SCHEDULING OF ANY IRRIGATION SERVICE DISRUPTION TO OTHER EXHIBITS.
2. THERE MAY BE ADDITIONAL SITE ELECTRIC NOT DELINEATED ON THIS PLAN THAT SHALL BE RE-ROUTED AS A RESULT OF SITE/CIVIL WORK. THE SITE CONTRACTOR SHALL PERFORM A THOROUGH SURVEY AND ENSURE ALL ELECTRICAL AND MISCELLANEOUS RE-ROUTING HAVE BEEN CAPTURED IN BID.
3. THERE ARE MULTIPLE KIOSKS, VENDING MACHINES AND SALES TENTS INSIDE THE LOD THAT WILL BE SALVAGED AND RELOCATED BY SI PRIOR TO MOBILIZATION.

KEYNOTES

1. EX. CONCRETE RETAINING WALL INCLUDING FOUNDATION TO BE REMOVED.
2. EX. CONCRETE CURB TO BE REMOVED.
3. EX. FENCE TO BE REMOVED.
4. EX. SHED INCLUDING FOUNDATION TO BE REMOVED.
5. EX. CONCRETE POOL INCLUDING FOUNDATION TO BE REMOVED.
6. EX. ANIMAL CARE BUILDING TO BE REMOVED.
7. EX. GAZEBO TO BE REMOVED.
8. EX. PERGOLA TO BE REMOVED.
9. EX. VEGETATION TO BE REMOVED.
10. EX. TREE TO BE REMOVED. TREE REMOVAL INCLUDES REMOVAL OR GRINDING OF STUMPS.
11. EX. SITE SIGN TO BE REMOVED.
12. EX. MAILBOX TO BE REMOVED.
13. EX. STONE WALL TO BE REMOVED.
14. EX. IRRIGATION CONTROLLER AND ENCLOSURE CABINET TO BE REMOVED AND SALVAGED. SEE DEMOLITION NOTE 1 FOR MAINTAINING UNINTERRUPTED SERVICE DURING CONSTRUCTION AND SHEET C-160UP UTILITY PLAN FOR RELOCATED EXISTING IRRIGATION CONTROLLER AND ENCLOSURE CABINET LOCATION.
15. EX. STORM SEWER PIPE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
16. EX. STORM STRUCTURE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
17. EX. WATER LINE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
18. EX. WATER VALVE TO BE REMOVED.
19. EX. DRINKING FOUNTAIN TO BE REMOVED AND REPLACED.
20. EX. ELECTRIC LINE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
21. EX. ELECTRIC HANDHOLE TO BE REMOVED.
22. EX. LIGHT POLE TO BE REMOVED. PROVIDE A TEMPORARY LIGHT IN THE LOCATION WHERE THE EXISTING LIGHT POLE IS BEING REMOVED TO PROVIDE LIGHTING ON OLMSTEAD DURING THE CONSTRUCTION DURATION. LIGHT ASSEMBLY SHALL BE CONVEYED TO THE ABOVE GRADE CONTRACTOR.
23. EX. ANIMAL WATERER TO BE REMOVED.
24. EX. CONTAMINATED SEWER GRATE INLET TO BE REMOVED. STRUCTURE TO BE RAISED TO FINAL GRADE WITH LOCKING MANHOLE BY ABOVE GRADE CONTRACTOR. SALVAGE THE GRATE AND STORE AT LOCATION AS DIRECTED BY COTR.
25. EX. TRENCH DRAIN TO BE REMOVED.
26. EX. IRRIGATION LINE TO BE REMOVED.
27. EX. FIRE HYDRANT TO BE REMOVED AND REPLACED ONCE THE PROPOSED HYDRANT HAS BEEN INSTALLED. THE ABOVE GRADE CONTRACTOR SHALL ADJUST THE PROPOSED HYDRANT TO ALIGN WITH THE NEW CONSTRUCTION GRADES.
28. EX. BIRD HOUSE TO BE REMOVED.
29. EX. HDPE SANITARY SEWER PIPE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED. THIS DEMOLITION SCOPE IS TO BE PERFORMED BY THE BELOW GRADE CONTRACTOR.
30. REMOVE EX. CONTAMINATED SEWER GRATE FRAME AND COVER. REMOVE AND SALVAGE GRATE AND ANY ADJUSTMENT RINGS AND STORE AT LOCATION AS DIRECTED BY COTR.
31. EX. UNDERDRAIN TO BE REMOVED.
32. EX. CONTAMINATED SEWER PIPE TO BE REMOVED. BEFORE COMMENCING WITH DEMOLITION, CONFIRM IF THERE IS ANY UPSTREAM OFFSITE SEWER THAT MUST BE REROUTED TO ENSURE ADEQUATE UPSTREAM DRAINAGE CONVEYANCE.
33. EX. CONTAMINATED SEWER STRUCTURE TO BE REMOVED. BEFORE COMMENCING WITH DEMOLITION, CONFIRM IF THERE IS ANY UPSTREAM OFFSITE SEWER THAT MUST BE REROUTED TO ENSURE ADEQUATE UPSTREAM DRAINAGE CONVEYANCE.
34. EX. BACKFLOW PREVENTER AND ASSOCIATED HANDHOLE TO BE REMOVED. THIS WATERLINE SUPPLIES IRRIGATION SERVICE THROUGHOUT THE ZOO. THE CONTRACTOR SHALL COORDINATE WITH CO/COTR CONCERNING ITS REMOVAL AND THE MEASURES THAT MUST BE TAKEN DURING CONSTRUCTION TO ENSURE IRRIGATION SERVICE IS MAINTAINED.
35. PROTECT EX. STORM SEWER STRUCTURE TO REMAIN. FRAME AND COVER ARE SET TO FINAL GRADE BY ABOVE GRADE CONTRACTOR.
36. PROTECT EX. SANITARY SEWER PIPE TO REMAIN.
37. CONTRACTOR TO PROTECT EXISTING IRRIGATION VALVE.
38. PROTECT EX. ELECTRICAL STRUCTURE TO REMAIN. ENSURE FRAME AND COVER ARE SET TO FINAL GRADE BY ABOVE GRADE CONTRACTOR.
39. PROTECT EX. TELECOMMUNICATION STRUCTURE TO REMAIN.
40. EX. ELECTRIC LINE TO BE ABANDONED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
41. EX. BAMBOO ARCHES TO BE REMOVED.
42. EX. LANDSCAPE RAIL TO BE REMOVED AND SALVAGED. SALVAGE RAIL FOR REINSTALL BY OTHERS. DOCUMENT AND INCLUDE ALL HARDWARE. DELIVER TO COTR FOR TURNOVER AND REINSTALL.
43. EX. BENCHES TO BE REMOVED AND SALVAGED FOR REINSTALLATION. SALVAGE BENCHES FOR REINSTALL BY OTHERS. DOCUMENT AND INCLUDE ALL HARDWARE. DELIVER TO COTR FOR TURNOVER AND REINSTALL.
44. EX. CARTER ROCK WALL INCLUDING FOUNDATION TO BE REMOVED.
45. EX. WATER LINE OR VALVE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.
46. EX. ELECTRIC LINE TO BE REMOVED AFTER THE CORRESPONDING PROPOSED UTILITY RELOCATION SHOWN ON SHEET C-160UP UTILITY PLAN HAS BEEN INSTALLED.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DOB PERMIT STAMP

DISTRICT OF COLUMBIA
MATTHEW S. MCCONNELL
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	DEMOLITION PLAN - UTILITY

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 5 OF 35

C	1	12	DP
DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

ALF

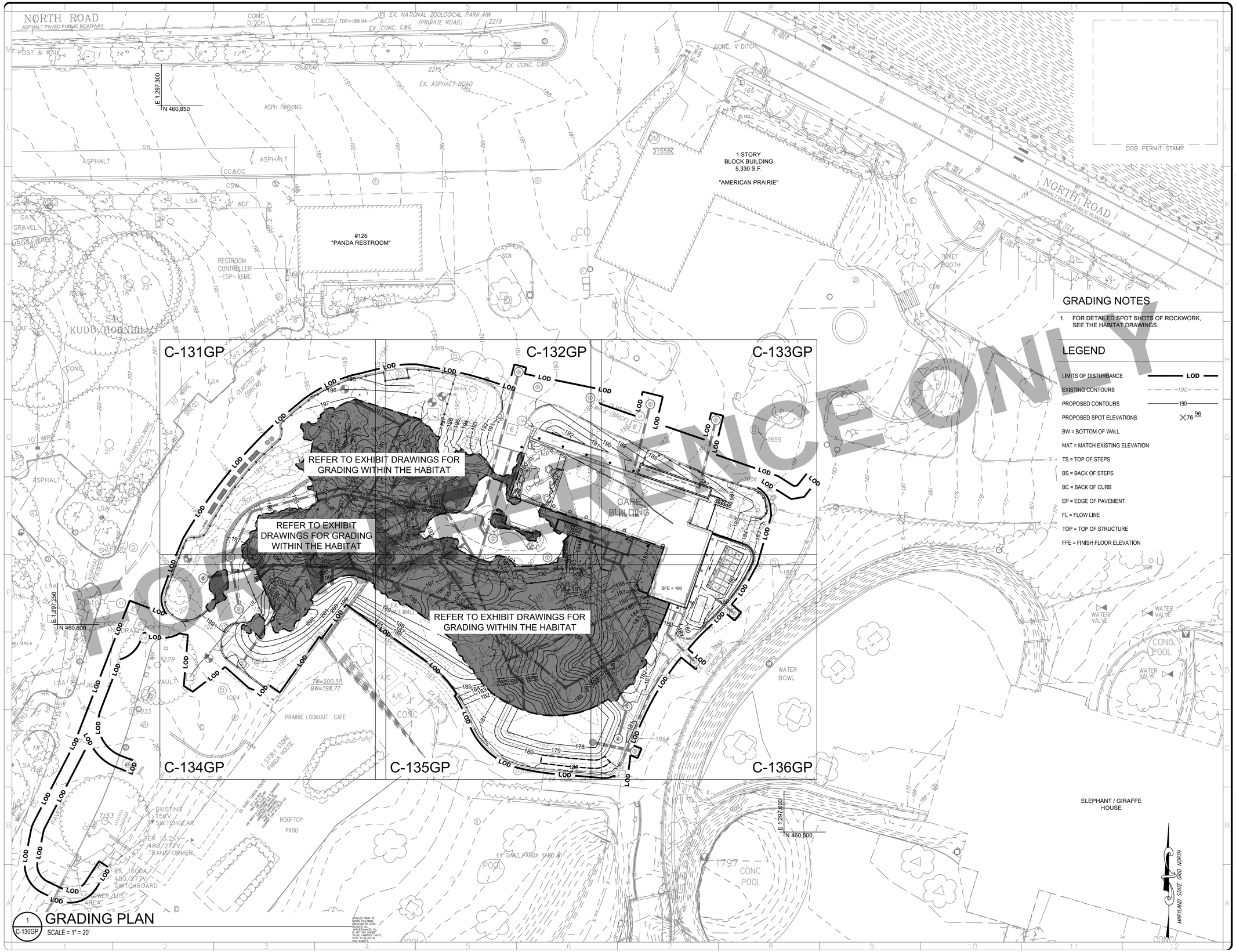
CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

TRUE NORTH

KEY PLAN



NOT FOR CONSTRUCTION
REFERENCE ONLY

GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE	LOD
EXISTING CONTOURS	190
PROPOSED CONTOURS	190
PROPOSED SPOT ELEVATIONS	×76 96
BW = BOTTOM OF WALL	
MAT = MATCH EXISTING ELEVATION	
TS = TOP OF STEPS	
BS = BACK OF STEPS	
BC = BACK OF CURB	
EP = EDGE OF PAVEMENT	
FL = FLOW LINE	
TOP = TOP OF STRUCTURE	
FFE = FINISH FLOOR ELEVATION	

10' 0' 10' 20'

SCALE 1" = 10'

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 1 30 GP (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

1 C-130GP GRADING PLAN
SCALE = 1" = 20'

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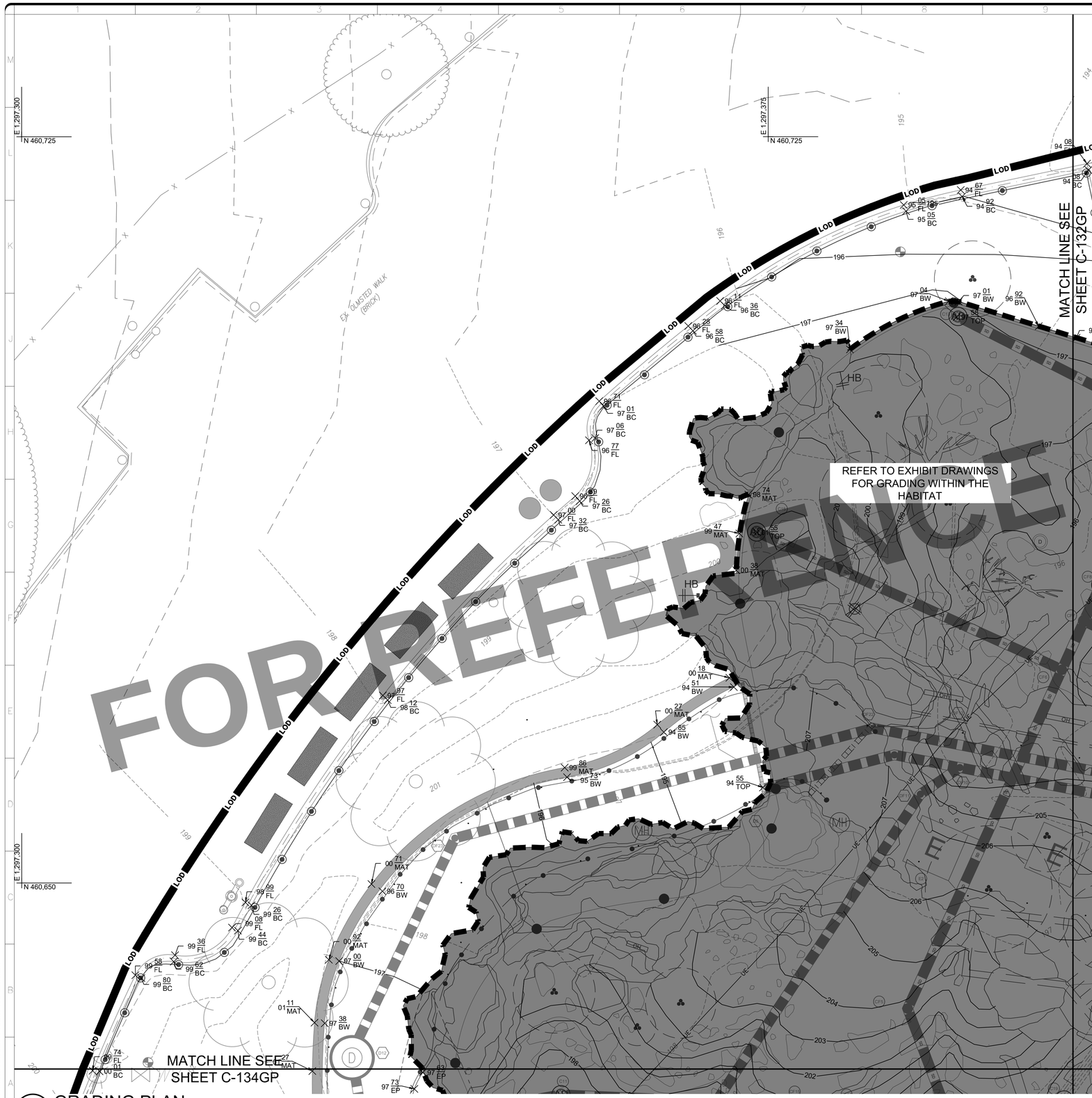
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-131GP GRADING PLAN
SCALE = 1" = 20'

GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE — LOD —	TS = TOP OF STEPS
EXISTING CONTOURS 190	BS = BACK OF STEPS
PROPOSED CONTOURS 190	BC = BACK OF CURB
GRASS SWALE	EP = EDGE OF PAVEMENT
PROPOSED SPOT ELEVATIONS 76 96	FL = FLOW LINE
BW = BOTTOM OF WALL	TOP = TOP OF STRUCTURE
MAT = MATCH EXISTING ELEVATION	FFE = FINISH FLOOR ELEVATION

MARYLAND STATE GRID NORTH

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 1 31 GP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE — LOD —	TS = TOP OF STEPS
EXISTING CONTOURS — 190 —	BS = BACK OF STEPS
PROPOSED CONTOURS — 190 —	BC = BACK OF CURB
GRASS SWALE	EP = EDGE OF PAVEMENT
PROPOSED SPOT ELEVATIONS × 76 96	FL = FLOW LINE
BW = BOTTOM OF WALL	TOP = TOP OF STRUCTURE
MAT = MATCH EXISTING ELEVATION	FFE = FINISH FLOOR ELEVATION

1 C-132GP **GRADING PLAN**

SCALE = 1" = 20'

MARYLAND STATE GRID NORTH

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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TRUE NORTH

KEY PLAN

5' 0' 5' 10'

SCALE 1" = 5'

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO.	C	132	GP
OF	DISCIPLINE	TYPE SEQUENCE	DRAWING TYPE

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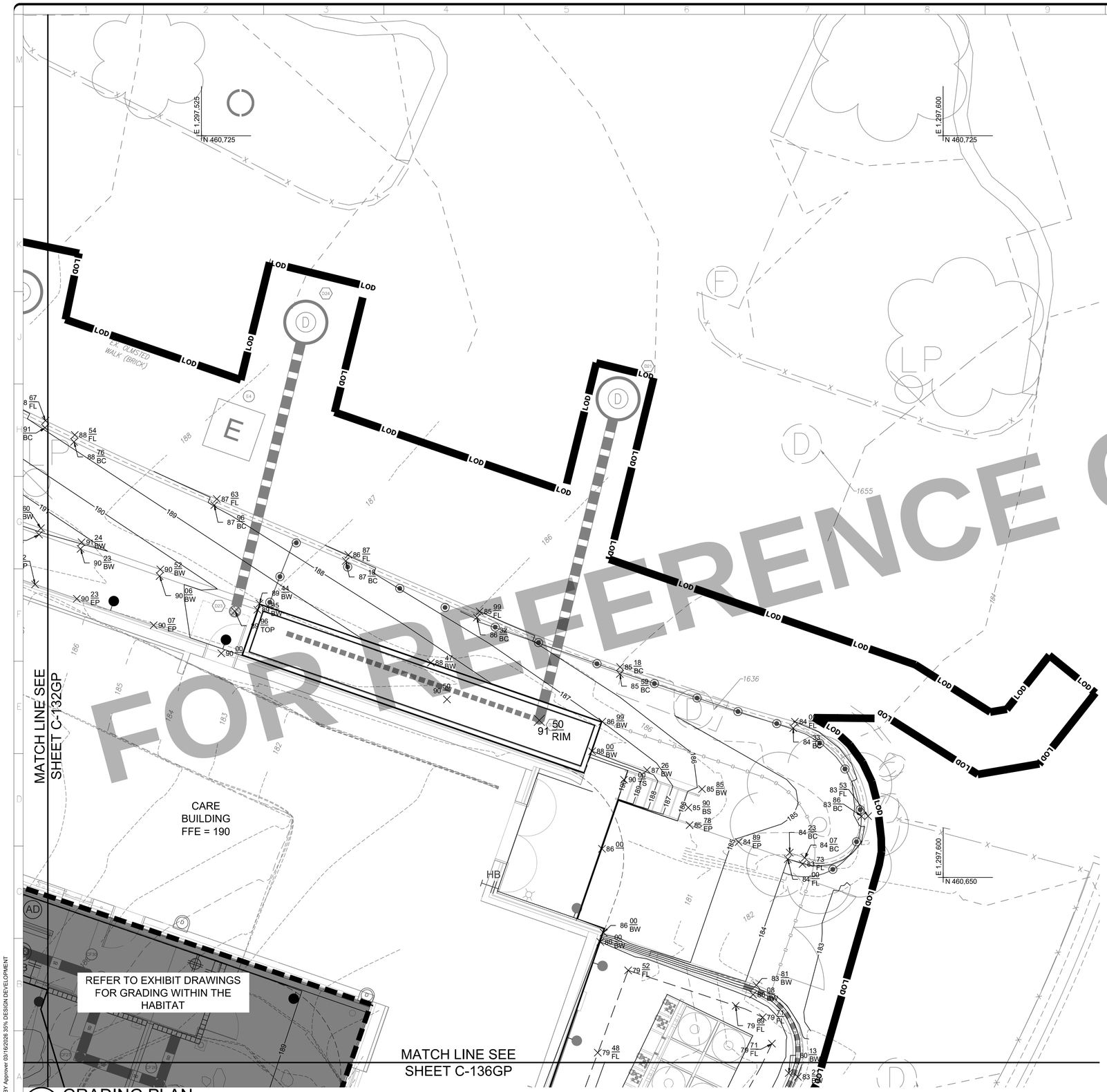

1 C-133GP GRADING PLAN
SCALE = 1" = 20'

GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE — LOD —	TS = TOP OF STEPS
EXISTING CONTOURS — 190 —	BS = BACK OF STEPS
PROPOSED CONTOURS — 190 —	BC = BACK OF CURB
GRASS SWALE	EP = EDGE OF PAVEMENT
PROPOSED SPOT ELEVATIONS 76 96	FL = FLOW LINE
BW = BOTTOM OF WALL	TOP = TOP OF STRUCTURE
MAT = MATCH EXISTING ELEVATION	FFE = FINISH FLOOR ELEVATION

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 1 33 GP (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

MARYLAND STATE GRID NORTH

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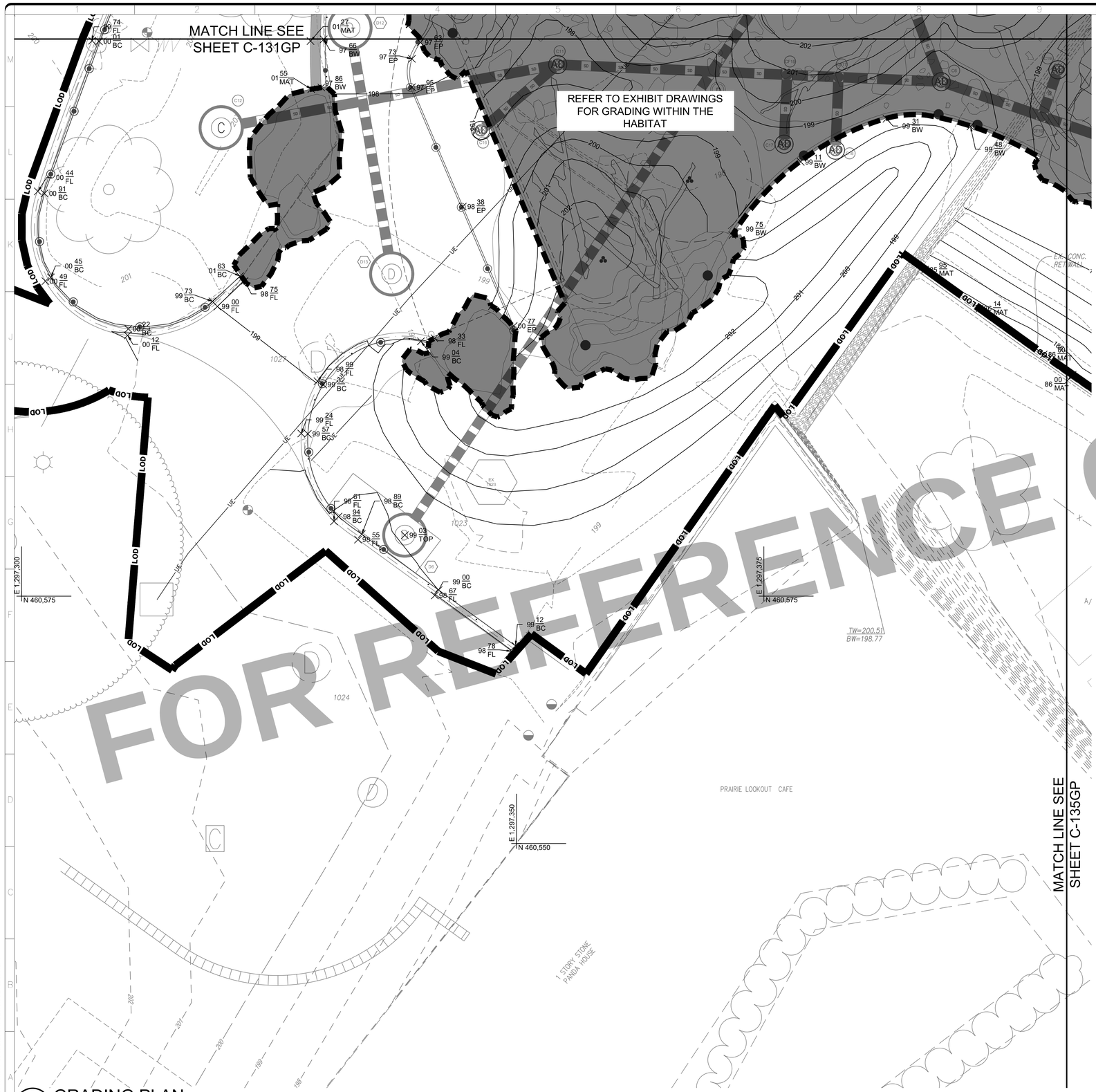

1 C-134GP GRADING PLAN
SCALE = 1" = 20'

DOB PERMIT STAMP

GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE — LOD —	TS = TOP OF STEPS
EXISTING CONTOURS — 190 —	BS = BACK OF STEPS
PROPOSED CONTOURS — 190 —	BC = BACK OF CURB
GRASS SWALE	EP = EDGE OF PAVEMENT
PROPOSED SPOT ELEVATIONS × 76 96	FL = FLOW LINE
BW = BOTTOM OF WALL	TOP = TOP OF STRUCTURE
MAT = MATCH EXISTING ELEVATION	FFE = FINISH FLOOR ELEVATION

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

SHEET NO. C 1 34 GP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

MARYLAND STATE GRID NORTH

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XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

1 C-135GP GRADING PLAN
SCALE = 1" = 20'

GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE — LOD —	TS = TOP OF STEPS
EXISTING CONTOURS — 190 —	BS = BACK OF STEPS
PROPOSED CONTOURS — 190 —	BC = BACK OF CURB
GRASS SWALE	EP = EDGE OF PAVEMENT
PROPOSED SPOT ELEVATIONS ×76 96	FL = FLOW LINE
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DOB PERMIT STAMP

MARYLAND STATE GRID NORTH

ALF

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STAMP

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KEY PLAN

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SCALE 1" = 5'

GRAPHIC SCALE(S)

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A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 1 35 GP (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

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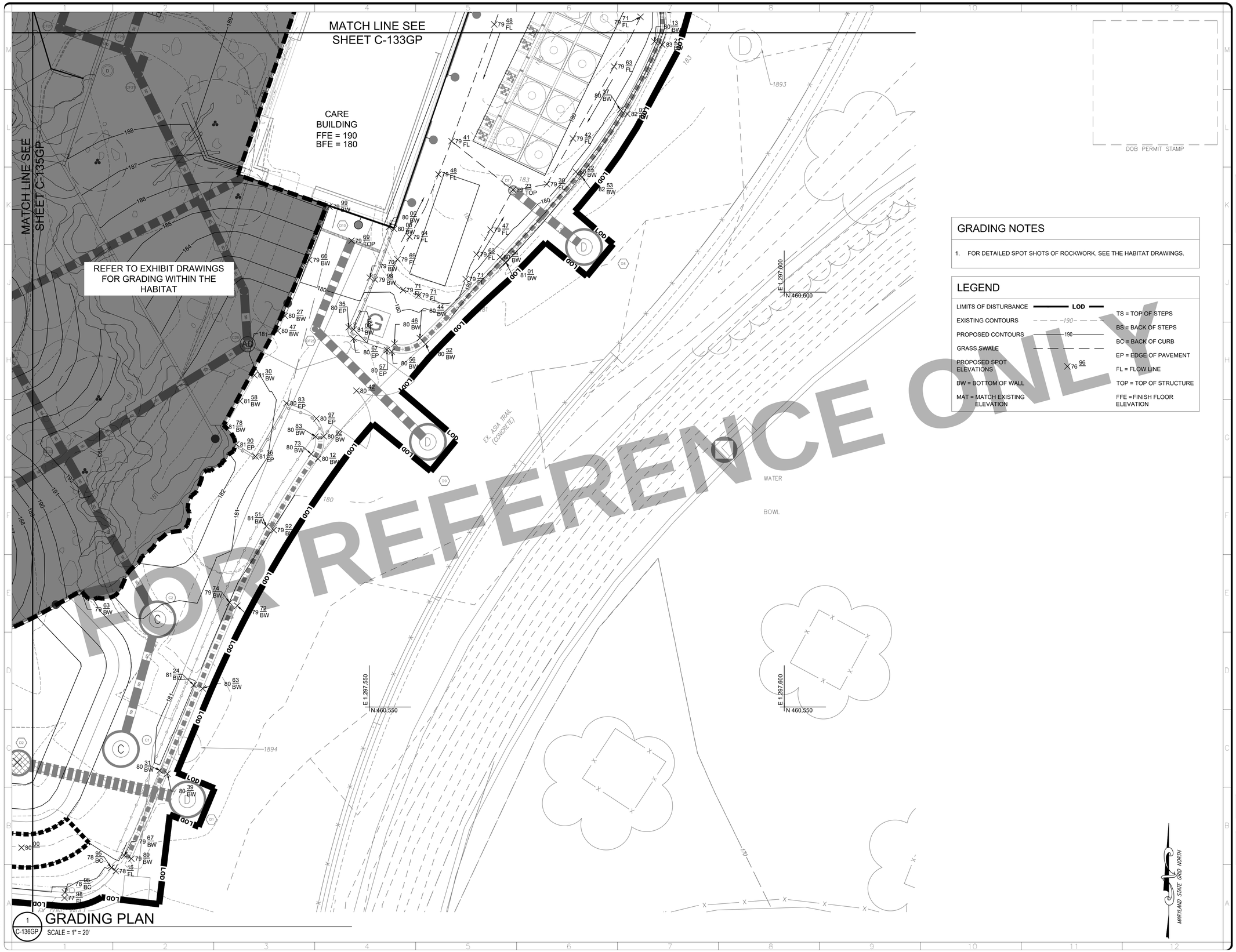
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-136GP GRADING PLAN
SCALE = 1" = 20'

DOB PERMIT STAMP

GRADING NOTES

1. FOR DETAILED SPOT SHOTS OF ROCKWORK, SEE THE HABITAT DRAWINGS.

LEGEND

LIMITS OF DISTURBANCE — LOD —	TS = TOP OF STEPS
EXISTING CONTOURS — 190 —	BS = BACK OF STEPS
PROPOSED CONTOURS — 190 —	BC = BACK OF CURB
GRASS SWALE	EP = EDGE OF PAVEMENT
PROPOSED SPOT ELEVATIONS 76 96	FL = FLOW LINE
BW = BOTTOM OF WALL	TOP = TOP OF STRUCTURE
MAT = MATCH EXISTING ELEVATION	FFE = FINISH FLOOR ELEVATION

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	GRADING PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 1 36 GP (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

MARYLAND STATE GRID NORTH

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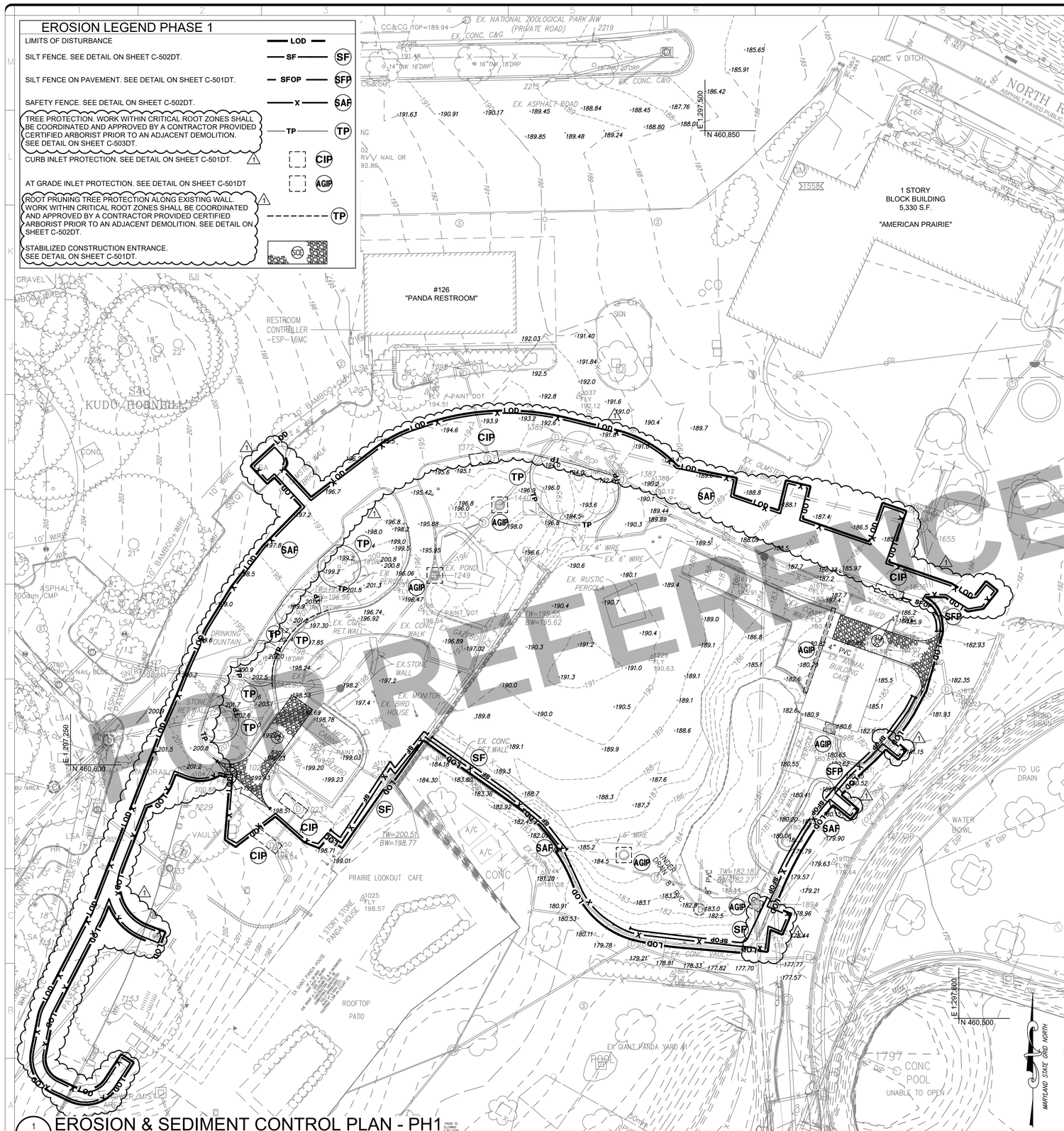
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

EROSION LEGEND PHASE 1

LIMITS OF DISTURBANCE	LOD
SILT FENCE. SEE DETAIL ON SHEET C-502DT.	SF
SILT FENCE ON PAVEMENT. SEE DETAIL ON SHEET C-501DT.	SFOP
SAFETY FENCE. SEE DETAIL ON SHEET C-502DT.	SAF
TREE PROTECTION. WORK WITHIN CRITICAL ROOT ZONES SHALL BE COORDINATED AND APPROVED BY A CONTRACTOR PROVIDED CERTIFIED ARBORIST PRIOR TO AN ADJACENT DEMOLITION. SEE DETAIL ON SHEET C-503DT.	TP
CURB INLET PROTECTION. SEE DETAIL ON SHEET C-501DT.	CIP
AT GRADE INLET PROTECTION. SEE DETAIL ON SHEET C-501DT	AGIP
ROOT PRUNING TREE PROTECTION ALONG EXISTING WALL. WORK WITHIN CRITICAL ROOT ZONES SHALL BE COORDINATED AND APPROVED BY A CONTRACTOR PROVIDED CERTIFIED ARBORIST PRIOR TO AN ADJACENT DEMOLITION. SEE DETAIL ON SHEET C-502DT.	TP
STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL ON SHEET C-501DT.	SCE



EROSION & SEDIMENT CONTROL PLAN - PH1

1 / C-140EP

SCALE = 1" = 20'

PRIOR TO PLOTTING: 1.25" OVER

THIS SHEET IS TO BE USED FOR SEDIMENTATION AND EROSION CONTROL PURPOSES ONLY !!!

REFERENCE ONLY

LAND DISTURBANCE ACTIVITY NOTE:

A PERSON RESPONSIBLE FOR LAND DISTURBANCE IS TO BE PRESENT OR AVAILABLE AT ALL TIMES WHILE SITE IS IN A PHASE INVOLVING LAND DISTURBING ACTIVITY. THE RESPONSIBLE PERSON IS RESPONSIBLE FOR INSPECTION OF THE SITE EROSION & SEDIMENT CONTROL MEASURES BIWEEKLY AND AFTER RAINFALL EVENTS. AVAILABILITY TO RESPOND TO POTENTIAL EROSION PROBLEMS AS THEY OCCUR AND AVAILABILITY TO SPEAK ONSITE WITH DOEE TO REMEDY POTENTIAL PROBLEMS. THE RESPONSIBLE PERSON IS TO HAVE AVAILABLE ONSITE PROOF OF PROFESSIONAL LICENSING OR OF SUCCESSFUL COMPLETION OF A DEPARTMENT APPROVED TRAINING PROGRAM IN COMPLIANCE OF RESPONSIBLE PERSON DESIGNATION.

ENFORCEMENT OF SIGNAGE REQUIREMENT FOR PROJECTS REQUIRING EROSION AND SEDIMENT CONTROL PLANS:

ALL CONSTRUCTION PROJECTS REQUIRING SOIL EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST POST A DISTRICT-APPROVED SIGN THAT NOTIFIES THE PUBLIC TO CONTACT DOEE IN THE EVENT OF EROSION OR OTHER POLLUTION FROM THE SITE. DOEE HAS INCREASED ITS ENFORCEMENT EFFORTS FOR THIS REQUIREMENT. A LIMITED NUMBER OF PRE-PRINTED SIGNS IS AVAILABLE AT THE DEPARTMENT OF BUILDINGS AND WILL BE ISSUED AT NO CHARGE WITH APPROVED SOIL EROSION AND SEDIMENT CONTROL PLANS ON A FIRST COME, FIRST SERVED BASIS. AN ELECTRONIC COPY OF THE DISTRICT APPROVED SIGN IS AVAILABLE AT HTTP://DOEE.DC.GOV/ESC.

CONSTRUCTION AND STABILIZATION SEQUENCE:

1. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AS INDICATED ON EROSION AND SEDIMENT CONTROL PLANS.
2. SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR PRIOR TO COMMENCING ANY OTHER LAND DISTURBING ACTIVITIES.
3. REMOVE ITEMS AS INDICATED ON DEMOLITION PLAN.
4. INSTALL PROPOSED UTILITIES AS INDICATED ON UTILITY PLAN.
5. SAFETY FENCING, SAFETY GATES, SILT FENCE, CURB INLETS, CONSTRUCTION ENTRANCES, AND PROJECT SIGNAGE SHALL REMAIN IN PLACE AND BE TRANSFERRED TO THE ABOVE GRADE CONTRACTOR WHO SHALL PAY FOR THE REMAINING RENTAL DURATION AND COORDINATE REMOVAL. THE BELOW GRADE CONTRACTOR SHALL INSPECT ALL ITEMS BEING CONVEYED TO THE ABOVE GORUND CONTRACTOR AS PART OF THE SUBSTANTIAL COMPLETION/TURNOVER PROCESS. ANY REPAIRS OR DEFICIENCIES IDENTIFIED SHALL BE REPAIRED BY BELOW GRADE CONTRACTOR PRIOR TO TURNOVER.
6. INSTALL SITE IMPROVEMENTS AS INDICATED ON CONSTRUCTION DOCUMENTS FOR THE PROPOSED BUILDING.
7. AT THE COMPLETION OF CONSTRUCTION AND AFTER THE INSPECTOR'S APPROVAL, ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE REMOVED.

LAND GRADING NOTES:

1. ALL SOIL SHALL BE DEFINED AS UNCLASSIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ANY EXCAVATION AND PROVIDE ADEQUATE BACKFILL.
2. INSTALL PERIMETER CONTROLS AND OTHER EROSION CONTROL MEASURES BEFORE EXPOSING CUT AND FILL SLOPES.
3. COMPLETE SITE CLEARING AND GRADING IN COMPLIANCE WITH THE CONSTRUCTION SEQUENCE IDENTIFIED ON THE ESC PLAN.
4. PROVIDE EROSION AND SEDIMENT CONTROLS ON ALL TEMPORARY FILL PILES GENERATED DURING CONSTRUCTION.
5. ENSURE THAT ALL SUPPLEMENTAL FILL CREATED DURING THE GRADING PROCESS IS DISPOSED OF PROPERLY.
6. IN CASE WHERE FILL SLOPES OR SOIL PILES CANNOT BE STABILIZED BEFORE THE CLOSE OF THE WORK DAY, UTILIZE TEMPORARY EROSION CONTROL MEASURES SUCH AS PLASTIC SHEETING TO ENSURE THAT SOIL IS NOT EXPOSED.
7. CONFIRM THAT ALL FILLS ARE COMPACTED IN COMPLIANCE WITH THE STANDARD PRESCRIBED IN THE SITE PLAN.
8. REMOVE EROSION CONTROLS ONCE SLOPES HAVE BEEN STABILIZED PERMANENTLY.
9. IMMEDIATELY REPLACE ANY FAILED DIVERSION MEASURES, AND IMMEDIATELY REGRADE AND STABILIZE ANY PORTIONS OF THE SLOPES THAT HAVE BEGUN TO FORM RILLS OR GULL. ENSURE THAT STOCKPILES ARE STABILIZED WITH VEGETATION OR WITH ANOTHER TEMPORARY COVER THROUGHOUT THE CONSTRUCTION PROCESS. MAINTAIN ALL DIVERSION MEASURES PER THE DETAILS OUTLINED IN CHAPTER 4 CONVEYANCE.

EROSION AND SEDIMENT CONTROL NARRATIVE:

EROSION AND SEDIMENT CONTROL WILL BE ACHIEVED THROUGH THE USE OF SILT FENCE, SILT FENCE ON PAVEMENT, STABILIZED CONSTRUCTION ENTRANCE, AND INLET PROTECTION. THE CONSTRUCTION AREA WILL HAVE SAFETY FENCE FOR CONSTRUCTION PROTECTION. ALL EROSION AND SEDIMENT CONTROLS ARE TO BE IMPLEMENTED PRIOR TO DEMOLITION TO ENSURE ADEQUATE PROTECTION DURING DEMOLITION AND REMOVAL OF WASTE MATERIALS. ALL DEMO MATERIALS WILL BE TAKEN TO AN OFF-SITE DESIGNATION DUMPING AREA VIA DUMP TRUCKS OR DUMPSTERS.

CONSTRUCTION AND STABILIZATION SCHEDULE:

1. MOBILIZATION AND ESC INSTALLATION TO BEGIN AUGUST 2026. DEMOLITION AND HEAVY CONSTRUCTION TO OCCUR FEBRUARY 2027. FINISHING WORK AND DEMOLITION TO BE COMPLETED BY OCTOBER 2028. EXACT DATES ARE TO BE SET BY OWNER AND ARE SUBJECT TO CHANGE.
2. FOR FURTHER INFORMATION, PLEASE CALL: GOVERNMENT OF DISTICT OF COLUMBIA DEPARTMENT OF ENVIRONMENT WATERSHED PROTECTION DIVISION
   1200 FIRST STREET, NE
   WASHINGTON, DC 20002
   TEL NO. (202) 535-2977

DESCRIPTION OF PREDOMINANT SOIL TYPE:

MdD AND MdC MANOR-URBAN LAND COMPLEX

TOTAL SITE AREA:

TOTAL SITE AREA: 43,366 SF / 0.99 AC

TOTAL VOLUME OF CUT

BELOW GRADE EXCAVATION:

TOTAL AREA OF EXCAVATION: 7,398 SF / 0.17 AC

VOLUME OF CUT: 7,398 SQ.FT. (AREA) X 5 FT. (DEPTH)

VOLUME OF CUT: 1,370 cy +/-

TOTAL VOLUME OF CUT/FILL FOR UTILITIES:

TOTAL AREA OF EXCAVATION: 5,875 SF / 0.13 AC

VOLUME OF CUT: 5,875 SQ.FT. (AREA) X 8 FT. (DEPTH)

VOLUME OF CUT AND FILL: 1,740 cy +/-

TOTAL AREA OF DISTURBANCE:

TOTAL AREA OF DISTURBANCE: 43,366 SF / 0.99 AC

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DOB PERMIT STAMP

DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER

STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'

SCALE 1" = 20'

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

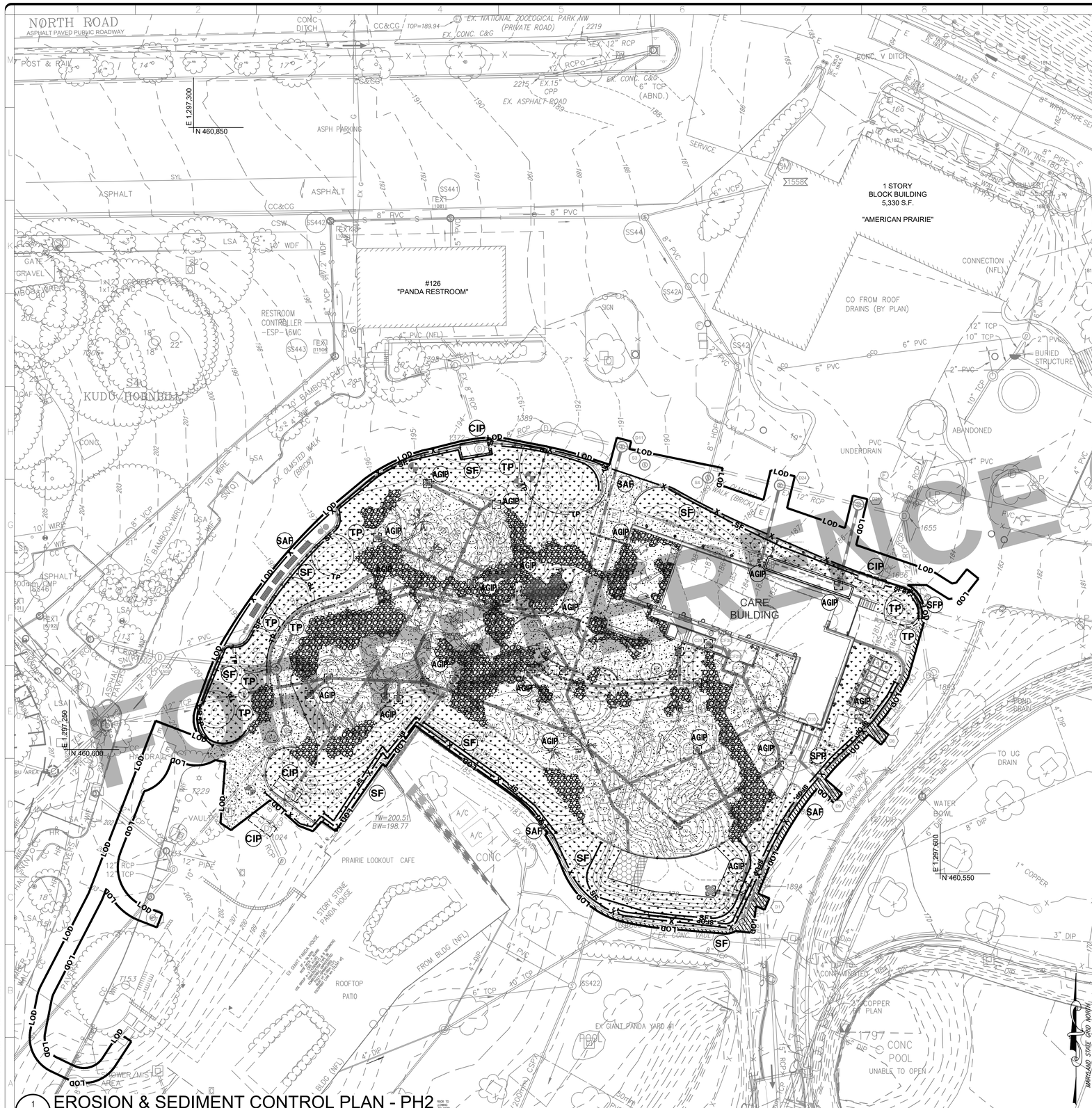
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	EROSION & SEDIMENT CONTROL PLAN - PH1

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 6 OF 35

C	140	EP
DISCIPLINE	TYPE SEQUENCE	DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-145EP EROSION & SEDIMENT CONTROL PLAN - PH2

SCALE = 1" = 20'

THIS SHEET IS TO BE USED FOR SEDIMENTATION AND EROSION CONTROL PURPOSES ONLY !!!

NOTES

LAND DISTURBANCE ACTIVITY NOTE:

A PERSON RESPONSIBLE FOR LAND DISTURBANCE IS TO BE PRESENT OR AVAILABLE AT ALL TIMES WHILE SITE IS IN A PHASE INVOLVING LAND DISTURBING ACTIVITY. THE RESPONSIBLE PERSON IS RESPONSIBLE FOR INSPECTION OF THE SITE EROSION & SEDIMENT CONTROL MEASURES BIWEEKLY AND AFTER RAINFALL EVENTS. AVAILABILITY TO RESPOND TO POTENTIAL EROSION PROBLEMS AS THEY OCCUR AND AVAILABILITY TO SPEAK ONSITE WITH DOEE TO REMEDY POTENTIAL PROBLEMS. THE RESPONSIBLE PERSON IS TO HAVE AVAILABLE ONSITE PROOF OF PROFESSIONAL LICENSING OR OF SUCCESSFUL COMPLETION OF A DEPARTMENT APPROVED TRAINING PROGRAM IN COMPLIANCE OF RESPONSIBLE PERSON DESIGNATION.

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4. INSTALL PROPOSED UTILITIES. AS INDICATED ON UTILITY PLAN.
5. INSTALL SITE IMPROVEMENTS AS INDICATED ON CONSTRUCTION DOCUMENTS FOR THE PROPOSED BUILDING.
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LAND GRADING NOTES:

1. INSTALL PERIMETER CONTROLS, DIVERSION DITCHES, AND OTHER EROSION CONTROL MEASURES BEFORE EXPOSING CUT AND FILL SLOPES.
2. COMPLETE SITE CLEARING AND GRADING IN COMPLIANCE WITH THE CONSTRUCTION SEQUENCE IDENTIFIED ON THE ESC PLAN.
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CONSTRUCTION AND STABILIZATION SCHEDULE:

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   DEPARTMENT OF ENVIRONMENT WATERSHED PROTECTION DIVISION
   1200 FIRST STREET, NE
   WASHINGTON, DC 20002
   TEL NO. (202) 535-2977

DESCRIPTION OF PREDOMINANT SOIL TYPE:

MdD AND MdC MANOR-URBAN LAND COMPLEX

TOTAL SITE AREA:

TOTAL SITE AREA: 36,502 SF / 0.91 AC

TOTAL VOLUME OF CUT

BELOW GRADE EXCAVATION:

TOTAL AREA OF EXCAVATION: 6,643 SF / 0.15 AC

VOLUME OF CUT: 6,643 SQ.FT. (AREA) X 5 FEET (DEPTH) / 27

VOLUME OF CUT: 1,230 cy +/-

TOTAL VOLUME OF CUT /FILL FOR UTILITIES:

TOTAL AREA OF EXCAVATION: 3,882 SF / 0.09 AC

VOLUME OF CUT: 3,882 SQ.FT. (AREA) X 8 FEET (DEPTH) / 27

VOLUME OF CUT AND FILL: 1,150 cy +/-

TOTAL AREA OF DISTURBANCE:

TOTAL AREA OF DISTURBANCE: 36,502 SF / 0.91 AC

EROSION LEGEND PHASE 2

LIMIT OF DISTURBANCE	LOD
SILT FENCE	SF
SILT FENCE ON PAVEMENT	SFOP SFP
SAFETY FENCE	X SAF
TREE PROTECTION	TP TP
CURB INLET PROTECTION	CIP
AT GRADE INLET PROTECTION	AGIP
LANDSCAPE PERMANENT STABILIZATION. REFER TO LANDSCAPE PLANS FOR DETAILS.	
EXHIBIT PERMANENT STABILIZATION. REFER TO EXHIBIT PLANS FOR DETAILS.	

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DOB PERMIT STAMP

DISTRICT OF COLUMBIA
MATTHEW S. HOGANS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

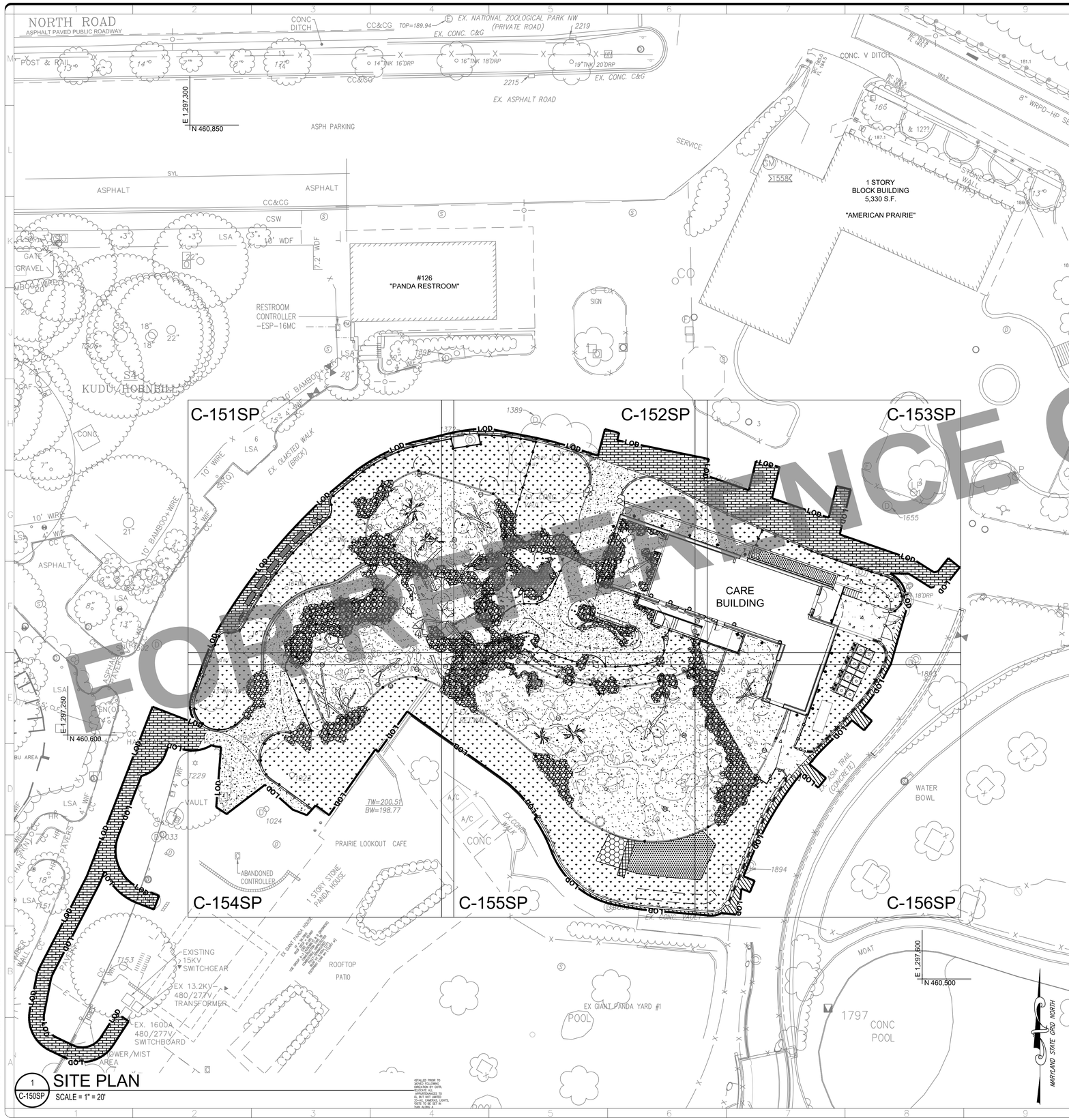
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	EROSION & SEDIMENT CONTROL PLAN - PH2

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 145 EP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 SITE PLAN
C-150SP
SCALE = 1" = 20'

KEYNOTES

1. NEW CARE BUILDING. REFER TO ARCHITECTURAL FOR FURTHER INFORMATION.
2. NEW SHADE STRUCTURE. REFER TO ARCHITECTURAL FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
3. NEW BIORETENTION STORMWATER MANAGEMENT BMP. SEE DETAIL ON SHEET C-507DT FOR SOIL AND GRAVEL CROSS SECTION. REFER TO LANDSCAPE REGARDING PLANTINGS.
4. NEW PLANTER BOX STORMWATER MANAGEMENT BMP. SEE DETAIL ON SHEET C-507DT FOR SOIL AND GRAVEL CROSS SECTION. REFER TO LANDSCAPE REGARDING PLANTINGS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
5. NEW CONCRETE CURB. REFER TO LANDSCAPE FOR DETAIL.
6. NEW HABITAT RETAINING WALL. REFER TO EXHIBIT FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
7. NEW GUARD BARRIERS/ENCLOSURE/HANDRAIL. REFER TO EXHIBIT FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL IN ABOVE GROUND PACKAGE FOR FOUNDATION DETAIL.
8. NEW ENCLOSURE GATE. REFER TO EXHIBIT FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL IN ABOVE GROUND PACKAGE FOR FOUNDATION DETAIL.
9. NEW LANDSCAPE RETAINING WALL. REFER TO LANDSCAPE FOR FINISH AND APPEARANCE. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
10. CADEROCK WALL. REFER TO LANDSCAPE FOR MATERIAL SPECIFICATIONS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
11. PROTECT EXISTING RETAINING WALL.
12. NEW LANDSCAPE FENCE/HANDRAIL/FEATURE. REFER TO LANDSCAPE FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL IN ABOVE GROUND PACKAGE FOR FOUNDATION DETAIL.
13. NEW EXTERIOR GATE. REFER TO LANDSCAPE FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL IN ABOVE GROUND PACKAGE FOR FOUNDATION DETAIL.
14. SITE FURNISHINGS. REFER TO LANDSCAPE FOR DETAIL.
15. PAVING ADJACENT TO BUILDING. REFER TO STRUCTURAL FOR DETAIL.

LEGEND

- NEW STORMWATER MANAGEMENT PRACTICE SEE SHEET C-507DT FOR DETAIL.
- NEW GRASS/PERMANENT SEEDING. REFER TO LANDSCAPE FOR FURTHER INFORMATION.
- NEW PEDESTRIAN CONCRETE PAVEMENT. SEE DETAIL ON SHEET C-510DT FOR PAVEMENT CROSS SECTION. REFER TO LANDSCAPE REGARDING SURFACING.
- NEW VEHICULAR CONCRETE PAVEMENT. SEE DETAIL ON SHEET C-510DT.
- OLMSTEAD HEX PAVING REPAIR. MATCH EXISTING ADJACENT. COORDINATE WITH CONTRACTING OFFICER REGARDING USING SALVAGED BRICKS OR NEW BRICKS.
- ASIA TRAIL STAINED CONCRETE PAVING REPAIR. MATCH EXISTING ADJACENT.
- NEW HABITAT ROCKS. REFER TO EXHIBIT REGARDING MATERIAL. REFER TO STRUCTURAL REGARDING FOUNDATION.
- NEW HABITAT SURFACING. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- NEW HABITAT POND WATER OVER HABITAT ROCKS. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- TOP OF EARTHEN BERM
- RIPRAP FOREBAY/RIPAP EROSION STONE. SEE DETAILS ON SHEET C-507DT.
- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DOB PERMIT STAMP

STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

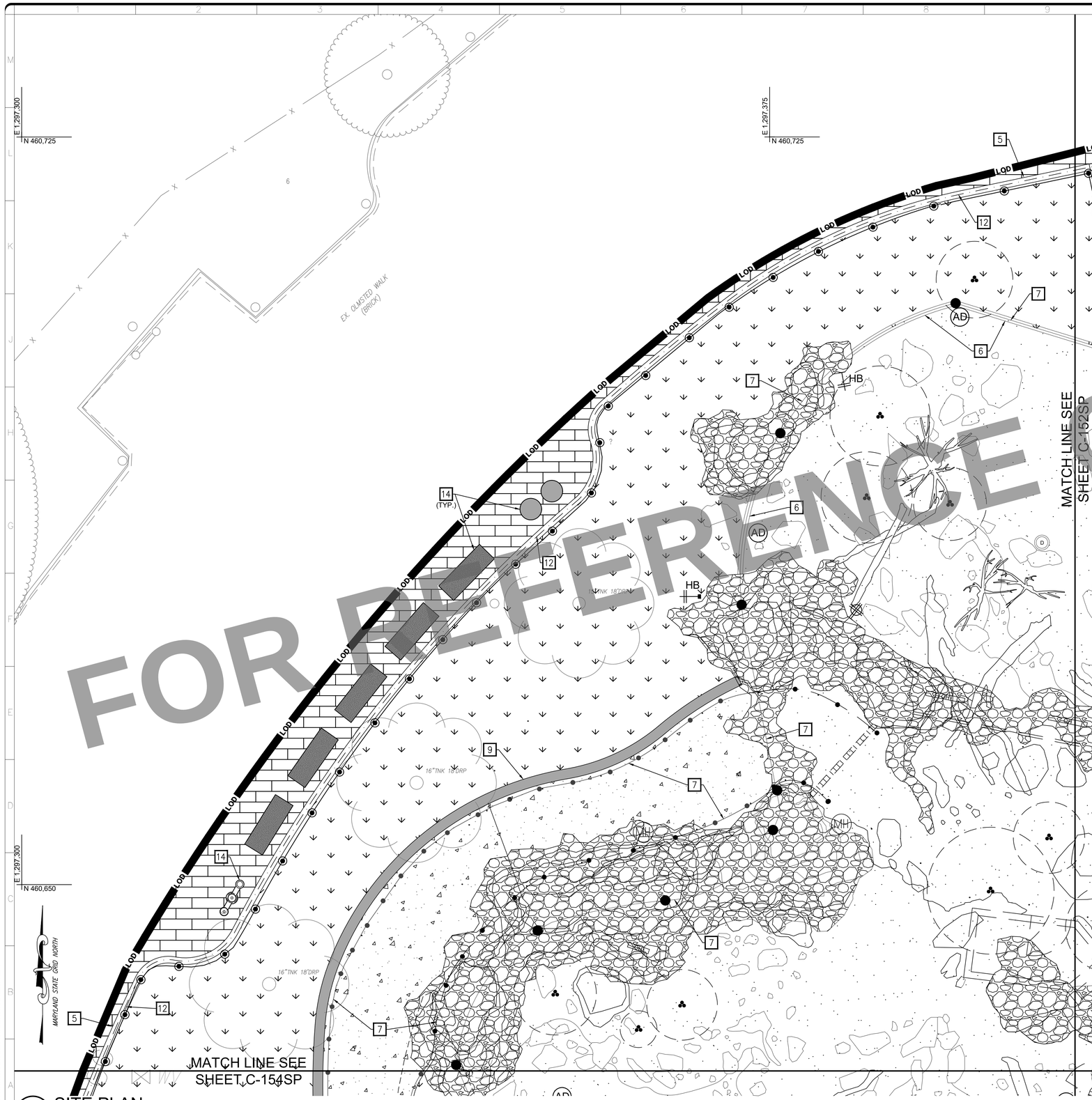
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SITE PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 150 SP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 SITE PLAN
C-151SP
SCALE = 1" = 20'

DOB PERMIT STAMP

KEYNOTES

1. NEW CARE BUILDING. REFER TO ARCHITECTURAL FOR FURTHER INFORMATION.
2. NEW SHADE STRUCTURE. REFER TO ARCHITECTURAL FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
3. NEW BIORETENTION STORMWATER MANAGEMENT BMP. SEE DETAIL ON SHEET C-507DT FOR SOIL AND GRAVEL CROSS SECTION. REFER TO LANDSCAPE REGARDING PLANTINGS.
4. NEW PLANTER BOX STORMWATER MANAGEMENT BMP. SEE DETAIL ON SHEET C-507DT FOR SOIL AND GRAVEL CROSS SECTION. REFER TO LANDSCAPE REGARDING PLANTINGS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
5. NEW CONCRETE CURB. REFER TO LANDSCAPE FOR DETAIL.
6. NEW HABITAT RETAINING WALL. REFER TO EXHIBIT FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
7. NEW GUARD BARRIERS/ENCLOSURE/HANDRAIL. REFER TO EXHIBIT FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL IN ABOVE GROUND PACKAGE FOR FOUNDATION DETAIL.
8. NEW ENCLOSURE GATE. REFER TO EXHIBIT FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL IN ABOVE GROUND PACKAGE FOR FOUNDATION DETAIL.
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14. SITE FURNISHINGS. REFER TO LANDSCAPE FOR DETAIL.
15. PAVING ADJACENT TO BUILDING. REFER TO STRUCTURAL FOR DETAIL.

LEGEND

- NEW STORMWATER MANAGEMENT PRACTICE SEE SHEET C-507DT FOR DETAIL.
- NEW GRASS/PERMANENT SEEDING. REFER TO LANDSCAPE FOR FURTHER INFORMATION.
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- ASIA TRAIL STAINED CONCRETE PAVING REPAIR. MATCH EXISTING ADJACENT.
- NEW HABITAT ROCKS. REFER TO EXHIBIT REGARDING MATERIAL. REFER TO STRUCTURAL REGARDING FOUNDATION.
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- NEW HABITAT POND WATER OVER HABITAT ROCKS. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- TOP OF EARTHEN BERM
- RIPRAP FOREBAY/RIPAP EROSION STONE. SEE DETAILS ON SHEET C-507DT.
- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

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ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
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OPDC PROJECT NUMBER	2533105
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DRAWING TITLE	SITE PLAN

WORKING STAFF		
ST	KK	SM
DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 151 SP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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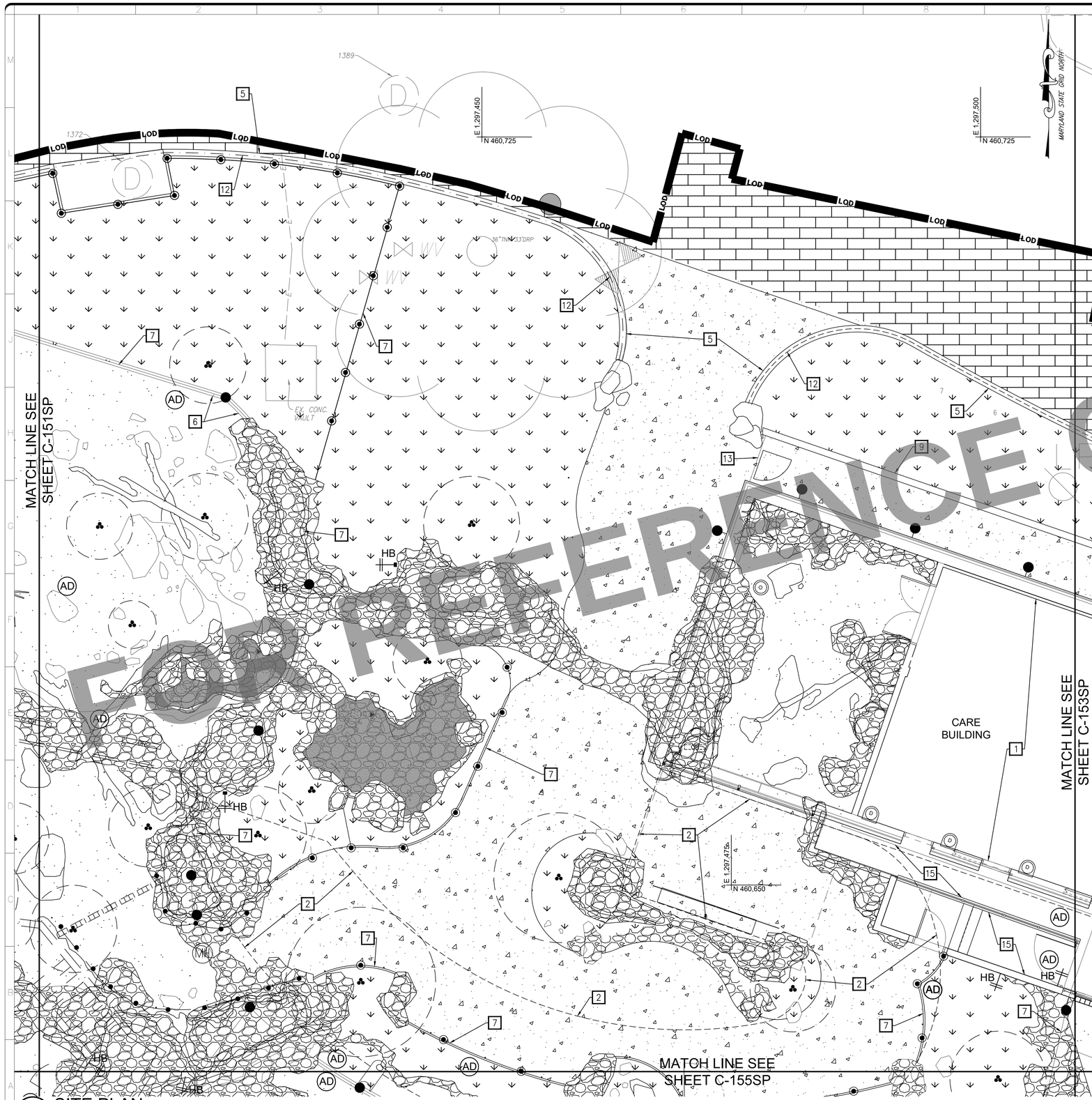
XX-XXXXXX BY: Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-152SP SITE PLAN
SCALE = 1" = 20'

DOB PERMIT STAMP

KEYNOTES

1. NEW CARE BUILDING. REFER TO ARCHITECTURAL FOR FURTHER INFORMATION.
2. NEW SHADE STRUCTURE. REFER TO ARCHITECTURAL FOR MATERIAL AND STYLE SPECIFICATIONS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
3. NEW BIORETENTION STORMWATER MANAGEMENT BMP. SEE DETAIL ON SHEET C-507DT FOR SOIL AND GRAVEL CROSS SECTION. REFER TO LANDSCAPE REGARDING PLANTINGS.
4. NEW PLANTER BOX STORMWATER MANAGEMENT BMP. SEE DETAIL ON SHEET C-507DT FOR SOIL AND GRAVEL CROSS SECTION. REFER TO LANDSCAPE REGARDING PLANTINGS. REFER TO STRUCTURAL FOR FOUNDATION DETAIL.
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14. SITE FURNISHINGS. REFER TO LANDSCAPE FOR DETAIL.
15. PAVING ADJACENT TO BUILDING. REFER TO STRUCTURAL FOR DETAIL.

LEGEND

- NEW STORMWATER MANAGEMENT PRACTICE SEE SHEET C-507DT FOR DETAIL.
- NEW GRASS/PERMANENT SEEDING. REFER TO LANDSCAPE FOR FURTHER INFORMATION.
- NEW PEDESTRIAN CONCRETE PAVEMENT. SEE DETAIL ON SHEET C-510DT FOR PAVEMENT CROSS SECTION. REFER TO LANDSCAPE REGARDING SURFACING.
- NEW VEHICULAR CONCRETE PAVEMENT. SEE DETAIL ON SHEET C-510DT.
- OLMSTEAD HEX PAVING REPAIR. MATCH EXISTING ADJACENT. COORDINATE WITH CONTRACTING OFFICER REGARDING USING SALVAGED BRICKS OR NEW BRICKS.
- ASIA TRAIL STAINED CONCRETE PAVING REPAIR. MATCH EXISTING ADJACENT.
- NEW HABITAT ROCKS. REFER TO EXHIBIT REGARDING MATERIAL. REFER TO STRUCTURAL REGARDING FOUNDATION.
- NEW HABITAT SURFACING. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- NEW HABITAT POND WATER OVER HABITAT ROCKS. REFER TO EXHIBIT FOR FURTHER INFORMATION.
- TOP OF EARTHEN BERM
- RIPRAP FOREBAY/RIPAP EROSION STONE. SEE DETAILS ON SHEET C-507DT.
- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

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

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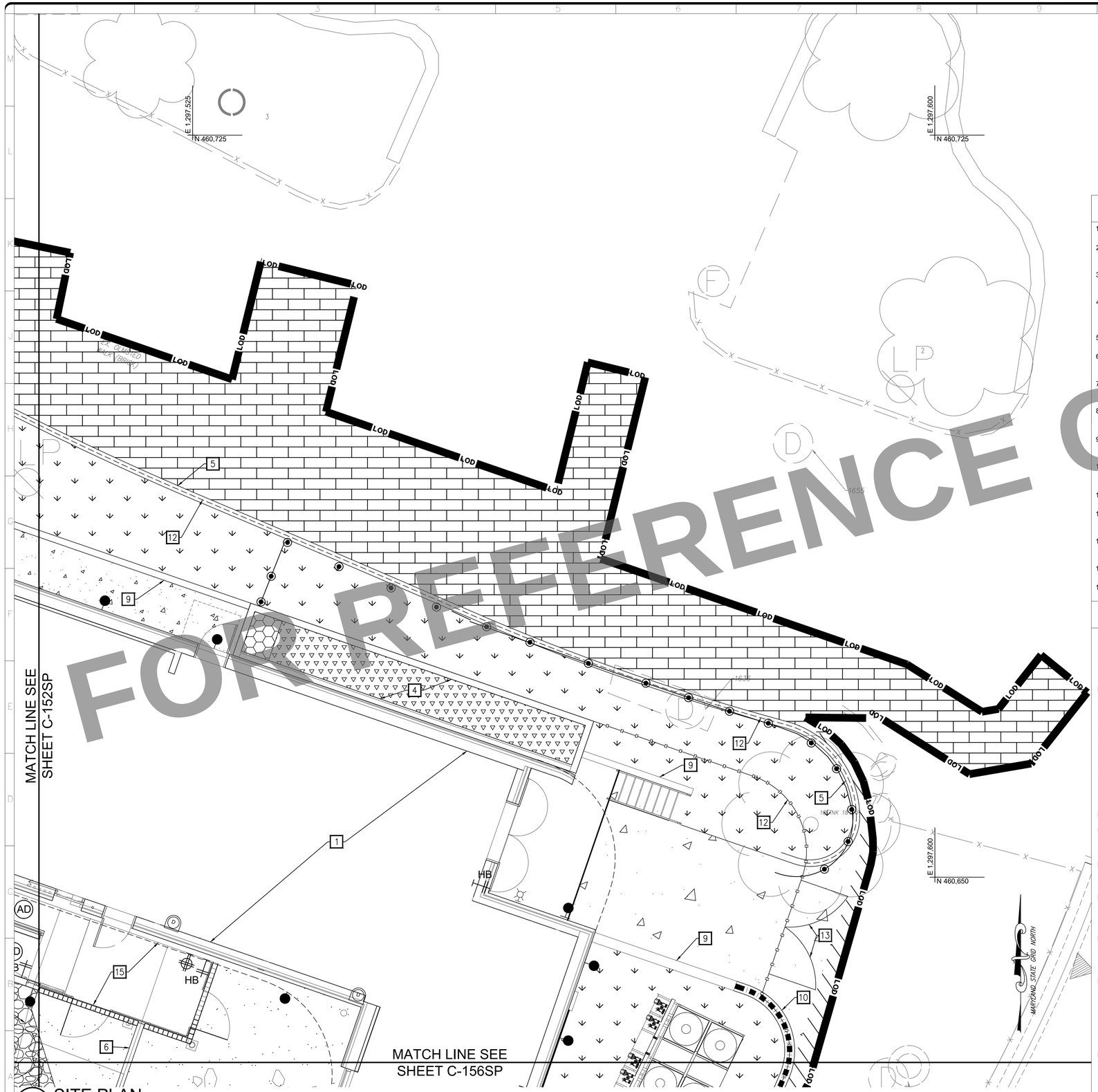
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SITE PLAN

WORKING STAFF		
ST	KK	SM
DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO.			
C	152	SP	
DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE

OF

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-153SP SITE PLAN
SCALE = 1" = 20'

DOB PERMIT STAMP

KEYNOTES

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LEGEND

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- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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STAMP

TRUE NORTH

KEY PLAN

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SCALE 1" = 5'

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DRAWING TITLE	SITE PLAN

WORKING STAFF	ST	KK	SM
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SHEET NO. C 1 53 SP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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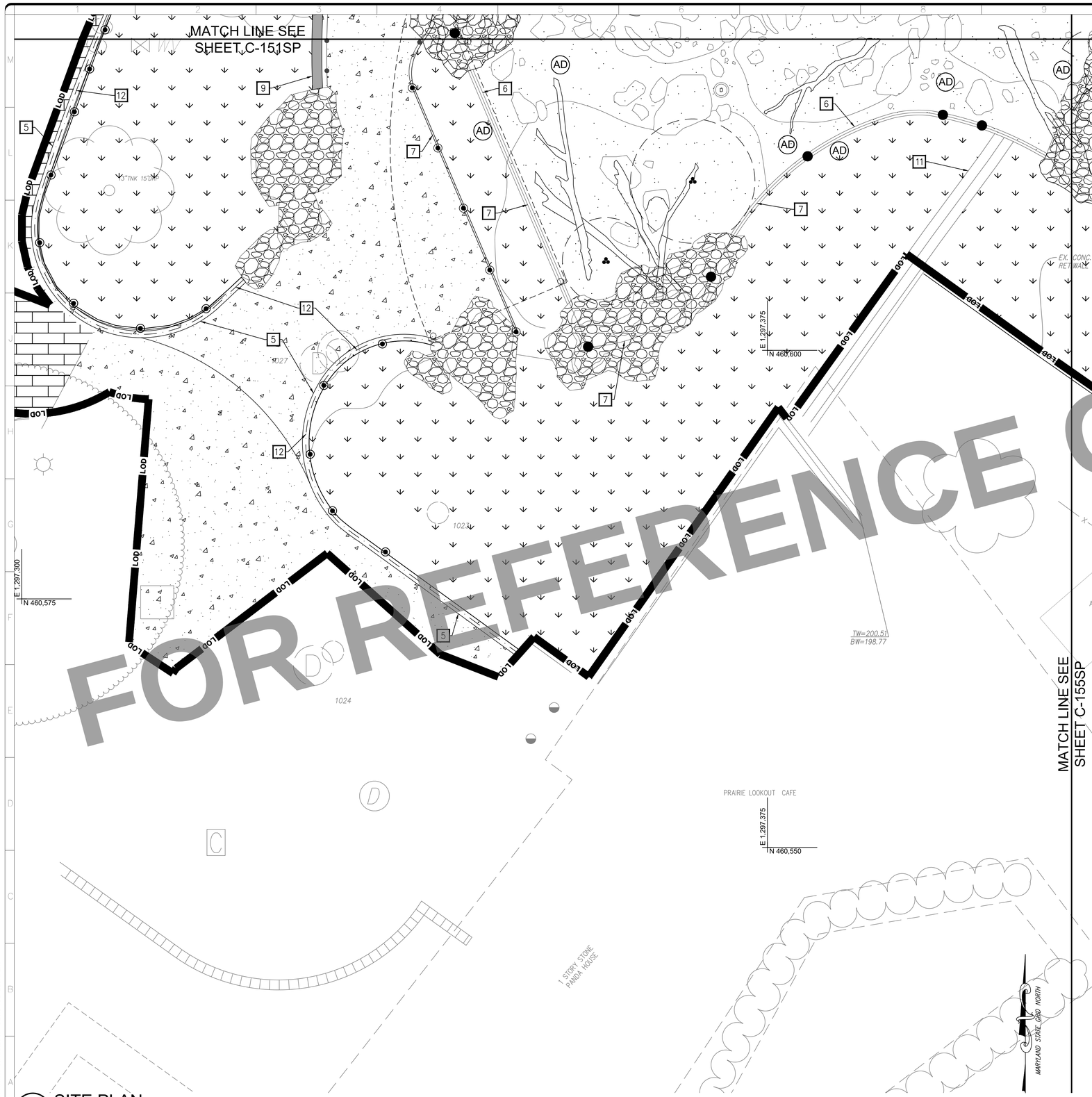

1 C-154SP SITE PLAN
SCALE = 1" = 20'

DOB PERMIT STAMP

KEYNOTES

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LEGEND

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- TOP OF EARTHEN BERM
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- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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STAMP

TRUE NORTH

KEY PLAN

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SCALE 1" = 5'

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SITE PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 1 54 SP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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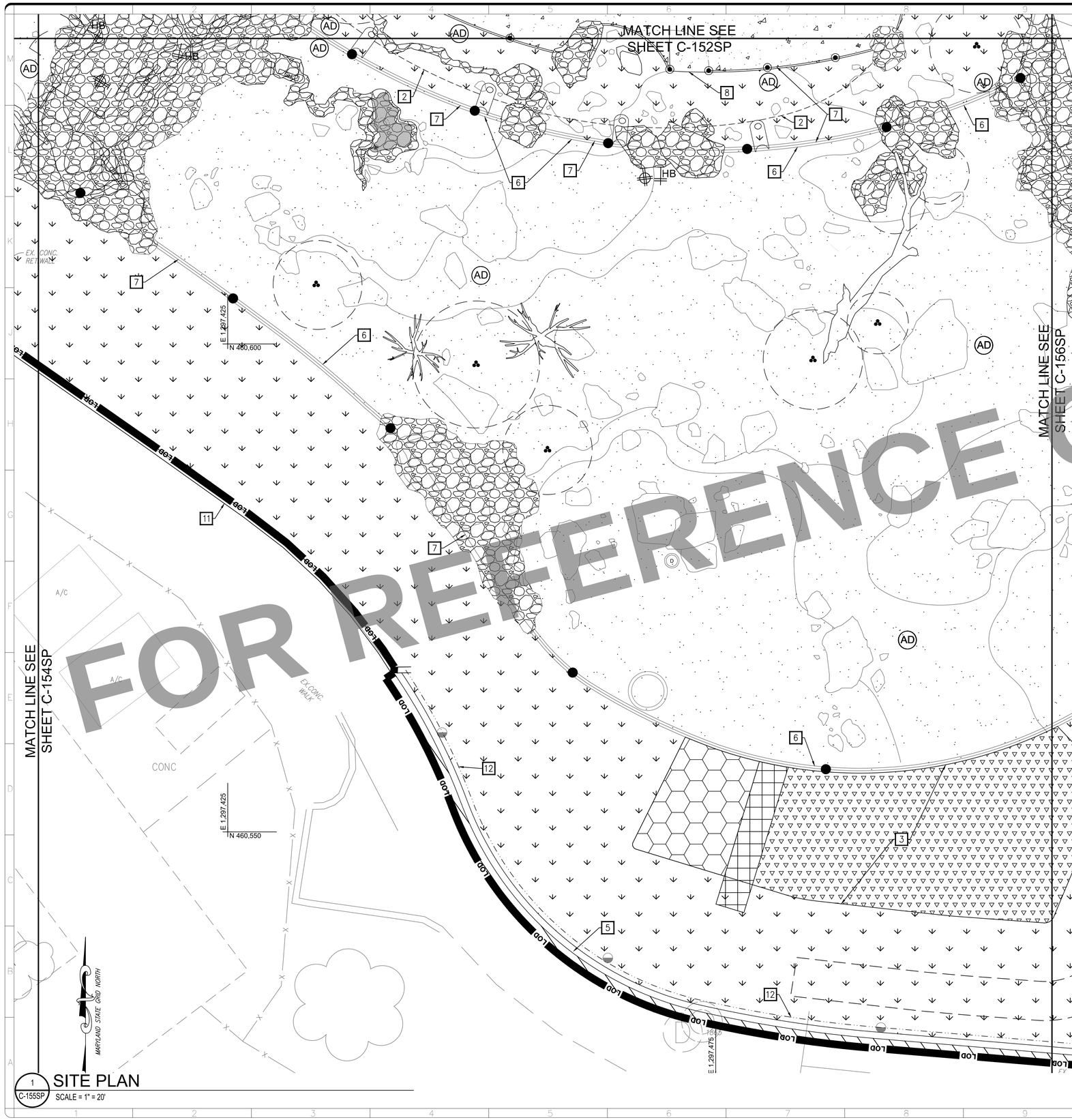

1 C-155SP **SITE PLAN**
SCALE = 1" = 20'

DOB PERMIT STAMP

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LEGEND

- NEW STORMWATER MANAGEMENT PRACTICE SEE SHEET C-507DT FOR DETAIL.
- NEW GRASS/PERMANENT SEEDING. REFER TO LANDSCAPE FOR FURTHER INFORMATION.
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- TOP OF EARTHEN BERM
- RIPRAP FOREBAY/RIPAP EROSION STONE. SEE DETAILS ON SHEET C-507DT.
- GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SITE PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO.	C	155	SP
OF	DISCIPLINE	TYPE SEQUENCE	DRAWING TYPE

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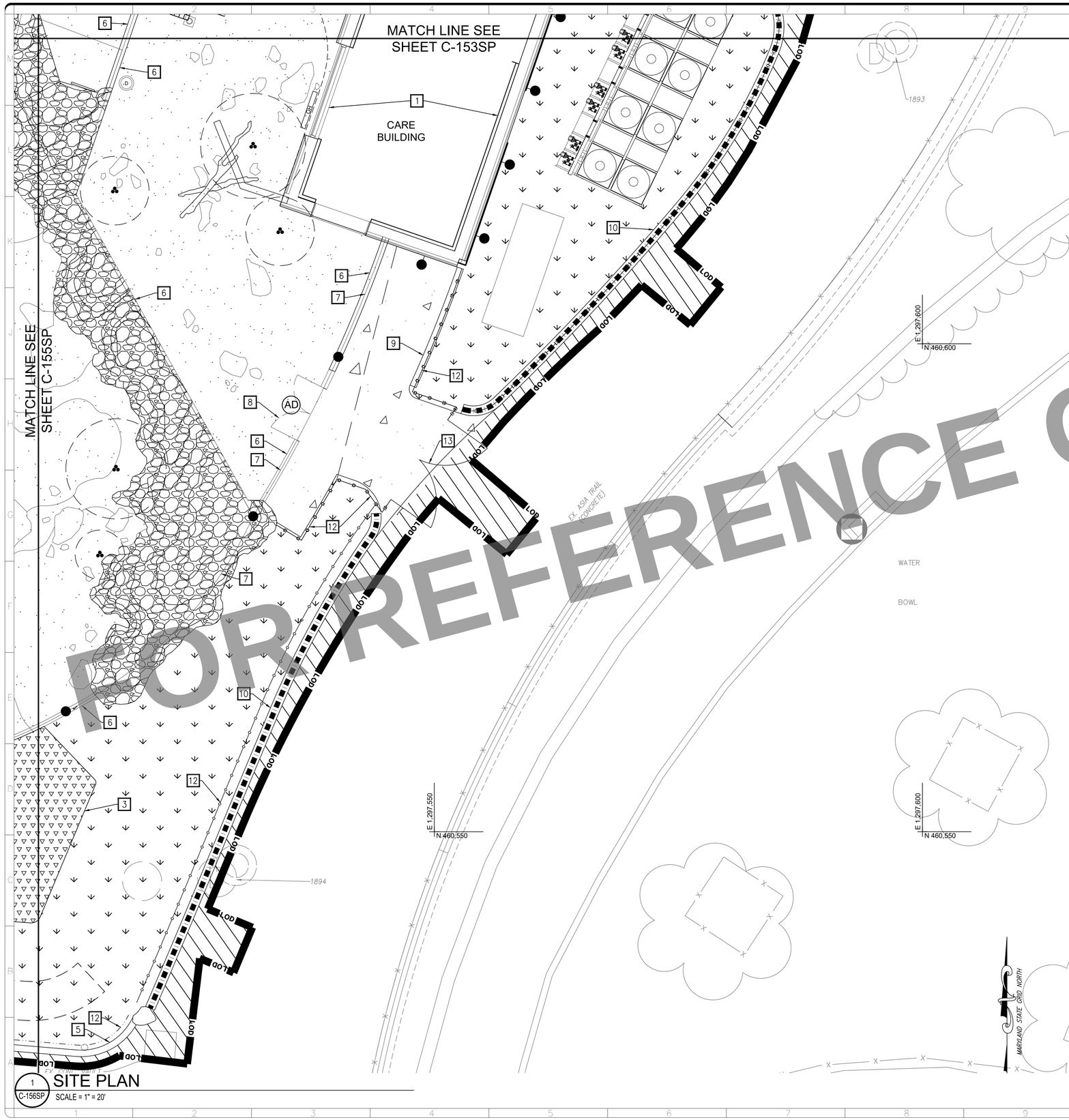

FOR REFERENCE ONLY

1 C-156SP SITE PLAN
SCALE = 1" = 20'

DOB PERMIT STAMP

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LEGEND

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NEW GRASS/PERMANENT SEEDING. REFER TO LANDSCAPE FOR FURTHER INFORMATION.

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TOP OF EARTHEN BERM

RIPRAP FOREBAY/RIPAP EROSION STONE. SEE DETAILS ON SHEET C-507DT.

GABION WEIR. SEE DETAILS ON SHEET C-507DT.

ALF

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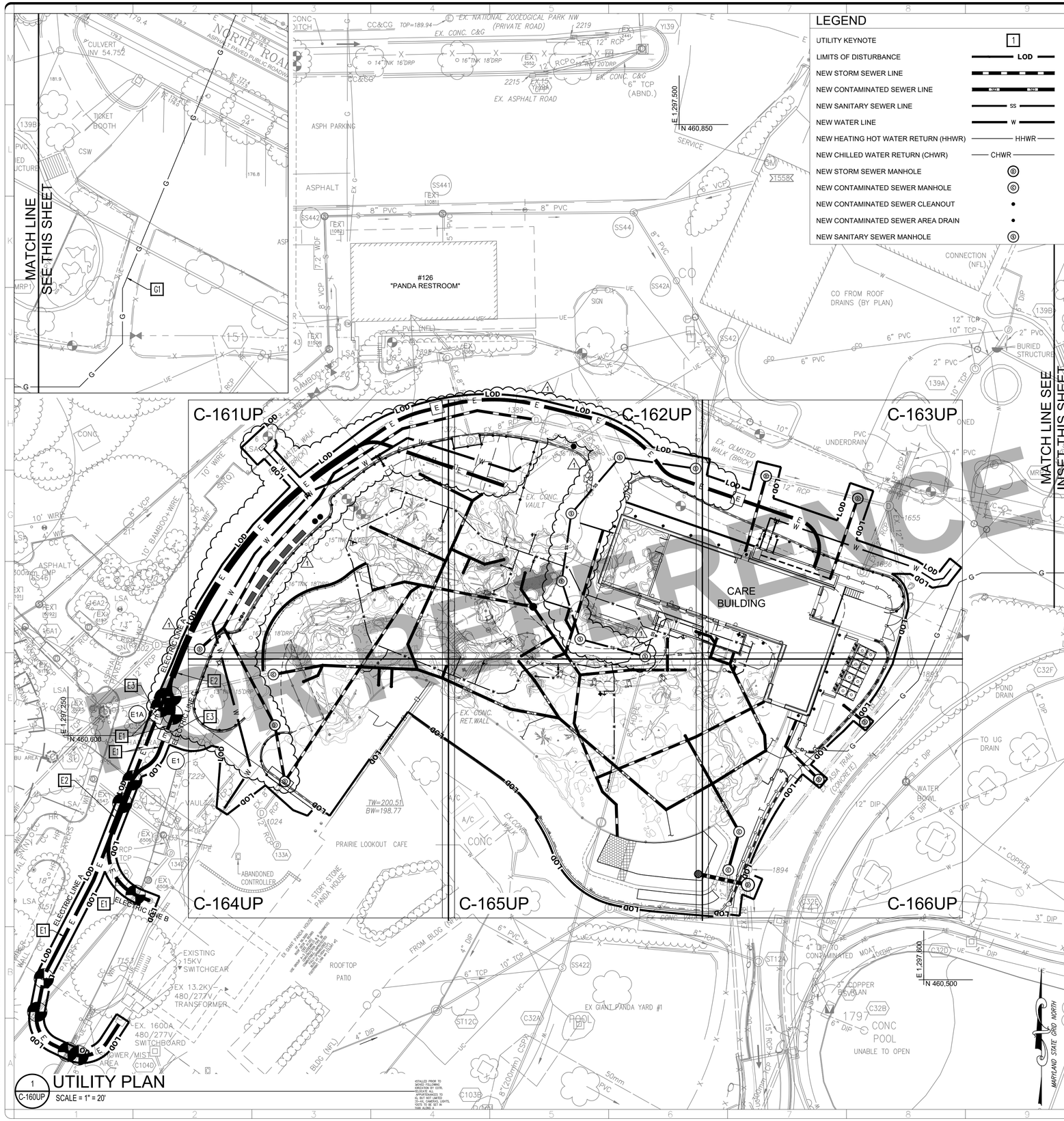

1 C-160UP

UTILITY PLAN

SCALE = 1" = 20'

LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	SNEW SNEW
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW HEATING HOT WATER RETURN (HHWR)	HHWR
NEW CHILLED WATER RETURN (CHWR)	CHWR
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

KEYNOTES

D1. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12" PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D3. STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-516DT FOR DETAIL.
D4. STORM SEWER NYLOPLAST DRAIN BASIN WITH GRATE. SEE SHEET C-516DT FOR DETAIL.
D5. 18" RCP CLASS IV STORM PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
D8. 12" X 12" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D9. 12" X 6" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D10. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO STORM SEWER.
D11. STORM TRENCH DRAIN. SEE SHEET C-516DT FOR DETAIL.
D12. STORM SEWER PRECAST 60" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D13. 12" PVC SCHEDULE 80 STORM PIPE CLEANOUT.
D14. STORMWATER PLANTER OVERFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D15. 6" PERFORATED PVC SHEDULE 40 PVC.
D16. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH PRECAST BASE. SEE SHEET C-515DT FOR DETAIL. 1
D17. 12" PVC SCHEDULE 80 STORM SEWER PIPE TO BE INSTALLED BY BELOW GRADE CONTRACTOR TO BE REMOVED BY ABOVE GROUND CONTRACTOR. SEE SHEET C-515DT FOR DETAIL.
D18. STORM CURB CATCH BASIN. SEE SHEET C-516DT FOR DETAIL.
S1. SANITARY SEWER PRECAST CONCRETE DROP MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S2. 8" PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S3. SANITARY SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S4. 4" PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S5. SANITARY SEWER CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
S6. SANITARY SEWER FORCEMAIN. SEE PLUMBING FOR SIZE AND MATERIAL.
S7. SANITARY SEWER FORCEMAIN CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION AND FOR EJECTOR PUMP IN BUILDING'S INTERIOR.
C1. CONTAMINATED STORM SEWER PRECAST CONCRETE DROP MANHOLE. SEE SHEET C-525DT FOR DETAIL.
C2. 12" PVC SCHEDULE 80 CONTAMINATED STORM SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C3. CONTAMINATED STORM SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-525DT FOR DETAIL.
C4. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE. SEE SHEET C-525DT FOR DETAIL.
C5. 12" X 6" PVC SCHEDULE 80 CONTAMINATED STORM PIPE WYE FITTING.
C6. 12" PVC SCHEDULE 80 CONTAMINATED STORM PIPE CLEANOUT.
C7. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-525DT FOR DETAIL.
C8. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO CONTAMINATED STORM SEWER.
C9. 3" PVC SCHEDULE 80 CONTAMINATED SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C10. SEE PLUMBING FOR CONTINUATION TO TRENCH DRAIN.
C11. SEE PLUMBING FOR CONTINUATION INTO THE BUILDING.
C12. CONTAMINATED STORM TRENCH DRAIN. SEE SHEET C-525DT FOR DETAIL.
W1. 10" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W2. 10" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W4. 10" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W5. 10" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W6. 6" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 6" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W7. 6" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W8. 6" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W9. 6" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W10. 6" X 6" TEE WITH CONCRETE THRUST BLOCK AND A SINGLE 6" X 3" REDUCER. SEE SHEET C-530DT FOR DETAIL.
W11. 3" MJ DIP CLASS 56 RESTRAINED JOINT DOMESTIC WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W12. 6" DIP 90° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W13. 3" GATE VALVE. SEE SHEET C-530DT FOR DETAIL.
W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6" MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W16. 6" POST INDICATOR VALVE. SEE SHEET C-530DT FOR DETAIL.
W17. FIRE WATER SERVICE CONNECTION TO BUILDING. SEE FIRE PROTECTION FOR CONTINUATION.
W18. HABITAT WATER SERVICE CONNECTION. SEE PLUMBING FOR CONTINUATION.
W19. 3" MJ DIP CLASS 56 RESTRAINED JOINT HOSE BIB AND DRINKER WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
W22. FIRE HYDRANT. SEE SHEET C-531DT FOR DETAIL.
W23. POOL SUPPLY FIXTURE. SEE EXHIBIT FOR DETAILS.
W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION.
W26. 3" X 3" TEE WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DTFOR DETAIL.
W27. 3" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
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W29. 3" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W30. 3" X 3" CROSS FITTING.
W31. 10" X 6" TEE. SEE SHEET C-530DT FOR DETAIL.
W32. 6" BLOWOFF VALVE. SEE SHEET C-531DT FOR DETAIL.
W33. 6" ME DIP CLASS 56 RESTRAINED JOINT WATER LINE SUPPLYING SERVICE TO THE IRRIGATION NETWORK. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W34. RELOCATED IRRIGATION CONTROLLER, BACKFLOW PREVENTER, AND GATE VALVE INFRASTRUCTURE. REFER TO IRRIGATION FOR FURTHER DETAILS.
W35. IRRIGATION SUPPLY WATER LINE. REFER TO IRRIGATION FOR FURTHER DETAILS. 1
E1. 4-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.
T1. 2-WAY 4" CONDUIT ENCASED TELECOMMUNICATION DUCTBANK. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.
G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
G2. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR
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M1. HVAC WATER LINES. SEE MECHANICAL FOR INFORMATION.

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MOSKOWITZ
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

20' 0' 20' 40'
SCALE 1" = 20'

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

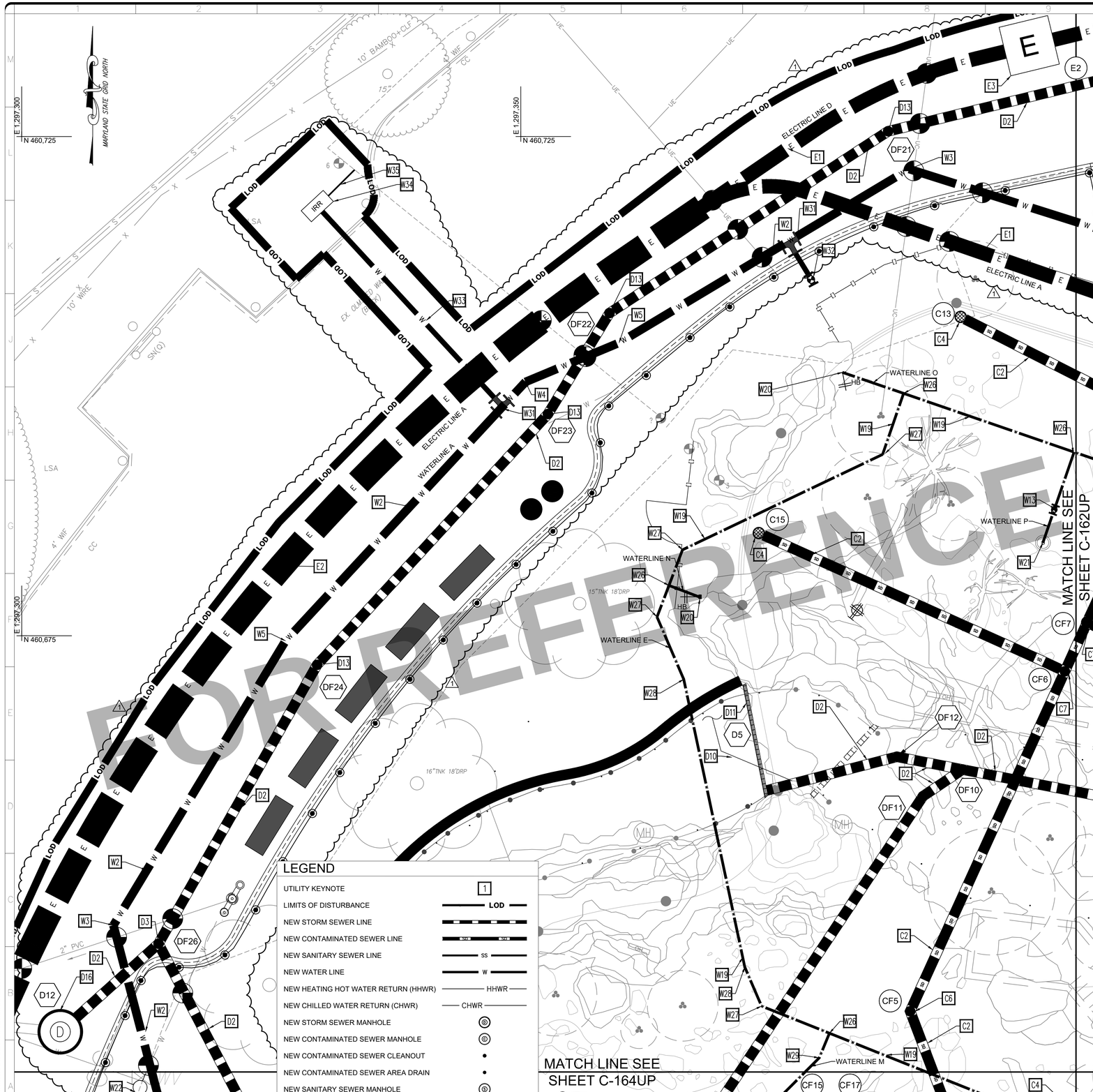
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	ST	KK	SM

SHEET NO. 7 OF 35

DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
C	1	60	UP

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



KEYNOTES

D1. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12" PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D3. STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-516DT FOR DETAIL.
D4. STORM SEWER NYLOPLAST DRAIN BASIN WITH GRATE. SEE SHEET C-516DT FOR DETAIL.
D5. 18" RCP CLASS IV STORM PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
D8. 12" X 12" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
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S3. SANITARY SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-520DT FOR DETAIL.
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S5. SANITARY SEWER CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
S6. SANITARY SEWER FORCEMAIN. SEE PLUMBING FOR SIZE AND MATERIAL.
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W1. 10" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W2. 10" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
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W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6" MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W16. 6" POST INDICATOR VALVE. SEE SHEET C-530DT FOR DETAIL.
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W18. HABITAT WATER SERVICE CONNECTION. SEE PLUMBING FOR CONTINUATION.
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W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
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W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION.
W26. 3" X 3" TEE WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DTFOR DETAIL.
W27. 3" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
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W31. 10" X 6" TEE. SEE SHEET C-530DT FOR DETAIL.
W32. 6" BLOWOFF VALVE. SEE SHEET C-531DT FOR DETAIL.
W33. 6" ME DIP CLASS 56 RESTRAINED JOINT WATER LINE SUPPLYING SERVICE TO THE IRRIGATION NETWORK. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W34. RELOCATED IRRIGATION CONTROLLER, BACKFLOW PREVENTER, AND GATE VALVE INFRASTRUCTURE. REFER TO IRRIGATION FOR FURTHER DETAILS.
W35. IRRIGATION SUPPLY WATER LINE. REFER TO IRRIGATION FOR FURTHER DETAILS.
E1. 4-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.
T1. 2-WAY 4" CONDUIT ENCASED TELECOMMUNICATION DUCTBANK. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.
G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
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M1. HVAC WATER LINES. SEE MECHANICAL FOR INFORMATION.

LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	SCHP SCHP
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW HEATING HOT WATER RETURN (HHWR)	HHWR
NEW CHILLED WATER RETURN (CHWR)	CHWR
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

1 C-161UP UTILITY PLAN
SCALE = 1" = 5'

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MOORE
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

5' 0' 5' 10'
SCALE 1" = 5'
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

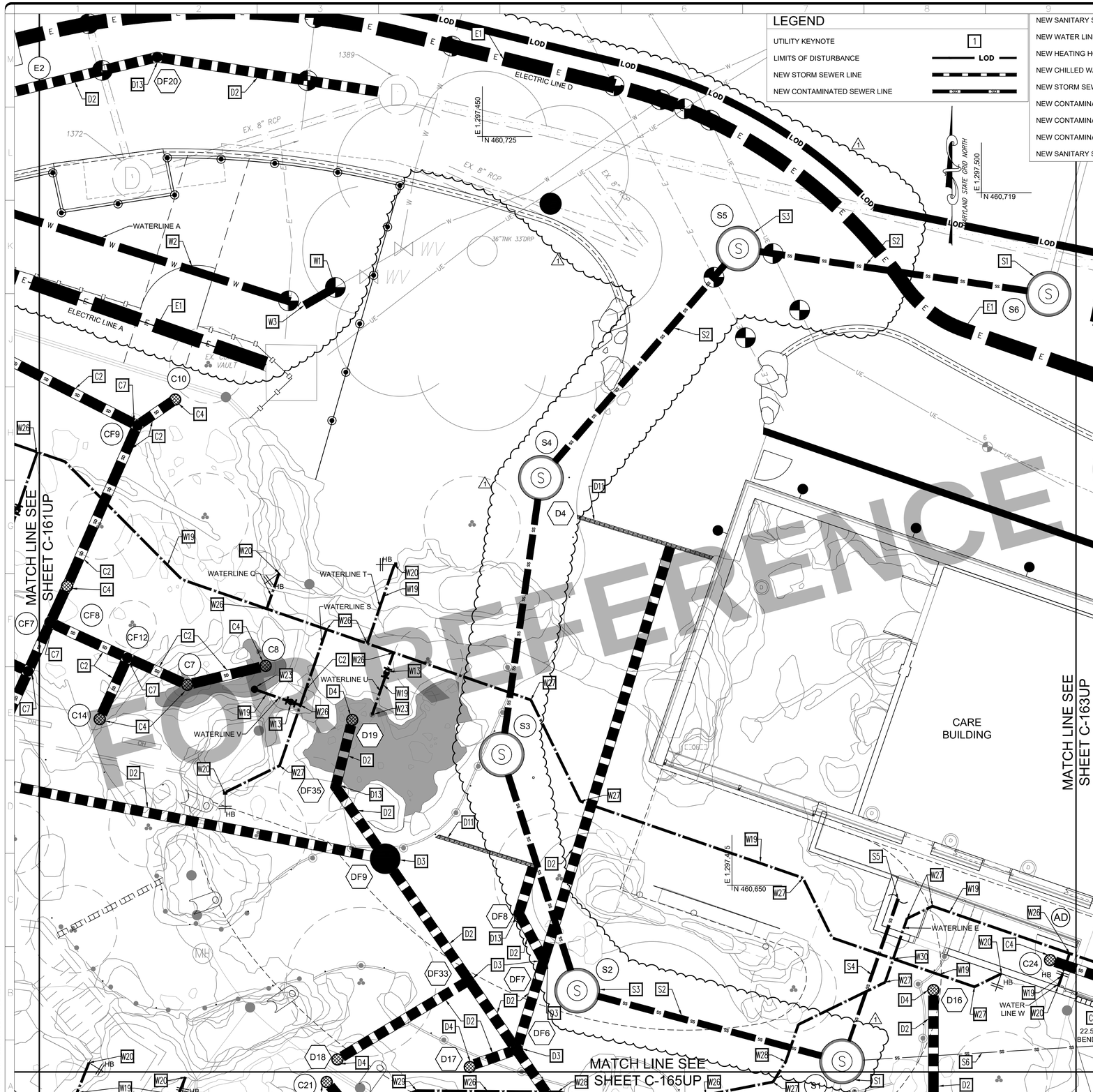
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 8 OF 35

C	161	UP
DISCIPLINE	TYPE SEQUENCE	DRAWING TYPE



1 C-162UP UTILITY PLAN
SCALE = 1" = 5'

LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW HEATING HOT WATER RETURN (HHWR)	HHWR
NEW CHILLED WATER RETURN (CHWR)	CHWR
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

DOB PERMIT STAMP

KEYNOTES

D1. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12" PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
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D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
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C11. SEE PLUMBING FOR CONTINUATION INTO THE BUILDING.
C12. CONTAMINATED STORM TRENCH DRAIN. SEE SHEET C-525DT FOR DETAIL.
W1. 10" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W2. 10" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W4. 10" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W5. 10" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W6. 6" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 6" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W7. 6" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W8. 6" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W9. 6" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W10. 6" X 6" TEE WITH CONCRETE THRUST BLOCK AND A SINGLE 6" X 3" REDUCER. SEE SHEET C-530DT FOR DETAIL.
W11. 3" MJ DIP CLASS 56 RESTRAINED JOINT DOMESTIC WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W12. 6" DIP 90° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W13. 3" GATE VALVE. SEE SHEET C-530DT FOR DETAIL.
W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6" MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W16. 6" POST INDICATOR VALVE. SEE SHEET C-530DT FOR DETAIL.
W17. FIRE WATER SERVICE CONNECTION TO BUILDING. SEE FIRE PROTECTION FOR CONTINUATION.
W18. HABITAT WATER SERVICE CONNECTION. SEE PLUMBING FOR CONTINUATION.
W19. 3" MJ DIP CLASS 56 RESTRAINED JOINT HOSE BIB AND DRINKER WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
W22. FIRE HYDRANT. SEE SHEET C-531DT FOR DETAIL.
W23. POOL SUPPLY FIXTURE. SEE EXHIBIT FOR DETAILS.
W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION.
W26. 3" X 3" TEE WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DTFOR DETAIL.
W27. 3" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W28. 3" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W29. 3" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W30. 3" X 3" CROSS FITTING.
W31. 10" X 6" TEE. SEE SHEET C-530DT FOR DETAIL.
W32. 6" BLOWOFF VALVE. SEE SHEET C-531DT FOR DETAIL.
W33. 6" ME DIP CLASS 56 RESTRAINED JOINT WATER LINE SUPPLYING SERVICE TO THE IRRIGATION NETWORK. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W34. RELOCATED IRRIGATION CONTROLLER, BACKFLOW PREVENTER, AND GATE VALVE INFRASTRUCTURE. REFER TO IRRIGATION FOR FURTHER DETAILS.
W35. IRRIGATION SUPPLY WATER LINE. REFER TO IRRIGATION FOR FURTHER DETAILS.
E1. 4-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.
T1. 2-WAY 4" CONDUIT ENCASED TELECOMMUNICATION DUCTBANK. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.
G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
G2. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR
G3. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR .
M1. HVAC WATER LINES. SEE MECHANICAL FOR INFORMATION.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MOORE
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

5' 0' 5' 10'
SCALE 1" = 5'
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

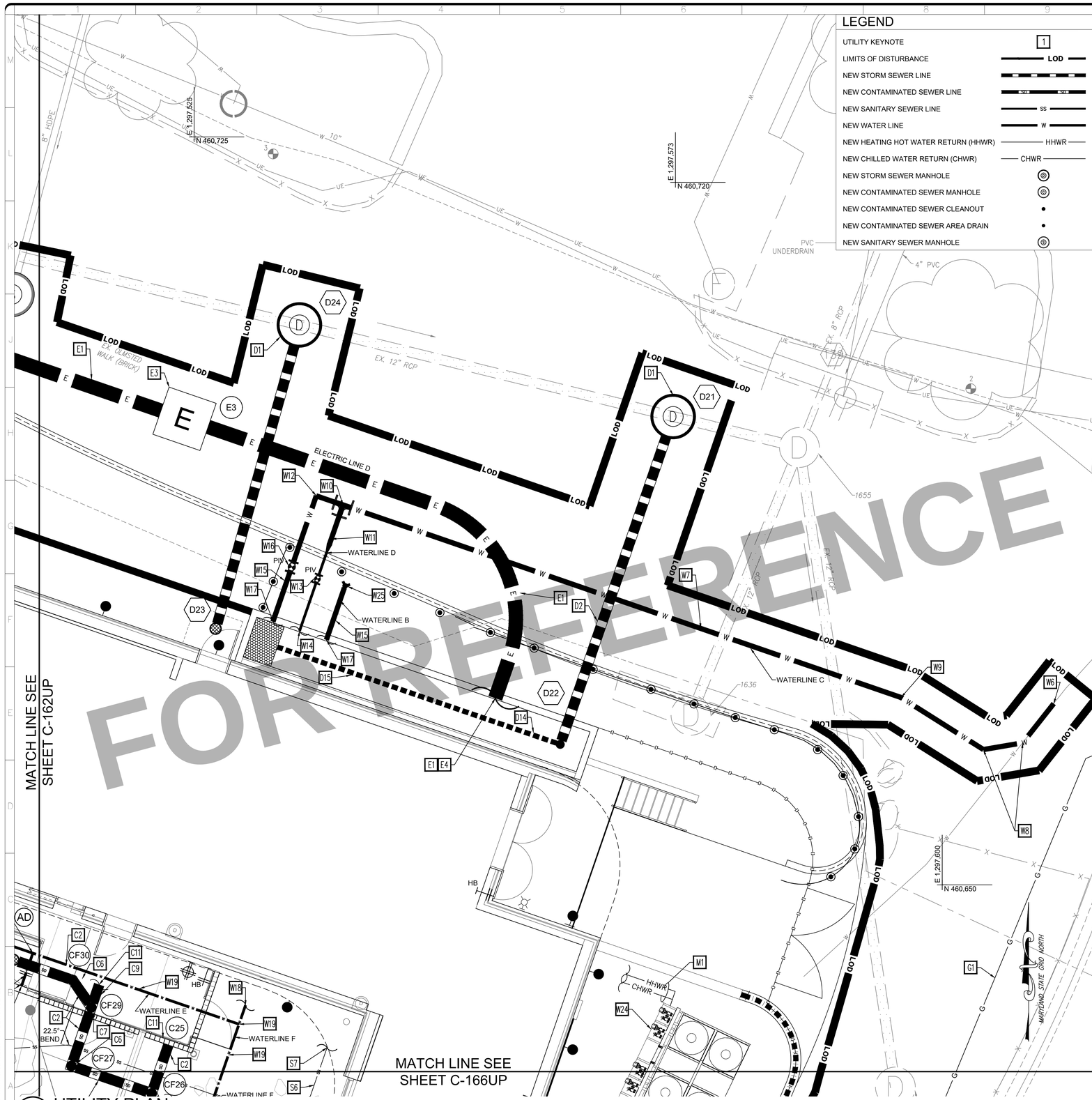
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 9 OF 35

C	1	62	UP
DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-163UP UTILITY PLAN
SCALE = 1" = 5'

LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW HEATING HOT WATER RETURN (HHWR)	HHWR
NEW CHILLED WATER RETURN (CHWR)	CHWR
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

DOB PERMIT STAMP

KEYNOTES

D1. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12" PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D3. STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-516DT FOR DETAIL.
D4. STORM SEWER NYLOPLAST DRAIN BASIN WITH GRATE. SEE SHEET C-516DT FOR DETAIL.
D5. 18" RCP CLASS IV STORM PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
D8. 12" X 12" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D9. 12" X 6" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D10. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO STORM SEWER.
D11. STORM TRENCH DRAIN. SEE SHEET C-516DT FOR DETAIL.
D12. STORM SEWER PRECAST 60" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D13. 12" PVC SCHEDULE 80 STORM PIPE CLEANOUT.
D14. STORMWATER PLANTER OVERFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D15. 6" PERFORATED PVC SHEDULE 40 PVC
D16. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH PRECAST BASE. SEE SHEET C-515DT FOR DETAIL. 1
D17. 12" PVC SCHEDULE 80 STORM SEWER PIPE TO BE INSTALLED BY BELOW GRADE CONTRACTOR TO BE REMOVED BY ABOVE GROUND CONTRACTOR. SEE SHEET C-515DT FOR DETAIL.
D18. STORM CURB CATCH BASIN. SEE SHEET C-516DT FOR DETAIL.
S1. SANITARY SEWER PRECAST CONCRETE DROP MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S2. 8" PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S3. SANITARY SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S4. 4" PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S5. SANITARY SEWER CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
S6. SANITARY SEWER FORCEMAIN. SEE PLUMBING FOR SIZE AND MATERIAL.
S7. SANITARY SEWER FORCEMAIN CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION AND FOR EJECTOR PUMP IN BUILDING'S INTERIOR.
C1. CONTAMINATED STORM SEWER PRECAST CONCRETE DROP MANHOLE. SEE SHEET C-525DT FOR DETAIL.
C2. 12" PVC SCHEDULE 80 CONTAMINATED STORM SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C3. CONTAMINATED STORM SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-525DT FOR DETAIL.
C4. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE. SEE SHEET C-525DT FOR DETAIL.
C5. 12" X 6" PVC SCHEDULE 80 CONTAMINATED STORM PIPE WYE FITTING.
C6. 12" PVC SCHEDULE 80 CONTAMINATED STORM PIPE CLEANOUT.
C7. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-525DT FOR DETAIL.
C8. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO CONTAMINATED STORM SEWER.
C9. 3" PVC SCHEDULE 80 CONTAMINATED SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C10. SEE PLUMBING FOR CONTINUATION TO TRENCH DRAIN.
C11. SEE PLUMBING FOR CONTINUATION INTO THE BUILDING.
C12. CONTAMINATED STORM TRENCH DRAIN. SEE SHEET C-525DT FOR DETAIL.
W1. 10" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W2. 10" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W4. 10" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W5. 10" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W6. 6" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 6" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W7. 6" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
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W11. 3" MJ DIP CLASS 56 RESTRAINED JOINT DOMESTIC WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W12. 6" DIP 90° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W13. 3" GATE VALVE. SEE SHEET C-530DT FOR DETAIL.
W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6" MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W16. 6" POST INDICATOR VALVE. SEE SHEET C-530DT FOR DETAIL.
W17. FIRE WATER SERVICE CONNECTION TO BUILDING. SEE FIRE PROTECTION FOR CONTINUATION.
W18. HABITAT WATER SERVICE CONNECTION. SEE PLUMBING FOR CONTINUATION.
W19. 3" MJ DIP CLASS 56 RESTRAINED JOINT HOSE BIB AND DRINKER WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
W22. FIRE HYDRANT. SEE SHEET C-531DT FOR DETAIL.
W23. POOL SUPPLY FIXTURE. SEE EXHIBIT FOR DETAILS.
W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION.
W26. 3" X 3" TEE WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DTFOR DETAIL.
W27. 3" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W28. 3" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W29. 3" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W30. 3" X 3" CROSS FITTING
W31. 10" X 6" TEE. SEE SHEET C-530DT FOR DETAIL.
W32. 6" BLOWOFF VALVE. SEE SHEET C-531DT FOR DETAIL.
W33. 6" ME DIP CLASS 56 RESTRAINED JOINT WATER LINE SUPPLYING SERVICE TO THE IRRIGATION NETWORK. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W34. RELOCATED IRRIGATION CONTROLLER, BACKFLOW PREVENTER, AND GATE VALVE INFRASTRUCTURE. REFER TO IRRIGATION FOR FURTHER DETAILS. 1
W35. IRRIGATION SUPPLY WATER LINE. REFER TO IRRIGATION FOR FURTHER DETAILS.
E1. 4-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.
T1. 2-WAY 4" CONDUIT ENCASED TELECOMMUNICATION DUCTBANK. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.
G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
G2. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR
G3. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR .
M1. HVAC WATER LINES. SEE MECHANICAL FOR INFORMATION.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
ERIC W. S. MOSMAN
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 10 OF 35

C	1	63	UP
DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE

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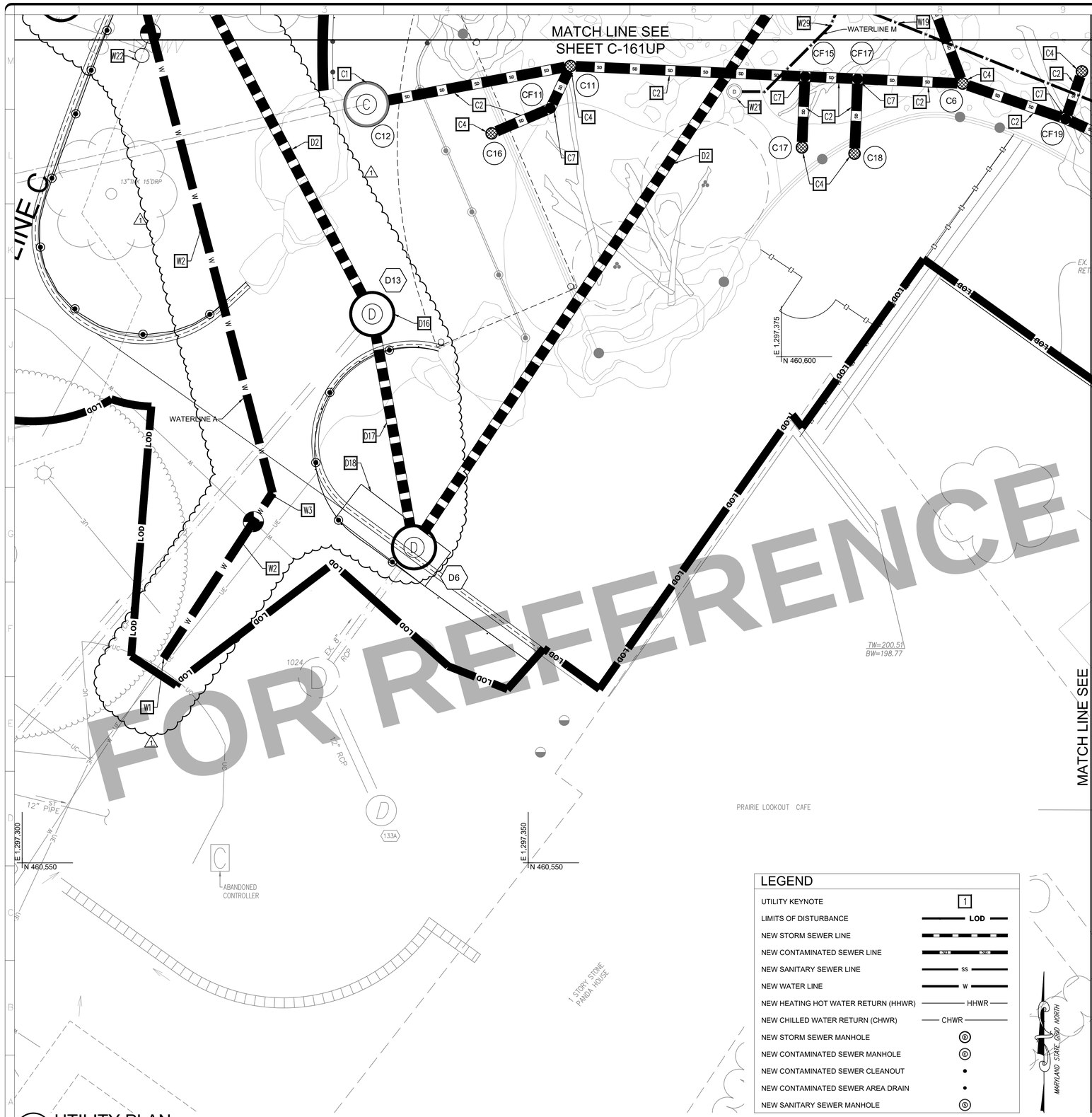

1 C-164UP **UTILITY PLAN**
SCALE = 1" = 5'

LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW HEATING HOT WATER RETURN (HHWR)	HHWR
NEW CHILLED WATER RETURN (CHWR)	CHWR
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

KEYNOTES

D1. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12" PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D3. STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-516DT FOR DETAIL.
D4. STORM SEWER NYLOPLAST DRAIN BASIN WITH GRATE. SEE SHEET C-516DT FOR DETAIL.
D5. 18" RCP CLASS IV STORM PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
D8. 12" X 12" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D9. 12" X 6" PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D10. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO STORM SEWER.
D11. STORM TRENCH DRAIN. SEE SHEET C-516DT FOR DETAIL.
D12. STORM SEWER PRECAST 60" CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D13. 12" PVC SCHEDULE 80 STORM PIPE CLEANOUT.
D14. STORMWATER PLANTER OVERFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D15. 6" PERFORATED PVC SHEDULE 40 PVC.
D16. STORM SEWER PRECAST 48" CONCRETE MANHOLE WITH PRECAST BASE. SEE SHEET C-515DT FOR DETAIL.
D17. 12" PVC SCHEDULE 80 STORM SEWER PIPE TO BE INSTALLED BY BELOW GRADE CONTRACTOR TO BE REMOVED BY ABOVE GROUND CONTRACTOR. SEE SHEET C-515DT FOR DETAIL.
D18. STORM CURB CATCH BASIN. SEE SHEET C-516DT FOR DETAIL.
S1. SANITARY SEWER PRECAST CONCRETE DROP MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S2. 8" PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S3. SANITARY SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S4. 4" PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S5. SANITARY SEWER CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
S6. SANITARY SEWER FORCEMAIN. SEE PLUMBING FOR SIZE AND MATERIAL.
S7. SANITARY SEWER FORCEMAIN CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION AND FOR EJECTOR PUMP IN BUILDING'S INTERIOR.
C1. CONTAMINATED STORM SEWER PRECAST CONCRETE DROP MANHOLE. SEE SHEET C-525DT FOR DETAIL.
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C5. 12" X 6" PVC SCHEDULE 80 CONTAMINATED STORM PIPE WYE FITTING.
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C8. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO CONTAMINATED STORM SEWER.
C9. 3" PVC SCHEDULE 80 CONTAMINATED SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C10. SEE PLUMBING FOR CONTINUATION TO TRENCH DRAIN.
C11. SEE PLUMBING FOR CONTINUATION INTO THE BUILDING.
C12. CONTAMINATED STORM TRENCH DRAIN. SEE SHEET C-525DT FOR DETAIL.
W1. 10" MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10" DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W2. 10" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W4. 10" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W5. 10" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
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W7. 6" MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
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W12. 6" DIP 90° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
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W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6" MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
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W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
W22. FIRE HYDRANT. SEE SHEET C-531DT FOR DETAIL.
W23. POOL SUPPLY FIXTURE. SEE EXHIBIT FOR DETAILS.
W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION.
W26. 3" X 3" TEE WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DTFOR DETAIL.
W27. 3" DIP 45° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W28. 3" DIP 11.25° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W29. 3" DIP 22.5° BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W30. 3" X 3" CROSS FITTING.
W31. 10" X 6" TEE. SEE SHEET C-530DT FOR DETAIL.
W32. 6" BLOWOFF VALVE. SEE SHEET C-531DT FOR DETAIL.
W33. 6" ME DIP CLASS 56 RESTRAINED JOINT WATER LINE SUPPLYING SERVICE TO THE IRRIGATION NETWORK. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W34. RELOCATED IRRIGATION CONTROLLER, BACKFLOW PREVENTER, AND GATE VALVE INFRASTRUCTURE. REFER TO IRRIGATION FOR FURTHER DETAILS.
W35. IRRIGATION SUPPLY WATER LINE. REFER TO IRRIGATION FOR FURTHER DETAILS.
E1. 4-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4" CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.
T1. 2-WAY 4" CONDUIT ENCASED TELECOMMUNICATION DUCTBANK. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.
G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
G2. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR
G3. NATURAL GAS CONNECTION TO PRIMARY AND EMERGENCY GAS METERS AND THEN TO BUILDING AND GENERATOR. GAS METERS ARE TO BE PROVIDED BY OTHERS. REFER TO PLUMBING FOR GAS SERVICES BEYOND TO BUILDING AND GENERATOR .
M1. HVAC WATER LINES. SEE MECHANICAL FOR INFORMATION.

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

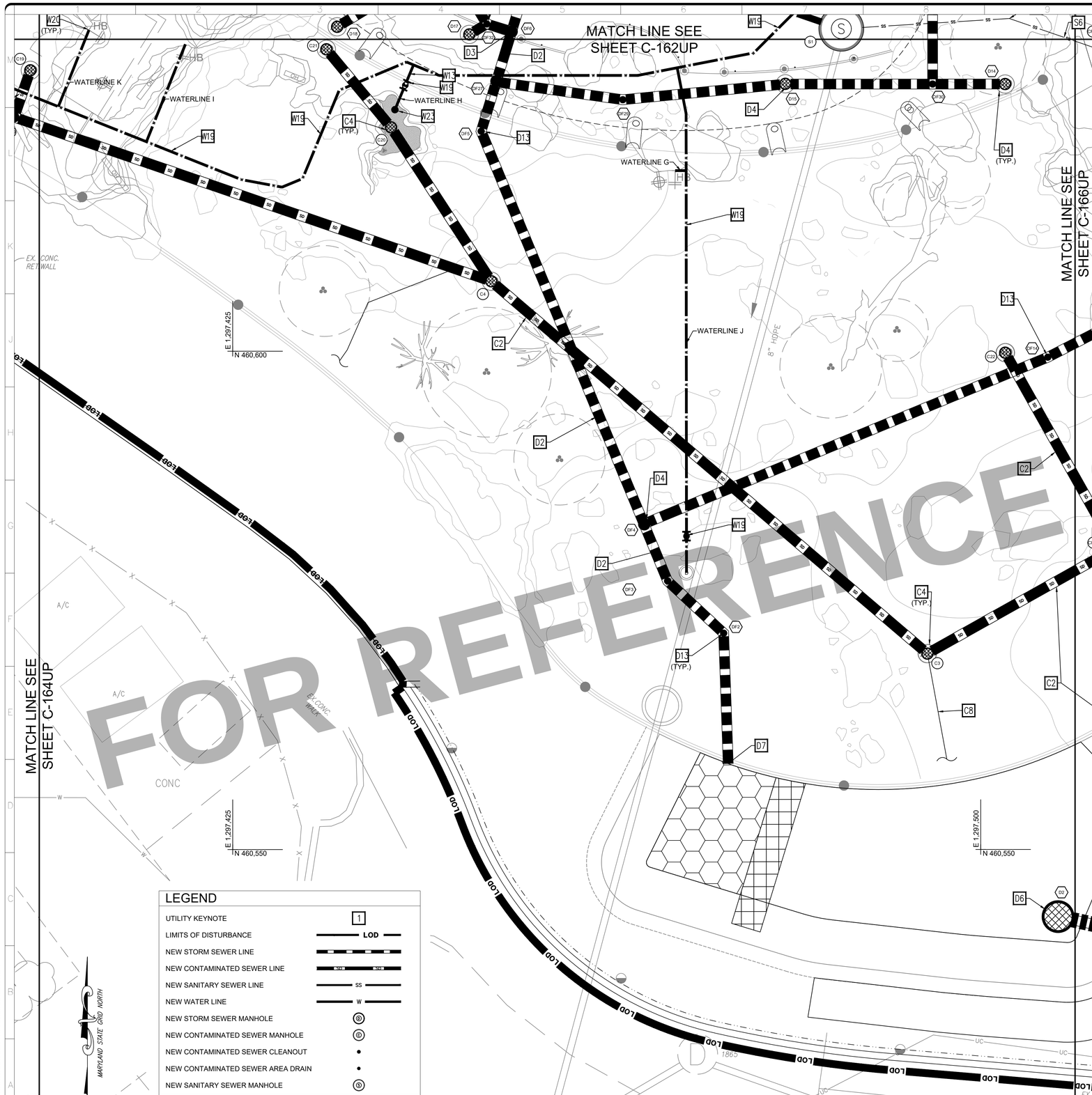
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	ST	KK	SM

SHEET NO. 11 OF 35

DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE
C	1	64	UP

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	SCSS SCSS
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

1 C-165UP

UTILITY PLAN

SCALE = 1" = 20'

KEYNOTES

D1. STORM SEWER PRECAST 48-INCH CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12-INCH PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D3. STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-516DT FOR DETAIL.
D4. STORM SEWER NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE. SEE SHEET C-516DT FOR DETAIL.
D5. 18-INCH RCP CLASS IV STORM PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
D8. 12-INCH X 12-INCH PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D9. 12-INCH X 6-INCH PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D10. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO STORM SEWER.
D11. STORM TRENCH DRAIN. SEE SHEET C-516DT FOR DETAIL.
D12. STORM SEWER PRECAST 60-INCH CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-516DT FOR DETAIL.
D13. 12-INCH PVC SCHEDULE 80 STORM PIPE CLEANOUT.
D14. STORMWATER PLANTER OVERFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D15. 6-INCH PERFORATED PVC SHEDULE 40 PVC.

S1. SANITARY SEWER PRECAST CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-520DT FOR DETAIL.
S2. 8-INCH PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S3. SANITARY SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S4. 6-INCH PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S5. SANITARY SEWER CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
S6. SANITARY SEWER FORCEMAIN. SEE PLUMBING FOR SIZE AND MATERIAL.
S7. SANITARY SEWER FORCEMAIN CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION AND FOR EJECTOR PUMP IN BUILDING'S INTERIOR.

C1. CONTAMINATED STORM SEWER PRECAST 60-INCH CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-525DT FOR DETAIL.
C2. 12-INCH PVC SCHEDULE 80 CONTAMINATED STORM SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C3. CONTAMINATED STORM SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-525DT FOR DETAIL.
C4. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE. SEE SHEET C-525DT FOR DETAIL.
C5. 12-INCH X 6-INCH PVC SCHEDULE 80 CONTAMINATED STORM PIPE WYE FITTING.
C6. 12-INCH PVC SCHEDULE 80 CONTAMINATED STORM PIPE CLEANOUT.
C7. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET CE-525DT FOR DETAIL.
C8. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO CONTAMINATED STORM SEWER.

W1. 10-INCH MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10-INCH DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W2. 10-INCH MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10-INCH DIP 45-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W4. 10-INCH DIP 22.5-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W5. 10-INCH DIP 11.25-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W6. 6-INCH MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 6-INCH DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W7. 6-INCH MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W8. 6-INCH DIP 45-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W9. 6-INCH DIP 11.25-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W10. 6-INCH X 3-INCH TEE WITH CONCRETE THRUST BLOCK AND A SINGLE 6-INCH X 3-INCH REDUCER. SEE SHEET C-530DT FOR DETAIL.
W11. 3-INCH MJ DIP CLASS 56 RESTRAINED JOINT DOMESTIC WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W12. 6-INCH DIP 90-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W13. 3-INCH GATE VALVE. SEE SHEET C-531DT FOR DETAIL.
W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6-INCH MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W16. 6-INCH POST INDICATOR VALVE. SEE SHEET C-530DT FOR DETAIL.
W17. FIRE WATER SERVICE CONNECTION TO BUILDING. SEE FIRE PROTECTION FOR CONTINUATION.
W18. HABITAT HOSE BIB AND DRINKER SERVICE CONNECTION. SEE PLUMBING FOR CONTINUATION.
W19. 3-INCH MJ DIP CLASS 56 RESTRAINED JOINT HOSE BIB AND DRINKER WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
W22. FIRE HYDRANT. SEE SHEET C-531DT FOR DETAIL.
W23. POOL SUPPLY FIXTURE. SEE EXHIBIT FOR DETAILS.
W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION

E1. 4-WAY 4-INCH CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4-INCH CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.

T1. 2-WAY 4-INCH CONDUIT ENCASED TELECOMMUNICATION DUCTBANK.. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.

G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
G2. TWO (2) NATURAL GAS METER PROVIDED AND DESIGNED BY OTHERS.
G3. NATURAL GAS CONNECTION TO BUILDING AND GENERATOR. SEE PLUMBING FOR CONTINUATION.

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

SHEET NO. C 165 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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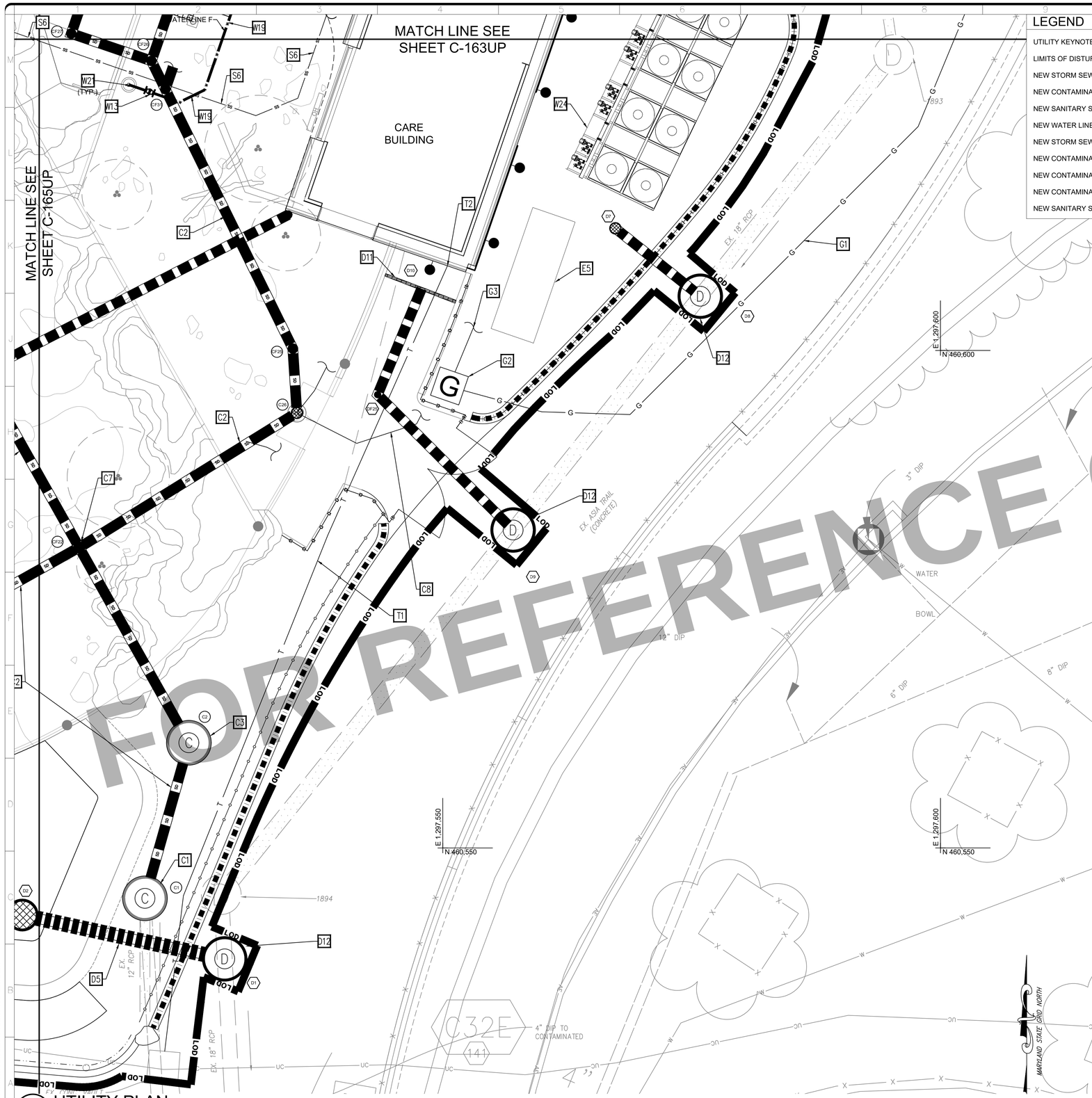
XX-XXXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-166UP UTILITY PLAN
SCALE = 1" = 20'

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XX-XXXXX BY: Approver 03/16/2026 35% DESIGN DEVELOPMENT

LEGEND

UTILITY KEYNOTE	1
LIMITS OF DISTURBANCE	LOD
NEW STORM SEWER LINE	
NEW CONTAMINATED SEWER LINE	INTR INTR
NEW SANITARY SEWER LINE	SS
NEW WATER LINE	W
NEW STORM SEWER MANHOLE	
NEW CONTAMINATED SEWER MANHOLE	
NEW CONTAMINATED SEWER CLEANOUT	
NEW CONTAMINATED SEWER AREA DRAIN	
NEW SANITARY SEWER MANHOLE	

DOB PERMIT STAMP

KEYNOTES

D1. STORM SEWER PRECAST 48-INCH CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-515DT FOR DETAIL.
D2. 12-INCH PVC SCHEDULE 80 STORM SEWER PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D3. STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET C-516DT FOR DETAIL.
D4. STORM SEWER NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE. SEE SHEET C-516DT FOR DETAIL.
D5. 18-INCH RCP CLASS IV STORM PIPE. SEE SHEET C-515DT FOR UTILITY TRENCH DETAIL.
D6. BIORETENTION OVERLFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D7. PIPE PENETRATION THROUGH RETAINING WALL. SEE STRUCTURAL FOR DETAILS.
D8. 12-INCH X 12-INCH PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D9. 12-INCH X 6-INCH PVC SCHEDULE 80 STORM PIPE WYE FITTING.
D10. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO STORM SEWER.
D11. STORM TRENCH DRAIN. SEE SHEET C-516DT FOR DETAIL.
D12. STORM SEWER PRECAST 60-INCH CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-516DT FOR DETAIL.
D13. 12-INCH PVC SCHEDULE 80 STORM PIPE CLEANOUT.
D14. STORMWATER PLANTER OVERFLOW STRUCTURE DETAIL. SEE SHEET C-507DT FOR DETAIL.
D15. 6-INCH PERFORATED PVC SHEDULE 40 PVC.

S1. SANITARY SEWER PRECAST CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-520DT FOR DETAIL.
S2. 8-INCH PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S3. SANITARY SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-520DT FOR DETAIL.
S4. 6-INCH PVC SDR 35 SANITARY SEWER PIPE. SEE SHEET C-520DT FOR UTILITY TRENCH DETAIL.
S5. SANITARY SEWER CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
S6. SANITARY SEWER FORCEMAIN. SEE PLUMBING FOR SIZE AND MATERIAL.
S7. SANITARY SEWER FORCEMAIN CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION AND FOR EJECTOR PUMP IN BUILDING'S INTERIOR.

C1. CONTAMINATED STORM SEWER PRECAST 60-INCH CONCRETE MANHOLE WITH CAST IN PLACE CONCRETE BASE. SEE SHEET C-525DT FOR DETAIL.
C2. 12-INCH PVC SCHEDULE 80 CONTAMINATED STORM SEWER PIPE. SEE SHEET C-525DT FOR UTILITY TRENCH DETAIL.
C3. CONTAMINATED STORM SEWER PRECAST CONCRETE MANHOLE. SEE SHEET C-525DT FOR DETAIL.
C4. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE. SEE SHEET C-525DT FOR DETAIL.
C5. 12-INCH X 6-INCH PVC SCHEDULE 80 CONTAMINATED STORM PIPE WYE FITTING.
C6. 12-INCH PVC SCHEDULE 80 CONTAMINATED STORM PIPE CLEANOUT.
C7. CONTAMINATED STORM SEWER NYLOPLAST DRAIN BASIN WITH SOLID COVER. SEE SHEET CE-525DT FOR DETAIL
C8. RETAINING WALL DRAINAGE CONVEYANCE PIPE TO CONTAMINATED STORM SEWER.

W1. 10-INCH MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 10-INCH DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W2. 10-INCH MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W3. 10-INCH DIP 45-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W4. 10-INCH DIP 22.5-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W5. 10-INCH DIP 11.25-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W6. 6-INCH MJ DIP CLASS 56 SLEEVE (LONG TYPE) CONNECTION TO EXISTING 6-INCH DOMESTIC WATER LINE WITH INLINE CONCRETE THRUST BLOCK. SEE SHEET C-531DT FOR DETAIL.
W7. 6-INCH MJ DIP CLASS 56 RESTRAINED JOINT WATER LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W8. 6-INCH DIP 45-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W9. 6-INCH DIP 11.25-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W10. 6-INCH X 3-INCH TEE WITH CONCRETE THRUST BLOCK AND A SINGLE 6-INCH X 3-INCH REDUCER. SEE SHEET C-530DT FOR DETAIL.
W11. 3-INCH MJ DIP CLASS 56 RESTRAINED JOINT DOMESTIC WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W12. 6-INCH DIP 90-DEGREE BEND FITTING WITH CONCRETE THRUST BLOCK. SEE SHEET C-530DT FOR DETAIL.
W13. 3-INCH GATE VALVE. SEE SHEET C-531DT FOR DETAIL.
W14. DOMESTIC WATER SERVICE CONNECTION TO BUILDING. SEE PLUMBING FOR CONTINUATION.
W15. 6-INCH MJ DIP CLASS 56 RESTRAINED JOINT FIRE WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W16. 6-INCH POST INDICATOR VALVE. SEE SHEET C-530DT FOR DETAIL.
W17. FIRE WATER SERVICE CONNECTION TO BUILDING. SEE FIRE PROTECTION FOR CONTINUATION.
W18. HABITAT HOSE BIB AND DRINKER SERVICE CONNECTION. SEE PLUMBING FOR CONTINUATION.
W19. 3-INCH MJ DIP CLASS 56 RESTRAINED JOINT HOSE BIB AND DRINKER WATER SERVICE LINE. SEE SHEET C-530DT FOR UTILITY TRENCH DETAIL.
W20. HOSE BIB. SEE EXHIBIT FOR DETAILS.
W21. DRINKER. SEE EXHIBIT FOR DETAILS.
W22. FIRE HYDRANT. SEE SHEET C-531DT FOR DETAIL.
W23. POOL SUPPLY FIXTURE. SEE EXHIBIT FOR DETAILS.
W24. MECHANICAL EQUIPMENT. SEE MECHANICAL FOR DETAILS.
W25. FREE STANDING FIRE DEPARTMENT CONNECTION

E1. 4-WAY 4-INCH CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E2. 8-WAY 4-INCH CONDUIT ENCASED LOW VOLTAGE ELECTRIC DUCTBANK. SEE ELECTRICAL FOR DETAILS.
E3. SITE ELECTRIC STRUCTURE. SEE ELECTRICAL FOR DETAILS.
E4. ELECTRICAL CONNECTION TO BUILDING. SEE ELECTRICAL FOR CONTINUATION.
E5. EMERGENCY GENERATOR. SEE ELECTRICAL FOR DETAILS.

T1. 2-WAY 4-INCH CONDUIT ENCASED TELECOMMUNICATION DUCTBANK.. SEE TELECOMMUNICATION FOR DETAILS.
T2. TELECOMMUNICATION CONNECTION TO BUILDING. SEE TELECOMMUNICATION FOR CONTINUATION.

G1. NATURAL GAS SERVICE LINE PROVIDED AND DESIGNED BY OTHERS.
G2. TWO (2) NATURAL GAS METER PROVIDED AND DESIGNED BY OTHERS.
G3. NATURAL GAS CONNECTION TO BUILDING AND GENERATOR. SEE PLUMBING FOR CONTINUATION.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP
DISTRICT OF COLUMBIA
WILLIAM S. HOGANS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

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

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

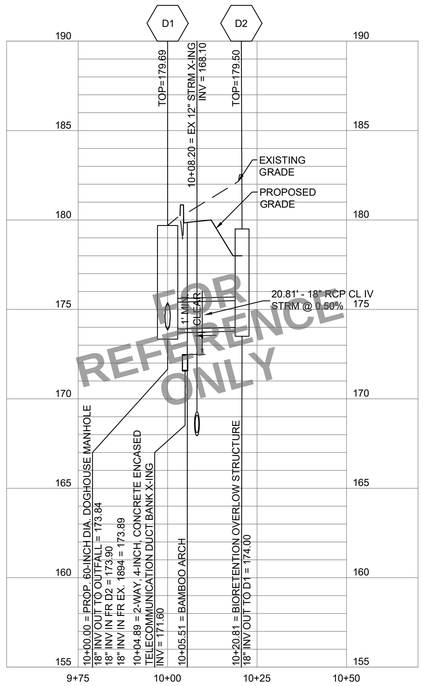
REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	UTILITY PLAN
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

SHEET NO. C 1 66 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE



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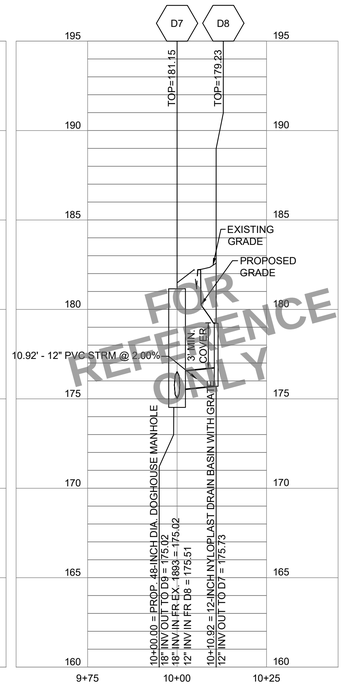
PROFILE: STA 10+00 TO 10+20.81
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



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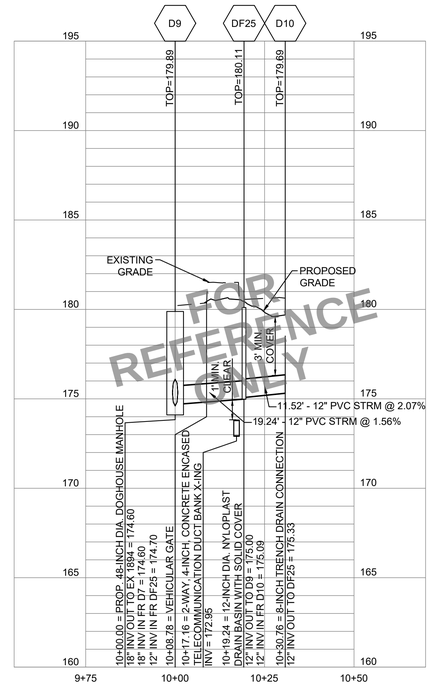
PROFILE: STA 10+00 TO 10+10.92
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



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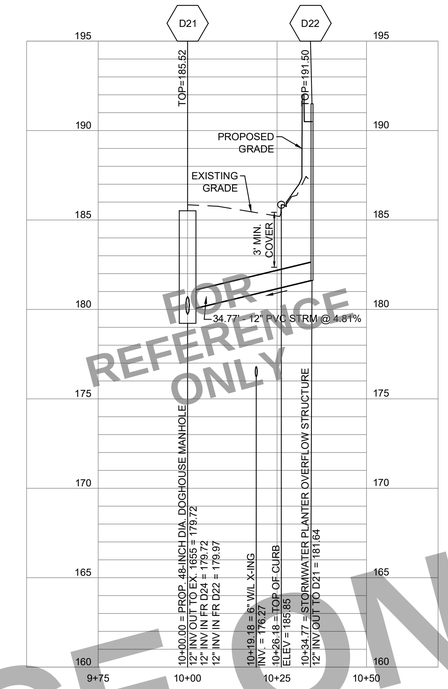
SCALE : VERT 1" = 4'



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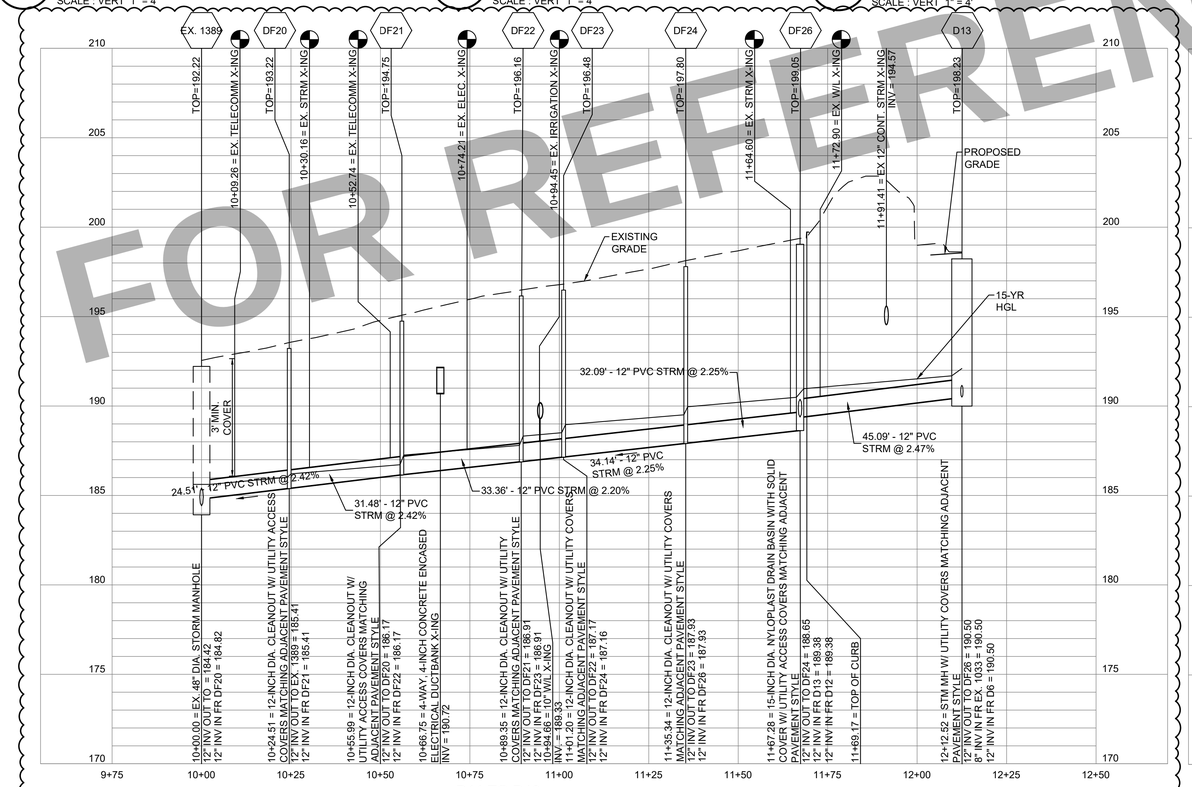
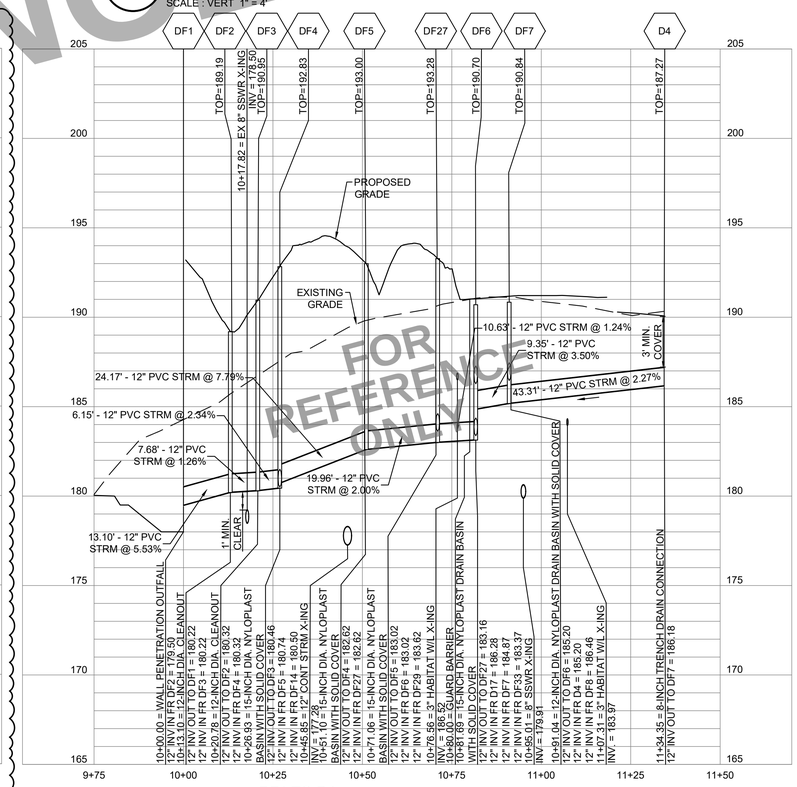
PROFILE: STA 10+00 TO 10+34.77
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



5 C-200UP D11 TO D13:
PROFILE: STA 10+00 TO 12+12.52
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



6 C-200UP DF1 TO D4:
PROFILE: STA 10+00 TO 11+34.35
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

FOR REFERENCE ONLY

DOB PERMIT STAMP

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GENERAL NOTE:
REFER TO EXHIBIT FOR HABITAT ROCK GRADE.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. HOOPES
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

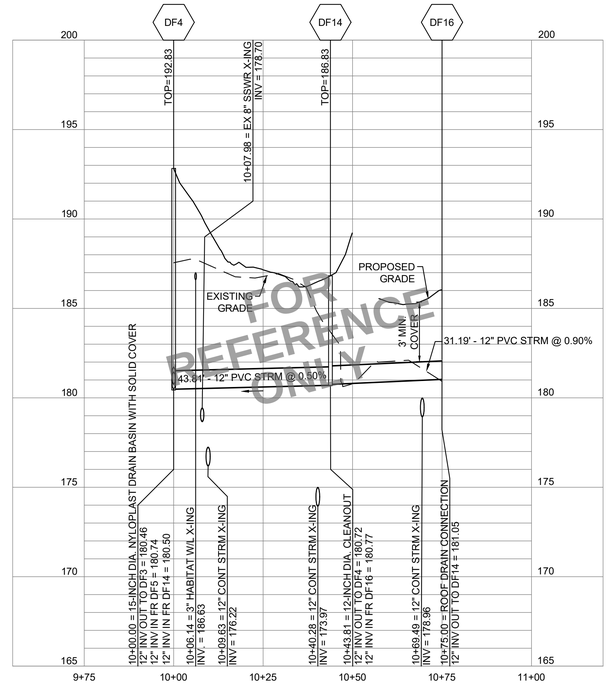
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORM PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

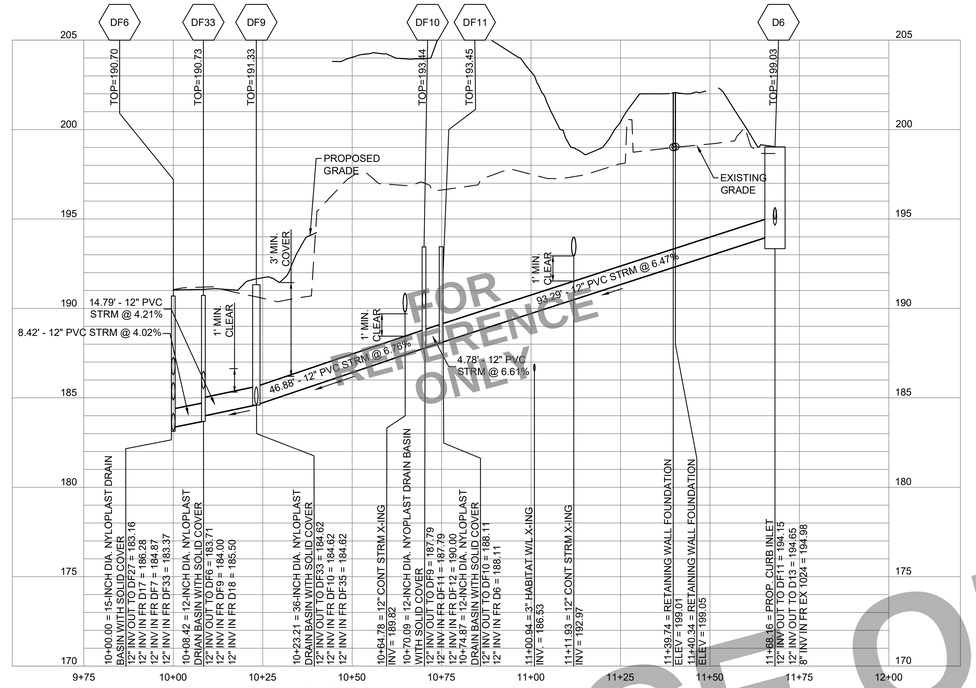
SHEET NO. 12 OF 35

C 2 00 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approve 03/16/2026 35% DESIGN DEVELOPMENT



1 C-201UP
DF4 TO DF16:
PROFILE: STA 10+00 TO 10+75.00
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



2 C-201UP
DF6 TO D6:
PROFILE: STA 10+00 TO 11+68.16
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

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GENERAL NOTE:
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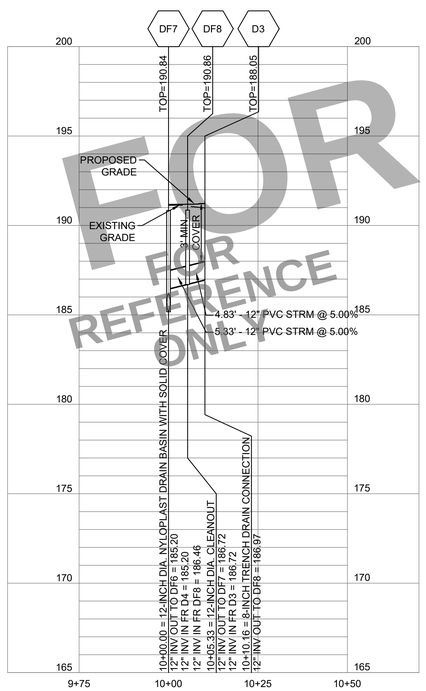
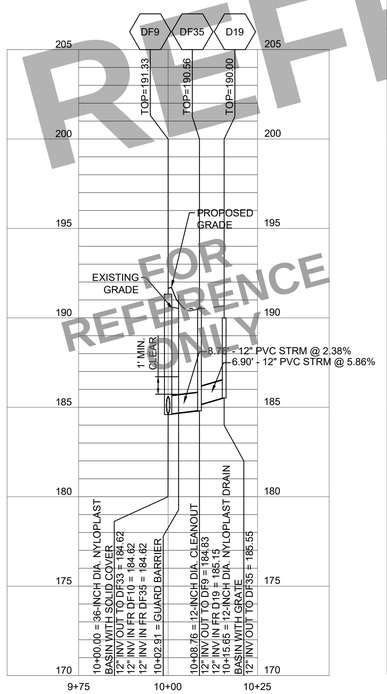
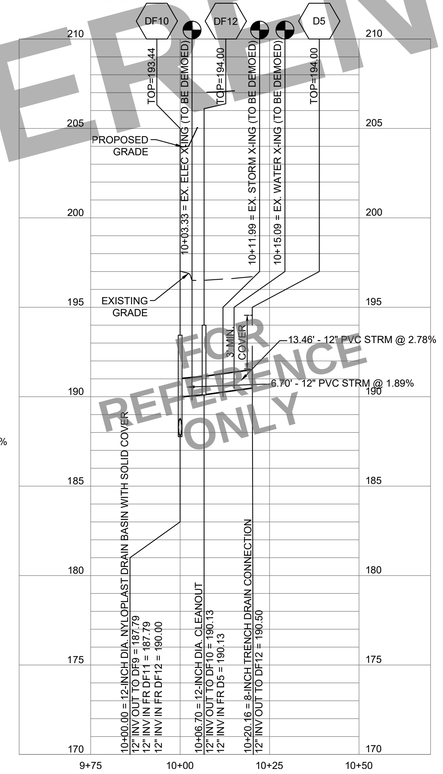


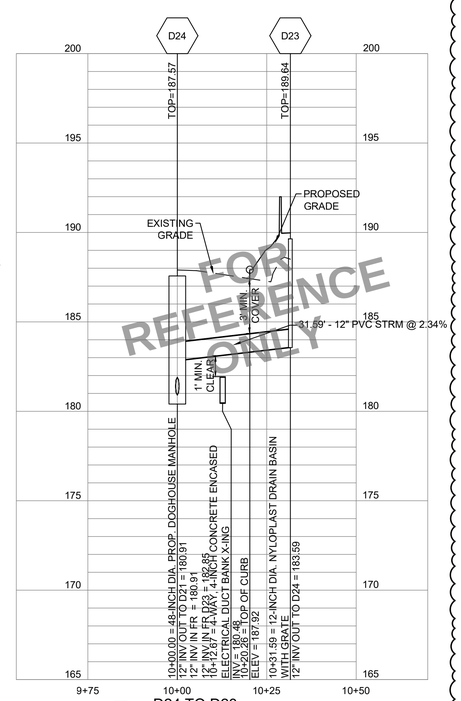
3 C-201UP
DF7 TO D3:
PROFILE: STA 10+00 TO 10+10.16
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



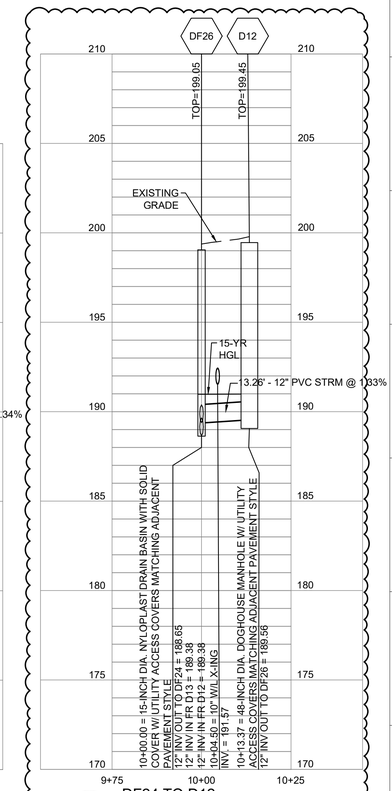
4 C-201UP
DF9 TO D19:
PROFILE: STA 10+00 TO 10+15.65
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



5 C-201UP
DF10 TO D5:
PROFILE: STA 10+00 TO 10+20.16
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



6 C-201UP
D24 TO D23:
PROFILE: STA 10+00 TO 10+31.59
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



7 C-201UP
DF24 TO D12:
PROFILE: STA 10+00 TO 10+12.93
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MOSKOWITZ
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

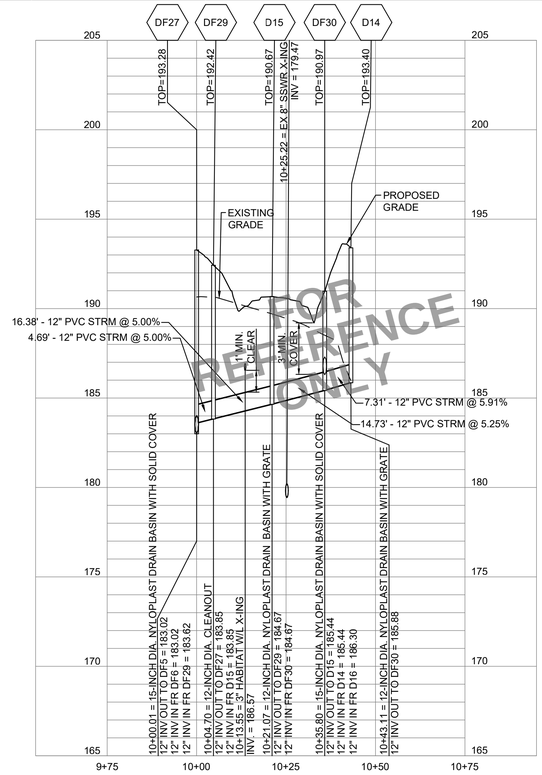
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORM PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

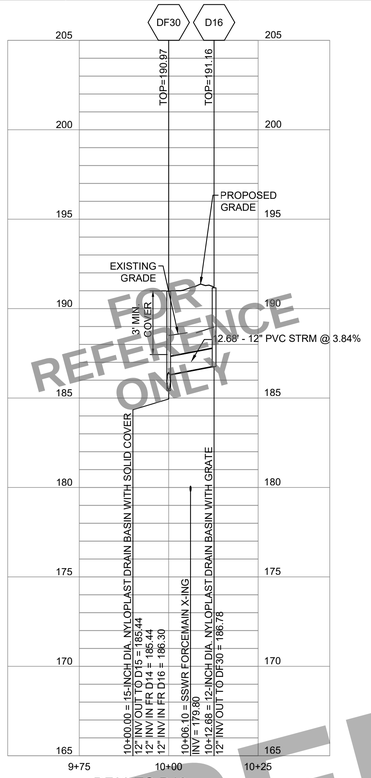
SHEET NO. 13 OF 35

C 2 01 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

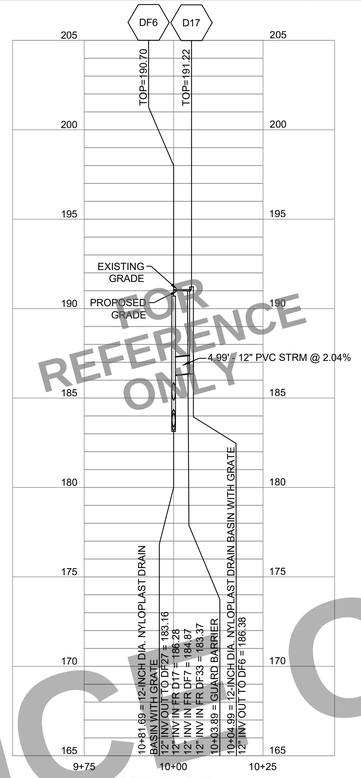
3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-202UP DF27 TO D14:
PROFILE: STA 10+00 TO 10+43.11
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



2 C-202UP DF30 TO D16:
PROFILE: STA 10+00 TO 10+12.68
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



3 C-202UP DF32 TO D17:
PROFILE: STA 10+00 TO 10+04.99
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

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GENERAL NOTE:
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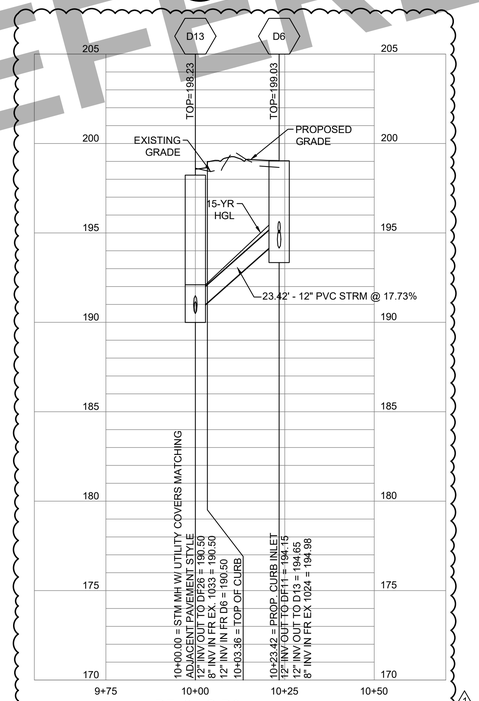
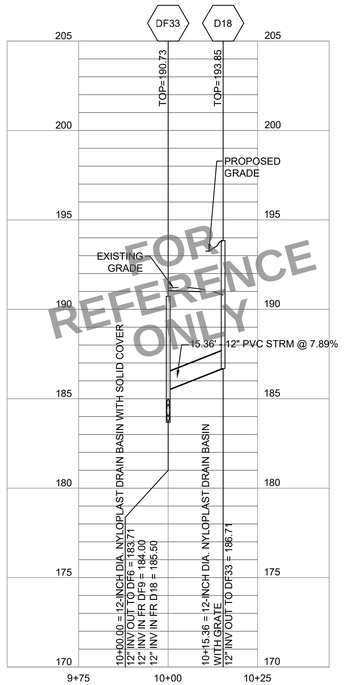


4 C-202UP DF13 TO D6:
PROFILE: STA 10+00 TO 10+23.42
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



5 C-202UP DF33 TO D18:
PROFILE: STA 10+00 TO 10+15.36
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. JACOBS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

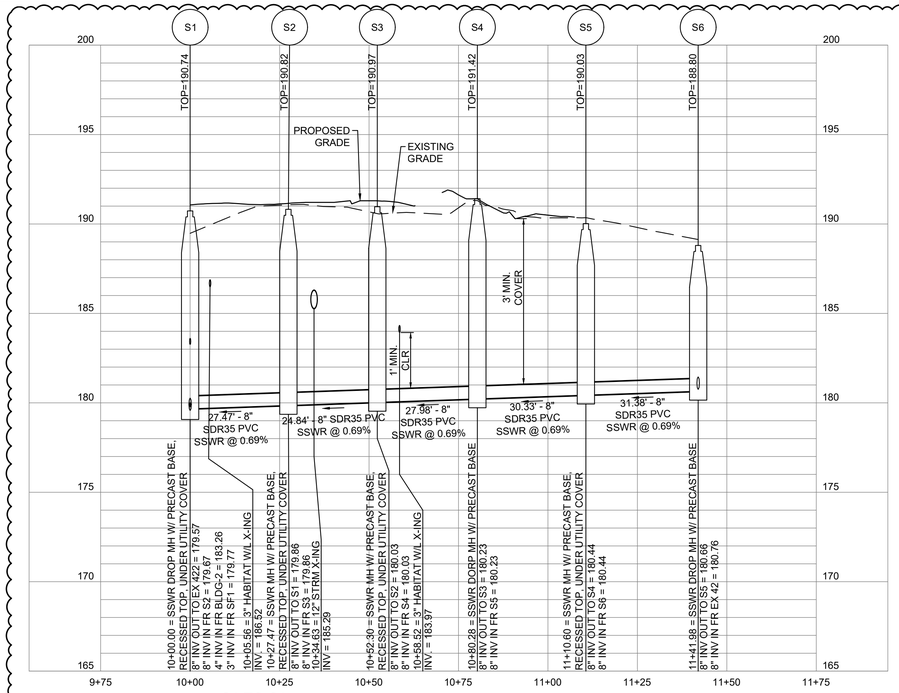
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORM PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 14 OF 35

C 2 02 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

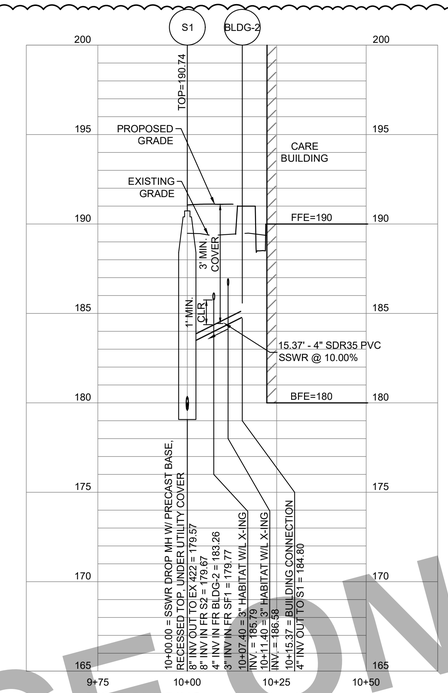
3/13/2026 11:19:19 AM
XX.XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-205UP

S1 TO S6
PROFILE: STA 10+00 TO 11+41.98

SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



2 C-205UP

S1 TO BUILDING:
PROFILE: STA 10+00 TO 10+15.37

SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

GENERAL NOTE:
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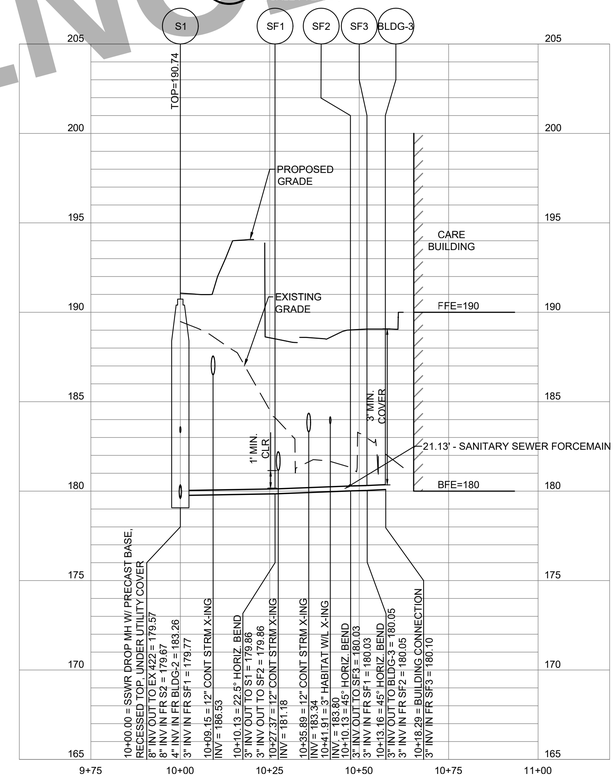

3 C-205UP

FORCE MAIN: S1 TO BUILDING:
PROFILE: STA 10+00 TO 10+18.29

SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

NOTE: SIZE AND MATERIAL OF SANITARY FORCE MAIN PIPES ARE DEFERRED TO PLUMBING.

FOR REFERENCE ONLY

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MCGINNIS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SANITARY SEWER PROFILES

WORKING STAFF	DESIGNED BY	DRAWN BY	CHECKED BY
	ST	KK	SM

SHEET NO. 15 OF 35

C 2 05 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

GENERAL NOTE:
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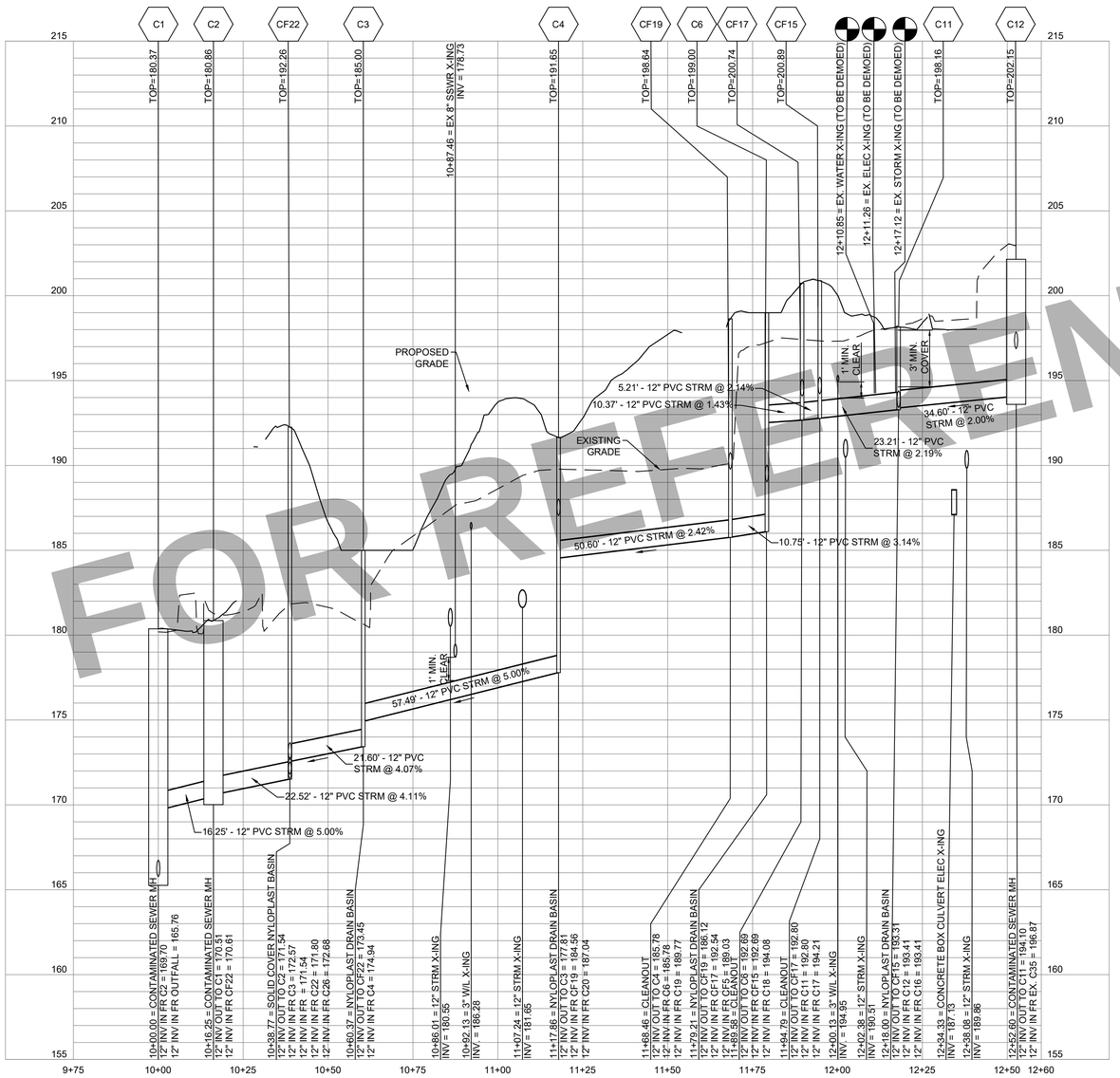
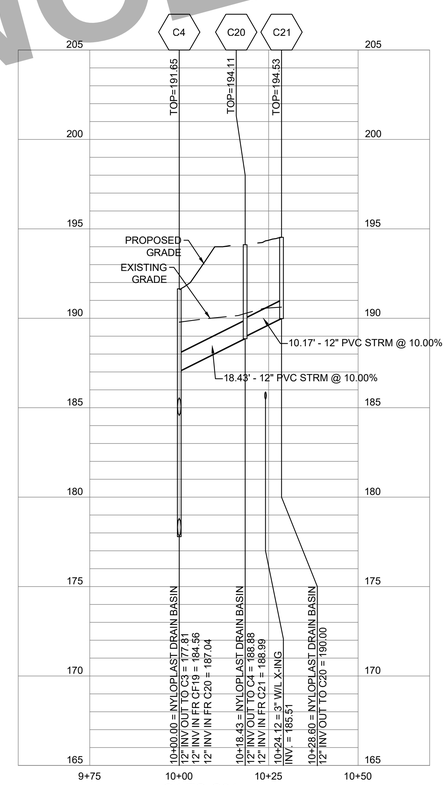


1 C-210UP
C1 TO C12:
PROFILE: STA 10+00 TO 12+52.60
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



2 C-210UP
C4 TO C21:
PROFILE: STA 10+00 TO 10+28.60
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP
DISTRICT OF COLUMBIA
MATTHEW S. MCGINNIS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

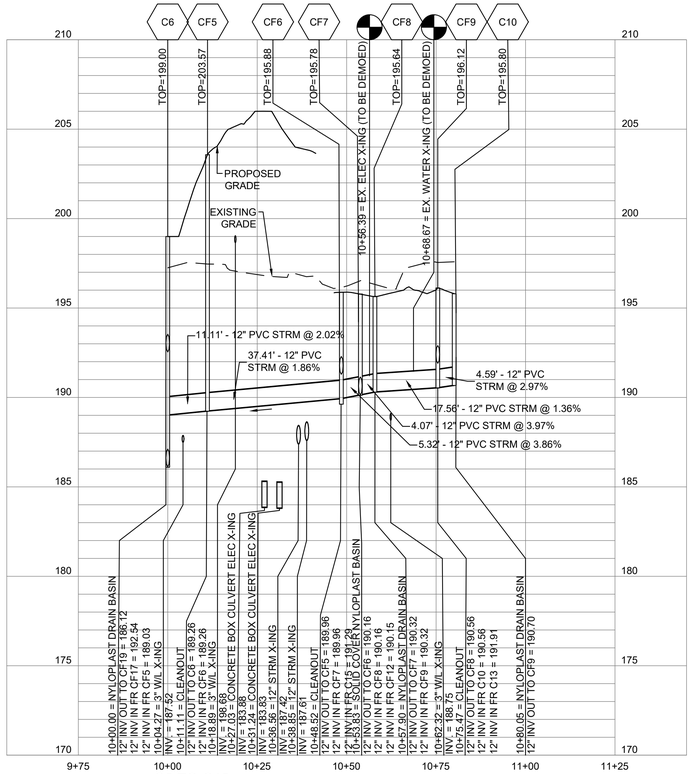
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	CONTAMINATED STORM SEWER PROFILES

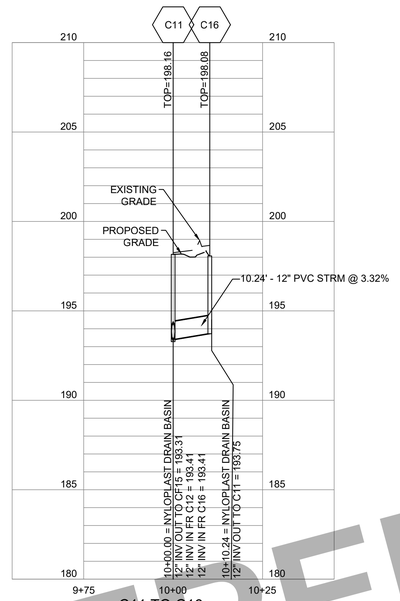
WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 2 10 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

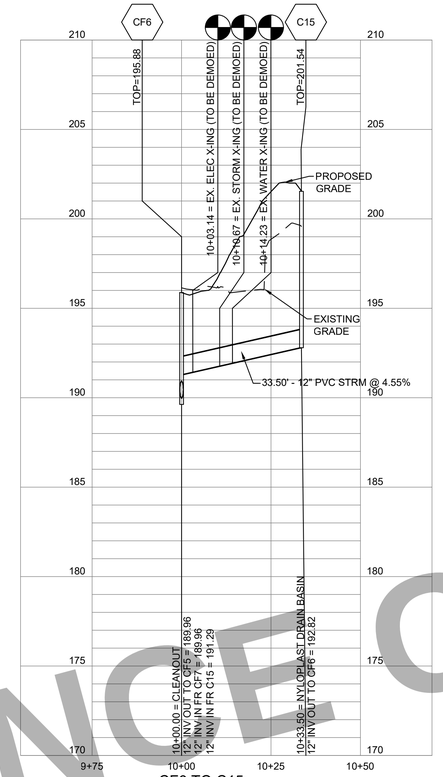
3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-211UP
C6 TO C10:
PROFILE: STA 10+00 TO 10+80.05
SCALE : HORIZ 1" = 20' SCALE : VERT 1" = 4'



2 C-211UP
C11 TO C16:
PROFILE: STA 10+00 TO 10+10.24
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



3 C-211UP
CF6 TO C15:
PROFILE: STA 10+00 TO 10+33.50
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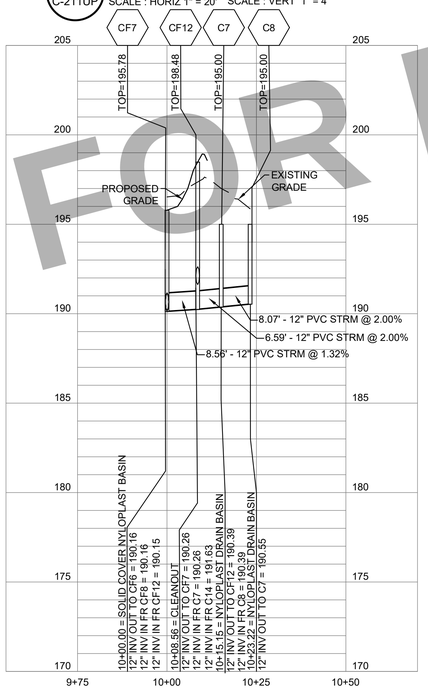
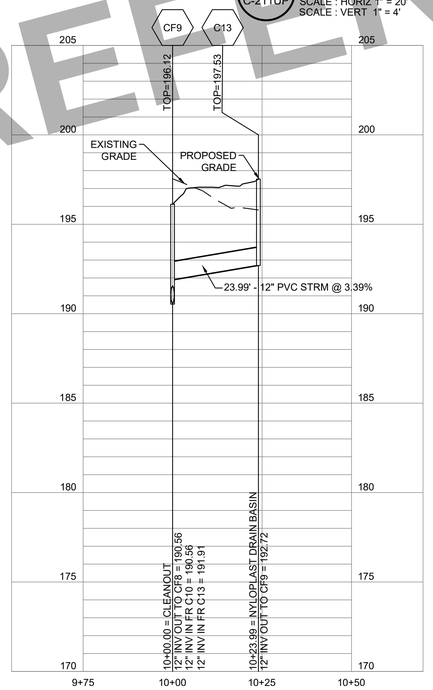
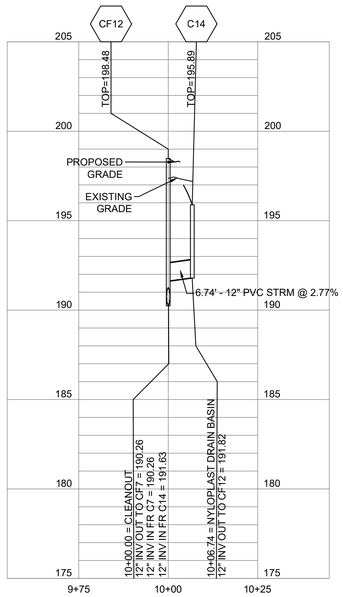
SCALE : VERT 1" = 4'



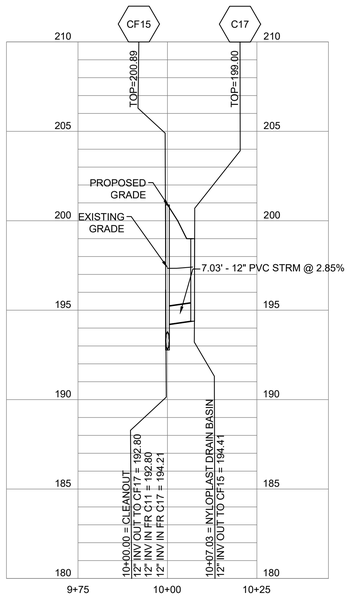
4 C-211UP
CF7 TO C8:
PROFILE: STA 10+00 TO 10+23.22
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



5 C-211UP
CF9 TO C13:
PROFILE: STA 10+00 TO10+23.99
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



6 C-211UP
CF12 TO C14:
PROFILE: STA 10+00 TO 10+06.74
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



7 C-211UP
CF15 TO C17:
PROFILE: STA 10+00 TO 10+07.03
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

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FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. JOHNSON
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	CONTAMINATED STORM SEWER PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 2 11 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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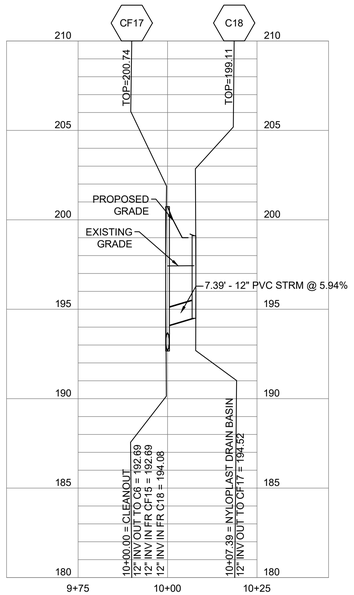
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-212UP
CF17 TO C18:
PROFILE: STA 10+00 TO 10+07.39
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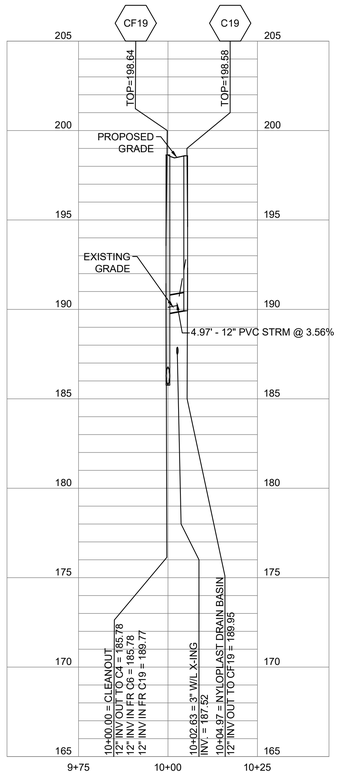
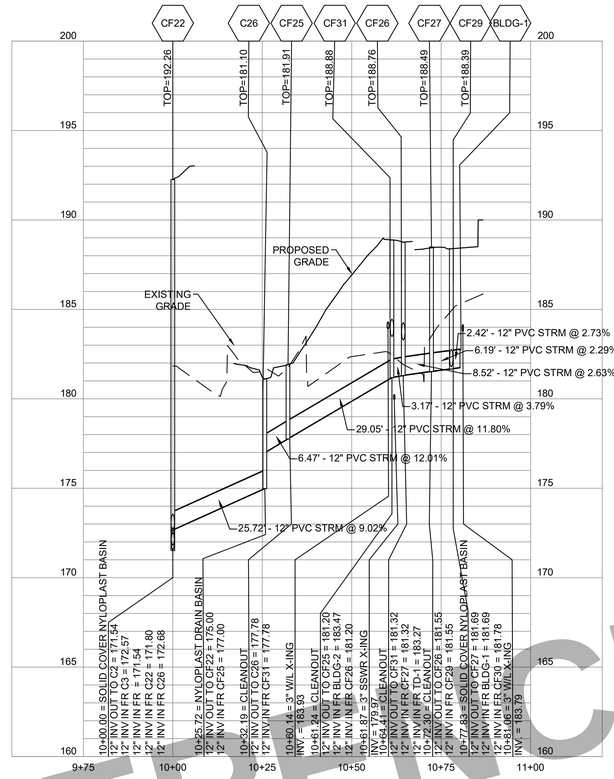
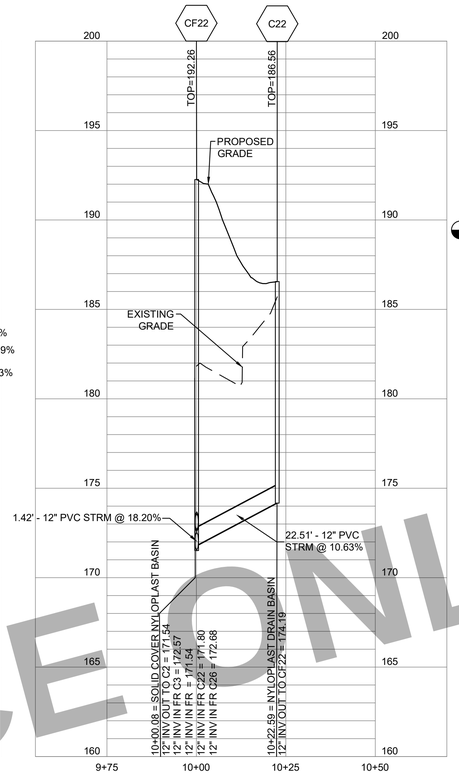
SCALE : VERT 1" = 4'



2 C-212UP
CF19 TO C19:
PROFILE: STA 10+00 TO 10+04.97
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



3 C-212UP
CF23 TO BLDG-1:
PROFILE: STA 10+00 TO 10+77.83
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



4 C-212UP
CF22 TO C22:
PROFILE: STA 10+00 TO 10+22.59
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

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GENERAL NOTE:
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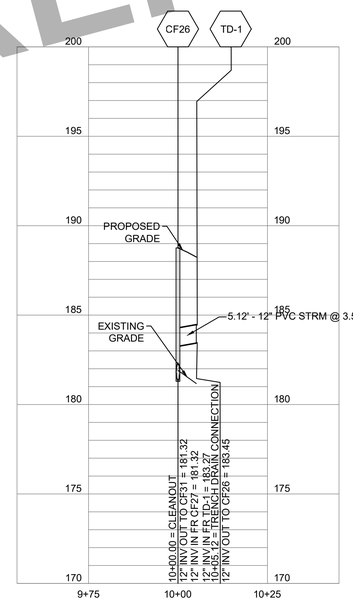
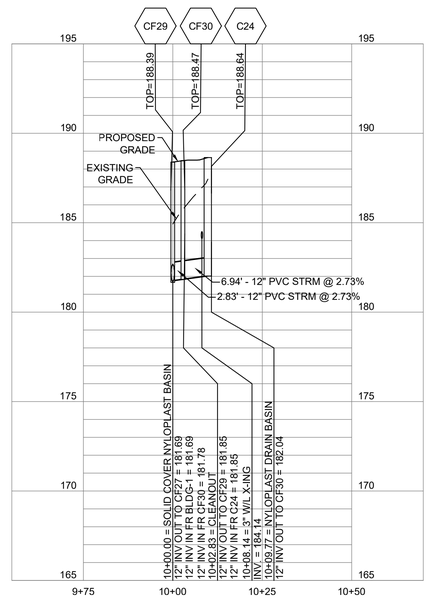
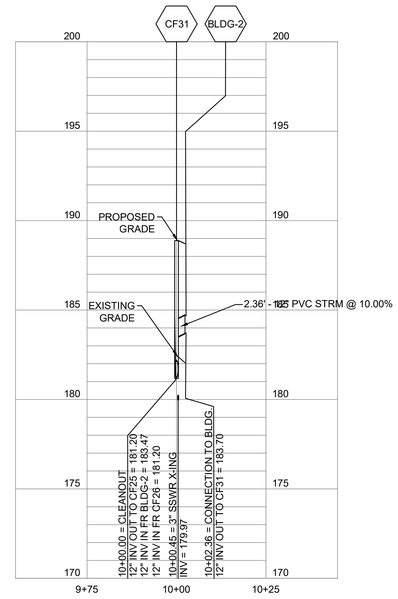


5 C-212UP
CF26 TO TD-1:
PROFILE: STA 10+00 TO 10+05.12
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



6 C-212UP
CF29 TO C24:
PROFILE: STA 10+00 TO 10+09.77
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



7 C-212UP
CF31 TO BLDG-2:
PROFILE: STA 10+00 TO 10+02.36
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

FOR REFERENCE ONLY

3/13/2026 11:19:18 AM
XX-XXXXX BY Approved 03/16/2026 35% DESIGN DEVELOPMENT

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MOSKOWITZ
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

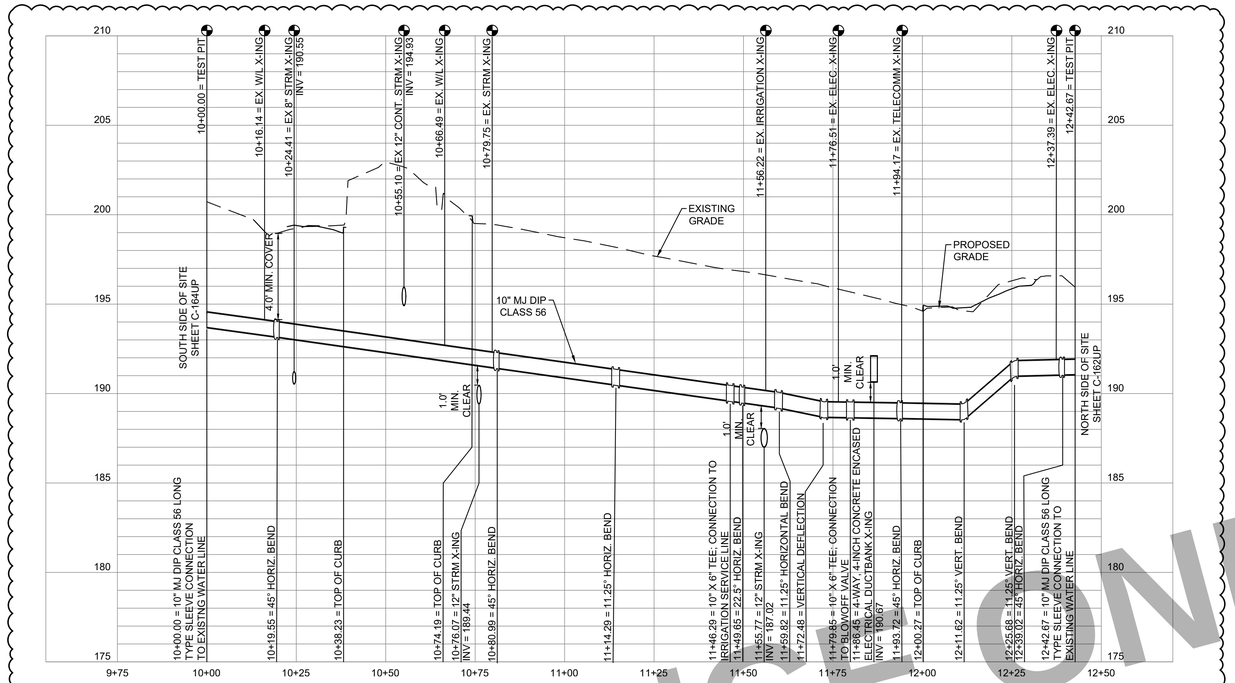
Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	CONTAMINATED STORM SEWER PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 2 12 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE



1 C-215UP WATER LINE A: STA 10+00 TO 12+42.67
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

TEST PITS ARE REQUIRED AT ALL LOCATION(S) WHERE PROPOSED UTILITIES CROSS EXISTING UTILITIES. INVESTIGATION(S) TO IDENTIFY HORIZONTAL LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES. THE OWNER IS TO BE NOTIFIED OF THIS INFORMATION.

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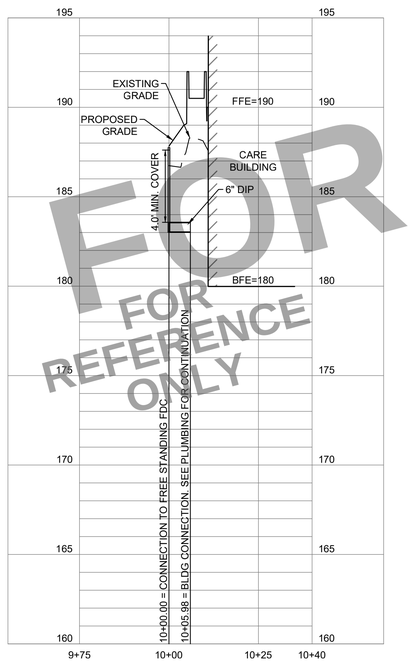
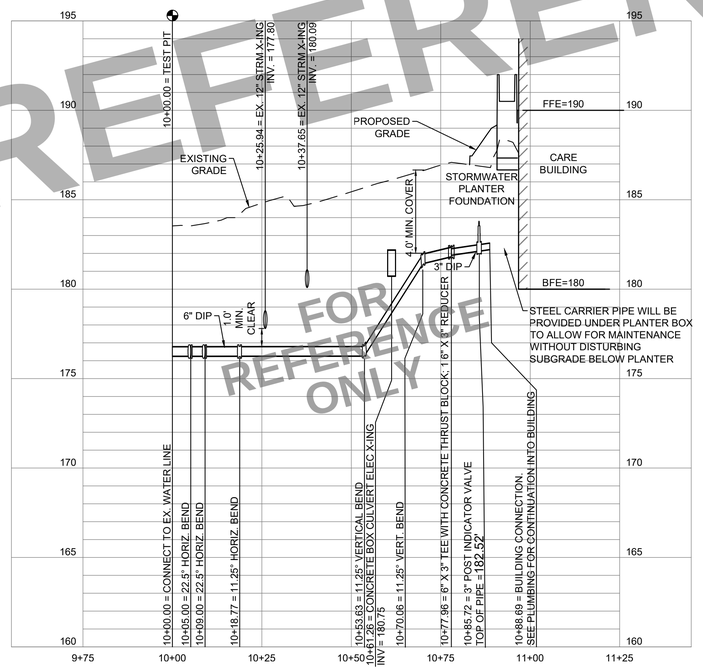
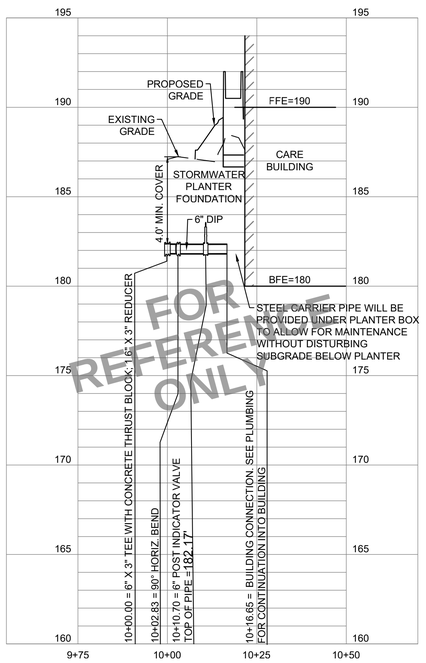


2 C-215UP WATER LINE B: STA 10+00 TO 10+05.98
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



3 C-215UP WATER LINE C: STA 10+00 TO 10+88.69
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



4 C-215UP WATER LINE D: STA 10+00 TO 10+16.65
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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DISTRICT OF COLUMBIA
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PE920479
05/11/2026
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PROFESSIONAL ENGINEER
STAMP

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REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

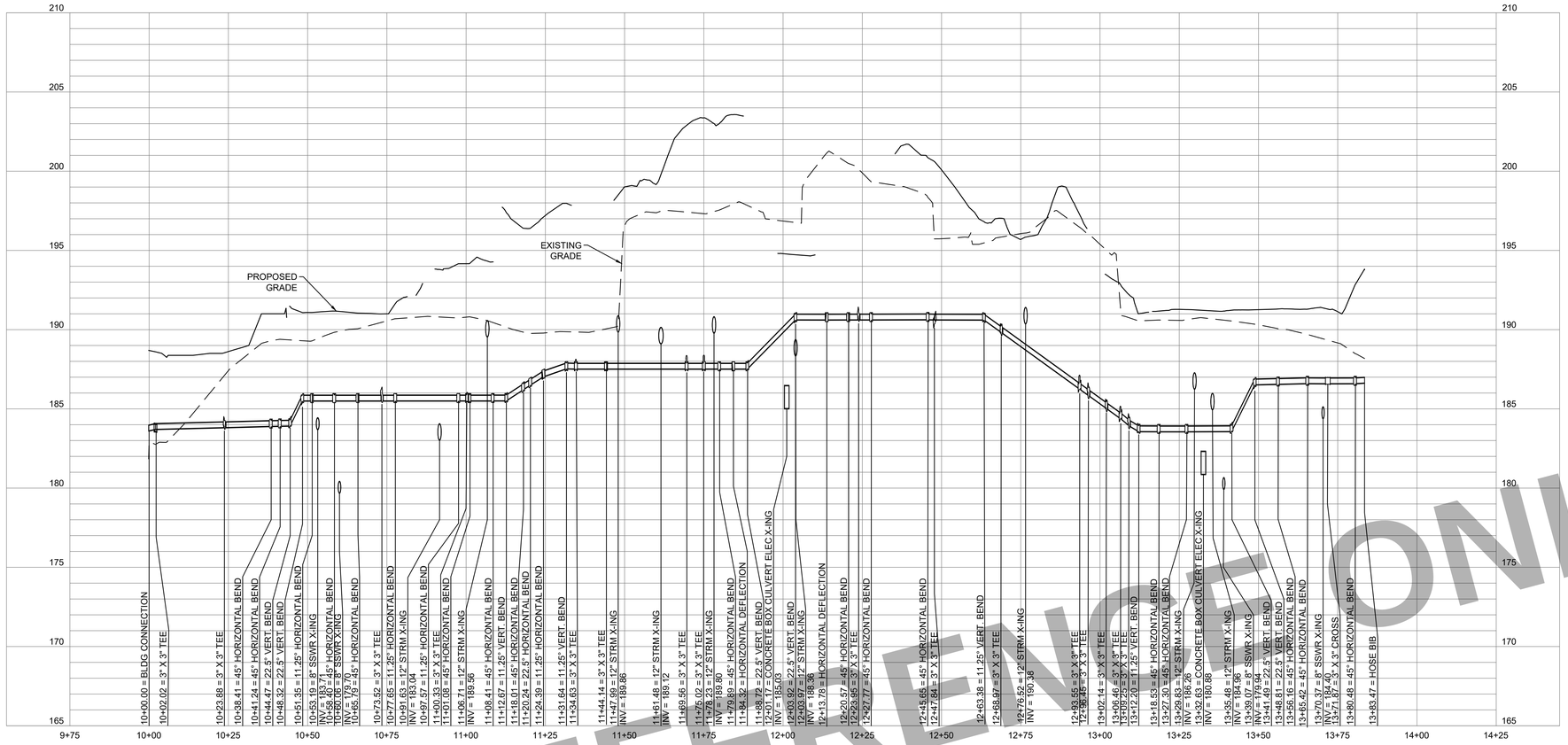
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	WATER PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

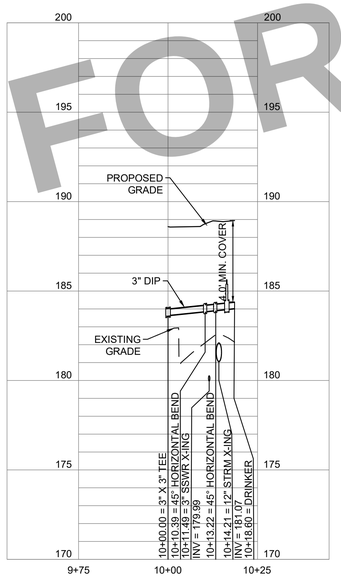
SHEET NO. 16 OF 35

C 2 15 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

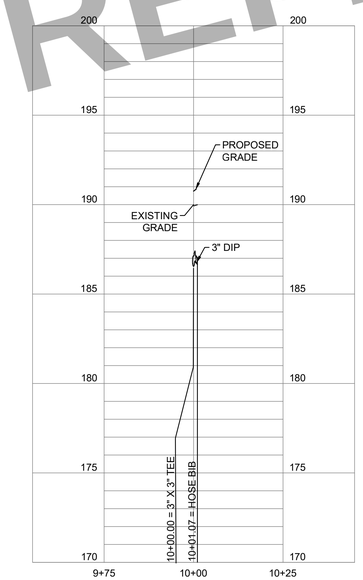
3/13/2026 11:19:18 AM
XX-XXXXX BY Approved 03/16/2026 35% DESIGN DEVELOPMENT



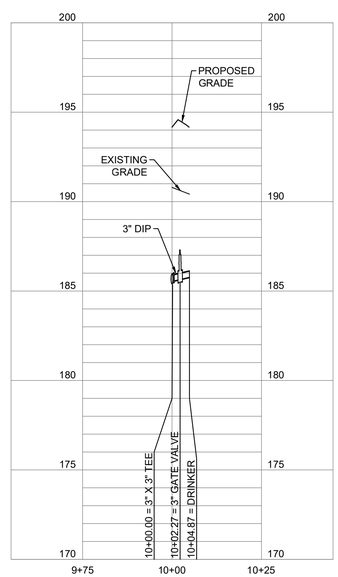
1 C-216UP WATER LINE E: STA 10+00 TO 13+83.47
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



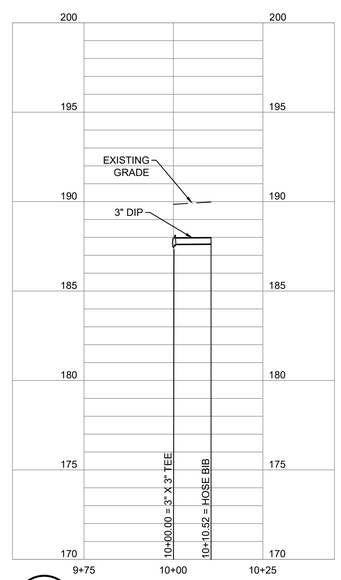
2 C-216UP WATER LINE F: STA 10+00 TO 10+18.60
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 10+02.02 PROFILE 1, THIS SHEET



3 C-216UP WATER LINE G: STA 10+00 TO 10+01.07
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



4 C-216UP WATER LINE H: STA 10+00 TO 10+04.87
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 11+00.33 PROFILE 1, THIS SHEET



5 C-216UP WATER LINE I: STA 10+00 TO 10+10.52
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 11+34.63 PROFILE 1, THIS SHEET

DOB PERMIT STAMP

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FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. JACKMAN
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

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REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

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ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	WATER PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 2 16 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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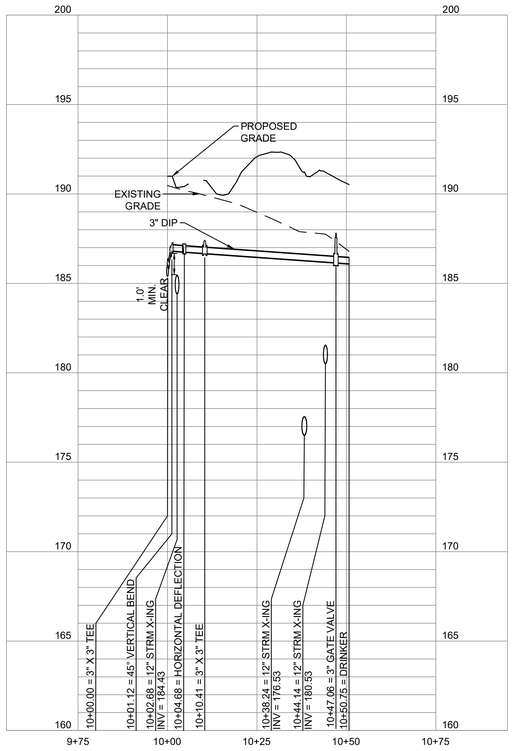
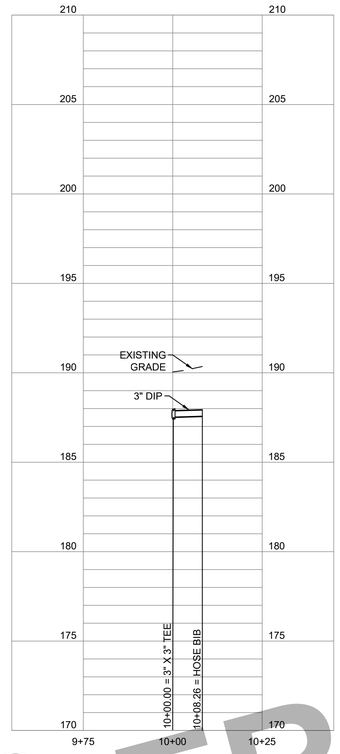
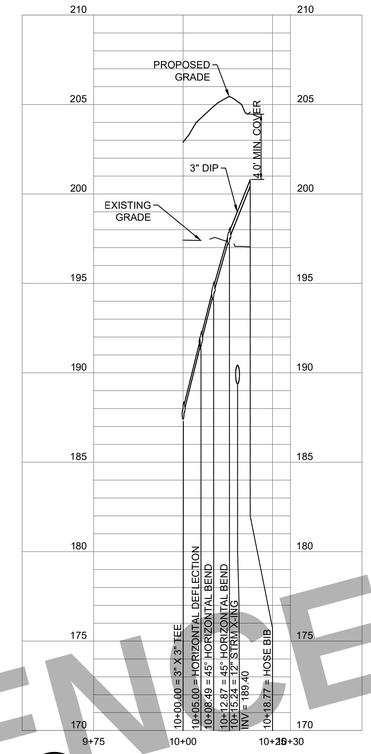
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



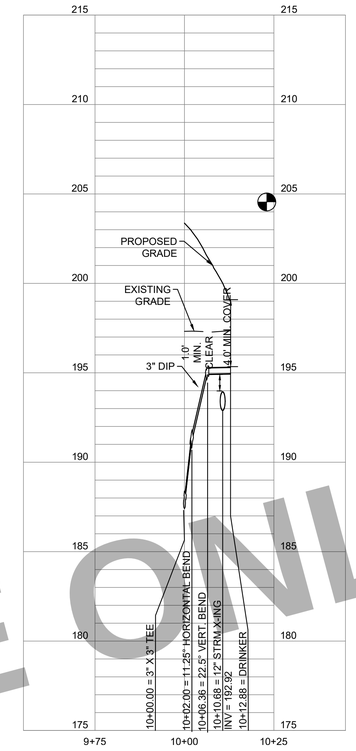
1 C-217UP WATER LINE J: STA 10+00 TO 10+50.75
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: CROSS AT STA. 10+00 IS AT STA. 10+73.52 PROFILE 1, SHEET CU216



2 C-217UP WATER LINE K: STA 10+00 TO 10+08.26
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 11+44.14 PROFILE 1, SHEET CU216



3 C-217UP WATER LINE L: STA 10+00 TO 10+18.77
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 11+69.56 PROFILE 1, SHEET CU216



4 C-217UP WATER LINE M: STA 10+00 TO 10+12.88
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 11+75.02 PROFILE 5, SHEET CU216

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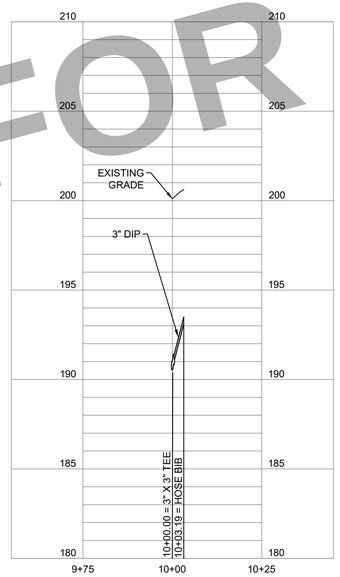
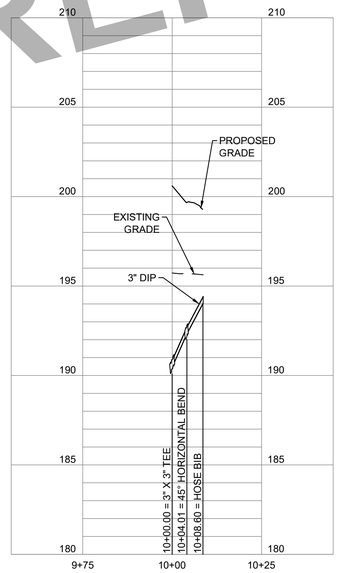
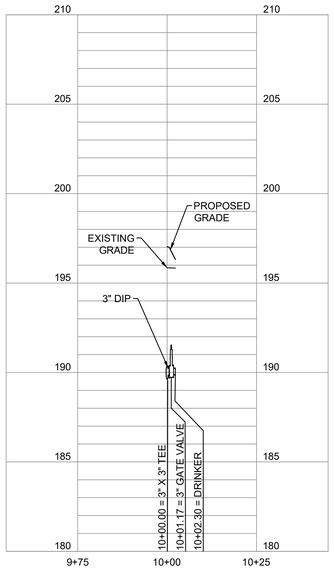


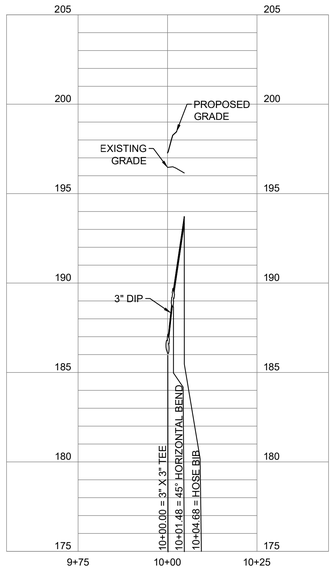
5 C-217UP WATER LINE N: STA 10+00 TO 10+03.19
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 12+23.95 PROFILE 1, SHEET CU216



6 C-217UP WATER LINE O: STA 10+00 TO 10+08.66
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 12+47.84 PROFILE 1, SHEET CU216



7 C-217UP WATER LINE P: STA 10+00 TO 10+02.30
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 12+68.97 PROFILE 1, SHEET CU216



8 C-217UP WATER LINE Q: STA 10+00 TO 10+04.68
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA. 12+93.55 PROFILE 1, SHEET CU216

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
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TRUE NORTH

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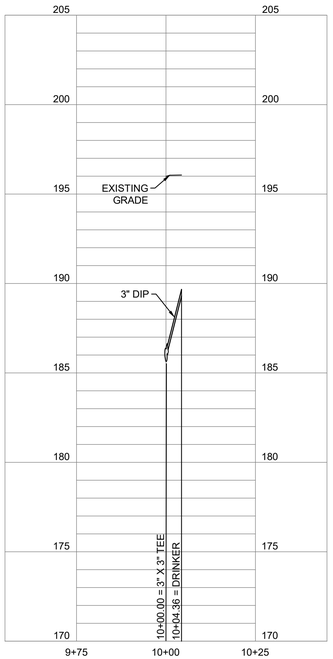
Smithsonian Institution

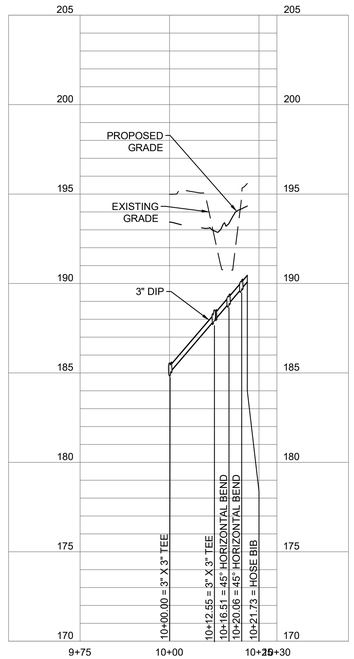
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	WATER PROFILES
WORKING STAFF	ST (DESIGNED BY) / KK (DRAWN BY) / SM (CHECKED BY)
SHEET NO.	C 2 17 UP (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)
OF	

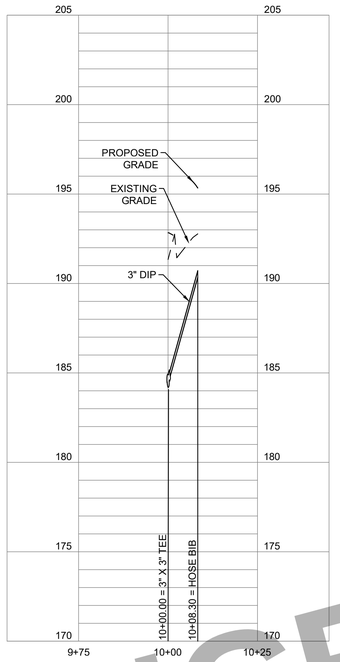
3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



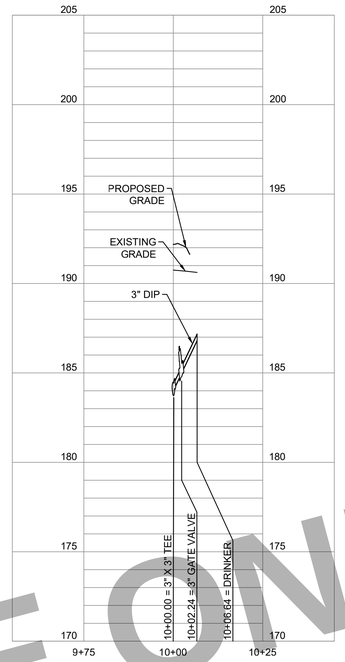
1 C-218UP WATER LINE R: STA 10+00 TO 10+04.36
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA.
12+96.45 PROFILE 1, SHEET CU216



2 C-218UP WATER LINE S: STA 10+00 TO 10+21.73
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA.
13+02.14 PROFILE 1, SHEET CU216



3 C-218UP WATER LINE T: STA 10+00 TO 10+08.30
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA.
13+06.46 PROFILE 1, SHEET CU216



4 C-218UP WATER LINE U: STA 10+00 TO 10+06.64
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA.
13+09.25 PROFILE 1, SHEET CU216

DOB PERMIT STAMP

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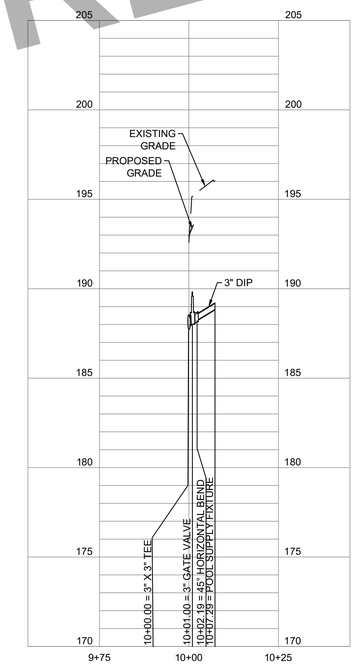
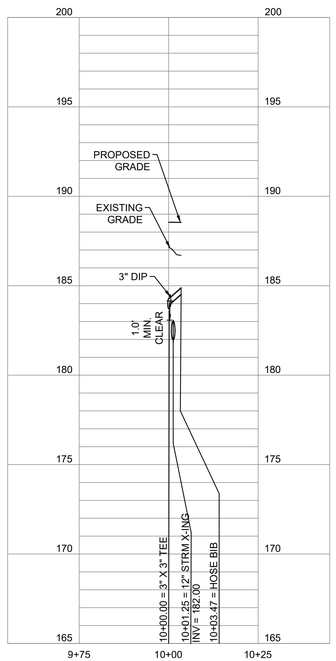


5 C-218UP WATER LINE V: STA 10+00 TO 10+07.29
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



6 C-218UP WATER LINE W: STA 10+00 TO 10+03.47
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'
NOTE: TEE AT STA. 10+00 IS AT STA.
10+23.88 PROFILE 1, SHEET CU216

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP
DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
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OPDC PROJECT NUMBER	2533105
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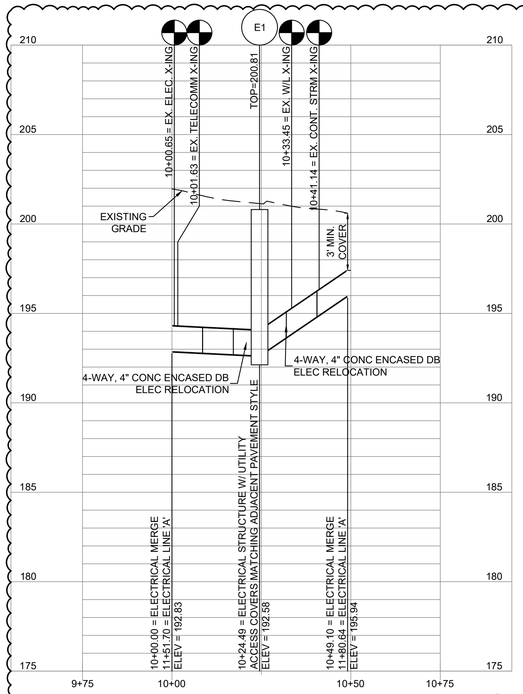
DRAWING TITLE	WATER PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 2 18 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-220UP
ELECTRIC LINE C:
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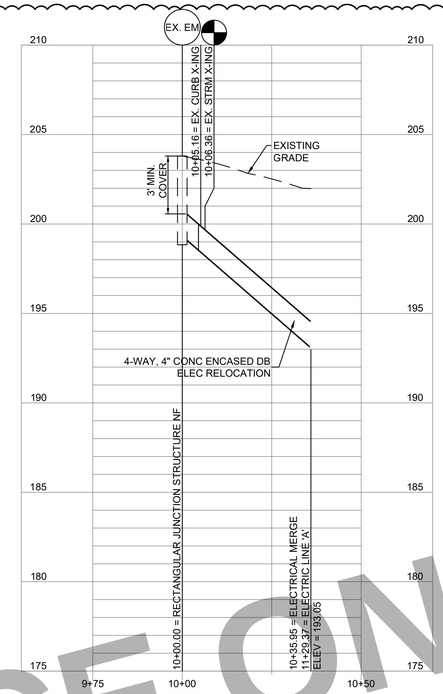
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



2 C-220UP
ELECTRIC LINE B:
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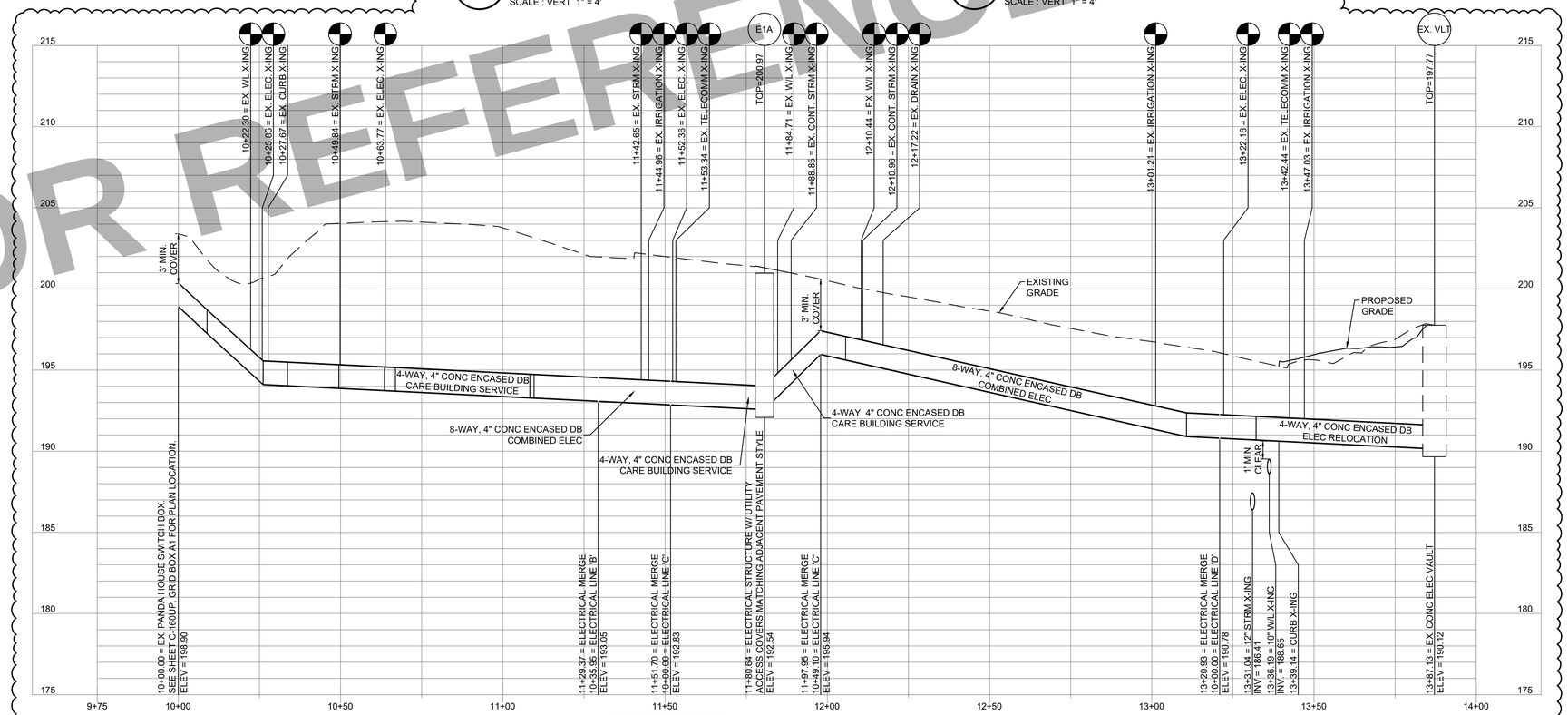
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'



3 C-220UP
ELECTRIC LINE A:
PROFILE: STA 10+00 TO 13+87.13
SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

FOR REFERENCE ONLY

DOB PERMIT STAMP

TEST PITS ARE REQUIRED AT ALL LOCATION(S) WHERE PROPOSED UTILITIES CROSS EXISTING UTILITIES. INVESTIGATION(S) TO IDENTIFY HORIZONTAL LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES. THE OWNER IS TO BE NOTIFIED OF THIS INFORMATION.

GENERAL NOTE:
REFER TO EXHIBIT FOR HABITAT ROCK GRADE.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. MCGRAW
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

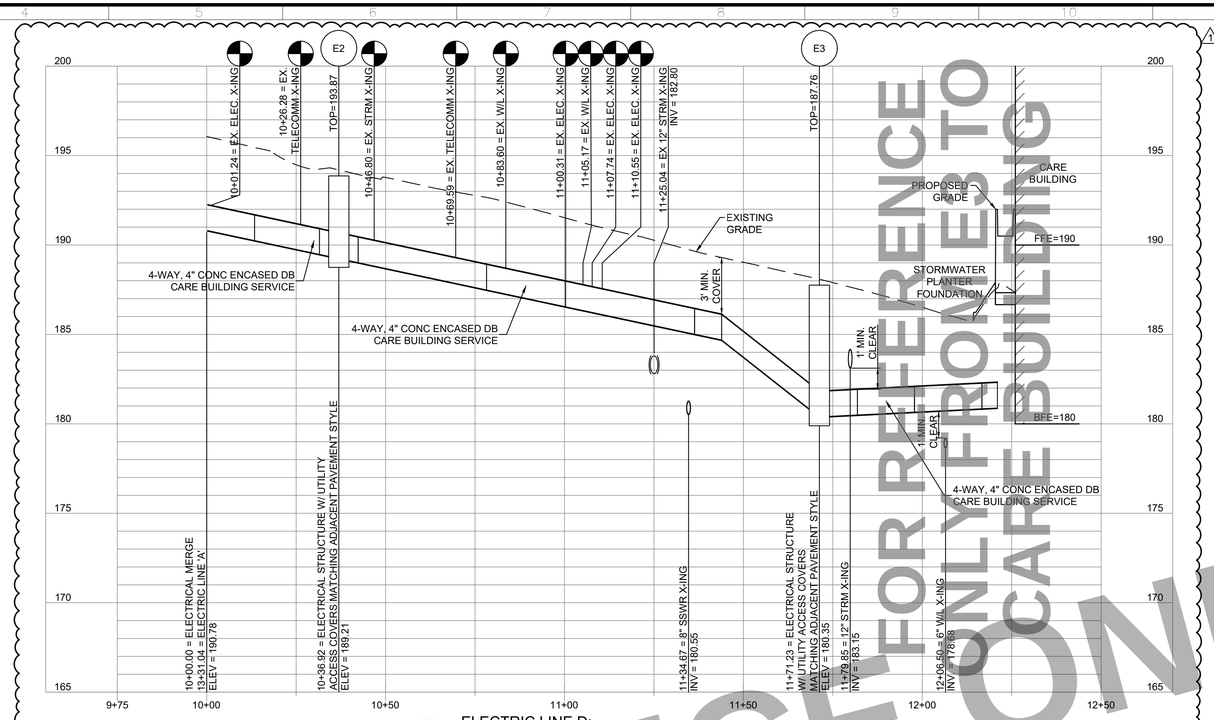
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRIC PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 17 OF 35

C 2 20 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-221UP ELECTRIC LINE D:
PROFILE: STA 10+00 TO 12+21.00

SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

TEST PITS ARE REQUIRED AT ALL LOCATION(S) WHERE PROPOSED UTILITIES CROSS EXISTING UTILITIES. INVESTIGATION(S) TO IDENTIFY HORIZONTAL LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES. THE OWNER IS TO BE NOTIFIED OF THIS INFORMATION.

GENERAL NOTE:
REFER TO EXHIBIT FOR HABITAT ROCK GRADE.

FOR REFERENCE ONLY FROM E3 TO CARE BUILDING

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRIC PROFILES
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

SHEET NO. 18 OF 35

C 2 21 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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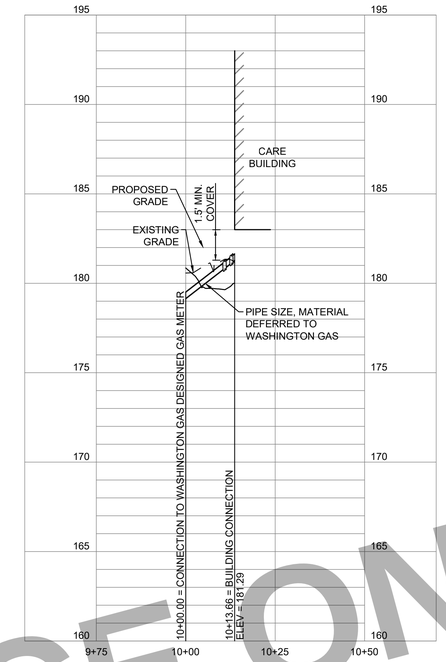
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1
C-205UP

GAS METER TO BUILDING:
PROFILE: STA 10+00 TO 10+13.66

SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

DOB PERMIT STAMP

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

DISTRICT OF COLUMBIA
MATTHEW S. MCCOMAS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	NATURAL GAS PROFILES
WORKING STAFF	ST (DESIGNED BY) / KK (DRAWN BY) / SM (CHECKED BY)

SHEET NO.
OF

C 2 25 UP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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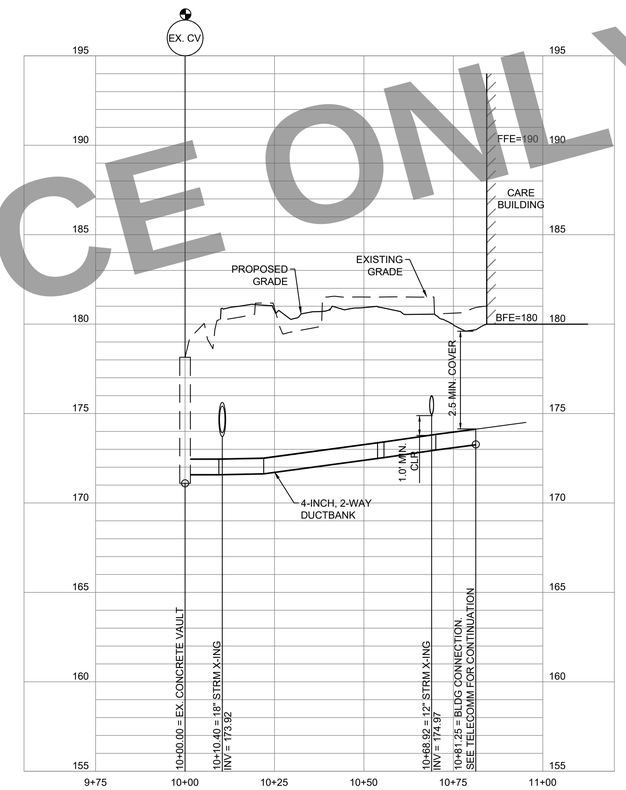
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

DOB PERMIT STAMP

TEST PITS ARE REQUIRED AT ALL LOCATION(S) WHERE PROPOSED UTILITIES CROSS EXISTING UTILITIES. INVESTIGATION(S) TO IDENTIFY HORIZONTAL LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES. THE OWNER IS TO BE NOTIFIED OF THIS INFORMATION.



1 C-230UP

EX. CV TO CARE BUILDING:
PROFILE: STA 10+00 TO 10+81.25

SCALE : HORIZ 1" = 20'
SCALE : VERT 1" = 4'

FOR REFERENCE ONLY

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CONSTRUCT ARABIAN LEOPARD FACILITY

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KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	TELECOMMUNICATION PROFILES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 2 30 UP
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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TREE PROTECTION AND REPLACEMENT NOTES:

A. DESCRIPTION:
WORK UNDER THIS ITEM INCLUDES PROVIDING PROTECTION FOR EXISTING TREES WITHIN THE PROJECT LIMITS DURING CONSTRUCTION OPERATIONS. WORK SHALL INCLUDE PROTECTION BY FENCING OF ALL TREES WITHIN THE PROJECT BOUNDARIES AS INDICATED ON THE CONTRACT DOCUMENTS. THE CONTRACTOR IS LIABLE FOR REPLACEMENT AND REPAIR OF TREES OR COMPENSATION FOR TREES DAMAGED OR KILLED THROUGH NEGLECT OR FAILURE TO APPLY TREE PROTECTION DURING CONSTRUCTION OPERATIONS. FAILURE OF THE CONTRACTOR TO IMPLEMENT TREE CONSERVATION MEASURES OR TREE REPLACEMENT, AS DIRECTED BY THE ENGINEER, WILL RESULT IN COMPENSATION OR LIQUIDATED DAMAGES TO THE GOVERNMENT ACCORDING TO THE SCHEDULE OF PAYMENT CONTAINED HEREIN. ANY REPLACEMENT DETERMINED TO BE REQUIRED BY THE ENGINEER MUST BE PERFORMED WITHIN TWO (2) WEEKS OF NOTIFICATION, UNLESS OUTSIDE OF THE PLANTING SEASON, IN WHICH CASE REPLACEMENT MUST OCCUR WITHIN THE FIRST TWO (2) WEEKS OF THE PLANTING SEASON. FOR SPECIFICS OF TREE PRESERVATION, SEE TREE PRESERVATION DRAWINGS. ALL TREE PRESERVATION REQUIRES OVERSIGHT BY A LICENSED ARBORIST.

B. METHODS AND MATERIALS:
PROTECTION FROM DAMAGE CAUSED BY THE CONTRACTOR'S EQUIPMENT OR CARELESSNESS SHALL CONSIST OF THE FOLLOWING METHODS AND MEASURES:
ALL TREES TO BE PRESERVED SHALL BE PROTECTED AGAINST DAMAGE DURING CONSTRUCTION OPERATIONS BY FENCING. THE TREE PROTECTION FENCING SHALL BE PLACED BEFORE ANY EXCAVATION OR GRADING HAS COMMENCED. DETAILS OF THE MINIMUM ACCEPTABLE TREE PROTECTION ARE SHOWN IN THE CONTRACT DOCUMENTS. NO EQUIPMENT, TRAILERS OR MATERIALS MAY BE PLACED WITHIN THE DRIP LINE OF EXISTING TREES TO BE RETAINED WITHIN THE PROJECT LIMITS WITH THE EXCEPTION OF PAVED AREAS OR AREAS TO BE PAVED.
ANY DAMAGE DONE TO EXISTING TREE CROWNS OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR UNDER SMITHSONIAN GARDENS.
IF ANY TREES NOT DESIGNATED TO BE REMOVED ARE SEVERELY INJURED OR KILLED BY THE CONTRACTOR'S OPERATIONS FOR ANY REASON, THEY SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE GOVERNMENT. TREES REPLACED IN KIND SHALL BE PLANTED AS DIRECTED BY COTR. THE COTR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING WHETHER OR NOT A GIVEN INJURY IS SUFFICIENT TO WARRANT REPAIR, REPLACEMENT OR MONETARY COMPENSATION BY THE CONTRACTOR.
MATERIALS SHALL MEET THE FOLLOWING REQUIREMENTS:
- TREE PROTECTION FENCING: TREE PROTECTION FENCING SHALL CONSIST OF 6 FOOT TALL CHAIN LINK FENCE MATERIALS. FENCING SHALL PROTECT AN AREA NO SMALLER THAN 9 FOOT X 4 FOOT.

C. MEASURE AND PAYMENT:
THE UNIT OF MEASURE WILL BE EACH. NO DIRECT MEASURE WILL BE TAKEN. PAYMENT FOR TREE PROTECTION AND REPLACEMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER EACH FOR TREE PROTECTION, WHICH PAYMENT WILL INCLUDE ALL LABOR, TOOLS, MATERIALS, EQUIPMENT, AND INCIDENTALS NEEDED TO COMPLETE THE REQUIRED WORK. NO PAYMENT WILL BE MADE FOR REPAIR AND REPLACEMENT IN KIND FOR TREES DAMAGED OR KILLED DUE TO THE CONTRACTOR'S OPERATIONS. THIS WORK WILL BE PERFORMED AT THE SOLE EXPENSE OF THE CONTRACTOR.

TREE ROOT PROTECTION:

A. DESCRIPTION:
THIS WORK INCLUDES PRECAUTIONS TO BE TAKEN WHILE PERFORMING UTILITY TRENCHING, ROADWAY WORK, SIDEWALK, AND CURB INSTALLATION. WORK ALSO INCLUDES FURNISHING AND PLACEMENT OF PREPARED PLANTING SOIL MIX AND FERTILIZER (FERTILIZER IS NOT NEEDED UNLESS AN ELEMENT IS DEFICIENT) BACKFILL AROUND EXPOSED AND DISTURBED ROOTS, AND THE DISPOSAL OF EXCESS MATERIALS, BRANCHES AND DEBRIS.

B. CONSTRUCTION METHODS:
CONSTRUCTION OPERATIONS ADJACENT TO EXISTING TREES SHALL BE PERFORMED IN ACCORDANCE WITH THE DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES SECTION 608.07(B) TO PREVENT TRUNK, CROWN, AND ROOT DAMAGE. TREE ROOTS SHALL NOT BE CUT UNLESS SPECIFICALLY AUTHORIZED BY THE SMITHSONIAN INSTITUTION AND SMITHSONIAN GARDENS. IF AUTHORIZED, PRUNING SHALL BE PERFORMED UNDER THEIR SUPERVISION IN ACCORDANCE WITH THE DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES SECTIONS 107.12 AND 608.04(B), OR BY A CERTIFIED ARBORIST MEETING THEIR APPROVAL. WHEN AUTHORIZED BY THE ENGINEER, THE CONTRACTOR MAY CUT MINOR ROOTS (LESS THAN 2 INCHES IN DIAMETER) WITH HIS OWN FORCES. WHEN TRENCHING OR WHEN OLD CURB, GUTTER, OR SIDEWALK IS REMOVED, DAMP BURLAP SHALL BE PLACED OVER EXPOSED ROOTS AND KEPT DAMP AT ALL TIMES UNTIL THE NEW WORK IS PLACED. TRENCH EXCAVATION SHALL FOLLOW THE DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES SECTIONS 207.03 TO AVOID ROOT DAMAGE TO ROOTS LARGER THAN 2 INCHES IN DIAMETER. EXPOSED OR CUT ROOTS SHALL BE BACKFILLED WITH PREPARED FERTILIZER-ENRICHED PLANTING SOIL MIX TO ENCOURAGE ROOT GROWTH. (FERTILIZER IS NOT NEEDED UNLESS AN ELEMENT IS SHOWN TO BE DEFICIENT.)
IN ALL OPERATIONS INVOLVING UTILITY TRENCHING, THE WORK SHALL BE PERFORMED AS PER THE DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES SECTIONS 207.03. WHENEVER POSSIBLE, ROOT CUTTING SHALL BE AVOIDED; NO PART OF THE ROOT BALL SHALL BE TRENCHED. UTILITY TRENCHING SHALL NOT BE ALLOWED IF TREE ROOTS ARE WITHIN THE TRENCH AREA DETERMINED AS THE DRIP-LINE OF THE TREE. THESE EXCAVATIONS SHALL BE AUGURED OR TUNNELED, AS NECESSARY, TO PREVENT ROOT CUTTING.

IN CURB INSTALLATIONS, IT IS RECOMMENDED THAT CURBING BE BRIDGED ACROSS THE LENGTH OF THE TREE SPACE, WITHOUT A DRY MIX BACKING BLOCK, IN ORDER TO AVOID ANY TRENCHING EXCAVATION IN THE VICINITY OF THE ROOTS. THE LENGTH OF CURBING PLACED ADJACENT TO THE LENGTH OF THE TREE SPACE SHALL THEN BE DOWELLED OR PINNED TO THE STANDARD CURB CONSTRUCTION OUTSIDE THE TREE SPACE.

TREES LOCATED ADJACENT TO CONSTRUCTION WORK SHALL BE WATERED AT TEN (10) DAY INTERVALS THROUGHOUT THE GROWING SEASON. THE CONTRACTOR SHALL SUPPLY WATERING BAGS OF SAME TYPE THAT ARE SOLD IN THE INDUSTRY AND FILL THEM ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS OR AT A MINIMUM KEEPING THE BAG FULL DURING THE GROWING SEASON. NO EQUIPMENT, TRAILERS, OR MATERIAL SHALL BE PLACED WITHIN 20 FEET OR WITHIN THE DRIP LINES OF ANY TREE TO BE SAVED, WHICHEVER IS GREATER.

ANY DAMAGE DONE TO EXISTING TREE TRUNKS, CROWNS, OR ROOT SYSTEMS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR, AT HIS EXPENSE, UNDER THE DIRECTION OF SMITHSONIAN GARDENS.

PROTECT ROOT SYSTEMS FROM DAMAGE CAUSED BY RUNOFF OR SPILLAGE OF NOXIOUS MATERIALS WHILE MIXING, PLACING, OR STORING CONSTRUCTION MATERIALS. PROTECT ROOT SYSTEMS FROM PONDING, ERODING, OR EXCESSIVE WETTING CAUSED BY DEWATERING OPERATIONS. DO NOT STORE CONSTRUCTION MATERIALS, DEBRIS, OR EXCAVATED MATERIAL INSIDE TREE PROTECTION ZONES. DO NOT PERMIT VEHICLES OR FOOT TRAFFIC WITHIN TREE PROTECTION ZONES; PREVENT SOIL COMPACTION OVER ROOT SYSTEMS.

MAINTAIN TREE PROTECTION ZONES FREE OF WEEDS AND TRASH.

INSTALL MYCORRHIZAL FUNGAL INOCULATION INSIDE THE TREE PROTECTION ZONE AS REQUIRED BY THE MANUFACTURER.

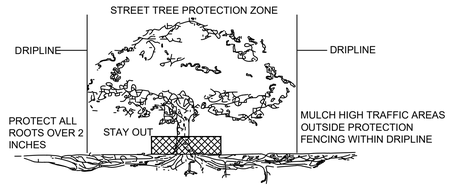
WHERE RE-GRADING IS REQUIRED, THE FOLLOWING SHALL APPLY:
MINOR FILL: WHERE EXISTING GRADE IS 6 INCHES OR LESS BELOW ELEVATION OF FINISH GRADE, FILL WITH MATERIAL AS SHOWN IN THE CONTRACT DRAWINGS. PLACE MATERIAL IN A SINGLE UNCOMPACTED LAYER AND HAND GRADE TO REQUIRED FINISH ELEVATIONS.

MODERATE FILL: WHERE EXISTING GRADE IS MORE THAN 6 INCHES BUT LESS THAN 12 INCHES BELOW ELEVATION OF FINISH GRADE, PLACE DRAINAGE FILL, FILTER FABRIC, AND TOPSOIL ON EXISTING GRADE AS FOLLOWS:

CAREFULLY PLACE DRAINAGE FILL AGAINST TREE TRUNK APPROXIMATELY 2 INCHES ABOVE ELEVATION OF FINISH GRADE AND EXTEND NOT LESS THAN 18 INCHES FROM TREE TRUNK ON ALL SIDES. FOR BALANCE OF AREA WITHIN DRIP LINE PERIMETER, PLACE DRAINAGE FILL UP TO 6 INCHES BELOW ELEVATION OF GRADE.
PLACE FILTER FABRIC WITH EDGES OVERLAPPING 6 INCHES (150 MM) MINIMUM. PLACE FILL LAYER OF MATERIAL TO FINISH GRADE. DO NOT COMPACT DRAINAGE FILL.
HAND GRADE TO REQUIRED ELEVATIONS.

C. MEASURE AND PAYMENT:

NO MEASURE WILL BE TAKEN FOR THIS WORK. NO DIRECT PAYMENT WILL BE MADE. THIS WORK IS CONSIDERED INCIDENTAL TO THE WORK BEING PERFORMED, THE COST OF WHICH SHALL BE CONSIDERED WHEN PREPARING BIDS FOR WORK IN THESE AREAS.



POLLUTION PREVENTION THROUGH GOOD HOUSEKEEPING:

POLLUTION PREVENTION:
THIS APPENDIX IS MEANT TO COMPLEMENT APPENDIX P STORMWATER HOTSPOTS AND EROSION AND SEDIMENT CONTROL PLAN (ESCP), BUT NOT REITERATE EPA'S CONSTRUCTION GENERAL PERMIT REQUIREMENTS. THESE NOTES SHALL APPEAR AS STAMPED NOTES ON STORMWATER MANAGEMENT PLANS (SWMPS) WHERE LAND DISTURBANCE IS GREATER THAN 5,000 SQUARE FEET AND LESS THAN ONE ACRE. THESE NOTES SHALL CONSTITUTE A MINIMUM STORMWATER POLLUTION PREVENTION PLAN (SWPPPmin) AND PROVIDE GUIDANCE ON GOOD HOUSEKEEPING PRACTICES TO PREVENT POTENTIAL CONSTRUCTION-SITE POLLUTANT FROM INTERACTING WITH STORMWATER.
STORMWATER MANAGEMENT PLAN (SWMP) GOOD HOUSEKEEPING STAMP NOTES:
FUELS AND OILS
ON-SITE REFUELING WILL BE CONDUCTED IN A DEDICATED LOCATION AWAY FROM ACCESS TO SURFACE WATERS. INSTALL CONTAINMENT BERMS AND, OR SECONDARY CONTAINMENTS AROUND REFUELING AREAS AND STORAGE TANKS. SPILLS WILL BE CLEANED UP IMMEDIATELY AND CONTAMINATED SOILS DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS. PETROLEUM PRODUCTS WILL BE STORED IN CLEARLY LABELED TIGHTLY SEALED CONTAINERS. ALL VEHICLES ON SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE ACTIVITIES. ANY ASPHALT SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SPILL KITS SHALL BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES.
SOLID WASTE
NO SOLID MATERIALS SHALL BE DISCHARGED TO SURFACE WATER. SOLID MATERIALS INCLUDING BUILDING MATERIALS, GARBAGE AND PAINT DEBRIS SHALL BE CLEANED UP DAILY AND DEPOSITED INTO DUMPSTERS, WHICH WILL BE PERIODICALLY REMOVED AND DEPOSITED INTO A LANDFILL.
ABRASIVE BLASTING
WATER BLASTING, SANDBLASTING, AND OTHER FORMS OF ABRASIVE BLASTING ON PAINTED SURFACES BUILT PRIOR TO 1978 MAY ONLY BE PERFORMED IF AN EFFECTIVE CONTAINMENT SYSTEM PREVENTS DISPERSAL OF PAINT DEBRIS.
FERTILIZER
FERTILIZERS WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER, WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER, AND STORED IN A COVERED SHED. PARTIALLY USED BAGS WILL BE TRANSFERRED TO A SEALABLE BIN TO AVOID SPILLS.
PAINT AND OTHER CHEMICALS
ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWERS, BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SPRAY GUNS WILL BE CLEANED ON A REMOVAL TARP. CHEMICALS USED ON SITE ARE KEPT IN SMALL QUANTITIES AND IN CLOSED CONTAINERS UNDERCOVER AND KEPT OUT OF DIRECT CONTACT WITH STORMWATER. AS WITH FUELS AND OILS, ANY INADVERTENT SPILLS WILL BE CLEANED UP IMMEDIATELY AND DISPOSED OF ACCORDING TO FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS.
CONCRETE
CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE DISPOSAL AREA. FORM RELEASE OIL FOR DECORATIVE STONE WORK WILL BE APPLIED OVER PALLET COVERED WITH AN ABSORBENT MATERIAL TO COLLECT EXCESS FLUID. THE ABSORBENT MATERIAL WILL BE REPLACED AND DISPOSED OF PROPERLY WHEN SATURATED.
WATER TESTING
WHEN TESTING AND, OR CLEANING WATER SUPPLY LINES, THE DISCHARGE FROM THE TESTED PIPE WILL BE COLLECTED AND CONVEYED TO A COMPLETED STORMWATER CONVEYANCE SYSTEM FOR ULTIMATE DISCHARGE INTO A STORMWATER BEST MANAGEMENT PRACTICE (BMP).
SANITARY WASTE
PORTABLE LAVATORIES LOCATED ON SITE WILL BE SERVICED ON A REGULAR BASIS BY A CONTRACTOR. PORTABLE LAVATORIES WILL BE LOCATED IN AN UPLAND AREA AWAY FROM DIRECT CONTACT WITH SURFACE WATERS. ANY SPILLS OCCURRING DURING SERVICING WILL BE CLEANED IMMEDIATELY AND CONTAMINATED SOILS DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS.

TREE AND ROOT PROTECTION NOTES:

1. CONTACT THE DOEE INSPECTOR AS SOON AS POSSIBLE BEFORE CONSTRUCTION BEGINS TO DISCUSS TREE PROTECTION MEASURES. CONTACT THE CERTIFIED ARBORIST IF THE CREW ENCOUNTERS ANY CONFLICTS WITH THE TREE ROOTS 2" DIAMETER OR LARGER DURING EXCAVATION.
2. DO NOT CUT ROOTS LARGER THAN 2 INCHES IN DIAMETER WITHOUT THE DOEE INSPECTOR'S PERMISSION. THIS MUST BE PERFORMED UNDER SUPERVISION OF AN ARBORIST.
3. WRAP EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER IN BURLAP OR OTHER APPROVED MATERIAL AND KEEP MOIST AT ALL TIMES.
4. THE CONTRACTOR MUST ADHERE TO THE FOLLOWING TREE PROTECTION CONDITIONS AND ALL PROTECTION MEASURES SHALL COMPLY WITH THE 2017 DC ESC GUIDEBOOK.
5. TREES WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH RIGID MATERIAL (2" X 4" FRAMING COVERED BY STAPLED ORANGE FENCE), 6' TALL. THE CRITICAL ROOT ZONE (CRZ) IS MEASURED AT 4.5 FEET ABOVE THE GROUND (DIAMETER BREAST HEIGHT (DBH)) FROM ALL SIDES OF THE TREE TRUNK. THE CRZ EQUALS THE MEASUREMENT FORM THE FACE (NOT CENTER) OF THE TRUNK TO THE DISTANCE THAT EQUALS THE TREE'S DIAMETER MULTIPLIED TIME 1.5 FEET. IF THE TREE IS ON A SLOPE, MULTI-STEMMED AND/OR SPLITS BELOW 4.5 FEET. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE CRITICAL ROOT ZONE OF A TREE: ALTERATION OR DISTURBANCE TO EXISTING GRADE TAGGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT; AND BLACKTOP, AND TRENCHING.
6. INSTALL ONLY TRENCHLESS SILT/SUPER SILT FENCE METHODS WITHIN THE CRITICAL ROOT ZONE OF A TREE; TRENCHLESS METHODS SUCH AS FILTER LOGS, SILTSOXX, STRAW BALES, OR AN APPROVED EQUIVALENT SHALL BE USED.
7. NO HEAVY EQUIPMENT SHALL BE USED TO EXCAVATE WITHIN THE CRITICAL ROOT ZONE. EXCAVATIONS SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT THAT WILL NOT CAUSE INJURY TO TREE TRUNKS, BRANCHES, AND ROOTS.
8. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST CONTACT THE DOEE INSPECTOR TO RECEIVE CLEARANCE TO CONTINUE THE CONFLICTING WORK.
9. TREE BRANCHES THAT INTERFERE WITH THE CONSTRUCTION MAY BE TIED BACK OR PRUNED ONLY TO THE POINT NECESSARY TO COMPLETE THE WORK. TYING BACK OR TRIMMING OF ALL BRANCHES MUST BE IN ACCORDANCE WITH ACCEPTED ARBORICULTURAL PRACTICES (ANSI A300, PART 8) AND BE PERFORMED UNDER SUPERVISION OF AN ARBORIST.

DOEE SOIL EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES:

1. FOLLOWING INITIAL LAND DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR INTERIM STABILIZATION MUST BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS FOR THE SURFACES OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND SLOPES GREATER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1); AND FOURTEEN (14) DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THESE REQUIREMENTS DO NOT APPLY TO AREAS SHOWN ON THE PLAN THAT ARE USED FOR MATERIAL STORAGE OTHER THAN STOCKPILING, OR FOR THOSE AREAS ON THE PLAN WHERE ACTUAL CONSTRUCTION ACTIVITIES ARE BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY SO THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE DISTRICT OF COLUMBIA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL(ESC).[21 DCMR § 542.9 (O)]
2. ESC MEASURES SHALL BE IN PLACE BEFORE AND DURING LAND DISTURBANCE. [21 DCMR § 543.6]
3. CONTACT DOEE INSPECTION (202) 535-2977 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST THREE (3) BUSINESS DAYS BEFORE THE COMMENCEMENT OF A LAND-DISTURBING ACTIVITY. [21 DCMR § 503.7 (A)]
4. A COPY OF THE APPROVED PLAN SET WILL BE MAINTAINED AT THE CONSTRUCTION SITE FROM THE DATE THAT CONSTRUCTION ACTIVITIES BEGIN TO THE DATE OF FINAL STABILIZATION AND WILL BE AVAILABLE FOR DOEE INSPECTORS. [21 DCMR § 542.15]
5. ESC MEASURES SHALL BE IN PLACE TO STABILIZE AN EXPOSED AREA AS SOON AS PRACTICABLE AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED BUT NO LATER THAN FOURTEEN (14) DAYS FOLLOWING CESSATION, EXCEPT THAT TEMPORARY OR PERMANENT STABILIZATION SHALL BE IN PLACE AT THE END OF EACH DAY OF UNDERGROUND UTILITY WORK THAT IS NOT CONTAINED WITHIN A LARGER DEVELOPMENT SITE. [21 DCMR § 543.7]
6. STOCKPILED MATERIAL BEING ACTIVELY USED DURING A PHASE OF CONSTRUCTION SHALL BE PROTECTED AGAINST EROSION BY ESTABLISHING AND MAINTAINING PERIMETER CONTROLS AROUND THE STOCKPILE. [21 DCMR § 543.16 (A)]
7. STOCKPILED MATERIAL NOT BEING ACTIVELY USED OR ADDED TO SHALL BE STABILIZED WITH MULCH, TEMPORARY VEGETATION, HYDRO-SEED OR PLASTIC WITHIN FIFTEEN (15) CALENDAR DAYS AFTER ITS LAST USE OR ADDITION. [21 DCMR § 543.16 (B)]
8. FILL MATERIAL MUST BE FREE OF CONTAMINATION LEVELS OF ANY POLLUTANT THAT IS, OR MAY BE CONSIDERED TO REPRESENT, A POSSIBLE HEALTH HAZARD TO THE PUBLIC OR MAY BE DETRIMENTAL TO SURFACE OR GROUND WATER QUALITY, OR WHICH MAY CAUSE DAMAGE TO PROPERTY OR THE DRAINAGE SYSTEM.ALL FILL MATERIAL MUST BE FREE OF HAZARDOUS MATERIALS AND COMPLY WITH ALL APPLICABLE DISTRICT AND FEDERAL REGULATIONS.
9. PROTECT BEST MANAGEMENT PRACTICES FROM SEDIMENTATION AND OTHER DAMAGE DURING CONSTRUCTION FOR PROPER POST CONSTRUCTION OPERATION. [21 DCMR § 543.5]
10. REQUEST A DOEE INSPECTOR'S APPROVAL AFTER THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. [21 DCMR §542.12 (A)]
11. REQUEST A DOEE INSPECTOR'S APPROVAL AFTER FINAL STABILIZATION OF THE SITE AND BEFORE THE REMOVAL OF EROSION AND SEDIMENT CONTROLS. [21 DCMR § 542.12 (B)]
12. FINAL STABILIZATION MEANS THAT ALL LAND-DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND EITHER OF THE FOLLOWING TWO CRITERIA HAVE BEEN MET:(1) A UNIFORM (FOR EXAMPLE, EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF SEVENTY PERCENT (70%) OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR (2) EQUIVALENT PERMANENT STABILIZATION MEASURES HAVE BEEN EMPLOYED (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES). [21 DCMR § 542.12 (B.1, B.2)]
13. FOLLOW THE REQUIREMENTS OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY APPROVED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN A LEGIBLE COPY OF THIS SWPPP ON SITE. [21 DCMR § 543.10 (B)
14. POST A SIGN THAT NOTIFIES THE PUBLIC TO CONTACT DOEE IN THE EVENT OF EROSION OR OTHER POLLUTION. THE SIGN WILL BE PLACED AT EACH ENTRANCE TO THE SITE OR AS DIRECTED BY THE DOEE INSPECTOR. EACH SIGN WILL BE NO LESS THAN 18X 24 INCHES IN SIZE AND MADE OF MATERIALS THAT WILL WITHSTAND WEATHER FOR THE DURATION OF THE PROJECT. LETTERING WILL BE AT LEAST 1 INCH IN HEIGHT AND EASILY READABLE BY THE PUBLIC FROM A DISTANCE OF TWELVE FEET (12 FT). THE SIGN MUST DIRECT THE PUBLIC, IN SUBSTANTIALLY THE FOLLOWING FORM: "TO REPORT EROSION, RUNOFF, OR STORMWATER POLLUTION" AND WILL PROVIDE THE CONSTRUCTION SITE ADDRESS, DOEE'S TELEPHONE NUMBER (202-535-2977), DOEE'S E-MAIL ADDRESS (IEB.SCHEDULING@DC.GOV), AND THE 311 MOBILE APP HEADING ("CONSTRUCTION-EROSION RUNOFF"). [21 DCMR §543.22]
15. A RESPONSIBLE PERSON MUST BE PRESENT OR AVAILABLE WHILE THE SITE IS IN LAND-DISTURBING PHASE. THE RESPONSIBLE PERSON IS CHARGED WITH BEING AVAILABLE TO (A) INSPECT THE SITE AND ITS ESC MEASURES AT LEAST ONCE BIWEEKLY AND AFTER A RAINFALL EVENT TO IDENTIFY AND REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM, (B) RESPOND TO EACH POTENTIAL OR ACTUAL EROSION PROBLEM IDENTIFIED BY CONSTRUCTION PERSONNEL, AND (C) SPEAK ON SITE WITH DOEE TO REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM. A RESPONSIBLE PERSON SHALL BE (A) LICENSED IN THE DISTRICT OF COLUMBIA AS A CIVIL OR GEOTECHNICAL ENGINEER, A LAND SURVEYOR, OR ARCHITECT; OR (B) CERTIFIED THROUGH A TRAINING PROGRAM THAT DOEE APPROVES, INCLUDING A COURSE ON EROSION CONTROL PROVIDED BY ANOTHER JURISDICTION OR PROFESSIONAL ASSOCIATION. DURING CONSTRUCTION, THE RESPONSIBLE PERSON SHALL KEEP ON SITE PROOF OF PROFESSIONAL LICENSING OR OF SUCCESSFUL COMPLETION OF A DOEE-APPROVED TRAINING PROGRAM. [21 DCMR § 547]

STANDARD EROSION AND SEDIMENT CONTROL MEASURES AND SEQUENCE:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING.
2. PROVIDE TEMPORARY STONE CONSTRUCTION ENTRANCE WHERE SHOWN. PROVIDE WATER SOURCE AND HOSE TO CLEAN ALL EQUIPMENT LEAVING SITE.
3. INSTALL SILT FENCE AS SHOWN.
4. NO DISTURBED AREA WILL BE DENUDED FOR MORE THAN 7 CALENDAR DAYS. INSTALL THE NECESSARY TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION MEASURES TO ACHIEVE ADEQUATE EROSION AND SEDIMENT CONTROL.
5. ALL CONSTRUCTION TO BE INSPECTED DAILY BY THE CONTRACTOR, AND ANY DAMAGED SILTATION OR EROSION CONTROL DEVICES OR MEASURES WILL BE REPAIRED AT THE CLOSE OF THE DAY.
6. ALL SILT FENCE TO BE MAINTAINED IN WORKING CONDITION.
7. STABILIZED CONSTRUCTION ENTRANCES TO BE PERIODICALLY SUPPLEMENTED WITH ADDITIONAL STONE AS NEEDED.
8. CONTROLS CAN BE REMOVED AFTER THEIR CONTRIBUTING BASINS HAVE BEEN PERMANENTLY STABILIZED, AND APPROVAL OF INSPECTOR IS OBTAINED.

TEMPORARY SEEDING SUMMARY					
SEED MIXTURE				FERTILIZER RATE (10–10–10)	LIME RATE
SPECIES	SEEDING RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS (IN²)		
ANNUAL RYEGRASS	40	02/15 TO 04/30; 08/15 TO 11/30;	0.5	436 lb/ac (10lb/ 1,000 ft).	2 tons/ac (90lb/ 1,000 ft).
BARLEY	96	02/15 TO 04/30; 08/15 TO 11/30;	1.0		
OATS	72	02/15 TO 04/30; 08/15 TO 11/30;	1.0		
WHEAT	120	02/15 TO 04/30; 08/15 TO 11/30;	1.0		
CEREAL RYE	112	02/15 TO 04/30; 08/15 TO 12/15;	1.0		
FOXTAIL MILLET	30	05/01 TO 08/14;	0.5		
PEARL MILLET	20	05/01 TO 08/14;	0.5		

VEGETATIVE STABILIZATION:

SITE PREPARATION
1. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
2. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
3. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.
4. DISTRIBUTE LIME AND FERTILIZER EVENLY AND INCORPORATE THEM INTO THE TOP 3–5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4–8 TONS PER ACRE (200–400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

SEEDBED PREPARATION
1. TEMPORARY SEEDING
   (a) SEEDBED PREPARATION MUST CONSIST OF LOOSENING SOIL TO A DEPTH OF 3 INCHES TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. TRACK SLOPED AREAS (GREATER THAN 3:1) LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
   (b) APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
   (c) INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 INCHES TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION - FOR PERMANENT STABILIZATION OUTSIDE THE ANIMAL HABITAT, REFER TO THE LANDSCAPE PLANS. FOR PERMANENT STABILIZATION INSIDE THE ANIMAL HABITAT, REFER TO THE EXHIBIT PLANS.

DOB PERMIT STAMP

REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
NATHAN S. JACOBS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

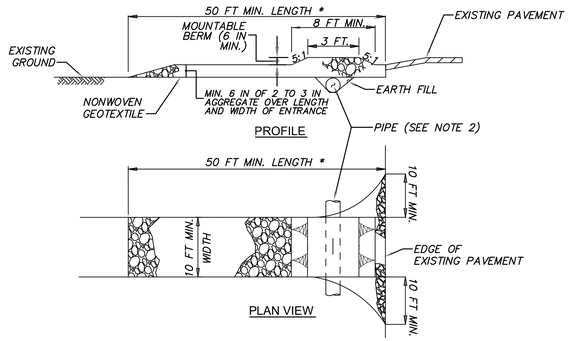
GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

Smithsonian OPDC



STANDARD SYMBOL

CONSTRUCTION SPECIFICATIONS

1. PLACE THE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE A MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE-FAMILY RESIDENCE LOT) AND A MINIMUM WIDTH OF 10 FEET. FLARE THE SCE AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE MAINTAINING POSITIVE DRAINAGE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. PROVIDE PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN THE SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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STABILIZED CONSTRUCTION ENTRANCE

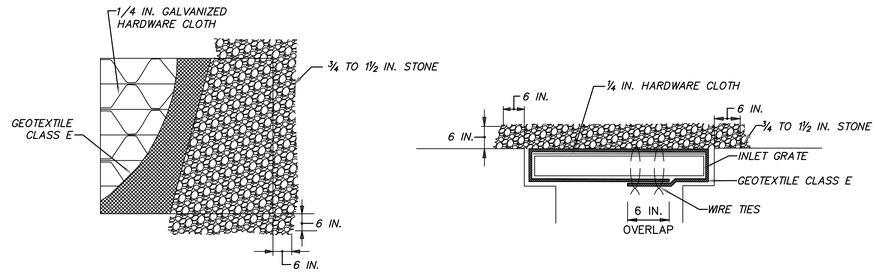
DISTRICT OF COLUMBIA
DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 201.1

1 C-501DT CONSTRUCTION ENTRANCE DETAIL
SCALE: NOT TO SCALE

MAXIMUM DRAINAGE AREA = ¼ ACRE

STANDARD SYMBOL AGIP



CONSTRUCTION SPECIFICATIONS

1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS, SECURE WITH WIRE TIES, THEN SET GRATE BACK IN PLACE.
2. PLACE CLEAN ¾ TO 1-½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 4 TO 6 INCHES THICK ON THE GRATE TO SECURE THE FABRIC.
3. IF THERE ARE ANY SIGNS OF STREET FLOODING OR WATER PONDING, THIS STRUCTURE MUST BE CLEANED OR REPLACED, OR REDESIGNED WITH A VIABLE ALTERNATIVE.

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AT GRADE INLET PROTECTION STORM DRAIN INLET PROTECTION

DISTRICT OF COLUMBIA
DEPARTMENT OF ENERGY & ENVIRONMENT

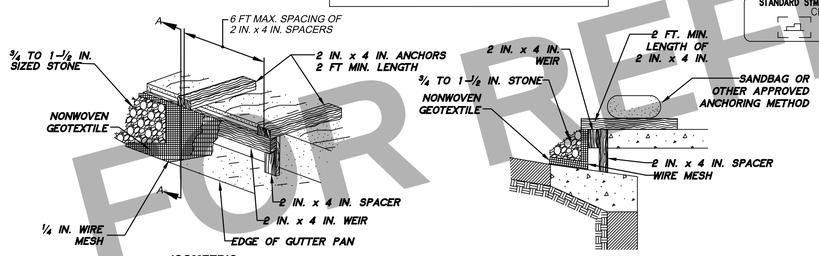
DWG. NO 307.2

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS

2 C-501DT AT GRADE INLET PROTECTION DETAIL
SCALE: NOT TO SCALE

MAXIMUM DRAINAGE AREA = ¼ ACRE

STANDARD SYMBOL CIP



CONSTRUCTION SPECIFICATIONS

1. ATTACH A CONTINUOUS PIECE OF 1/2 INCH x 1/2 INCH WIRE MESH, (30 INCHES MINIMUM WIDTH BY THROAT LENGTH, PLUS 4 FEET) TO THE 2-INCH x 4-INCH WEIR (MEASURING THROAT LENGTH PLUS 2 FEET) AS SHOWN ON THE STANDARD DRAWING.
2. PLACE A CONTINUOUS PIECE OF GEOTEXTILE CLASS E OF THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH TO THE 2-INCH x 4-INCH WEIR.
3. SECURELY NAIL THE 2-INCH x 4-INCH WEIR TO A 9-INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MINIMUM 2-FOOT LENGTHS OF 2-INCHES x 4-INCHES TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND THESE 2-INCH x 4-INCH ANCHORS ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. PLACE THE ASSEMBLY SO THAT THE END SPACERS ARE 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE 1/2-INCH x 1/2-INCH WIRE MESH AND THE GEOTEXTILE FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4 TO 1-1/2 INCH STONE OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE GEOTEXTILE FABRIC AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOWS DO NOT BYPASS THE INLET BY INSTALLING A TEMPORARY EARTH OR ASPHALT DIKE TO DIRECT THE FLOW TO THE INLET.
9. IF THERE ARE ANY SIGNS OF STREET FLOODING OR WATER PONDING, THIS STRUCTURE MUST BE CLEANED OR REPLACED, OR REDESIGNED WITH A VIABLE ALTERNATIVE SUCH AS 3.3 FILTER SOCK.

*NOTE: FILTER SOCK IS AN ALTERNATIVE WHICH IS EASIER TO INSTALL AND MAINTAIN THAN THIS STANDARD DESIGN.

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CURB INLET PROTECTION STORM DRAIN INLET PROTECTION

DISTRICT OF COLUMBIA
DEPARTMENT OF ENERGY & ENVIRONMENT

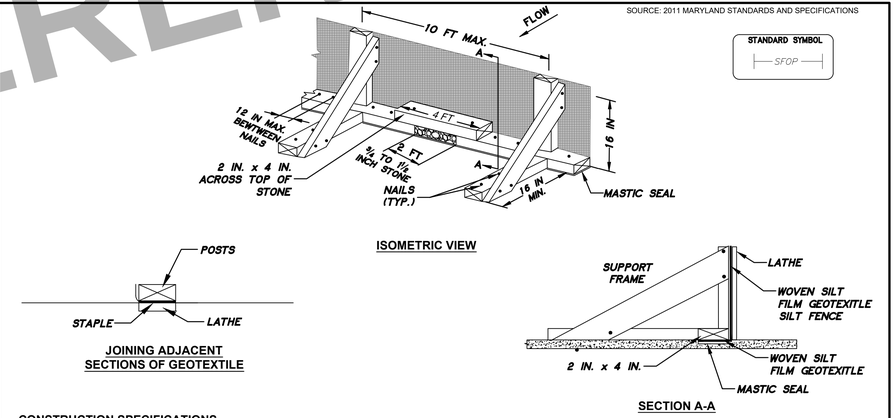
DWG. NO 307.3

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS

3 C-501DT CURB INLET PROTECTION DETAIL
SCALE: NOT TO SCALE

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS

STANDARD SYMBOL SFOP



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH BY 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN APPENDIX A.
3. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
4. PROVIDE A 2-FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
5. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN – OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
7. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
8. SECURE BOARDS TO PAVEMENT WITH 40D 5-INCH MINIMUM LENGTH NAILS.
9. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

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SILT FENCE ON PAVEMENT

DISTRICT OF COLUMBIA
DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 310.1

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS

4 C-501DT SILT FENCE ON PAVEMENT DETAIL
SCALE: NOT TO SCALE

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP
DISTRICT OF COLUMBIA
WILLIAM S. ADAMS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	EROSION & SEDIMENT CONTROL DETAILS

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 501 DT
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

FOR REFERENCE ONLY

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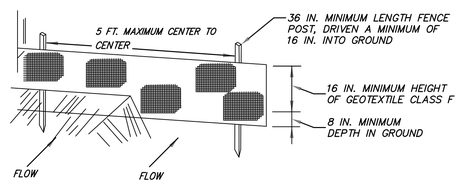

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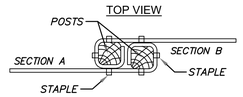
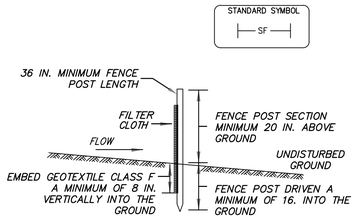


JOINING TWO ADJACENT SILT FENCE SECTIONS



CROSS SECTION

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 MUST 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. GEOTEXTILE MUST MEET THE FOLLOWING REQUIREMENTS (GEOTEXTILE CLASS F):

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

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS

1 C-502DT SILT FENCE DETAIL
SCALE: NOT TO SCALE

SILT FENCE DESIGN CRITERIA:

TABLE 3.1: SILT FENCE SLOPE LENGTH AND FENCE LENGTH CONSTRAINTS

SLOPE STEEPNESS	SLOPE LENGTH (MAXIMUM) (FEET)	SILT FENCE LENGTH (MAXIMUM) (FEET)
FLATTER THAN 50:1 (2%)	UNLIMITED	UNLIMITED
> 50:1 TO 10:1 (2% to 10%)	125	1,000
> 10:1 TO 5:1 (10% to 20%)	100	750
> 5:1 TO 3:1 (20% to 33%)	60	500
> 3:1 TO 2:1 (33% to 50%)	40	250
> 2:1 (> 50%)	20	125

NOTE:

- IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.
- TO AVOID CIRCUMVENTION, EXTEND THE ENDS OF THE SILT FENCE UPSLOPE TO PREVENT WATER AND SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.

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REVISED		
ISSUED:		
	REFERENCE	

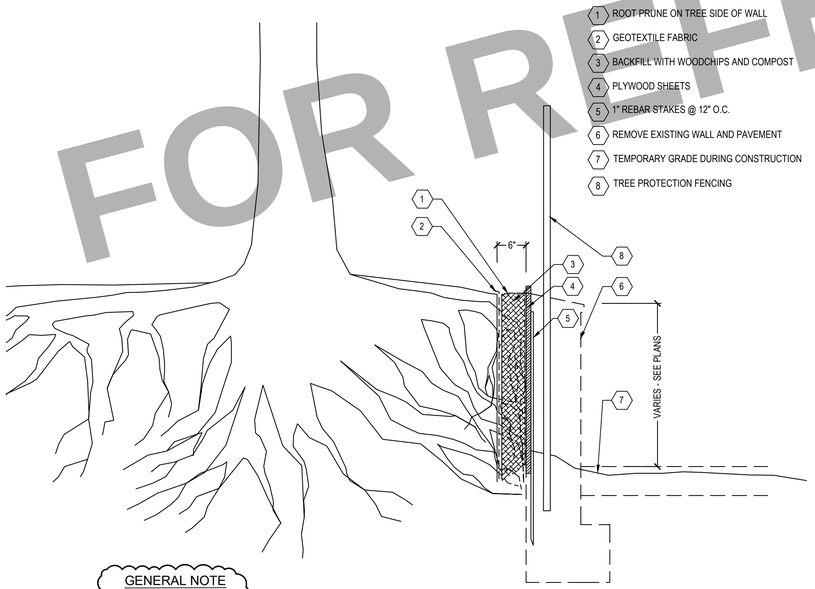
SILT FENCE-2

DISTRICT OF COLUMBIA
DEPARTMENT OF ENERGY & ENVIRONMENT

DWG. NO 301.2

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS

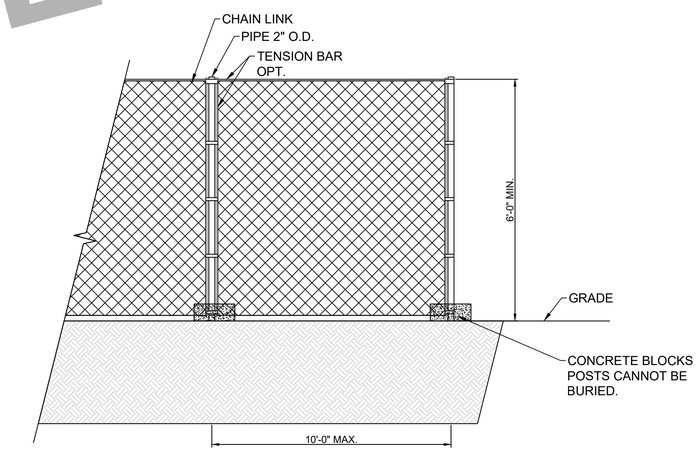
2 C-502DT SILT FENCE DETAIL
SCALE: NOT TO SCALE



GENERAL NOTE

1. ALL ROOT PRUNING SHALL BE PERFORMED BY AN APPROVED CERTIFIED ARBORIST.

3 C-502DT ROOT PRUNING TREE PROTECTION ALONG EXISTING WALL
SCALE: NOT TO SCALE



GENERAL NOTES

1. SEE CHAIN LINK SAFETY FENCE, SHEETS CS140EP, AND CS145EP.
2. HEIGHT OF CHAIN LINK SAFETY FENCE ALONG OLMSTEAD WALK AND ASIA TRAIL. TO BE 8'-0". HEIGHT OF CHAIN LINK SAFETY FENCE AT OTHER LOCATIONS TO BE 6'-0".

4 C-502DT CHAIN LINK SAFETY FENCE DETAIL
SCALE: NOT TO SCALE

FOR REFERENCE ONLY

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

DISTRICT OF COLUMBIA
MATTHEW S. MOSKOWITZ
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	EROSION & SEDIMENT CONTROL DETAILS

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 19 OF 35

C 5 02 DT
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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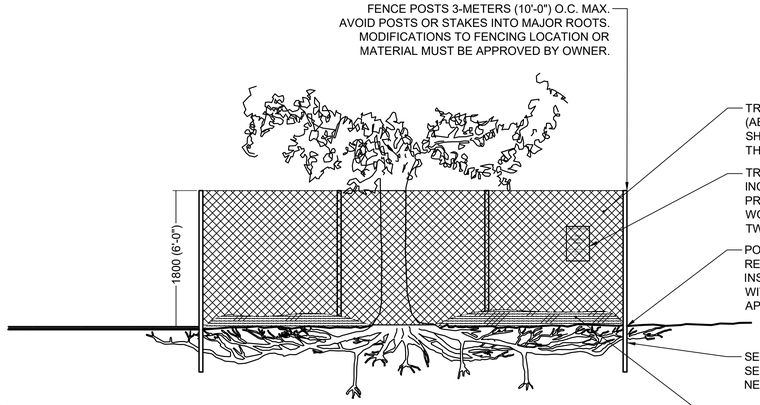


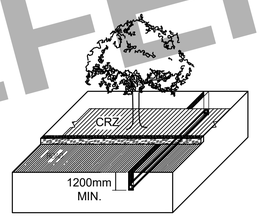
NOTE:

1. SEE THE SPECIFICATIONS FOR TREE PROTECTION REQUIREMENTS.
2. IF THERE IS NO EXISTING IRRIGATION, SEE SPECS FOR WATERING REQUIREMENTS
3. NO PRUNING SHALL BE PERFORMED EXCEPT BY APPROVED ARBORIST.
4. NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTION FENCING INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
5. SEE SITE PREPARATION PLAN FOR ANY MODIFICATIONS WITH THE TREE PROTECTION AREA.
6. NO STOCKPILLING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY IS ALLOWED WITHIN FENCING LIMITS.
7. FENCING SHALL NOT BE MOVED UNLESS APPROVED BY OWNER.
8. WORK WITHIN FENCING SHALL BE DONE MANUALLY AND UNDER THE SUPERVISION OF THE ARBORIST/OWNER AND WITH OWNERS PRIOR APPROVAL.
9. NO PART OF ANY TREE PROTECTION SHALL BE MOVED, ALTERED, OR CHANGED IN ANY WAY FOR THE ENTIRE LENGTH OF THE CONSTRUCTION PROJECT.
10. CALL THE COTR FOR ACCESS INTO TREE PROTECTION AREAS.
11. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST. 1

1 C-503DT

TREE PROTECTION FENCE

SCALE: NTS



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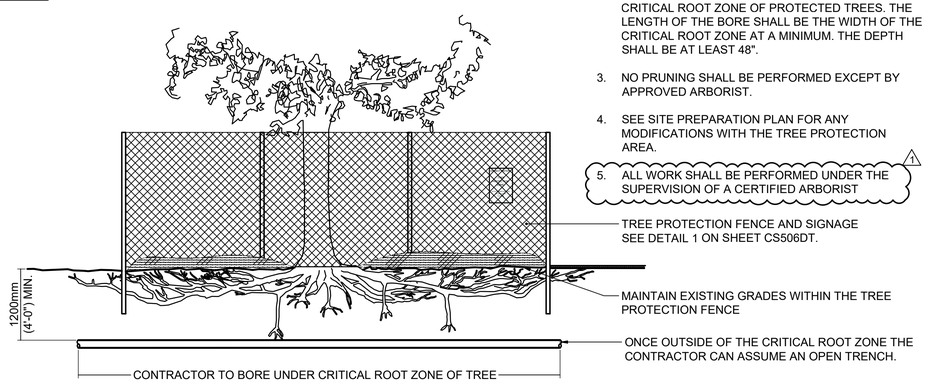

NOTES:

1. SEE THE SPECIFICATIONS FOR TREE PROTECTION REQUIREMENTS.
2. BORING OF UTILITIES UNDER PROTECTED TREES SHALL BE REQUIRED IN CIRCUMSTANCES WHERE IT IS NOT POSSIBLE TO TRENCH AROUND THE CRITICAL ROOT ZONE OF PROTECTED TREES. THE LENGTH OF THE BORE SHALL BE THE WIDTH OF THE CRITICAL ROOT ZONE AT A MINIMUM. THE DEPTH SHALL BE AT LEAST 48".
3. NO PRUNING SHALL BE PERFORMED EXCEPT BY APPROVED ARBORIST.
4. SEE SITE PREPARATION PLAN FOR ANY MODIFICATIONS WITH THE TREE PROTECTION AREA.
5. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST 1

2 C-503DT

TREE PROTECTION - UTILITY BORING

SCALE: NTS

SF PROJECT #:
DATE:
DRAWN BY:
SCALE:
BUILDING NAME:
PROJECT TITLE:

Smithsonian Institution
Smithsonian Facilities
600 Maryland Avenue SW
Suite 5001 Washington, DC 20560

DOB PERMIT STAMP

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CONSTRUCT ARABIAN LEOPARD FACILITY

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DISTRICT OF COLUMBIA
MATTHEW S. MOSKOWITZ
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

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KEY PLAN

GRAPHIC SCALE(S)

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REVISION #	DATE	REVISION DESCRIPTION
1	5/11/26	PHASE 1: ADDENDUM 1

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Washington, DC 20024-2520

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	EROSION & SEDIMENT CONTROL DETAILS

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. 20 OF 35

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DISCIPLINE	TYPE	SEQUENCE	DRAWING TYPE

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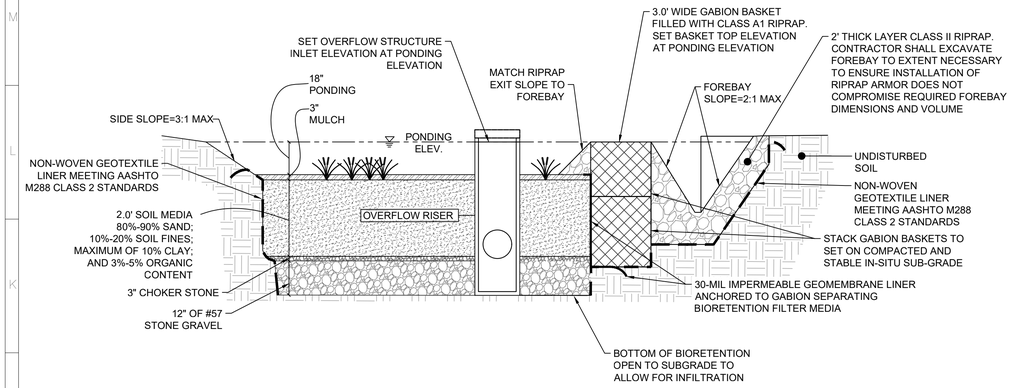

1 C-507DT ENHANCED BIORETENTION SECTION
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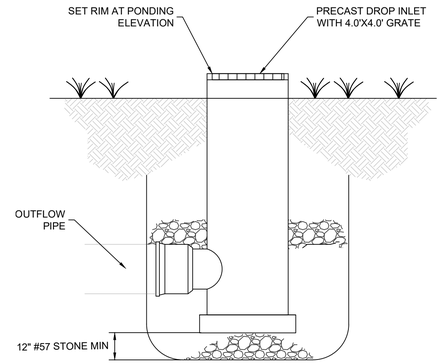
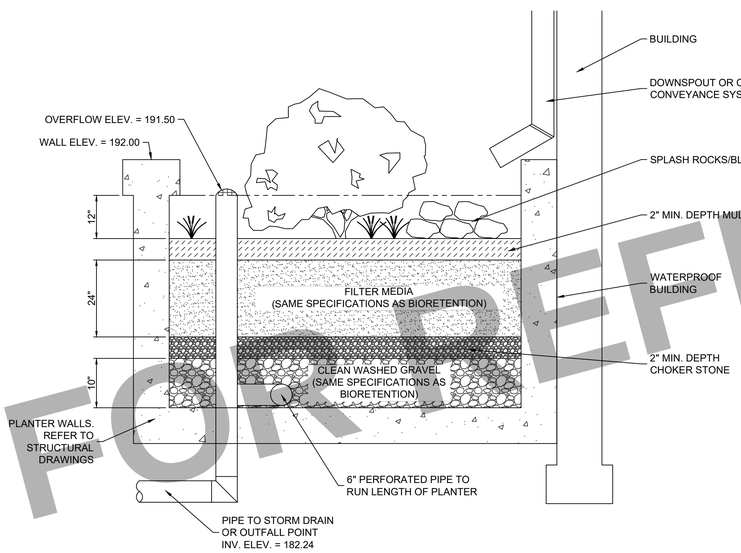
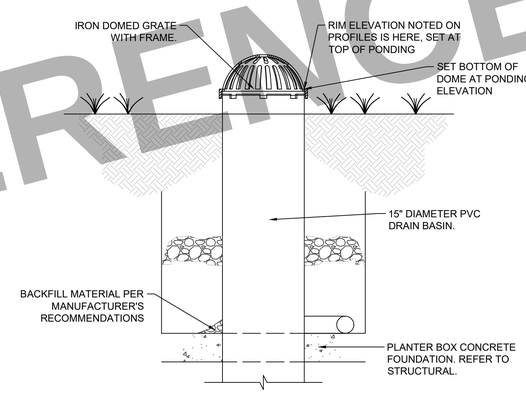


2 C-507DT BIORETENTION OVERFLOW STRUCTURE
SCALE: NOT TO SCALE

DOB PERMIT STAMP



3 C-507DT STORMWATER PLANTER SECTION
SCALE: NOT TO SCALE



4 C-507DT STORMWATER PLANTER OVERFLOW STRUCTURE
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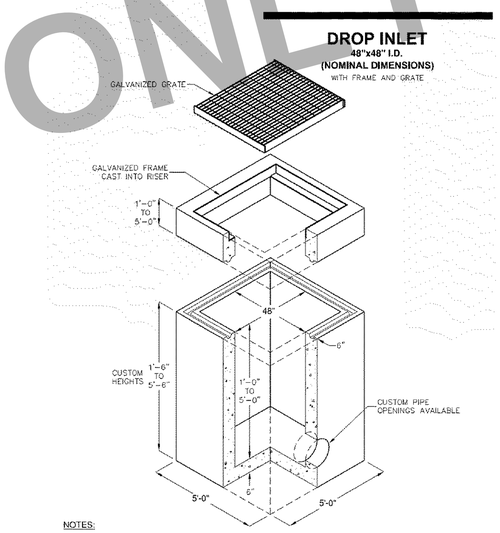

NOTES:

1. PRECAST CONCRETE. MIN. 3500 PSI.
2. GALVANIZED STEEL LADDER RINGS, SET AT 12" INTERVALS, TO BE PROVIDED FOR ACCESS.
3. REFER TO PROPOSED PIPE CONNECTION INVERTS AND RIM ELEVATIONS PRIOR TO ORDERING.
4. PROVIDE SHOP DRAWINGS CERTIFIED BY A DISTRICT OF COLUMBIA REGISTERED STRUCTURAL ENGINEER TO THE DESIGNER FOR APPROVAL PRIOR TO ORDERING.

5 C-507DT TYPICAL 4.0' x 4.0' DROP INLET
SCALE: NOT TO SCALE

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CONSTRUCT ARABIAN LEOPARD FACILITY

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STAMP
DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

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KEY PLAN

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Smithsonian Institution

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORMWATER MANAGEMENT PLAN - DETAILS AND NOTES

WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 5 07 DT
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DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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INSPECTION REQUIREMENTS BEFORE AND DURING CONSTRUCTION

DOEE'S CONSTRUCTION INSPECTION CHECKLISTS FOR EACH BMP ARE PROVIDED IN APPENDIX K OF THE DOEE STORMWATER MANAGEMENT GUIDEBOOK.

PRECONSTRUCTION MEETINGS

THESE MEETINGS ARE REQUIRED PRIOR TO THE COMMENCEMENT OF ANY LAND-DISTURBING ACTIVITIES AND PRIOR TO THE CONSTRUCTION OF ANY ON-SITE OR OFF-SITE BMPS.

THE APPLICANT IS REQUIRED TO CONTACT DOEE TO SCHEDULE PRECONSTRUCTION MEETINGS 3 DAYS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY SUBJECT TO THE REQUIREMENTS OF 21 DCMR, CHAPTER 5.

INSPECTIONS DURING CONSTRUCTION

THE APPLICANT IS REQUIRED TO CONTACT DOEE TO SCHEDULE INSPECTION 3 DAYS PRIOR TO ANY STAGE OF BMP CONSTRUCTION, OR OTHER CONSTRUCTION ACTIVITY, REQUIRING AN INSPECTION. FOR LARGE, COMPLICATED PROJECTS THE APPLICANT AND DOEE MAY AGREE DURING THE PRECONSTRUCTION MEETING TO AN ALTERNATIVE APPROACH SUCH AS A WEEKLY NOTIFICATION SCHEDULE. ANY SUCH AGREEMENT MUST BE MADE IN WRITING AND SIGNED BY ALL PARTIES. DOEE WILL REVERT TO THE 3 DAY NOTIFICATION PROCEDURE IF THE AGREEMENT IS NOT FOLLOWED.

DOEE MAY REQUIRE THE PROFESSIONAL ENGINEER RESPONSIBLE FOR SEALING THE APPROVED SWM PLANS, OR THE PROFESSIONAL ENGINEER RESPONSIBLE FOR CERTIFYING THE "AS-BUILT" SWM PLAN, OR FOR A PROJECT ENTIRELY IN THE PROW, THE OFFICER OF THE CONTRACTING COMPANY RESPONSIBLE FOR CERTIFYING THE RECORD DRAWING BE PRESENT DURING INSPECTIONS.

FINAL INSPECTION

THE APPLICANT IS REQUIRED TO CONTACT DOEE TO SCHEDULE A FINAL INSPECTION 1 WEEK PRIOR TO THE COMPLETION OF A BMP CONSTRUCTION TO SCHEDULE A FINAL INSPECTION OF THE BMP.

A FINAL INSPECTION WILL BE CONDUCTED BY DOEE UPON COMPLETION OF THE BMP TO DETERMINE IF THE COMPLETED WORK IS CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS.

INSPECTION REQUIREMENTS FOR BIORETENTION

CHAPTER 3 OF THE DOEE STORMWATER MANAGEMENT GUIDEBOOK PROVIDES DETAILS ABOUT THE CONSTRUCTION SEQUENCES FOR EACH BMP. AFTER HOLDING A PRECONSTRUCTION MEETING, REGULAR INSPECTIONS WILL BE MADE AT THE FOLLOWING STAGES SO AS TO ENSURE PROPER PLACEMENT AND ALLOW FOR INFILTRATION INTO THE SUBGRADE:

a. DURING ON-SITE/OFF-SITE PERCOLATION/INFILTRATION TEST
b. UPON COMPLETION OF STRIPPING, STOCKPILING, CONSTRUCTION OF TEMPORARY SEDIMENT CONTROL AND DRAINAGE FACILITIES
c. UPON COMPLETION OF EXCAVATION TO SUBGRADE
d. THROUGHOUT THE PLACEMENT OF PERFORATED PVC/HDPE PIPES (FOR UNDERDRAINS AND OBSERVATION WELLS) INCLUDING BYPASS PIPES (WHERE APPLICABLE), GEOTEXTILE MATERIALS, GRAVEL, OR CRUSHED STONE COURSE AND BACKFILL
e. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION
f. THROUGHOUT THE PLACEMENT OF PERFORATED PVC/HDPE PIPES (FOR UNDERDRAINS AND OBSERVATION WELLS) INCLUDING BYPASS PIPES (WHERE APPLICABLE), GEOTEXTILE MATERIALS, GRAVEL, OR CRUSHED STONE COURSE AND BACKFILL
g. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION

FINAL CONSTRUCTION INSPECTION REPORTS

DOEE WILL CONDUCT A FINAL INSPECTION TO DETERMINE IF THE COMPLETED WORK IS CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS AND THE INTENT OF 21 DCRM, CHAPTER 5. A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE DISTRICT IS REQUIRED TO CERTIFY "AS-BUILT" PLANS AND STATE THAT THE BMP HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THE AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER FORM IS PROVIDED ON THE ORIGINAL SWM PLAN. UPON COMPLETION, THESE PLANS WILL BE SUBMITTED TO DOEE FOR PROCESSING. THE ESTIMATED TIME FOR PROCESSING WILL BE TWO WEEKS (TEN WORKING DAYS), AFTER WHICH THE PLANS WILL BE RETURNED TO THE ENGINEER. DOEE WILL PROVIDE THE APPLICANT WITH WRITTEN NOTIFICATION OF THE FINAL INSPECTION RESULTS. DOEE WILL MAINTAIN A PERMANENT FILE OF INSPECTION REPORTS.

INSPECTION FOR PREVENTATIVE MAINTENANCE

PREVENTATIVE MAINTENANCE WILL BE ENSURED THROUGH INSPECTION OF ALL BMPS BY DOEE. THE INSPECTION WILL OCCUR AT LEAST ONCE EVERY THREE YEARS. MAINTENANCE INSPECTION FORMS ARE PROVIDED IN APPENDIX L OF THE DOEE STORMWATER MANAGEMENT GUIDEBOOK.

PREVENTATIVE MAINTENANCE INSPECTION REPORTS WILL BE MAINTAINED BY DOEE ON ALL BMPS. THE REPORTS WILL EVALUATE BMP FUNCTIONALITY BASED ON THE DETAILED BMP REQUIREMENTS OF CHAPTER 3 AND INSPECTION FORMS FOUND IN APPENDIX L OF THE DOEE STORMWATER MANAGEMENT GUIDEBOOK.

IF, AFTER AN INSPECTION BY DOEE, THE CONDITION OF A BMP PRESENTS AN IMMEDIATE DANGER TO THE PUBLIC SAFETY OF HEALTH BECAUSE OF AN UNSAFE CONDITION OR IMPROPER MAINTENANCE, THE DOEE WILL TAKE SUCH ACTION AS MAY BE NECESSARY TO PROTECT THE PUBLIC AND MAKE THE BMP SAFE. ANY COSTS INCURRED BY DOEE WILL BE ASSESSED AGAINST THE OWNER(S).

Table 3.20 Filter Media Criteria for Bioretention

Soil Media Criterion	Description	Standard(s)		
General Composition	Soil media must have the proper proportions of sand, fines, and organic matter to promote plant growth, drain at the proper rate, and filter pollutants	80% to 90% sand (75% of which is coarse or very coarse); 10% to 20% soil fines; maximum of 10% clay; and 3% to 5% organic matter		
Sand	Silica based coarse aggregate[1]	**Sieve Type**	**Particle Size (mm)**	**Percent Passing (%)**
		3/8 in.	9.50	100
		No. 4	4.75	95–100
		No. 8	2.36	80–100
		No. 16	1.18	45–85
		No. 30	0.6	15–60
		No. 50	0.3	3–15
		No. 100	0.15	0–4
		Effective Particle size (D10) > 0.3mm Uniformity Coefficient (D60/D10) < 4.0		
Top Soil	Loamy sand or sandy loam	USDA Textural Triangle		
Organic Matter	Well-aged, clean compost	Appendix J		
P-Index or Phosphorus (P) Content	Soil media with high P levels will export P through the media and potentially to downstream conveyances or receiving waters	P content = 5 to 15 mg/kg (Mehlich I) or 18 to 40 mg/kg (Mehlich III)		
Cation Exchange Capacity (CEC)	The CEC is determined by the amount of soil fines and organic matter. Higher CEC will promote pollutant removal	CEC > 5 milliequivalents per 100 grams		

BIORETENTION INSTALLATION

THE FOLLOWING IS A TYPICAL CONSTRUCTION SEQUENCE TO PROPERLY INSTALL A BIORETENTION BASIN. THE CONSTRUCTION SEQUENCE FOR MICRO-BIORETENTION IS MORE SIMPLIFIED. THESE STEPS MAY BE MODIFIED TO REFLECT DIFFERENT BIORETENTION APPLICATIONS OR EXPECTED SITE CONDITIONS:

STEP 1: STABILIZE DRAINAGE AREA. CONSTRUCTION OF THE BIORETENTION AREA MAY ONLY BEGIN AFTER THE ENTIRE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED WITH VEGETATION. IT MAY BE NECESSARY TO BLOCK CERTAIN CURB OR OTHER INLETS WHILE THE BIORETENTION AREA IS BEING CONSTRUCTED. THE PROPOSED SITE SHOULD BE CHECKED FOR EXISTING UTILITIES PRIOR TO ANY EXCAVATION.

STEP 2: PRECONSTRUCTION MEETING. THE DESIGNER, THE INSTALLER, AND DOEE INSPECTOR MUST HAVE A PRECONSTRUCTION MEETING, CHECKING THE BOUNDARIES OF THE CONTRIBUTING DRAINAGE AREA AND THE ACTUAL INLET ELEVATIONS TO ENSURE THEY CONFORM TO ORIGINAL DESIGN. SINCE OTHER CONTRACTORS MAY BE RESPONSIBLE FOR CONSTRUCTING PORTIONS OF THE SITE, IT IS QUITE COMMON TO FIND SUBTLE DIFFERENCES IN SITE GRADING, DRAINAGE AND PAVING ELEVATIONS THAT CAN PRODUCE HYDRAULICALLY IMPORTANT DIFFERENCES FOR THE PROPOSED BIORETENTION AREA. THE DESIGNER SHOULD CLEARLY COMMUNICATE, IN WRITING, ANY PROJECT CHANGES DETERMINED DURING THE PRECONSTRUCTION MEETING TO THE INSTALLER AND THE INSPECTOR. MATERIAL CERTIFICATIONS FOR AGGREGATE, SOIL MEDIA AND ANY GEOTEXTILES MUST BE SUBMITTED FOR APPROVAL TO THE INSPECTOR AT THE PRECONSTRUCTION MEETING.

STEP 3: INSTALL SOIL EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE BIORETENTION. TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS (E.G., DIVERSION DIKES, REINFORCED SILT FENCES) ARE NEEDED DURING CONSTRUCTION OF THE BIORETENTION AREA TO DIVERT STORMWATER AWAY FROM THE BIORETENTION AREA UNTIL IT IS COMPLETED. SPECIAL PROTECTION MEASURES, SUCH AS EROSION CONTROL FABRICS, MAY BE NEEDED TO PROTECT VULNERABLE SIDE SLOPES FROM EROSION DURING THE CONSTRUCTION PROCESS.

STEP 4: INSTALL PRETREATMENT CELLS. ANY PRETREATMENT CELLS SHOULD BE EXCAVATED FIRST AND THEN SEALED TO TRAP SEDIMENT.

STEP 5: AVOID IMPACT OF HEAVY INSTALLATION EQUIPMENT. EXCAVATORS OR BACKHOES SHOULD WORK FROM THE SIDES TO EXCAVATE THE BIORETENTION AREA TO ITS APPROPRIATE DESIGN DEPTH AND DIMENSIONS. EXCAVATING EQUIPMENT SHOULD HAVE SCOOPS WITH ADEQUATE REACH SO THEY DO NOT HAVE TO SIT INSIDE THE FOOTPRINT OF THE BIORETENTION AREA. CONTRACTORS SHOULD USE A CELL CONSTRUCTION APPROACH IN LARGER BIORETENTION BASINS, WHEREBY THE BASIN IS SPLIT INTO 500- TO 1,000-SQUARE FOOT TEMPORARY CELLS WITH A 10- TO15-FOOT EARTH BRIDGE IN BETWEEN, SO THAT CELLS CAN BE EXCAVATED FROM THE SIDE.

STEP 6: PROMOTE INFILTRATION RATE. IT MAY BE NECESSARY TO RIP THE BOTTOM SOILS TO A DEPTH OF 6 TO 12 INCHES TO PROMOTE GREATER INFILTRATION.

STEP 7: ORDER OF MATERIALS. IF USING A GEOTEXTILE FABRIC, PLACE THE FABRIC ON THE SIDES OF THE BIORETENTION AREA WITH A 6-INCH OVERLAP ON THE SIDES. IF A STONE STORAGE LAYER WILL BE USED, PLACE THE APPROPRIATE DEPTH OF NO. 57 STONE (CLEAN DOUBLE WASHED) ON THE BOTTOM, INSTALL THE PERFORATED UNDERDRAIN PIPE, PACK NO. 57 STONE TO 3 INCHES ABOVE THE UNDERDRAIN PIPE, AND ADD THE CHOKING LAYER OR APPROPRIATE GEOTEXTILE LAYER AS A FILTER BETWEEN THE UNDERDRAIN AND THE SOIL MEDIA LAYER. IF NO STONE STORAGE LAYER IS USED, START WITH 6 INCHES OF NO. 57 STONE ON THE BOTTOM AND PROCEED WITH THE LAYERING AS DESCRIBED ABOVE.

STEP 8: LAYERED INSTALLATION OF MEDIA. APPLY THE MEDIA IN 12-INCH LIFTS UNTIL THE DESIRED TOP ELEVATION OF THE BIORETENTION AREA IS ACHIEVED. WAIT A FEW DAYS TO CHECK FOR SETTLEMENT AND ADD ADDITIONAL MEDIA, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION.

NOTE: THE BATCH RECEIPT CONFIRMING THE SOURCE OF THE SOIL MEDIA MUST BE SUBMITTED TO THE DOEE INSPECTOR.

STEP 9: PREPARE FILTER MEDIA FOR PLANTS. PREPARE PLANTING HOLES FOR ANY TREES AND SHRUBS, INSTALL THE VEGETATION, AND WATER ACCORDINGLY. INSTALL ANY TEMPORARY IRRIGATION.

STEP 10: PLANTING. INSTALL THE PLANT MATERIALS AS SHOWN IN THE LANDSCAPING PLAN, AND WATER THEM AS NEEDED.

STEP 11: SECURE SURFACE AREA. PLACE THE SURFACE COVER (I.E., MULCH, RIVER STONE, OR TURF) IN BOTH CELLS, DEPENDING ON THE DESIGN. IF COIR OR JUTE MATTING WILL BE USED IN LIEU OF MULCH, THE MATTING WILL NEED TO BE INSTALLED PRIOR TO PLANTING (STEP 10), AND HOLES OR SLITS WILL HAVE TO BE CUT IN THE MATTING TO INSTALL THE PLANTS.

STEP 12: INFLOWS. IF CURB CUTS OR INLETS ARE BLOCKED DURING BIORETENTION INSTALLATION, UNBLOCK THESE AFTER THE DRAINAGE AREA AND SIDE SLOPES HAVE GOOD VEGETATIVE COVER. IT IS RECOMMENDED THAT UNBLOCKING CURB CUTS AND INLETS TAKE PLACE AFTER TWO TO THREE STORM EVENTS IF THE DRAINAGE AREA INCLUDES NEWLY INSTALLED ASPHALT, SINCE NEW ASPHALT TENDS TO PRODUCE A LOT OF FINES AND GRIT DURING THE FIRST SEVERAL STORMS.

STEP 13: FINAL INSPECTION. CONDUCT THE FINAL CONSTRUCTION INSPECTION USING A QUALIFIED PROFESSIONAL, PROVIDING DOEE WITH AN AS-BUILT, THEN LOG THE GPS COORDINATES FOR EACH BIORETENTION FACILITY, AND SUBMIT THEM FOR ENTRY INTO THE MAINTENANCE TRACKING DATABASE.

BIORETENTION MAINTENANCE CRITERIA

Frequency	Maintenance Tasks
Upon establishment	▪ For the first 6 months following construction, the practice and CDA should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization. ▪ Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover. ▪ One-time, spot fertilization may be needed for initial plantings. ▪ Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall. ▪ Remove and replace dead plants. Up to 10% of the plant stock may die off in the first year, so construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction.
At least 4 times per year	▪ Mow grass filter strips and bioretention with turf cover ▪ Check curb cuts and inlets for accumulated grit, leaves, and debris that may block inflow
Twice during growing season	▪ Spot weed, remove trash, and rake the mulch
Annually	▪ Conduct a maintenance inspection ▪ Supplement mulch in devoid areas to maintain a 3 inch layer ▪ Prune trees and shrubs ▪ Remove sediment in pretreatment cells and inflow points
Once every 2–3 years	▪ Remove sediment in pretreatment cells and inflow points ▪ Remove and replace the mulch layer
As needed	▪ Add reinforcement planting to maintain desired vegetation density ▪ Remove invasive plants using recommended control methods ▪ Remove any dead or diseased plants ▪ Stabilize the contributing drainage area to prevent erosion

STORMWATER MANAGEMENT NARRATIVE:

STORMWATER RETENTION AND DETENTION FOR THE PRIVATE SPACE ON SITE HAS A DISTRICT DEPARTMENT OF ENERGY AND ENVIRONMENT (DOEE) SWRv REQUIREMENT OF ### CF FOR MAJOR LAND DISTURBING THE TOTAL LAND BEING DISTURBED IN THE PRIVATE SPACE IS ##,### SF, THE WAIVER IS REQUESTED UNDER THE TRAILS PRACTICABLE PROCESS FOR 13,369 SF. THE SWRv WILL BE MET WITH TREE PRESERVATION FOR TREES, A STORMWATER PLANTER, AND A BIORETENTION

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

WITHIN 21 DAYS AFTER COMPLETION OF CONSTRUCTION OF THE ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPS), STORMWATER INFRASTRUCTURE, AND LAND COVERS (COLLECTIVELY THE "FACILITY), PLEASE SEND THIS PAGE TO THE WATERSHED PROTECTION DIVISION OF THE DISTRICT DEPARTMENT OF THE ENVIRONMENT.

1. FACILITY INFORMATION:

SOURCE NAME: _____

SOURCE LOCATION: STREET: _____

CITY: _____

DCRA PERMIT NO.: _____

DATE ISSUED: _____

2. AS-BUILT CERTIFICATION:

I HEREBY CERTIFY THAT ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPS), STORMWATER INFRASTRUCTURE, AND LAND COVERS HAVE BEEN BUILT IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THAT ANY DEVIATIONS NOTED BELOW WILL NOT PREVENT THE SYSTEM FROM FUNCTIONING IN COMPLIANCE WITH THE REQUIREMENTS CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS WHEN PROPERLY MAINTAINED AND OPERATED. THESE DETERMINATIONS HAVE BEEN BASED UPON ON-SITE OBSERVATIONS OF CONSTRUCTION, SCHEDULED AND CONDUCTED BY ME OR BY A PROJECT REPRESENTATIVE UNDER MY DIRECT SUPERVISION. I HAVE ENCLOSED ONE SET OF AS-BUILT ENGINEERING DRAWINGS.

SIGNATURE OF ENGINEER _____ NAME (PLEASE TYPE) D.C. REG. NO. _____

AFFIX SEAL:

COMPANY NAME: _____

COMPANY ADDRESS: _____

DATE: _____ TELEPHONE: _____

SUBSTANTIAL DEVIATIONS FROM THE APPROVED PLANS AND SPECIFICATIONS (ATTACH ADDITIONAL SHEETS IF REQUIRED).

STATEMENT BY PERSON RESPONSIBLE FOR MAINTENANCE

THE UNDERSIGNED AGREES TO MAINTAIN COMPLIANCE WITH THE PERFORMANCE REQUIREMENTS AND OTHER PROVISIONS OF CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS (DCMR). THIS INCLUDES MAINTAINING AND OPERATING STORMWATER BEST MANAGEMENT PRACTICES (BMPS), STORMWATER INFRASTRUCTURE, AND LAND COVERS AS SPECIFIED IN THE STORMWATER MANAGEMENT PLAN APPROVED BY THE DISTRICT DEPARTMENT OF ENERGY AND ENVIRONMENT (DOEE).

RESPONSIBILITY FOR MAINTENANCE AND OPERATION MAY BE TRANSFERRED TO ANOTHER ENTITY UPON WRITTEN NOTICE TO THE NATURAL RESOURCES ADMINISTRATION OF DOEE FROM THE UNDERSIGNED AND THE ENTITY ASSUMING RESPONSIBILITY. THIS NOTICE MUST CERTIFY THAT THE TRANSFER OF RESPONSIBILITY FOR MAINTENANCE AND OPERATION IS IN COMPLIANCE WITH 21 DCMR CHAPTER 5.

STATEMENT BY PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA

THIS IS TO CERTIFY THAT THE ENGINEERING FEATURES OF ALL STORMWATER BEST MANAGEMENT PRACTICES (BMPS), STORMWATER INFRASTRUCTURE, AND LAND COVERS (COLLECTIVELY THE "FACILITY), HAVE BEEN DESIGNED/EXAMINED BY ME AND FOUND TO BE IN CONFORMITY WITH MODERN ENGINEERING PRINCIPLES APPLICABLE TO THE TREATMENT AND DISPOSAL OF STORMWATER POLLUTANTS. I FURTHER CERTIFY THAT THE FACILITY HAS BEEN DESIGNED IN ACCORDANCE WITH THE SPECIFICATION REQUIRED UNDER CHAPTER 5 OF TITLE 21 OF THE DISTRICT OF COLUMBIA MUNICIPAL REGULATIONS. IT IS ALSO STATED THAT THE UNDERSIGNED HAS FURNISHED THE APPLICANT WITH A SET OF INSTRUCTIONS FOR MAINTENANCE AND OPERATION OF THE SITE'S FACILITY.

SIGNATURE OF THE ENGINEER _____

AFFIX SEAL:

NAME AND TITLE (PLEASE TYPE): _____

ADDRESS: 22365 Broderick Drive, Suite 265

Dulles, VA 20166

DATE: _____ PHONE NO. _____

DOB PERMIT STAMP

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. ADAMS
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

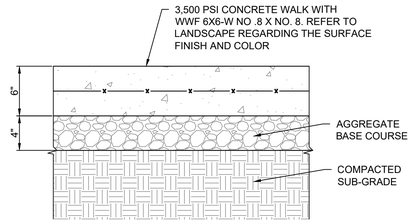
REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

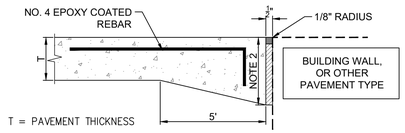
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORMWATER MANAGEMENT PLAN - DETAILS AND NOTES
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 5 08 DT (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



1 C-510DT PEDESTRIAN CONCRETE PAVEMENT
SCALE: NOT TO SCALE



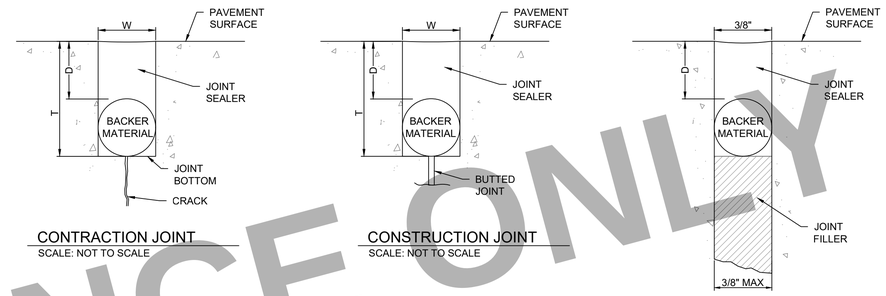
NOTES:
1. PROVIDE AT FACE OF BUILDING, WALLS, UTILITY STRUCTURES, AND AT OTHER STRUCTURES WHERE PROPOSED CONCRETE MEETS EXISTING.
2. THE PAVEMENT EDGES AT THE JOINT SHOULD BE THICKENED BY 20% (1.2"T) OR 2 IN (T+2"), WHICHEVER IS GREATER.
3. ALL CONCRETE REINFORCEMENT BAR SHALL BE EPOXY COATED IN ACCORDANCE WITH DDOT STANDARDS AND SPECIFICATIONS.

2 C-510DT THICKENED EDGE ISOLATION JOINT TYPICAL DETAIL
SCALE: NOT TO SCALE

DOB PERMIT STAMP

W = WIDTH OF SEALANT RESERVOIR 3/8" (MAX)
D = DEPTH OF SEALANT (1.0 TO 1.0W)
T = DEPTH OF INITIAL SAWCUT OR INSERT TYPE JOINT FORMER (CONTRACTION JOINT) SHALL BE 1/4 SLAB THICKNESS

NOTES :
1. BACKER MATERIAL SHALL MEET THE REQUIREMENTS OF ACI 504R PARAGRAPH 2.8, 3.4.6.2, 3.4.6.3 AND TABLE AS APPLICABLE.
2. TOP OF SEALANT WILL BE A MAXIMUM OF 1/4" BELOW TOP OF PAVEMENT SURFACE.
3. WHERE NEW SIDEWALK MEETS EXISTING, REBAR DOWELS SHOULD BE DRILLED IN TO TIE SLABS TOGETHER.
4. CONSTRUCTION AND CONTRACTION JOINTS ARE TO BE SCORED / TOOLED.



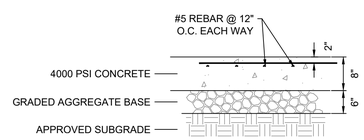
CONTRACTION JOINT
SCALE: NOT TO SCALE

CONSTRUCTION JOINT
SCALE: NOT TO SCALE

EXPANSION/ISOLATION JOINT
SCALE: NOT TO SCALE

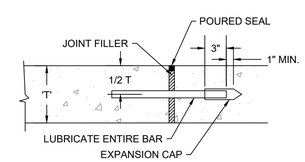
3 C-510DT CONCRETE JOINT DETAILS
SCALE: NOT TO SCALE

FOR REFERENCE ONLY



NOTES:
1. CONCRETE PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH DDOT STANDARDS AND SPECIFICATIONS.
2. PROVIDE EXPANSION JOINTS WITH LOAD TRANSFER DOWEL WHERE NEW CONCRETE PAVEMENT ABUTS EXISTING CONCRETE PAVEMENT.
3. PROVIDE ISOLATION JOINT WHERE NEW CONCRETE PAVEMENT ABUTS WALL AND EXISTING DIFFERING MATERIAL PAVEMENT.

PAVEMENT SECTION VIEW

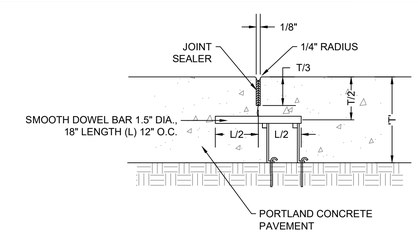


THICKNESS OF SLAB (T)	DOWELS		
	DIAMETER	LENGTH (L)	SPACING
8"	1.5"	18"	12"

NOTES:
1. ALL FORMED JOINTS SHALL BE FINISHED WITH 1/8" RADIUS.
2. SIZE AND SPACING OF DOWELS IN TRANSITION SECTION SHALL BE GOVERNED BY THICKEST EDGE.
3. DOWEL BARS AND JOINT FILLER SHALL BE IN ACCORDANCE WITH DDOT SPECIFICATION 605.01.

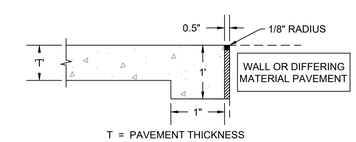
DOWELED TRANSVERSE EXPANSION JOINT

END VIEW



NOTE:
1. DOWEL BARS AND JOINT SEALER SHALL BE IN ACCORDANCE WITH DDOT SPECIFICATION 605.01.

CONTRACTION JOINT WITH LOAD TRANSFER



ISOLATION JOINT

4 C-510DT VEHICULAR CONCRETE PAVEMENT DETAIL
SCALE: NOT TO SCALE

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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Smithsonian Institution

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

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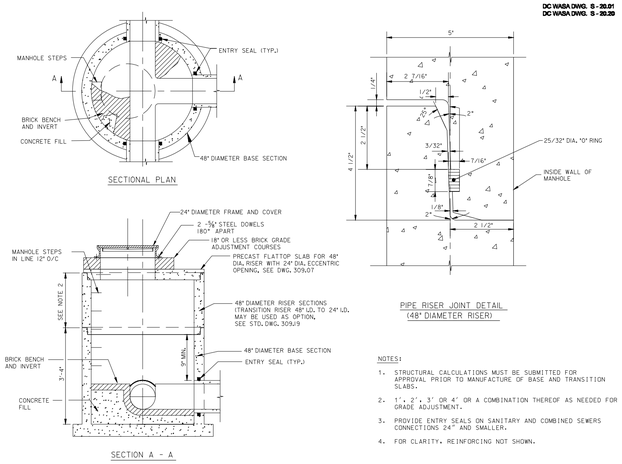
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SITE DETAILS
WORKING STAFF	ST (DESIGNED BY) / KK (DRAWN BY) / SM (CHECKED BY)

SHEET NO. C 5 10 DT
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

DC WASA DWG. S - 20.01
DC WASA DWG. S - 20.20



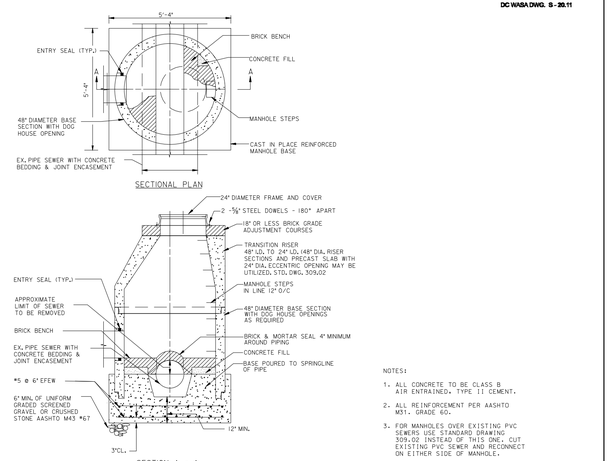
NOTES:

1. STRUCTURAL CALCULATIONS MUST BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE OF BASE AND TRANSITION SLABS.
2. 1", 2", 3" OR 4" OR A COMBINATION THEREOF AS NEEDED FOR GRADE ADJUSTMENT.
3. PROVIDE ENTRY SEALS ON SANITARY AND COMBINED SEWERS CONNECTIONS 24" AND SMALLER.
4. FOR CLARITY, REINFORCING NOT SHOWN.

DATE	APPR.		RECOMMENDED: DEPUTY CHIEF ENGINEER	PRECAST CONCRETE MANHOLE FOR NEW 10" THRU 21" DIAMETER SEWERS (48" DIAMETER PRECAST BASE)	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISED			APPROVED:		
ISSUED:		REFERENCE	CHIEF TRANSPORTATION ENGINEER		DWG. NO. 309.02

1 C-515DT — CONCRETE MANHOLE (PRECAST BASE) DETAIL
SCALE: NOT TO SCALE

DC WASA DWG. S - 20.11



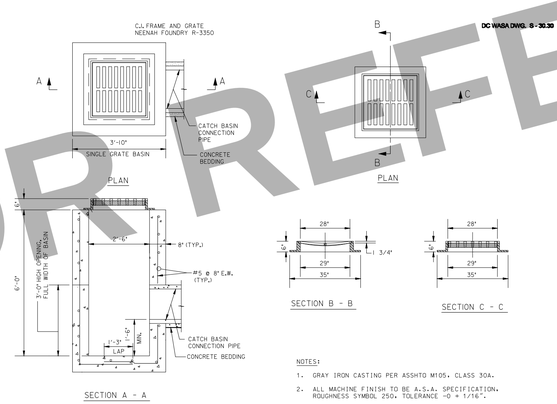
NOTES:

1. ALL CONCRETE TO BE CLASS B AIR ENTRAINED. TYPE II CEMENT.
2. ALL REINFORCEMENT PER AASHTO M31. GRADE 60.
3. FOR MANHOLES OVER EXISTING PVC SEWERS USE STANDARD DRAWING 309.02 INSTEAD OF THIS ONE. CUT EXISTING PVC SEWER AND RECONNECT ON EITHER SIDE OF MANHOLE.

DATE	APPR.		RECOMMENDED: DEPUTY CHIEF ENGINEER	PRECAST CONCRETE MANHOLE OVER EXISTING 10" THRU 21" DIAMETER SEWERS WITH CAST IN PLACE CONCRETE BASE	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISED			APPROVED:		
ISSUED:		REFERENCE	CHIEF TRANSPORTATION ENGINEER		DWG. NO. 309.19

2 C-515DT — CONCRETE MANHOLE (CAST IN PLACE BASE) DETAIL
SCALE: NOT TO SCALE

DC WASA DWG. S - 30.30



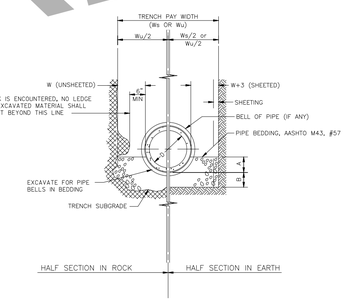
NOTES:

1. GRAY IRON CASTING PER ASSHTO M105. CLASS 30A.
2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION. ROUGHNESS SYMBOL 250. TOLERANCE -0 + 1/16".
3. ALL CONCRETE TO BE CLASS B. AIR ENTRAINED TYPE II CEMENT.
4. BASIN TO BE USED IN UNPAVED AREAS ONLY.
5. REINFORCING SHALL BE CENTERED IN WALL AND BASE AND SHALL CONFORM TO ASSHTO M31 GRADE 60.

DATE	APPR.		RECOMMENDED: DEPUTY CHIEF ENGINEER	GRATE TYPE CATCH BASIN FIELD INLET	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISED			APPROVED:		
ISSUED:		REFERENCE	CHIEF TRANSPORTATION ENGINEER		DWG. NO. 310.10

3 C-515DT — GRATE TYPE CATCH BASIN FIELD INLET DETAIL
SCALE: NOT TO SCALE

DC WASA DWG. S - 12.01.1
DC WASA DWG. S - 12.01.2



PIPE DIAMETER D	PIPE BEDDING DIMENSION W	A	B IN SOIL	B IN ROCK	TRENCH PAY WIDTH UNSHEETED Wu	TRENCH PAY WIDTH SHEETED Ws
12"	12"	5"	3"	6"	3' – 4"	3' – 10"
15"	12"	5"	3"	6"	3' – 7"	4' – 1"
18"	12"	6"	3"	6"	3' – 11"	4' – 5"
21"	12"	7"	3"	6"	4' – 3"	4' – 9"
24"	12"	8"	3"	6"	4' – 6"	5' – 0"
27"	18"	8"	3"	6"	5' – 9"	6' – 3"
30"	18"	9"	4"	9"	6' – 1"	6' – 7"
33"	18"	10"	4"	9"	6' – 5"	6' – 11"
36"	18"	10"	4"	9"	6' – 8"	7' – 2"
42"	18"	13"	4"	9"	7' – 3"	7' – 9"
48"	24"	15"	4"	9"	8' – 10"	9' – 4"
54"	24"	16"	4"	9"	9' – 5"	9' – 11"
60"	24"	18"	4"	9"	10' – 0"	10' – 6"
66"	24"	20"	6"	12"	10' – 7"	11' – 1"
72"	24"	22"	6"	12"	11' – 2"	11' – 8"
78"	24"	23"	6"	12"	11' – 9"	12' – 3"
84"	24"	25"	6"	12"	12' – 4"	12' – 10"
90"	24"	27"	6"	12"	12' – 11"	13' – 5"
96"	24"	28"	6"	12"	13' – 6"	14' – 0"
102"	24"	30"	6"	12"	14' – 1"	14' – 7"
108"	24"	32"	6"	12"	14' – 8"	15' – 2"

NOTES:

1. IF THE VALVE OF W IS EXCEEDED BELOW A HORIZONTAL PLANE 1'-0" ABOVE TOP OF PIPE, SEE SPECIFICATION SECTION 207.05(a).
2. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWING. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE PIPE OR AS DIRECTED BY THE ENGINEER.

DATE	APPR.		RECOMMENDED: DEPUTY CHIEF ENGINEER	CONCRETE SEWER PIPE TRENCH LAYING CONDITION	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISED			APPROVED:		
ISSUED:		REFERENCE	CHIEF TRANSPORTATION ENGINEER		DWG. NO. 314.01

4 C-515DT — CONCRETE SEWER PIPE TRENCH LAYING CONDITION DETAIL
SCALE: NOT TO SCALE

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DOB PERMIT STAMP

STAMP — DISTRICT OF COLUMBIA, ANTON S. TOSONIS, No. PE920479, 04/01/2026, CIVIL, PROFESSIONAL ENGINEER

TRUE NORTH

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Smithsonian Institution

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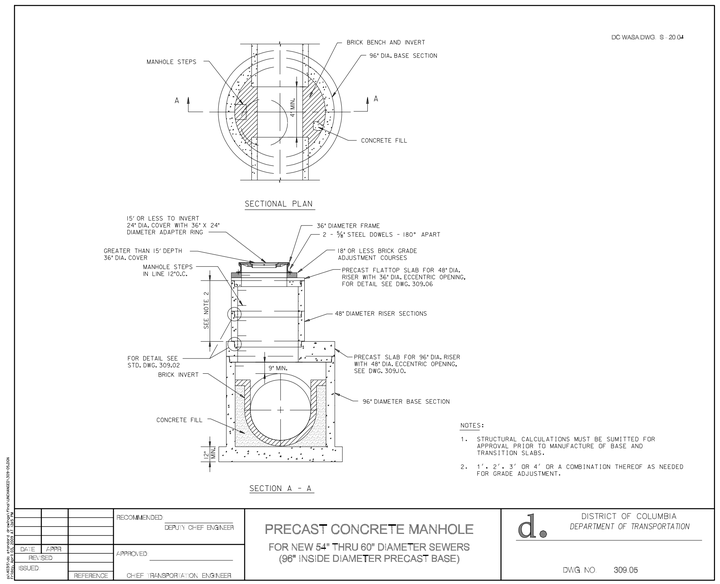
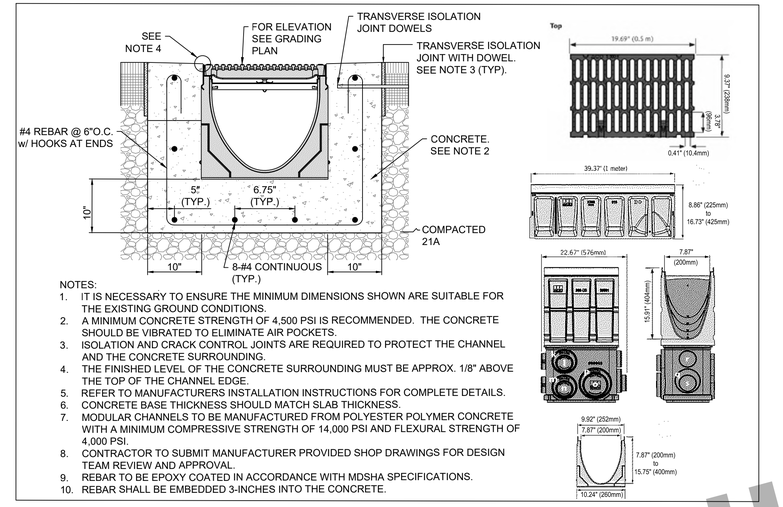
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORM DETAILS
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 5 15 DT (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT



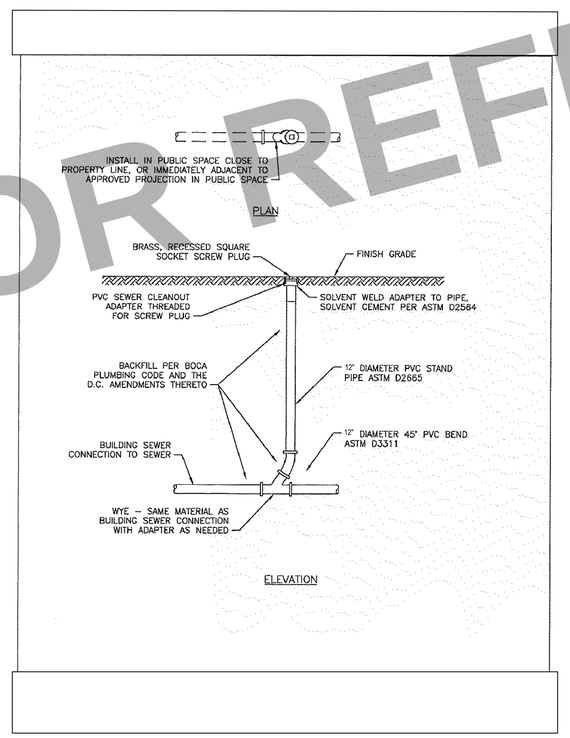
1 C-516DT CONCRETE MANHOLE (CAST IN PLACE BASE) DETAIL
SCALE: NOT TO SCALE



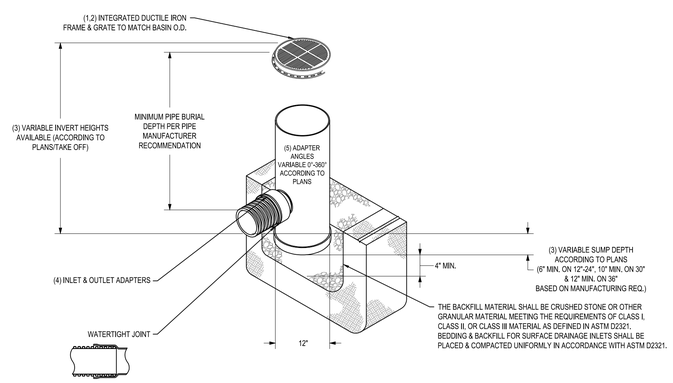
NOTES:
1. IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS.
2. A MINIMUM CONCRETE STRENGTH OF 4,500 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. ISOLATION AND CRACK CONTROL JOINTS ARE REQUIRED TO PROTECT THE CHANNEL AND THE CONCRETE SURROUNDING.
4. THE FINISHED LEVEL OF THE CONCRETE SURROUNDING MUST BE APPROX. 1/8" ABOVE THE TOP OF THE CHANNEL EDGE.
5. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.
6. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS.
7. MODULAR CHANNELS TO BE MANUFACTURED FROM POLYESTER POLYMER CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 14,000 PSI AND FLEXURAL STRENGTH OF 4,000 PSI.
8. CONTRACTOR TO SUBMIT MANUFACTURER PROVIDED SHOP DRAWINGS FOR DESIGN TEAM REVIEW AND APPROVAL.
9. REBAR TO BE EPOXY COATED IN ACCORDANCE WITH MDSHA SPECIFICATIONS.
10. REBAR SHALL BE EMBEDDED 3-INCHES INTO THE CONCRETE.

2 C-516DT TRENCH DRAIN DETAIL
SCALE: NOT TO SCALE

DOB PERMIT STAMP



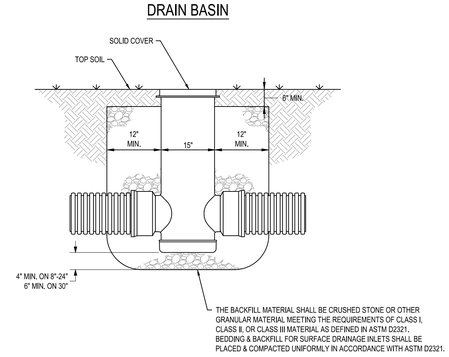
3 C-516DT CLEANOUT DETAIL
SCALE: NOT TO SCALE



NOTES:
1. PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR PVC SEWER.
4. PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING.
5. SEE NYLOPLAST DRAW BASIN NON TRAFFIC INSTALLATION.

4 C-525DT NYOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE
SCALE: NOT TO SCALE

DRAIN BASIN



5 C-516DT NYOPLAST DRAIN BASIN SOLID COVER INSTALLATION
SCALE: NOT TO SCALE

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. ROGERS
No. PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

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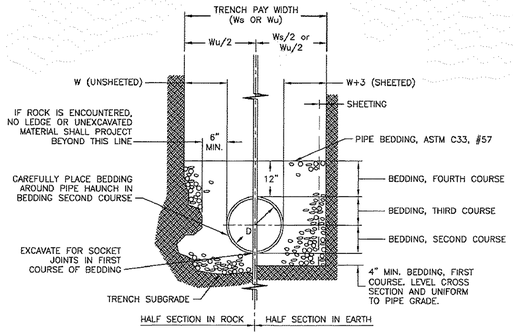
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORM DETAILS
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)
SHEET NO.	C 5 16 DT (DISCIPLINE TYPE SEQUENCE DRAWING TYPE)
OF	

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-15.01
1 OF 1



TRENCH PAY WIDTH (Ws OR Wu)			
PIPE DIAMETER D	TRENCH WIDTH CLEAR W	TRENCH PAY WIDTH Wu	Ws
10"	12"	2'-11"	3'-5"
12"	12"	3'-0"	3'-6"
15"	12"	3'-3"	3'-9"
18"	12"	3'-7"	4'-1"
21"	12"	3'-10"	4'-4"
24"	12"	4'-1"	4'-7"
27"	12"	5'-4"	5'-10"

NOTES:

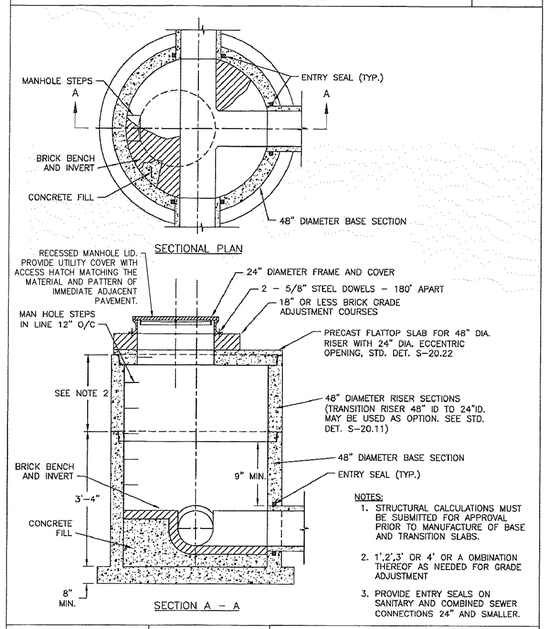
1. IF NECESSARY TO EXCEED W BELOW A HORIZONTAL PLANE 1'-0" ABOVE TOP OF PIPE, SEE SPECIFICATION SECTION 02220.
2. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWING.
3. 6" AND 8" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 10" PIPES.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
Digitally signed by Leonard Benson Date: 2004.11.24 07:40:51 -05'00'	DATE: 6/20/03	POLYVINYL CHLORIDE (PVC) PIPE SEWER TRENCH LAYING CONDITION
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	
	CHECKED BY: W.DARROW	

1 C-520DT PVC SEWER PIPE TRENCH LAYING CONDITION DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-20.01
1 OF 1



NOTES:

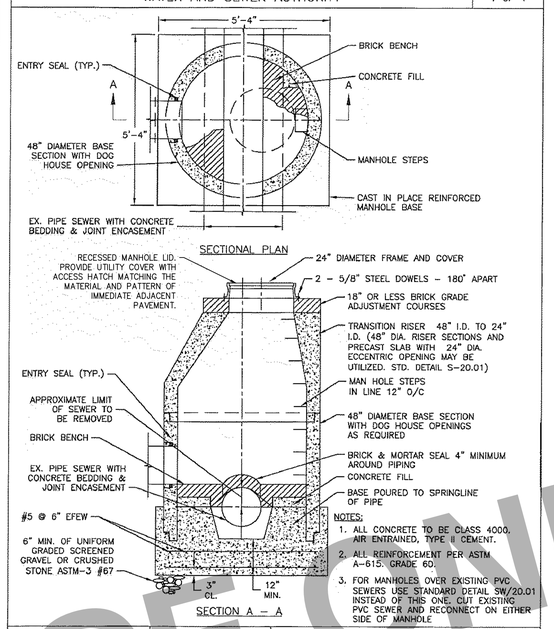
1. STRUCTURAL CALCULATIONS MUST BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE OF BASE AND TRANSITION SLABS.
2. 1',2',3' OR 4' OR A OMBINATION THEREOF AS NEEDED FOR GRADE ADJUSTMENT
3. PROVIDE ENTRY SEALS ON SANITARY AND COMBINED SEWER CONNECTIONS 24" AND SMALLER.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
Digitally signed by Leonard Benson Date: 2004.11.24 07:40:53 -05'00'	DATE: 6/20/03	PRECAST CONCRETE MANHOLE FOR NEW 10" THRU 21" DIAMETER SEWERS (48" DIAMETER PRECAST BASE)
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	
	CHECKED BY: W.DARROW	

2 C-520DT CONCRETE MANHOLE (PRECAST BASE) DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-20.11
1 OF 1



NOTES:

1. ALL CONCRETE TO BE CLASS 4000. AIR ENTRAINED, TYPE II CEMENT.
2. ALL REINFORCEMENT PER ASTM A-615. GRADE 60.
3. FOR MANHOLES OVER EXISTING PVC SEWERS USE STANDARD DETAIL SW/20.01 INSTEAD OF THIS ONE. CUT EXISTING PVC SEWER AND RECONNECT ON EITHER SIDE OF MANHOLE

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
Digitally signed by Leonard Benson Date: 2004.11.24 07:41:24 -05'00'	DATE: 6/20/03	PRECAST CONCRETE MANHOLE OVER EXISTING 10" THRU 21" DIAMETER SEWERS WITH CAST IN PLACE CONCRETE BASE
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	
	CHECKED BY: W.DARROW	

3 C-520DT CONCRETE MANHOLE (CAST IN PLACE BASE) DETAIL
SCALE: NOT TO SCALE

FOR REFERENCE ONLY

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. ADAMS
NO. PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

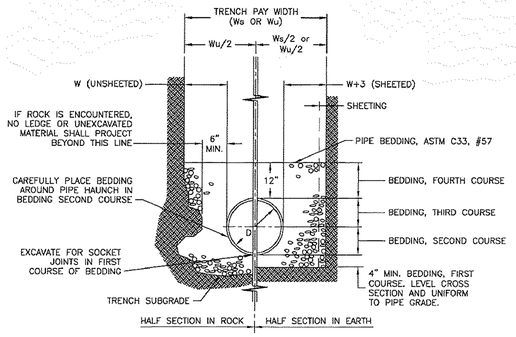
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SANITARY DETAILS
WORKING STAFF	ST (DESIGNED BY) KK (DRAWN BY) SM (CHECKED BY)

SHEET NO. C 5 20 DT
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-15.01
1 OF 1



TRENCH PAY WIDTH (Ws OR Wu)			
PIPE DIAMETER D	TRENCH WIDTH CLEAR W	TRENCH PAY WIDTH Wu	TRENCH PAY WIDTH Ws
10"	12"	2'-11"	3'-5"
12"	12"	3'-0"	3'-6"
15"	12"	3'-3"	3'-9"
18"	12"	3'-7"	4'-1"
21"	12"	3'-10"	4'-4"
24"	12"	4'-1"	4'-7"
27"	12"	5'-4"	5'-10"

NOTES:

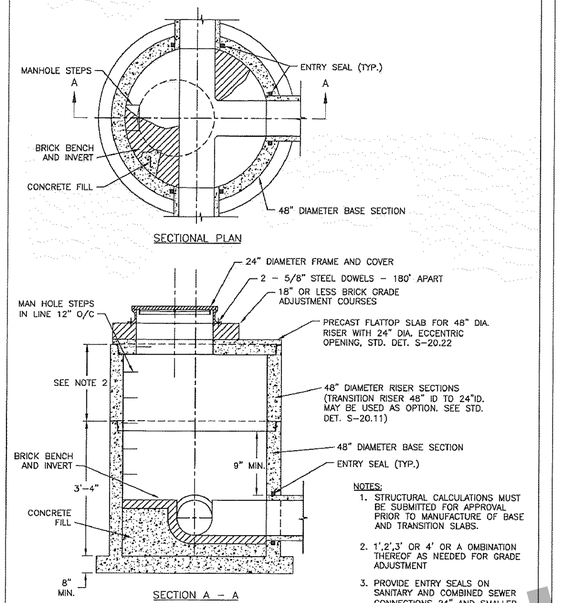
1. IF NECESSARY TO EXCEED W BELOW A HORIZONTAL PLANE 1'-0" ABOVE TOP OF PIPE, SEE SPECIFICATION SECTION 02220.
2. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWING.
3. 6" AND 8" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 10" PIPES.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	DATE: 6/20/03	POLYVINYL CHLORIDE (PVC) PIPE SEWER TRENCH LAYING CONDITION
	PREPARED BY: DBG/BKJV	
	CHECKED BY: W.DARROW	

1 C-525DT PVC SEWER PIPE TRENCH LAYING CONDITION DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-20.01
1 OF 1



NOTES:

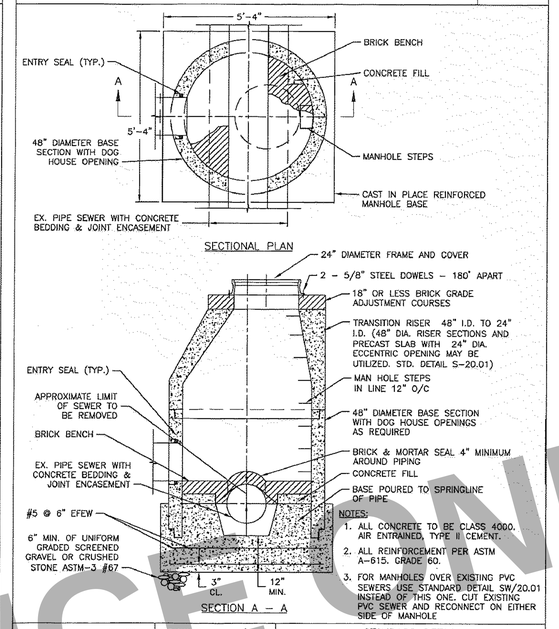
1. STRUCTURAL CALCULATIONS MUST BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE OF BASE AND TRANSITION SLABS.
2. 1',2',3' OR 4' OR A OMBINATION THEREOF AS NEEDED FOR GRADE ADJUSTMENT
3. PROVIDE ENTRY SEALS ON SANITARY AND COMBINED SEWER CONNECTIONS 24" AND SMALLER.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	DATE: 6/20/03	PRECAST CONCRETE MANHOLE FOR NEW 10" THRU 21" DIAMETER SEWERS (48" DIAMETER PRECAST BASE)
	PREPARED BY: DBG/BKJV	
	CHECKED BY: W.DARROW	

2 C-525DT CONCRETE MANHOLE (PRECAST BASE) DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-20.11
1 OF 1



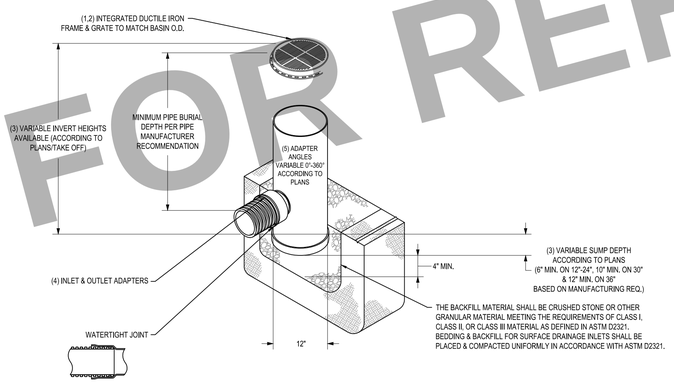
NOTES:

1. ALL CONCRETE TO BE CLASS 4000. AIR ENTRAINED, TYPE II CEMENT.
2. ALL REINFORCEMENT PER ASTM A-615. GRADE 60.
3. FOR MANHOLES OVER EXISTING PVC SEWERS USE STANDARD DETAIL SW/20.01 INSTEAD OF THIS ONE. CUT EXISTING PVC SEWER AND RECONNECT ON EITHER SIDE OF MANHOLE

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	DATE: 6/20/03	PRECAST CONCRETE MANHOLE OVER EXISTING 10" THRU 21" DIAMETER SEWERS WITH CAST IN PLACE CONCRETE BASE
	PREPARED BY: DBG/BKJV	
	CHECKED BY: W.DARROW	

3 C-525DT CONCRETE MANHOLE (CAST IN PLACE BASE) DETAIL
SCALE: NOT TO SCALE

FOR REFERENCE ONLY

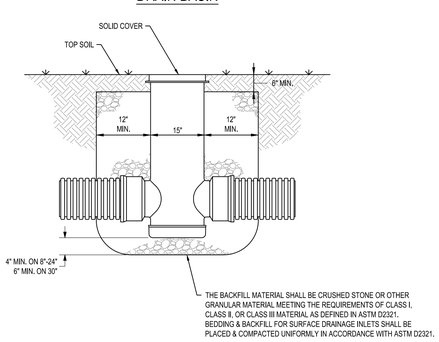


NOTES:

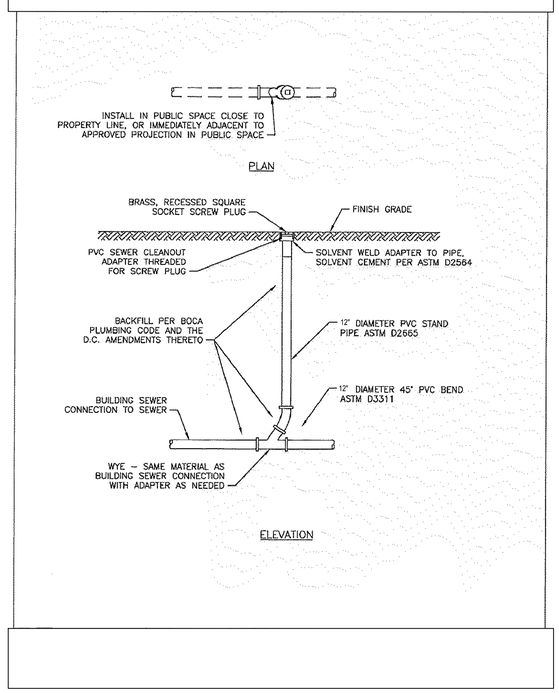
1. PEDESTRIAN GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2. FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR PVC SEWER.
4. PEDESTRIAN GRATES SHALL MEET H-10 LOAD RATING.
5. SEE NYLOPLAST DRAW BASIN NON TRAFFIC INSTALLATION.

4 C-525DT NYOPLAST DRAIN BASIN WITH PEDESTRIAN GRATE
SCALE: NOT TO SCALE

DRAIN BASIN



5 C-525DT NYOPLAST DRAIN BASIN SOLID COVER INSTALLATION
SCALE: NOT TO SCALE



6 C-525DT CLEANOUT DETAIL
SCALE: NOT TO SCALE

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. JOHNSON
PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

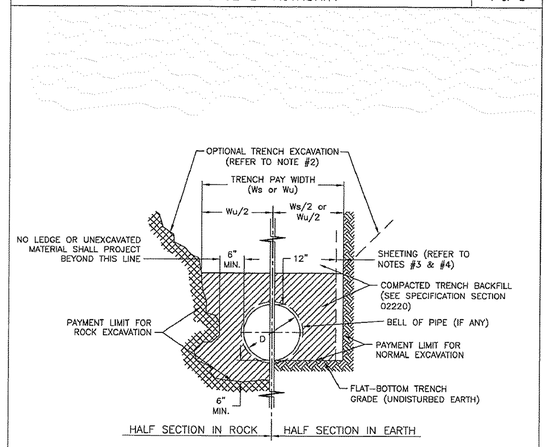
Smithsonian OPDC
600 Maryland Avenue S.W. Suite 5001
Washington, DC 20024-2520

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	CONTAMINATED STORM DETAILS
WORKING STAFF	ST (DESIGNED BY) / KK (DRAWN BY) / SM (CHECKED BY)
SHEET NO.	C 5 25 DT (DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE)
OF	

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-10.01
1 OF 2



APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRS — Digitally signed by Leonard Sarnes Date: 2004.11.24 09:29:24 -05'00'	DATE: 6/20/03	DUCTILE IRON WATER MAIN
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	PIPE LAYING CONDITION TYPE 2A
	CHECKED BY: W.DARROW	(TRENCH INSTALLATION)

1 C-530DT — DIP LAYING CONDITION TYPE 2 (TRENCH INSTALLATION) DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-10.01
2 OF 2

TRENCH PAY WIDTH (Ws OR Wu)		
PIPE DIAMETER D	SHEETED EXCAVATION Ws	UNSHEETED EXCAVATION Wu
8"	2' – 10"	2' – 4"
12"	3' – 2"	2' – 8"
16"	3' – 6"	3' – 0"
20"	3' – 10"	3' – 4"
24"	4' – 2"	3' – 8"
30"	4' – 8"	4' – 2"
36"	6' – 1"	5' – 7"
42"	6' – 7"	6' – 1"
48"	7' – 1"	6' – 7"

NOTES:

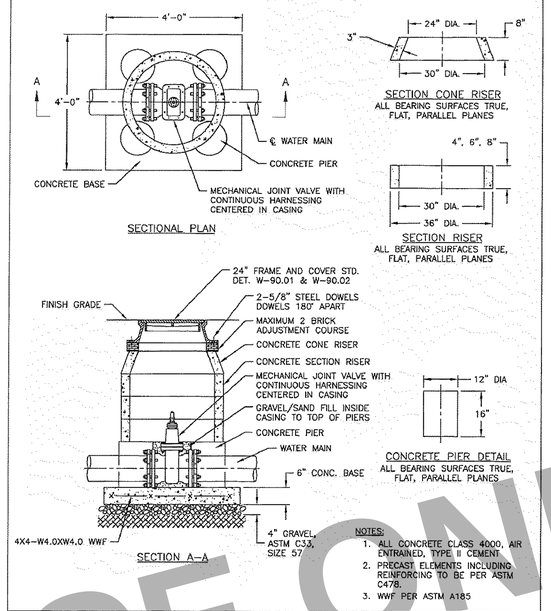
1. PIPE LAYING CONDITION TYPE 2A (TRENCH INSTALLATION) SHALL BE USED FOR ALL WATER MAIN CONSTRUCTION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWINGS.
2. TRENCHES MAY BE EXCAVATED WIDER THAN THE TRENCH PAY WIDTH (Ws OR Wu) ABOVE A LINE 1' – 0" FROM TOP OF PIPE, AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE AUTHORITY.
3. IF EXCAVATION BELOW NORMAL DEPTH OF WATER MAIN INSTALLATION (DEPTHS GREATER THAN 4.5 FEET) IS REQUIRED, EXCAVATION SUPPORT SHEETING MAY BE ORDERED OR TRENCH SHIELDS UTILIZED AT CONTRACTORS OPTION. COSTS UNDER THIS OPTION SHALL BE PART OF THE UNIT PRICE BID FOR EXCAVATION.
4. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWINGS. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1' – 0" ABOVE THE TOP OF PIPE OR AS DIRECTED BY THE ENGINEER.
5. 3" AND 6" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 8" PIPES.
6. 10" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 12" PIPES.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRS — Digitally signed by Leonard Sarnes Date: 2004.11.24 09:25:53 -05'00'	DATE: 6/20/03	DUCTILE IRON WATER MAIN
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	PIPE LAYING CONDITION TYPE 2A
	CHECKED BY: W.DARROW	(TRENCH INSTALLATION)

2 C-530DT — DIP LAYING CONDITION TYPE 2 (TRENCH INSTALLATION) DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-20.01
1 OF 1



NOTES:

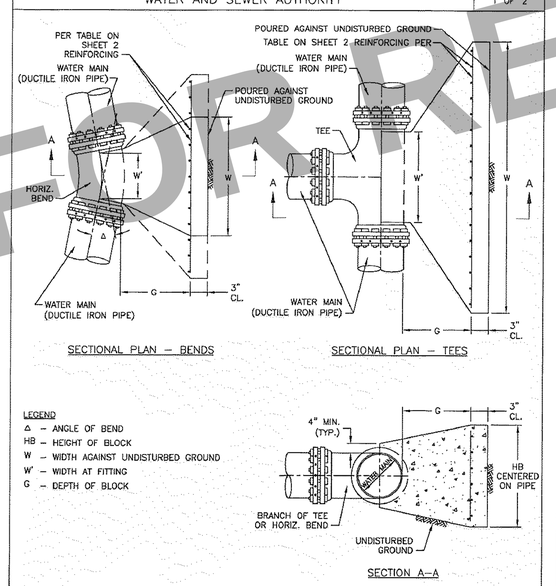
1. ALL CONCRETE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT
2. PRECAST ELEMENTS INCLUDING REINFORCING TO BE PER ASTM C478.
3. WWF PER ASTM A185

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRS — Digitally signed by Leonard Sarnes Date: 2004.11.24 09:27:01 -05'00'	DATE: 6/20/03	
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	VALVE CASING
	CHECKED BY: W.DARROW	FOR 12" AND SMALLER GATE VALVE

3 C-530DT — VALVE CASING DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-40.01
1 OF 2



APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRS — Digitally signed by Leonard Sarnes Date: 2004.11.24 09:28:16 -05'00'	DATE: 6/20/03	CONCRETE THRUST BLOCK
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	FOR HORIZONTAL PIPE BEND & TEE
	CHECKED BY: W.DARROW	12" DIAMETER & SMALLER WATER MAINS

4 C-530DT — CONCRETE THRUST BLOCK DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-40.01
2 OF 2

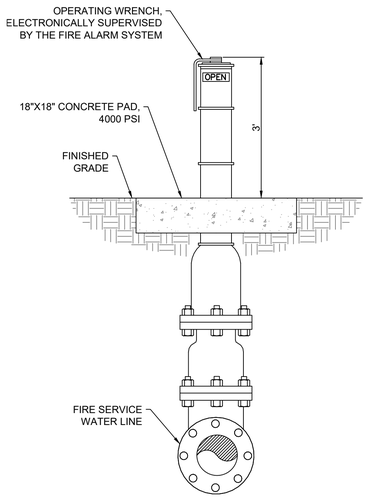
BRANCH OF TEE OR PIPE DIA	BEND TYPE	W	HB	W'	G	REINF. (E.W.)
6"	11.25°	1'-6"	1'-6"	0'-8"	1'-0"	#4 @12"
	22.5°	1'-9"	1'-6"	0'-8"	1'-0"	#4 @12"
	45°	2'-8"	2'-0"	0'-8"	1'-0"	#4 @12"
	90°	4'-6"	2'-3"	0'-10"	1'-0"	#5 @12"
	TEE	3'-0"	3'-0"	0'-10"	1'-0"	#5 @12"
8"	11.25°	1'-6"	1'-6"	0'-8"	1'-0"	#4 @12"
	22.5°	1'-9"	1'-6"	0'-8"	1'-0"	#4 @12"
	45°	2'-8"	2'-0"	0'-8"	1'-0"	#4 @12"
	90°	5'-0"	3'-9"	1'-0"	1'-6"	#6 @12"
	TEE	4'-0"	3'-6"	1'-4"	1'-0"	#5 @12"
12"	11.25°	2'-6"	2'-6"	1'-0"	1'-0"	#4 @12"
	22.5°	3'-6"	2'-6"	1'-0"	1'-3"	#4 @12"
	45°	7'-0"	4'-6"	1'-4"	1'-6"	#6 @12"
	90°	10'-0"	4'-6"	1'-4"	1'-6"	#6 @12"
	TEE	8'-6"	5'-0"	1'-4"	1'-6"	#6 @12"

NOTES:

1. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60
3. NOMINAL DEPTH OF COVER ON WATER MAIN IS FOUR FEET
4. UNIT WEIGHT OF SOIL, 120 PCF
5. DESIGN BASED ON Φ = 30° AND TEST PRESSURE = 195 PSI
6. HB – HEIGHT OF BLOCK, W'–WIDTH AT FITTING AND W–WIDTH AGAINST UNDISTURBED GROUND SHOULD BE CENTERED ON PIPE AND FITTING.
7. FOR PIPE SIZE GREATER THAN 12", BLOCKS BEDDED IN SOILS WEAKER THAN Φ =30°, OR FOR MAINS WITH A TEST PRESSURE GREATER THAN 195 PSI, THE THRUST BLOCK MUST BE SPECIFICALLY DESIGNED FOR EACH APPLICATION.
8. 3" AND 6" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 8" PIPES.
9. 10" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 12" PIPES.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
LRS — Digitally signed by Leonard Sarnes Date: 2004.11.24 09:28:16 -05'00'	DATE: 6/20/03	CONCRETE THRUST BLOCK
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: OBG/BKJV	FOR HORIZONTAL PIPE BEND & TEE
	CHECKED BY: W.DARROW	12" DIAMETER & SMALLER WATER MAINS

5 C-530DT — CONCRETE THRUST BLOCK DETAIL
SCALE: NOT TO SCALE



6 C-530DT — POST INDICATOR VALVE DETAIL
SCALE: NOT TO SCALE

FOR REFERENCE ONLY

DOB PERMIT STAMP

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
WILLIAM S. MOSANG
No. PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	WATER DETAILS

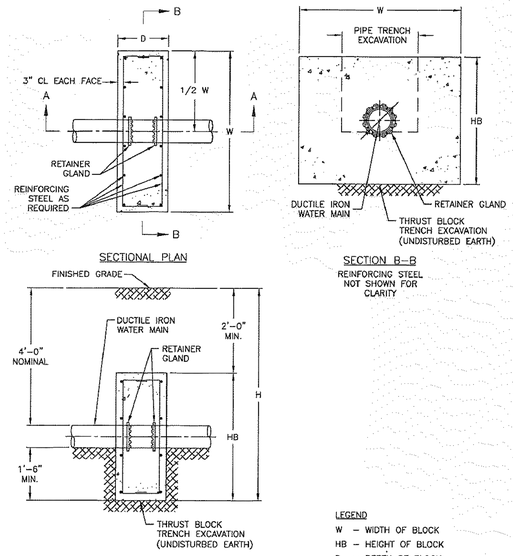
WORKING STAFF	ST	KK	SM
	DESIGNED BY	DRAWN BY	CHECKED BY

SHEET NO. C 5 30 DT
OF
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-40.02
1 OF 2



LEGEND
W – WIDTH OF BLOCK
HB – HEIGHT OF BLOCK
D – DEPTH OF BLOCK
H – HEIGHT FROM FINISHED GRADE TO BOTTOM OF BLOCK

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
Digitally signed by Leonard Date: 2006.11.14 09:09:55 -05'00'	DATE: 6/20/03	IN–LINE THRUST BLOCK
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: ORG/BKJV	12" DIAMETER & SMALLER
	CHECKED BY: W.DARROW	DUCTILE IRON WATER MAINS

1 C-531DT IN-LINE TRUST BLOCK DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-40.02
2 OF 2

PIPE SIZE		W	D	HB	H	REINF. (E.W.E.F.)
PIPE	6"	4' – 7"	1' – 0"	3' – 7"	6' – 1"	#4 @12"
	8"	4' – 9"	1' – 6"	3' – 9"	6' – 3"	#4 @10"
	12"	5' – 0"	2' – 0"	5' – 0"	7' – 0"	#4 @8"
REDUCER	8" X 6"	3' – 8"	1' – 0"	3' – 2"	6' – 2"	#4 @12"
	12" X 8"	4' – 9"	1' – 6"	3' – 9"	6' – 6"	#4 @10"
	12" X 6"	4' – 9"	1' – 6"	3' – 9"	6' – 6"	#4 @10"

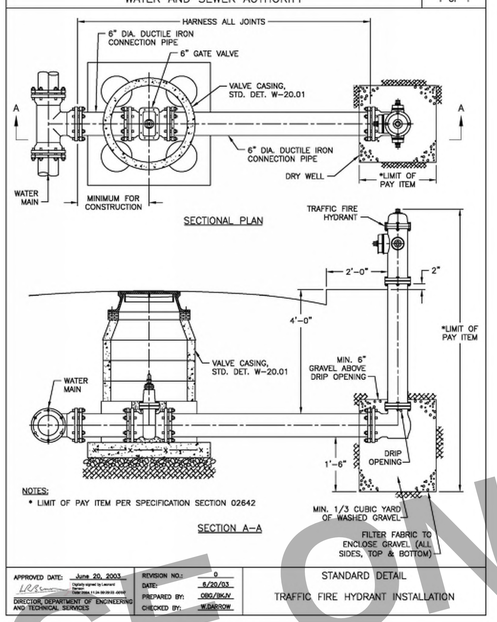
NOTES:
1. RETAINER GLANDS WITH DUCTILE IRON WEDGES IN COMBINATION WITH SPECIAL HEAT TREATED SET SCREWS. TORQUE PER MANUFACTURER INSTRUCTIONS.
2. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
4. EXCAVATION BACKFILL, PER SPECIFICATIONS 02220.
5. UNIT WEIGHT OF SOIL, 120 PCF.
6. NOMINAL DEPTH OF COVER ON WATER MAIN IS FOUR FEET.
7. DESIGN BASED ON ø=30', AND TEST PRESSURE = 195 PSI.
8. FOR PIPE SIZE LARGER THAN 12", BLOCKS BEDDED IN SOILS WEAKER THAN ø30', OR FOR MAINS WITH A TEST PRESSURE GREATER THAN 195 PSI, THE THRUST BLOCK MUST BE SPECIFICALLY DESIGNED FOR EACH APPLICATION.
9. 10" PIPES SHALL BE PROVIDED THE SAME DIMENSIONS FOR TRENCH WIDTH AS 12" PIPES.

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
Digitally signed by Leonard Date: 2006.11.14 09:09:55 -05'00'	DATE: 6/20/03	IN–LINE THRUST BLOCK
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: ORG/BKJV	12" DIAMETER & SMALLER
	CHECKED BY: W.DARROW	DUCTILE IRON WATER MAINS

2 C-531DT IN-LINE TRUST BLOCK DETAIL
SCALE: NOT TO SCALE

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

W-50.01
1 OF 1



NOTES:
* LIMIT OF PAY ITEM PER SPECIFICATION SECTION 02642

APPROVED DATE: June 20, 2003	REVISION NO.: 0	STANDARD DETAIL
Digitally signed by Leonard Date: 2006.11.14 09:09:55 -05'00'	DATE: 6/20/03	TRAFFIC FIRE HYDRANT INSTALLATION
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES	PREPARED BY: ORG/BKJV	
	CHECKED BY: W.DARROW	

3 C-531DT FIRE HYDRANT DETAIL
SCALE: NOT TO SCALE

DOB PERMIT STAMP

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP
DISTRICT OF COLUMBIA
WILLIAM S. ADAMS
NO. PE920479
04/01/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
04/02/2026	ISSUED FOR BID

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	WATER DETAILS
WORKING STAFF	ST (DESIGNED BY) / KK (DRAWN BY) / SM (CHECKED BY)

SHEET NO.
OF

C 5 31 DT
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

STORM STRUCTURE TABLE

STRUCTURE NAME	NORTHING	EASTING	TOP/RIM ELEVATION	DESCRIPTION	INVERTS
D1	460,538.86	1,297,528.09	179.69	PROP. 60-INCH DIA. DOGHOUSE MANHOLE	INV. 18" IN FR D2 = 173.90 INV. 18" IN FR EX. 1894 = 173.89 INV. 18" OUT TO OUTFALL = 173.84
D2	460,543.26	1,297,507.75	179.50	BIORETENTION OVERLOW STRUCTURE	INV. 18" OUT TO D1 = 174.00
D3	460,651.80	1,297,455.06	188.05	8-INCH TRENCH DRAIN CONNECTION	INV. 12" OUT TO DF8 = 186.97
D4	460,683.88	1,297,468.81	187.27	8-INCH TRENCH DRAIN CONNECTION	INV. 12" OUT TO DF7 = 186.18
D5	460,659.50	1,297,374.64	194.00	8-INCH TRENCH DRAIN CONNECTION	INV. 12" OUT TO DF12 = 190.50
1 D6	460,581.17	1,297,338.72	199.03	PROP. CURB INLET	INV. 8" IN FR EX 1024 = 194.98 INV. 12" OUT TO DF11 = 194.15 INV. 12" OUT TO D13 = 194.65
D7	460,605.46	1,297,575.87	181.15	PROP. 48-INCH DIA. DOGHOUSE MANHOLE	INV. 18" IN FR EX. 1893 = 175.02 INV. 12" IN FR D8 = 175.51 INV. 18" OUT TO D9 = 175.02
D8	460,612.28	1,297,567.34	179.23	12-INCH NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO D7 = 175.73
D9	460,581.96	1,297,557.07	179.89	PROP. 48-INCH DIA. DOGHOUSE MANHOLE	INV. 18" IN FR D7 = 174.60 INV. 12" IN FR DF25 = 174.70 INV. 18" OUT TO EX 1894 = 174.60
D10	460,606.21	1,297,547.87	179.69	8-INCH TRENCH DRAIN CONNECTION	INV. 12" OUT TO DF25 = 175.33
1 D12	460,635.33	1,297,303.86	199.45	48-INCH DIA. DOGHOUSE MANHOLE W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" OUT TO DF26 = 189.56
D13	460,604.22	1,297,334.59	198.23	STM MH W/ UTILITY COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 8" IN FR EX. 1033 = 190.50 INV. 12" IN FR D6 = 190.50 INV. 12" OUT TO DF26 = 190.50
D14	460,626.80	1,297,502.45	193.40	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO DF30 = 185.88
D15	460,626.83	1,297,480.41	190.67	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" IN FR DF30 = 184.67 INV. 12" OUT TO DF29 = 184.67
D16	460,639.49	1,297,495.18	191.16	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO DF30 = 186.78
D17	460,631.78	1,297,448.74	191.22	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO DF6 = 186.38
D18	460,632.55	1,297,435.48	193.85	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO DF33 = 186.71
D19	460,666.55	1,297,436.96	190.00	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO DF35 = 185.55
D21	460,696.96	1,297,573.02	185.52	PROP. 48-INCH DIA. DOGHOUSE MANHOLE	INV. 12" IN FR D24 = 179.72 INV. 12" IN FR D22 = 179.97 INV. 12" OUT TO EX. 1655 = 179.72
D22	460,664.09	1,297,561.70	191.50	STORMWATER PLANTER OVERFLOW STRUCTURE	INV. 12" OUT TO D21 = 181.64
D23	460,675.70	1,297,527.15	189.64	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH GRATE	INV. 12" OUT TO D24 = 183.59
D24	460,706.15	1,297,535.56	187.57	48-INCH DIA. PROP. DOGHOUSE MANHOLE	INV. 12" IN FR = 180.91 INV. 12" IN FR D23 = 182.85 INV. 12" OUT TO D21 = 180.91
DF1	460,558.62	1,297,474.68	180.59	WALL PENETRATION OUTFALL	INV. 12" IN FR DF2 = 179.50
DF2	460,571.71	1,297,474.22	189.19	12-INCH DIA. CLEANOUT	INV. 12" IN FR DF3 = 180.22 INV. 12" OUT TO DF1 = 180.22
DF3	460,576.95	1,297,468.60	190.95	12-INCH DIA. CLEANOUT	INV. 12" IN FR DF4 = 180.32 INV. 12" OUT TO DF2 = 180.32
DF4	460,582.63	1,297,466.25	192.83	15-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR DF5 = 180.74 INV. 12" IN FR DF14 = 180.50 INV. 12" OUT TO DF3 = 180.46
DF5	460,604.96	1,297,457.00	193.00	15-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR DF27 = 182.62 INV. 12" OUT TO DF4 = 182.62
DF6	460,633.53	1,297,453.42	190.70	15-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR D17 = 186.28 INV. 12" IN FR DF7 = 184.87 INV. 12" IN FR DF33 = 183.37 INV. 12" OUT TO DF27 = 183.16
DF7	460,642.47	1,297,456.15	190.84	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR D4 = 185.20 INV. 12" IN FR DF8 = 186.46 INV. 12" OUT TO DF6 = 185.20
DF8	460,647.17	1,297,453.65	190.86	12-INCH DIA. CLEANOUT	INV. 12" IN FR D3 = 186.72 INV. 12" OUT TO DF7 = 186.72
DF9	460,652.65	1,297,440.26	191.33	36-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR DF10 = 184.62 INV. 12" IN FR DF35 = 184.62 INV. 12" OUT TO DF33 = 184.62
DF10	460,661.59	1,297,394.24	193.44	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR DF11 = 187.79 INV. 12" IN FR DF12 = 190.00 INV. 12" OUT TO DF9 = 187.79
DF11	460,658.92	1,297,390.28	193.45	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR D6 = 188.11 INV. 12" OUT TO DF10 = 188.11
DF12	460,662.87	1,297,387.67	194.00	12-INCH DIA. CLEANOUT	INV. 12" IN FR D5 = 190.13 INV. 12" OUT TO DF10 = 190.13
DF14	460,599.39	1,297,506.73	186.83	12-INCH DIA. CLEANOUT	INV. 12" IN FR DF16 = 180.77 INV. 12" OUT TO DF4 = 180.72
DF16	460,613.64	1,297,534.47	182.14	ROOF DRAIN CONNECTION	INV. 12" OUT TO DF14 = 181.05
1 DF20	460,732.95	1,297,417.42	193.22	12-INCH DIA. CLEANOUT W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" IN FR DF21 = 185.41 INV. 12" OUT TO EX. 1389 = 185.41
DF21	460,725.53	1,297,386.83	194.75	12-INCH DIA. CLEANOUT W/ UTILITY COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" IN FR DF22 = 186.17 INV. 12" OUT TO DF20 = 186.17
DF22	460,707.31	1,297,358.88	196.16	12-INCH DIA. CLEANOUT W/ UTILITY COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" IN FR DF23 = 186.91 INV. 12" OUT TO DF21 = 186.91
DF23	460,697.20	1,297,352.71	196.48	12-INCH DIA. CLEANOUT W/ UTILITY COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" IN FR DF24 = 187.16 INV. 12" OUT TO DF22 = 187.17

STORM STRUCTURE TABLE

STRUCTURE NAME	NORTHING	EASTING	TOP/RIM ELEVATION	DESCRIPTION	INVERTS
1 DF24	460,672.08	1,297,329.59	197.80	12-INCH DIA. CLEANOUT W/ UTILITY COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" IN FR DF26 = 187.93 INV. 12" OUT TO DF23 = 187.93
DF25	460,595.57	1,297,543.46	180.11	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR D10 = 175.09 INV. 12" OUT TO D9 = 175.00
1 DF26	460,644.36	1,297,313.72	199.05	15-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE	INV. 12" IN FR D13 = 189.38 INV. 12" IN FR D12 = 189.38 INV. 12" OUT TO DF24 = 188.65
DF27	460,624.77	1,297,459.44	193.28	15-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR DF6 = 183.02 INV. 12" IN FR DF29 = 183.62 INV. 12" OUT TO DF5 = 183.02
DF29	460,625.23	1,297,464.12	192.42	12-INCH DIA. CLEANOUT	INV. 12" IN FR D15 = 183.85 INV. 12" OUT TO DF27 = 183.85
DF30	460,626.81	1,297,495.14	190.97	15-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR D14 = 185.44 INV. 12" IN FR D16 = 186.30 INV. 12" OUT TO D15 = 185.44
DF33	460,640.46	1,297,448.64	190.73	12-INCH DIA. NYLOPLAST DRAIN BASIN WITH SOLID COVER	INV. 12" IN FR DF9 = 184.00 INV. 12" IN FR D18 = 185.50 INV. 12" OUT TO DF6 = 183.71
DF35	460,659.86	1,297,435.29	190.56	12-INCH DIA. CLEANOUT	INV. 12" IN FR D19 = 185.15 INV. 12" OUT TO DF9 = 184.83
EX 1024	460,568.30	1,297,329.33	196.05	CYLINDRICAL JUNCTION STRUCTURE NF	INV. 8" OUT TO D6 = 195.36
EX 1894	460,547.60	1,297,530.43	1.05	NULL STRUCTURE	INV. 18" IN FR D9 = -0.95
EX. 1033	460,559.17	1,297,296.05	192.36	CYLINDRICAL JUNCTION STRUCTURE NF	INV. 8" OUT TO D13 = 190.67
EX. 1389	460,729.17	1,297,441.64	192.22	EX. 48" DIA. STORM MANHOLE	INV. 12" IN FR DF20 = 184.82 INV. 12" OUT TO = 184.42
EX. 1655	460,693.86	1,297,585.69	184.91	CYLINDRICAL JUNCTION STRUCTURE NF	INV. 12" IN FR D21 = 179.03
EX. 1893	460,629.74	1,297,595.30	177.17	CYLINDRICAL JUNCTION STRUCTURE NF	INV. 18" OUT TO D7 = 175.46
EX. 1894	460,545.32	1,297,527.75	180.44	CYLINDRICAL JUNCTION STRUCTURE NF	INV. 18" OUT TO D1 = 173.94
OUTFALL	460,506.00	1,297,529.85	175.30	NULL STRUCTURE	INV. 18" IN FR D1 = 173.50

DOB PERMIT STAMP

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
MATTHEW S. JACOBS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER
STAMP

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	STORM STRUCTURE TABLE
WORKING STAFF	ST (DRAWN BY) KK (CHECKED BY) SM (APPROVED BY)

SHEET NO. 21 OF 35

C 6 10 DT
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:19 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

SANITARY STRUCTURE TABLE					
STRUCTURE NAME	NORTHING	EASTING	TOP/RIM ELEVATION	DESCRIPTION	INVERTS
BLDG-2	460,646.88	1,297,491.03	185.58	BUILDING CONNECTION	INV. 4" OUT TO S1 = 184.80
BLDG-3	460,633.68	1,297,538.32	180.39	BUILDING CONNECTION	INV. 3" IN FR SF3 = 180.10
EX 42	460,753.94	1,297,518.69	189.15	EX SSWR MH	INV. 8" OUT TO S6 = 181.53
EX 422	460,505.00	1,297,452.18	180.78	EX SSWR MANHOLE	INV. 8" IN FR S1 = 177.20
S1	460,632.35	1,297,486.03	190.74	SSWR DROP MH W/ PRECAST BASE, RECESSED TOP, UNDER UTILITY COVER	INV. 8" IN FR S2 = 179.67 INV. 4" IN FR BLDG-2 = 183.26 INV. 3" IN FR SF1 = 179.77 INV. 8" OUT TO EX 422 = 179.57
S2	460,639.44	1,297,459.49	190.82	SSWR MH W/ PRECAST BASE, RECESSED TOP, UNDER UTILITY COVER	INV. 8" IN FR S3 = 179.86 INV. 8" OUT TO S1 = 179.86
S3	460,663.10	1,297,451.93	190.97	SSWR MH W/ PRECAST BASE, RECESSED TOP, UNDER UTILITY COVER	INV. 8" IN FR S4 = 180.03 INV. 8" OUT TO S2 = 180.03
S4	460,690.80	1,297,455.86	191.42	SSWR DORP MH W/ PRECAST BASE	INV. 8" IN FR S5 = 180.23 INV. 8" OUT TO S3 = 180.23
S5	460,713.76	1,297,475.67	190.03	SSWR MH W/ PRECAST BASE, RECESSED TOP, UNDER UTILITY COVER	INV. 8" IN FR S6 = 180.44 INV. 8" OUT TO S4 = 180.44
S6	460,709.22	1,297,506.72	188.80	SSWR DROP MH W/ PRECAST BASE	INV. 8" IN FR EX 42 = 180.76 INV. 8" OUT TO S5 = 180.66
SF1	460,633.96	1,297,512.45	180.15	22.5° HORIZ. BEND	INV. 3" OUT TO S1 = 179.86 INV. 3" OUT TO SF2 = 179.86
SF2	460,627.08	1,297,532.42	180.32	45° HORIZ. BEND	INV. 3" IN FR SF1 = 180.03 INV. 3" OUT TO SF3 = 180.03
SF3	460,628.83	1,297,536.64	180.34	45° HORIZ. BEND	INV. 3" IN FR SF2 = 180.05 INV. 3" OUT TO BLDG-3 = 180.05

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ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

DISTRICT OF COLUMBIA
WILLIAM S. MCCOMAS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	SANITARY STRUCTURE TABLE
WORKING STAFF	ST (DRAWN BY) / KK (CHKD BY) / SM (APPR BY)

SHEET NO. 22 OF 35

C 6 20 DT
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

WATER LINE A TABLE			
FITTING NAME	NORTHING	EASTING	DESCRIPTION
Fitting - (26)	460,586.56	1,297,324.72	45° HORIZ. BEND
Fitting - (27)	460,645.99	1,297,309.19	45° HORIZ. BEND
Fitting - (28)	460,674.49	1,297,326.43	11.25° HORIZ. BEND
Fitting - (29)	460,700.41	1,297,350.47	22.5° HORIZ. BEND
Fitting - (30)	460,721.74	1,297,388.94	45° HORIZ. BEND
Fitting - (31)	460,708.06	1,297,432.10	45° HORIZ. BEND
Fitting - (184)	460,704.32	1,297,359.86	11.25° HORIZONTAL BEND
Fitting - (186)	460,710.84	1,297,370.71	VERTICAL DEFLECTION
Fitting - (187)	460,716.34	1,297,405.99	11.25° VERT. BEND
Fitting - (188)	460,712.08	1,297,419.40	11.25° VERT. BEND
Fitting - (189)	460,714.63	1,297,377.04	10" X 6" TEE; CONNECTION TO BLOWOFF VALVE
Fitting - (190)	460,697.95	1,297,348.18	10" X 6" TEE; CONNECTION TO IRRIGATION SERVICE LINE

DOB PERMIT STAMP

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

STAMP

DISTRICT OF COLUMBIA
MATTHEW S. MCGINNIS
PE920479
05/11/2026
CIVIL
PROFESSIONAL ENGINEER

TRUE NORTH

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	WATER STRUCTURE TABLE
WORKING STAFF	ST (CHECKED BY) / KK (DRAWN BY) / SM (DESIGNED BY)

SHEET NO. 23 OF 35

C 6 30 DT
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

ELECTRIC STRUCTURE TABLE				
STRUCTURE NAME	NORTHING	EASTING	TOP/RIM ELEVATION	DESCRIPTION
E1A	460,607.71	1,297,286.42	200.97	ELECTRICAL STRUCTURE W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE
E1	460,600.11	1,297,289.77	200.81	ELECTRICAL STRUCTURE W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE
EM1	460,559.91	1,297,267.88	194.63	ELECTRICAL MERGE
EM2	460,580.73	1,297,275.96	194.40	ELECTRICAL MERGE
E2	460,734.09	1,297,400.93	193.87	ELECTRICAL STRUCTURE W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE
E3	460,696.74	1,297,524.03	187.76	ELECTRICAL STRUCTURE W/ UTILITY ACCESS COVERS MATCHING ADJACENT PAVEMENT STYLE

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DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRIC STRUCTURE TABLE
WORKING STAFF	ST (CHECKED BY) / KK (DRAWN BY) / SM (DESIGNED BY)

SHEET NO. 24 OF 35

C 6 40 DT
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

3/13/2026 11:19:18 AM
XX-XXXXX BY Approver 03/16/2026 35% DESIGN DEVELOPMENT

FOR REFERENCE ONLY

CONCEPTUAL IRRIGATION LEGEND

- EXHIBIT IRRIGATION AREA
  TO BE IRRIGATED WITH LARGE RADIUS ROTARY SPRINKLERS FROM THE EXHIBIT PERIMETER - NO EQUIPMENT TO BE INSTALLED WITHIN THE EXHIBIT SPACE
- LANDSCAPE IRRIGATION AREA
  TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION AND CHECK VALVES AND HIGH-EFFICIENCY NOZZLES
- ASIA WALK IRRIGATION AREA
  TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION AND CHECK VALVES AND HIGH-EFFICIENCY NOZZLES
- BIORETENTION IRRIGATION AREA
  TO BE IRRIGATED WITH 12-INCH POP-UP SPRINKLERS WITH PRESSURE REGULATION AND CHECK VALVES AND HIGH-EFFICIENCY NOZZLES
  IRRIGATION TO BE CONTROLLED THROUGH A SOIL MOISTURE SENSOR
- BACKFLOW PREVENTION ASSEMBLY: EXISTING 2" REDUCE PRESSURE ZONE DEVICE
- ISOLATION GATE VALVE ASSEMBLY: MATCO 514
- EXISTING SUB-METER IRRIGATION WATER METER
- EXISTING HYDROMETER ASSEMBLY
- (A) EXISTING IRRIGATION CONTROLLER UNIT CENTRAL CONTROL UNIT
- (C) EXISTING IRRIGATION CONTROLLER UNIT CENTRAL CONTROL UNIT
- (E) EXISTING IRRIGATION CONTROLLER UNIT CHEETAH EXHIBIT
- POINT-OF-CONNECTION ASSEMBLY
- EXISTING MAILINE PIPE: CLASS 200 PVC SIZE:3-INCH
- MAINLINE PIPE: CLASS 200 PVC 2 1/2-INCH SIZE UNLESS OTHERWISE INDICATED
- IRRIGATION MAINLINE CAP ASSEMBLY

CONCEPTUAL IRRIGATION NOTES

1. PROVIDE A NEW TAP OF THE EXISTING WATER MAIN IN OLMSTEAD WALK. VERIFY EXACT LOCATION OF POC WITH OWNER'S REPRESENTATIVE.
2. RELOCATE EXISTING PEDESTAL MOUNT IRRIGATION CENTRAL CONTROL UNIT TO LOCATION ADJACENT TO THE EXISTING CHEETAH CONTROLLER.
3. RELOCATE EXISTING HYDROMETER FROM CURRENT LOCATION TO NEW LOCATION ACROSS OLMSTEAD WALK.
4. RELOCATE EXISTING IRRIGATION BACKFLOW PREVENTER FROM CURRENT LOCATION TO NEW LOCATION ACROSS OLMSTEAD WALK.
5. RELOCATE EXISTING IRRIGATION SUB-METER FROM CURRENT LOCATION TO NEW LOCATION ACROSS OLMSTEAD WALK.
6. INSTALL RELOCATED IRRIGATION CENTRAL CONTROL UNIT ADJACENT TO EXISTING CHEETAH EXHIBIT CONTROLLER.
7. INSTALL RELOCATED HYDROMETER ON NEW MAINLINE IN THIS LOCATION.
8. INSTALL RELOCATED BACKFLOW PREVENTER ON NEW MAINLINE IN THIS LOCATION.
9. INSTALL RELOCATED IRRIGATION SUB-METER ON NEW MAINLINE IN THIS LOCATION.
10. INSTALL NEW GATE VALVES FRO SYSTEM ISOLATION.
11. CONNECT EXISTING 3-INCH MAINLINE TO NEW GATE VALVES.
12. REMOVE EXISTING BISON EXHIBIT CONTROLLER, SURRENDER TO ZOO STAFF FOR STORAGE UNTIL IT CAN BE INSTALLED IN NEW CHEETAH EXHIBIT BUILDING.
13. CAP EXISTING IRRIGATION MAINLINE IN THIS LOCATION FOR FUTURE CONNECTION IN PHASE 2.

Hines Inc
SITE WATER ENGINEERING SERVICES
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FORT COLLINS, COLORADO 80524
Telephone: 970.282.1800
Web: www.hinesinc.com

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

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STAMP

TRUE NORTH

PROJECT NORTH

KEY PLAN

SCALE 1" = 20'

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

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Smithsonian Institution

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

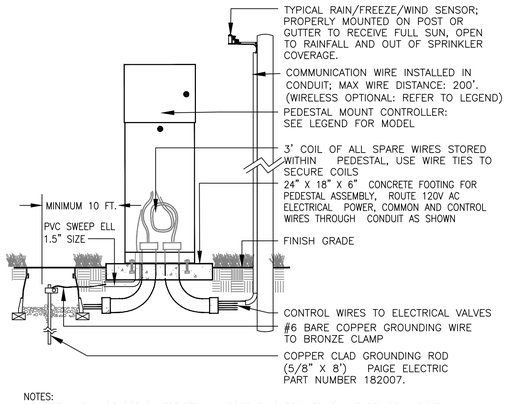
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	IRRIGATION PLAN
WORKING STAFF	MGT MGT MGT (CHECKED BY)

SHEET NO. 25 OF 35

LI-101SP 1

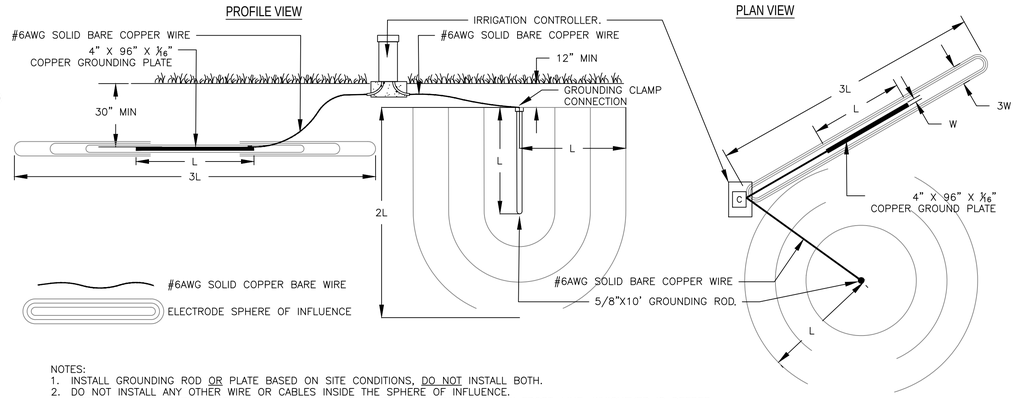
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

5/8/2026 12:56:17 PM
XX-XXXXX BY Approver 04/02/2026 ISSUED FOR BID



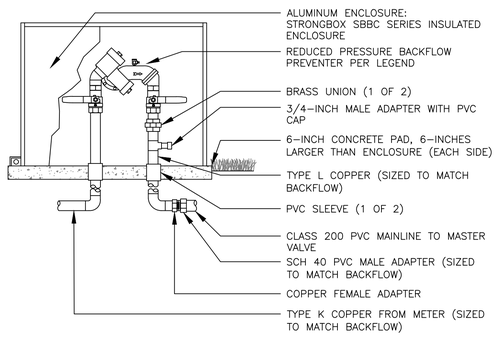
NOTES:
1. INSTALL RAIN SENSOR ON TREATED 4X4 POST IF CONTROLLER IS IN TURF AREA. POST TO BE MOUNTED IN SHRUB BED TO AVOID BEING IRRIGATED BY OVERHEAD SPRINKLERS.

1 PEDESTAL MOUNTED CONTROLLER ASSEMBLY



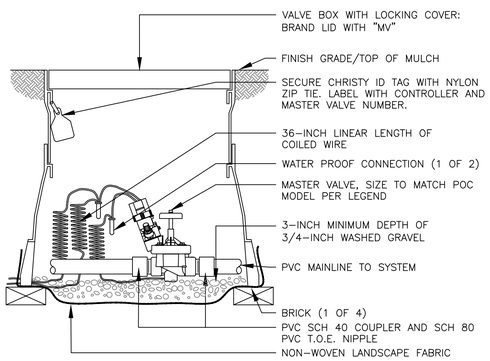
NOTES:
1. INSTALL GROUNDING ROD OR PLATE BASED ON SITE CONDITIONS, DO NOT INSTALL BOTH.
2. DO NOT INSTALL ANY OTHER WIRE OR CABLES INSIDE THE SPHERE OF INFLUENCE.
3. INSTALL GROUNDING PLATE AT A MINIMUM OF 30-INCHES BELOW GRADE OR BELOW FROST-LINE, WHICHEVER IS DEEPER.
4. TYPICAL INSTALLATION SHOWN FOR AN IRRIGATION CONTROLLER CAPACITY OF 64 STATIONS OR LESS, INSTALL AN ADDITIONAL GROUNDING ROD/PLATE PER 64 STATIONS.

2 TYPICAL IRRIGATION CONTROLLER GROUNDING ROD OR PLATE INSTALLATION

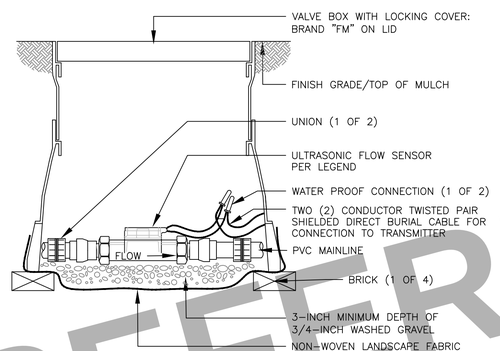


NOTES:
1. INSTALL BACKFLOW DEVICE IN ACCORDANCE WITH ALL STATE AND LOCAL CODE REQUIREMENTS.
2. SLOPE TOP SURFACE OF PAD AT 0.5 % WITH BROOM FINISH.
3. MAKE PIPE SLEEVES WITH 1-1/2 INCH LARGER DIAMETER PIPE THAN PENETRATING PIPE SIZE.
4. ALL HINGED CONNECTION LOCATIONS AND HARDWARE TO BE TAMPER PROOF.
5. ALL WELD JOINTS SHALL BE CONTINUOUS AND GROUND SMOOTH.

3 BACKFLOW PREVENTION UNIT ASSEMBLY

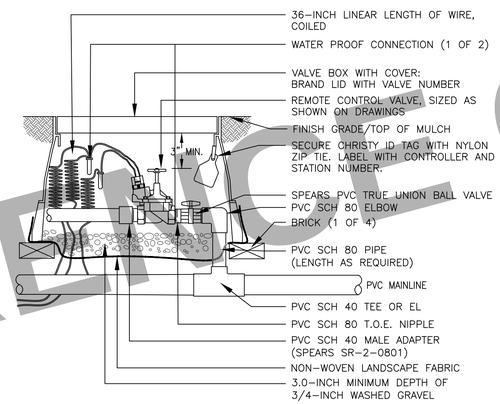


4 MASTER VALVE ASSEMBLY

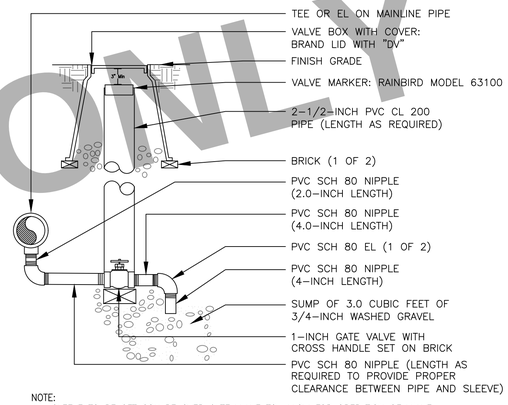


NOTES:
1. TYPICAL ULTRASONIC FLOW SENSORS DO NOT REQUIRE THE DISTANCES (5X AFTER / 10X BEFORE) OF TYPICAL FLOW SENSORS. VERIFY SPECIFIED FLOW SENSOR DISTANCE REQUIREMENTS, PRIOR TO INSTALLATION.

5 ULTRASONIC FLOW SENSOR ASSEMBLY

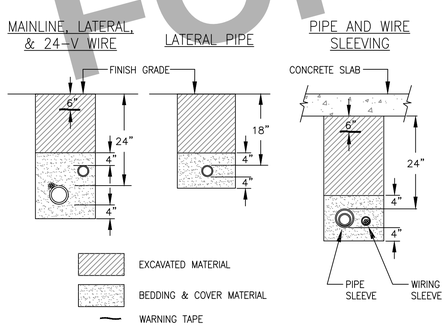


6 REMOTE CONTROL SPRINKLER VALVE ASSEMBLY



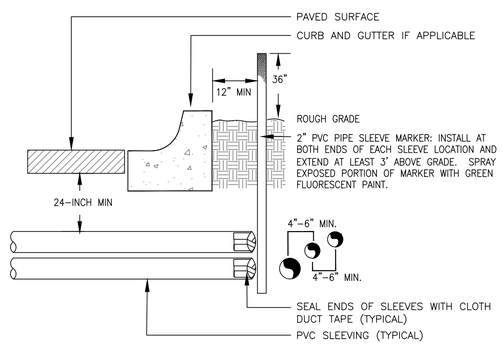
NOTE:
1. SLEEVE TO BE SET SQUARE OVER GATE VALVE TO ALLOW FOR OPERATION OF VALVE WITHOUT BINDING.

7 MANUAL DRAIN VALVE ASSEMBLY



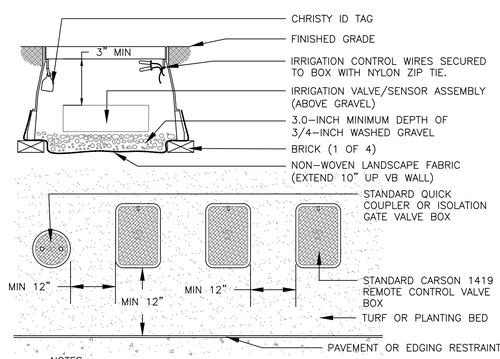
NOTES:
1. SLEEVE ALL PIPE AND WIRE SEPARATELY.
2. ALL PIPE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS."SNAKE" UNSLEEVED PLASTIC PIPE IN TRENCH. PROVIDE A MINIMUM OF 2" CLEARANCE TO SIDE OF TRENCH AND BETWEEN PIPES.
3. ALL 120-V WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. TAPE AND BUNDLE 24-V WIRE EVERY 10' AND PROVIDE LOOSE 20" LOOP AT ALL CHANGES OF DIRECTION OVER 30 DEGREES.

8 TYPICAL TRENCHING DETAIL



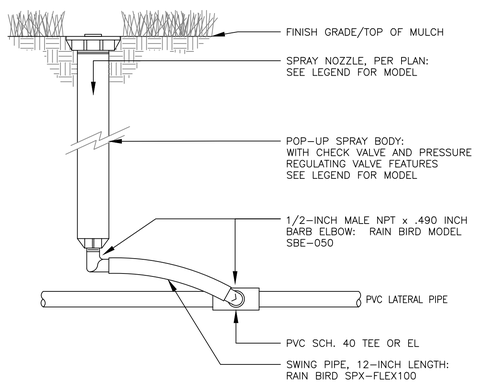
NOTE:
1) ALL SLEEVING TO BE CLASS 200 BE PVC, SIZED AS NOTED.
2) INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.

9 TYPICAL SLEEVING DETAIL



NOTES:
1. INSTALL ONLY ONE RCV TO VALVE BOX. LOCATE AT LEAST 12-INCHES FROM AND ALIGN WITH NEARBY WALLS OR EDGES OF PAVED AREAS. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL.
4. GROUP RCV ASSEMBLIES TOGETHER WHERE PRACTICAL, BUT AVOID GROUPING MORE THAN THREE (3) STANDARD VALVE BOXES TOGETHER IN A SERIES.
5. ARRANGE GROUPED VALVE BOXES IN RECTANGULAR PATTERNS.

10 TYPICAL VALVE BOX INSTALLATION



11 12-INCH POP UP SPRAY SPRINKLER ASSEMBLY

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FOR REFERENCE ONLY

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CONSTRUCT ARABIAN LEOPARD FACILITY

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KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
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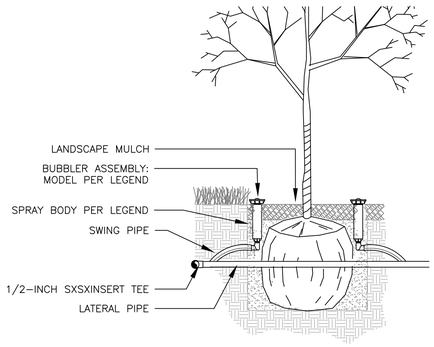
DRAWING TITLE	IRRIGATION DETAILS
WORKING STAFF	MGT / MGT / MGT (CHECKED BY)

SHEET NO. 26 OF 35

LI-201DT 1

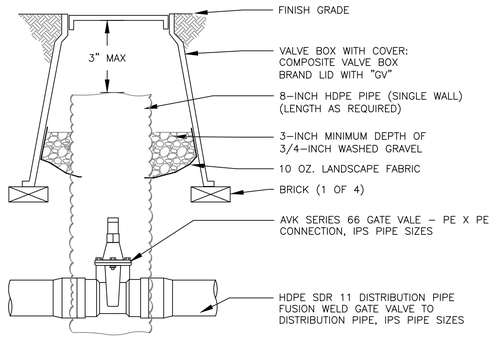
DISCIPLINE / TYPE / SEQUENCE / DRAWING TYPE

5/6/2026 12:56:17 PM
XX-XXXXX BY Approver 04/02/2026 ISSUED FOR BID



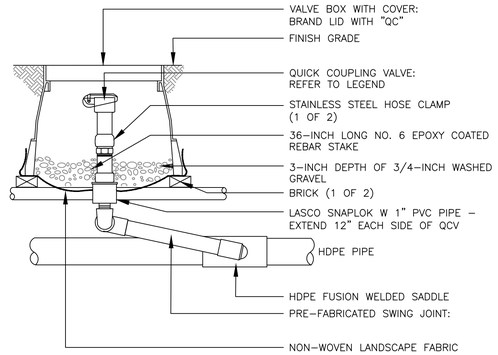
NOTES:
1. REFER TO LANDSCAPE PLANS FOR TREE GRATE INSTALLATION AND DETAILS.

12 BUBBLER ASSEMBLY ON SPRAYS FOR TREES IN SHRUB BEDS

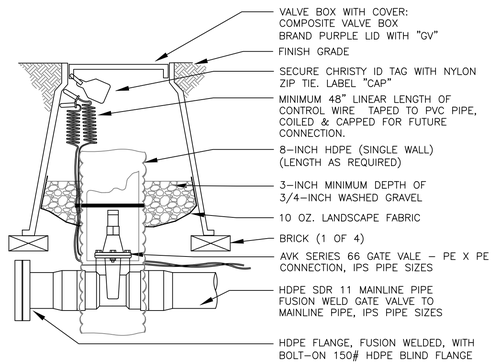


NOTES:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL DISTRIBUTION SIZE.

13 ISOLATION GATE VALVE ASSEMBLY



14 QUICK COUPLING VALVE ASSEMBLY



NOTES:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL MAINLINE SIZE.

15 MAINLINE & CONTROL WIRE STUB-OUT (FUTURE CONNECTION)

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GRAPHIC SCALE(S)

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DRAWING TITLE	IRRIGATION DETAILS
WORKING STAFF	MGT / MGT / MGT (DRAWN BY / CHECKED BY / CHECKED BY)

SHEET NO. 27 OF 35

LI-202DT 1
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

5/8/2026 12:56:17 PM
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ELECTRICAL ABBREVIATIONS

A	A	AMPERES
	AC	ALTERNATING CURRENT
	AF	AMPERE FRAME (BREAKER RATING)
	AFC	ABOVE FINISHED COUNTER
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AHU	AIR HANDLING UNIT
	AIC	AMPERE INTERRUPTING CAPACITY
	ALT	ALTERNATE
	ARCH	ARCHITECT
	AT	AMPERES TRIP
	ATS	AUTOMATIC TRANSFER SWITCH
	AUTO	AUTOMATIC
	AUX	AUXILIARY
	AWG	AMERICAN WIRE GAUGE
B	BLDG	BUILDING
	BRKR, BKR	BREAKER
C	C	CONDUIT
	CATV	CABLE TELEVISION
	CB	CIRCUIT BREAKER
	CCTV	CLOSED CIRCUIT TELEVISION
	CE	CONTROLLED EMERGENCY
	CKT	CIRCUIT
	CLD	CURRENT LIMITING DEVICE
	CLG	CEILING
	COM, COMM	COMMUNICATIONS
	COPY	COPIER
	CP	CONTROL PANEL
	CPT	CONTROL POWER TRANSFORMER
	CT	CURRENT TRANSFORMER
	CU	COPPER
D	DC	DIRECT CURRENT
	DISC	DISCONNECT
	DIST	DISTRIBUTION
	DIV	DIVISION
	DN	DOWN
	DP	DISTRIBUTION PANEL
	DPDT	DOUBLE POLE DOUBLE THROW
	DPST	DOUBLE POLE SINGLE THROW
	DW	DISHWASHER
	DWG	DRAWING
E	E, EX, EXIST	EXISTING
	EG	EQUIPMENT GROUND
	ELEC	ELECTRIC, ELECTRICAL
	ELEV	ELEVATOR
	EM. EMEG	EMERGENCY
	EMT	ELECTRIC METALLIC CONDUIT
	ENCL	ENCLOSURE
	EQ, EQIP	EQUIPMENT
	EWC	ELECTRIC WATER COOLER
	EWH	ELECTRIC WATER HEATER
F	F	FUSE
	FA	FIRE ALARM
	FAAP	FIRE ALARM ANNUNCIATOR PANEL
	FACP	FIRE ALARM CONTROL PANEL
	FAEP	FIRE ALARM EXTENDER PANEL
	FC	FOOT CANDLE
	FDR	FEEDER
	FL, FLR	FLOOR
	FLA	FULL LOAD AMPS
	FLEX	FLEXIBLE
	FLUOR	FLUORESCENT
	FS	FLUSH SENSOR
	FT	FOOT / FEET (')
G	G, GND, GRD	GROUND
	GEN	GENERATOR
	GFI	GROUND FAULT INTERRUPTER
H	H	HORIZONTAL MOUNTING
	HH	HAND HOLE
	HOA	HAND-OFF-AUTOMATIC
	HP	HORSEPOWER
	HPS	HIGH PRESSURE SODIUM
	HR	HOUR
	HT	HEIGHT
	HTR	HEATER
	HVAC	HEATING,VENTILATION AND AIR CONDITIONING
	HZ	HERTZ
I	IG	ISOLATED GROUND
	IN	INCH / INCHES (")
	INCAND	INCANDESCENT
	JB, JBOX	JUNCTION BOX
K	K	KEY INTERLOCK
	Kcmil	1000 CIRCULAR mils
	KV	KILOVOLTS (THOUSAND VOLTS)
	KVA	KILOVOLTS-AMPERES (THOUSAND VOLT-AMPS)
	kW	KILOWATTS (THOUSAND WATTS)
	KWH	KILOWATT-HOURS
	L-G	LINE TO GROUND
	L-L	LINE TO LINE
	L-N	LINE TO NEUTRAL
L	LA	LIGHTNING ARRESTOR
	LAN	LOCAL AREA NETWORK
	LC, LCP	LIGHTING CONTROL PANEL
	LP	LIGHTING PANEL
	LS	LAVATORY SENSOR
	LSI	LONG-TIME, SHORT-TIME, INSTANTANEOUS
	LSIA	LONG-TIME, SHORT-TIME, INSTANTANEOUS,GROUND-FAULT ALARM ONLY
	LSIG	LONG-TIME, SHORT-TIME, INSTANTANEOUS,GROUND-FAULT
	LTG	LIGHTING
	LV	LOW VOLTAGE (BELOW 50 VOLTS)
M	MCA	MINIMUM CIRCUIT AMPACITY
	MCB	MAIN CIRCUIT BREAKER
	MCC	MOTOR CONTROL CENTER
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MH	MANHOLE
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MLO	MAIN LUGS ONLY
	MOCP	MAXIMUM OVERCURRENT PROTECTION
	MTD	MOUNTED
	MTG	MOUNTING
	MTS	MANUAL TRANSFER SWITCH
	MV	MEDIUM VOLTAGE (OVER 600V LESS THAN 35KV)
N	N	NEUTRAL
	NC	NORMALLY CLOSED
	NEC	NATIONAL ELECTRICAL CODE
	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
	NIC	NOT IN CONTRACT
	NL	NIGHTLIGHT
	NO	NORMALLY OPEN
	NO., NUM. #	NUMBER
	NTS	NOT TO SCALE
O	OC	ON CENTER
	OCPD	OVERCURRENT PROTECTION DEVICE
	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
	OFOI	OWNER FURNISHED, OWNER INSTALLED
	OH	OVERHEAD
	OHD	OVERHEAD DOOR
	OHE/T	OVERHEAD ELECTRIC/TELEPHONE
	OPP	OPPOSITE
P	P	POLE
	PA	PUBLIC ADDRESS
	PB	PULL BOX
	PDP	POWER DISTRIBUTION PANEL
	PE	PHOTO ELECTRIC
	PF	POWER FACTOR
	PH, Ø	PHASE
	PNL	PANEL
	PRI	PRIMARY
	PT	POTENTIAL TRANSFORMER
	PVC	POLYVINYL CHLORIDE
	PWR	POWER
Q	QTY	QUANTITY
R	R, RE	RELOCATE AS SHOWN
	RCLP	REMOTE CONTROL LIGHTING PANEL
	RCPT	RECEPTACLE
	REF	REFRIGERATOR
	RF	RADIO FREQUENCY
	RLA	RATED (RUNNING) LOAD AMPS
	RM	ROOM
	RP	RECEPTACLE PANELBOARD
	RSC	RIGID STEEL CONDUIT
S	SCH, SCHED	SCHEDULE
	SEC	SECONDARY
	SF	SQUARE FOOT
	SPD	SURGE PROTECTIVE DEVICE
	SPDT	SINGLE POLE DOUBLE THROW
	SPEC(S)	SPECIFICATION(S)
	SPKR	SPEAKER
	SPST	SINGLE POLE SINGLE THROW
	STD	STANDARD
	SW	SWITCH
	SWBD	SWITCHBOARD
	SWGR	SWITCHGEAR
	SYM	SYMMETRICAL
T	TB	TERMINAL BLOCK
	TBB	TELEPHONE BACKBOARD
	TC	TIME CLOCK
	TEL, TELE	TELEPHONE
	TELECOM	TELECOMMUNICATIONS
	TP	TAMPERPROOF
	TV	TELEVISION
	TYP	TYPICAL
U	UG	UNDERGROUND
	UGP	UNDERGROUND PRIMARY
	UGS	UNDERGROUND SECONDARY
	UGT	UNDERGROUND TELEPHONE
	UL	UNDERWRITER'S LABORATORY
	UON	UNLESS OTHERWISE NOTED
	UPS	UNINTERRUPTIBLE POWER SUPPLY
V	V	VOLTS
	VA	VOLT-AMPERES
	VFD	VARIABLE FREQUENCY DRIVE/ VARIABLE FREQUENCY MOTOR CONTROLLER
W	W	WIRE
	W/	WITH
	W/O	WITHOUT
	WHM	WATT HOUR METER
	WP	WEATHERPROOF
X	X	REMOVE DEVICE
	XFMR	TRANSFORMER
Z	%Z	PERCENT IMPEDANCE

DISTRIBUTION AND DIAGRAM SYMBOLS

- SWITCH - SINGLE THROW
- FUSED SWITCH
- T — TRANSFORMER - TYPE AND RATING AS INDICATED
- POTENTIAL TRANSFORMER
- CPT — CONTROL POWER TRANSFORMER
- CURRENT TRANSFORMER
- DELTA CONNECTION
- WYE CONNECTION - SOLID GROUND
- E — ELECTRIC INTERLOCK SYSTEM
- K — KEY INTERLOCKING SYSTEM
- DRAWOUT TYPE, CIRCUIT BREAKER
- STATIONARY CIRCUIT BREAKER
- FUSE
- ATS — AUTOMATIC TRANSFER SWITCH
- BUS DUCT PLUG-IN UNIT
- LIGHTNING ARRESTOR
- GROUND
- STRESS CONE
- M EMU — ELECTRONIC METERING UNIT
- SPD — SURGE PROTECTIVE DEVICE
- DISTRIBUTION PANELBOARD
- PANELBOARD - (FLUSH/SURFACE)
- LCP — LIGHTING CONTROL PANEL, SURFACE MTD. UON.
- LRP — LOW VOLTAGE LIGHTING RELAY PANEL, SURFACE MTD. UON
- MOTOR CONTROL CENTER
- UPS — UNINTERRUPTIBLE POWER SUPPLY
- TBB — TELECOMMUNICATIONS BACKBOARD
- RP-XXXX — SYMBOL INDICATES TO WHICH PANELBOARD INDICATED CIRCUITS IN THE ROOM ARE TO BE CONNECTED.
- GAP — GENERATOR ANNUNCIATOR (DERANGEMENT) PANEL
- G — GENERATOR

ELECTRICAL WIRING SYMBOLS

- A-1 — HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED
- CONDUIT RUN CONCEALED IN FINISHED AREAS, EXPOSED IN UNFINISHED AREAS OR BELOW ACCESS FLOORS
- CONDUIT CAST IN CONCRETE OR BELOW SLAB
- DEMOLITION WORK
- UG — UNDERGROUND CONDUIT/DUCTBANK
- FB — FEEDER BUSWAY
- PB — PLUG-IN BUSWAY
- G — GROUND CABLE, SIZE AS INDICATED
- GB — GROUND BUS
- CT — CABLE TRAY
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- EMH — ELECTRIC MANHOLE
- EHH — ELECTRIC HANDHOLE
- TMH — TELEPHONE MANHOLE
- GROUND ROD

ELECTRICAL EQUIPMENT SYMBOLS

- MOTOR AND CONNECTION
- DISCONNECT SWITCH, NON-FUSED
  PROVIDE SWITCH AMPACITY EQUAL TO OR GREATER THAN FEEDER AMPACITY, UON
- DISCONNECT SWITCH, FUSED.
  PROVIDE SWITCH AMPACITY EQUAL TO OR GREATER THAN FEEDER AMPACITY, UON
  FUSE AMPACITY AS INDICATED AND NO LESS THAN REQUIRED BY EQUIPMENT NAMEPLATE.
- CB — CIRCUIT BREAKER IN NEMA 1 ENCLOSURE (FLUSH/SURFACE)
- COMBINATION MOTOR STARTER WITH DISCONNECT SWITCH.
  PROVIDE SWITCH AMPACITY EQUAL TO OR GREATER THAN FEEDER AMPACITY, UON
  FUSE AMPACITY AS INDICATED AND NO LESS THAN REQUIRED BY EQUIPMENT NAMEPLATE.
- HAND-OFF-AUTO SELECTOR SWITCH WITH PILOT LIGHT
- M — MANUAL MOTOR STARTER WITH PILOT LIGHT AS INDICATED.
- PC — PACKAGE CONTROL UNIT (PROVIDED BY EQUIPMENT SUPPLIER)
- VFD — VARIABLE FREQUENCY DRIVE/VARIABLE FREQUENCY MOTOR CONTROLLER
- H — PUSHBUTTON STATION
- EMERGENCY POWER OFF
- C — CONTACTOR
- GROUNDING BUS BAR

GENERAL NOTES

A. PROVIDE 1#12 + 1#12N + 1#12G FOR 20A BRANCH CIRCUITING, UON; MAXIMUM OF THREE CIRCUITS PER CONDUIT; MINIMUM CONDUIT SIZE OF 3/4" C, UON.

B. PROVIDE A DEDICATED NEUTRAL WIRE FOR EACH BRANCH CIRCUIT.

C. COORDINATE DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

D. PROVIDE FIRE STOPPING FOR CONDUITS AND ELECTRICAL EQUIPMENT FOR FLOOR SLABS, WALLS AND CEILINGS TO MAINTAIN FIRE RATING.

E. INSTALL ELECTRICAL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL BUILDING AND FIRE CODES, IN A NEAT AND WORKMANLIKE MANNER.

F. LIMIT VOLTAGE DROP TO 2% FOR FEEDERS AND 3% FOR BRANCH CIRCUITS. INCLUDE DERATING FACTOR FOR ROOF-MOUNTED CONDUITS.

G. REFER TO ARCH. REFLECTED CEILING PLANS FOR EXACT LOCATION OF CEILING MOUNTED DEVICES AND LIGHT FIXTURES, UNLESS OTHERWISE INDICATED.

H. WHERE MULTIPLE SWITCHES, RECEPTACLES, AND OTHER OUTLETS (EXCEPT WALL PHONES) ARE INDICATED PROVIDE MULTI-GANG BACK BOXES WITH GANG BARRIERS AND A COMMON FACEPLATE.

I. WHERE DIFFERENT RECESSED ELECTRICAL DEVICES WITH THE SAME MOUNTING HEIGHTS ARE INDICATED SIDE-BY-SIDE, MOUNT THE DEVICES SO THAT THERE IS FOUR INCHES BETWEEN ADJACENT VERTICAL EDGES OF THE FACEPLATES, UON.

J. WHERE ELECTRICAL DEVICES WITH DIFFERENT MOUNTING HEIGHTS ARE LOCATED IN THE SAME AREA ALIGN DEVICES VERTICALLY THROUGH THEIR CENTERLINES, UON.

K. WHERE EXIT SIGNS ARE INDICATED ABOVE DOOR MOUNT AS FOLLOWS, CENTER THE EXIT SIGN BETWEEN TOP OF DOOR FRAME AND CEILING IF DISTANCE BETWEEN TOP OF DOOR FRAME AND CEILING IS 24 INCHES OR LESS; OTHERWISE MOUNT BOTTOM OF EXIT SIGN 6 INCHES FROM TOP OF DOOR FRAME. MOUNT OTHER WALL MOUNTED EXIT SIGNS IN THE SAME AREA AT THE SAME HEIGHT. COORDINATE WITH ARCHITECTURAL DETAILS.

L. EXIT SIGNS ARE TO BE TYPE "X1", UON.

M. PROVIDE SEPARATE NEUTRALS FOR DIMMING CIRCUITS.

N. PROVIDE FEEDERS AND BRANCH CIRCUITS WHICH HAVE AN AMPACITY EQUAL TO OR GREATER THAN THE CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING. U.O.N.

O. FURNITURE LAYOUTS ARE FOR REFERENCE ONLY. COORDINATE THE FINAL LOCATION OF ELECTRICAL DEVICES AND OUTLETS WITH ARCHITECT, OWNER AND FINAL FURNITURE PLANS PRIOR TO INSTALLATION.

P. MOUNT DEVICES FLUSH WITH CONCEALED CONDUIT, EXCEPT AS NOTED ON THE DRAWINGS AND IN MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS.

Q. THE DRAWINGS REPRESENT ELECTRICAL DESIGN INTENT. THEY ARE DIAGRAMMATIC. PROVIDE ALL COMPONENTS NECESSARY FOR COMPLETE OPERATING ELECTRICAL SYSTEMS.

R. WHEN MORE THAN ONE 20A , 1P , 120 VOLT CIRCUIT FEEDS A SURFACE RACEWAY CONNECT RECEPTACLES TO ALTERNATE CIRCUITS AS FOLLOWS - U.O.N.

A B C A B C

MOUNTING HEIGHTS

ACCESS CONTROL DEVICES	3'-6" AFF
CLOCK OUTLETS	7'-0" AFF
DIMMERS	3'-6" AFF
DISCONNECT SWITCHES	5'-6" AFF
INDIVIDUAL CIRCUIT BREAKERS	5'-6" AFF
INTERCOM	3'-6" AFF
MOTOR STARTERS	5'-6" AFF
PANELBOARDS & CABINETS	6'-0" AFF TO TOP
PUSHBUTTONS	3'-6" AFF
RECEPTACLES	1'-6" AFF
RECEPTACLES ABOVE FINISHED COUNTER	8" AFC
VANITY LIGHT IN TOILET	6" ABOVE THE MIRROR, UON
VOLUME CONTROLS	3'-6" AFF
WALL SWITCHES	3'-6" AFF
TELECOMMUNICATIONS OUTLETS	1'-6" AFF
TELECOMMUNICATIONS OUTLETS - WALL PHONE	3'-6" AFF
TV OUTLETS	5'-0" AFF
NURSE CALL DOME LIGHTS	7'-6" AFF
NURSE CALL STATIONS	3'-6" AFF
FIRE ALARM - PULL STATIONS	3'-6" AFF
FIREMAN'S PHONE	3'-6" AFF
FIRE ALARM DEVICES HORN / SPEAKERS / STROBES (MOUNTING HEIGHT AT THE TOP OF THE FIRE ALARM DEVICE OR 6" BELOW CEILING WHICH IS LOWER)	7'-2" AFF TO TOP

MOUNTING HEIGHT NOTES:

1. ALL ELEVATIONS ARE TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.
2. REFER TO EQUIPMENT ELEVATION DRAWINGS FOR COORDINATION WITH CASEWORK.
3. MOUNT MANUAL MOTOR STARTER ADJACENT TO OR ON UNIT.
4. REFER TO ARCHITECTURAL A0 SERIES FOR ADDITIONAL ELECTRICAL DEVICE MOUNTING HEIGHTS AND DEVICE ALIGNMENT RULES.

ELECTRICAL EQUIPMENT NAMING CONVENTION KEY

XX - XXXX

PREFIX — LETTER ID
SYSTEM (IF APPLICABLE) — LEVEL

PREFIX	DESCRIPTION	SYSTEM	DESCRIPTION	LEVEL	DESCRIPTION
DP	DISTRIBUTION PANELBOARD	C	COMPUTER	0	LOWER LEVEL
LP	LIGHTING PANELBOARD	CR	CRITICAL	G	GROUND LEVEL
MCC	MOTOR CONTROL CENTER	EM	EMERGENCY	1	FIRST LEVEL
PDU	POWER DISTRIBUTION UNIT	EQ	EQUIPMENT	2	SECOND LEVEL
PP	POWER PANELBOARD	IG	ISOLATED GROUND	3	THIRD LEVEL
RP	RECEPTACLE PANELBOARD	LR	LEGALLY REQUIRED	4	FOURTH LEVEL
SES	SERVICE ENTRANCE SECTION	LS	LIFE SAFETY	5	FIFTH LEVEL
SWB	SWITCHBOARD	SB	OPTIONAL STANDBY	6	SIXTH LEVEL
T	TRANSFORMER	UPS	UNINTERRUPTIBLE POWER SUPPLY	P	PENTHOUSE LEVEL
US	UNIT SUBSTATION			R	ROOF LEVEL

REFERENCE SYMBOLS

- 1 / E0.1 — SECTION NUMBER; SIM; DRAWING NUMBER WHERE DRAWN
- 1 / --- — DETAIL NUMBER; DRAWING NUMBER WHERE DRAWN
- EXXX — KEYNOTE
- EDXX — DEMO KEYNOTE
- XXX — FEEDER KEYNOTE

SYMBOL SHEET NOTES

A. THE PURPOSE OF THIS SHEET IS TO ILLUSTRATE AND DEFINE TYPICAL GRAPHIC SYMBOLS WHICH MAY TYPICALLY OCCUR ON THE ELECTRICAL DRAWINGS.

B. THIS SHEET MAY ILLUSTRATE ABBREVIATIONS, SYMBOLS AND LEGENDS WHICH DO NOT OCCUR AS PART OF THIS PROJECT. REFER TO THE DRAWINGS TO DETERMINE WHICH ITEMS APPLY TO THE WORK OF THIS PROJECT.

C. ADDITIONAL SYMBOLS NOT SHOWN OR DEFINED ON THIS SHEET MAY BE USED ON THE ELECTRICAL DRAWINGS AND ARE TYPICALLY DEFINED ON OTHER SHEETS.

D. SYMBOLS ARE NOT DRAWN TO SCALE. TO DETERMINE THE ACTUAL SIZES OF ELEMENTS REPRESENTED BY SYMBOLS, REFER TO THE SPECIFICATIONS AND OTHER SHEETS, AS MAY APPLY.

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA — KERE MELANI — No. PE 40001940 — ELECTRICAL — PROFESSIONAL ENGINEER

STAMP

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRICAL ABBREVIATIONS AND SYMBOLS
WORKING STAFF	NS NS KM

SHEET NO. 28 OF 35

E-001CS

DISCIPLINE TYPE SEQUENCE DRAWING TYPE

A

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E-001CS BY Approver 03/30/2026

ELECTRICAL LIGHTING SYMBOLS

	WALL MOUNTED LIGHTING FIXTURE- TYPE AS INDICATED
(#) a	LIGHTING FIXTURE - TYPE AS INDICATED (SUBSCRIPT INDICATES SWITCH CONTROL), (#) - NETWORKED LIGHTING CONTROL ZONE
	LIGHTING FIXTURE - TYPE AS INDICATED
	WALLWASH LIGHT FIXTURE
	SHADING INDICATES FIXTURE CONNECTED TO LIFE SAFETY BRANCH (SWITCHED)
	LIGHTING TRACK - TYPE AS INDICATED CURRENT LIMITING DEVICE, CLD, SHOWN AS A BOX ON END OF THE TRACK.
	EXIT LIGHT - WALL/CEILING MOUNTED - DIRECTIONAL ARROWS AS INDICATED SHADING INDICATES ILLUMINATED FACE
	SITE LIGHTING FIXTURE TYPE AS INDICATED
XX	LIGHTING FIXTURE TYPE DESIGNATION - "XX" INDICATES SPECIFIC TYPE REFER TO LIGHT FIXTURE SCHEDULE
	SINGLE OR DOUBLE, REMOTE EMERGENCY LIGHTING FIXTURE
$a	SINGLE POLE SWITCH (SUBSCRIPT INDICATES FIXTURES CONTROLLED)
$3	THREE-WAY SWITCH (S3P-THREE-WAY SWITCH WITH PILOT LIGHT)
$4	FOUR - WAY SWITCH
$P	SINGLE POLE SWITCH WITH PILOT LIGHT
$K	KEY OPERATED SWITCH
$ $3 $3	DUAL LEVEL SWITCHING. PROVIDE BALLASTS/DRIVERS REQUIRED TO PROVIDE DUAL LEVEL SWITCHING.
$L	LOW VOLTAGE SWITCH
$L1	SINGLE ZONE LOW VOLTAGE ON/OFF SWITCH
$L1D	SINGLE ZONE LOW VOLTAGE DIMMER SWITCH
$L2	2 ZONE LOW VOLTAGE ON/OFF SWITCH
$L2D	2 ZONE LOW VOLTAGE DIMMER SWITCH
$L4	4 ZONE LOW VOLTAGE ON/OFF SWITCH
$L4D	4 ZONE LOW VOLTAGE DIMMER SWITCH
$D	DIMMER SWITCH
$OS	OCCUPANCY SENSOR WALL SWITCH
PI PI	PASSIVE INFRARED OCCUPANCY SENSOR (WALL/CEILING)
U U	ULTRASONIC OCCUPANCY SENSOR (WALL/CEILING)
DT DT	PASSIVE INFRARED/ULTRASONIC OCCUPANCY SENSOR (WALL/CEILING)
PH	PHOTO CELL
CS	COMBINATION PHOTOCELL/OCCUPANCY SENSOR
ELTD	EMERGENCY LIGHTING TRANSFER DEVICE

ELECTRICAL POWER SYMBOLS

	SINGLE RECEPTACLE, NEMA 5-20R (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	DUPLEX RECEPTACLE, NEMA 5-20R (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	GFI, DUPLEX RECEPTACLE, NEMA 5-20R (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	QUADRUPLEX RECEPTACLE, (2) NEMA 5-20R, DUPLEX RECEPTACLES WITH A COMMON FACEPLATE. (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	GFI, QUADRUPLEX RECEPTACLE, (2) NEMA 5-20R, DUPLEX RECEPTACLES WITH A COMMON FACEPLATE. (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	SINGLE ISOLATED GROUND RECEPTACLE, NEMA 5-20R (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	DUPLEX ISOLATED GROUND RECEPTACLE, NEMA 5-20R (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	QUADRUPLEX ISOLATED GROUND RECEPTACLE, (2)NEMA 5-20R, DUPLEX ISOLATED GROUND RECEPTACLES WITH A COMMON FACEPLATE. (SLASH INDICATES MOUNTING ABOVE FINISH COUNTER)
	FULLY CONTROLLED DUPLEX/QUADRUPLEX RECEPTACLE, NEMA 5-20R. PROVIDE ALL WIRING, EQUIPMENT, POWER PACKS, AND OCCUPANCY SENSOR INTEGRATION REQUIRED TO TURN OFF RECEPTACLE(S) WHEN SPACE IS UNOCCUPIED.
	HALF CONTROLLED DUPLEX/QUADRUPLEX RECEPTACLE, NEMA 5-20R. PROVIDE ALL WIRING, EQUIPMENT, POWER PACKS, AND OCCUPANCY SENSOR INTEGRATION REQUIRED TO TURN OFF HALF OF RECEPTACLE(S) WHEN SPACE IS UNOCCUPIED.
	HALF SWITCHED DUPLEX RECEPTACLE, NEMA 5-20R
	EMERGENCY DUPLEX RECEPTACLE, NEMA 5-20R (SHADING INDICATING EMERGENCY RECEPTACLE TYPICAL FOR ALL OTHER RECEPTACLE TYPES)
	COMBINATION USB DUPLEX RECEPTACLE, NEMA 5-20R, WITH (2) 5VDC, COMBINATION TYPE A AND C USB CHARGING PORTS.
6-30R	SPECIAL PURPOSE RECEPTACLE. TYPE AS INDICATED ON DRAWINGS. COORDINATE RECEPTACLE TYPE WITH ACTUAL EQUIPMENT PRIOR TO INSTALLATION.
	CEILING MOUNTED SINGLE RECEPTACLE, NEMA 5-20R
	CEILING MOUNTED SINGLE ISOLATED GROUND RECEPTACLE, NEMA 5-20R
	CEILING MOUNTED DUPLEX RECEPTACLE, NEMA 5-20R ("CR" SUBSCRIPT INDICATES CORD REEL)
	CEILING MOUNTED DUPLEX ISOLATED GROUND RECEPTACLE, NEMA 5-20R
	CEILING MOUNTED QUADRUPLEX RECEPTACLE, (2) NEMA 5-20R. DUPLEX RECEPTACLES WITH A COMMON FACEPLATE.
	CEILING MOUNTED QUADRUPLEX ISOLATED GROUND RECEPTACLE, (2)NEMA 5-20R, DUPLEX ISOLATED GROUND RECEPTACLES WITH A COMMON FACEPLATE.
	SINGLE RECEPTACLE, NEMA 5-20R, FLOOR MTD SERVICE FITTING, FLUSH TYPE UON ("S" DENOTES SURFACE TYPE)
	SINGLE IG RECEPTACLE, NEMA 5-20R, FLOOR MTD SERVICE FITTING, FLUSH TYPE UON ("S" DENOTES SURFACE TYPE)
	DUPLEX RECEPTACLE, NEMA 5-20R, FLOOR MTD SERVICE FITTING, FLUSH TYPE UON ("S" DENOTES SURFACE TYPE)
	DUPLEX IG RECEPTACLE, NEMA 5-20R, FLOOR MTD SERVICE FITTING, FLUSH TYPE UON ("S" DENOTES SURFACE TYPE)
	QUADRUPLEX RECEPTACLE, (2) NEMA 5-20R, FLOOR MTD SERVICE FITTING, FLUSH TYPE UON ("S" DENOTES SURFACE TYPE)
	QUADRUPLEX IG RECEPTACLE, (2) NEMA 5-20R, FLOOR MTD SERVICE FITTING, FLUSH TYPE UON ("S" DENOTES SURFACE TYPE)
	WHERE INDICATED IN AN EXISTING FLOOR, PROVIDE CORE DRILL PACKAGE TO MAINTAIN FIRE RATING OF FLOOR. EXTEND CONDUIT AND WIRING IN CEILING SPACE OF FLOOR BELOW TO ELECTRICAL CLOSET OR PANELBOARD.
FBX	FLOOR BOX ("X" DENOTES TYPE AS SPECIFIED)
PTX	POKE-THROUGH ASSEMBLY ("X" DENOTES TYPE AS SPECIFIED)
AFX	ACCESS FLOOR BOX ("X" DENOTES TYPE AS SPECIFIED)
	REFER TO FLOOR BOX / POKE-THROUGH SCHEDULE FOR TYPES.
J J J	JUNCTION BOX (CEILING, FLOOR OR WALL MOUNTED) INDICATED IN POWER, LIGHTING & FIRE ALARM SYSTEMS PLANS.
	DIRECT CONNECTION TO EQUIPMENT
P P P	POWER SERVICE FITTING (CEILING, FLOOR OR WALL MOUNTED) FOR CONNECTION TO FURNITURE SYSTEM AS SPECIFIED.
SR-X	SURFACE RACEWAY ("X" DENOTES TYPE AS SPECIFIED)
HC	ADA DOOR ACTUATOR
PD PD PD	COMBINATION POWER AND TELECOMMUNICATIONS BOX (CEILING, FLOOR OR WALL MOUNTED) FOR POWER AND DATA CONNECTION INDICATED IN POWER & SPECIAL SYSTEMS PLANS.

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
KERE MELIANI
No. PE 40001940
ELECTRICAL
PROFESSIONAL ENGINEER
STAMP

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
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OPDC PROJECT NUMBER	2533105
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WORKING STAFF	NS NS KM

SHEET NO. 29 OF 35

E-002CS
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

1

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FEEDER & BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE

(NOTES 1 & 2)

OVERCURRENT DEVICE RATING (AMPERES)	WIRE SIZE - AWG OR KCMIL		CONDUIT SIZE			NOTE
	PHASE & NEUTRAL	E.G.	2 WIRE	3 WIRE	4 WIRE	
15-20	12	12	3/4"	3/4"	3/4"	
25-30	10	10	3/4"	3/4"	3/4"	
35-40	8	10	3/4"	3/4"	3/4"	
45-50	8(6)	10	3/4"	3/4"	3/4"(1")	
60	6(4)	10	3/4"(1")	3/4"(1")	1"(1 1/4")	
70	6(4)	8	3/4"(1")	3/4"(1")	1"(1 1/4")	
80-90	4(2)	8	1"	1"(1 1/4")	1 1/4"	
100	3(2)	8	1"(1 1/4")	1 1/4"	1 1/4"	
110	2(1)	6	1 1/4"	1 1/4"(1 1/2")	1 1/4"(1 1/2")	
125	1(1/0)	6	1 1/4"	1 1/2"	1 1/2"(2")	
150	1/0	6	1 1/4"	1 1/2"	2"	
175	2/0	6	1 1/2"	2"	2"	
200	3/0	6	1 1/2"	2"	2"	
225	4/0	4	2"	2"	2 1/2"	
250	250	4	2"	2 1/2"	2 1/2"	
300	350	4	2 1/2"	3"	3"	
350	500	3	3"	3"	3 1/2"	
400	2-3/0	2-3	2-2"	2-2"	2-2"	
450	2-4/0	2-2	2-2"	2-2"	2-2 1/2"	
500	2-250	2-2	2-2"	2-2 1/2"	2-2 1/2"	
600	2-350	2-1	2-2 1/2"	2-3"	2-3"	
700	2-500	2-1/0	2-3"	2-3"	2-3 1/2"	
800	3-300	3-1/0	3-2 1/2"	3-3"	3-3"	
1000	3-400	3-2/0	3-2 1/2"	3-3"	3-3"	
1200	4-350	4-3/0	4-2 1/2"	4-3"	4-3"	
1600	5-400	5-4/0	5-2 1/2"	5-3"	5-3"	
2000	6-400	6-250	6-2 1/2"	6-3"	6-3"	

CIRCUIT SIZING SCHEDULES NOTES:

1. BASED ON THHN/THWN, 90°., 600V., INSULATED, COPPER WIRE APPLIED AT 75°FOR TERMINATIONS RATED AT 60°C/75°C AND 75°C. FOR TERMINATIONS RATED AT 60°C PROVIDE WIRE AND CONDUIT SIZES INDICATED IN PARENTHESIS.
2. BASED ON WIRE OUTSIDE DIAMETERS AND RIGID METALLIC CONDUIT INSIDE DIAMETERS AS PROVIDED IN THE NEC. DO NOT REDUCE CONDUIT SIZE FOR NON-RIGID METALLIC APPLICATION. REFER TO NEC FOR CONDUIT TYPES MORE RESTRICTIVE THAN RIGID METALLIC.
3. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE NEC.
4. BASED ON MOTOR RUNNING OVERLOAD PROTECTION PROVIDED BY THERMAL OVERLOAD RELAYS.
5. MOTOR STARTING TYPE BASED ON 460V., 3 PHASE, FULL VOLTAGE NON-REVERSING EXCEPT FOR MOTORS SIZED 75HP OR GREATER WHICH ARE BASED ON 460V., 3 PHASE, PART WINDING REDUCED VOLTAGE STARTING.
6. TRANSFORMER CIRCUITS BASED ON 480V TO 208/120V., 3 PHASE, 4 WIRE,DRY TYPE.
7. PROVIDE THREE PHASE WIRES AND ONE DOUBLE AMPACITY NEUTRAL FOR 110 AMPACITY CIRCUITS AND LESS. PROVIDE THREE PHASE WIRES AND TWO NEUTRAL WIRES, SIZES AS INDICATED FOR 125 AMPACITY CIRCUITS AND GREATER.

480V., THREE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT LOAD (AMPS)	MAXIMUM LENGTH IN FEET																									
		NO.12	NO.10	NO.8	NO.6	NO.4	NO.3	NO.2	NO.1	1/0	2/0	3/0	4/0	250	350	500	2-3/0	2-4/0	2-250	2-350	2-500	2-300	3-400	4-350	5-400	6-400	6-500
20	16	253	403	642	1019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	24	169	269	428	679	1079	1364	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	32	-	201	321	509	809	1034	1293	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	40	-	-	257	408	648	818	1034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	48	-	-	-	340	540	682	862	1083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	56	-	-	-	291	462	584	739	928	1169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	64	-	-	-	-	405	511	646	812	1023	1286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	72	-	-	-	-	360	455	574	722	909	1143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	80	-	-	-	-	-	409	517	650	818	1029	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	100	-	-	-	-	-	-	414	520	655	823	1043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	120	-	-	-	-	-	-	-	-	546	689	869	1107	-	-	-	-	-	-	-	-	-	-	-	-	-	-
175	140	-	-	-	-	-	-	-	-	-	588	745	949	1110	-	-	-	-	-	-	-	-	-	-	-	-	-
200	160	-	-	-	-	-	-	-	-	-	-	652	830	971	1360	-	-	-	-	-	-	-	-	-	-	-	-
225	180	-	-	-	-	-	-	-	-	-	-	-	738	863	1209	1743	-	-	-	-	-	-	-	-	-	-	-
250	200	-	-	-	-	-	-	-	-	-	-	-	-	777	1088	1569	1043	-	-	-	-	-	-	-	-	-	-
300	240	-	-	-	-	-	-	-	-	-	-	-	-	-	907	1307	869	1107	-	-	-	-	-	-	-	-	-
350	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1120	745	949	1110	-	-	-	-	-	-	-	-
400	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	652	830	971	1360	-	-	-	-	-	-	-
450	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	738	863	1209	-	-	-	-	-	-	-
500	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	777	1088	1569	-	-	-	-	-	-
600	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	907	1307	1165	-	-	-	-	-
700	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1120	999	1346	-	-	-	-
800	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	874	1177	1360	-	-	-
1000	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	942	1088	1569	-	-
1200	960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	907	1307	-	-
1600	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	980	1226	1307
1800	1440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1089	1177
2000	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	980	1137

MOTOR CIRCUIT SIZING SCHEDULE

(FOR 460V, 3 PHASE MOTORS) (NOTES 3,4,5)

MOTOR HP	SWITCH/FUSE	CIRCUIT BREAKER	STARTER	CONDUIT & WIRE		
			SIZE/TYPE	PHASE	E.G.	CONDUIT
1/2	30/3A.	15A	1	12	12	3/4"
3/4	30/3A.	15A	1	12	12	3/4"
1	30/6A.	15A	1	12	12	3/4"
1 1/2	30/6A.	15A	1	12	12	3/4"
2	30/6A.	15A	1	12	12	3/4"
3	30/10A.	15A	1	12	12	3/4"
5	30/15A.	20A	1	12	12	3/4"
7 1/2	30/20A.	25A	1	12	12	3/4"
10	30/25A.	35A	1	12	12	3/4"
15	60/40A.	50A	2	10	10	3/4"
20	60/50A.	60A	2	8	10	3/4"
25	60/60A.	80A	2	6	8	3/4"
30	100/70A.	100A	3	6	8	3/4"
40	100/100A.	125A	3	4	6	1"
50	200/125A.	150A	3	3	6	1 1/4"
60	200/150A.	175A	4	1	6	1 1/4"
75	200/175A.	225A	4	1/0	4	1 1/2"
100	400/225A.	300A	4	2/0	4	2"
125	400/300A.	350A	5	3/0	3	2"
150	400/350A.	450A	5	4/0	2	2"
200	600/450A.	600A	5	350	1	2 1/2"

MOTOR CIRCUIT SIZING SCHEDULE

(FOR 208V, 3 PHASE MOTORS NOTES 3,4,5)

MOTOR HP	SWITCH/FUSE	CIRCUIT BREAKER	STARTER	CONDUIT & WIRE		
			SIZE/TYPE	PHASE	E.G.	CONDUIT
1/2	30/4A.	15A	1	12	12	3/4"
3/4	30/6.25A.	15A	1	12	12	3/4"
1	30/8A.	15A	1	12	12	3/4"
1 1/2	30/15A.	20A	1	12	12	3/4"
2	30/15A.	20A	1	12	12	3/4"
3	30/20A.	25A	1	12	12	3/4"
5	30/30A.	40A	1	10	10	3/4"
7 1/2	60/45A.	60A	1	8	10	3/4"
10	60/60A.	70A	2	8	8	3/4"
15	100/90A.	110A	3	4	6	1"
20	200/110A.	125A	3	3	6	1 1/4"
25	200/150A.	175A	3	2	6	1 1/4"
30	200/175A.	200A	4	1	6	1 1/4"
40	200/200A.	250A	4	1/0	4	1 1/2"
50	400/250A.	350A	5	3/0	3	2"
60	400/300A.	400A	5	4/0	3	2"
75	400/400A.	500A	5	300	2	2 1/2"
100	600/500A.	600A	6	500	1	3"
125	800/700A.	800A	6	2-4/0	2-1/0	2-2"
150	800/700A.	800A	6	2-250	2-1/0	2-2"
200	1200/1000A	1200A	7	2-400	2-3/0	2-2 1/2"

TRANSFORMER CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE TYPE

(NOTE 6)

TRANSF. KVA	PRIMARY CIRCUIT (480V.)		SECONDARY CIRCUIT (208/120V.)		
	SWITCH/FUSE OR CIRCUIT BREAKER	PRIMARY FEEDER	SWITCH/FUSE OR CIRCUIT BREAKER	SYSTEM/EQUIPMENT BONDING JUMPER (GROUND WIRE)	SECONDARY FEEDER
9	30/20A.	20A., 3W.	30/30A.	#8	30A., 4W.
15	30/25A.	25A., 3W.	60/60A.	#8	60A., 4W.
30	60/45A.	45A., 3W.	100/100A.	#8	100A., 4W.
45	100/70A.	70A., 3W.	200/175A.	#4	175A., 4W.
75	200/125A.	125A., 3W.	400/300A.	#2	300A., 4W.
112 1/2	200/175A.	175A., 3W.	400/400A.	#1/0	400A., 4W.
150	400/225A.	225A., 3W.	600/600A.	#2/0	600A., 4W.
225	400/350A.	350A., 3W.	800/800A.	#3/0	800A., 4W.
300	600/500A.	500A., 3W.	1200/1000A.	#3/0	1000A., 4W.

120V. SINGLE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT CURRENT (AMPS)	MAX. CIRCUIT LOAD (VA)	MAXIMUM LENGTH IN FEET				
			NO.12	NO.10	NO.8	NO.6	NO.4
20	4	480	220	349	556	882	-
	8	960	110	174	278	441	701
	12	1440	73	116	185	294	467
	16	1920	55	87	139	221	350
30	24	2880	-	58	93	147	234
40	32	3840	-	-	70	110	175
50	40	4800	-	-	-	88	140
60	48	5760	-	-	-	-	117

208V. SINGLE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT CURRENT (AMPS)	MAX. CIRCUIT LOAD (VA)	MAXIMUM LENGTH IN FEET				
			NO.12	NO.10	NO.8	NO.6	NO.4
20	4	832	380	605	964	-	-
	8	1664	190	302	482	765	-
	12	2496	127	202	321	510	810
	16	3328	95	151	241	382	607
30	24	4992	-	101	161	255	405
40	32	6656	-	-	121	191	304
50	40	8320	-	-	-	153	243
60	48	9984	-	-	-	-	202

208V. THREE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAX. CIRCUIT CURRENT (AMPS)	MAX. CIRCUIT LOAD (VA)	MAXIMUM LENGTH IN FEET				
			NO.12	NO.10	NO.8	NO.6	NO.4
20	4	1440	439	698	1113	-	-
	8	2880	220	349	557	883	-
	12	4320	127	233	371	589	935
	16	5760	95	175	278	442	701
30	24	8640	-	116	186	294	468
40	32	11520	-	-	139	221	351
50	40	14400	-	-	-	177	281
60	48	17280	-	-	-	-	234

277V. SINGLE PHASE CIRCUIT LENGTH TABLE

BREAKER AMPACITY (AMPS)	MAXIMUM LENGTH IN FEET		
	NO.12	NO.10	
20	200	300	

CIRCUIT MAXIMUM DISTANCE TABLE NOTES:

CIRCUIT MAXIMUM DISTANCE IS BASED ON NEC CHAPTER 9, TABLE 8 CONDUCTOR PROPERTIES FOR COATED COPPER CONDUCTORS AT 75 DEGREES CELSIUS.

MINIMUM WIRE SIZE BASED ON NEC TABLE 310.15 (B)(16) FOR COPPER THHN/THWN, AT 90 DEGREES CELSIUS.

FOR REFERENCE ONLY

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
KERZ MELIANI
No. PE 40001940
ELECTRICAL
PROFESSIONAL ENGINEER
STAMP

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRICAL SCHEDULES
WORKING STAFF	NS NS KM

SHEET NO. 30 OF 35

E-003CS

DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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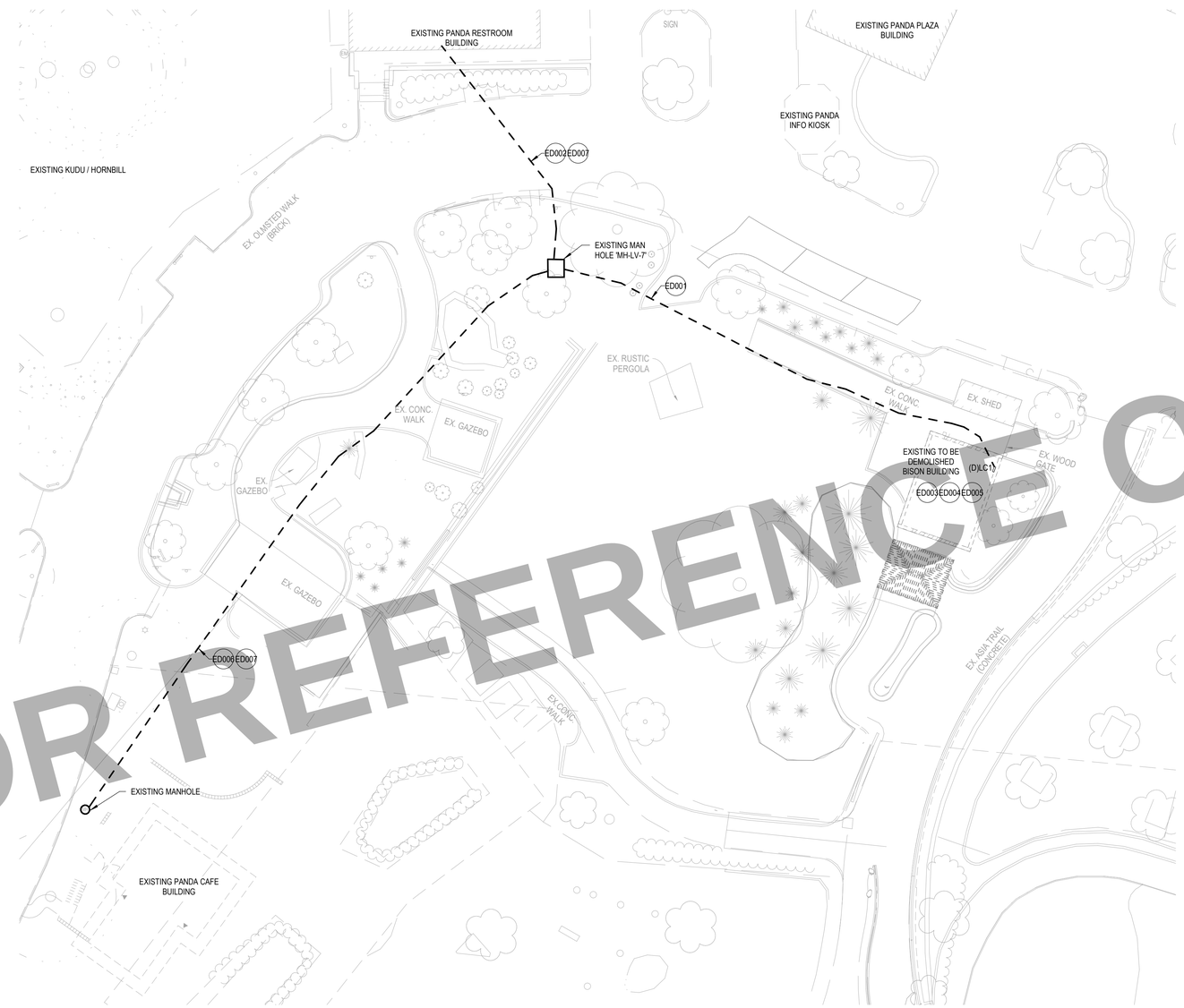
E-003CS BY Approver 03/30/2026



FOR REFERENCE ONLY

1 ELECTRICAL DEMOLITION SITE PLAN
SCALE: 1" = 20'-0"

GENERAL SHEET NOTES

A. SEE DRAWING SERIES E0 FOR ABBREVIATIONS, SYMBOLS, GENERAL NOTES AND DEVICE MOUNTING HEIGHT OF WALL MOUNTED DEVICES, UON.
B. SEE DRAWING SERIES E6 FOR POWER RISER DIAGRAM AND ALL SCHEDULES.
C. REMOVE EXISTING ELECTRICAL DEVICES, EQUIPMENT, BRANCH CIRCUITS AND FEEDERS IN THEIR ENTIREETY BACK TO THEIR POINT OF ORIGIN UNLESS OTHERWISE INDICATED. TURN OFF AND LABEL CIRCUIT BREAKERS AS SPARES FOR NEW WORK.
D. QUANTITY AND LOCATION OF DEVICES SHOWN ON PLANS ARE APPROXIMATE. FIELD VERIFY DEVICES AND LOCATIONS.
E. DEMOLITION DRAWINGS DO NOT DELINEATE EXISTING BRANCH CIRCUIT CONDUITS. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A DETAILED SURVEY AND SHALL RE-ROUTE BRANCH CIRCUIT AND FEEDER CONDUITS WITHIN THE DEMOLITION ZONE SERVING EQUIPMENT/DEVICES OUTSIDE OF THE SCOPE AREA THAT ARE NOT SPECIFICALLY DELINEATED ON THIS PLAN.
F. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM INCIDENTAL ELECTRICAL DEMOLITION WORK AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
G. THOROUGHLY SURVEY THE EXISTING BUILDING AND SYSTEMS PRIOR TO SUBMITTING THE BID PRICE. INCLUDE A REMOVAL OF ALL ASSOCIATED COMPONENTS OF SYSTEMS INDICATED TO BE REMOVED. DEMOLISHED ELECTRICAL COMPONENTS SHALL NOT BE ABANDONED IN PLACE.
H. PROVIDE NEW TYPED DIRECTORIES FOR PANELS AFFECTED BY THIS ALTERATION.
I. RECYCLE OR DISPOSE MATERIALS OFF SITE AND INCLUDE ALL COSTS IN BID. HANDLE ALL MATERIALS IN ACCORDANCE WITH LEED REQUIREMENTS, ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
J. WHERE EXISTING BUILDING SERVICES AND/OR EQUIPMENT THAT IS TO REMAIN IN USE ARE REQUIRED TO BE SHUT DOWN COORDINATE WITH THE OWNER'S REPRESENTATIVE. INCLUDE ALL ASSOCIATED OVERTIME COSTS TO PERFORM THIS WORK DURING WEEKENDS AND EVENINGS. INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWN MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER ONE WEEK PRIOR TO SHUT DOWN.
K. REMOVE ELECTRICAL EQUIPMENT INDICATED WITH HEAVY WEIGHT DASHED LINES OR INDICATED WITH KEYNOTES.
L. MAINTAIN ELECTRICAL SERVICE TO SITE LIGHTING FIXTURES AND DEVICES THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM DEVICES THAT ARE TO REMAIN.
M. SEE ARCHITECTURAL AND NON-POWER/LIGHTING MEP DRAWINGS FOR ALL NON-POWER/LIGHTING DEMOLITION WORK.
N. EXISTING TO REMAIN DEVICES SHOWN IN SOLID LINES. CIRCUITING SHOWN IS EXISTING TO REMAIN. MAINTAIN ELECTRICAL SERVICE TO LIGHTING FIXTURES AND DEVICES THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM DEVICES THAT ARE TO REMAIN.

SHEET KEYNOTES

ED001 EXISTING UNDERGROUND ELECTRICAL CONDUITS AND CONDUCTORS FEEDING EXISTING BISON CARE BUILDING 60AMP 'LC1' PANELBOARD FROM PANDA PLAZA RESTROOMS ELECTRICAL CLOSET 'P-1' PANELBOARD. ELECTRICAL CONTRACTOR TO DEMOLISH EXISTING CONDUIT AND CONDUCTORS TO THE POINT OF ORIGIN UON. TURN OFF AND LABEL CIRCUIT BREAKER AS SPARE.

ED002 EXISTING UNDERGROUND ELECTRICAL CONDUITS AND CONDUCTORS FEEDING EXISTING PANDA PLAZA, AND PANDA PLAZA RESTROOMS PANELBOARDS FROM PANDA CAFE ELECTRICAL ROOM. EXISTING BISON CARE BUILDING 'LC1' PANELBOARD IS BEING FED FROM PANDA PLAZA RESTROOM 'P-1' PANELBOARD LOCATED AT ELECTRICAL CLOSET. ELECTRICAL CONTRACTOR TO ABANDON IN PLACE CONDUITS AND DEMOLISH EXISTING CONDUCTORS TO THE POINT OF ORIGIN UON. TURN OFF AND LABEL CIRCUIT BREAKER AS SPARE.

ED003 DEMOLISH ALL MECHANICAL ELECTRICAL CONNECTIONS, ELECTRICAL DEVICES, LIGHTING FIXTURES, AND DEVICES WITHIN IN SITE DEMOLITION SCOPE AREAS UNLESS OTHERWISE NOTED. REMOVE ALL EXISTING ELECTRICAL DEVICES, EQUIPMENT, BRANCH CIRCUITS AND FEEDERS IN THEIR ENTIREETY.

ED004 EQUIPMENT, FIXTURES, DEVICES SHOWN IN SPACES ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR SURVEYING AND FIELD VERIFYING ALL EQUIPMENT AND DEVICES AT ROOM LEVEL, AND ABOVE CEILING IN BOTH TYPICAL AND ATYPICAL SPACES PRIOR TO START OF DEMOLITION TO DETERMINE ACTUAL TYPES, LOCATIONS, AND QUANTITIES. CONTRACTOR'S BID SHALL BE BASED ON SURVEY OF EXISTING CONDITIONS.

ED005 REFERENCE ALL DEMO WORK WITH ALL OTHER TRADES. ADDITIONAL ELECTRICAL CONNECTIONS AND DEVICES MAY EXIST IN THE FIELD. DEMOLISH POWER CONNECTIONS TO DEMOLISHED EQUIPMENT. MAINTAIN POWER CONNECTIONS AND CONTINUITY OF POWER TO EXISTING TO REMAIN DEVICES.

ED006 EXISTING UNDERGROUND ELECTRICAL CONDUITS AND CONDUCTORS FEEDING EXISTING PANDA PLAZA, AND PANDA PLAZA RESTROOMS PANELBOARDS FROM PANDA CAFE ELECTRICAL ROOM. ELECTRICAL CONTRACTOR TO DEMOLISH EXISTING CONDUIT AND CONDUCTORS TO THE POINT OF ORIGIN UON. REFER TO ELECTRICAL SITE PLANS FOR NEW WORK. ELECTRICAL CONTRACTOR TO SURVEY AND IDENTIFY EXACT QUANTITY OF CONDUITS AND BUILDINGS AFFECTED WITH THIS WORK.

ED007 PRIOR TO DEMOLITION OF THE EXISTING DUCT BANK FEEDING EXISTING PANDA PLAZA, AND PANDA PLAZA RESTROOMS BUILDINGS CONTRACTOR SHALL PROVIDE A TEMPORARY GENERATOR TO ALLOW FOR FULL BUILDING OPERATION DURING CONSTRUCTION. NEW WORK SHOULD OCCUR PRIOR TO DEMOLITION OF EXISTING DUCT BANK TO MINIMIZE DOWN TIME.

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
KERE MELIANI
No. PE 40001940
ELECTRICAL
PROFESSIONAL ENGINEER
STAMP

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION #	DATE	REVISION DESCRIPTION

Smithsonian Institution

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

BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRICAL DEMOLITION SITE PLAN
WORKING STAFF	NS NS KM

SHEET NO. 31 OF 35

ED-100SP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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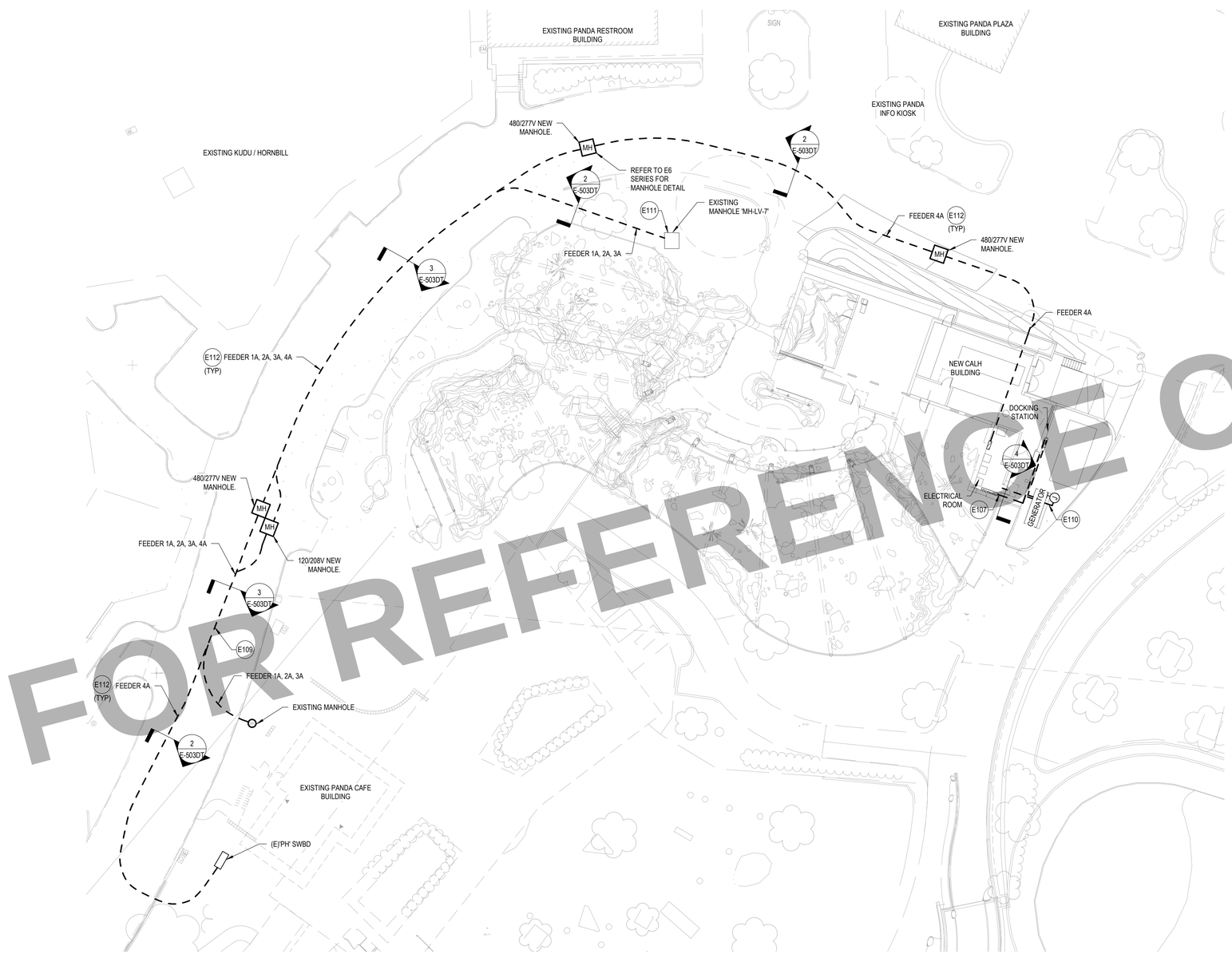

FOR REFERENCE ONLY

1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"

GENERAL SHEET NOTES

A. SEE DRAWING SERIES E0 FOR ABBREVIATIONS, SYMBOLS, GENERAL NOTES AND DEVICE MOUNTING HEIGHT OF WALL MOUNTED DEVICES, UON.
B. SEE DRAWING SERIES E6 FOR POWER RISER DIAGRAM AND ALL SCHEDULES.
C. COORDINATE WITH LOCAL UTILITY FOR ALL SITE SERVICE REQUIREMENTS.
D. CONTACT LOCAL UTILITY TO IDENTIFY ALL EXISTING UNDERGROUND UTILITIES.
E. SITE WORK WILL INCLUDE ELEMENTS NOT DELINEATED ON THIS SITE PLAN INCLUDING BUT NOT LIMITED TO UNDERGROUND BRANCH CIRCUIT CONDUITS TO HABITAT HEATERS, SITE LIGHTING, RECEPTACLES, GROUNDING ELECTRODES, AND GROUNDING CONDUCTORS FOR BUILDING GROUNDING AND/OR LIGHTNING PROTECTION. REFER TO BUILDING ABOVE GRADE PACKAGE FOR MORE INFORMATION ON THESE COMPONENTS.

SHEET KEYNOTES

E107 ROUTE CONDUIT IN CONCRETE ENCASED DUCT BANK 36" MINIMUM BELOW GRADE TO NEW DOCKING STATION. REFER TO E6 SERIES RISER DIAGRAM FOR MORE INFORMATION.
E109 THERE MAY BE ADDITIONAL SITE UTILITIES NOT DELINEATED ON THIS PLAN THAT SHALL BE RE-ROUTED AS A RESULT OF SITE/CIVIL WORK. THE SITE CONTRACTOR SHALL PERFORM A THOROUGH SURVEY AND ENSURE ALL ELECTRICAL AND MISCELLANEOUS RE-ROUTING HAVE BEEN CAPTURED IN BID.
E110 PROVIDE (2)1-1/2" CONDUIT IN CONCRETE ENCASED FOR GENERATOR LOAD CENTER.
E111 CONTRACTOR TO PROVIDE NEW ROBUST MANHOLE COVER TO PROPERLY SEAL EXISTING MANHOLE.
E112 REFER TO SHEET SERIES E5 AND E6 FOR ELECTRICAL POWER DETAILS AND ONLINE DIAGRAM FOR FEEDER INFORMATION.

ALF

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DISTRICT OF COLUMBIA
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No. PE 40001940
ELECTRICAL
PROFESSIONAL ENGINEER

KEY PLAN

GRAPHIC SCALE(S)

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRICAL SITE PLANS
WORKING STAFF	NS NS KM

SHEET NO. 32 OF 35
E-100SP
DISCIPLINE TYPE SEQUENCE DRAWING TYPE
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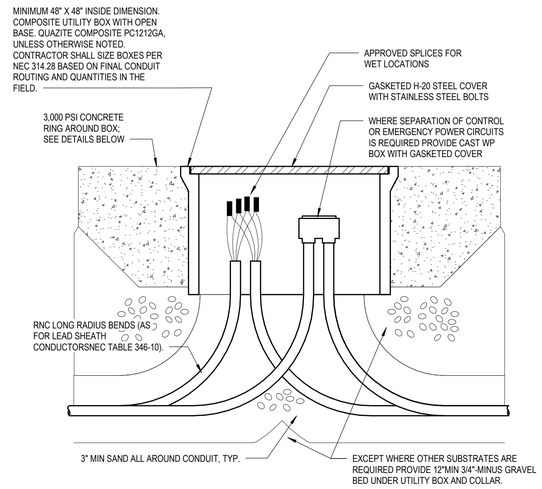
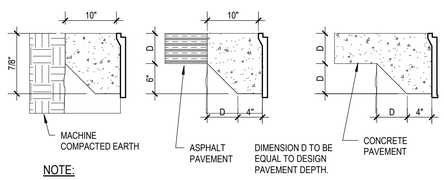


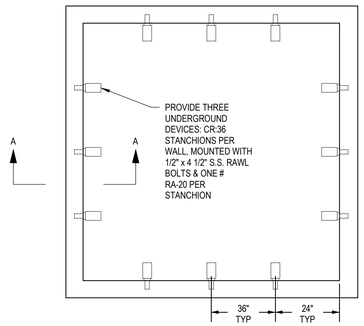


NOTE:

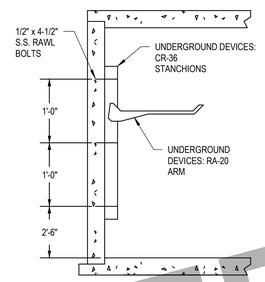
SIZE AS REQUIRED. PROVIDE EXTRA DEPTH BY STACKING WHERE REQUIRED WHERE REQUIRED BY CODE. SEE GENERAL NOTES ON SHEET E001.

1 HAND HOLE FINISHED GRADE

SCALE: NOT TO SCALE



PLAN VIEW



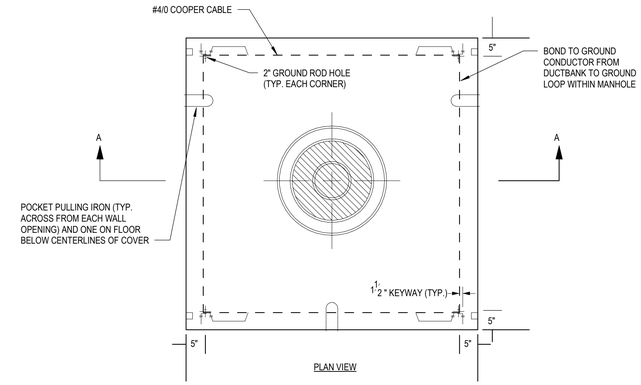
SECTION A-A

NOTES

1. REFER TO CIVIL ENGINEERING DRAWINGS FOR MANHOLE DEPTH

5 MANHOLE CABLE SUPPORT DETAIL

SCALE: NOT TO SCALE



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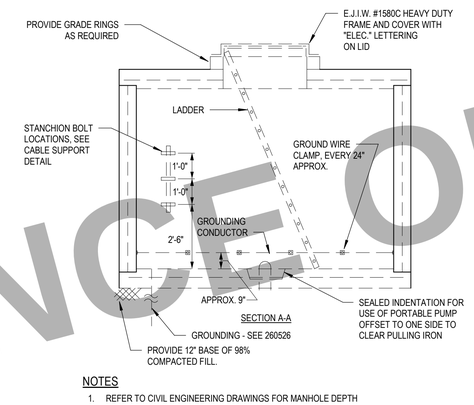


SECTION A-A

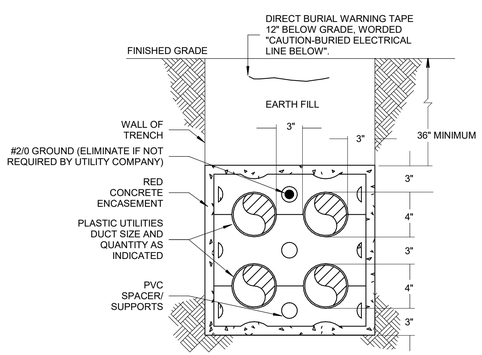
NOTES

1. REFER TO CIVIL ENGINEERING DRAWINGS FOR MANHOLE DEPTH
2. PROVIDE GALVANIZED STEEL LADDER. (CONFIRM LENGTH)

6 MANHOLE GROUNDING

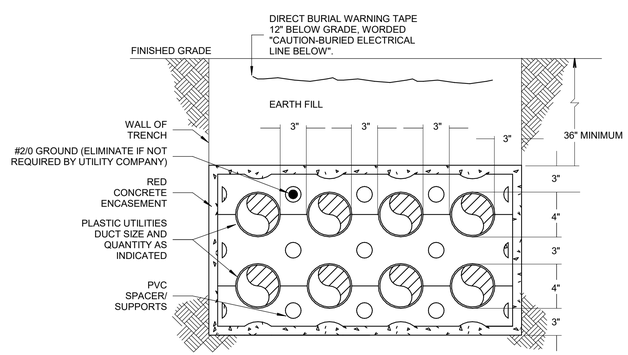
SCALE: NOT TO SCALE

FOR REFERENCE ONLY



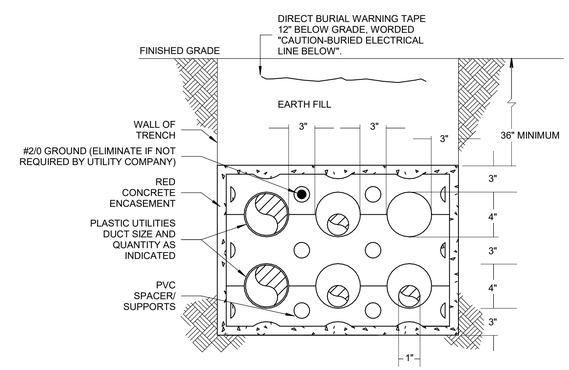
2 SITE-DUCT BANK 4-WAY WITH SPACERS

SCALE: NOT TO SCALE



3 SITE-DUCT BANK 8-WAY WITH SPACERS

SCALE: NOT TO SCALE



4 SITE-GENERATOR DUCT BANK 6-WAY WITH SPACERS

SCALE: NOT TO SCALE

GENERAL SHEET NOTES

A. SEE DRAWING SERIES E6 FOR ALL SCHEDULES AND CONTROL PANEL (LIGHTING & RECEPTACLE) INFORMATION.
B. COORDINATE WITH ELECTRICAL AND LIGHTING DRAWINGS TO DETERMINE THE NUMBER OF ALL CONTROLS, MODULES, AND DEVICES. DO NOT PROVIDE QUANTITIES BASED SOLELY ON DIAGRAMS.

SHEET KEYNOTES

ALF

CONSTRUCT ARABIAN LEOPARD FACILITY

ISSUED FOR BID

DISTRICT OF COLUMBIA
KERE MELIANI
No. PE 40001940
ELECTRICAL
PROFESSIONAL ENGINEER
STAMP

KEY PLAN

GRAPHIC SCALE(S)

DATE	SUBMISSION
05/11/2026	PHASE 1 - ADDENDUM 1

REVISION # DATE	REVISION DESCRIPTION

Smithsonian Institution

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

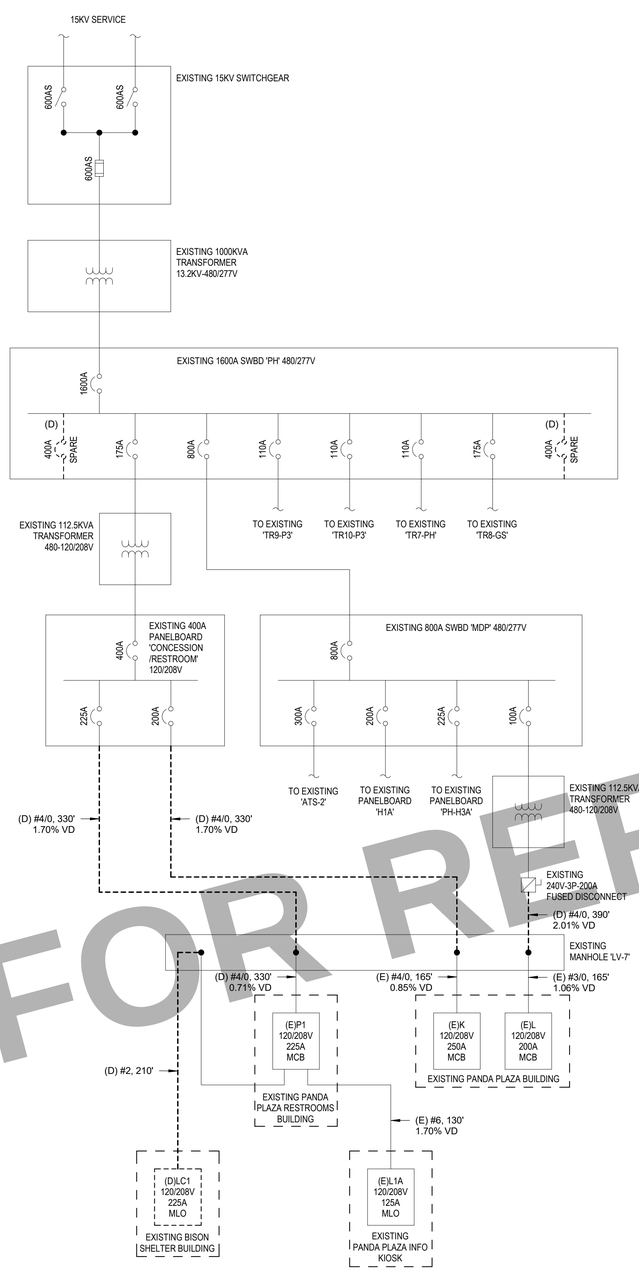
BUILDING NAME	ARABIAN LEOPARD FACILITY (ALF)
ADDRESS	3001 Connecticut Avenue NW Washington, DC 20008
PROJECT TITLE	CONSTRUCT ARABIAN LEOPARD FACILITY (ALF)
OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRICAL POWER DETAILS
WORKING STAFF	NS NS KM

SHEET NO. 33 OF 35

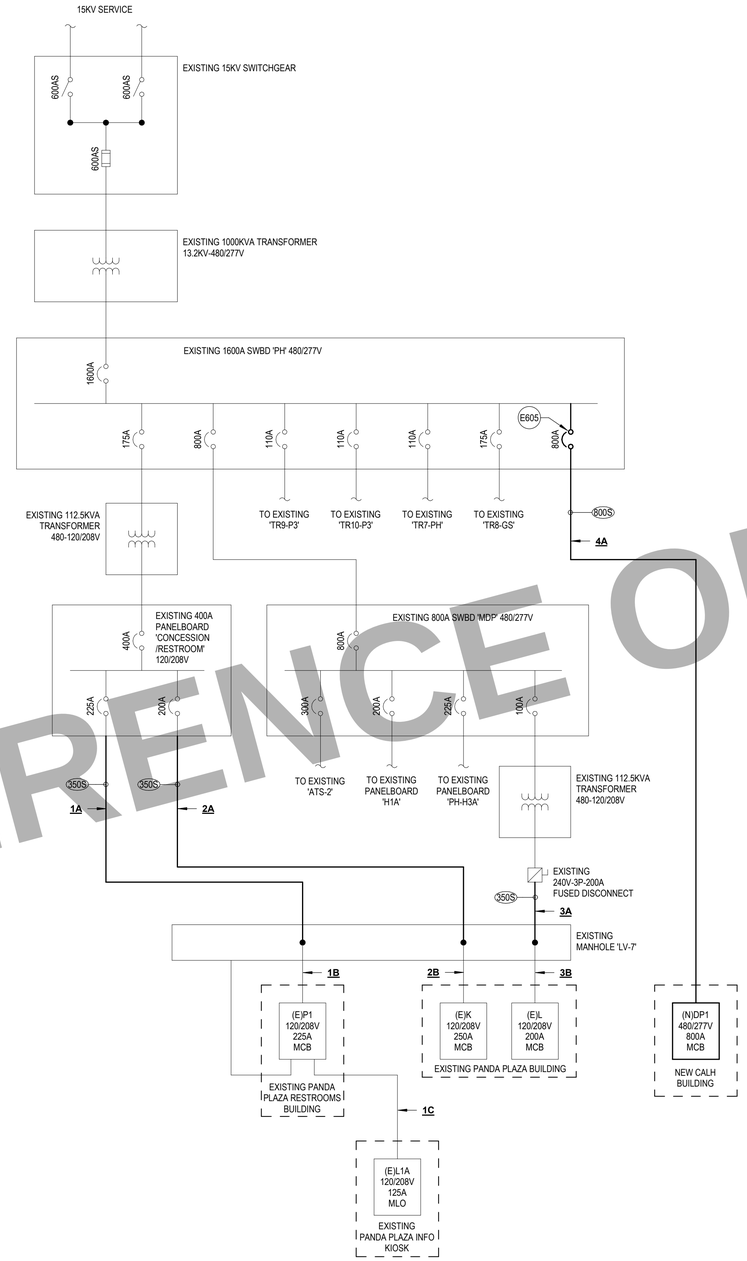
E-503DT

DISCIPLINE TYPE SEQUENCE DRAWING TYPE

5/11/2026 12:04:33 PM
E-503DT BY Approver 03/30/2026



1 EXISTING ELECTRICAL ONE LINE/RISER DIAGRAM SWBD 'PH' DEMOLITION
SCALE: NOT TO SCALE



2 EXISTING ELECTRICAL ONE LINE/RISER DIAGRAM SWBD 'PH' NEW WORK
SCALE: NOT TO SCALE

GENERAL SHEET NOTES

A. SEE DRAWING SERIES E0 SERIES FOR ABBREVIATIONS, SYMBOLS, GENERAL NOTES.
B. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF EQUIPMENT POWER CONNECTIONS WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
C. COORDINATE FINAL LOCATION OF MECHANICAL EQUIPMENT AND ASSOCIATED DISCONNECT SWITCHES, STARTERS, VFDS, CONTROL POWER AND OTHER POWER REQUIREMENTS WITH DIV 23 AND MECHANICAL DRAWINGS.
D. SEE MECHANICAL EQUIPMENT SCHEDULE FOR ASSOCIATED OVERCURRENT DEVICES, DISCONNECT SWITCHES, STARTERS AND WIRES.
E. FOR ALL MECHANICAL EQUIPMENT, PROVIDE ADDITIONAL 120V CONNECTIONS REQUIRED BY MANUFACTURER.
F. VOLTAGE DROP SHALL BE LIMITED TO LESS THAN 3% FOR ALL BRANCH CIRCUITS AND 2% FOR ALL FEEDERS.
G. CONTRACTOR SHALL COORDINATE AND FIELD VERIFY REQUIREMENT OF NEUTRAL CONDUCTOR FOR ALL EQUIPMENT AND PROVIDE NEUTRAL CONDUCTOR AS NECESSARY.
H. DEMOLISH UNDERGROUND FEEDER INDICATED WITH SUBSCRIPT (D) AND HEAVY WEIGHT DASHED LINES.
I. MAINTAIN AND PRESERVE UNDERGROUND FEEDERS INDICATED WITH SUBSCRIPT (E). PROTECT FROM DAMAGE DURING CONSTRUCTION.

SHEET KEYNOTES

E605 REMOVE THE TWO EXISTING 400A CIRCUIT BREAKERS AND PROVIDE ONE NEW TMAX 800A FRAME XT7.

FEEDER SCHEDULE

350S 4#500KCMIL + 1#3 G, 4" C
800S 3 SETS OF 4#500KCMIL + 1#2/0 G, (3) 4" C + (1) 4" C SPARE

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OPDC PROJECT NUMBER	2533105
A/E PROJECT NUMBER	00100084
DRAWING TITLE	ELECTRICAL DIAGRAMS
WORKING STAFF	NS NS KM

SHEET NO. 34 OF 35
E-600SH
DISCIPLINE TYPE SEQUENCE DRAWING TYPE

5/11/2026 12:04:33 PM
E-600SH BY Approver 03/30/2026

VOLTAGE DROP CALCULATION - 1A,1B,1C

EQUATION VARIABLE	EQUATION INPUT DESCRIPTION	**1A - NEW FEEDER FROM (E)CONCESSION / RESTROOM PANELBOARD 225A TO (E)MANHOLE 'LV-7'**	1B - EXISTING FEEDER FROM (E)MANHOLE LV-7 TO (E)'P1' PANELBOARD	1C - EXISTING FEEDER FROM (E)'P1' PANELBOARD TO (E)'L1A' PANELBOARD
L	ONE-WAY LENGTH OF CIRCUIT (FT)	390	165	130
	CONDUCTOR SIZE(AWG)	**500kcmil**	250kcmil	#6
	CONDUIT TYPE	PVC CONDUIT	PVC CONDUIT	PVC CONDUIT
R	CONDUCTOR RESISTANCE (OHMS PER 1000 FEET)	0.027	0.052	0.490
I	LOAD CURRENT(A)	100	100	32
K	K-VALUE (DEPENDENT ON PHASE)	1.15	1.15	1.15
	NUMBER OF SETS	1	1	1
VD	VOLTAGE DROP BETWEEN CONDUCTORS (V)	1.8	1.5	3.5
	SOURCE VOLTAGE (V)	208	208	208
	VOLTAGE PRESENT AT THE LOAD END OF THE CIRCUIT (V)	206	207	204
	PERCENTAGE VOLTAGE DROP (%)	**0.88%**	**0.71%**	**1.70%**
TOTAL FEEDER EXISTING VOLTAGE DROP (%)				4.12%
TOTAL FEEDER NEW VOLTAGE DROP (%)				**3.29%**

VOLTAGE DROP CALCULATION - 2A, 2B

EQUATION VARIABLE	EQUATION INPUT DESCRIPTION	**2A - NEW FEEDER FROM (E)CONCESSION / RESTROOM PANELBOARD 200A TO (E)MANHOLE 'LV-7'**	2B - EXISTING FEEDER FROM (E)MANHOLE LV-7 TO (E)'K' PANELBOARD
L	ONE-WAY LENGTH OF CIRCUIT (FT)	390	165
	CONDUCTOR SIZE(AWG)	**500kcmil**	#4/0
	CONDUIT TYPE	PVC CONDUIT	PVC CONDUIT
R	CONDUCTOR RESISTANCE (OHMS PER 1000 FEET)	0.027	0.062
I	LOAD CURRENT(A)	100	100
K	K-VALUE (DEPENDENT ON PHASE)	1.15	1.15
	NUMBER OF SETS	1	1
VD	VOLTAGE DROP BETWEEN CONDUCTORS (V)	1.8	1.8
	SOURCE VOLTAGE (V)	208	208
	VOLTAGE PRESENT AT THE LOAD END OF THE CIRCUIT (V)	206	206
	PERCENTAGE VOLTAGE DROP (%)	**0.88%**	**0.85%**
TOTAL FEEDER EXISTING VOLTAGE DROP (%)			2.56%
TOTAL FEEDER NEW VOLTAGE DROP (%)			**1.73%**

VOLTAGE DROP CALCULATION - 3A, 3B

EQUATION VARIABLE	EQUATION INPUT DESCRIPTION	**3A - NEW FEEDER FROM (E)FUSE DISCONNECT SWITCH TO (E)MANHOLE 'LV-7'**	3B - EXISTING FEEDER FROM (E)MANHOLE 'LV-7' TO (E)'L' PANELBOARD
L	ONE-WAY LENGTH OF CIRCUIT (FT)	450	165
	CONDUCTOR SIZE(AWG)	**500kcmil**	#3/0
	CONDUIT TYPE	PVC CONDUIT	PVC CONDUIT
R	CONDUCTOR RESISTANCE (OHMS PER 1000 FEET)	0.027	0.077
I	LOAD CURRENT(A)	100	100
K	K-VALUE (DEPENDENT ON PHASE)	1.15	1.15
	NUMBER OF SETS	1	1
VD	VOLTAGE DROP BETWEEN CONDUCTORS (V)	2.1	2.2
	SOURCE VOLTAGE (V)	208	208
	VOLTAGE PRESENT AT THE LOAD END OF THE CIRCUIT (V)	206	206
	PERCENTAGE VOLTAGE DROP (%)	**1.01%**	**1.06%**
TOTAL FEEDER EXISTING VOLTAGE DROP (%)			3.07%
TOTAL FEEDER NEW VOLTAGE DROP (%)			**2.07%**

GENERAL NOTES

1. VOLTAGE DROP CALCULATIONS SHOW AN EXAMPLE FEEDER AND EXAMPLE BRANCH CIRCUIT SCENARIO. ONE-WAY LENGTH OF CIRCUIT LISTED IS ESTIMATED MEASUREMENT FROM PLANS. CONTRACTOR SHALL COMPLETE ALL FINAL VOLTAGE DROP CALCULATIONS FOR ALL FEEDERS AND BRANCH CIRCUITS BASED ON FINAL INSTALLATION AND UPSIZE WIRING AND CONDUIT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.

2. CONDUCTOR RESISTANCE (OHMS PER 1000 FEET) VALUES ARE PER TABLE 9 IN CHAPTER 9 OF THE NATIONAL ELECTRICAL CODE 2017. RESISTANCE VALUES ARE BASED ON UNCOATED COPPER WIRING AND STEEL CONDUIT.

3. ALL UPGRADES IN FEEDER WILL RESULT IN A REDUCTION IN VOLTAGE DROP FROM THE EXISTING CONDITIONS.

VOLTAGE DROP CALCULATION - 4A

EQUATION VARIABLE	EQUATION INPUT DESCRIPTION	**4A - NEW FEEDER FROM (E)'PH' SWITCHBOARD TO (N)'DP1' DISTRIBUTION PANELBOARD**
L	ONE-WAY LENGTH OF CIRCUIT (FT)	571
	CONDUCTOR SIZE(AWG)	**500kcmil**
	CONDUIT TYPE	PVC CONDUIT
R	CONDUCTOR RESISTANCE (OHMS PER 1000 FEET)	0.027
I	LOAD CURRENT(A)	640
K	K-VALUE (DEPENDENT ON PHASE)	1.15
	NUMBER OF SETS	3
VD	VOLTAGE DROP BETWEEN CONDUCTORS (V)	17.1
	SOURCE VOLTAGE (V)	480
	VOLTAGE PRESENT AT THE LOAD END OF THE CIRCUIT (V)	463
	PERCENTAGE VOLTAGE DROP (%)	**1.19%**
TOTAL FEEDER NEW VOLTAGE DROP (%)		**1.19%**

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OPDC PROJECT NUMBER	**2533105**
A/E PROJECT NUMBER	**00100084**
DRAWING TITLE	**ELECTRICAL VOLTAGE DROP CALCULATION**
WORKING STAFF	**NS NS KM**

SHEET NO. 35 OF 35

E-601SH

DISCIPLINE TYPE SEQUENCE DRAWING TYPE

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E-601SH BY Approver 03/30/2026