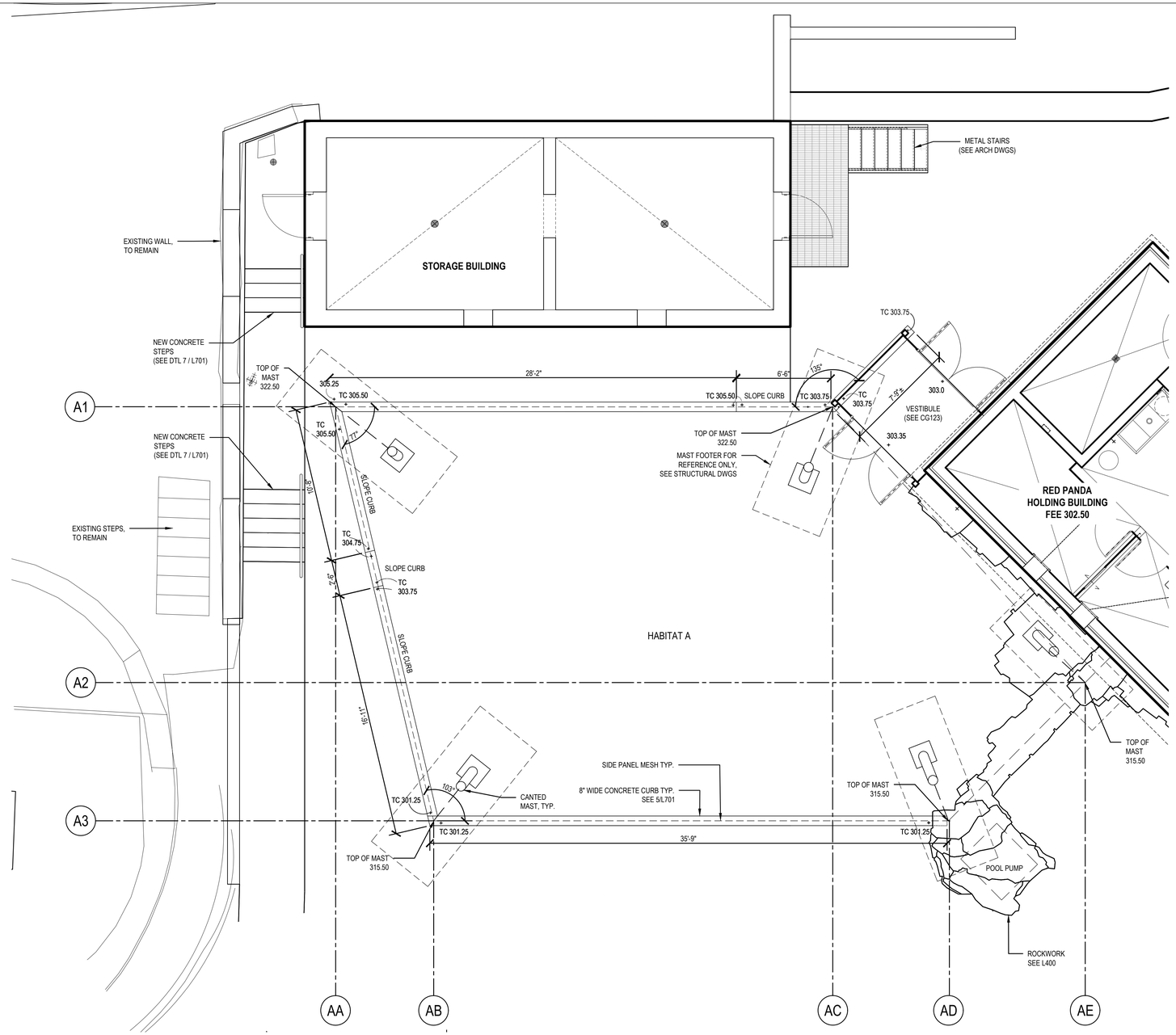


1 HABITAT A CURB LAOUT PLAN
SCALE: 1/4" = 1'-0"

RED PANDA HABITAT A ENCLOSURE MAST SCHEDULE

MAST KEY	TOP OF FOOTER	TOP OF MAST ELEVATION
A1AA	296.5'	322.50'
A1AC	300.5'	322.50'
A2AE	297.84'	315.50'
A3AB	299.0'	315.50'
A3AD	297.0'	315.50'

NOTE: MASTS TO BE PAINTED, SEE SPECIFICATIONS FOR THEME

RED PANDA HABITAT A ENCLOSURE MESH SCHEDULE

#	LOCATION	MESH TYPE	SIZE	COMMENTS
Side and Roof Panels	Red Panda Habitat A	Black oxide s.s. woven mesh	1.5" x 1.5" x 1/16"	

NOTES:
1. SEE STRUCTURAL ENGINEERING DRAWINGS FOR MAST, CABLING, AND GUY WIRE DETAILS.
2. SEE SHEET S101 FOR MORE LAYOUT INFORMATION.
3. SEE DETAIL 5 / L701 FOR CURB INFORMATION.
4. ALL STEEL POSTS TO BE GALVANIZED AND PAINTED WITH HIGH-PERFORMANCE EPOXY PAINT, SEE SPECIFICATIONS.
5. THE BOTTOM OF ALL MASTS SHALL BE -2'-0" MINIMUM BELOW THE LOWEST ADJACENT GRADE AT THEIR RESPECTIVE BASES.
6. CANTED MASTS SHALL BE AT A MAXIMUM 15-DEGREE ANGLE FROM VERTICAL.

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

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

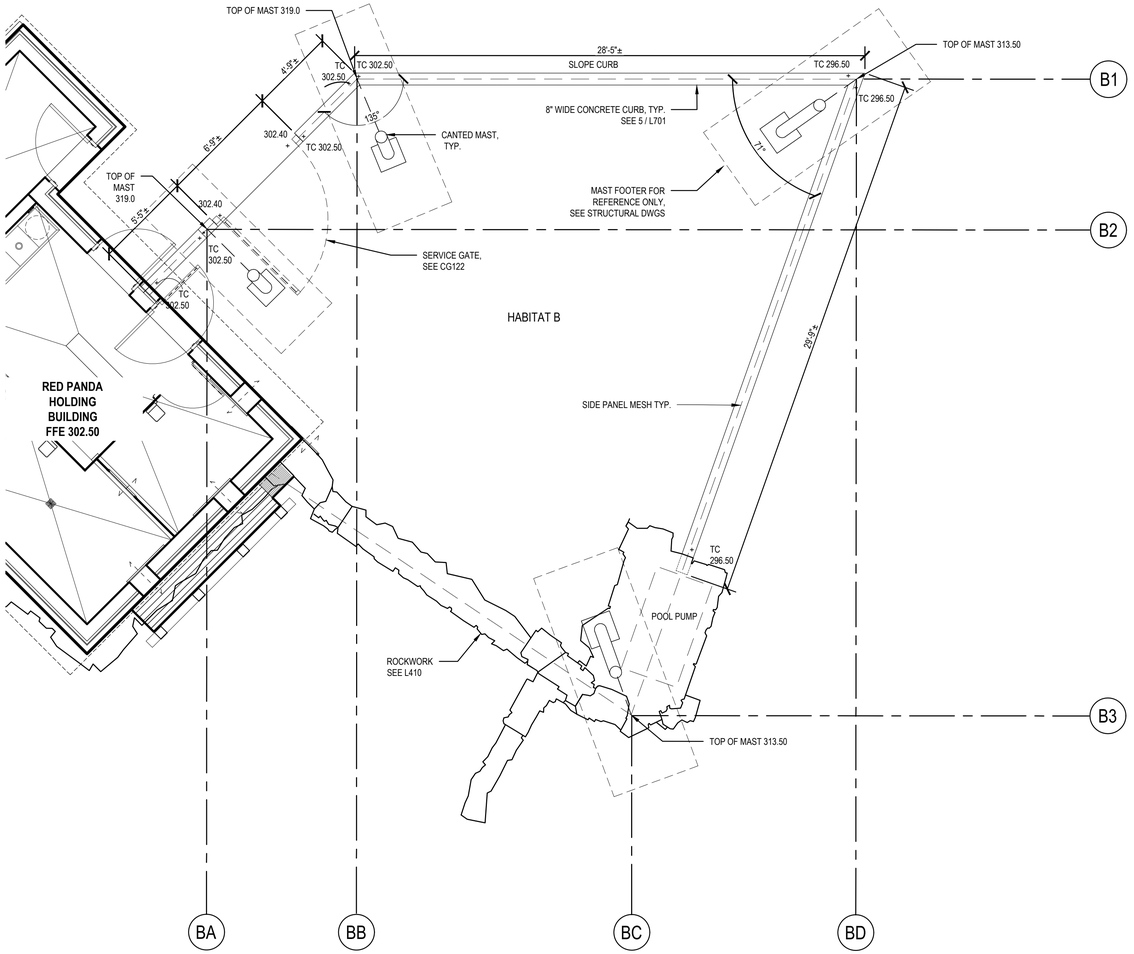
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
HABITAT A
CURB LAYOUT
PLAN

DRAWING NO:
L300



1 HABITAT B CURB LAYOUT PLAN

SCALE: 1/4" = 1'0"

RED PANDA HABITAT B ENCLOSURE MAST SCHEDULE

MAST KEY	TOP OF FOOTER	TOP OF MAST ELEVATION
B1BB	299.5'	319.0'
B1BD	293.5'	313.50'
B2BA	299.84'	319.0'
B3BC	293.0'	313.50'

NOTE: MASTS TO BE PAINTED, SEE SPECIFICATIONS FOR THEME

RED PANDA HABITAT B ENCLOSURE MESH SCHEDULE

#	LOCATION	MESH TYPE	SIZE	COMMENTS
Side and Roof Panels	Red Panda Habitat B	Black oxide s.s. woven mesh	2" x 2" x 1/16"	

NOTES:
1. SEE STRUCTURAL ENGINEERING DRAWINGS FOR MAST, CABLING, AND GUY WIRE DETAILS.
2. SEE SHEET S101 FOR MORE LAYOUT INFORMATION.
3. SEE DETAIL 5 / L701 FOR CURB INFORMATION.
4. ALL STEEL POSTS TO BE GALVANIZED AND PAINTED WITH HIGH-PERFORMANCE EPOXY PAINT, SEE SPECIFICATIONS.
5. THE BOTTOM OF ALL MASTS SHALL BE -2'-0" MINIMUM BELOW THE LOWEST ADJACENT GRADE AT THEIR RESPECTIVE BASES.
6. CANTED MASTS SHALL BE AT A MAXIMUM 15-DEGREE ANGLE FROM VERTICAL.

4' 2' 0 4' 8'

SCALE: 1/4"=1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:

MARYLAND ZOO

THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

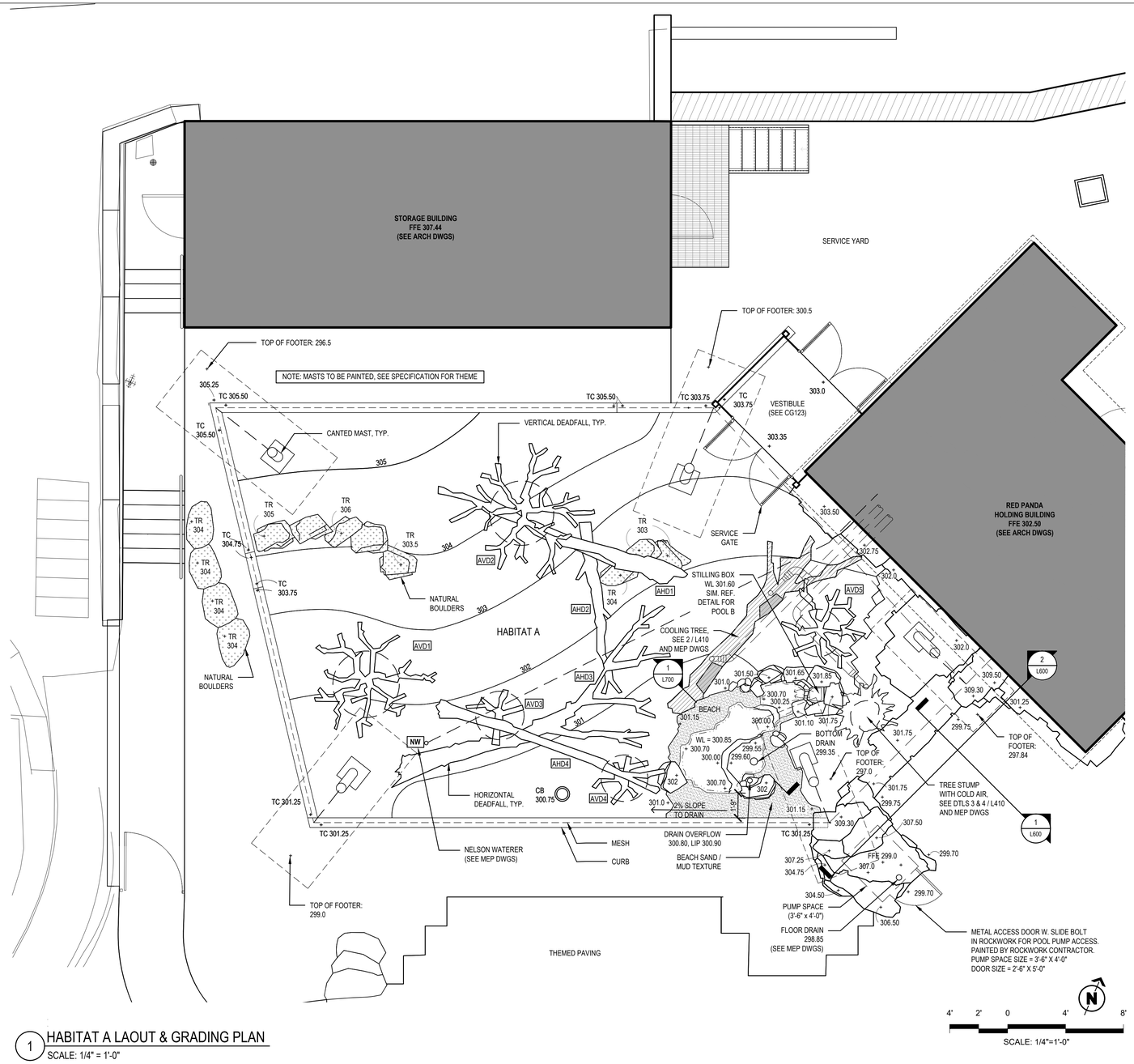
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
HABITAT B
CURB LAYOUT
PLAN

DRAWING NO:
L310

I:\RRLA\INST\Maryland Zoo\MZB-Red Panda\CAD\MZB-RP_L310_PermitSet.dwg, 11/11/2024 4:47:22 PM

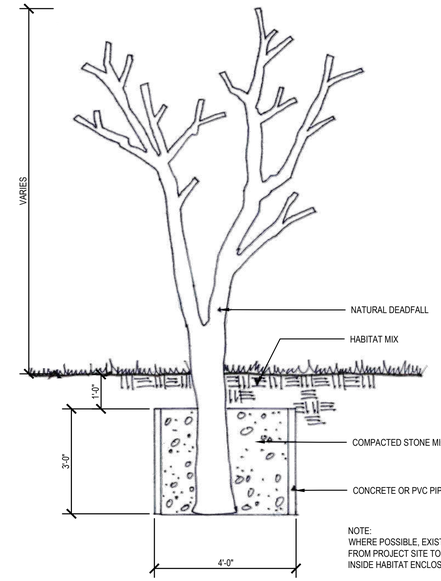


1 HABITAT A LAOUT & GRADING PLAN

SCALE: 1/4" = 1'-0"

RED PANDA HABITAT A DEADFALL SCHEDULE

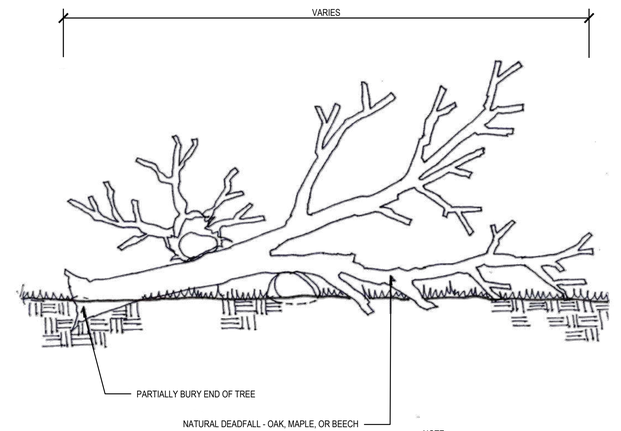
GROUP #	LENGTH	REMARKS
AVD1	11'	
AVD2	14'	
AVD3	5'	
AVD4	7'	
AVD5	10'	
AHD1	18'	REST ON TOP OF AHD2
AHD2	12'	
AHD3	20'	
AHD4	14'	REST ON TOP OF AVD3 AND AVD4



NOTE:
WHERE POSSIBLE, EXISTING TREES REMOVED FROM PROJECT SITE TO BE USED AS DEADFALL INSIDE HABITAT ENCLOSURES A AND B.

2 VERTICAL DEADFALL, TYPICAL

SCALE: 1/2" = 1'-0"



NOTE:
WHERE POSSIBLE, EXISTING TREES REMOVED FROM PROJECT SITE TO BE USED AS DEADFALL INSIDE HABITAT ENCLOSURES A AND B.

3 HORIZONTAL DEADFALL, TYPICAL

SCALE: 1/2" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

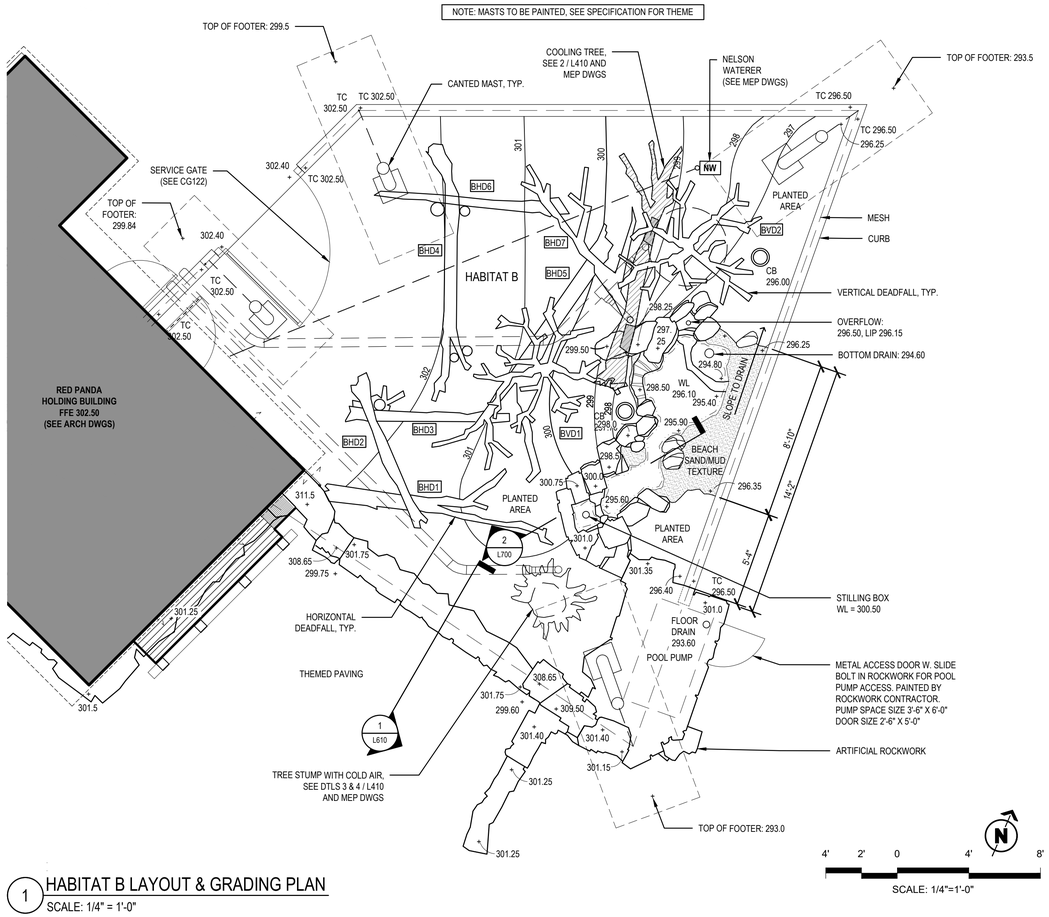
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
HABITAT A
LAYOUT &
GRADING PLAN

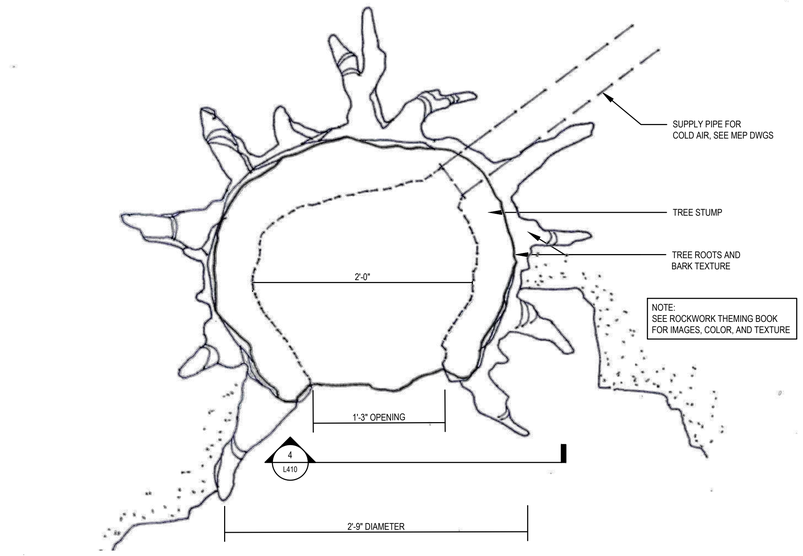
DRAWING NO:
L400



1 HABITAT B LAYOUT & GRADING PLAN

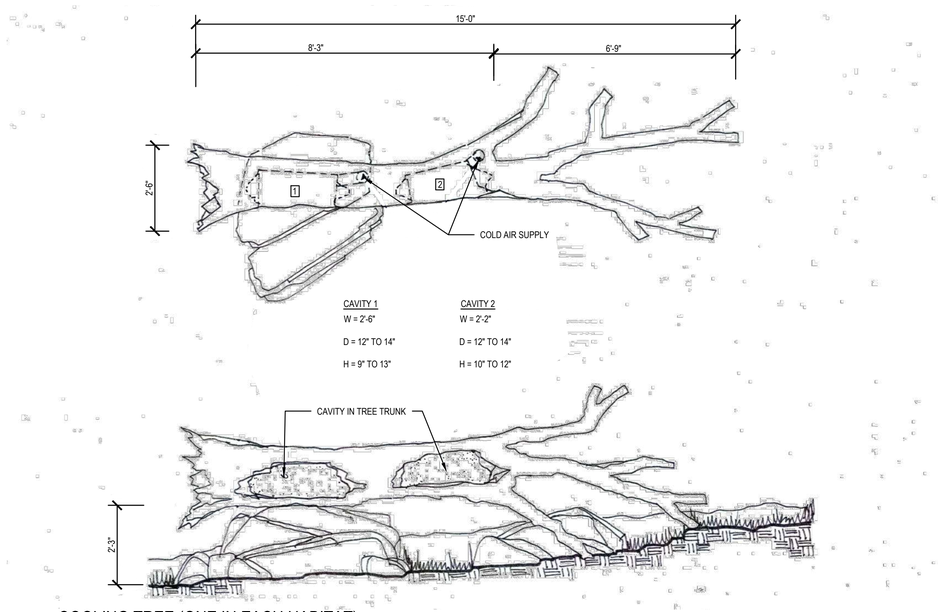
SCALE: 1/4" = 1'-0"

RED PANDA HABITAT B DEADFALL SCHEDULE		
GROUP #	**LENGTH**	**REMARKS**
BVD1	9'	
BVD2	9'	
BHD1	13'	
BHD2	9'	REST ON TOP OF BHD1 AND BHD3
BHD3	9'	
BHD4	14'	
BHD5	15'	REST ON TOP OF BHD3
BHD6	10'	REST ON TOP OF BHD4
BHD7	11'	



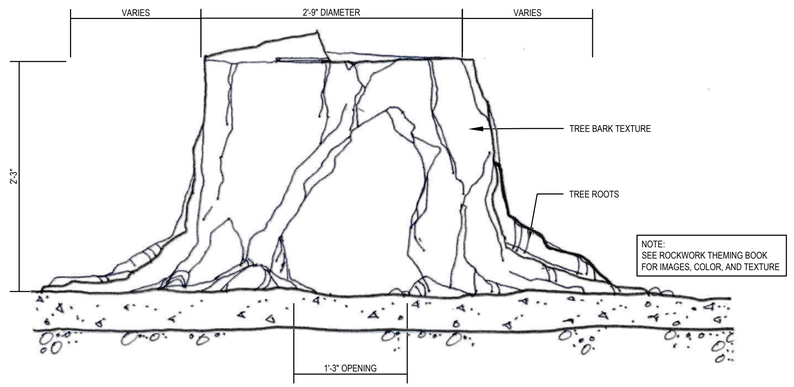
3 TREE STUMP WITH COLD AIR (ONE IN EACH HABITAT) - PLAN

SCALE: 1/2" = 1'-0"



2 COOLING TREE (ONE IN EACH HABITAT)

SCALE: 1/2" = 1'-0"



4 TREE STUMP WITH COLD AIR (ONE IN EACH HABITAT) - ELEVATION

SCALE: 1/2" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

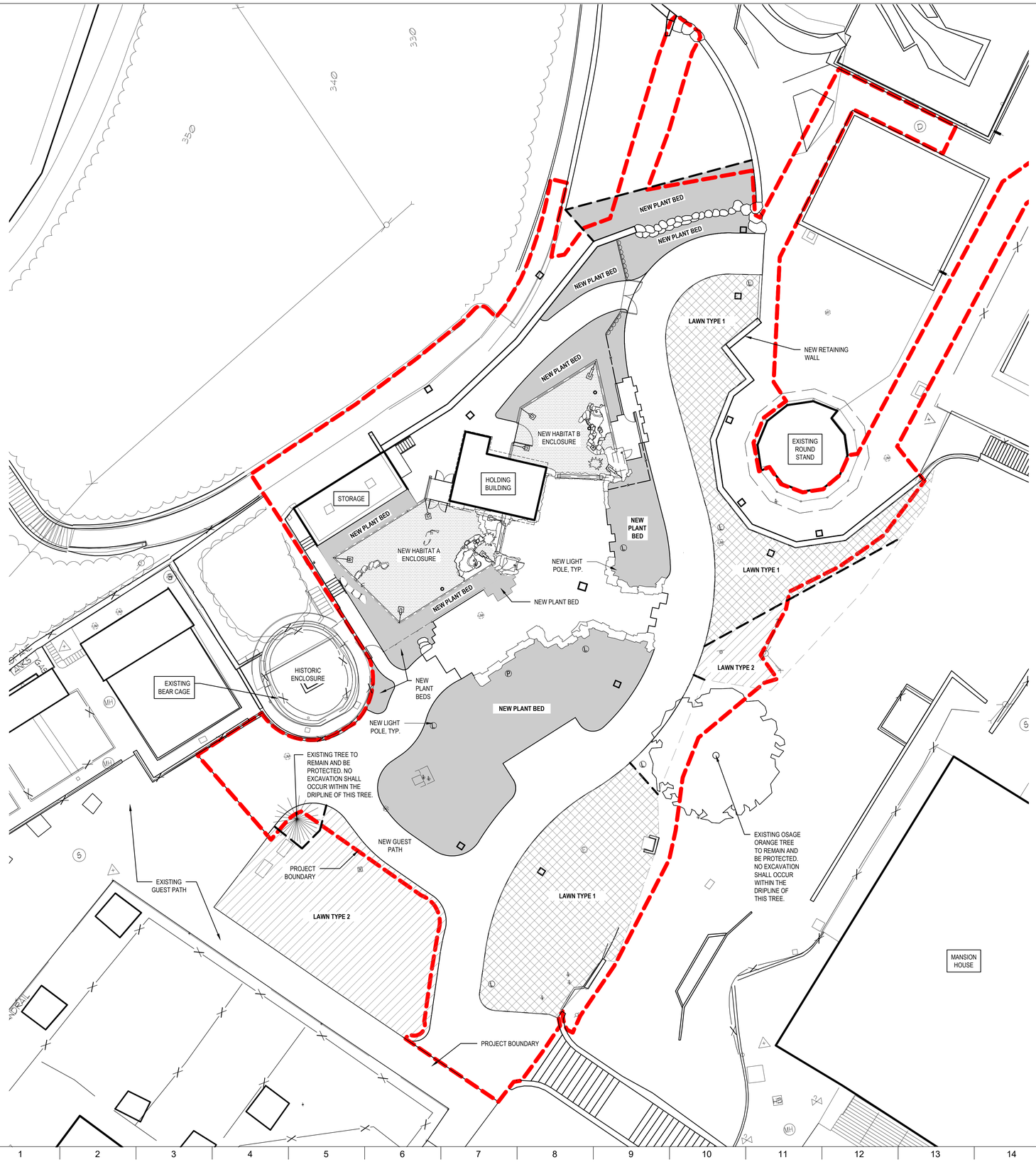
RED PANDA
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
HABITAT B LAYOUT & GRADING PLAN

DRAWING NO:
L410



LEGEND

PROJECT BOUNDARY	
EXISTING TREE TO REMAIN	
NEW PLANT BEDS: REMOVE 8" OF EXISTING MATERIAL. INSTALL 8" OF NEW PLANTING SOIL. SEE SPECIFICATIONS.	
LAWN TYPE 1: NEW TURF LAWN AREA. INSTALL 8" OF PLANTING SOIL. SEE SPECIFICATIONS.	
LAWN TYPE 2: EXISTING TURF LAWN AREAS. TILL IN 2" OF NEW PLANTING SOIL. SEE SPECIFICATIONS.	
HABITAT EXCLOSURES: REMOVE 8" OF EXISTING MATERIAL. INSTALL 8" OF NEW PLANTING SOIL. HABITAT SEEDING MIX. SEE SPECIFICATIONS.	

NOTE: REFER TO CIVIL DWGS FOR ADDITIONAL LAYOUT & GRADING INFORMATION INCLUDING PROPOSED UTILITIES.

NOTE:
EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH BEST AVAILABLE INFORMATION FROM TWO DIFFERENT SURVEY FILES. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED.

16' 8' 0 16' 32'

SCALE: 1/16"=1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
BED PREPARATION PLAN

DRAWING NO:
L500

(3) CORNUS FLORIDA
(2) VIBURNUM RHYTIDOPHYLUM 'CREE'
(1) PINUS STROBUS 'FASTIGIATA'
(2) VIBURNUM RHYTIDOPHYLUM 'CREE'
(180) SPOROBOLIS HETEROLEPIS
(1) VIBURNUM RHYTIDOPHYLUM 'CREE'
(96) CAREX PENSYLVANICA
LAWN
(128) CAREX PENSYLVANICA
(3) CERCIS CANADENSIS
(55) SPOROBOLIS HETEROLEPIS
NEW SERVICE DRIVE
(3) ILEX OPACA
(3) ILEX GLABRA
(20) HAKONECHLOA MACRA
(3) JUNIPERUS VIRGINIANA 'TAYLOR'
(3) PLATANUS X ACERIFOLIA 'BLOODGOOD'
HABITAT B SEED MIX
EXISTING ROUND STAND
(4) ILEX GLABRA
(50) CAREX PENSYLVANICA
(1) PINUS STROBUS 'FASTIGIATA'
(5) VIBURNUM RHYTIDOPHYLUM 'CREE'
HOLDING BUILDING
STORAGE BUILDING
(80) AMSONIA 'BLUE ICE'
(2) CORNUS FLORIDA
(9) CALAMAGROSTIS X ACUTIFOLIA 'KARL FOERSTER'
(1) BETULA NIGRA
(55) SPOROBOLIS HETEROLEPIS
GUEST VIEWING
HABITAT A SEED MIX
LAWN
(32) ATHYRIUM FELIX-FEMINA
(20) HAKONECHLOA MACRA
(1) CORNUS FLORIDA
(150) HAKONECHLOA MACRA
(3) CLETHRA ALNIFOLIA
(3) GINGKO BILOBA 'PRINCETON SENTRY'
MATCHLINE
L510 B
REFER TO L510B FOR PLANTING PLAN B
GUEST PATH
LAWN
GUEST PATH

NOTE:
EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH BEST AVAILABLE INFORMATION FROM TWO DIFFERENT SURVEY FILES. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED.

N

8' 4' 0 8' 16'

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

PLANT LEGEND

- PROJECT BOUNDARY
- EXISTING TREE
- NEW CANOPY TREE
- NEW MULTI-STEM TREE
- NEW UNDERSTORY TREE
- NEW EVERGREEN TREE
- NEW EVERGREEN SHRUB
- NEW DECIDUOUS SHRUB
- NEW ORNAMENTAL GRASS
- NEW PERENNIAL PLANTING
- NEW HABITAT SEED MIX
- NEW LAWN AREA — LAWN

SEE L520 FOR HABITAT SEEDING, PLANT SCHEDULE, PLANTING NOTES, & DETAILS

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
PLANTING PLAN A

DRAWING NO:
L510A

PLANT LEGEND

- PROJECT BOUNDARY
- EXISTING TREE
- NEW CANOPY TREE
- NEW MULTI-STEM TREE
- NEW UNDERSTORY TREE
- NEW EVERGREEN TREE
- NEW EVERGREEN SHRUB
- NEW DECIDUOUS SHRUB
- NEW ORNAMENTAL GRASS
- NEW PERENNIAL PLANTING
- NEW HABITAT SEED MIX
- NEW LAWN AREA — LAWN

SEE L520 FOR HABITAT SEEDING, PLANT SCHEDULE, PLANTING NOTES, & DETAILS

NOTE:
EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH BEST AVAILABLE INFORMATION FROM TWO DIFFERENT SURVEY FILES. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED.

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

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

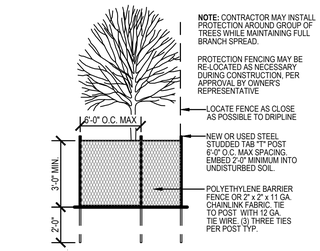
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

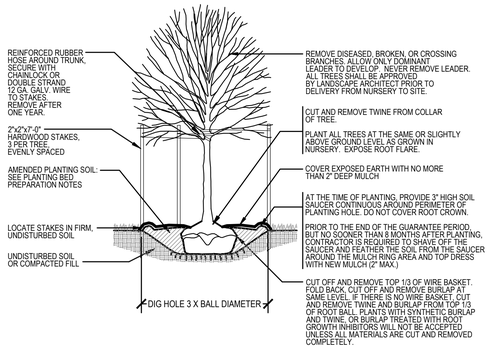
DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
PLANTING PLAN B

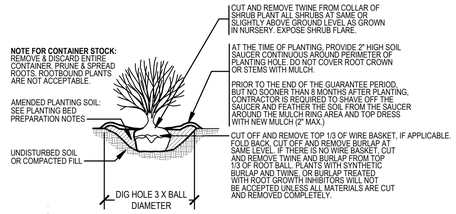
DRAWING NO:
L510B



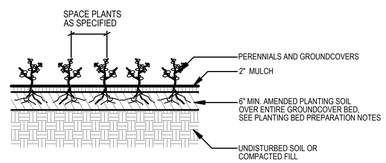
1 EXISTING TREE PROTECTION FENCING
NOT TO SCALE



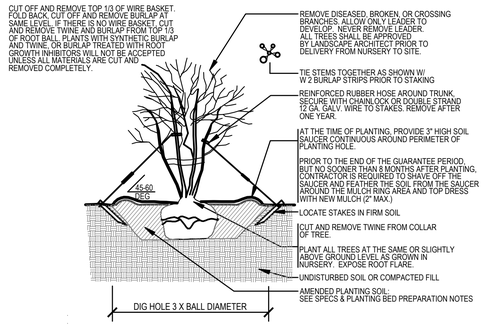
2 DECIDUOUS TREE PLANTING (WITH STAKING) DETAIL
NOT TO SCALE



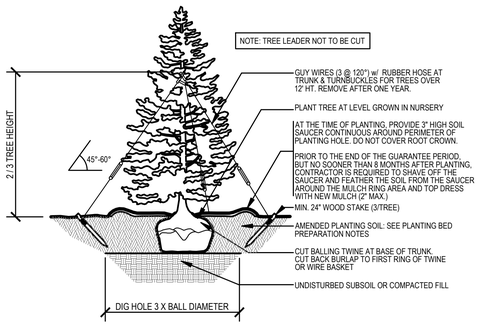
5 SHRUB PLANTING DETAIL
NOT TO SCALE



6 GROUNDCOVER PLANTING DETAIL
NOT TO SCALE



3 MULTI-STEM DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



4 EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

GENERAL PLANTING NOTES
1. The Landscape Contractor shall verify all existing site conditions prior to construction and shall coordinate his work with that of other Contractors.
2. The Landscape Contractor shall notify the Owner's Representative of any major discrepancy that will affect work.
3. The Landscape Contractor shall carry all insurances required by law, such as worker's compensation, and insurances that will protect the Contractor from claims relating to bodily injury liability and property damage liability which may arise out of or result from the Contractor's operations under the contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Certificates of insurance are to be provided to the owner prior to the commencement of work.
4. Before any earthwork or digging occurs, the landscape Contractor shall verify the locations of all utilities, both existing and proposed and bring to the attention of the Owner's Representative any possible conflicts with proposed plant locations. The Landscape Contractor shall relocate plants at the direction of the Owner's Representative. The Contractor shall exercise extreme caution when excavating near utilities.
5. The Landscape Contractor will protect all existing plants, paving, ramps, walls, structures, etc. and will be solely responsible for repairing any damage done by him, or his subcontractors, to the satisfaction of the Owner's Representative. Special care must be taken at all times to avoid damage by equipment or staff or from inaccurate spray applications, spray drift, or spills to plantings that are to remain. Any damage that occurs, including damage to turf, shall be repaired at the Contractor's expense. All planting and seeded areas damaged by the Contractor during the construction period shall be regraded, restored and reseeded.
6. Acceptable planting times for shrubs, trees, groundcovers, perennials, and in-season annuals shall be as directed by Landscape Architect.
7. All plants and seed stock are to be provided as specified. Requests to use plant substitutes, whether for size or species/cultivar, shall be submitted in writing to the Owner's Representative for client review and approval, prior to the delivery to the job site.
8. All plants shall be the kind and size indicated on the plant list and shall be typical of their species or variety. Plant names shall agree with nomenclature found in RHS encyclopedia. Size and grading standards shall conform to AAN "American Standards for Nursery Stock," ANSI z60.1 latest edition.
9. All plants shall be sound, healthy, vigorous nursery stock with normal habit of growth, well developed branches, and vigorous root systems. They shall be free from disfiguring knots, sunscald, injuries, abrasions of bark, plant diseases, insect eggs, borers, and all forms of infestation. All suppliers must be approved by the Owner's Representative. Balled and burlap stock shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary to the plant's full recovery. Root balls shall be firmly wrapped with burlap and bound with twine or wire mesh. Container stock shall be grown in its delivery container for not less than six (6) months but not more than two (2) years. Samples, selected at random by the Owner's Representative shall neither exhibit rootbound conditions, nor inability to hold soil firmly intact. Such plants shall be rejected and replaced at the Contractor's expense. Herbaceous plants must be adequately containerized, packaged, etc. to insure viability of plants and the protection of roots and other plant parts against climatic seasonal and other injuries.
10. The location of new plants will be staked out by the Contractor and approved by the Owner's Representative before proceeding with planting.
11. The Owner's Representative shall have the right to inspect and/or reject any plant at the nursery and on site throughout the construction period. All rejected plants shall be immediately removed from the site and replaced with acceptable material.
12. All plants shall be maintained by the Landscape Contractor in a healthy growing condition and neat appearance through final acceptance.
13. All plants shall be guaranteed by the Landscape Contractor for a two-year period. The beginning of guarantee period shall start after the acceptance of the job at the final inspection. All planting must be alive and healthy to be considered complete. The Landscape Contractor shall replace plants that are dead or that in the opinion of the Owner's Representative are in unhealthy condition or have lost their natural shape, will be replaced during this time period. All original details and notes will apply to the replacement planting.
14. The Landscape Contractor will replace all plants damaged or destroyed during construction. Replacements shall be the same size and variety as that damaged or destroyed.
15. All plants in beds will be alternately spaced unless otherwise noted.
16. All beds adjacent to lawns will have a clean cut vertical edge.
17. All rootballs removed from containers will be scarified and roots thoroughly separated prior to planting.
18. All plastic or non-rot burlap or twine must be completely removed from the plant ball prior to backfilling with soil. Biodegradable burlap, sisal twine and wire cage material shall be cut away from the top third of the ball and removed from the site.
19. After planting, rake beds to a smooth even finish and cover with a 2" layer of triple-shredded hardwood bark mulch taking care not to cover the leaves or base of the plants.
20. All debris shall be disposed of off-site.
21. Apply "dryRoots 2" root growth enhancer and soil conditioner as per manufacturer's recommended quantities and procedure to all plantings.
22. Ornamental planting beds are to be treated with a pre-emergent herbicide such as ***Gallery***® or ***Snapshot***®, per the manufacturer's recommended quantities and method except in areas that may be detrimental to the new planting, for example do not use with *Ajuga*. Check pre-emergent labels for plants that may be negatively affected.
23. The Landscape Contractor is to water thoroughly immediately after planting and as often as necessary thereafter until final acceptance.
24. Only the best horticultural practices are acceptable. The Owner's Representative may require remedial work done to his satisfaction if, in his judgment, the health or vigor of the installed material has been damaged or retarded by the Contractor's methods.
25. Trees shall not be located within ten (10) feet of utilities.
26. All landscaped areas shall have warranted weed barriers installed under mulch saucer.

LAWN & HABITAT PREPARATION NOTES
1. Areas designated as lawn (turf) on the plans (where disturbed) shall be seeded (or sodded) with an approved blend of bluegrass and fescue varieties. Seed shall be certified with no less than 90% purity and a total weed seed percentage not exceeding 1% of the mixture. Minimum germination to be 90%.
2. Broadcast turf grass seed evenly in perpendicular directions at the rate of 4 lbs./1000 sq. ft. or per the manufacturer's recommendation. Mulch seeded areas of bare earth with shredded straw free of weed seed or other approved organic mulch. Do not use peat moss.

PLANTING BED PREPARATION NOTES
1. Complete soil test through approved soil testing laboratory from a representative sample of all existing soil to remain on project site in planting beds or turf areas. The soil test should determine mechanical analysis, soluble salt level, N,P,K, levels, pH, organic matter content, cation exchange, micro- nutrient levels, and bulk density. Submit soil test results for approval by landscape architect.
2. Loosen existing soil in planting beds to a minimum depth of 12 inches. Loosen existing soil in turf areas to a depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
3. All planting beds shall be amended by spreading horticultural compost over loosened surface to uniform depth of 3". Incorporate compost with existing soil by tilling to a depth of 6 to 8 inches. If required to meet finish grades, place imported topsoil over amended planting soil. If required as per soil test results, apply soil amendments to alter pH and thoroughly blend into planting bed. Horticultural compost is available through Laurel Valley Soils, Landenberg, PA (610) 268-5555 (http://laurelvalleysoils.com/). An equivalent product may be used if approved by Landscape Architect. If, after completion of soil amendments, soil volume is insufficient to meet finish grades then topsoil may be imported to job site.
4. Topsoil shall be natural friable clay loam soil with a pH range from 5 to 7 and shall contain not less than 6% and not more than 10% organic matter. Topsoil shall be without admixture of subsoil, refuse, or any foreign material and have a pH range from 5 to 7, confirmed in a report.
5. Restore planting beds if eroded or otherwise disturbed after finish grading and before final acceptance.

EXISTING TREE PROTECTION GENERAL NOTES
1. There shall be no storage of materials or supplies of any kind within the area of the protection barriers. Concrete and cement materials, block, stone, sand, and soil shall not be placed within the drip- line of the trees.
2. Fuel storage shall not be permitted within 150 feet of any tree to be preserved. Refueling, servicing and maintenance of equipment and machinery shall not be permitted within 150 feet of any tree to be preserved.
3. Debris and waste from the construction or other activities shall not be permitted within the protected areas. Wash down of concrete or cement handling equipment, in particular, shall not be permitted within 150 feet of trees to be preserved.
4. Any damage or injuries to trees to be preserved should be reported to the Owner's Representative as soon as possible. Severed roots shall be pruned cleanly to healthy tissue, using proper pruning tools. Broken branches or limbs shall be pruned according to International Society of Arboriculture Pruning Guidelines and ANSI-300 Pruning Standards.
5. No pruning of the tree canopies and branches is to be done to provide clearances for the construction equipment. Alert Owner's Representative if pruning is necessary.

Maryland Zoo Red Panda Exhibit

PLANT SCHEDULE

Botanical Name	Common Name	Quantity	Size	Notes	
DECIDUOUS TREES					
Betula nigra	River Birch	4	10' - 12' Ht.	Multi-stem	
Cercis canadensis	Eastern Redbud	7	7' - 8' Ht.	Single stem	
Cornus florida	Flowering Dogwood	8	3" Caliper		
Ginkgo biloba 'Princeton Sentry'	Ginkgo "Princeton Sentry'	4	3" Caliper	male-form	
Platanus x acerifolia 'Bloodgood'	London Plane 'Bloodgood'	5	3" Caliper		
	Total Deciduous Trees:	**28**			
EVERGREEN TREES					
Illex opaca	American Holly	3	10' - 12' Ht.		
Juniperus virginiana 'Taylor'	Juniper 'Taylor'	5	8' - 10' Ht.		
Pinus strobus 'Fastigiata'	Fastigiate Eastern White Pine	7	10' - 12' Ht.		
	Total Evergreen Trees:	**15**			
SHRUBS					
Clethra alnifolia	Sweet Pepperbush	16	#5 Container		
Ilex glabra	Inkberry Holly	10	#5 Container		
Itea virginica	Virginia Sweetspire	11	#5 Container		
Viburnum rhytidophlum 'Cree'	Leatherleaf Viburnum 'Cree'	13	#5 Container		
	Total Shrubs:	**50**			
GRASSES & SEDGES		**Quantity**	**Size**	**Flats**	**Spacing**
Calamagrostis x acutiflora 'Karl Foerster'	Feather Reedgrass	31	#1 Container		As shown
Carex pensylvanica	Pennsylvania Sedge	480	LP32	15	12" o.c.
Hakonechloa macra	Hakone Grass	224	LP32	7	18" o.c.
Sporobolis heterolepsis	Prairie Dropseed	600	LP50	12	15" o.c.
	Total Grasses & Sedges:	**1335**		**34**	
PERENNIALS		**Quantity**	**Size**	**Flats**	**Spacing**
Amsonia tabernaemontana	Bluestar	384	LP32	12	15" o.c.
Athyrium filix-femina	Lady Fern	32	LP32	1	12" o.c.
	Total Perennials:	**416**		**13**	

NOTE: WHERE THERE IS A DISCREPANCY IN PLANT QUANTITIES OR SPECIES, THE PLANTING PLAN SHALL PREVAIL.

HABITAT ENCLOSURES A & B SEEDING

PASTURE MIXTURE (Jonathan Green)

PURE SEED	DESCRIPTION	GERM.	ORIGIN
49.25%	GULF ANNUAL RYEGRASS	92%	ORE.
19.65%	TETRAPLOID PERENNIAL RYEGRASS	85%	ORE.
14.25%	ORCHARDGRASS	85%	ORE.
4.90%	TIMOTHY	85%	CAN.
4.90%	WHITE CLOVER, 15% hardseed	85%	ORE.
4.90%	KENTUCKY BLUEGRASS	85%	WAS.
1.70%	INERT MATTER		
0.35%	OTHER CROP SEED		
0.10%	WEED SEED		
100.00%			

50 LBS COVERS - 43,560 SQ. FT. OVERSEEDING
COVERS - 21,780 SQ. FT. NEW LAWNS
CONTACT:
JONATHAN GREEN, INC.
POB 326

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

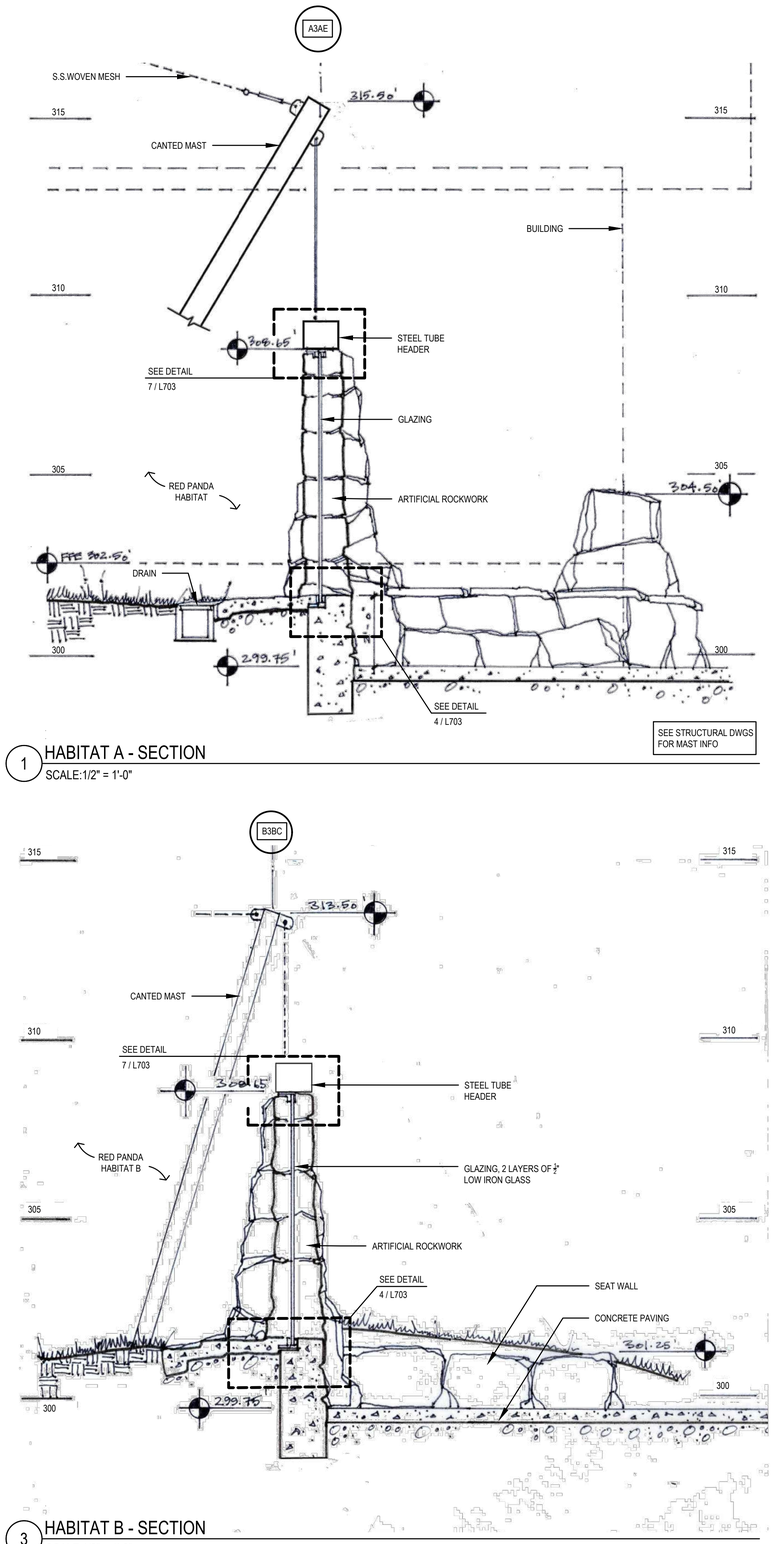
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

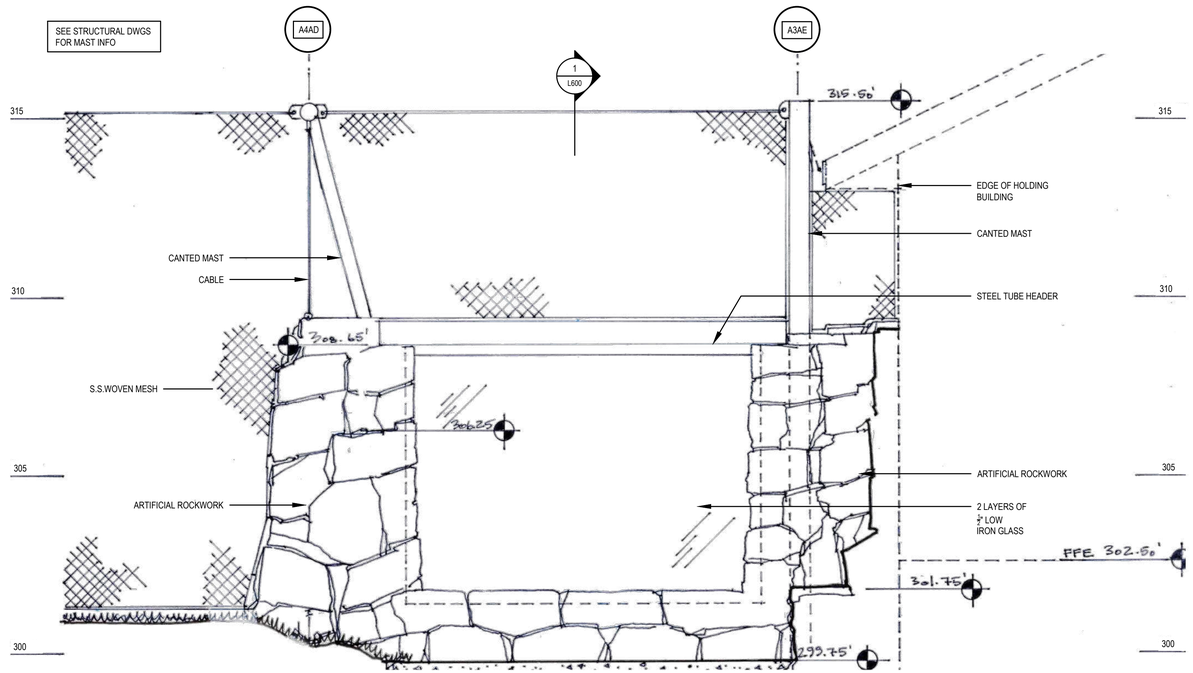
DRAWING TITLE:
PLANTING DETAILS, NOTES, & PLANT SCHEDULE

DRAWING NO:
L520



1 HABITAT A - SECTION
SCALE:1/2" = 1'-0"

3 HABITAT B - SECTION
SCALE:1/2" = 1'-0"



2 HABITAT A - SECTION
SCALE:1/2" = 1'-0"

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

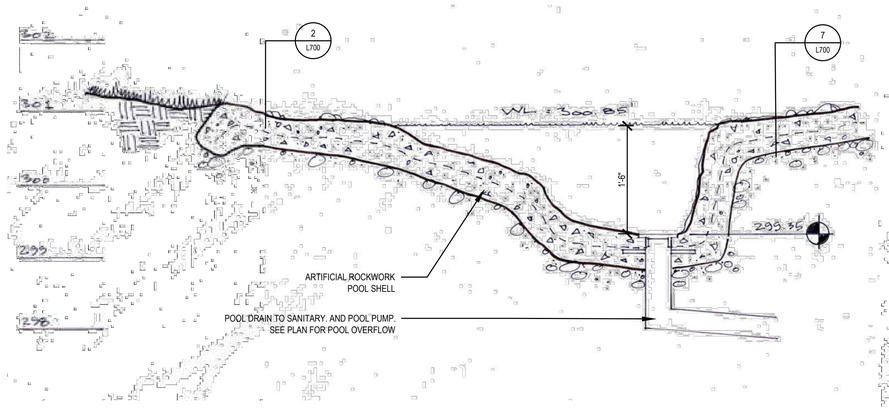
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

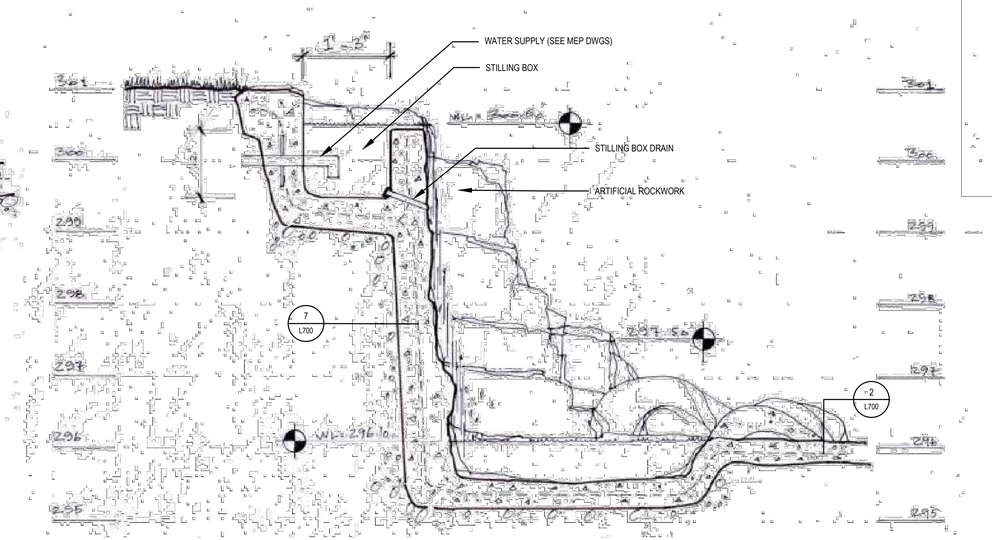
DRAWING TITLE:
SITE SECTIONS

(FOR REFERENCE ONLY)

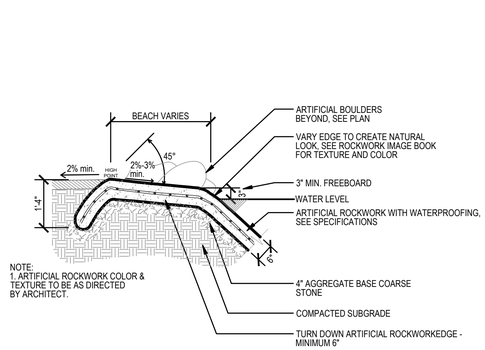
DRAWING NO:
L600



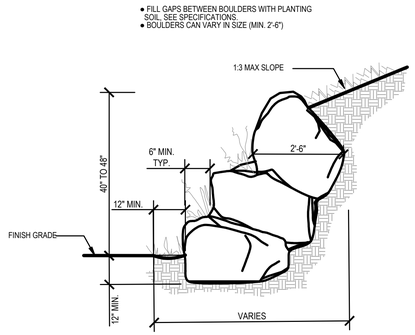
1 HABITAT A POOL SECTION
SCALE: 1" = 1'-0"



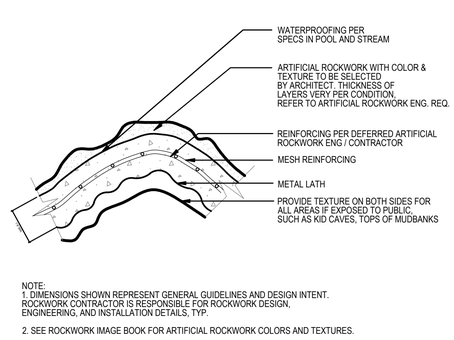
4 HABITAT B WATERFALL AND POOL
SCALE: 1" = 1'-0"



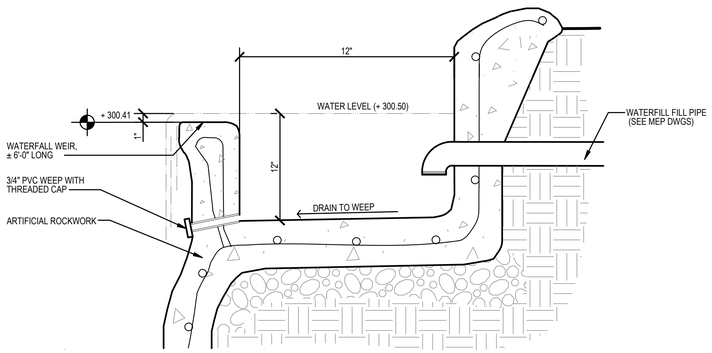
2 ARTIFICIAL ROCKWORK POOL EDGE
SCALE: 1/2"= 1'-0"



5 NATURAL BOULDER WALL
SCALE: 1"= 1'-0"



7 TYPICAL ARTIFICIAL ROCKWORK SECTION
SCALE: 1"= 1'-0"



3 STILLING CHAMBER TYP.
SCALE: 1" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

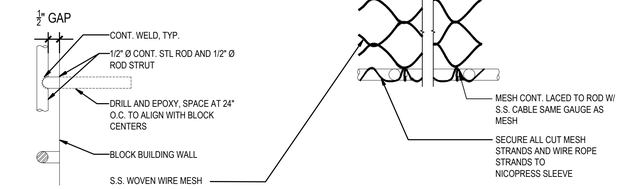
DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
HABITAT DETAILS

DRAWING NO:
L700

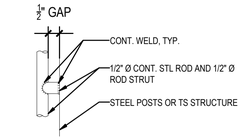
ATTACHMENT CONDITIONS:

A - BUILDING - DRILL AND EPOXY
B - STEEL MEMBER - CONTINUOUS WELD
C - CONCRETE CURB - EPOXY ROD ANCHOR



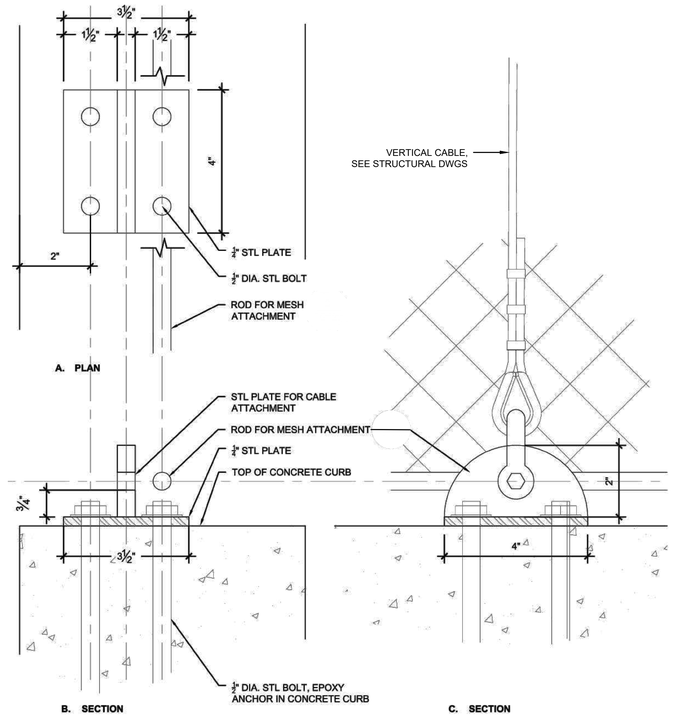
CONDITION A (BUILDING)

CONDITION C (CONCRETE CURB)

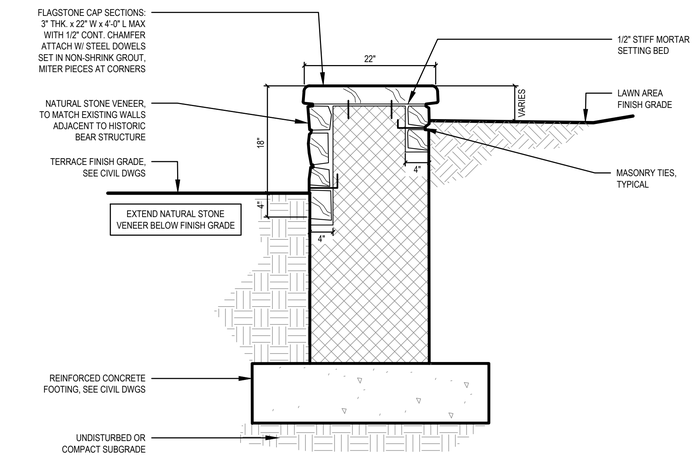


CONDITION B (STEEL)

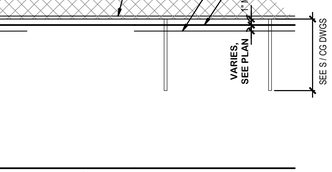
1 MESH ATTACHMENT CONDITIONS
SCALE: 3" = 1'-0"



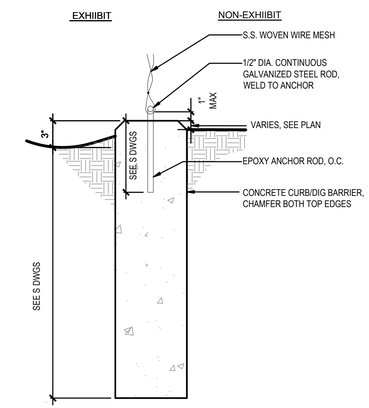
4 CABLE / CURB ATTACHMENT
SCALE: 6" = 1'-0"



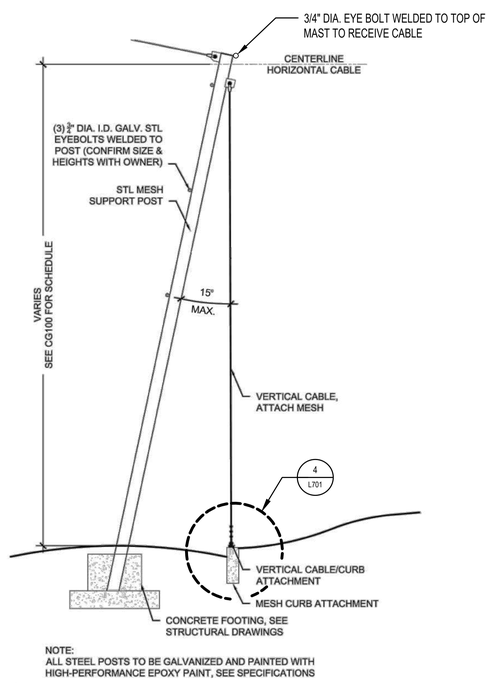
6 SEAT WALL
SCALE: 1" = 1'-0"



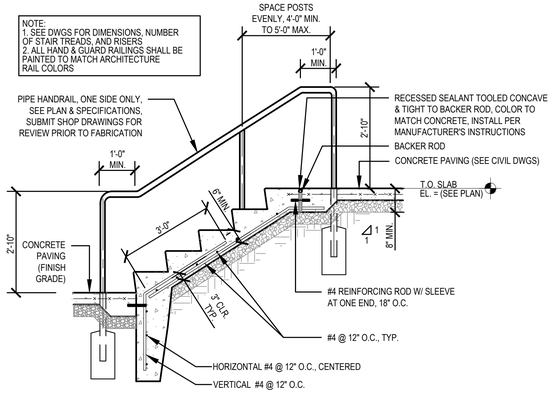
2 MESH CURB - ELEVATION
SCALE: 1" = 1'-0"



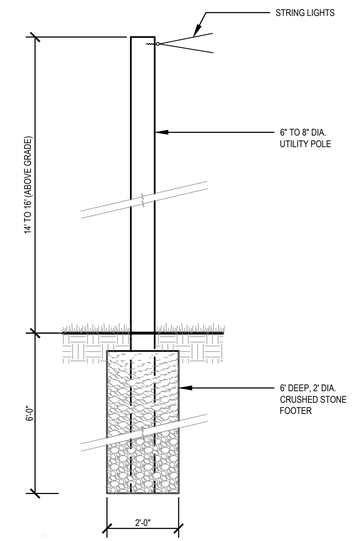
3 MESH CURB
SCALE: 1 1/2" = 1'-0"



5 TYPICAL CANTED MAST ELEVATION
SCALE: 1/4" = 1'-0"



7 CONCRETE STEPS WITH HANDRAIL
SCALE: 1/2" = 1'-0"



8 WOOD POST FOR STRING LIGHTS
SCALE: 1/2" = 1'-0"

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

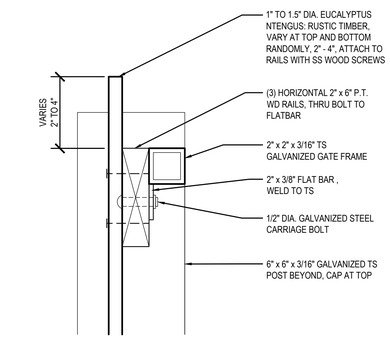
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

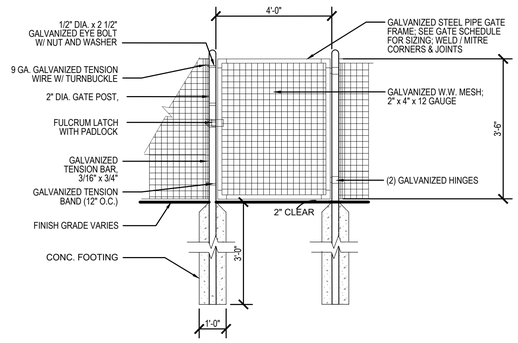
DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
SITE CAGING DETAILS

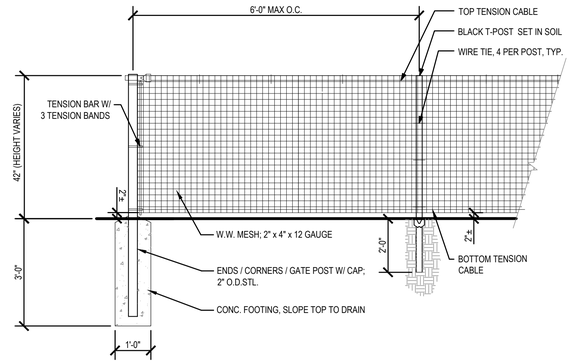
DRAWING NO:
L701



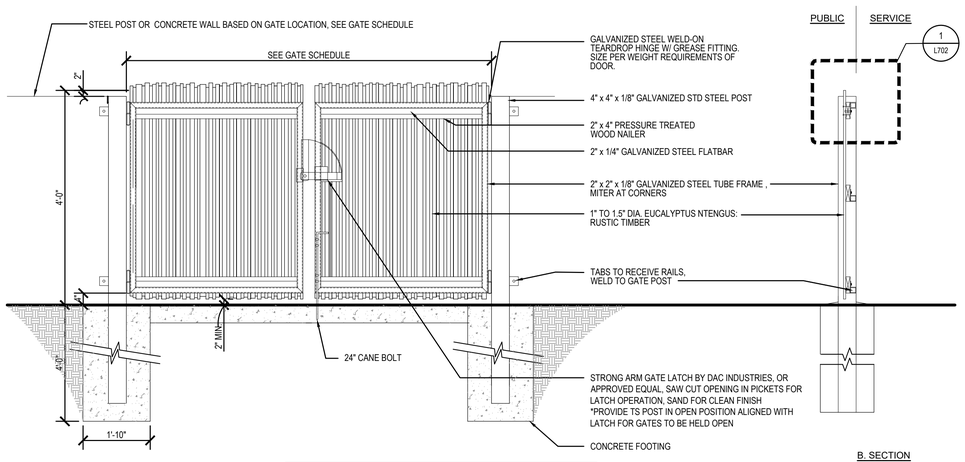
1 BOMA GATE DETAIL
SCALE: 3" = 1'-0"



4 EXCLUSION SINGLE GATE - WELDED WIRE MESH
SCALE: 1/2" = 1'-0"

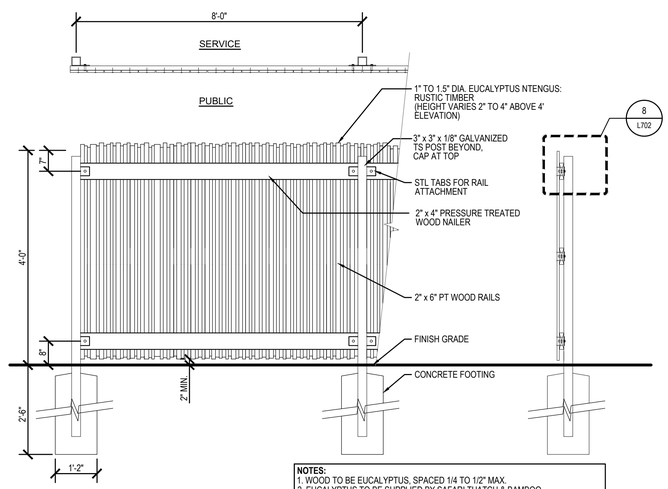


7 EXCLUSION FENCE - WELDED WIRE MESH
SCALE: 1/2" = 1'-0"



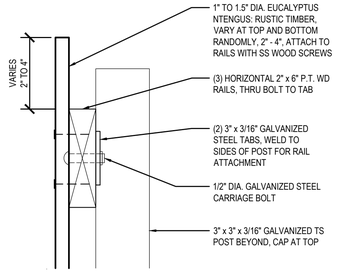
NOTES:
1. WOOD TO BE EUCALYPTUS, SPACED 1/4 TO 1/2" MAX.
2. EUCALYPTUS TO BE SUPPLIED BY SAFARI THATCH & BAMBOO.
11850 MIRAMAR PKWY
MIRAMAR, FL 33025, USA
(954) 564.0059
info@safarithatch.com
3. . ALL STEEL TO BE GALVANIZED AND PAINTED TO MATCH COLOR OF WOOD.

2 4' HT BOMA GATE
SCALE: 1/2" = 1'-0"

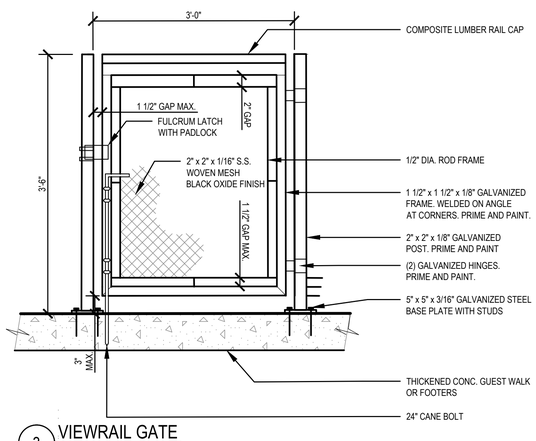


NOTES:
1. WOOD TO BE EUCALYPTUS, SPACED 1/4 TO 1/2" MAX.
2. EUCALYPTUS TO BE SUPPLIED BY SAFARI THATCH & BAMBOO.
11850 MIRAMAR PKWY
MIRAMAR, FL 33025, USA
(954) 564.0059
info@safarithatch.com
3. . ALL STEEL TO BE GALVANIZED AND PAINTED TO MATCH COLOR OF WOOD.

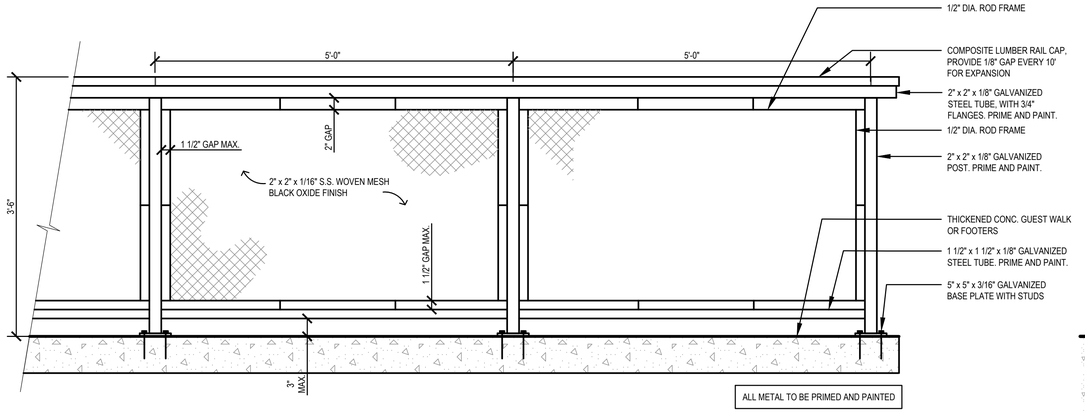
5 4' HT BOMA FENCE
SCALE: 1/2" = 1'-0"



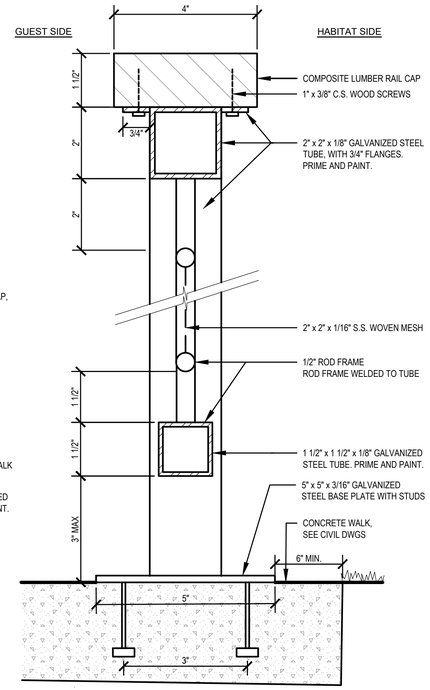
8 BOMA FENCE DETAIL
SCALE: 3" = 1'-0"



3 VIEWRAIL GATE
SCALE: 1" = 1'-0"



6 VIEWRAIL
SCALE: 1" = 1'-0"



9 VIEWRAIL - SECTION
SCALE: 1/2" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

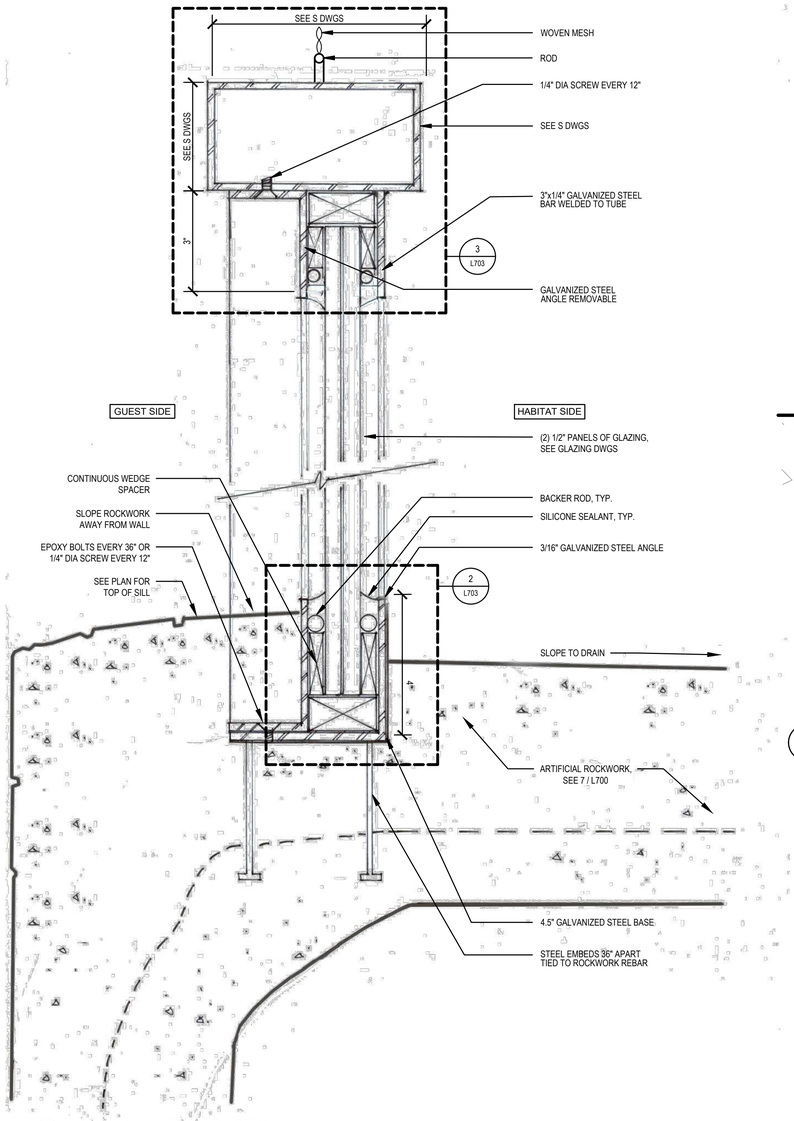
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

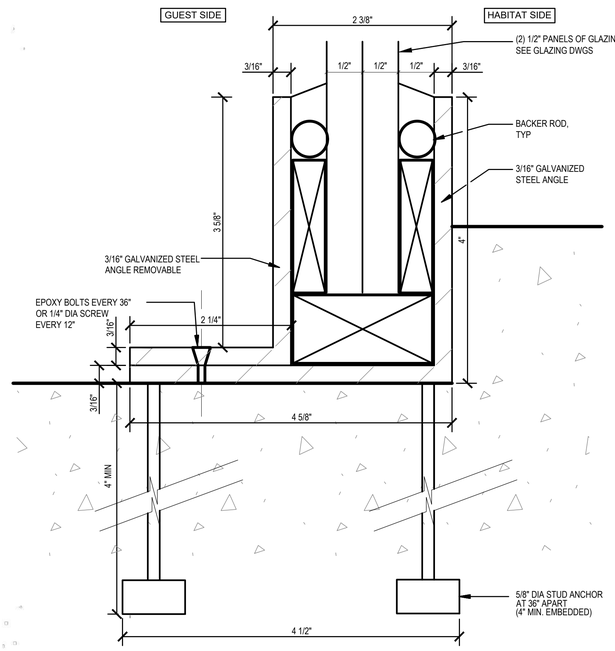
DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
SITE FENCING DETAILS

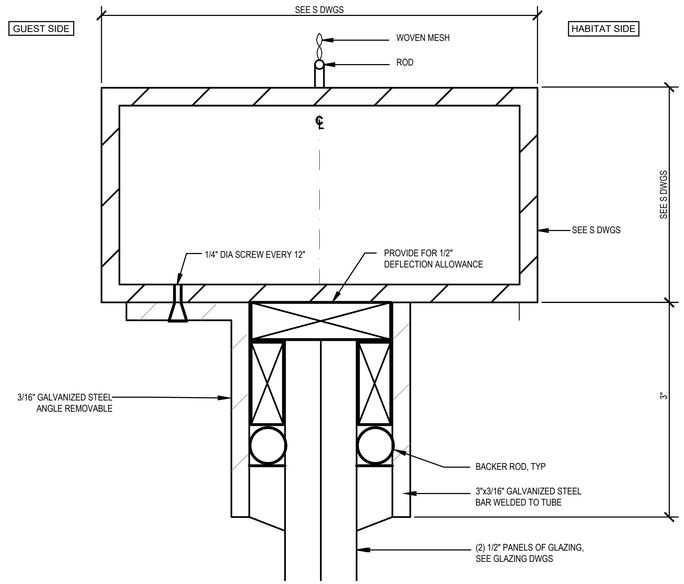
DRAWING NO:
L702



1 VIEWING WINDOW SECTION
SCALE: 1/2" = 1'-0"



2 BOTTOM SILL DETAIL
SCALE: 1" = 1"



3 VIEWING WINDOW TOP
1" = 1"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

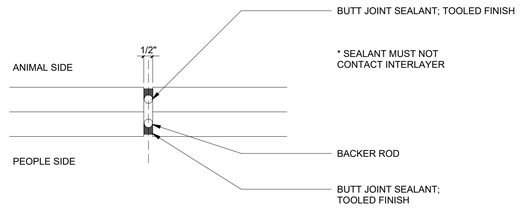
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	AV / KS
CHECKED BY	JS / GA
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

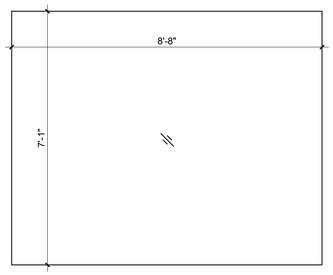
DRAWING TITLE:
VIEWING DETAILS

DRAWING NO:
L703

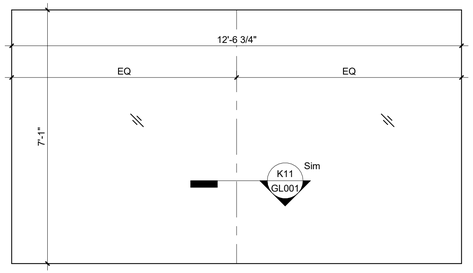


K11 BUTT JOINT

3" = 1'-0"



GL101



GL102

EXHIBIT GLAZING SCHEDULE

WINDOW NO.	PANEL SIZE WIDTH	PANEL SIZE HEIGHT	GLAZING	INTERLAYER	DETAILS HEAD	DETAILS SILL	DETAILS JAMB	COMMENTS
HABITAT A (SEE L DWGS)								
GL101	8' - 8"	7' - 1"	2 PLY - 1/2" LOW IRON TEMPERED GLASS/ 1 PANEL	.060" PVB.	3 / L703	2 / L703	2 / L703	HABITAT BARRIER. SEE L DWGS FOR DTLS. COORD. W/ ROCKWORK.
HABITAT B (SEE L DWGS)								
GL102	12' - 6 3/4"	7' - 1"	2 PLY - 1/2" LOW IRON TEMPERED GLASS/ 2 EQ. PANELS	.060" PVB.	3 / L703	2 / L703	2 / L703	HABITAT BARRIER. SEE L DWGS FOR DTLS. COORD. W/ ROCKWORK.

EXHIBIT GLAZING NOTES:

1. ALL DIMENSIONS SHOWN ON THIS PAGE ARE GLASS PANEL DIMENSIONS. GC TO COORDINATE GLASS PANEL SIZES WITH THE ROUGH OPENINGS INDICATED ON THE L DWGS, ROCKWORK CONTRACTOR, AND GLAZING INSTALLER PRIOR TO FABRICATION.
2. ROUGH OPENING DIMENSIONS MUST BE VERIFIED IN FIELD.
3. ALL SETTING BLOCKS ARE TO BE LOCATED AT THE QUARTER POINTS OF THE BOTTOM EDGE OF EACH GLASS LITE & ARE TO BE OF A SILICONE RUBBER HAVING A SHORE A DUROMETER HARDNESS OF 85 +/- 5. THE BLOCKS ARE TO BE SIZED IN ACCORDANCE TO THE FORMULA FOR LENGTH (INCHES) OF 0.1 X GLASS AREA (SF). ROUND LENGTH UP TO THE NEAREST 1/2". THE WIDTH OF EACH SETTING BLOCK SHOULD BE THE GLASS THICKNESS PLUS 1/8".
4. MUST BE EVALUATED BY AN ENGINEER IF OTHER SPECIES ARE TO COME IN CONTACT WITH ANY GLAZING PANES.

A1 EXHIBIT GLAZING SCHEDULE

NTS

A11 EXHIBIT GLAZING PANEL ELEVATIONS

1/2" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

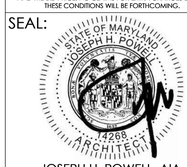
STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

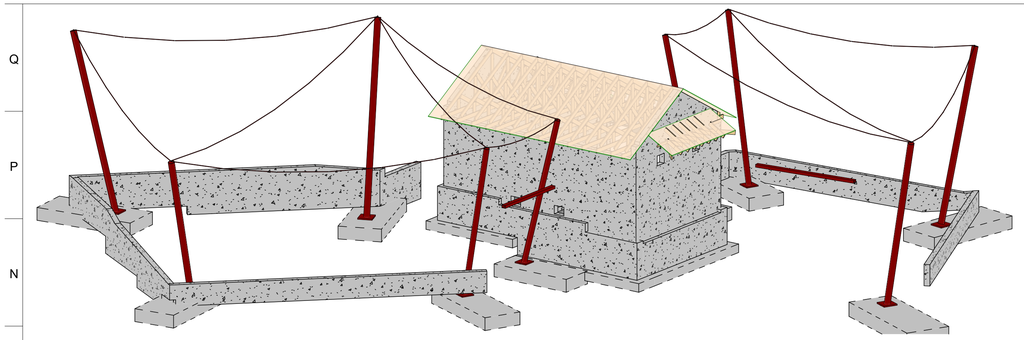


JOSEPH H. POWELL, AIA
MD LICENSE: 14268

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	Author
CHECKED BY	Checker
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
EXHIBIT GLAZING

DRAWING NO:
GL001



M1
S001
ISOMETRIC VIEW - GENERAL PURPOSE ONLY
Scale:

STRUCTURAL DRAWING LEGEND

CONCRETE CONSTRUCTION

- CONCRETE SPOT FOOTING
- CONCRETE CONTINUOUS FOOTING
- CONCRETE WALL
- CONCRETE COLUMN
- CONCRETE PIER (CAST INTEGRAL WITH WALL)
- CONCRETE BEAM / JOIST FRAMING MEMBER
- CONCRETE LINTEL / BEAM (INTEGRAL WITH WALL)
- C.J. — CONCRETE SLAB CONTROL/CONSTRUCTION JOINT (SEE GENERAL STRUCTURAL NOTES)
- REINFORCED CAST IN PLACE CONCRETE SUSPENDED SLAB
- CONCRETE SLAB ON GRADE (SEE CONCRETE SLAB ON GRADE SCHEDULE)
- FOOTING STEP
- A — HELICAL PILE (DESIGNED BY MANUFACTURER) SEE PLAN FOR REQUIRED LOADING
- A — LATERAL LOAD HELICAL PILE (DESIGNED BY MANUFACTURER) SEE PLAN FOR REQUIRED LOADING

MASONRY CONSTRUCTION

- MASONRY WALL
- MASONRY LINTEL (INTEGRAL)
- MASONRY JAMB COLUMN (INTEGRAL)
- MASONRY COLUMN (INTEGRAL)

STEEL CONSTRUCTION

- STEEL COLUMN (WIDE FLANGE SHAPE)
- STEEL COLUMN (HSS)
- STEEL COLUMN (HSS ROUND)
- STEEL BASE PLATE
- STEEL BEAM / JOIST FRAMING MEMBER
- DRAG STRUT CONNECTION (SEE STEEL CONNECTION SCHEDULE)
- DOUBLE SHEAR CONNECTION (SEE STEEL CONNECTION SCHEDULE)
- CANTILEVER MOMENT CONNECTION (SEE STRUCTURAL DETAILS)
- BEAM SIZE (X) C=Y" (Z … Z)

BEAM SIZE = BEAM DESIGNATION
X = # OF HEADED STUDS (SPACED UNIFORMLY ACROSS BEAM)
Y = BEAM CAMBER (CROWN UPWARD @ MIDSPAN)
Z = SPECIAL REACTIONS OR OTHER NOTES

ALL BEAM ENDS UNLESS NOTED WITH SPECIAL SYMBOL OR DETAILED OTHERWISE ARE TO BE SIMPLE SHEAR TAB CONNECTIONS (SEE SCHEDULE)

- STEEL ROOF DECK (SEE PLANS AND GENERAL NOTES FOR SPECIFIC INFORMATION)

WOOD CONSTRUCTION

- PLYWOOD / OSB WOOD DECK (SEE WOOD DECK SCHEDULE)
- WOOD BEARING WALL
- WOOD SHEARWALL
- WOOD HEADER (INTEGRAL WITH WALL)
- WOOD COLUMN (INTEGRAL WITH WALL)
- WOOD COLUMN (FREE-STANDING)
- H# — HOLDOWN AS DESIGNATED (SEE SCHEDULE)
- A — WOOD SHEAR WALL (SEE SCHEDULE)

GENERAL ANNOTATIONS

STACKED STRUCTURAL TAGS REPRESENT STRUCTURAL RELATIONSHIPS BETWEEN VARIOUS ELEMENTS

- COLUMN W/ BASE PLATE SUPPORTED ON PIER / WALL SUPPORTED ON FOOTING (SEE STRUCTURAL SCHEDULES FOR ALL DIMENSIONS AND INFORMATION)
- FSX.X — CONCRETE FOOTING TAG
- XC# — COLUMN TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY, S=STEEL, W=WOOD
- # — BASE PLATE TAG
- XW# — WALL TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY, W=WOOD
- XB# — BEAM TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY, W=WOOD
- XL# — LINTEL TAG (X=MATERIAL, #=DESIGNATION) C=CONCRETE, M=MASONRY
- 98'-0" — ELEVATION AT TOP OF FOOTING
- STEP — CHANGE IN ELEVATION
- SLOPED 1/4 — ROOF SLOPE DESIGNATION (SEE ARCH FOR ACTUAL SLOPES)
- 1 / A101 TYP — DETAIL OR PLAN REFERENCE; TYPICAL (TYP) OR SIMILAR (SIM) DETAIL; SHEET REFERENCE
- 1 / A101 TYP — SECTION REFERENCE; TYPICAL (TYP) OR SIMILAR (SIM) DETAIL; SHEET REFERENCE
- S1 / S101 — ELEVATION REFERENCE; SHEET REFERENCE
- N — DESIGNATES PLAN NORTH

GREY TONE OR LIGHTER DRAWING ELEMENTS DESIGNATE EXISTING STRUCTURAL COMPONENTS AND/OR ELEMENTS

STRUCTURAL ABBREVIATIONS

ABV	ABOVE
ADD'L	ADDITIONAL
ALT	ALTERNATE
ARCH	ARCHITECT(URAL)
BLDG	BUILDING
BLW	BELOW
BTM	BOTTOM
BTWN	BETWEEN
CJ	CONTROL OR CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CRW#	CONCRETE RETAINING WALL
CTR	CENTER(ED)
CW#	CONCRETE WALL
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
EF	EACH FACE
EJ	SEISMIC ISOLATION JOINT
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXT	EXTERIOR
FF	FINISH FLOOR
FC#	CONTINUOUS FOOTING
FS#	SPOT FOOTING
FT	FOOT
FTG	FOOTING
FDTN	FOUNDATION
GA	GAUGE
GALV	GALVANIZED
GLB	GLUE-LAMINATED BEAM
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
HK	HOOK
HSA	HEADED STUD ANCHOR
HORIZ	HORIZONTAL
HT	HEIGHT
INT	INTERIOR
IF	INSIDE FACE
IBC	INTERNATIONAL BUILDING CODE
IEBC	INTERNATIONAL EXISTING BUILDING CODE
ICC	INTERNATIONAL CODES COUNCIL
IN	INCH
K	KIP(S) = 1000 POUNDS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LBS	POUNDS
LG	LIGHT GAUGE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LW	LIGHT-WEIGHT
MANUF	MANUFACTURER
MAX	MAXIMUM
MC#	MASONRY COLUMN
MECH	MECHANICAL
MEP	MECHELEC/PLUMB
MIN	MINIMUM
MISC	MISCELLANEOUS
ML#	MASONRY LINTEL
MW#	MASONRY WALL
NS	NON-SHRINK
NTS	NOT TO SCALE
NW	NORMAL WEIGHT
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OWSJ	OPEN WEB STEEL JOIST
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PSF	POUND PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
REINF	REINFORCING
REQD	REQUIRED
SC#	STEEL COLUMN
SIM	SIMILAR
SOG	SLAB ON GRADE
SOMD	SLAB ON METAL DECK
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
T+B	TOP AND BOTTOM
TOF	TOP OF FOOTING
TOS	TOP OF SLAB
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/C	WATER / CEMENT RATIO
WC#	WOOD COLUMN
WWF	WELDED WIRE FABRIC

GENERAL PROJECT INSTRUCTIONS

1. GENERAL NOTES: THESE GENERAL STRUCTURAL NOTES DO NOT SUPERSEDE THE PROJECT SPECIFICATIONS, BUT ARE INTENDED TO BE COMPLIMENTARY TO THEM. CONSULT THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS IN EACH SECTION. NOTATION AND SPECIFIC DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THESE NOTES AND TYPICAL DETAILS.

2. CONTRACT DRAWINGS: THE PRIME CONTRACT DRAWINGS ARE THE ARCHITECTURAL DRAWINGS. THESE STRUCTURAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. ALL OMISSIONS OR CONFLICTS, INCLUDING DIMENSIONS, BETWEEN THE VARIOUS ELEMENTS OF THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE THERE IS A CONFLICT BETWEEN DRAWINGS, FOLLOW THE MOST STRINGENT REQUIREMENT, SUBMIT A REQUEST FOR INFORMATION, AND/OR PROCEED AS DIRECTED BY THE ARCHITECT WITHOUT ANY ADDITIONAL COST TO THE OWNER. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK.

3. STRUCTURAL DRAWINGS: THESE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS. ONLY THE PRIMARY STRUCTURAL ELEMENTS AND SYSTEMS ARE INDICATED WITHIN THESE STRUCTURAL DRAWINGS. ALL STRUCTURAL DETAILS ARE REPRESENTATIVE IN NATURE AND ARE NOT TO BE SCALED FOR ANY REASON. MANY OTHER ELEMENTS SUCH AS, ARCHITECTURAL LAYOUTS, ELEVATIONS, SLOPES, DEPRESSIONS, CURBS, MECHANICAL/ELECTRICAL EQUIPMENT, EXTERIOR LIGHT GAUGE FRAMING, STAIRS, ETC. ARE GENERALLY NOT SHOWN IN THESE STRUCTURAL DRAWINGS. IT IS INTENDED THAT ALL SHOP DRAWINGS AND DETAILING OF STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION FROM ALL CONTRACT DOCUMENTS, NOT JUST THESE STRUCTURAL DRAWINGS.

4. PROJECT COORDINATION: IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE ALL ITEMS WITH ALL TRADES TO INSURE THERE ARE NO CONFLICTS BETWEEN OTHER TRADES AND THE STRUCTURAL ELEMENTS. ANY OPENINGS, PENETRATIONS, OR ATTACHMENTS TO ANY STRUCTURAL ELEMENT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND SHALL BE COORDINATED WITH THE ARCHITECT/ENGINEER.

5. SUBMITTALS: STRUCTURAL SUBMITTALS SHALL ONLY BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AFTER THE GENERAL CONTRACTOR HAS REVIEWED AND APPROVED THE SUBMITTAL. CONTRACTOR SHALL ALLOW AT LEAST 10 BUSINESS DAYS (2 WEEKS) FOR EACH SUBMITTAL TO BE REVIEWED. IF AN ITEM IS SUBMITTED WHILE ANOTHER SUBMITTAL IS UNDER REVIEW, THE 10 DAY REVIEW PERIOD FOR THAT NEWLY SUBMITTED ITEM DOES NOT BEGIN UNTIL THE PREVIOUS SUBMITTAL IS COMPLETE. THE SHOP DRAWING REVIEW PROCESS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY OF COMPLETING THE PROJECT ACCORDING TO THE CONTRACT DOCUMENTS, REGARDLESS OF INFORMATION SHOWN IN THE REVIEW COMMENTS. SHOP DRAWINGS MADE FROM REPRODUCTIONS OF THESE STRUCTURAL DRAWINGS WILL BE REJECTED.

6. SHORING AND BRACING REQUIREMENTS: THE STRUCTURAL SYSTEMS SHOWN IN THESE DRAWINGS SHALL NOT BE CONSIDERED STABLE UNTIL ALL STRUCTURAL ELEMENTS ARE IN PLACE AND COMPLETED. IT IS THEREFORE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO DETERMINE THE METHOD OF CONSTRUCTION SEQUENCE, AS WELL AS PROVIDE ANY SHORING, BRACING, ETC. TO INSURE THE STRUCTURE IS STABLE UNTIL ALL ELEMENTS ARE COMPLETED.

7. FIELD VERIFICATION: THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, AND CONDITIONS. IF THE CONTRACT DRAWINGS DO NOT REPRESENT ACTUAL CONDITIONS, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION WITHIN THAT AREA. IF CONTRACTOR PROCEEDS WITH ANY WORK WITHOUT PROPERLY FIELD VERIFYING DIMENSIONS, CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION AND DESIGN COSTS ASSOCIATED WITH FIXING THE SITUATION.

8. PERMIT PLAN CHECK: PRIOR TO OBTAINING FINAL BUILDING PERMITS FROM THE BUILDING OFFICIAL AND OTHER AUTHORITIES HAVING JURISDICTION, ALL PRICING, BIDDING, OR CONSTRUCTION PROGRESS IS DONE AT THE CONTRACTOR'S OWN RISK. CHANGES TO THESE DRAWINGS MAY BE REQUIRED AS PART OF THE PLAN CHECK AND PERMITTING PROCESS AND THUS STRUCTURAL DESIGN STUDIO, INC. WILL NOT BE HELD LIABLE (FINANCIAL OR OTHERWISE) FOR ANY CHANGES MADE TO THESE DRAWINGS.

9. NOTICE OF COPYRIGHT: ALL DRAWINGS, DETAILS, NOTES, ELEMENTS, ETC. CONTAINED WITHIN THESE DRAWINGS ARE COPYRIGHTED BY STRUCTURAL DESIGN STUDIO, INC. SUBMISSION OR DISTRIBUTION OF DOCUMENTS TO MEET OFFICIAL REGULATORY REQUIREMENTS OR FOR SIMILAR PURPOSES IN CONNECTION WITH THE PROJECT IS NOT TO BE CONSTRUED AS PUBLICATION IN DEROGATION OF STRUCTURAL DESIGN STUDIO, INC.'S RIGHTS. THE DOCUMENTS DEFINING THE STRUCTURE ARE INSTRUMENTS OF SERVICE PREPARED BY STRUCTURAL DESIGN STUDIO, INC. FOR ONE USE ONLY. FURTHERMORE, THESE DOCUMENTS SHALL NOT BE REPRODUCED, OR COPIED, IN WHOLE OR IN PART BY THE CONTRACTOR OR HIS SUBCONTRACTORS FOR PREPARATION OF SHOP DRAWINGS OR ANY OTHER SUBMITTALS.

CRITERIA FOR STRUCTURAL DESIGN

1. **GOVERNING BUILDING CODES AND GENERAL DESIGN STANDARDS**
   A. 2018 INTERNATIONAL BUILDING CODE (2018)
   B. ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   C. BUILDING, FIRE, AND RELATED CODE OF BALTIMORE CITY 2020

2. **ROOF LIVE LOADING:**
   A. ROOF LIVE LOAD = 20 PSF
   B. ROOF SNOW LOAD = 23 PSF + DRIFT
      a. GROUND SNOW LOAD, Pg = 30 PSF
      b. FLAT ROOF SNOW LOAD, Pf = 23 PSF
      c. SNOW EXPOSURE FACTOR, Ce = 1.00
      d. IMPORTANCE FACTOR, Is = 1.00
      e. THERMAL FACTOR, Ct = 1.10
      f. SLOPE FACTOR(S), Cs = 1.00
      g. SNOW DRIFT SURCHARGE AREAS = SEE ROOF PLANS

3. **SEISMIC DESIGN CRITERIA AND PARAMETERS:**
   A. RISK CATEGORY II (ALL OTHERS) - BUILDING TYPE
   B. SEISMIC DESIGN CATEGORY = B
   C. SPECTRAL RESPONSE ACCELERATIONS:
      Ss = 0.14 g Sds = 0.15 g
      S1 = 0.04 g Sd1 = 0.07 g
   D. SOIL SITE CLASS = SITE CLASS-D (DEFAULT)
      Fa = 1.60 Fv = 2.40
   E. BASIC SEISMIC-FORCE-RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
      R = 4.00 Cd = 4.00 Ω = 2.50
   F. IMPORTANCE FACTOR, Ie = 1.00
   G. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE (ELF-STATIC)

4. **WIIND DESIGN CRITERIA:**
   A. BASIC WIND SPEED (Vult) = 115 MPH
   B. ALLOWABLE STRESS WIND DESIGN SPEED (V) = 90 MPH
   C. RISK CATEGORY II (ALL OTHERS) - BUILDING TYPE
   D. EXPOSURE CATEGORY = EXPOSURE C (ALL OTHERS)
   E. INTERNAL PRESSURE COEFFICIENT (Gcpi) = ±0.18
   F. TOPOGRAPHIC FACTOR (Kht) = 1.00
   G. COMPONENTS AND CLADDING: TRIB AREA = 10FT^2
      a. WALL INTERIOR ZONES = 25.6 PSF / -28.2 PSF
      b. WALL END ZONES = 25.6 PSF / -35.9 PSF
      c. ROOF INTERIOR ZONES = 23.1 PSF / -46.1 PSF
      d. ROOF END ZONES = 23.1 PSF / -51.2 PSF
      e. ROOF CORNER ZONES = 23.1 PSF / -64.1 PSF

5. **ROOF RAIN LOADS**
   A. RAIN INTENSITY (*I*) = 5.8 IN/HR

FOUNDATION CRITERIA & EARTHWORK GUIDELINES

1. **GEOTECHNICAL INFORMATION**
   A. A SOILS INVESTIGATION AND GEOTECHNICAL REPORT WAS COMPLETED ON BEHALF OF THIS PROJECT BY HILLIS-CARNES ENGINEERING ASSOCIATES, AND IS DATED 05/16/2024 . AS DIRECTED BY THE OWNER THIS REPORT WAS USED IN THE DESIGN OF THE FOUNDATION SYSTEMS FOR THIS PROJECT. IT SHALL NOT BE CONSIDERED A WARRANTY TO THE SOILS OR SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED BY THE CONTRACTOR. THE REPORT IS NOT PART OF THESE STRUCTURAL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT DIRECTLY FROM THE OWNER AND SHALL FOLLOW THE RECOMMENDATIONS OF THE REPORT. ANY QUESTIONS OR INQUIRIES REGARDING SOIL PREPARATION, REMEDIATION, ETC. SHALL BE DIRECTED TO THE GEOTECHNICAL ENGINEER.

2. **SHALLOW FOUNDATION REQUIREMENTS:**
   A. ALL FOOTINGS + FOUNDATIONS TO BE PLACED ON PROPERLY PREPARED NATIVE SOILS AND/OR COMPACTED STRUCTURAL FILL.
   B. 3OTTOM OF FOOTING MUST BEAR AT LEAST 30 INCHES BELOW FINAL GRADE
   C. BASED ON FINAL IN-FIELD GRADE, CONTRACTOR SHALL COORDINATE FOOTING ELEVATIONS SHOWN ON PLAN AND PROVIDE ADDITIONAL FOOTING STEPS AS NECESSARY TO INSURE THE ABOVE REQUIREMENT IS MET IN ALL CONDITIONS.
   D. DO NOT PLACE ANY FOOTING ON UNSUITABLE OR DELETERIOUS MATERIAL. REMOVE ALL UNSUITABLE MATERIAL BELOW FOOTINGS AND REPLACE IT WITH COMPACTED STRUCTURAL FILL AS OUTLINED IN THE GEOTECHNICAL REPORT, AND IN ACCORDANCE WITH THE TYPICAL COMPACTED STRUCTURAL FILL DETAIL CONTAINED IN THESE DRAWINGS.
   E. ALL NATURAL UNDISTURBED SOILS LOCATED BELOW ALL FOOTINGS SHALL BE PROOF ROLLED AND TESTED PRIOR TO PLACING CONCRETE. REMOVE ALL SOFT SPOTS AND REPLACE WITH COMPACTED STRUCTURAL FILL AS OUTLINED IN THE GEOTECHNICAL REPORT.
   F. ALL STRUCTURAL FILL SHALL BE TESTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND THE GOVERNING BUILDING CODE.

3. **SOIL PROPERTIES + DESIGN PARAMETERS:**
   A. NET SOIL BEARING PRESSURE = 2,000 PSF
   B. LATERAL LOAD SLIDING COEFFICIENT = 0.30
   C. SHORT-TERM SOIL CAPACITY INCREASE (WIND/SEISMIC) = 33%
   D. LATERAL SOIL PROPERTIES FOR USE IN RETAING STRUCTURE:
      a. SOIL UNIT WEIGHT = 120 PCF
      b. ACTIVE PRESSURE (Ka) = 40 PCF
      c. AT-REST PRESSURE (Ko) = 60 PCF
      d. PASSIVE PRESSURE (Kp) = 140 PCF

CONCRETE MATERIAL & DESIGN PROPERTIES

1. **CONCRETE MATERIALS:**
   A. ALL MATERIALS SHALL COMPLY WITH THOSE SPECIFIED IN AMERICAN CONCRETE INSTITUTE (ACI) 318-19, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."

2. **CONCRETE UNIT WEIGHTS** (MAXIMUM AIR DRY WEIGHT):
   A. NORMAL WEIGHT CONCRETE SHALL BE BETWEEN 145 TO 150 POUNDS PER CUBIC FOOT.

3. **CONCRETE CEMENT TYPES:**
   A. PROJECT SHALL UTILIZE CEMENT TYPE V FOR ALL CONCRETE IN CONTACT WITH SOIL, AND TYPE I/II AT ALL OTHER LOCATIONS.

4. **ADMIXTURES:**
   A. AIR-ENTRAINING ADMIXTURES, COMPLY WITH ASTM C260 / C260M: WHEN AIR CONTENT OF A TROWEL FINISHED FLOOR SLAB IS IN EXCESS OF 3%, THERE IS AN INCREASED RISK FOR BLISTERING AND DELAMINATIONS TO OCCUR. WHEN THIS SITUATION EXISTS, THE CONTRACTOR MUST PAY SPECIAL ATTENTION TO THE FINISHING PROCEDURES TO HELP MINIMIZE SUCH RISKS.
   B. NO ADMIXTURE CONTAINING ANY CALCIUM CHLORIDE, OR OTHER CORROSIVE SUBSTANCE MAY BE ADDED TO THE MIX.
   C. ALL EXTERIOR PRIMARY STRUCTURAL ELEMENTS EXPOSED TO THE OUTSIDE AIR SHALL HAVE 6% AIR ENTRAINMENT.

5. **CONCRETE MIX DESIGNS**
   A. SUBMITTALS SHALL BE SUBMITTED FOR EACH DIFFERENT MIX DESIGN, SHOWING SUCCESSFUL DATA FOR AT LEAST 5 YEARS FOR REVIEW PRIOR TO IT BEING USED ON THE PROJECT. CONCRETE MIX DESIGNS SHALL INCORPORATE THE FOLLOWING PROPERTIES AS FOLLOWS:

CONCRETE MIX PROPERTIES

ELEMENT	PROPERTIES		EXPOSURE CLASS			
	$F'_{c\,(PSI)}$	W/C	FREEZE	SULFATE	WATER	CORR
BUILDING FOOTINGS	3000	0.50	F0	S0	W0	C0
WALLS + COLUMNS	4500	0.45	F1	S0	W0	C1
BEAM/SLAB	4000	0.45	F0	S0	W0	C0
INT-SOG	4000	0.45	F0	S0	W0	C0
EXT-SOG	4500	0.45	F3	S0	W0	C1
HABITAT FOOTINGS	4500	0.50	F0	S0	W0	C0

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

STATE OF MARYLAND
JACOB L. MERKLE
48712
PROFESSIONAL ENGINEER
11/22/24

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
GENERAL STRUCTURAL NOTES

DRAWING NO:
S001

CONCRETE REINFORCING & CONSTRUCTION

1. **REINFORCING STEEL MATERIALS:**
   A. ASTM A615 GRADE 60, F_Y = 60,000 PSI MIN. UNLESS NOTED OTHERWISE.
   B. ALL REINFORCING STEEL SHALL BE BENT COLD, AND SHALL ONLY BE BENT ONCE UNLESS APPROVAL HAS BEEN GIVEN BY THE ENGINEER OF RECORD.
   C. REINFORCING STEEL SHALL NOT BE WELDED UNLESS NOTED OTHERWISE.

2. **MINIMUM REINFORCING STEEL:** UNLESS SCHEDULED OTHERWISE, MINIMUM WALL REINFORCING SHALL BE AS FOLLOWS:
   A. HORIZONTAL REINFORCING: AREA OF STEEL (IN^2/FT) SHALL BE AT LEAST 0.030 X GROSS WALL THICKNESS, WITH BAR SPACED NO FURTHER APART THAN 18 INCHES ON CENTER.
   B. VERTICAL REINFORCING: AREA OF STEEL (IN^2/FT) SHALL BE AT LEAST 0.018 X GROSS WALL THICKNESS, WITH BARS SPACED NO FURTHER APART THAN 18 INCHES ON CENTER.
   C. PLACE STEEL IN THE CENTER OF THE WALL, EXCEPT WHERE SHOWN OTHERWISE. WALLS 10" OR THICKER SHALL HAVE TWO CURTAINS OF REINFORCING PLACED NEAR EACH FACE OF THE WALL.
   D. CONCRETE CLEAR COVER OVER REINFORCING STEEL SHALL COMPLY WITH ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" OR AS OUTLINED BELOW.
      a. CAST-IN-PLACE CONCRETE:
         • CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
      b. CONCRETE FORMED AND EXPOSED TO EARTH OR WEATHER:
         • #6 THRU #18 BARS = 2"
         • #5 AND SMALLER BARS = 1.1/2"
      c. CONCRETE WHICH IS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
         • SLABS, WALLS, JOISTS: #11 BARS AND SMALLER = 3/4"
      d. BEAMS, COLUMNS: PRIMARY REINF, TIES, STIRRUPS, SPIRALS = 1.1/2"

3. **REINFORCING STEEL DETAILING:**
   A. ALL REINFORCING, INCLUDING WWF, SHALL BE DETAILED, AND SUPPORTED TO COMPLY WITH REQUIREMENTS AND RECOMMENDATIONS FROM THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
   B. LAP SPLICE LENGTHS SHALL BE DETAILED TO COMPLY WITH THE CONCRETE LAP SPLICE SCHEDULE AND INFORMATION BELOW.
      a. IN LIEU OF OVERLAPPING SPLICES, CONTRACTOR MAY SPLICE REINFORCING WITH MECHANICAL COUPLERS CAPABLE OF DEVELOPING 125% TENSION CAPACITY OF THE BAR BEING SPLICED. CONTRACTOR SHALL SUBMIT APPROVED ICC EVALUATION SERVICE REPORT (ICC-ES) FOR THE DESIRED PRODUCT. IF MECHANICAL SPLICES ARE USED, SPLICES AND/OR COUPLERS ON ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 24" APART ALONG THE LONGITUDINAL AXIS OF THE REINFORCING BARS.
   C. PRIOR TO PLACING CONCRETE ALL EMBEDDED ITEMS INCLUDING DOWELS, ANCHOR BOLTS, EMBED, ETC. SHALL BE SECURELY TIED TO FORMWORK.
   D. PROVIDE CORNER BARS AT INTERSECTING WALL CORNERS USING THE SAME BAR SIZE AND SPACING AS THE HORIZONTAL WALL REINFORCING. UNLESS NOTED OTHERWISE, CORNER BAR LAP LENGTHS SHALL CONFORM WITH REINFORCING BAR LAP SPLICE LENGTHS. SEE DETAILS FOR MORE INFORMATION.
   E. ALL VERTICAL REINFORCING SHALL BE DOWELED TO FOOTINGS, OR TO THE STRUCTURE BELOW. DOWELS SHALL BE THE SAME SIZE AND SAME SPACING AS THE VERTICAL REINFORCING SCHEDULED (OR DETAILED) FOR THE ELEMENT ABOVE. REINFORCING EXTENDING INTO FOOTINGS SHALL TERMINATE WITH A STANDARD 90 DEGREE ACI STANDARD HOOK AND SHALL EXTEND TO WITHIN 4" OF THE BOTTOM OF THE FOOTING.
   F. HORIZONTAL WALL REINFORCING SHALL TERMINATE AT ENDS OF WALLS INCLUDING OPENINGS INTO THE FAR END OF THE JAMB COLUMN WITH A 90-DEGREE STANDARD ACI HOOK, TERMINATOR, OR A PROPERLY PLACED CORNER BAR, UNLESS SHOWN OTHERWISE.
   G. PROVIDE (2) - #5 X 4'-0" DIAGONAL BARS AT THE CORNERS OF ALL OPENINGS. DIAGONAL BARS SHALL BE CENTERED ON THE CORNER OF THE OPENING.
   H. ALL TIED COLUMNS SHALL HAVE TIES SPACED AT ONE-HALF THE REQUIRED TIE SPACING FOR A DISTANCE OF ONE-SIXTH OF THE COLUMN HEIGHT ABOVE AND BELOW ALL FLOOR (OR BEAM) AND ROOF (OR BEAM) LEVELS OR ANY OTHER POINT OF LATERAL SUPPORT, UNLESS NOTED OR DETAILED OTHERWISE.
   I. COLUMN CROSS-TIES SHALL HAVE A 135 DEGREE HOOK AT ONE END AND A 90 DEGREE HOOK AT THE OTHER. THE HOOKS SHALL ENGAGE THE VERTICAL COLUMN REINFORCEMENT. THE 135 DEGREE HOOKS OF CONSECUTIVE CROSS-TIES ENGAGING THE SAME VERTICAL BARS SHALL ENGAGE ALTERNATE VERTICAL BARS

4. **CONSTRUCTION REQUIREMENTS:**
   A. TIE WIRES AND CHAIRS SHALL BE USED TO SUPPORT REINFORCING BARS, WELDED WIRE FABRIC, AND TIE BARS..
   B. NO ALUMINUM CONDUIT OR PRODUCT CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN CONCRETE.
   C. ONLY A SINGLE TYPE OF CONCRETE MIX DESIGN SHALL BE PLACED ON THE SITE AT ANY GIVEN TIME.
   D. FORMWORK SHALL COMPLY WITH CURRENT VERSION OF ACI STANDARDS PUBLICATION 347 AND PROJECT SPECIFICATIONS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL FORMWORK DESIGN, DETAILING, PLACEMENT, AND SHORING.

5. **CONSTRUCTION JOINTS AND CONTROL JOINTS:**
   A. ALL HORIZONTAL AND VERTICAL CONCRETE INTERFACE SURFACES AND/OR CONSTRUCTION JOINTS SHALL BE INTENTIONALLY ROUGHENED TO A MINIMUM AMPLITUDE OF APPROXIMATELY 1/4".
   B. REINFORCING DOWELS SHALL MATCH MEMBER REINFORCING ACROSS ANY JOINT, UNLESS NOTED OTHERWISE.
   C. ANY CONSTRUCTION JOINTS LOCATED IN SUSPENDED CONCRETE ELEMENTS MUST BE MADE AT THE CENTER OF SPANS UNLESS NOTED OTHERWISE.
   D. ALL SLABS ON GRADE SHALL HAVE CONSTRUCTION OR CONTROL JOINTS SPACED A DISTANCE NO GREATER THAN 30 TIMES THE SLAB THICKNESS IN ANY DIRECTION WITH A PATTERN SO THE LENGTH TO WIDTH RATIO OF THE SLAB IS NO MORE THAN 1.1/4 TO 1.
   E. ALL CONTROL JOINTS MUST BE INSTALLED WITHIN 12 HOURS OF PLACING CONCRETE. CONTROL JOINTS MAY BE INSTALLED EITHER BY A SAW CUT AT A MINIMUM DEPTH OF 1/4 THE THICKNESS OF THE SLAB, OR BY A TOOLED JOINT A DEPTH OF 1/4 THE THICKNESS OF THE SLAB.
   F. ALL DISCONTINUOUS CONTROL OR CONSTRUCTION JOINTS MUST BE REINFORCED WITH (2) - #4 X 48" CENTERED ON THE DISCONTINUITY.
   G. DISTANCE BETWEEN CONSTRUCTION JOINTS (COLD JOINTS) MUST NOT EXCEED 100'-0" IN ANY DIRECTION.
   H. VISUALLY EXPOSED WALLS MUST HAVE CONTROL JOINTS PLACED AT 10 '-0" OC AND/OR MUST ALIGN WITH MASONRY AND ARCHITECTURAL JOINTS. GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE THESE CONTROL JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS.

STEEL MATERIAL & DESIGN PROPERTIES

1. **CODES AND STANDARDS:** GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH THE FOLLOWING STANDARDS:
   A. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360-16, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS."
   B. AISC 303-16, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" EXCLUDING SECTIONS 3.3 AND 4.4.
   C. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION (INCLUDING DIMENSIONS) CONTAINED IN ARCHITECTURAL, STRUCTURAL, AND/OR OTHER CONSULTANTS' DRAWINGS.
   D. AISC/RCSC 2014, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"
   E. AMERICAN WELDING SOCIETY (AWS) D1.4/D1.4M, "STRUCTURAL WELDING CODE – STEEL"

2. **STEEL MATERIALS AND PROPERTIES:**
   A. RECTANGULAR AND SQUARE HOLLOW STRUCTURAL SECTIONS (HSS): ASTM A500, GRADE C (F_Y = 50 KSI).
   B. ROUND HSS: ASTM A500, GRADE C (F_Y = 46 KSI).
   C. ALL OTHER SHAPES AND PLATES: ASTM A36 (F_Y = 36 KSI), EXCEPT AS NOTED OTHERWISE.
   D. DEFORMED BAR ANCHORS (DBA): ASTM A496.
   E. HEADED STUD ANCHORS (HSA): ASTM A108, WITH DIMENSIONS COMPLYING WITH AISC SPECIFICATIONS.
   F. ANCHOR RODS: ASTM F1554, GRADE 36 WITH ASTM A563 HEAVY HEX NUTS AND ASTM F436 HARDENED WASHERS. ALL ANCHOR RODS SHALL BE DESIGNATED WELDABLE, UNLESS OTHERWISE NOTED.

STEEL FRAMING & CONNECTIONS

1. **CONSTRUCTION REQUIREMENTS:**
   A. STRUCTURAL STEEL SHAPES AND PLATES SHALL BE FABRICATED FROM ROLLED (MILLED) SINGLE-PIECE SECTIONS WITHOUT ANY SPLICES, UNLESS OTHERWISE NOTED.
   B. UNLESS NOTED OTHERWISE, ALL STRUCTURAL SHAPES AND MISCELLANEOUS STEEL, PLATES, BOLTS, AND ANCHORS EXPOSED TO OUTDOOR ELEMENTS SHALL BE GALVANIZED, POWDER COATED OR PAINTED WITH APPROVED RUST INHIBITING PRIMER AS INDICATED BY ARCHITECT.
   C. AT ALL BEAM BEARING POINTS AND CONCENTRATED LOADS (I.E. COLUMN TRANSFER BEAMS, GIRDERS, ETC.) PROVIDE FULL-HEIGHT WEB STIFFENER PLATES TO EACH SIDE OF BEAM. STIFFENER PLATES SHALL BE WELDED USING A THREE SIDED FILLET WELD ON BOTH SIDES OF THE STIFFENER PLATE AND THE STIFFENER PLATES SHALL BE THE SAME THICKNESS AS THE BEAM WEB.
   D. GENERAL CONTRACTOR SHALL PROVIDE AN ALLOWANCE OF **5%** OF TOTAL STRUCTURAL STEEL FOR THE PROJECT TO BE FABRICATED AND INSTALLED DURING THE PROGRESS OF THE WORK AS MAY BE DIRECTED BY THE STRUCTURAL ENGINEER OF RECORD, IN ADDITION TO THE STRUCTURAL STEEL INDICATED ON THE DRAWINGS. CREDIT THE OWNER ANY UNUSED QUANTITY AT THE END OF THE PROJECT.

2. **WELDING CONNECTIONS:**
   A. WELDING IS TO ONLY BE COMPLETED BY AWS CERTIFIED WELDERS WHO HAVE BEEN CERTIFIED FOR THE TYPE OF WELDS BEING PERFORMED.
   B. MINIMUM WELDS: ALL INTERSECTING STEEL SHAPES THAT ARE NOT BOLTED SHALL BE CONNECTED BY AN ALL AROUND FILLET WELD. FILLET WELD SIZES NOT DESIGNATED SHALL BE THE SAME SIZE AS THE THINNEST OF THE CONNECTED PARTS. AS A MINIMUM, IF WELDS ARE NOT SPECIFIED IN DRAWINGS, PROVIDE 1/4 FILLET WELD ALL AROUND.
   C. ALL ELECTRODES USED SHALL BE E70 XX UNLESS NOTED OTHERWISE. E60 XX MAY BE USED FOR WELDING STEEL ROOF DECKS, STEEL FLOOR DECKS, AND COLD FORMED METAL FRAMING.
   D. WELDING OF DEFORMED BAR ANCHORS AND/OR HEADED STUD ANCHOR ARE TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

3. **BOLTED CONNECTIONS:**
   A. USE ASTM A325N BOLTS FOR ALL STEEL TO STEEL CONNECTIONS, UNLESS NOTED OTHERWISE. BOLTS SHALL BE INSTALLED IN A SNUG TIGHT CONDITION WHICH IS ACHIEVED WHEN CONNECTED PARTS ARE IN FIRM CONTACT.
   B. DO NOT REUSE ANY BOLTS, NUTS AND/OR WASHERS.
   C. DO NOT APPLY ANY WELD TO ANY BOLT, NUT WASHER, ETC.

WOOD MATERIAL & DESIGN PROPERTIES

1. **DESIGN & CONSTRUCTION STANDARDS:**
   A. ALL WOOD MATERIALS AND ELEMENTS ARE TO BE IN ACCORDANCE WITH ANSI/AWC NDS-2018 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.

2. **WOOD MATERIALS:**
   A. DIMENSIONAL FRAMING LUMBER: NUMBER 1 DOUGLAS FIR-LARCH OR BETTER OR AS NOTED OTHERWISE
   B. STRUCTURAL PANEL SHEATHING: ALL PANELS SHALL BE RATED BY THE AMERICAN PLYWOOD ASSOCIATION (APA). PANELS SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE WITH THE FOLLOWING PANEL SPAN RATING, UNLESS NOTED OTHERWISE,
      ROOF = 48/24 WALLS = 24/16
   C. SPECIAL TREATMENTS (AMERICAN WOOD PRESERVERS INSTITUTE STANDARDS):
      A. ALL WOOD IN CONTACT WITH CONCRETE, MASONRY OR SOIL: PRESSURE TREAT WITH METHODS THAT ARE NON-METALLIC AND THAT DO NOT CONTAIN ARSENIC. SUCH PRODUCTS INCLUDE EL2 DCOI-IMIDICLOPRID-STABILIZER, PTI PLUS STABILIZER OR APPROVED EQUIVALENT BY THE ARCHITECT. ALL FASTENERS WHICH ARE TO BE INSTALLED IN PRESERVATIVE WOOD SHALL MEET THE REQUIREMENTS OF IBC 2304.10.6.

WOOD FRAMING & CONSTRUCTION

1. **WOOD FRAMING ELEMENTS:**
   A. NAILS: STANDARD COMMON WITH THE FOLLOWING PROPERTIES:
      (NAIL SIZE | SHANK DIAMETER | MINIMUM PENETRATION)
      (6D | 0.113" | 1.1/4") (8D|0.131"|1.1/2") (10D | 0.148" | 1.5/8")
      (12D | 0.148" | 1.5/8") (16D | 0.162" | 1.3/4")
   B. FRAMING CONNECTIONS: ALL FRAMING CONNECTIONS NOT SHOWN OR OTHERWISE INDICATED ON THE DRAWINGS SHALL BE CONNECTED IN A MANNER SIMILAR TO THE CONNECTIONS SHOWN IN THE DRAWINGS OR WITH APPROVED SIMPSON STRONG-TIE CONNECTORS OR EQUAL WITH APPROVAL OF ENGINEER.
      FRAMING CONNECTORS UNLESS NOTED OTHERWISE (THE FOLLOWING NOTATIONS REFER TO SIMPSON STRONG-TIE CONNECTORS):
      a. JOIST AND RAFTERS: "BA" OR "MIT" HANGERS AS REQUIRED
   C. BOLTS FOR CONNECTIONS: ASTM A307 WITH ASTM A563 HEAVY HEX NUTS AND HARDENED WASHERS, GRADE A, UNLESS NOTED OTHERWISE.

2. **GENERAL FRAMING & CONSTRUCTION:**
   A. CONNECT ALL ITEMS AS PER IBC TABLE 2304.10.2, "FASTENING SCHEDULE", UNLESS NOTED OTHERWISE IN SPECIFIED DETAILS.
   B. MINIMUM NAILING REQUIREMENTS (SEE DRAWINGS + SCHEDULES FOR AREAS WITH GREATER REQUIREMENTS):
      a. ROOF: NAIL ALL SHEATHING PANELS WITH 8D COMMON NAILS AT 6" OC AT ALL SUPPORTED EDGES AND AT 12" OC AT ALL INTERMEDIATE SUPPORTS. USE TWO PLYCLIPS BETWEEN EACH SUPPORT FOR SPANS GREATER THAN 24" OC AND ONE PLYCLIP BETWEEN EACH SUPPORT FOR LESSER SPANS AT ALL UNSUPPORTED PANEL EDGES.
   C. BLOCKING, BRIDGING, AND BRACING: PROVIDE SOLID SHAPED BLOCKING AT LEAST 2 IN.(NOMINAL) THICK AND FULL DEPTH OF JOIST AT ENDS AND AT EACH SUPPORT OF JOIST. PROVIDE APPROVED BRIDGING AT 8'-0" OC MAXIMUM BETWEEN JOIST END SUPPORTS. SOLID BLOCKING BETWEEN JOISTS SHALL BE NAILED TO THE WOOD PLATE AT THE TOP OF THE WALL WITH ONE SIMPSON "A35" FRAMING ANCHOR PER EACH PIECE OF BLOCKING. FILL ALL HOLES IN THE FRAMING ANCHORS WITH 8D SHORT NAILS.
   D. LAMINATED BUILT-UP BEAMS OF 2X MEMBER 12 IN. OR LESS IN DEPTH SHALL BE SPIKED TOGETHER WITH NOT LESS THAN 16D SPIKES AT TWELVE-INCH (12 IN.) CENTERS, STAGGERED. UNLESS SO SPIKED, OR IF THE DEPTH OF BEAM IS MORE THAN TWELVE INCHES (12 IN.), THE LAMINATIONS SHALL BE CONNECTED TOGETHER WITH 1/2" DIAMETER BOLTS AT 24 IN. OC STAGGERED. BOLTS SHALL BE PLACED 1/4 THE DEPTH OF THE MEMBER FROM THE TOP AND BOTTOM OF THE MEMBER.

PRE-FABRICATED WOOD TRUSSES

1. **DESIGN REQUIREMENTS:**
   A. DESIGN LOADING: THE TRUSS MANUFACTURER IS RESPONSIBLE FOR DESIGN AND FABRICATION OF ALL THE TRUSSES. THEY SHALL BE DESIGNED FOR ALL LOADS AND ELEMENTS LISTED ON THE PLAN NOTES ON EACH FRAMING PLAN.
   B. CORRELATE THE DESIGN WITH ALL MECHANICAL EQUIPMENT, FIRE SPRINKLING SYSTEMS AND HANGING WALLS SUPPORTED BY THE TRUSSES. PROVIDE EXTRA TRUSSES WHERE REQUIRED.
   C. SUBMITTALS: COMPLETE CALCULATIONS AND SHOP DRAWINGS INDICATING ALL MEMBER FORCES, STRESSES, LUMBER GRADES, DIMENSIONS, STEEL TRUSS PLATE SIZES AND LOCATIONS SHALL BE SUBMITTED AND REVIEWED BY THE ENGINEER BEFORE FABRICATION. EACH CONNECTOR SHALL BE DIMENSIONED ON THE SHOP DRAWINGS AS TO ITS EXACT LOCATION AT THE JOINT. SHOP DRAWINGS AND CALCULATIONS SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND. AFTER TRUSS INSTALLATION, THE FABRICATOR SHALL CERTIFY IN WRITING THAT THE TRUSSES HAVE BEEN INSTALLED ACCORDING TO HIS SPECIFICATIONS.

2. **CONSTRUCTION REQUIREMENTS:**
   A. STEEL CONNECTOR PLATES: USE ONLY GALVANIZED STEEL CONNECTOR PLATES THAT COMPLY WITH THE TRUSS PLATE INSTITUTE PUBLICATION, TPI 1-2014. ALL STEEL CONNECTOR PLATES MUST BE APPROVED BY THE ICC EVALUATION SERVICES. SUBMIT A COPY OF THE ICC CODE EVALUATION REPORT FOR THE CONNECTOR PLATE USED. VALUES ESTABLISHED BY THIS COMMITTEE MUST BE INDICATED ON THE SHOP DRAWINGS.
   B. THE MINIMUM SIZE FOR ANY CONNECTOR SHALL BE 15 SQUARE INCHES.
   C. ALL STEEL GUSSET PLATES SHALL BE LOCATED ON THE JOINT AS THE STRESSES REQUIRE AND SHALL PROVIDE A MINIMUM BITE OF 2.5" LENGTH ON ALL TENSION MEMBERS.
   D. PLATES SHALL BE PRESSED OR ROLLED INTO MEMBER TO OBTAIN FULL PENETRATION WITHOUT CRUSHING THE OUTER SURFACES OF WOOD.
   E. STEEL PLATES AT COMPRESSION WEB MEMBERS SHALL BE DESIGNED TO RESIST 100% OF THE COMPRESSION FORCE WITHOUT CONSIDERING WOOD TO WOOD BEARING.
   F. ALL STEEL PLATE DIMENSIONS SHALL BE INCREASED BY 10% ABOVE THAT REQUIRED BY ANALYSIS. STRESS INCREASES FOR STEEL CONNECTOR PLATE VALUES FOR DURATION OF LOAD ARE NOT ALLOWED.
   G. WOOD MEMBERS: ALL WOOD MEMBERS OF THE TRUSS SHALL BE CONSTRUCTED OF KILN DRIED LUMBER. THE TRUSSES SHALL BE HANDLED AND STORED IN A MANNER TO PREVENT MOISTURE FROM BEING ABSORBED BY THE WOOD. GRADE STAMPS SHALL BE VISIBLE ON FRAMING MEMBERS. SPLICES IN CHORDS SHALL OCCUR AT 1/4 OF THE PANEL SPAN FROM A JOINT.
   H. THE TRUSSES SHALL BE DESIGNED BY THE TRUSS SUPPLIER ACCORDING TO THE FOLLOWING CRITERIA:
   I. BENDING MOMENTS IN THE TOP AND BOTTOM CHORDS SHALL BE BASED ON THE FOLLOWING MOMENT COEFFICIENTS:1) 1/8 FOR ONE AND TWO CONTINUOUS SPAN CONDITIONS. 2) 1/10 FOR THREE OR MORE CONTINUOUS SPAN CONDITIONS.
   J. WEB MEMBERS SHALL BE DESIGNED USING AN EFFECTIVE LENGTH FACTOR OF K =1.0
   K. LATERAL BRACING: LATERAL BRACING AND BRIDGING MAY BE REQUIRED BY THE DESIGN OF THE PRE-FABRICATED WOOD ROOF TRUSS TO REDUCE THE BUCKLING LENGTH OF INDIVIDUAL TRUSS MEMBERS AND PROVIDE STABILITY DURING ERECTION. THIS BRACING OR BRIDGING MAY BE IN THE FORM OF 2 X 4 HORIZONTAL BRACING OR BRIDGING WITH 2 X 4 CROSS-BRACING SPACED AT 24'-0" OC MAXIMUM AND AT EACH END OF THE BRACING OR BRIDGING. THE 2 X 4 CROSS BRIDGING SHALL BE CONNECTED TO THE TRUSS TOP CHORD AND THE HORIZONTAL BRIDGING WITH SIMPSON A35 EACH END. LOCATIONS OF THE LATERAL BRACING AND TRUSS BRIDGING IS TO BE SUPPLIED AND INSTALLED AT THE LOCATION SPECIFIED ON THE PRE-FABRICATED WOOD ROOF TRUSS DESIGN DRAWINGS BY THE GENERAL CONTRACTOR.
   L. OTHER REQUIREMENTS FOR TRUSS STABILITY AND ERECTION SHALL COMPLY WITH THE TRUSS PLATE INSTITUTE PUBLICATIONS ENTITLED "COMMENTARY AND RECOMMENDATIONS FOR BRACING WOOD TRUSSES" AND "COMMENTARY AND RECOMMENDATIONS FOR HANDLING AND ERECTING WOOD TRUSSES." THE CONTRACTOR SHALL HAVE COPIES OF THESE PUBLICATIONS ON SITE AND SHALL BE FAMILIAR WITH THEIR CONTENTS.
   M. PRIOR TO THE FABRICATION OF THE PRE-FABRICATED WOOD TRUSSES, THE CONTRACTOR SHALL SUBMIT, IN WRITING, PROOF OF COMPLIANCE OF IN-PLANT INSPECTION BY AN ICC APPROVED INDEPENDENT INSPECTION AGENCY. THE IN-PLANT INSPECTIONS SHALL COMPLY WITH SECTION 1704.2 OF THE INTERNATIONAL BUILDING CODE.
   N. THE TRUSS MANUFACTURER'S IDENTIFICATION STAMP SHALL BE CLEARLY VISIBLE.

DEFERRED SUBMITTALS (STRUCTURAL)

1. DEFERRED SUBMITTALS REQUIRED BY STRUCTURAL ENGINEER ARE AS FOLLOWS:
   A. PRE-FABRICATED WOOD TRUSSES

2. DEFERRED SUBMITTALS SHALL INCLUDE STRUCTURAL CALCULATIONS, PLANS, AND DETAILS PROPERLY SHOWING LOCATION AND MAGNITUDE OF LOADS, CONFIGURATION AND SIZE OF ELEMENTS, AND COMPATIBILITY OF SUBMITTAL ITEM WITH THE PRIMARY STRUCTURAL SYSTEM. DRAWINGS, CALCULATIONS, ETC SHALL BE STAMPED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND.

3. STRUCTURAL ENGINEER WILL RELY ON THE SEAL OF THE SPECIALTY ENGINEER 'S SEAL AS CERTIFICATION THAT THE ITEMS DESIGNED BY THE SPECIALTY ENGINEER COMPLY WITH THE CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS AND APPLICABLE CODES AND STANDARDS. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ADEQUACY OF DESIGNS PROVIDED BY OTHERS.

4. DEFERRED SUBMITTALS ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION IN ACCORDANCE WITH IBC 107.3.4.1.

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
GENERAL STRUCTURAL NOTES

DRAWING NO:
S002

STATEMENT OF SPECIAL INSPECTIONS (STRUCTURAL)

1. IN ADDITION TO STANDARD INSPECTIONS BY THE BUILDING OFFICIAL REQUIRED IN IBC SECTION 110, THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS AS REQUIRED IN IBC SECTION 1704 AND 1705. THESE SECTIONS REFER TO THE SPECIAL INSPECTIONS PERTAINING TO THE STRUCTURAL SYSTEM ONLY AND DOES NOT ENCOMPASS INSPECTIONS REQUIRED BY OTHER DISCIPLINES.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE REQUIRED INSPECTIONS.

3. TYPES OF WORK REQUIRING SPECIAL INSPECTION AND TESTING ON THIS PROJECT ARE LISTED IN THE FOLLOWING MATERIAL SPECIFIC TABLES. THESE TABLES ARE NOT MEANT TO ENCOMPASS ALL SPECIAL INSPECTIONS ON THE PROJECT, JUST THOSE DIRECTLY RELATED TO ELEMENTS AND MATERIALS USED FOR STRUCTURAL SUPPORT.

4. IN ADDITION TO THE SUBMITTAL REPORTS OF SPECIAL INSPECTIONS AND TESTS, REPORTS AND CERTIFICATIONS SHALL BE SUBMITTED BY THE OWNER (OR OWNER'S AGENT) TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATION OF NONSTRUCTURAL COMPONENTS, SUPPORTS AND ATTACHMENTS.
   B. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS
   C. REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE.

5. STRUCTURAL OBSERVATIONS (WHEN REQUIRED BY BUILDING OFFICIAL)
   A. STRUCTURAL OBSERVATIONS MAY BE PERFORMED AS DEEMED NECESSARY BY THE STRUCTURAL ENGINEER OF RECORD.
   B. OBSERVATION VISITS TO THE SITE BY THE ENGINEER'S FIELD REPRESENTATIVES SHALL NOT BE CONSTRUED AS AN INSPECTION OR APPROVAL OF CONSTRUCTION.
   C. IN AN EFFORT TO KEEP THE STRUCTURAL ENGINEER OF RECORD CURRENT AS TO THE STATE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER VIA TELEPHONE OR EMAIL TWENTY-FOUR HOURS PRIOR TO:
      a. PLACING OF ANY CONCRETE IN STRUCTURAL MEMBERS DESIGNATED IN THESE DRAWINGS.
      b. COMPLETING THE MAIN ERECTION OF STRUCTURAL STEEL ELEMENTS DESIGNATED IN THESE DRAWINGS.
      c. COMPLETING THE NAILING OF ANY MAJOR PORTIONS OF WOOD ROOF DIAPHRAGMS DESIGNATED IN THESE DRAWINGS.

SOILS INSPECTION AND TESTING TABLE

VERIFICATION + INSPECTION	PO	CO
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	X	-
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	X	-
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	X	-
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	-	X
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	X	-

NOTES:
PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.6 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.
2. REFER TO PROJECT GEOTECHNICAL REPORT, PROVIDED BY OWNER, TO VERIFY REQUIREMENTS FOR COMPACTED FILL, SOIL PROPERTIES, AND PREPARATION GUIDELINES.

CONCRETE CONSTRUCTION INSPECTION AND TESTING TABLE

VERIFICATION + INSPECTION	PO	CO
INSPECT REINFORCEMENT, INCLUDING, PRESTRESSING TENDONS, AND VERIFY PLACEMENT	X	-
REINFORCING BAR WELDING: - VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706 - INSPECT SINGLE-PASS FILLET WELDS, MINIMUM 5/16" - INSPECT ALL OTHER WELDS	X X -	- - X
INSPECTION OF ANCHORS CAST IN CONCRETE	X	-
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS - ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS -MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED	- X	X -
VERIFYING USE OF REQUIRED DESIGN MIX	X	-
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	-	X
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	-	X
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	X	-
VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	X	-

NOTES:
PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.3 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.

STRUCTURAL STEEL BOLTING INSPECTION AND TESTING TABLE

VERIFICATION + INSPECTION	QC	QA
INSPECTION TASKS PRIOR TO BOLTING		
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O
CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O
CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	O
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O
INSPECTION TASKS DURING BOLTING		
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED	O	O
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O
INSPECTION TASKS AFTER BOLTING		
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P

NOTES:
QC = REPRESENTS QUALITY CONTROL PERSONNEL PROVIDED BY THE FABRICATOR AND THE ERECTOR WHO ARE QUALIFIED TO PERFORM REQUIRED TASKS.
QA = REPRESENTS QUALITY ASSURANCE PERSONNEL PROVIDED BY OTHERS (OWNER ENGAGED) AS REQUIRED BY JURISDICTION AND/OR OWNER.
O = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
P = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.2 AND 1705.12.1 OF THE INTERNATIONAL BUILDING CODE AS WELL AS AISC 360, CHAPTER N. FABRICATOR/ERECTOR AND SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THESE SECTIONS OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND JURISDICTIONAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.
2. ALL ELEMENTS THAT ARE PART OF THE LATERAL FORCE RESISTING SYSTEM (LFRS) MUST, IN ADDITION TO REQUIREMENTS ABOVE ADHERE TO AISC-341 CHAPTER J. FABRICATOR/ERECTOR AND SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THESE SECTIONS OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND JURISDICTIONAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.

WOOD CONSTRUCTION INSPECTION AND TESTING TABLE

VERIFICATION + INSPECTION	PO	CO
INSPECTION OF HIGH-LOAD DIAPHRAGMS TO VERIFY THE FOLLOWING: -- STRUCTURAL PANEL GRADE AND THICKNESS -- NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES -- NAIL AND/OR STAPLE DIAMETER AND LENGTH, NUMBER, FASTENER LINES, SPACING,EDGE MARGIN	X	-
INSPECTION OF NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE MAIN SEISMIC/WIND FORCE RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLD-DOWNS	X	-
VERIFY INSTALLATION OF PREFABRICATED WOOD STRUCTURAL TRUSSES/JOISTS FOR COMPLIANCE WITH DETAILS AND REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS	X	-
INSPECTION OF METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60' OR GREATER: VERIFY TEMPORARY INSTALLATION RESTRAINT/BRACING AND PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	X	-

NOTES:
PO = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
CO = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.5 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THIS SECTION OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND BUILDING OFFICIAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.

STRUCTURAL STEEL WELDING INSPECTION AND TESTING TABLE

VERIFICATION + INSPECTION	QC	QA
INSPECTION TASKS PRIOR TO WELDING		
WELDING QUALIFICATION RECORDS AND CONTINUITY RECORDS	P	O
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLE AVAILABLE.	P	P
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	O
WELDER IDENTIFICATION SYSTEM	O	O
FIT-UP GROOVE WELDS (INCLUDING JOINT GEOMETRY) -- JOINT PREPARATION -- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) -- CLEANLINESS (CONDITION OF STEEL SURFACES) -- TACKING (TACK WELD QUALITY AND LOCATION) -- BACKING TYPE AND FIR (IF APPLICABLE)	O	O
FIT-UP CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY) -- JOINT PREPARATION -- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) -- CLEANLINESS (CONDITION OF STEEL SURFACES) -- TACKING (TACK WELD QUALITY AND LOCATION)	P	O
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT-UP OF FILLET WELDS -- DIMENSIONS (ALIGNMENT, GAPS AT ROOT) -- CLEANLINESS (CONDITION OF STEEL SURFACES) -- TACKING (TACK WELD QUALITY AND LOCATION)	O	O
CHECK WELDING EQUIPMENT	O	-
INSPECTION TASKS DURING WELDING		
CONTROL AND HANDLING OF WELDING CONSUMABLES -- PACKAGING -- EXPOSURE CONTROL	O	O
NO WELDING OVER CRACKED TACK WELDS	O	O
ENVIRONMENTAL CONDITIONS -- WIND SPEED WITHIN LIMITS -- PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED -- SETTINGS ON WELDING EQUIPMENT -- TRAVEL SPEED -- SELECTED WELDING MATERIALS -- SHIELDING GAS TYPE/FLOW RATE -- PREHEAT APPLIED -- INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) -- PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES -- INTERPASS AND FINAL CLEANING -- EACH PASS WITHIN PROFILE LIMITATIONS -- EACH PASS MEETS QUALITY REQUIREMENTS	O	O
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	P	P
INSPECTION TASKS AFTER WELDING		
WELDS CLEANED	O	O
SIZE, LENGTH AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA -- CRACK PROHIBITION -- WELD/BASE-METAL FUSION -- CRATER CROSS SECTION -- WELD PROFILES -- WELD SIZE -- UNDERCUT -- POROSITY	P	P
ARC STRIKES	P	P
K-AREA	P	P
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	P
REPAIR ACTIVITIES	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF EOR	O	O

NOTES:
QC = REPRESENTS QUALITY CONTROL PERSONNEL PROVIDED BY THE FABRICATOR AND THE ERECTOR WHO ARE QUALIFIED TO PERFORM REQUIRED TASKS.
QA = REPRESENTS QUALITY ASSURANCE PERSONNEL PROVIDED BY OTHERS (OWNER ENGAGED) AS REQUIRED BY JURISDICTION AND/OR OWNER.
O = REPRESENTS PERIODIC INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
P = REPRESENTS CONTINUOUS INSPECTION AND/OR OBSERVATION REQUIRED DURING THE GIVEN TASK.
1. TABLE IS SPECIFICALLY BASED UPON SECTION 1705.2 AND 1705.12.1 OF THE INTERNATIONAL BUILDING CODE AS WELL AS AISC 360, CHAPTER N. FABRICATOR/ERECTOR AND SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THESE SECTIONS OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND JURISDICTIONAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.
2. ALL ELEMENTS THAT ARE PART OF THE LATERAL FORCE RESISTING SYSTEM (LFRS) MUST, IN ADDITION TO REQUIREMENTS ABOVE ADHERE TO AISC-341 CHAPTER J. FABRICATOR/ERECTOR AND SPECIAL INSPECTOR AND/OR TESTING AGENCY IS RESPONSIBLE FOR FOLLOWING THE REQUIREMENTS OUTLINED IN THESE SECTIONS OF THE CODE AND ENSURING THEY ARE IN COMPLIANCE WITH BUILDING CODE AND JURISDICTIONAL REQUIREMENTS RELATED TO INSPECTION, TESTING AND REPORTING.

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

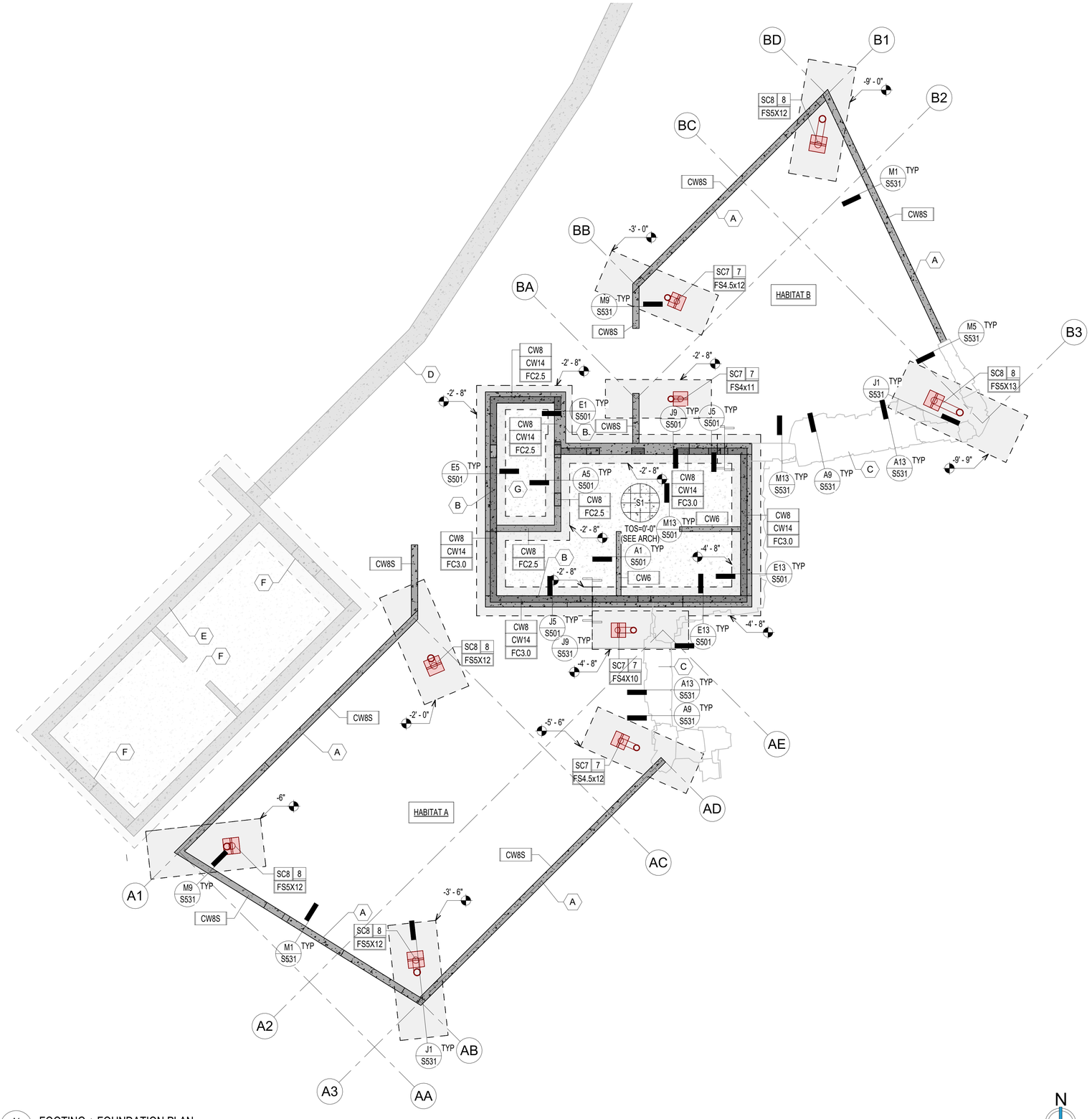
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
SPECIAL INSPECTIONS

DRAWING NO:
S003

structural
DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com



A1 / S101 FOOTING + FOUNDATION PLAN
Scale: 3/16" = 1'-0"

N

FOOTING + FOUNDATION PLAN NOTES

1. SEE ARCHITECTURAL, CIVIL, SITE AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS ETC.
2. SEE L300 SERIES DRAWINGS FOR HABITAT CURBS + MAST ELEVATIONS, DIMENSIONS, AND LAYOUT.
3. ALL DIMENSIONS SHOWN ON THIS PLAN ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
4. SEE ARCHITECTURAL DRAWINGS FOR ALL SLAB DEPRESSIONS AND SLOPES TO DRAINS, ETC.
5. SEE ARCHITECTURAL, CIVIL, SITE AND LANDSCAPE DRAWINGS FOR ADDITIONAL EXTERIOR CONCRETE SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
6. ALL PIERS/COLUMNS SHALL BE CENTERED ON FOOTINGS UNLESS NOTED OTHERWISE.
7. UNLESS NOTED OTHERWISE ALL FOUNDATION WALLS SHALL BE CENTERED ON CONTINUOUS WALL FOOTINGS.
8. CONTRACTOR TO COORDINATE THE LAYOUT OF ALL SLAB AND WALL CONTROL/CONSTRUCTION JOINTS IN ACCORDANCE WITH GENERAL STRUCTURAL NOTES AND WITH VISUAL REQUIREMENTS OF ARCHITECTURAL DRAWINGS.
9. CONTRACTOR TO COORDINATE SIZE, LOCATION, AND THICKNESS OF ALL HOUSEKEEPING/EQUIPMENT PADS WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
10. CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION SEQUENCE FOR ALL STRUCTURAL ELEMENTS IN THE PROJECT. CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY SHORING OR BRACING AS NEEDED UNTIL STRUCTURE IS COMPLETE.
11. ALL BOTTOM OF FOOTING ELEVATIONS SHALL BE PLACED AT LEAST 30 INCHES BELOW FINAL EXTERIOR GRADE. ADD ADDITIONAL FOOTING STEPS AS REQUIRED TO ACCOMPLISH THIS. CONTRACTOR TO COORDINATE THESE FOOTING STEP LOCATIONS.
12. NO UTILITIES SHALL PASS BELOW FOOTINGS. DROP FOOTINGS AS NEEDED TO ALLOW UTILITIES TO PASS THROUGH FOUNDATION WALL. CONTRACTOR SHALL COORDINATE ALL UTILITY AND FOOTING STEP LOCATIONS.
13. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING STRUCTURAL ELEMENTS, SIZES, DIMENSIONS, LOCATIONS, ETC. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
14. CONTRACTOR SHALL FIELD VERIFY THE CONDITION OF EXISTING ELEMENTS. ANY VISIBLE DETERIORATION OR DAMAGE SHALL BE REPORTED TO THE ARCHITECT AND/OR ENGINEER.
15. CONTRACTOR SHALL TAKE SPECIAL CARE DURING DEMOLITION NOT TO DAMAGE ANY STRUCTURAL ELEMENT THAT IS TO REMAIN. ANY DAMAGED ELEMENTS MUST BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO OWNER.
16. ALL STEEL CABLES AND GUY WIRES SHALL BE GALVANIZED STEEL WITH A 6X19 EIPS CLASSIFICATION WITH GALVANIZED HARDWARE AS REQUESTED BY THE CLIENT.
17. ALL MESH USED IN ENCLOSURE FOR ROOF AND WALLS IS TO BE DESIGNED BY THE MESH SUPPLIER AND CORRESPONDING CONNECTIONS TO THE SUPER STRUCTURE. ALL MESH SHALL BE INSTALLED WITH NO PRETENSION LOAD INDUCED.
18. ALL GUY WIRES ARE TO BE INSTALLED TAUT, BUT WITH NO RESIDUAL PRETENSION LOAD INDUCED.
19. ALL STEEL SHOWN IN THIS PLAN VIEW AND CONNECTING ELEMENTS ARE TO BE POWDER COATED OR GALVANIZED AS INDICATED BY ARCHITECT AND SPECIFICATIONS.

(A) KEYNOTES

A	SEE LANDSCAPE DRAWINGS FOR WALL MESH AND CONNECTION TO DIG BARRIER, TYP
B	CIVIL, MECHANICAL + PLUMBING UTILITIES, CONTRACTOR TO COORDINATE FOOTING STEP REQUIREMENTS WITH PLAN NOTE 12.
C	ROCKWORK (BY OTHERS), SEE LANDSCAPE, CIVIL, AND ARCHITECTURAL DRAWINGS
D	SITE RETAINING WALL BY OTHERS
E	EXISTING BUILDING
F	INCREASE HEIGHT OF EXISTING OPENING ONLY, SEE ARCH. SAWCUT NEW OPENING HEIGHT AND DO NOT OVERCUT CORNERS (DRILL OUT CORNERS). PROVIDE STEEL PLATES REINFORCING AT HEADER PER DETAIL A9/S501.
G	SEE MEP +ARCHITECTURAL DRAWINGS FOR HOUSEKEEPING PAD LOCATIONS. SEE TYPICAL DETAIL ON S501 + PLAN NOTE 9

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

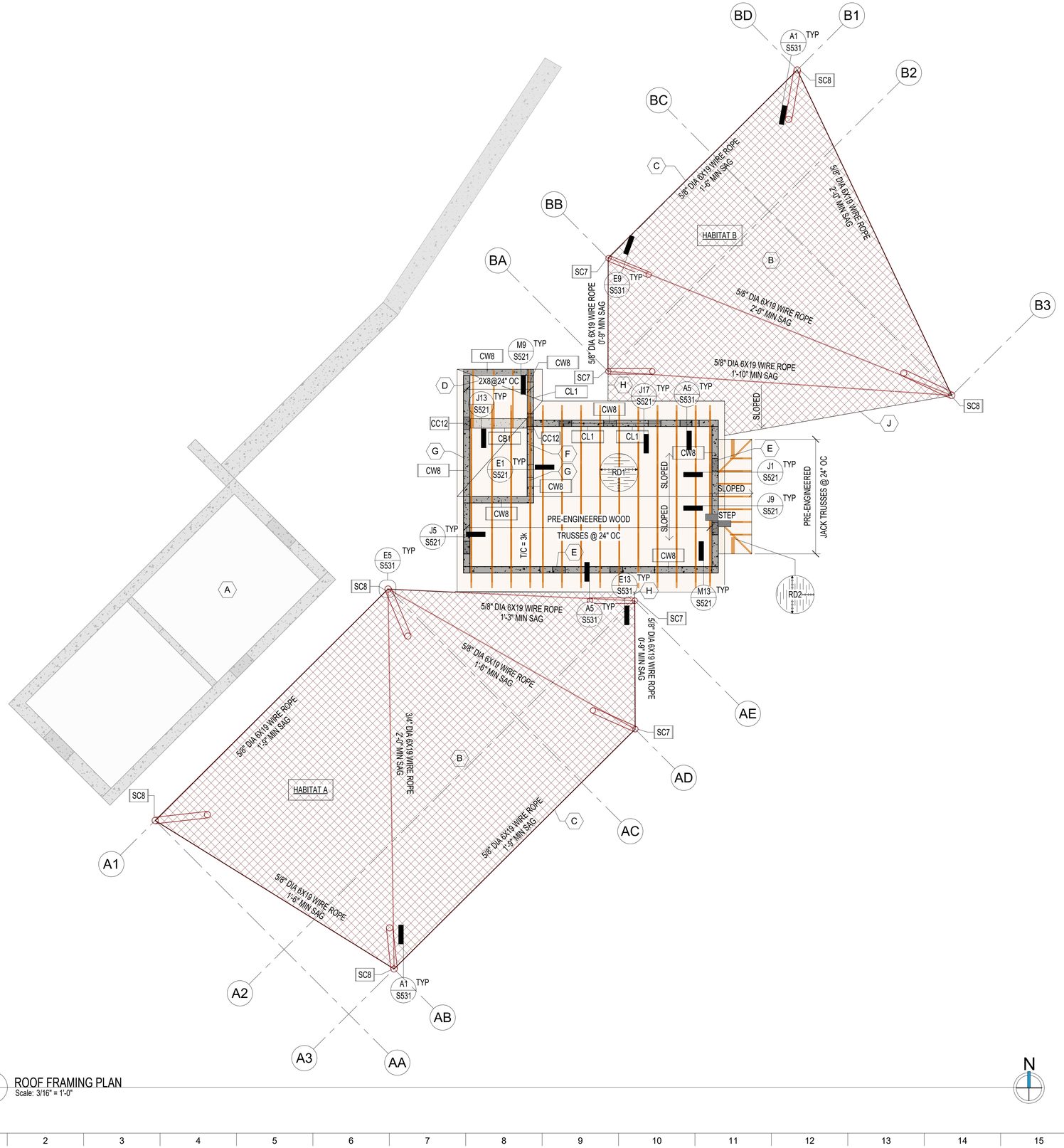
STATE OF MARYLAND
JACOB L. MERKLEY
48712
PROFESSIONAL ENGINEER
11/22/24

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
FOOTING + FOUNDATION PLAN

DRAWING NO:
S101

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com



A1 S121 ROOF FRAMING PLAN
Scale: 3/16" = 1'-0"

N

ROOF FRAMING PLAN NOTES

1. ALL DIMENSIONS SHOWN ON THIS PLAN ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL ROOF STEPS AND SLOPES TO DRAINS, ETC.
3. CONTRACTOR TO COORDINATE SIZE, LOCATIONS AND SUPPORT OF ALL EQUIPMENT WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
4. CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION SEQUENCE FOR ALL STRUCTURAL ELEMENTS IN THE PROJECT. CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY SHORING OR BRACING AS NEEDED UNTIL STRUCTURE IS COMPLETE.
5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING STRUCTURAL ELEMENTS, SIZES, DIMENSIONS, LOCATIONS, ETC. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
6. CONTRACTOR SHALL FIELD VERIFY THE CONDITION OF EXISTING ELEMENTS. ANY VISIBLE DETERIORATION OR DAMAGE SHALL BE REPORTED TO THE ARCHITECT AND/OR ENGINEER.
7. CONTRACTOR SHALL TAKE SPECIAL CARE DURING DEMOLITION NOT TO DAMAGE ANY STRUCTURAL ELEMENT THAT IS TO REMAIN. ANY DAMAGED ELEMENTS MUST BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO OWNER.
8. ALL STEEL CABLES AND GUY WIRES SHALL BE GALVANIZED STEEL WITH A 6X19 EIPS CLASSIFICATION WITH GALVANIZED HARDWARE AS REQUESTED BY THE CLIENT.
9. ALL MESH USED IN ENCLOSURE FOR ROOF AND WALL IS TO BE DESIGNED BY THE MESH SUPPLIER AND CORRESPONDING CONNECTIONS TO THE SUPER STRUCTURE. ALL MESH SHALL BE INSTALLED WITH NO PRETENSION LOAD INDUCED ON CABLES, COLUMNS, NOR FOUNDATIONS.
10. ALL VERTICAL CABLES AT MASTS ARE NOT TO BE PRETENSIONED.
11. ALL STEEL SHOWN IN THIS PLAN VIEW AND CONNECTING ELEMENTS ARE TO BE POWDER COATED OR GALVANIZED AS INDICATED BY ARCHITECT AND SPECIFICATIONS.
12. SAG DENOTED ON THE DRAWINGS IS THE MINIMUM SAG ACROSS THE CABLE FROM THE LOWEST ANCHOR POINT, TO THE LOWEST POINT ON THE CABLE. SEE E1/S531 FOR DEFINITION OF SAG.

PRE-ENGINEERED TRUSSES (BY MANUFACTURER)
ALL ROOF TRUSSES, BOTH PITCHED, FLAT AND CUSTOM SHAPE ARE TO BE DESIGNED FOR THE FOLLOWING SERVICE LOADS (ALL LOADS ARE CONSIDERED SUPERIMPOSED):

DEAD LOAD (TOP CHORD):.....15 PSF
DEAD LOAD (BOTTOM CHORD):.....10 PSF
ROOF LIVE LOAD:.....20 PSF
FLAT ROOF SNOW LOAD:.....25 PSF + DRIFT
SLOPED ROOF SNOW LOAD:.....25 PSF + UNBALANCED
JACK TRUSS DRIFT SNOW LOAD:.....32 PSF
WIND LOAD (NET UPLIFT):.....20 PSF

TRUSS ELEMENTS MUST ALSO BE DESIGNED FOR ALL NOTED MECHANICAL UNITS (CONFIRM WEIGHT WITH EQUIPMENT PURCHASED), SNOW DRIFTS + UNBALANCED SNOW (AS PER ASCE 7) AS WELL AS ALL SEISMIC TENSION/COMPRESSION (T/C) LOADS NOTED ON THE DRAWINGS.

TRUSS MANUFACTURER IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL TRUSS-TO-TRUSS CONNECTIONS, INCLUDING HANGER, AND OTHER SPECIALTY CONNECTIONS THAT MAY BE REQUIRED.

A KEYNOTES

A	EXISTING CONCRETE BUILDING
B	MESH ROOF ENCLOSURE (MESH DESIGN AND CONNECTIONS BY OTHERS). MESH DESIGNER TO PROVIDE ADD'L SECONDARY CABLES IF REQUIRED
C	MESH WALL ENCLOSURE (MESH DESIGN AND CONNECTIONS BY OTHERS), TYP
D	SISTER 2X RAFTERS TO EACH TRUSS PER DETAIL
E	AT ANIMAL TRANSFER CHUTE OPENINGS PROVIDE #5 REINFORCING AROUND ENTIRE OPENING WITH FULL LAP SPLICE, SEE DETAIL M1/S501 (TYP).
F	SHEATH TRUSS WITH 15/32" OSB + CENTER ON CONCRETE WALL BELOW
G	SEE ARCH + MEP DRAWINGS FOR CONCRETE WALL PENETRATIONS FOR DUCTING, PIPE, ETC. . SEE DETAIL M1/S501
H	MESH DESIGNER TO PROVIDE SECONDARY CLOSURE CABLE TO CONNECTION ROOF /WALL MESH, TYP
J	MESH WALL ENCLOSURE TO ROCKWORK (MESH DESIGN AND CONNECTIONS BY OTHERS), TYP

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

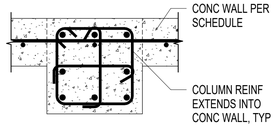
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

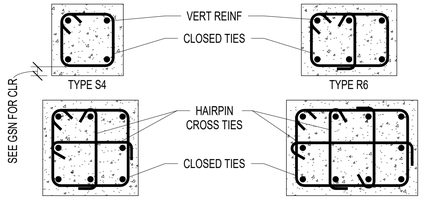
DRAWING TITLE:
ROOF FRAMING PLAN

DRAWING NO:
S121

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com



CONCRETE COLUMN "INTEGRATED" INTO CONC WALL



CONCRETE COLUMN REINFORCING LAYOUT TYPES

CC#

CONCRETE COLUMN SCHEDULE

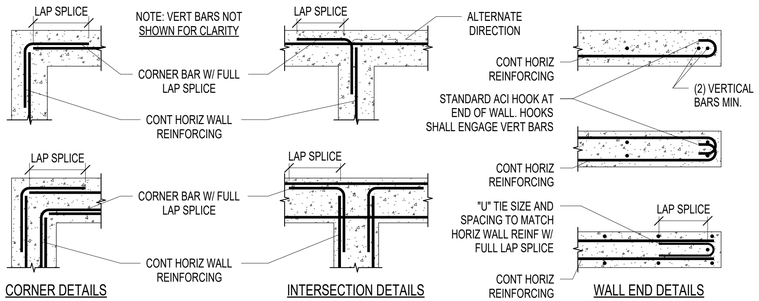
MARK	SIZE	TYPE	COLUMN REINFORCING		COMMENTS
			VERTICAL BARS	TIES	
CC12	8X16	S4	(4) #5	#3@6" OC	

NOTES:
1. DESIGNATION "TYPE S[#] AND R[#]" WHERE [#] EQUALS THE NUMBER OF VERTICAL REINFORCING BARS.
2. ALL PIERS SHALL BE CENTERED ON COLUMN BASE PLATE ABOVE UNLESS NOTED OTHERWISE.
3. ALL VERT REINFORCING SHALL BE DOWELED TO FOOTING BELOW WITH SAME SIZE REINFORCING WITH STANDARD 90 DEGREE HOOK.
4. TIES SHALL BE PLACED @ 3" OC AROUND ANCHOR BOLTS UNO.
5. SEE GENERAL STRUCTURAL NOTES FOR REINFORCING LAYOUT.

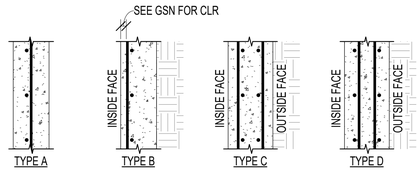
M1
S301

CONCRETE COLUMN SCHEDULE + DETAILS

Scale: NTS



CORNER DETAILS | INTERSECTION DETAILS | WALL END DETAILS



REINFORCED CONCRETE WALL SECTION TYPES

CW#

CONCRETE WALL SCHEDULE

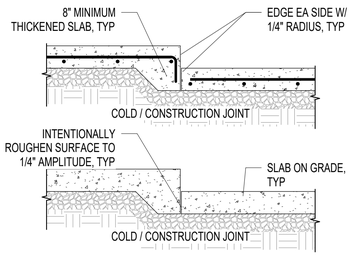
MARK	WIDTH	TYPE	WALL REINFORCING		COMMENTS
			HORIZONTAL	VERTICAL	
CW6	6"	TYPE A	#4@12" OC	#4@12" OC	
CW8	8"	TYPE A	#5@12" OC	#5@12" OC	
CW8S	8"	TYPE A	#4@12" OC	#4@12" OC	
CW14	14"	TYPE C	#5@12" OC IF, #4@12" OC OF	#5@12" OC IF, #4@12" OC OF	THERMOMASS

NOTES:
1. AT TOP AND BTM OF WALL, INCLUDING ALL DECK BEARING ELEVATIONS PROVIDE (2) #5 CONT IN ADDITION TO SCHEDULED REINFORCING.
2. OUTSIDE FACE OF REINFORCING DESIGNATION TO BE PLACED ON THE SOIL SIDE OF THE WALL.
3. THIS IS A SHEAR WALL - PLACE CC12 AT THE END + EA JAMB OF WALL.
4. ALL HORIZONTAL REINFORCING SHALL TERMINATE AT ENDS OF WALLS + ALL JAMBS WITH A STANDARD HOOK. END OF WALL IS DEFINED AS ANY WALL SEGMENT THAT EITHER CHANGES DIRECTION AND/OR CHANGES TO A DIFFERENT WALL TYPE.
5. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

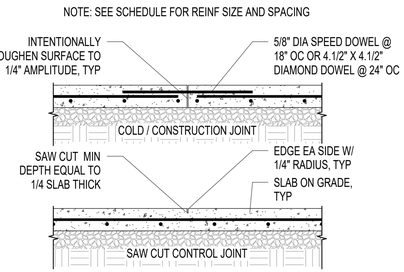
H1
S301

CONCRETE WALL SCHEDULE + DETAILS

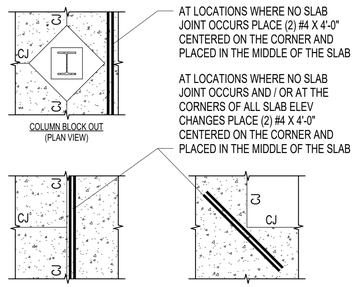
Scale: NTS



CONCRETE SLAB ON GRADE RECESSED JOINTS



CONCRETE SLAB ON GRADE JOINTS



DISCONTINUOUS CONTROL JOINT
(PLAN VIEW)

S#

CONCRETE SLAB ON GRADE SCHEDULE

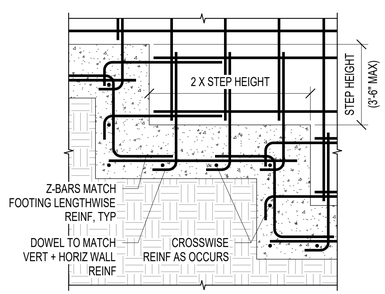
MARK	THICK	SLAB REINFORCING	SLAB BASE MATERIAL	COMMENTS
S1	5"	#4@16" OC EA WAY	SEE GEOTECH	

NOTES:
1. SEE GEOTECHNICAL REPORT FOR ADDITIONAL SLAB ON GRADE REQUIREMENTS.
2. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

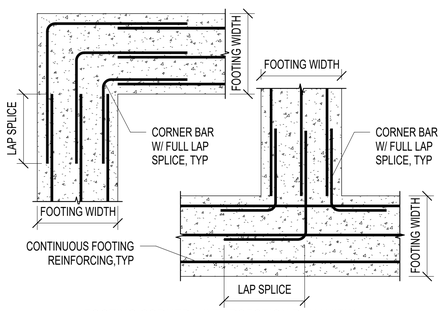
E1
S301

CONCRETE SLAB ON GRADE SCHEDULE + DETAILS

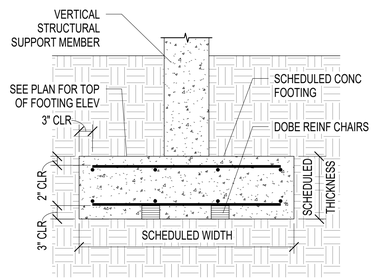
Scale: NTS



FOOTING STEP



FOOTING CORNER + INTERSECTION PLAN VIEW



FOOTING REINF CLEAR COVERAGE

FX#.#

CONCRETE FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICK	CROSSWISE REINFORCING				LENGTHWISE REINFORCING				COMMENTS
				NO. BARS	BAR SIZE	LENGTH	SPACING	NO. BARS	BAR SIZE	LENGTH	SPACING	
FC2.5	2' - 6"	CONT	12"		#5	2' - 0"	12" OC	4	#5	CONT	8"	
FC3.0	3' - 0"	CONT	12"		#5	2' - 6"	12" OC	4	#5	CONT	10"	
FS4.5x12	4' - 6"	12' - 0"	18"	13	#6	4' - 0"	12"	7	#7	11' - 6"	8"	TOP+BTM, NOTE 6
FS4X10	4' - 0"	10' - 0"	18"	11	#6	3' - 6"	11"	6	#7	9' - 6"	8"	TOP+BTM, NOTE 6
FS4x11	4' - 0"	11' - 0"	18"	12	#6	3' - 6"	11"	6	#7	10' - 6"	8"	TOP+BTM, NOTE 6
FS5X12	5' - 0"	12' - 0"	18"	13	#6	4' - 6"	12"	8	#7	11' - 6"	8"	TOP+BTM, NOTE 6
FS5X13	5' - 4"	13' - 6"	20"	14	#6	4' - 10"	12"	8	#7	13' - 0"	8"	TOP+BTM, NOTE 6

NOTES:
1. CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS, UNO.
2. SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS, UNO.
3. ALL FOOTINGS SHALL BE FORMED AND NOT EARTH FORMED OR OVERSIZED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.
4. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER.
5. REINFORCING IN CONTINUOUS FOOTINGS SHALL PASS THROUGH INTERSECTING SPOT FOOTINGS.
6. PROVIDE TOP + BOTTOM REINFORCING WITH 90 DEGREE HOOK AT EACH END.
7. TOP REINFORCING SHOWN IN DETAILS SHALL BE #5 @ 12" OC UNLESS NOTED OTHERWISE
8. AS A MINIMUM ALL FOOTINGS GREATER THAN OR EQUAL TO 18" IN THICKNESS REQUIRE #6 @ 12" OC EA WAY IN THE TOP OF FOOTING. REFER TO SCHEDULE FOR MORE STRINGENT REQUIREMENTS.
9. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

A1
S301

CONCRETE FOOTING SCHEDULE + DETAILS

Scale: NTS

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

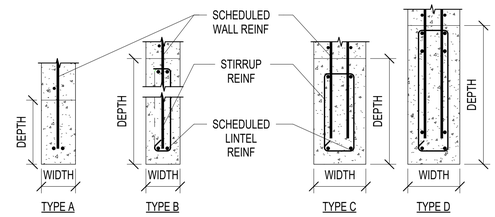
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

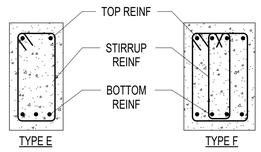
DRAWING TITLE:
STRUCTURAL SCHEDULES

DRAWING NO:
S301

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structurals.com



CONCRETE LINTEL TYPES



CONCRETE BEAM TYPES

CONCRETE BEAM/LINTEL SCHEDULE

CB# CL#

MARK	DEPTH	WIDTH	TYPE	BEAM/LINTEL REINFORCING		SUPPORT COLUMN	COMMENTS
				HORIZONTAL	STIRRUPS		
CL1	18"	8"	TYPE B	(2) #5 T+B	#3@8" OC	CC12	
CB1	16"	12"	TYPE E	(2) #5 T+B	#3@6" OC	CC12	

NOTES:
1. LINTELS SHALL BE OF THE SAME MATERIAL AND WIDTH AS THE WALL IN WHICH THEY ARE CONSTRUCTED.
2. EXTEND HORIZONTAL REINFORCING BEYOND THE EDGE OF ALL OPENINGS BY REQD DEVELOPMENT LENGTH. PROVIDE A 90° STANDARD HOOK WHERE THIS CANNOT BE ACCOMPLISHED.
3. BEAMS SHALL BE POURED MONOLITHICALLY WITH WALL.
4. TERMINATE LONGITUDINAL BEAM REINFORCING WITH A STANDARD 90 DEGREE HOOK.
5. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

M1 / S302 CONCRETE LINTEL SCHEDULE + DETAILS

Scale: NTS

TYPICAL POST-INSTALLED ANCHOR SCHEDULE

ANCHOR TYPE	ANCHOR	EVAL REPORT
ADHESIVE ANCHOR SYSTEM	HIT-RE 500 V3	ICC-ES ESR-3814
	DEWALT PURE 110+	ICC-ES ESR-3298
	SIMPSON SET-3G	ICC-ES ESR-4057
STEEL EXPANSION / WEDGE ANCHOR	HILTI KWIK BOLT TZ	ICC-ES ESR-1917
	DEWALT POWER-STUD+ SD2	ICC-ES ESR-2502
	SIMPSON STRONG-BOLT 2	ICC-ES ESR-3037
STEEL SCREW ANCHOR	HILTI KWIK HUS-EZ	ICC-ES ESR-3027
	DEWALT SCREW-BOLT+	ICC-ES ESR-3889
	SIMPSON TITEN HD	ICC-ES ESR-2713

ADHESIVE ANCHOR SYSTEM EMBEDMENT

SIZE (DIA)	#3 (3/8")	#4 (1/2")	#5 (5/8")	#6 (3/4")	#7 (7/8")	#8 (1")
EMBEDMENT	4.1/2"	6.1/2"	7.1/2"	10"	12"	13"

NOTES:
1. CAST-IN-PLACE ANCHORS CALLED OUT IN PLANS **SHALL NOT** BE REPLACED WITH POST-INSTALLED ANCHORS UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER OF RECORD.
2. ALL POST-INSTALLED ANCHORS INTO HARDENED CONCRETE SHALL BE SELECTED FROM THE PRE-APPROVED PRODUCTS (SHOWN IN THE TABLE) OR ENGINEER APPROVED EQUAL UNLESS NOTED OTHERWISE.
3. ANCHORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S PUBLISHED INSTRUCTIONS AND APPLICABLE CODE EVALUATION REPORTS
4. ALL POST-INSTALLED ANCHOR INSTALLATIONS ARE SUBJECT TO CONTINUOUS SPECIAL INSPECTION (SEE EVALUATION REPORTS AND SPECIAL INSPECTION TABLES).
5. SCHEDULED EMBEDMENT ABOVE ARE MINIMUM VALUES, HOWEVER ANY EMBEDMENT LENGTHS SHOWN IN PLANS GOVERN OVER THESE VALUES.
6. ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS. FOR INSTALLATIONS SOONER THAN 21 DAYS, CONSULT MANUFACTURER.
7. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY A CERTIFIED ADHESIVE ANCHOR INSTALLED (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-14 (SECTION 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
8. IF TEMPERATURE OF BASE MATERIAL AT TIME OF ADHESIVE INSTALLATION IS AT 40 DEGREES (FAHRENHEIT) OR LESS, VERIFY WITH MANUFACTURER THAT FULL STRENGTH OF ADHESIVE CAN BE OBTAINED, OTHERWISE AN "ACRYLIC" ADHESIVE IS REQUIRED.
9. DO NOT DAMAGE EXISTING REINFORCING OR EMBEDS DURING THE INSTALLATION OF POST-INSTALLED ANCHORS. CONTRACTOR TO LOCATE ALL EXISTING EMBEDDED ITEMS AND REINFORCING PRIOR TO THE INSTALLATION OF POST-INSTALLED ANCHORS.

H1 / S302 CONCRETE POST-INSTALLED ANCHOR SCHEDULE

Scale: NTS

CONCRETE LAP SPLICE SCHEDULE

BAR SIZE	TENSION BARS						COMP BARS
	f'c = 3000 PSI		f'c = 4000 PSI		f'c = 4500 PSI		
	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP	f'c = ALL
#3	22"	29"	19"	25"	18"	23"	12"
#4	29"	38"	25"	33"	24"	31"	15"
#5	36"	47"	31"	40"	30"	39"	19"
#6	43"	56"	37"	48"	35"	46"	23"
#7	63"	82"	54"	70"	51"	66"	27"
#8	72"	94"	62"	81"	59"	77"	30"
#9	81"	105"	70"	91"	66"	86"	34"
#10	90"	117"	78"	101"	73"	95"	38"
#11	98"	127"	85"	111"	80"	104"	42"

NOTES:
1. TOP BARS ARE HORIZONTAL BARS, SPLICED SO THAT 12" OR MORE OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING BAR.
2. ALL COLUMNS CAST INTEGRAL WITH WALLS, OR WHICH SUPPORT STEEL BRACED OR MOMENT FRAMES, OR WHICH ARE DESIGNATED MOMENT FRAMES ARE TO USE REGULAR LAP SPLICES. ALL OTHER CONCRETE COLUMNS MAY USE COMPRESSION BAR (COMPBAR) LAP SPLICE VALUES.
3. FOR VERTICAL BARS IN SHEAR WALL BOUNDARY ELEMENTS (SEE CONCRETE WALL SCHEDULE AND NOTES), LAP SPLICE VALUES ABOVE SHALL BE MULTIPLIED BY 1.25.
4. WHERE LIGHTWEIGHT CONCRETE IS USED, LAP SPLICE VALUES ABOVE SHALL BE MULTIPLIED BY 1.33.
5. WHERE EPOXY COATED REINFORCING IS SPECIFIED, LAP SPLICE VALUES ABOVE SHALL BE MULTIPLIED BY 1.5.

H16 / S302 CONCRETE LAP SCHEDULE

Scale: NTS

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

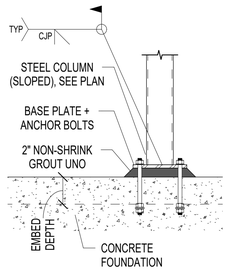
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
STRUCTURAL SCHEDULES

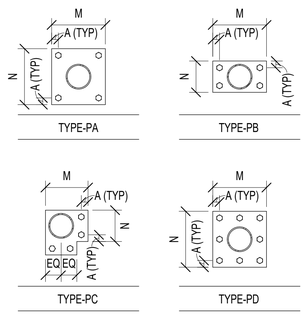
DRAWING NO:
S302

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com



*SEE S531 FOR SLOPING COLUMN BASE DETAILS

TYPICAL COLUMN BASE CONDITION



ROUND HSS COLUMN BASE PLATE TYPES

STEEL COLUMN SCHEDULE

SC#

MARK	COLUMN SIZE	COMMENTS
SC7	HSS7.500X0.500	
SC8	HSS8.625X0.500	

NOTES:
1. ALL COLUMNS TO BE CENTERED ON FOOTINGS AND FOUNDATIONS UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL COLUMNS ARE TO BE GALVANIZED. SEE ARCH FOR FINAL PAINT FINISH.

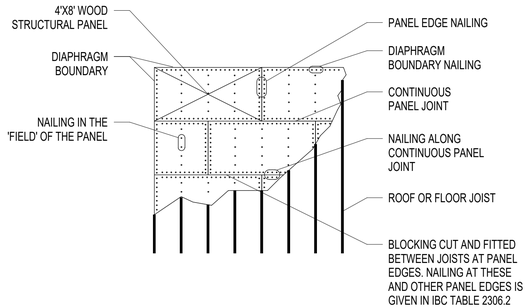
STEEL BASE PLATE SCHEDULE

#

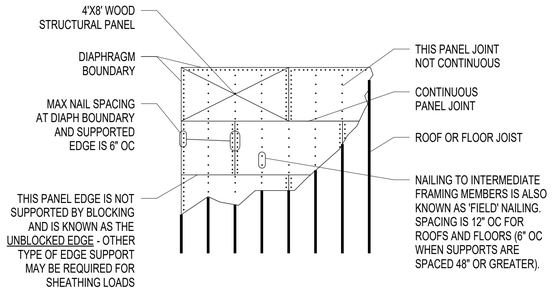
MARK	TYPE	"M" DIM	"N" DIM	PLATE THICKNESS	GROUT THICKNESS	"A" DIM	NO. OF ANCHORS	ANCHOR SIZE	ANCHOR EMBED	ANCHOR TYPE
7	TYPE-PD	18"	18"	1 1/2"	2"	2"	8	1 1/4"	1' - 2"	HEADED
8	TYPE-PD	20"	20"	1 3/4"	2"	2"	8	1 1/4"	1' - 2"	HEADED

NOTES:
1. ALL COLUMNS TO BE CENTERED ON BASE PLATES UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL BASE PLATES ARE TO BE A572-50 GRADE WITH 7/8" THICK x 6" x 6" SHEAR LUG CENTERED W/ 5/16" WELD TO BASE PLATE. NOTCH SHEAR LUGS AS REQ'D TO ACCOMMODATE REINF STEEL
3. ALL ANCHORS SHALL BE HEAVY HEADED ANCHOR RODS W/ 4"X4"X1/2" PLATE WASHERS WITH DOUBLE NUTS EMBEDDED IN CONCRETE AT THE EMBEDMENT DEPTH SPECIFIED.
4. ALL ANCHOR RODS ARE TO BE ASTM F1554-55 UNLESS NOTED OTHERWISE
5. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.

M1 / S303 GRAVITY STEEL COLUMN + BASE PLATE SCHEDULE
Scale: NTS



PARTIAL ROOF OR FLOOR PLAN (BLOCKED DIAPHRAGM)



PARTIAL ROOF OR FLOOR PLAN (UNBLOCKED DIAPHRAGM)

WOOD DECK SCHEDULE

MARK	THICKNESS	TYPE	BOUNDARY NAILING	FIELD NAILING	BLOCKING	COMMENTS
RD1	3/4"	OSB	10d@6" OC	8d@6" OC	UNBLOCKED	
RD2	15/32"	OSB	10d@6" OC	8d@6" OC	UNBLOCKED	

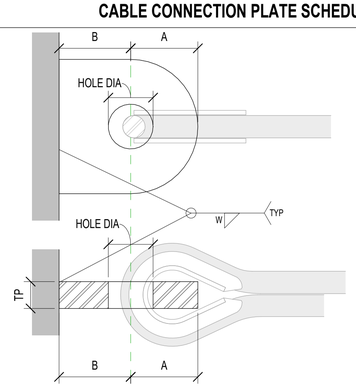
NOTES:
1. FOR BLOCKED EDGE NAILING NOMINAL DEPTH OF BLOCKING MUST BE 3" MIN.

G1 / S303 WOOD DIAPHRAGM SHEATHING SCHEDULE + DETAILS
Scale: NTS

CABLE CONNECTION PLATE SCHEDULE

CABLE SIZE	THICKNESS (TP)	HOLE SIZE	WELD W	PLATE DIMENSIONS A	PLATE DIMENSIONS B
1/4"	1/2"	3/4"	1/4"	7/8"	3"
3/8"	1/2"	1"	5/16"	1.1/4"	3"
1/2"	1/2"	1"	5/16"	1.5/8"	3"
5/8"	3/4"	1.1/4"	3/8"	1.7/8"	3"
3/4"	1"	1.1/2"	3/8"	2"	3"
7/8"	1"	1.1/2"	3/8"	2.1/2"	3"
1"	1.1/4"	1.3/4"	7/16"	3"	3"
1.1/4"	1.1/2"	2"	1/2"	3.3/4"	3"
1.1/2"	1.3/4"	2.3/4"	1/2"	5"	3"

NOTES:
1. PLATE IS TO MATCH THE SAME FINISH AS THE ELEMENT IT IS WELDING TO.
2. GENERAL CONTRACTOR TO COORDINATE HOLE SIZE WITH PURCHASED HARDWARE AND OR CABLE SIZE.
3. CABLES GREATER THAN OR EQUAL TO 1" IN DIAMETER TO USE EXTRA HEAVY WIRE ROPE THIMBLE. ALL OTHERS TO USE STANDARD WIRE ROPE THIMBLES. ALL THIMBLES TO MATCH SAME FINISH AS WIRE ROPE.



A1 / S303 CABLE CONNECTION PLATE SCHEDULE
Scale: NTS

GENERAL WOOD FRAMING SCHEDULE

CONNECTION	MINIMUM NAILING, U.N.O.	CONNECTION	MINIMUM NAILING, U.N.O.
JOIST TO SILL, TOP PLATE OR GIRDER	(3)8d, (3)3" X 0.131", TOENAIL	RIM JOIST TO TOP PLATE	8d @ 6" OC,3" X 0.131" @ 6" OC, TOENAIL
BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS	(2)8d, (2)3" X 0.131", TOENAIL EACH END	TOP PLATES, LAPS AND INTERSECTIONS	(2)16d, (3)3" X 0.131", FACE NAIL
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d @ 16" OC, 3" X 0.131" @ 12" OC, FACE NAIL	BUILT UP HEADERS (2" TO 2" HEADER)	16d @ 16" OC, FACE NAIL EACH EDGE
		CEILING JOIST TO TOP PLATE	(3)8d, (3)3" X 0.131", TOENAIL EACH JOIST
TOP OR BOTTOM PLATE TO STUD	(2)16d, (3)3" X 0.131", END NAIL	CONTINUOUS HEADER TO STUD	(4)8d, TOENAIL
STUD TO TOP OR BOTTOM PLATE	(4)8d, (4)3" X 0.131", TOENAIL; (2)16d, (3)3" X 0.131", END NAIL	CEILING JOIST, LAPS OVER PARTITIONS	(3)16d, (4)3" X 0.131", FACE NAIL
STUD TO STUD (NOT AT BRACED WALL PANELS)	16d @ 24" OC, 3" X 0.131" @ 16" OC, FACE NAIL	CEILING JOISTS TO PARALLEL RAFTERS (HEEL JOIST)	SEE IBC TABLE 2308.7.3.1, FACE NAIL
TOP PLATE TO TOP PLATE	16d @ 16" OC, 3" X 0.131" @ 12" OC, FACE NAIL	RAFTER OR ROOF TRUSS TO TOP PLATE	(3)10d, (3)3" X 0.131", TOENAIL
BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	(3)8d, (3)3" X 0.131", TOENAIL EACH END	KING STUD OR POST TO HEADER	(3)16d, FACE NAIL @ STUDS; SIMPSON A34, TOP & BOTTOM @ POSTS
		BUILT-UP BEAMS	SEE "TYPICAL BUILT-UP BEAM REQ'S"
RIM JOIST TO TOP PLATE	8d @ 6" OC,3" X 0.131" @ 6" OC, TOENAIL	LEDGER STRIP	(3)16d, (4)3" X 0.131", FACE NAIL EACH JOIST OR RAFTER

NOTES:
1. USE COMMON NAILS FOR ALL NAILING.
2. REQUIREMENTS SHOWN ABOVE SHALL NOT REPLACE THOSE SHOWN IN PLANS OR DETAILS. IN ANY CASE, USE THE MORE STRINGENT REQUIREMENT.

ROOF AND WALL SHEATHING TO FRAMING	1/2" OR LESS	8d	6" OC EDGE NAILING	12" OC FIELD NAILING	SINGLE FLOOR SHEATHING TO FRAMING	3/4" OR LESS	8d	6" OC EDGE NAILING	12" OC FIELD NAILING
	19/32" - 3/4"	8d	6" OC EDGE NAILING	12" OC FIELD NAILING		7/8" - 1"	8d	6" OC EDGE NAILING	12" OC FIELD NAILING
	7/8" - 1.1/4"	10d	6" OC EDGE NAILING	12" OC FIELD NAILING		1.1/8" - 1.1/4"	10d	6" OC EDGE NAILING	12" OC FIELD NAILING

A10 / S303 GENERAL WOOD FRAMING SCHEDULE
Scale: NTS

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

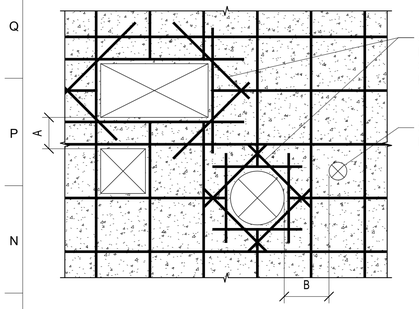
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
STRUCTURAL SCHEDULES

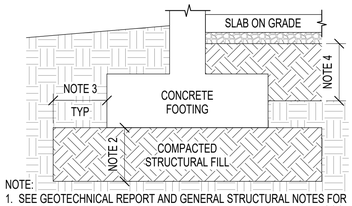
DRAWING NO:
S303



NOTES FOR REINFORCING AROUND OPENINGS:
1. ALL OPENINGS REQUIRE ADDITIONAL REINFORCING EXCEPT WHERE OPENING SIZE OR LOCATION IS SUCH THAT NO REINFORCING STEEL IS INTERRUPTED (i.e. CONDUITS, SMALL PIPES, etc.). WHERE OPENINGS ARE LARGER THAN THIS SPACING PROVIDE REINFORCING AROUND THE PERIMETER OF THE OPENING EQUAL TO THE AMOUNT INTERRUPTED AND PLACE HALF AT EACH SIDE OF THE OPENING. EXTEND A FULL LAP LENGTH BEYOND OPENING.

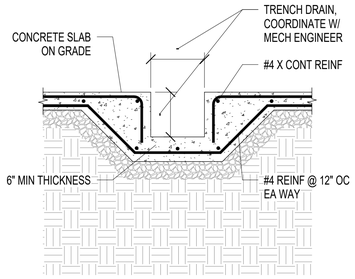
NOTES FOR ADJACENT OPENINGS:
A = THE LARGEST HEIGHT / DIAMETER OF THE TWO ADJACENT OPENINGS DIVIDED BY 2.0 (WALL THICKNESS MIN)
B = THE LARGEST WIDTH / DIAMETER OF THE TWO ADJACENT OPENINGS DIVIDED BY 2.0 (WALL THICKNESS MIN)

M1 / S501 TYPICAL MISC OPENINGS IN REINF FOUNDATION WALLS
Scale: NTS

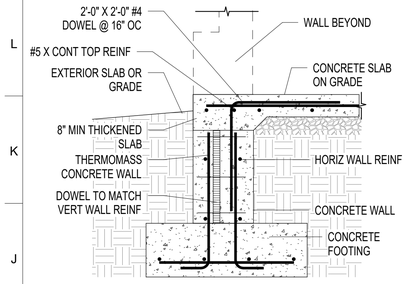


NOTE:
1. SEE GEOTECHNICAL REPORT AND GENERAL STRUCTURAL NOTES FOR COMPACTED STRUCTURAL FILL MATERIAL REQUIREMENTS AND ADDITIONAL INFORMATION.
2. FOR EXTENTS OF COMPACTED STRUCTURAL FILL BELOW FOOTING SEE GEOTECHNICAL REPORT.
3. FOR COMPACTED STRUCTURAL FILL EXTENTS BEYOND FOOTING EA SIDE SEE GEOTECHNICAL REPORT.
4. FOR EXTENTS OF COMPACTED STRUCTURAL FILL BELOW SLAB ON GRADE SEE GEOTECHNICAL REPORT.

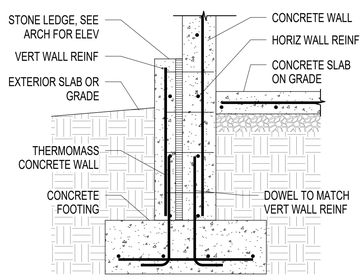
M9 / S501 TYPICAL COMPACTED STRUCTURAL FILL
Scale: NTS



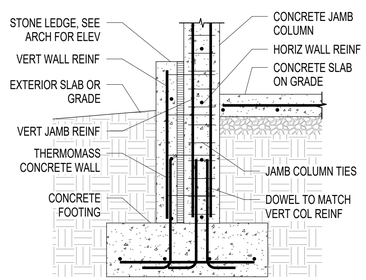
M13 / S501 TYPICAL TRENCH DRAIN DETAIL
Scale: NTS



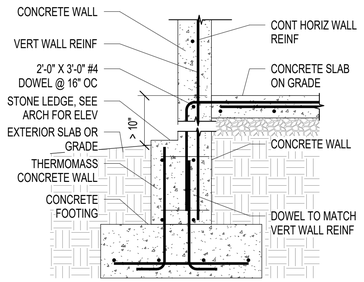
J1 / S501 TYPICAL FOUNDATION @ OPENING IN WALL
Scale: NTS



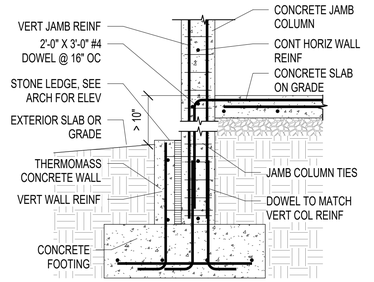
J5 / S501 TYPICAL CONCRETE WALL ON FOOTING
Scale: NTS



J9 / S501 TYPICAL CONCRETE COLUMN ON FOOTING
Scale: NTS



J13 / S501 TYPICAL CONCRETE WALL @ GRADE STEP
Scale: NTS



J17 / S501 TYPICAL CONCRETE COLUMN @ GRADE STEP
Scale: NTS

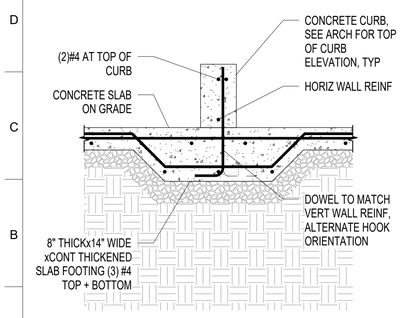
E1 / S501 TYPICAL FOUNDATION @ OPENING IN WALL
Scale: NTS

E5 / S501 TYPICAL CONCRETE WALL ON FOOTING
Scale: NTS

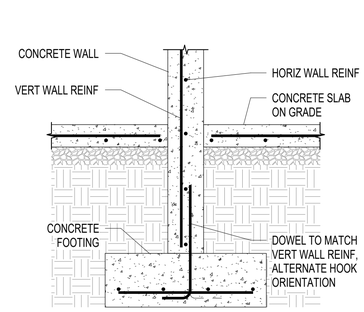
E9 / S501 TYPICAL CONCRETE COLUMN ON FOOTINGS
Scale: NTS

E13 / S501 TYPICAL CONCRETE WALL @ SLAB STEP
Scale: NTS

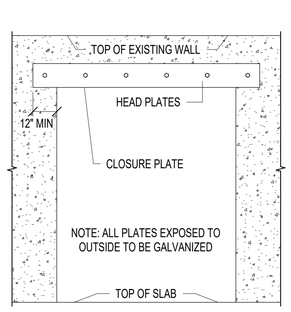
E17 / S501 TYPICAL CONCRETE COLUMN @ SLAB STEP
Scale: NTS



A1 / S501 TYPICAL CONCRETE WALL ON INTERIOR FTG
Scale: NTS



A5 / S501 TYPICAL INTERIOR CONCRETE WALL ON FOOTING
Scale: NTS

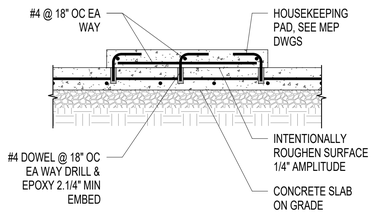


A9 / S501 NEW OPENING IN EXISTING MASONRY WALL
Scale: NTS

HEAD PLATES:
CONT STEEL PLATES EACH FACE W/ 3/4" DIA A307 THRU BOLTS @ 16" O.C.
SPAN ≤ 6'-0" REQUIRE 8"x1/2" THICK HEAD PLATES

CLOSURE PLATES:
1/4" THICK CLOSURE PLATE ON UNDERSIDE OF HEAD. BUTT WELD CLOSURE PLATE TO HEAD PLATES (WELD SPACING 3@12).

INSTALLATION: HEAD PLATES ARE TO BE INSTALLED PRIOR TO CUTTING NEW OPENING. **DO NOT** OVERCUT THE CORNERS OF ANY OPENING. CORE DRILL @ CORNERS IF NECESSARY.UPON COMPLETION OF OPENING, BOLTS AND NUTS TO BE TACK WELDED TO THE PLATES. BOLTS / NUTS TO BE THE SAME FINISH AS THE STEEL PLATES.



A15 / S501 TYPICAL SLAB HOUSEKEEPING PAD
Scale: NTS

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

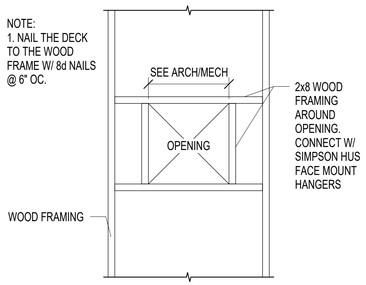
RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

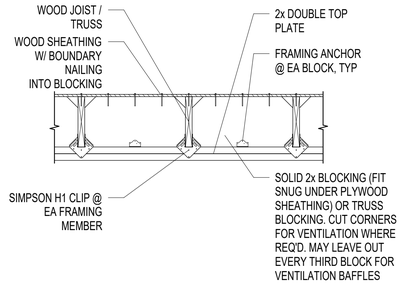
DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
STRUCTURAL FOUNDATION DETAILS

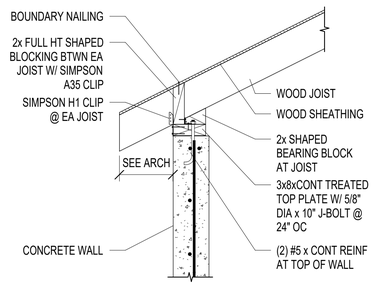
DRAWING NO:
S501



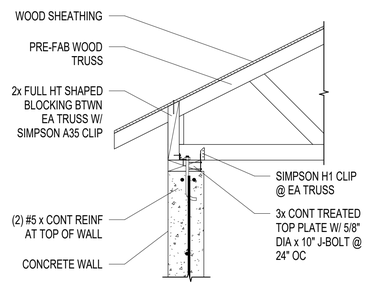
M1 S521 TYPICAL ROOF OPENING SUPPORT
Scale: NTS



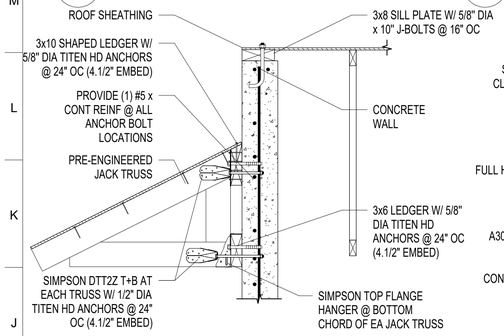
M5 S521 TYPICAL TRUSS/JOIST BLOCKING
Scale: NTS



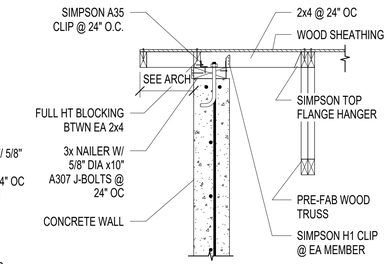
M9 S521 TYPICAL RAFTER TO CONCRETE WALL DETAIL
Scale: NTS



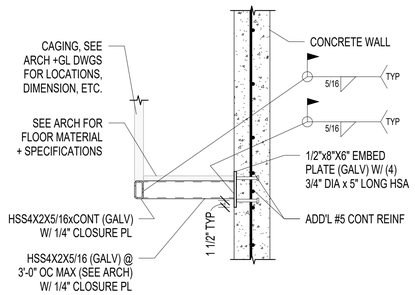
M13 S521 TYPICAL TRUSS TO CONCRETE WALL DETAIL
Scale: NTS



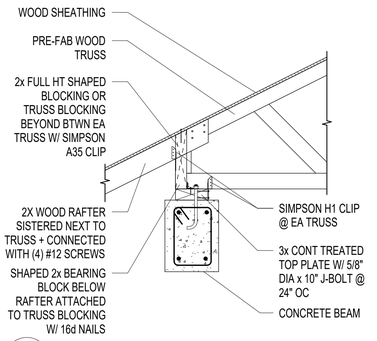
J1 S521 TYPICAL JACK TRUSS TO CONCRETE WALL
Scale: NTS



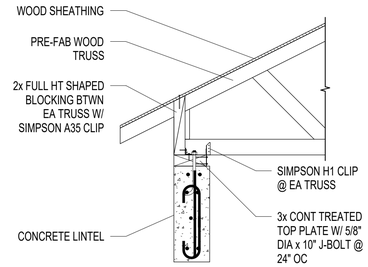
J5 S521 TYP GABLE CONCRETE WALL DETAIL
Scale: NTS



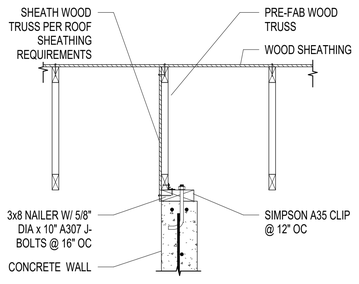
J9 S521 TYPICAL RED PANDA TRANSFER CHUTE DETAIL
Scale: NTS



J13 S521 TYPICAL TRUSS TO CONCRETE BEAM
Scale: NTS



J17 S521 TYPICAL TRUSS TO CONCRETE LINTEL
Scale: NTS



E1 S521 TYP DRAG TRUSS TO CONCRETE WALL DETAIL
Scale: NTS

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

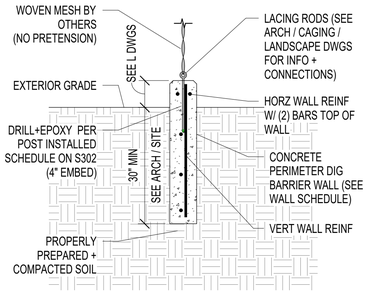
SEAL:

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

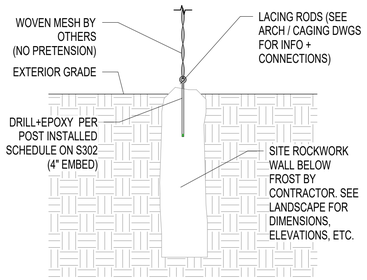
DRAWING TITLE:
STRUCTURAL FRAMING DETAILS

DRAWING NO:
S521

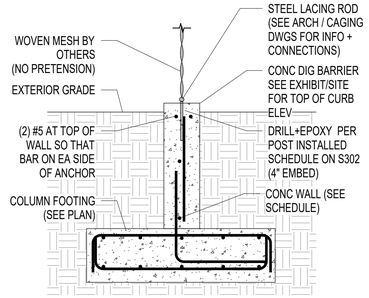
structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com



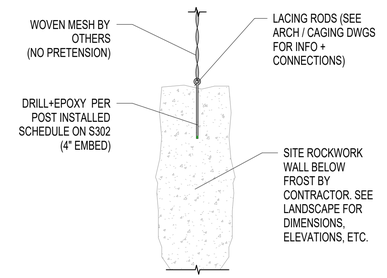
M1 S531 TYPICAL DIG BARRIER/MESH TERMINATION
Scale: NTS



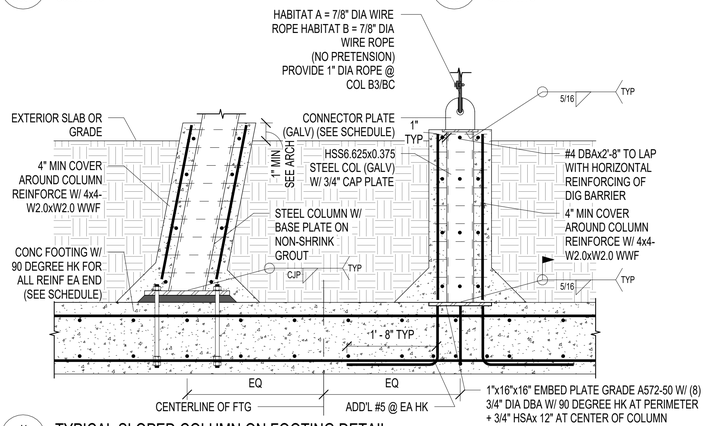
M5 S531 TYPICAL DIG BARRIER AT ROCKWORK
Scale: NTS



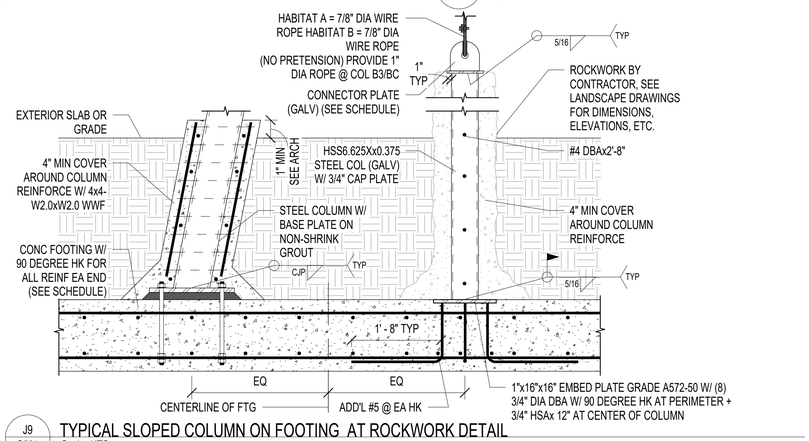
M9 S531 TYPICAL DIG BARRIER OVER EXHIBIT FOOTING
Scale: NTS



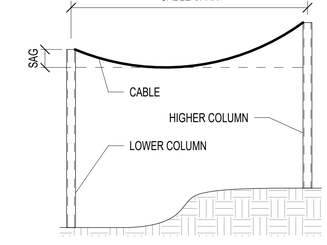
M13 S531 TYPICAL MESH CONNECTION AT ROCKWORK
Scale: NTS



J1 S531 TYPICAL SLOPED COLUMN ON FOOTING DETAIL
Scale: NTS



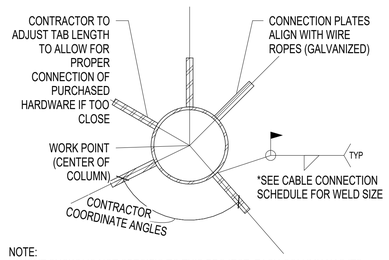
J9 S531 TYPICAL SLOPED COLUMN ON FOOTING AT ROCKWORK DETAIL
Scale: NTS



NOTE: SAG IS MEASURED FROM THE TOP OF THE LOWER COLUMN TO LOWEST POINT ALONG CABLE SPAN

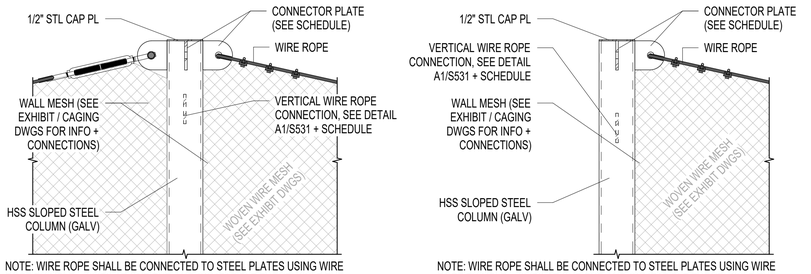
CABLE "SAG" DEFINITION

E1 S531 CABLE SAG DEFINITION DETAIL
Scale: NTS



NOTE:
LAYOUT SHOWN IS NOT SPECIFIC TO THIS PROJECT. EACH COLUMN HAS ITS OWN UNIQUE LAYOUT TO BE DETERMINED BY CONTRACTOR + PER ARCH + LANDSCAPE DRAWINGS

E5 S531 TOP OF COLUMN GEOMETRY EXAMPLE
Scale: NTS

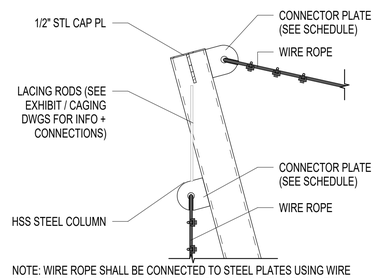


NOTE: WIRE ROPE SHALL BE CONNECTED TO STEEL PLATES USING WIRE ROPE THIMBLE + CLIPS AT ONE END AND COMPATIBLE TURNBUCKLE THE OTHER END (MATCH WIRE ROPE FINISH)

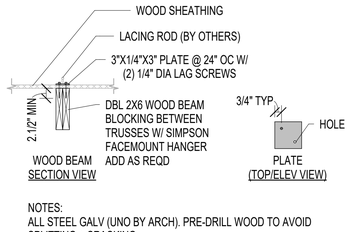
E9 S531 TYPICAL WIRE ROPE TO EXHIBIT COLUMN
Scale: NTS

NOTE: WIRE ROPE SHALL BE CONNECTED TO STEEL PLATES USING WIRE ROPE THIMBLE + CLIPS AT ONE END AND COMPATIBLE TURNBUCKLE THE OTHER END (MATCH WIRE ROPE FINISH)

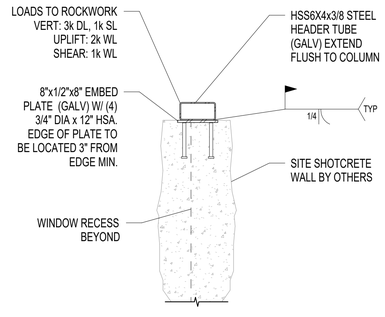
E13 S531 TYPICAL WIRE ROPE TO EXHIBIT COLUMN
Scale: NTS

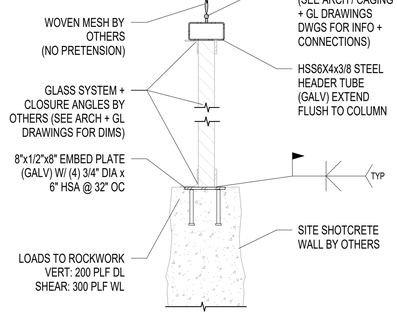


NOTE: WIRE ROPE SHALL BE CONNECTED TO STEEL PLATES USING WIRE ROPE THIMBLE + CLIPS AT ONE END AND COMPATIBLE TURNBUCKLE THE OTHER END (MATCH WIRE ROPE FINISH)



NOTES:
ALL STEEL GALV (UNO BY ARCH). PRE-DRILL WOOD TO AVOID SPLITTING + CRACKING.





A1 S531 TYPICAL WIRE ROPE TO SLOPED POST CONNECTION
Scale: NTS

A5 S531 TYPICAL LACING ROD CONNECTION @ HOLDING
Scale: NTS

A9 S531 TYPICAL WINDOW HEADER CONNECTION DETAIL
Scale: NTS

A13 S531 TYPICAL VIEWING WINDOW DETAIL
Scale: NTS

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

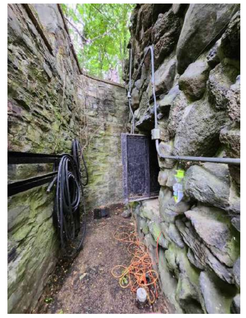
SEAL:

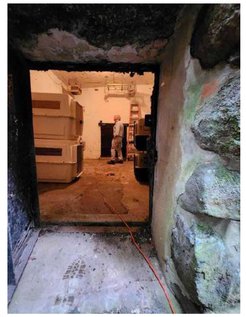
DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	SDS
CHECKED BY	JLM
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
EXHIBIT STRUCTURAL DETAILS

DRAWING NO:
S531

structural DESIGN STUDIO
2225 E. Murray Holladay Rd. #110
Salt Lake City, Utah 84117
801.274.3950 :: structuralds.com





DEMOLITION LEGEND

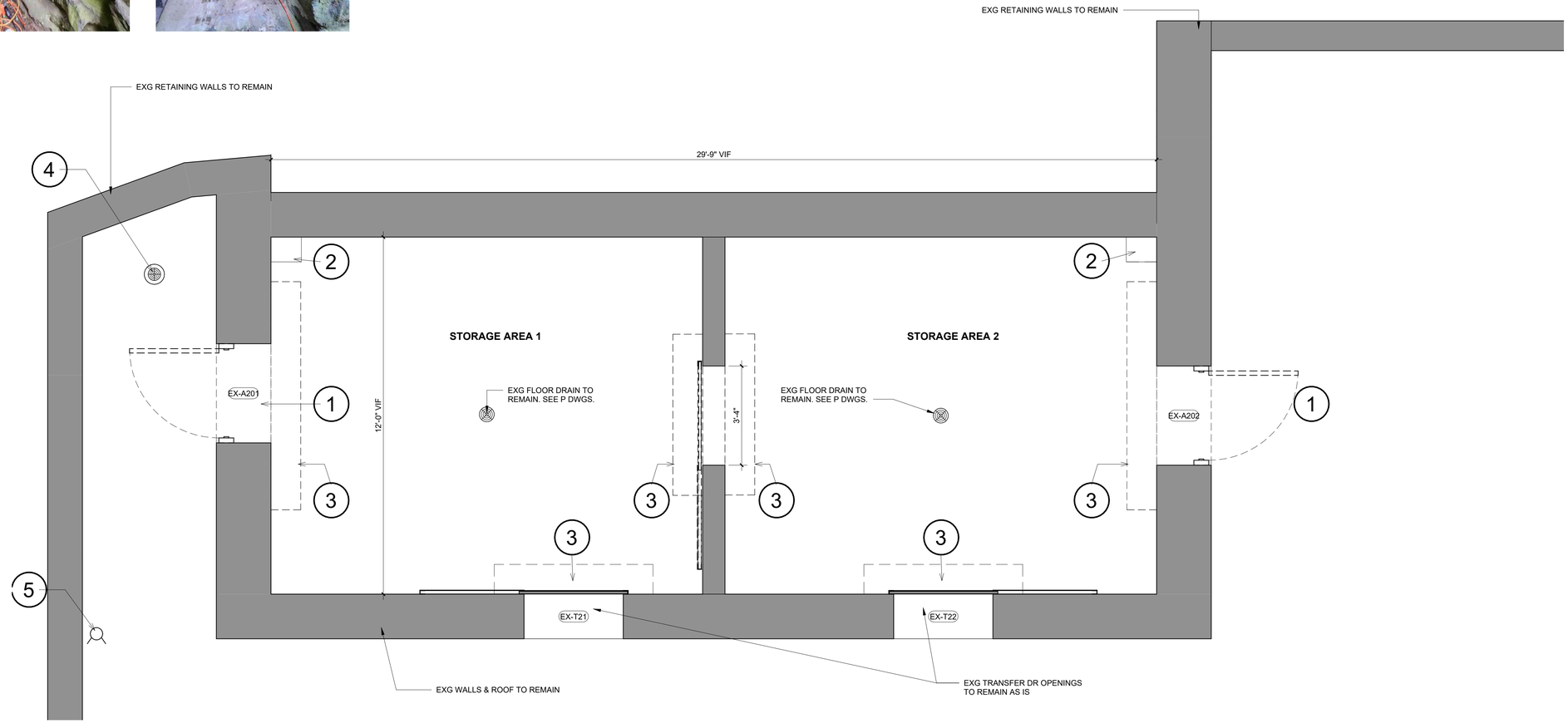
- Project Boundary
- Existing wall or building component to be removed or modified. See notes for extents.
- Existing walls to remain
- (1) Keynote

Demo Key Notes

1. Saw cut new door openings. Patch and repair existing walls and floor as needed to match adjacent. See new work plan. Reference A001 for door types and door schedules.
2. Remove existing concrete drinkers. Repair and patch floors as needed to match adjacent.
3. Remove concrete curb. Repair and patch floors.
4. Raise existing floor drain.
5. Existing hydrant to remain. See c dwg.

Demo General Notes

1. It is the responsibility of the Demolition/Contractor to fully coordinate and compare record drawings with proposed drawing details to accurately size the extent of the demolition needed to accommodate new architectural components.
2. Contractor shall verify all existing conditions prior to construction. Contractor shall notify Owner's representative of discrepancies prior to construction.
3. Contractor access for construction shall be as directed by Owner's representative.
4. Staging areas and on-site storage of contractor equipment shall be reviewed and approved by the Owner prior to the beginning of construction.
5. The Zoo shall remain open during construction. Contractor shall protect the general public from construction areas during construction. Contractor shall coordinate with Owner's representative prior to construction.
6. Photographs are provided to assist in describing existing conditions. Contractor must field verify for accuracy and full extent of work.



A1 EXISTING STRUCTURE DEMO FLOOR PLAN

1/2" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

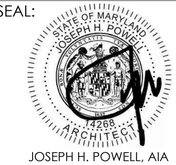
CLIENT:

MARYLAND ZOO

THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

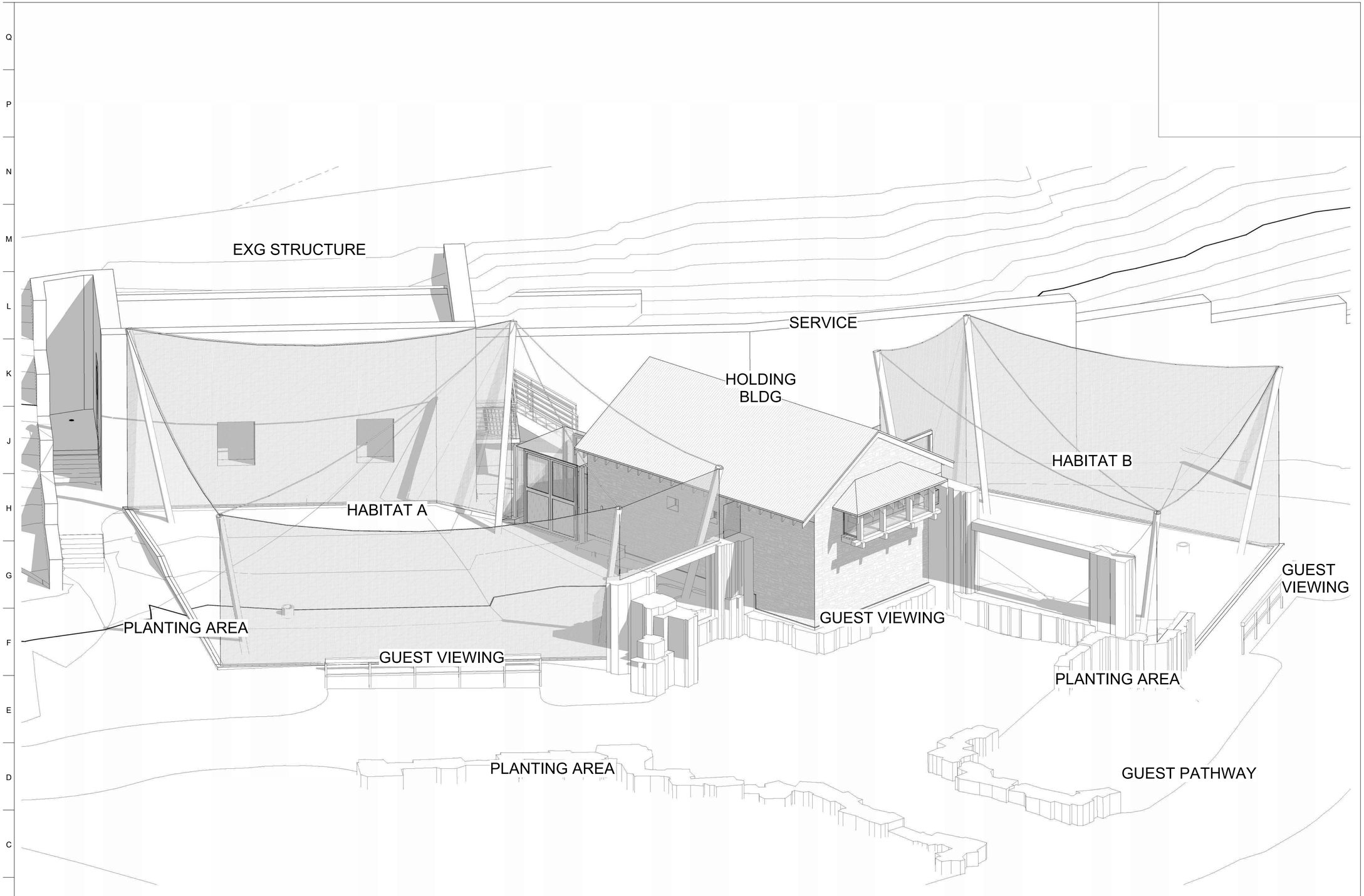


JOSEPH H. POWELL, AIA
MD LICENSE: 14268

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	CC
CHECKED BY	JS
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
EXG STRUCTURE DEMO FLOOR PLAN

DRAWING NO:
AD210



FOR REFERENCE ONLY

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:
STATE OF MARYLAND · JOSEPH H. POWELL · 14268 · ARCHITECT

JOSEPH H. POWELL, AIA
MD LICENSE: 14268

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	CC
CHECKED BY	JS
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
3D VIEW

DRAWING NO:
A001

L1 DOOR SCHEDULE - HOLDING BUILDING

NTS

HOLDING BUILDING DOOR SCHEDULE							
	ROUGH OPENING		DOOR		FRAME		
DOOR NO.	WIDTH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH	NOTES
A001	3' - 4"	7' - 4"	FRP	PNT	FRP	PNT	WDW LITE
A002	3' - 4"	7' - 4"	FRP	PNT	FRP	PNT	WDW LITE
A003	3' - 4"	7' - 4"	FRP	PNT	FRP	PNT	LOUVER

NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REFER TO CAGING GENERAL REQUIREMENTS CG001 FOR ANIMAL TRANSFER DOORS AND KEEPER DOORS.

F1 DOOR SCHEDULE - EXISTING STRUCTURE

NTS

EXISTING STRUCTURE DOOR SCHEDULE							
	ROUGH OPENING		DOOR		FRAME		
DOOR NO.	WIDTH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH	NOTES
A201	3' - 4"	7' - 4"	FRP	PNT	FRP	PNT	WDW LITE
A202	3' - 4"	7' - 4"	FRP	PNT	FRP	PNT	WDW LITE

NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REFER TO CAGING GENERAL REQUIREMENTS CG001 FOR ANIMAL TRANSFER DOORS AND KEEPER DOORS.

A1 FINISH SCHEDULE

NTS

FINISH SCHEDULE														
ROOM		FLOOR		WALLS								CEILING		
				NORTH		EAST		SOUTH		WEST				
NO.	NAME	BASE	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	NOTES
A101	STALL 1	CONC	EPOXY	CONC	PNT	CONC	PNT	CAGING	ALUM	CAGING	ALUM	MARINE GRADE PLY	PNT	
A102	STALL 2	CONC	EPOXY	CAGING	ALUM	CONC	PNT	CONC	PNT	CAGING	ALUM	MARINE GRADE PLY	PNT	
A103	STALL 3	CONC	EPOXY	CONC / CAGING	PNT/ ALUM	CAGING	ALUM	CONC	PNT	CONC	PNT	MARINE GRADE PLY	PNT	
A104	MECH	CONC	SEALED	CONC	PNT	CONC	PNT	CONC	PNT	CONC	PNT	EXPOSED DECK	-	
A105	KEEPER	CONC	EPOXY	CONC	PNT	CAGING	ALUM	CAGING	ALUM	CONC	PNT	MARINE GRADE PLY	PNT	
A201	STORAGE AREA 1	CONC		CONC		CONC		CONC		CONC		CONC		EXG TO REMAIN
A202	STORAGE AREA 2	CONC		CONC		CONC		CONC		CONC		CONC		EXG TO REMAIN

FINISH SCHEDULE NOTES:

1. ALL PAINT (PNT) TO BE HPC [HIGH PERFORMANCE COATING].
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

L10 DOOR HARDWARE MATRIX AND BASIS-OF-DESIGN

NTS

NEW DOOR HARDWARE MATRIX										
DOOR #	CONT. HINGE	LOCKSET(OFFICE)	LOCKSET (STOREROOM)	CYLINDER	CLOSER	WALL STOP	GASKETING	DRIP	SWEEP	THRESHOLD
A001	X	X		X	X		X	X	X	X
A002	X	X		X	X		X	X	X	X
A003	X	X		X	X	X	X	X	X	X
A201	X		X	X	X		X	X	X	X
A202	X		X	X	X		X	X	X	X

NOTES:

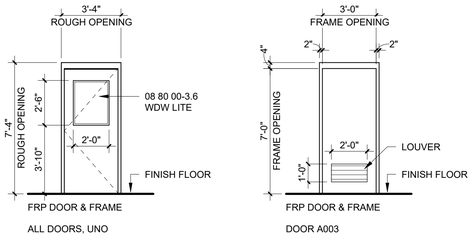
1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REFER TO CAGING GENERAL REQUIREMENTS CG001 FOR ANIMAL TRANSFER DOORS AND KEEPER DOORS.

BASIS-OF-DESIGN PRODUCTS:

- CONTINUOUS HINGE - PEMKO FM_HD1
- LOCKSET (OFFICE) - BEST 45H7A3S
- LOCKSET (STOREROOM) - BEST 45H7D3S
- CYLINDER - BEST
- CLOSER - LCN 4030-3077CNS (CUSH)
- WALL STOP - ROCKWOOD 474
- GASKETING - PEMKO 305_S
- DRIP - PEMKO 346C (FULL WIDTH + 2")
- SWEEP - PEMKO 29326CV
- THRESHOLD - PEMKO 252X5AFG (FULL WIDTH + 2")

L10 DOOR AND FRAME TYPES

NTS



NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

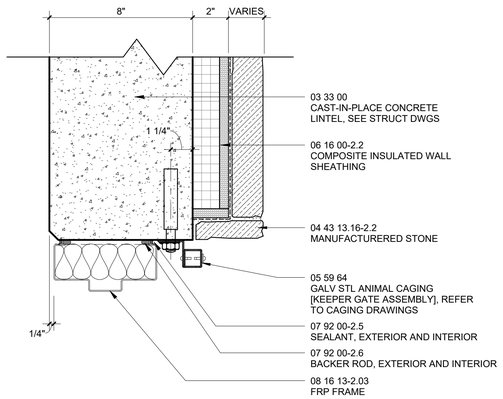
SEAL:

JOSEPH H. POWELL, AIA
MD LICENSE: 14268

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	CC
CHECKED BY	JP
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

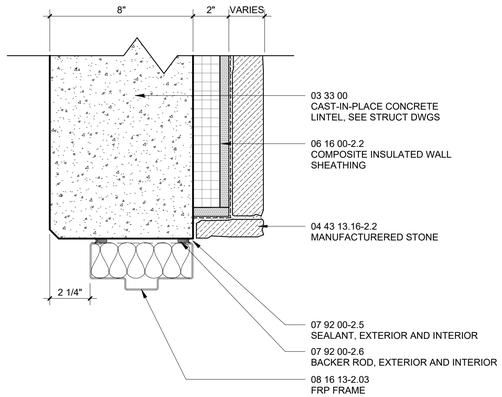
DRAWING TITLE:
DOOR & FINISH SCHEDULES, DOOR & FRAME TYPES

DRAWING NO:
A002



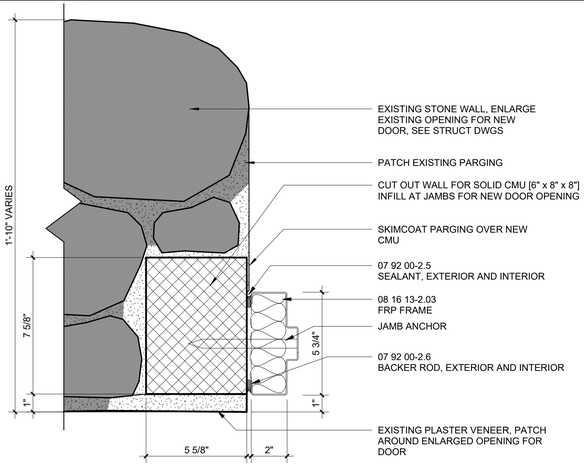
L7 DOOR A002 HEAD DETAIL - STONE VENEER

3" = 1'-0"



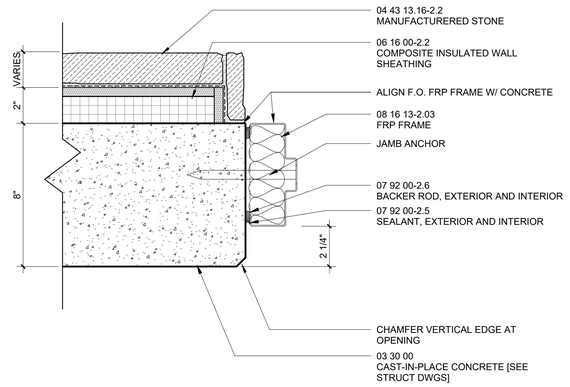
F1 DOOR HEAD DETAIL - STONE VENEER

3" = 1'-0"



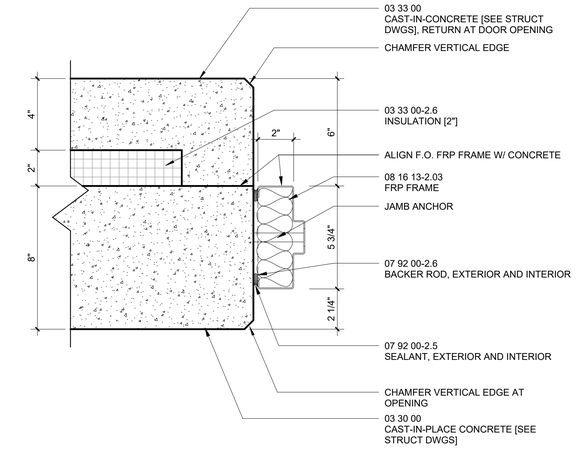
A1 DOOR JAMB DETAIL - EXG STONE WALL

3" = 1'-0"



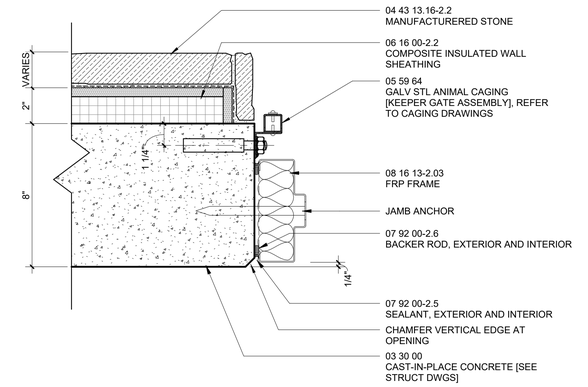
F7 DOOR JAMB DETAIL - STONE VENEER

3" = 1'-0"



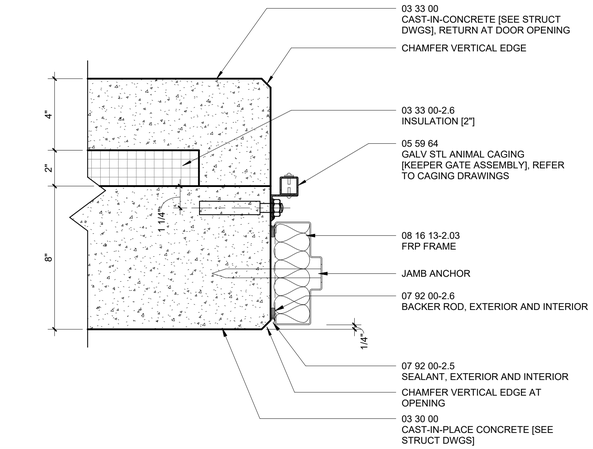
A7 DOOR JAMB DETAIL - FOUNDATION WALL

3" = 1'-0"



F14 DOOR A002 JAMB DETAIL - STONE VENEER

3" = 1'-0"



A14 DOOR A002 JAMB DETAIL - FOUNDATION WALL

3" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

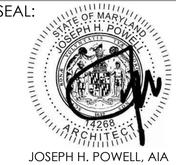
STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

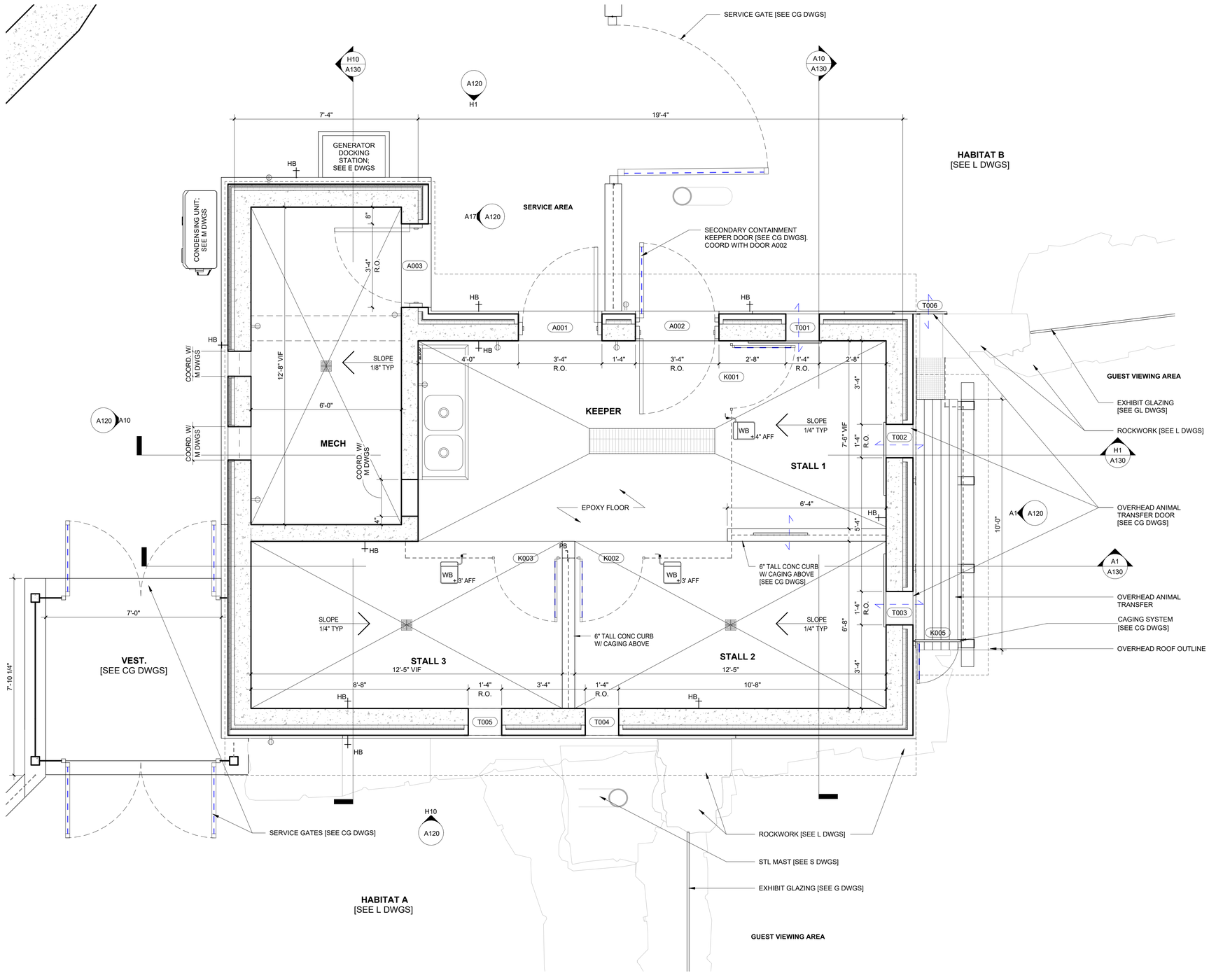


JOSEPH H. POWELL, AIA
MD LICENSE: 14268

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	Author
CHECKED BY	Checker
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
DOOR DETAILS

DRAWING NO:
A003



SYMBOL LEGEND

- CAGING PANELS [SEE CG DWGS]
- GUILLOTINE ANIMAL TRANSFER DOOR [SEE CG DWGS]
- HORIZONTAL SLIDER ANIMAL TRANSFER DOOR [SEE CG DWGS]
- KEEPER CAGING DOOR [SEE CG DGS]
- PB — PULL BAR OPERATOR [SEE CG DGS]
- PH — PULL HANDLE OPERATOR [SEE CG DGS]
- WB — WB - NELSON WATERBOWLS SEE PLAN FOR MOUNTING HT (B.O. WATERBOWL) ABOVE FINISH FLOOR MODEL 1200 [SEE P DWGS FOR PLUMBING CONNECTION]
- SS ELKAY UTILITY SINK [SEE P DWGS]
- FLOOR DRAIN [SEE P DWGS]
- TRENCH DRAIN [SEE P DWGS]
- HB — HOSE BIBB [SEE P DWGS]
- RECEPTACLE [SEE E DWGS]

A1 HOLDING BUILDING FLOOR PLAN

1/2" = 1'-0"

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

SEAL:

STATE OF MARYLAND · JOSEPH H. POWELL · REGISTERED · 14268 · ARCHITECT

JOSEPH H. POWELL, AIA
MD LICENSE: 14268

DATE: NOVEMBER 22, 2024	
PROJECT NO: 2023-10.04	
DRAWN BY	CC
CHECKED BY	JS
SUBMISSION	DATE
PERMIT SET	11/22/2024
REVISION	DATE

DRAWING TITLE:
HOLDING BUILDING PLAN

DRAWING NO:
A110