

Issued: SEPTEMBER 01, 2026

The Maryland Zoo in Baltimore

1876 Mansion House Dr
Baltimore, MD 21217

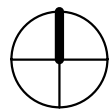
Buell Kratzer Powell, P.C.

Architect

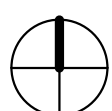
1525 Locust Street, 5th Floor
Philadelphia, PA 19102
T: 215.557.6509

2023 Maryland Building Performance Standards;
2021 International Building Code, MD Edition;
2021 International Existing Building Code;
2020 National Electrical Code, NFPA 70;
2018 Life Safety Code, NFPA 101;
2024 Baltimore County Plumbing and Gasfitting Code;
2021 International Plumbing Code;
2021 International Fuel Gas Code;
2021 International Mechanical Code;
2021 International Property Maintenance Code;
2021 International Fire Code;
2021 International Energy Conservation Code, MD Edition;
2021 International Green Construction Code;
2012 Maryland Accessibility Code;
2010 ADA Standards for Accessible Design by Department of Justice;
ICC/ANSI A117.1-2009;

Baltimore City Building, Fire, and Related Codes (BCBFRC 2024 Edition)



CITY MAP LOCATION



PROJECT LOCATION

GENERAL		
G001	COVER SHEET	X
STORMWATER MANAGEMENT		
SWM-1	SWM EXISTING CONDITIONS EXHIBIT	X
SWM-2	IART EXHIBIT	X
SWM-3	ESD & BMP EXHIBIT	X
SWM-4	SWM PROPOSED CONDITIONS EXHIBIT	X
SWM-5	SWM EXISTING CONDITIONS PHOTO EXHIBIT	X
CIVIL		
C100	CIVIL LEGEND & NOTES	X
C101	EXISTING CONDITIONS PLAN	X
C200	DEMOLITION PLAN	X
C300	PROPOSED CONDITIONS PLAN	X
C310	OVERALL PROPOSED GRADING PLAN	X
C311	PROPOSED BASE GRADING PLAN	X
C312	PROPOSED BASE SPOT GRADING PLAN	X
C400	DETAIL REFERENCE PLAN	X
C500	PROPOSED WATER & SEWER PLAN	X
C501	PROPOSED STORM DRAIN PLAN	X
C502	WATER & SEWER PROFILES	X
C503	STORM DRAIN PROFILES	X
C504	STORM DRAIN DETAILS	X
C505	UTILITY DETAILS	X
C600	EROSION & SEDIMENT CONTROL PLAN	X
C601	EROSION & SEDIMENT CONTROL DETAILS	X
C602	EROSION & SEDIMENT CONTROL NOTES	X
C603	EROSION & SEDIMENT CONTROL NOTES	X
C700	STORM WATER MANAGEMENT PLAN	X
C701	MODULAR WETLAND 1 PLAN & SECTIONS	X
C702	STORM WATER MANAGEMENT DETAILS	X
C800	WALL PLAN & PROFILES	X
C900	DEMOLITION PLAN - ADD ALTERNATE	X
C901	PROPOSED CONDITIONS PLAN - ADD ALTERNATE	X
C902	PROPOSED GRADING PLAN ADD ALTERNATE	X
C903	PROPOSED SPOT GRADING PLAN ADD ALTERNATE	X
C904	DETAIL REFERENCE PLAN - ADD ALTERNATE	X
C905	PROPOSED UTILITY PLAN ADD ALTERNATE	X
C906	UTILITY PROFILES ADD ALTERNATE	X
C907	EROSION & SEDIMENT CONTROL PLAN ADD ALTERNATE	X

LANDSCAPE		
L100	EXISTING SITE REFERENCE, TREE REMOVAL, & TREE PROTECTION PLAN	X
L110	EXISTING SITE IMAGES, NOTES & DETAILS	
L210	OVERALL LOWER SITE PLAN	X
L300	OWL ENCLOSURE CONCRETE CURB & MAST LAYOUT PLAN	X
L310	EAGLE ENCLOSURE CONCRETE CURB & MAST LAYOUT PLAN	X
L400	OWL ENCLOSURE LAYOUT & GRADING PLAN	X
L410	EAGLE ENCLOSURE LAYOUT PLAN	X
L500	SITE BED PREP, SEEDING & SODDING PLAN	X
L510	PLANTING PLAN	X
L520	SITE PLANTING DETAILS, SEED MIXES, & NOTES	X
L600	SECTIONS	X
L700	SITE ROCKWORK DETAILS	X
L702	SITE FENCING DETAILS	X
L703	BIRD POOLS ENLARGEMENT	X
L900	ADD ALTERNATE TREE REMOVAL & TREE PROTECTION PLAN	X
L910	ADD ALTERNATE OVERALL UPPER SITE PLAN	X
L970	SITE FENCING DETAILS	X
STRUCTURAL		
S001	GENERAL STRUCTURAL NOTES	X
S002	GENERAL STRUCTURAL NOTES	X
S003	SPECIAL INSPECTIONS TABLE	X
S100	3D ISOMETRIC VIEWS	X
S101	FOOTING + FOUNDATION PLAN	X
S121	ROOF FRAMING PLAN	X
S301	STRUCTURAL SCHEDULES	X
S302	STRUCTURAL SCHEDULES	X
S303	STRUCTURAL SCHEDULES	X
S501	STRUCTURAL DETAILS	X
S531	EXHIBIT STRUCTURAL DETAILS	X
ARCHITECTURE		
A001	ABBREVIATIONS, SYMBOLS & GENERAL NOTES	X
A002	SCHEDULES AND DOOR DETAILS	X
A110	CATCHBOX PLANS	X
A120	CATCHBOX ELEVATIONS	X
A130	CATCHBOX BUILDING SECTIONS	X
A140	CATCHBOX WALL SECTIONS	X
A141	CATCHBOX WALL SECTIONS	X

A160	ENLARGED DETAILS	X
A161	ENLARGED DETAILS	X
A162	ENLARGED DETAILS	X
CAGING		
CG001	CAGING SYSTEM REQUIREMENTS, DOORS, AND SCHEDULES	X
CG002	CAGING DETAILS AT CATCHBOX	X
CG210	OWL VESTIBULE	X
CG310	EAGLE VESTIBULE	X
MECHANICAL		
M101	EAGLE AND OWL EXHIBIT - SITE PLAN - PLUMBING	X
M102	PART FLOOR PLANS, SCHEDULES AND DETAILS	X
ELECTRICAL		
E001	ELECTRICAL LEGEND	X
E101	OWL EXHIBIT - SITE PLAN - ELECTRICAL	X
E102	OWL EXHIBIT - SITE PLAN - FIBER AND LOW VOLTAGE	X
E103	OWL EXHIBIT - PART FLOOR PLANS - ELECTRICAL - NEW WORK	X
E601	RISER DIAGRAMS AND PANEL SCHEDULES	X

CLIENT:

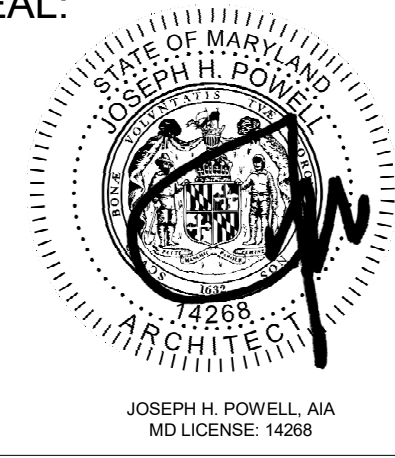
MARYLAND ZOO

THE MARYLAND ZOO
IN BALTIMORE
876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE
FLYWAY

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY	CC
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CHECKED BY	JS
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STANDARD BY	65
SUBMISSION	DATE

REVISION	DATE
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DRAWING TITLE:

COVER SHEET

DRAWING NO:

G001

A
B
C
D
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A B C D E F G H J K L M

A

UTILITY DESIGNATION DESCRIPTION:

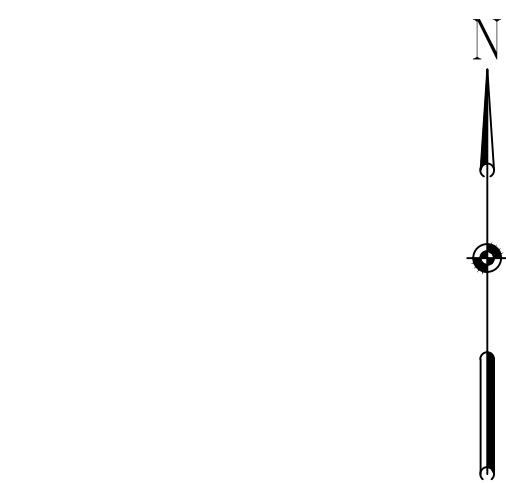
- QUALITY LEVEL C (Q-L-C):**
INCLUDES UTILITIES DESIGNATED THROUGH THE PROCESS OF SURVEYING THE VISIBLE UTILITY SURFACE FEATURES. THIS DATA IS COMPLIED WITH THE QUALITY LEVEL D DATA TO PROVIDE AN INCREASED LEVEL OF HORIZONTAL, NON-VISIBLE, POSITION ACCURACY FOR UNDERGROUND, NON-VISIBLE, QUALITY LEVEL D INFORMATION.
- QUALITY LEVEL B (Q-L-B):**
INCLUDES DESIGNATING THE UNDERGROUND UTILITIES BY MARKINGS LOCATED THROUGH 8 1/4" CALL, BY CONTACTING AN INDIVIDUAL UTILITY COMPANY, OR PERFORMING TRACING OR GROUND PENETRATING RADAR. THE DESIGNATED UTILITY MARKINGS ARE THEN SURVEYED AND ADDED TO THE DRAWING. THIS DATA IS ADDED TO THE DATA COLLECTED FROM QUALITY LEVELS D AND C TO PROVIDE AN INCREASED LEVEL OF HORIZONTAL POSITION ACCURACY FOR UNDERGROUND, NON-VISIBLE UTILITIES.
- QUALITY LEVEL A (Q-L-A):**
INVOLVES PHYSICALLY LOCATING THE ACTUAL UTILITY BY MEANS OF STIPITTING OR OTHER METHODS OF EXPOSURE. ONCE THE UTILITY IS EXPOSED IT IS LOCATED HORIZONTALLY AND VERTICALLY BY SURVEY MEASUREMENTS.
- ALL UTILITIES LACKING A QUALITY LEVEL DESIGNATION ON THE MAPS SHALL BE CONSIDERED QUALITY LEVEL D (Q-L-D).

UTILITY LEVEL B (Q1-B):
INCLUDES DESIGNATING THE UNDERGROUND UTILITIES BY MARKINGS PROVIDED THROUGH AN 811 CALL, BY CONTACTING AN INDIVIDUAL UTILITY COMPANY, OR PERFORMING TRACING OR GROUND PENETRATING RADAR. THE DESIGNATED UTILITY MARKINGS ARE THEN SURVEYED AND ADDED TO THE DRAWING. THIS DATA IS ADDED TO THE DATA COLLECTED FROM QUALITY LEVELS A AND C TO PROVIDE AN INCREASED LEVEL OF HORIZONTAL POSITION ACCURACY FOR UNDERGROUND, NON-VISIBLE UTILITIES.

UTILITY LEVEL A (Q1-A):
INVOLVES PHYSICALLY LOCATING THE ACTUAL UTILITY BY MEANS OF STIPPIING OR OTHER METHODS OF EXPOSURE. ONCE THE UTILITY IS EXPOSED IT IS LOCATED HORIZONTALLY AND VERTICALLY SURVEY MEASUREMENTS.

17. CONTRACTOR SHALL CO

21. CONTRACTOR SHALL INCLUDE GRINDING AND GRUBBING OF STUMPS.
22. ALL SALVAGED ITEMS FOR REINSTALLATION SHALL BE REFURBISHED, CLEANED, PAINTED, AND NEW HARDWARE INSTALLED PRIOR TO REINSTALLATION.
23. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING PEDESTRIAN BRIDGES FROM ANY DAMAGE DURING DEMOLITION AND CONSTRUCTION.



E CITY ADC MAP 67 GRID E2
D USE No. 21009264

VICINITY MAP
SCALE: 1"=2000'

-
- C MAP 67 GRID E2
21009264
- VICINITY MAP**
SCALE: 1"=2000'

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE, MD 21217

SEAL:



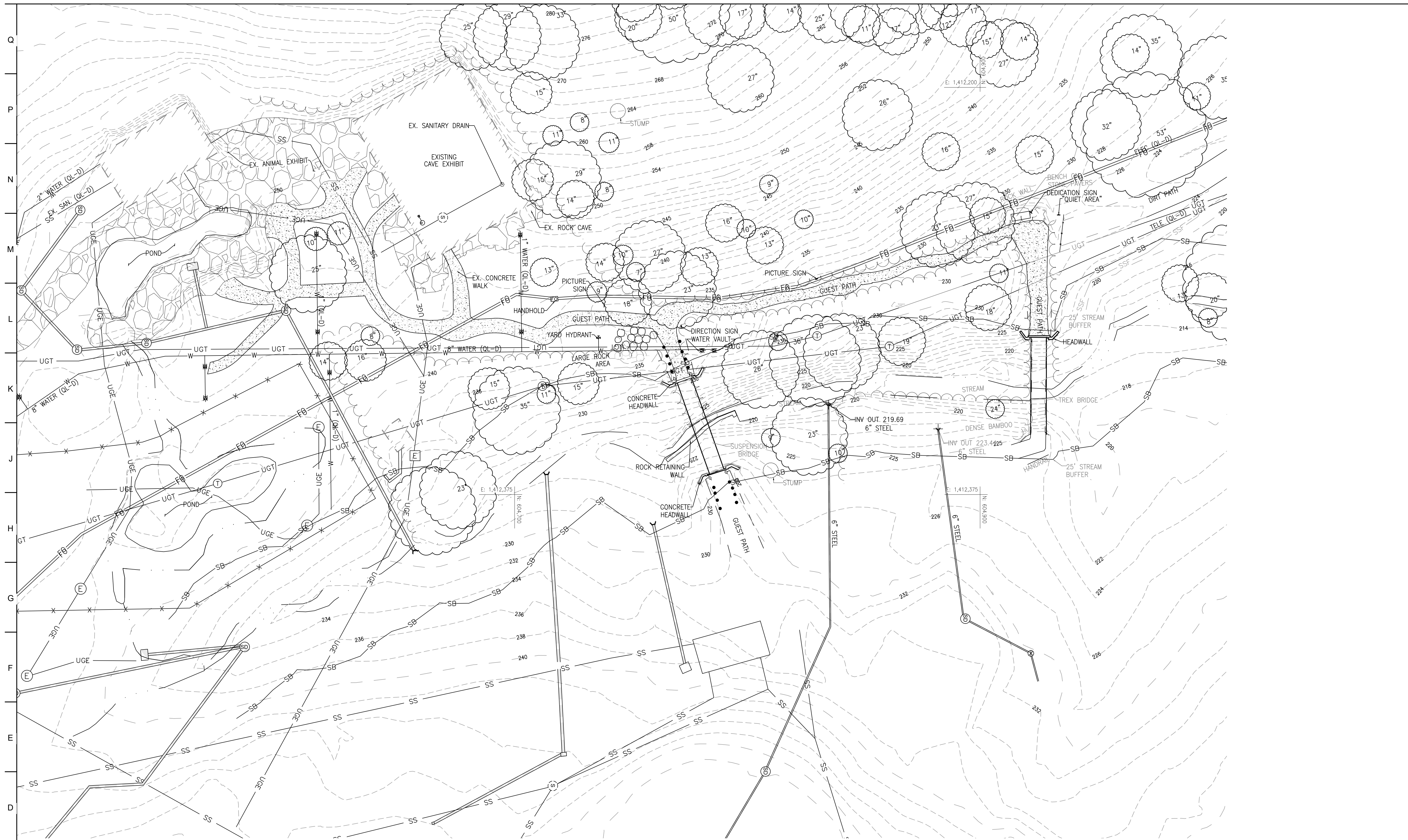
09-01-26

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446. EXPIRATION DATE 02/02/27.

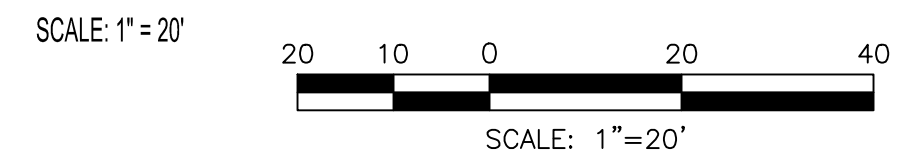
DRAWING TITLE:
CIVIL LEGEND &
NOTES

DRAWING NO:

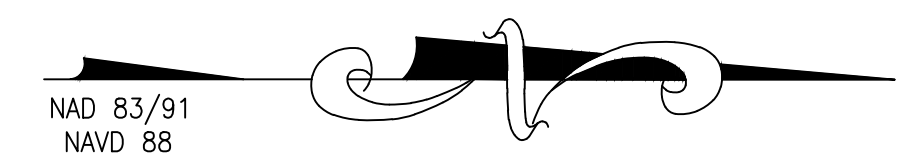
C100



EXISTING CONDITIONS PLAN



NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

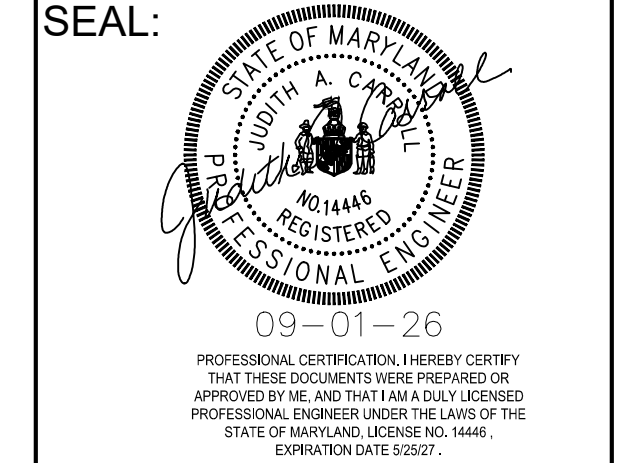


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CLIENT:
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THE MARYLAND ZOO
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FLYWAY**
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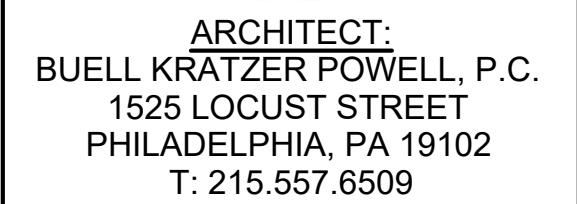


DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026

REVISION	DATE

DRAWING TITLE:
**EXISTING
CONDITIONS
PLAN**

DRAWING NO:
C101



CIVIL:
CARROLL ENGINEERING, INC
 215 SCHILLING CIRCLE, STE 102
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MEP ENGINEER:
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BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:

MARYLAND ZOO

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**CHESAPEAKE
FLYWAY**

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SEAL:



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY
THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MARYLAND, LICENSE NO. 14446,
EXPIRATION DATE 5/25/27.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

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CHECKED BY	CMS
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SUBMISSION	DATE
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BID SET	09/01/2026
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REVISION

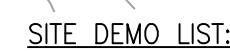
DATE

DRAWING TITLE:

DEMOLITION PLAN

DRAWING NO:

C200



- (1). TREE TO BE REMOVED
- (2). BOULDERS TO BE REMOVED AND SALVAGED FOR REUSE
- (3). EXISTING GUEST PATH TO BE REMOVED
- (4). SERVICE GATE TO BE CAREFULLY REMOVED AND SALVAGED FOR REINSTALLATION. SEE L DRAWINGS.
- (5). EXISTING SIGN TO BE CAREFULLY REMOVED AND RETURNED TO THE OWNER.
- (6). UNDERGROUND TELECOMMUNICATION LINE TO BE RELOCATED. SEE C500 FOR ADDITIONAL INFORMATION.
- (7). RELOCATE BOULDER OUT OF EXISTING PATHWAY.
- (8). REMOVE AND REPLACE HANDRAIL. SEE L DRAWINGS.
- (9). UNDERGROUND FIBER OPTIC LINE TO BE RELOCATED. SEE C500 FOR ADDITIONAL INFORMATION.
- (10). COORDINATE ANY ALTERATIONS TO THE WOODSLINE WITH THE LANDSCAPE ARCHITECT AND ZOO ARBORIST.
- (11). EXISTING MEMORIAL BENCH AND PLAQUE TO BE SALVAGED AND RETURNED TO OWNER.

NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

SHEET NOTE:

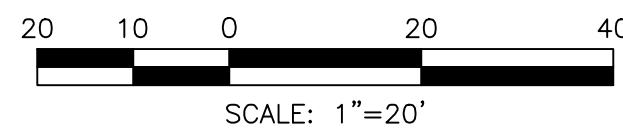
1. CONTRACTOR TO VERIFY ADEQUATE COVER OVER EXISTING UGE, UGT, AND WATER IN THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE AND/OR ADJUST UTILITY IF PROPOSED CONDITIONS DOES NOT PROVIDE ADEQUATE COVER. IF ADEQUATE COVER CANNOT BE MET, RELOCATION AND/OR ADJUSTMENT IS REQUIRED.
2. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION AND DETAILS.

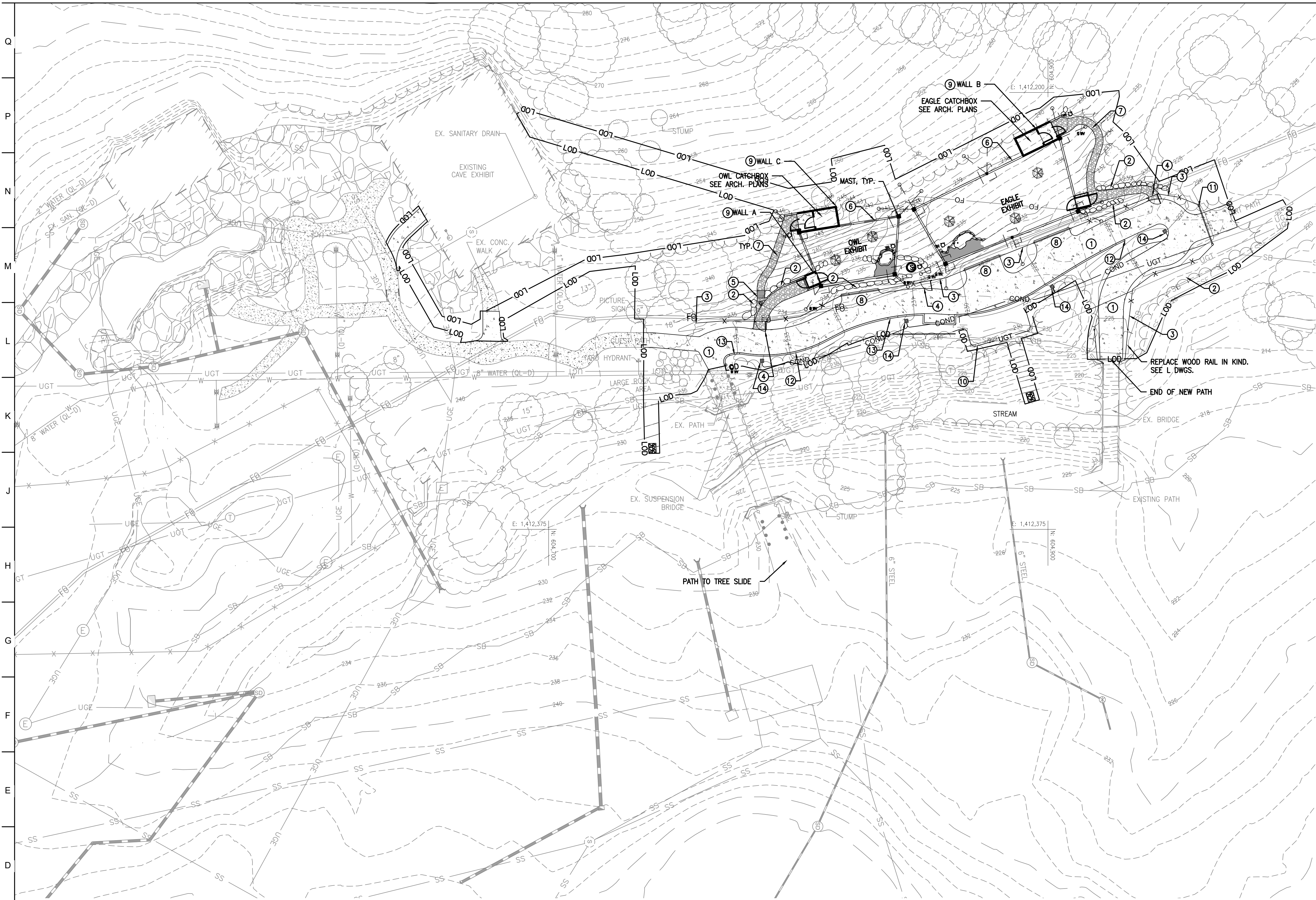
NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.

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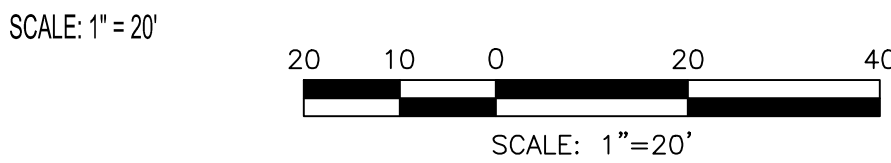
SITE DEMOLITION PLAN

SCALE: 1" = 20'



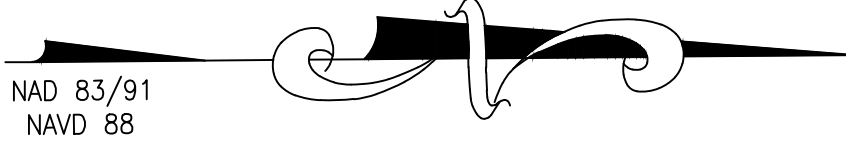


PROPOSED CONDITIONS PLAN



NOTE:
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- SITE FEATURE LIST:**
- 1 PROPOSED PEDESTRIAN PATH
 - 2 BOULDER/BOULDER WALL SEE LANDSCAPE PLANS
 - 3 EXCLUSION FENCE SEE LANDSCAPE PLANS
 - 4 PROPOSED GATE
 - 5 PROPOSED WOOD STAIRS SEE LANDSCAPE PLANS
 - 6 PROPOSED CONCRETE DIG BARRIER AND HABITAT MESH ENCLOSURE. SEE LANDSCAPE PLANS
 - 7 PROPOSED STONE DUST PATH. SEE L PLANS
 - 8 GUEST VIEWING AREA
 - 9 SITE WALL SEE ARCHITECTURAL PLANS AND STRUCTURAL DETAILS
 - 10 RE-ROUTE EXISTING TELECOMMUNICATION LINE
 - 11 REINSTALL REFURBISHED GATE
 - 12 PROPOSED CURB
 - 13 PROPOSED TAPERED CURB, SEE GRADING PLAN AND SITE DETAILS
 - 14 SITE BOLLARD, SEE L DETAILS



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



ARCHITECT:
BUELL KRATZER POWELL, P.C.
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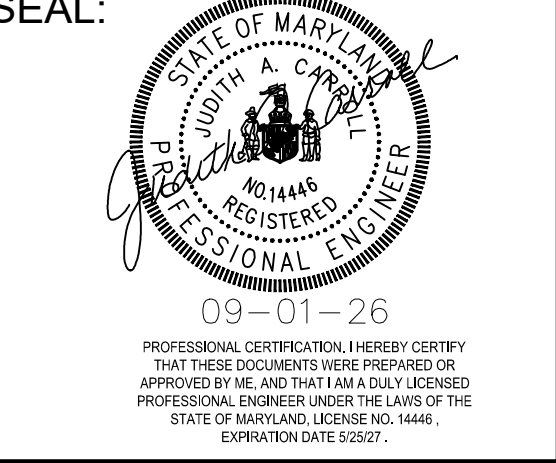
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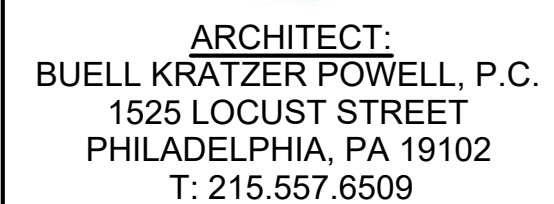
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DRAWING TITLE:
PROPOSED CONDITIONS PLAN

DRAWING NO:
C300



CIVIL:
CARROLL ENGINEERING, INC
 215 SCHILLING CIRCLE, STE 102
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**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
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1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY
THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MARYLAND, LICENSE NO. 14446,
EXPIRATION DATE 5/25/27

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY	MJE
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CHECKED BY	CMS
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SUBMISSION	DATE
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BID SET	09/01/2026
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REVISION	DATE
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Revision:	Date:

DRAWING TITLE:

OVERALL PROPOSED GRADING PLAN

DRAWING NO:

C310



SITE SHALL BE GRADED SUCH THAT NO PONDING SHALL OCCUR WITHIN THE LIMITS OF DISTURBANCE. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES.

GRADING NOTE:

SITE SHALL BE GRADED SUCH THAT NO PONDING SHALL OCCUR WITHIN THE LIMITS OF DISTURBANCE. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES.

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.

OWNER / DEVELOPER/ APPLICANT:

MARYLAND ZOO IN BALTIMORE

1876 MANSION HOUSE DRIVE

BALTIMORE MD 21217

CONTACT: SHANNON BROOKS
PHONE: 413.552.3350

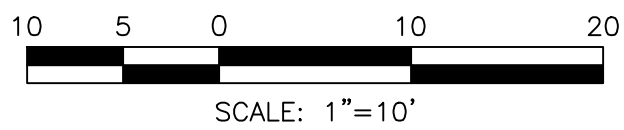
NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



PROPOSED BASE GRADING PLAN

SCALE: 1"=10'



SHEET NOTE:

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NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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CLIENT:

MARYLAND ZOO

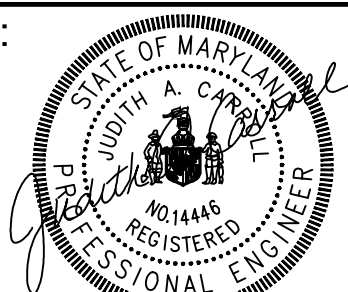
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

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SEAL:



09-01-26

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 02/02/27.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY: MJE

CHECKED BY: CMS

SUBMISSION DATE

BID SET 09/01/2026

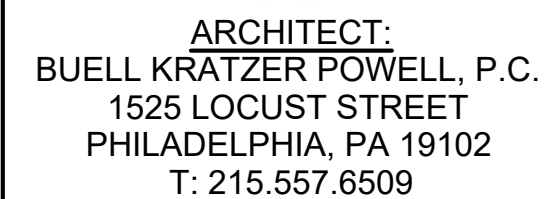
REVISION DATE

DRAWING TITLE:

PROPOSED
BASE GRADING
PLAN

DRAWING NO:

C311



CIVIL:
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CLIENT:

MARYLAND ZOO

THE MARYLAND ZOO
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1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
876 MANSION HOUSE DRIVE
BALTIMORE, MD 21217

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STATE OF MARYLAND, LICENSE NO. 14446,
EXPIRATION DATE 5/25/27.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY	M
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CHECKED BY	C
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SUBMISSION	D
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BID SET	09/01/2026
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REVISION

	DATE
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DRAWING TITLE:

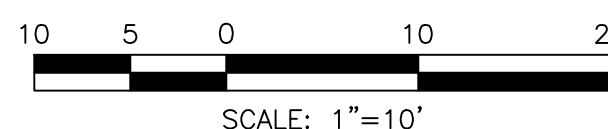
PROPOSED BASE SPOT GRADING PLAN

DRAWING NO:

C312



SCALE: 1" = 10'



SCALE: 1"=10'

SHEET NOTE:

SITE SHALL BE GRADED SUCH THAT NO PONDING SHALL OCCUR WITHIN THE LIMITS OF DISTURBANCE. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES.

ABBREVIATION LIST:

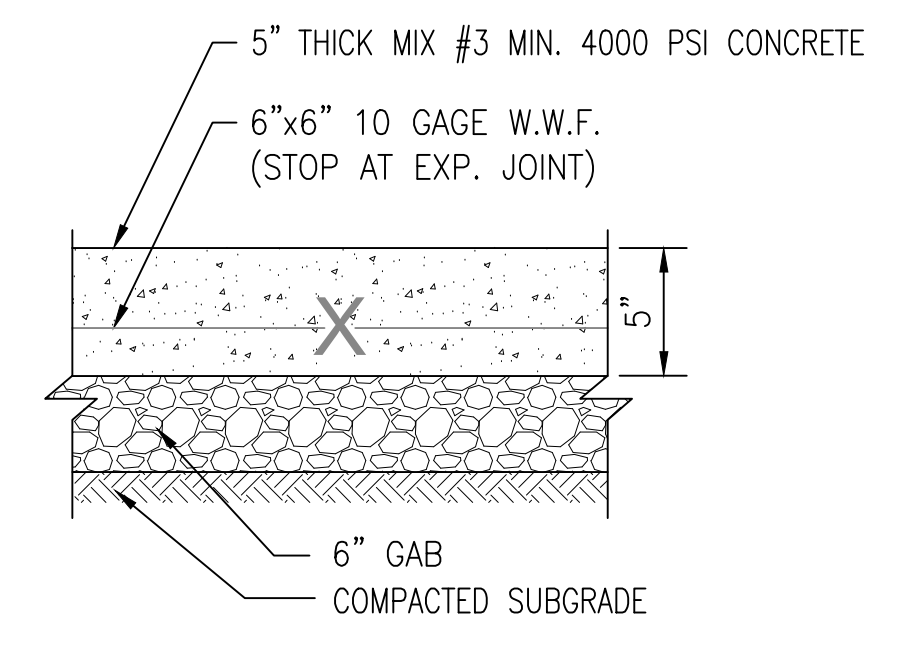
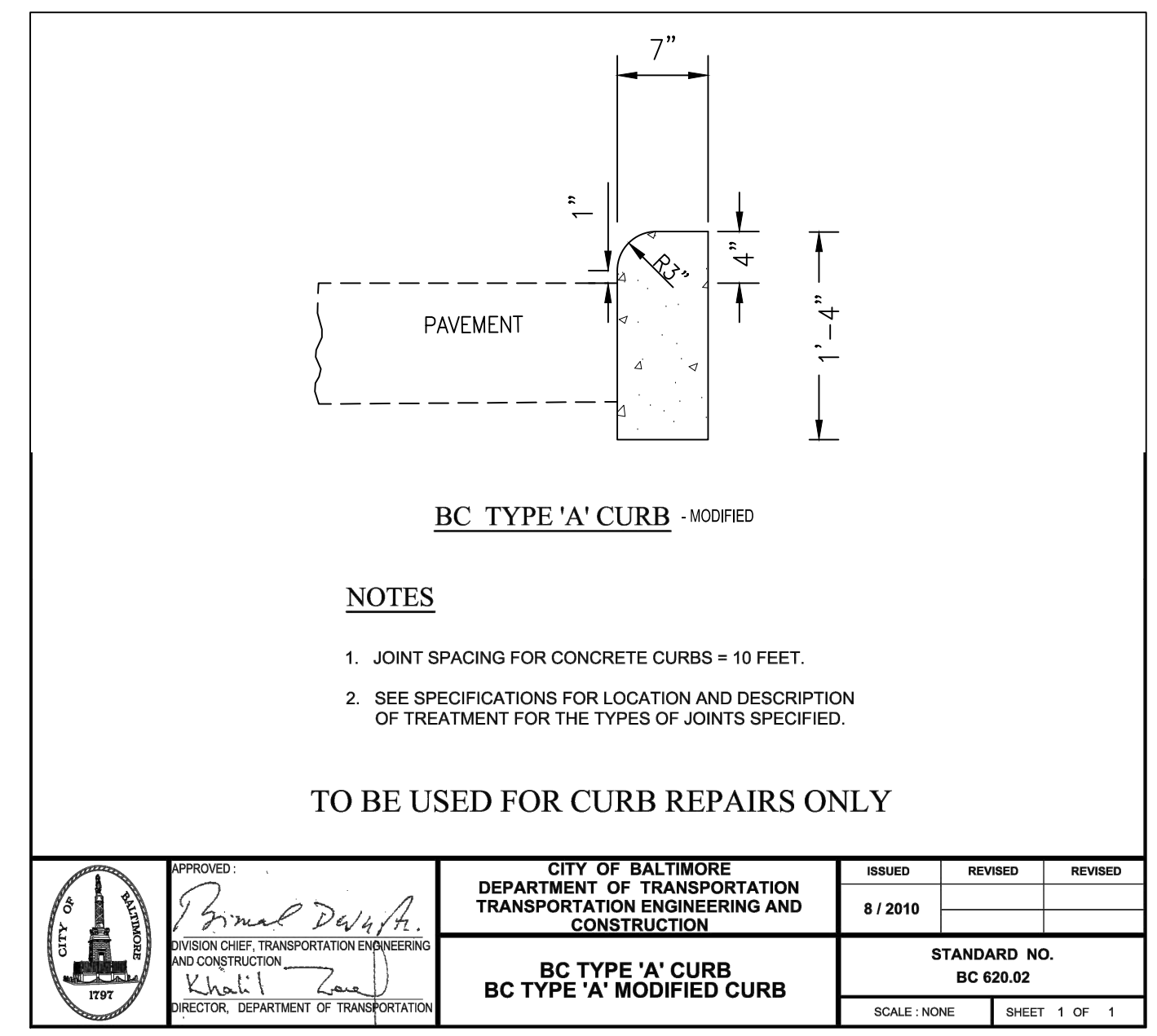
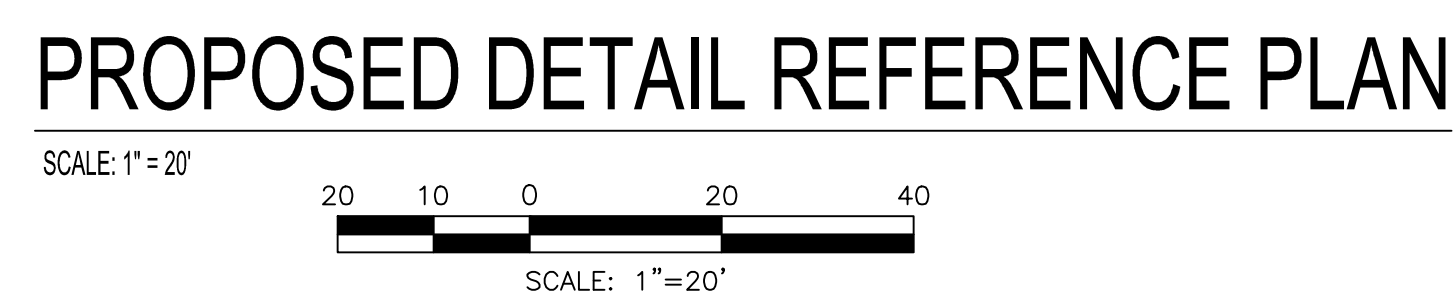
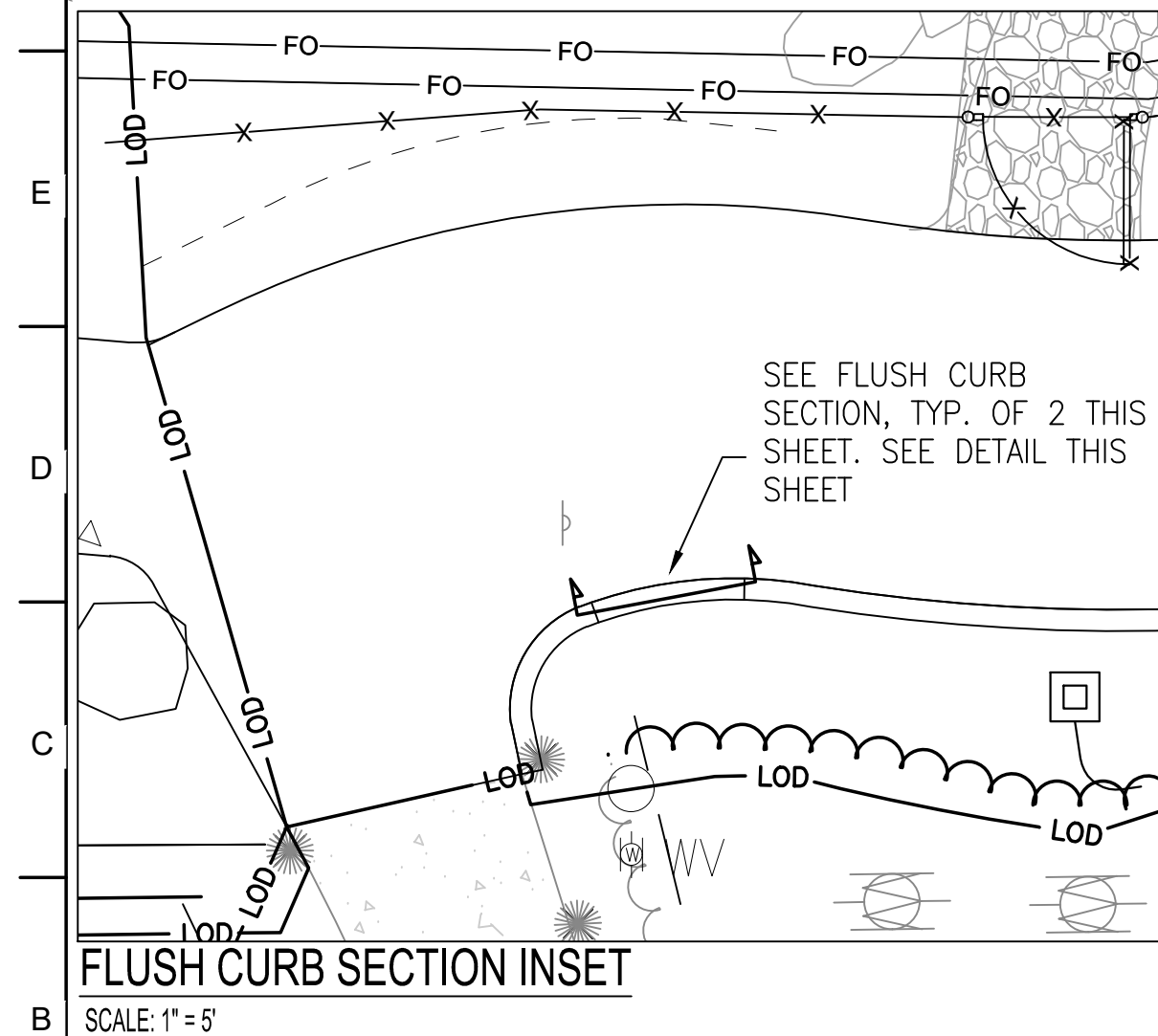
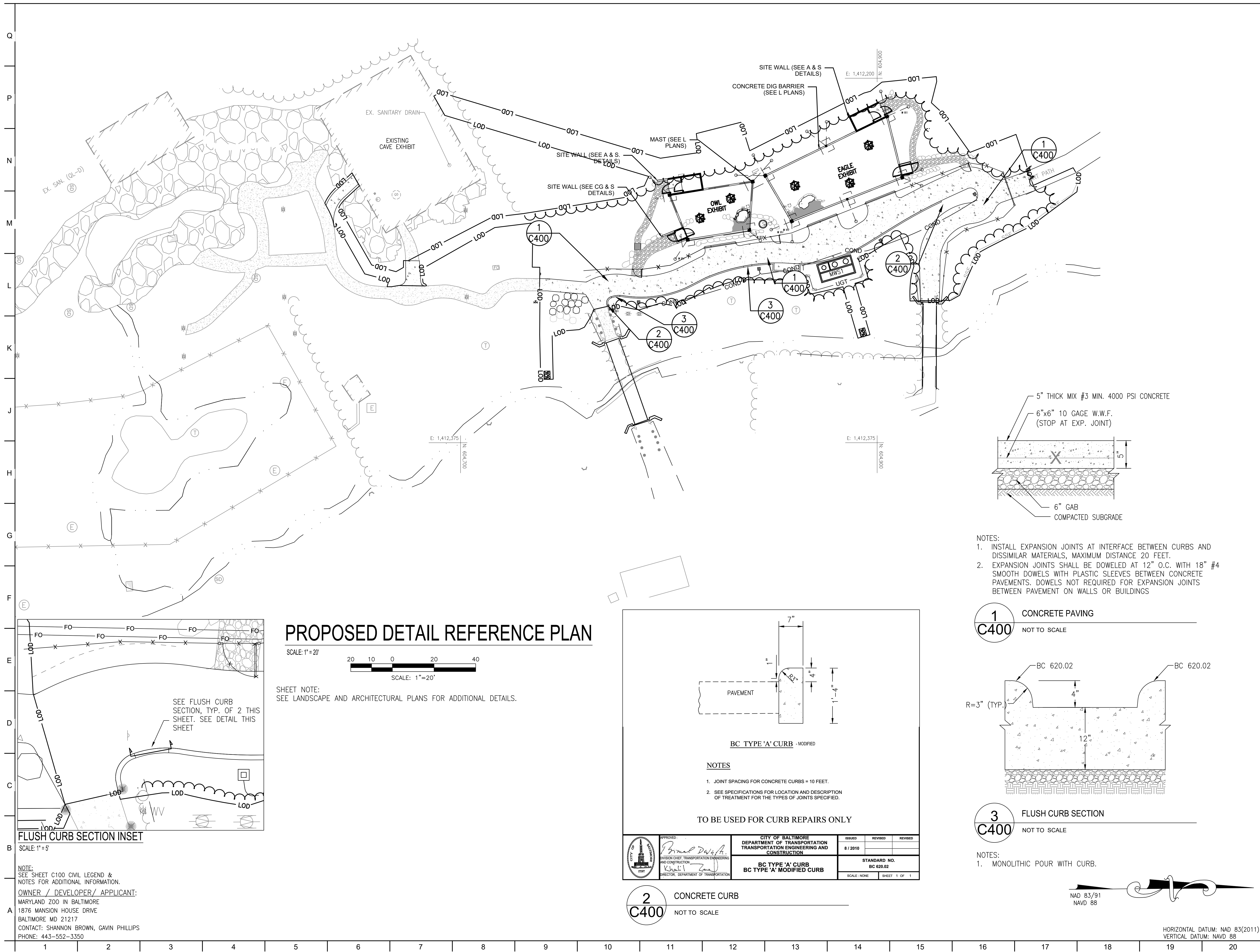
TC - TOP OF CURB
BC - BOTTOM OF CURB
TW - TOP OF WALL
BW - BOTTOM OF WALL
TG - TOP OF STORM DRAIN GRATE
TS - TOP OF STAIRS
BS - BOTTOM OF STAIRS

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.

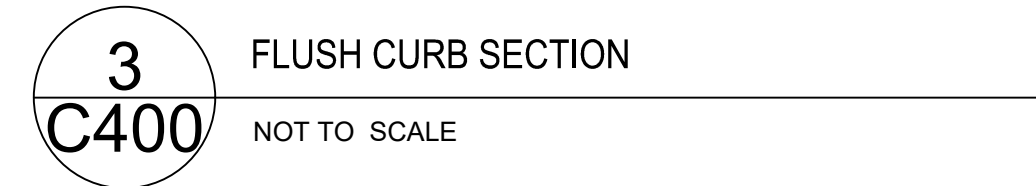
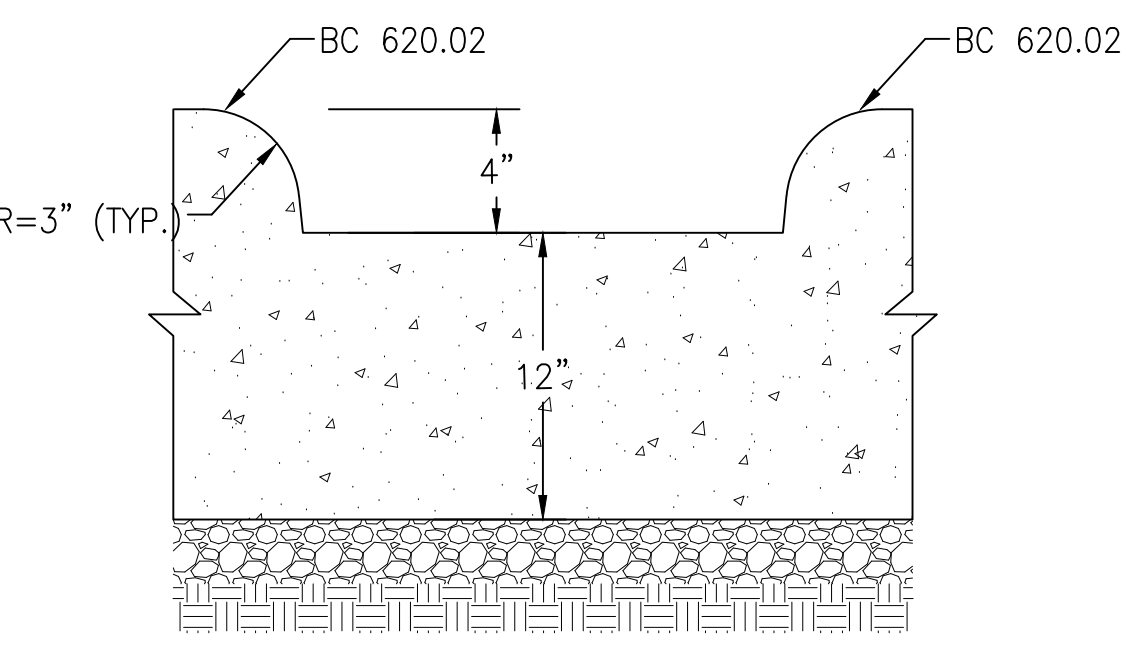
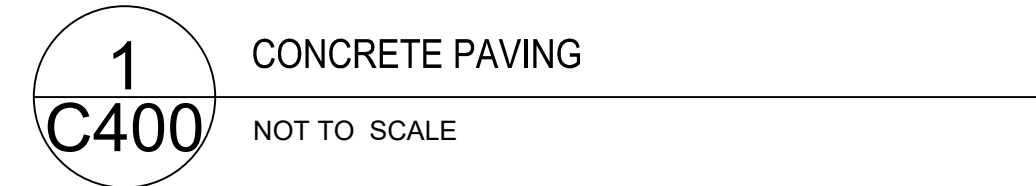
OWNER / DEVELOPER/ APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIP
PHONE: 443-552-3350

NAD 83/91
NAVD 88

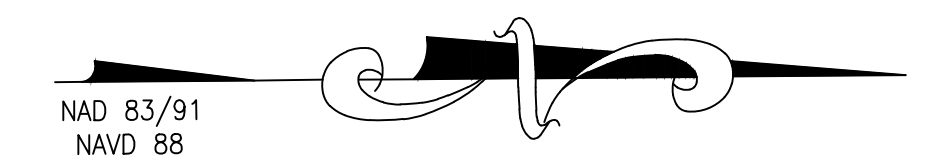
HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



- NOTES:
1. INSTALL EXPANSION JOINTS AT INTERFACE BETWEEN CURBS AND DISSIMILAR MATERIALS, MAXIMUM DISTANCE 20 FEET.
 2. EXPANSION JOINTS SHALL BE DOWELED AT 12" O.C. WITH 18" #4 SMOOTH DOWELS WITH PLASTIC SLEEVES BETWEEN CONCRETE PAVEMENTS. DOWELS NOT REQUIRED FOR EXPANSION JOINTS BETWEEN PAVEMENT ON WALLS OR BUILDINGS



- NOTES:
1. MONOLITHIC POUR WITH CURB.



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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T: 302.888.1544

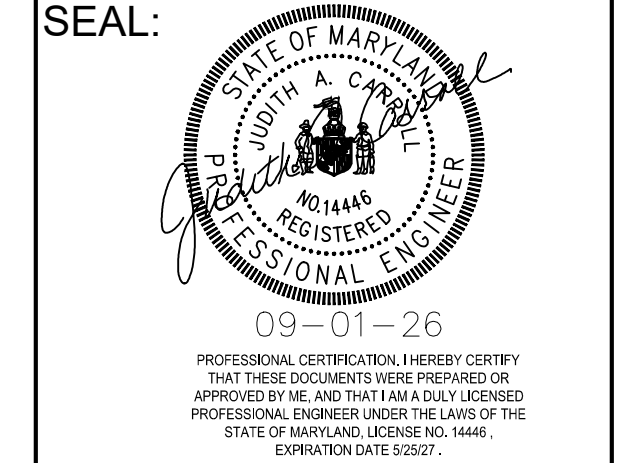
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MEP ENGINEER:
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CLIENT:
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1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE FLYWAY
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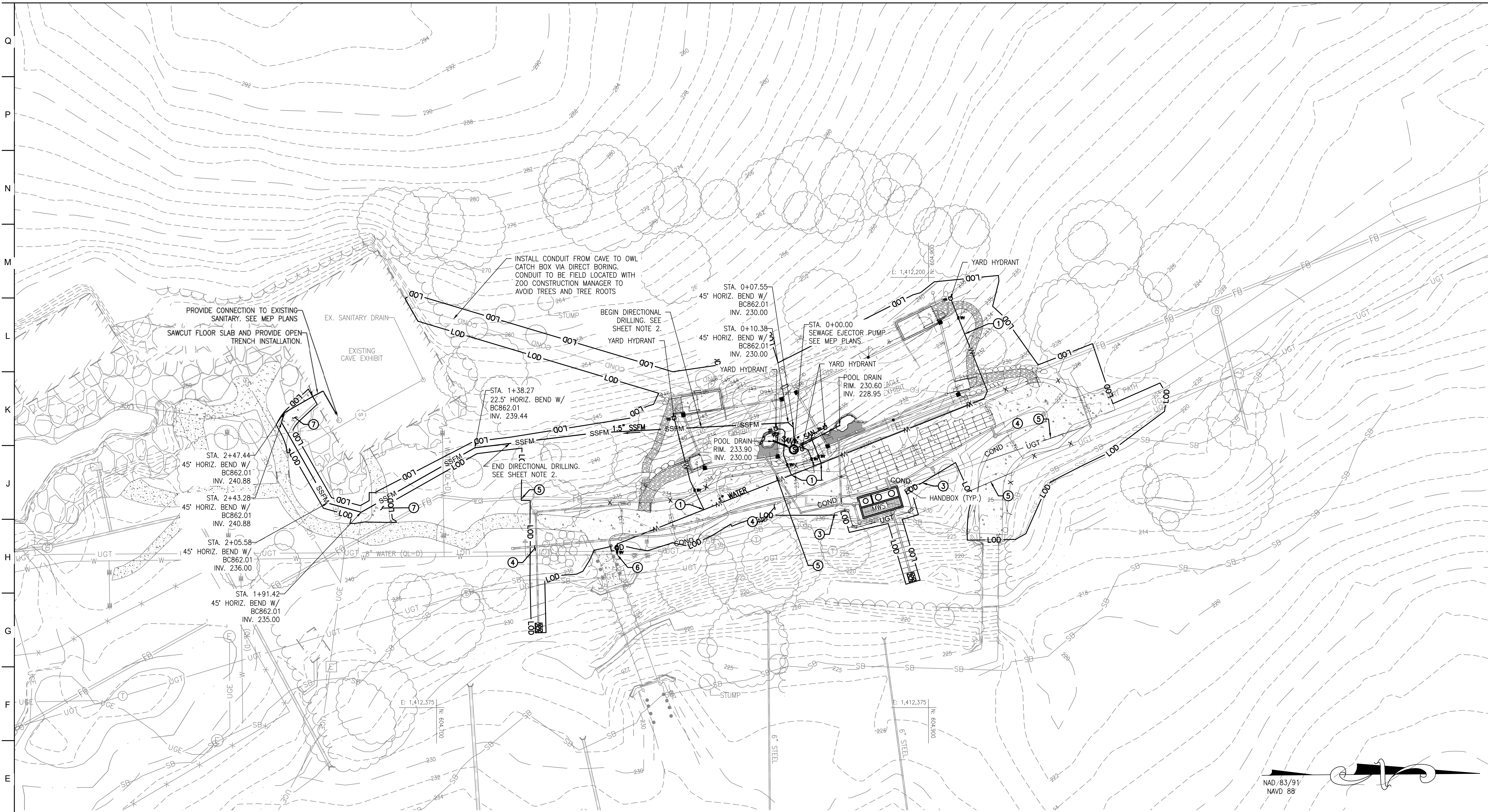
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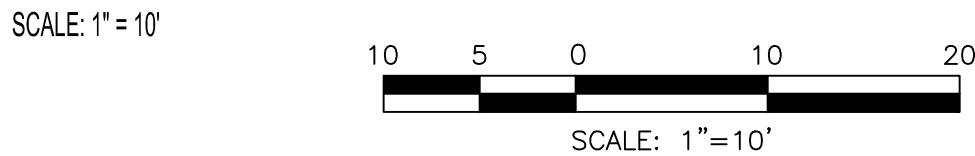
DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
DETAIL REFERENCE PLAN

DRAWING NO:
C400



PROPOSED UTILITY PLAN



SHEET NOTES:

1. PROVIDE 1" COPPER PIPE AND ISOLATION VALVE TO CONNECT 1" WATER LINE TO PROPOSED YARD HYDRANT. WORK AND MATERIALS MUST BE IN COMPLIANCE WITH PLUMBING CODE AND MDE STANDARDS AND SPECIFICATIONS. USE VALVE BOX BC834.01
2. PROVIDE DIRECTIONAL DRILLING IN THIS AREA TO AVOID IMPACTS TO TREE ROOTS. COORDINATE FORCE MAIN ROUTE WITH ZOO ARBORIST.
3. REALIGN TELECOMMUNICATION CONDUIT TO AVOID MODULAR WETLANDS. INSTALL HAND BOXES AS NEEDED. PROVIDE SHOP DRAWINGS FOR APPROPRIATE HAND BOXES TO ACCOMMODATE CONDUIT REALIGNMENT.
4. SEE C501 FOR STORM DRAINS
5. CONTRACTOR TO VERIFY ADEQUATE COVER OVER EXISTING UGE, UGT, AND WATER IN THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE AND/OR ADJUST UTILITY IF PROPOSED CONDITIONS DOES NOT PROVIDE ADEQUATE COVER. IF ADEQUATE COVER CANNOT BE MET, RELOCATION AND/OR ADJUSTMENT IS REQUIRED.
6. PROVIDE BC STANDARD 837.01 1" SERVICE SUPPLY CONNECTION WITH METER VAULT.
7. REMOVE AND REPLACE CONCRETE PAVING TO INSTALL FORCE MAIN. MATCH EXISTING GRADES.

SHEET NOTE:

CONTRACTOR TO VERIFY ADEQUATE COVER OVER EXISTING UGE, UGT, AND WATER IN THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE AND/OR ADJUST UTILITY IF PROPOSED CONDITIONS DOES NOT PROVIDE ADEQUATE COVER. IF ADEQUATE COVER CANNOT BE MET, RELOCATION AND/OR ADJUSTMENT IS REQUIRED.

NOTE:

SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.

OWNER / DEVELOPER / APPLICANT:

MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350



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T: 410.244.7191

CLIENT:

MARYLAND ZOO

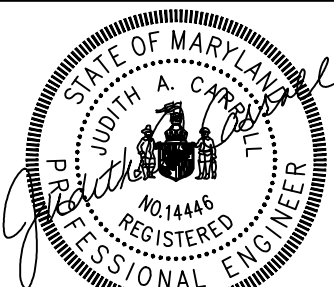
THE MARYLAND ZOO
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1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE
FLYWAY

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SEAL:



09-01-26

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DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY MJE

CHECKED BY CMS

SUBMISSION DATE

BID SET 09/01/2026

REVISION DATE

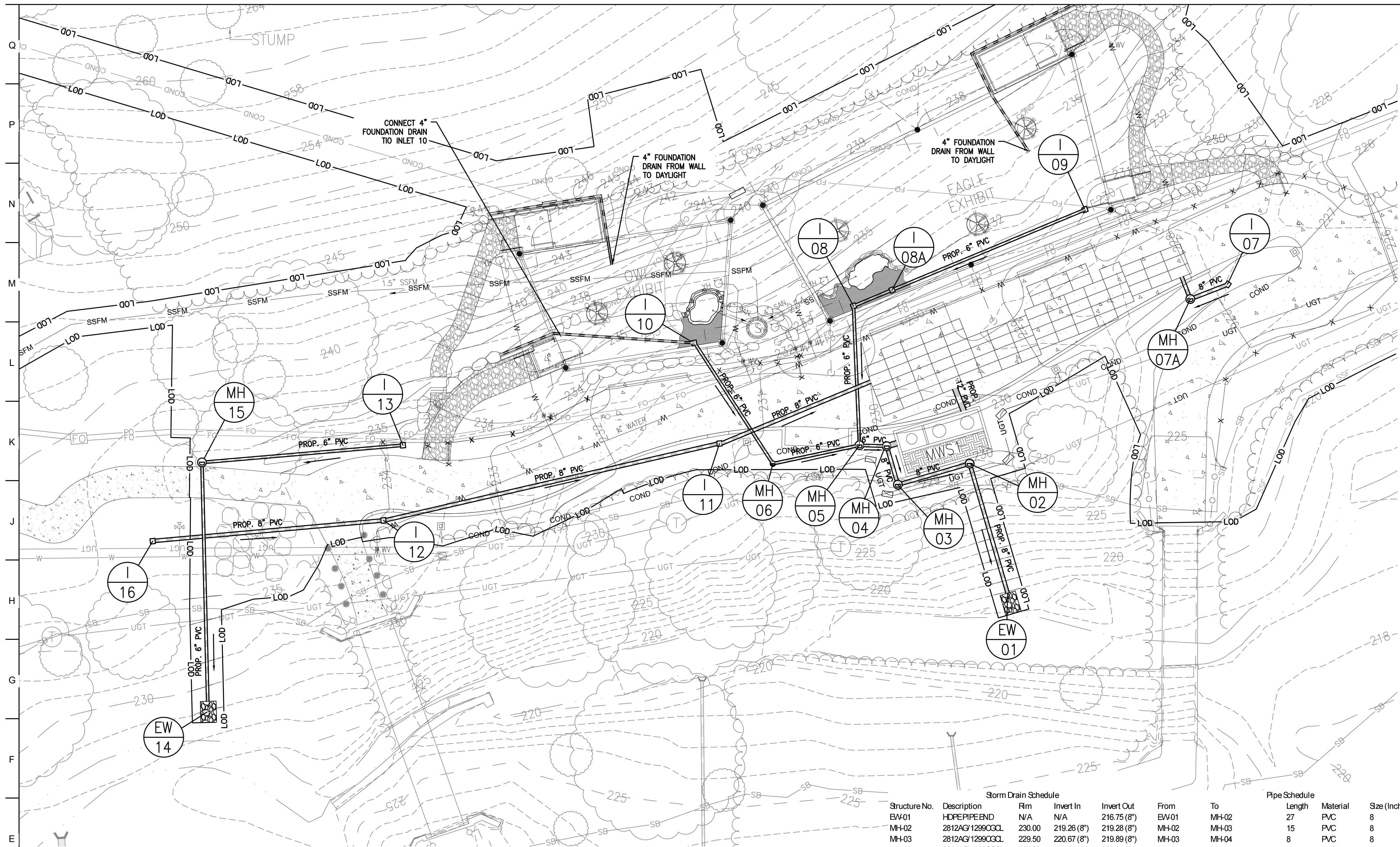
DRAWING TITLE:

PROPOSED
WATER &
SEWER PLAN

DRAWING NO:

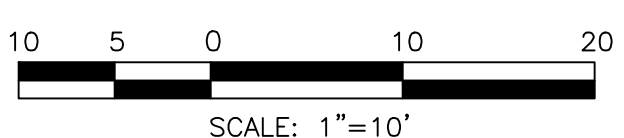
C500

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



PROPOSED STORM DRAIN PLAN

SCALE: 1"=10'



SHEET NOTES:

1. ALL STRUCTURES MUST HAVE LOCKING LIDS OR GRATES.
2. ALL PIPE TO BE SCHEDULE 40 PVC.
3. PROVIDE PEDESTRIAN RATED GRATES FOR ALL STRUCTURES LOCATED WITHIN THE PATHWAY.
4. SEE C500 FOR WATER AND SEWER

Storm Drain Schedule					Pipe Schedule			
Structure No.	Description	Rm	Invert In	Invert Out	From	To	Length	Material
EW-01	HDPE PIPE END	N/A	N/A	216.75 (8')	EW-01	MH-02	27	PVC
MH-02	2812AG/1299CGCL	230.00	219.26 (8')	219.28 (8')	MH-02	MH-03	15	PVC
MH-03	2812AG/1299CGCL	229.50	220.67 (8')	219.89 (8')	MH-03	MH-04	8	PVC
MH-04	2815AG/1599CGCL	230.33	221.36 (6')	220.97 (8')	MH-04	MH-05	5	PVC
			221.75 (8')		MH-05	I-08	27	PVC
			225.00 (12')		I-08A	I-09	39	PVC
MH-05	2812AG/1299CGCL	230.64	221.68 (6')	221.55 (6')	I-08	I-08A	8	PVC
			224.55 (6')		STORAGE INLET I-11		31	PVC
MH-06	2808AG/0899CGCL	231.00	226.32 (6')	226.21 (6')	I-11	I-12	66	PVC
I-07	2808AG/0899CGPL	226.15	N/A	224.50 (8')	MH-05	MH-06	17	PVC
MH-07A	2808AG/0899CGCL	227.00	224.04 (8')	224.00 (8')	MH-06	I-10	28	PVC
I-08	2808AG/0899CGBL	231.60	224.00 (6')	223.88 (6')	STORAGE INLET MH-7A		5	PVC
I-08A	2808AG/0899CGBL	231.40	224.36 (6')	224.36 (6')	MH-07A	I-07	8	PVC
I-09	2808AG/0899CGBL	230.65	N/A	226.33 (6')	EW-14	MH-15	45	PVC
I-10	2808AG/0899CGBL	234.25	N/A	229.25 (6')	MH-15	I-13	39	PVC
I-11	2808AG/0899CGPL	231.20	226.24 (6')	226.18 (8')	I-12	I-16	44	PVC
I-12	2808AG/0899CGPL	233.98	N/A	229.84 (6')				
I-13	2812AG/1299CGPL	233.9	N/A	230.00 (6')				
EW-14	HDPE PIPE END	N/A	N/A	226.00 (6')				
MH-15	2812AG/1299CGCL	235.80	228.35 (6')	228.25 (6')				
I-16	2808AG/0899CGPL	237.50	N/A	231.38 (8')				

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE, MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

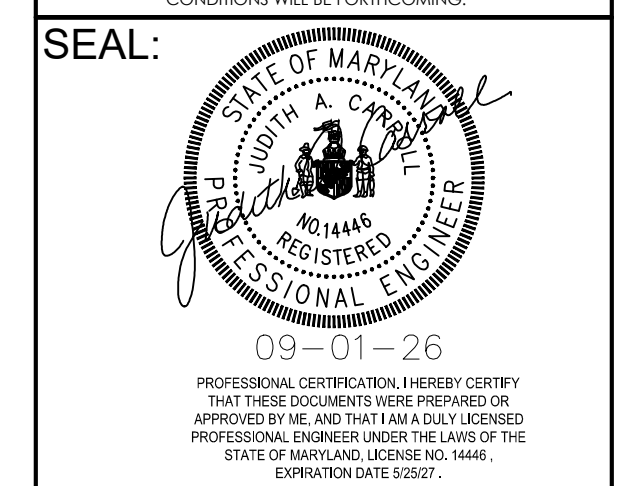


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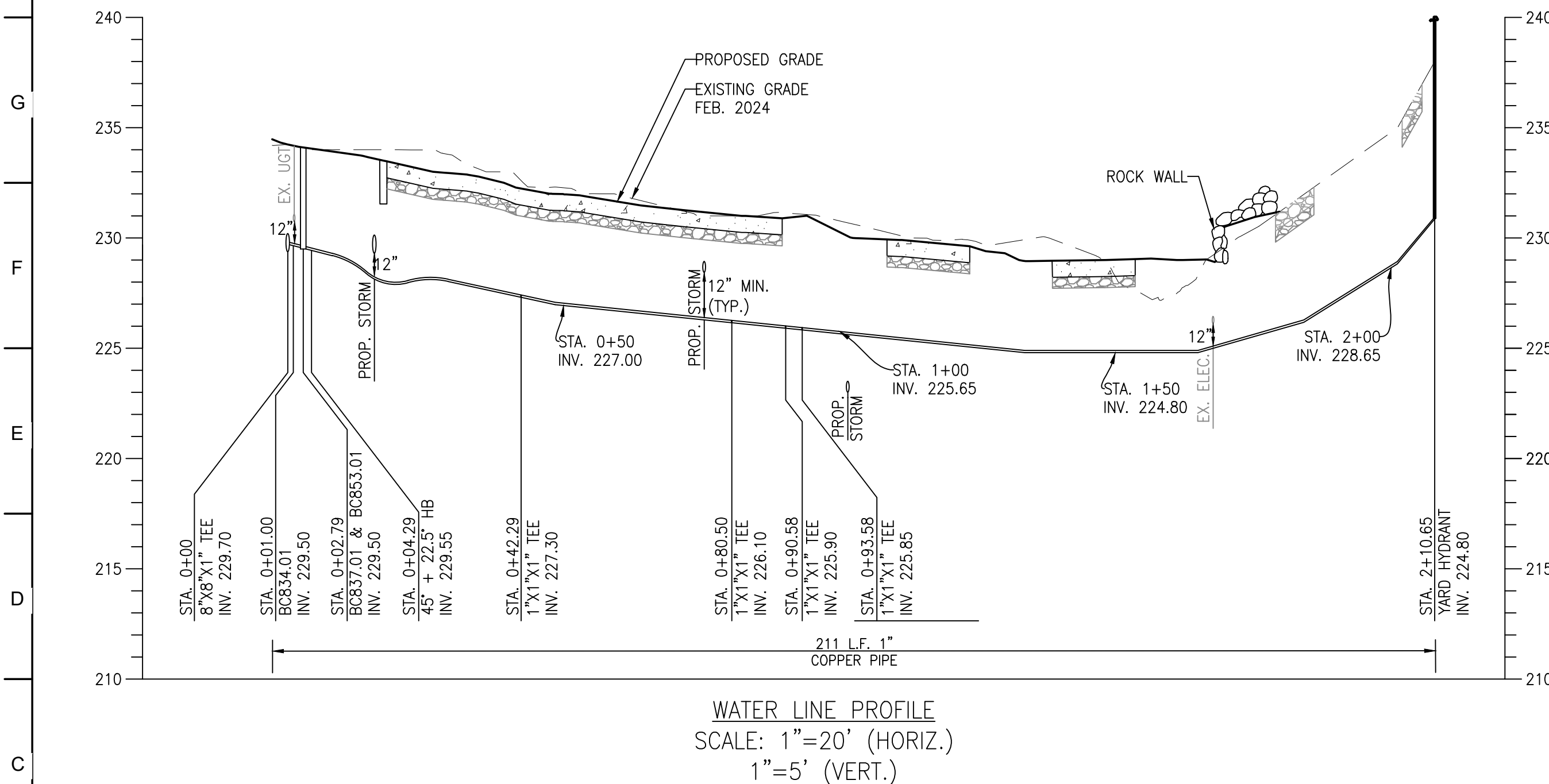
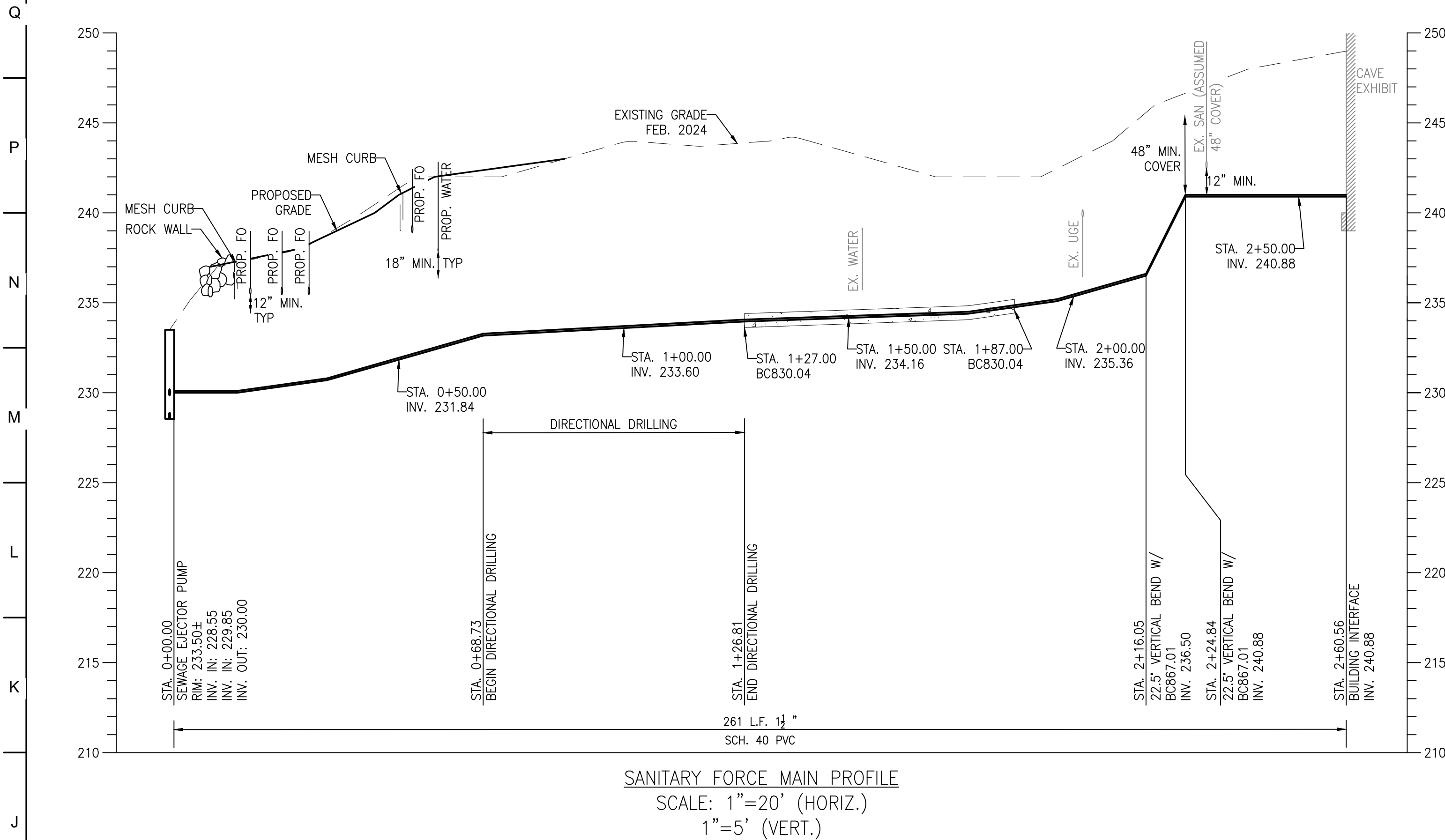


DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: MJE
CHECKED BY: CMS
SUBMISSION: DATE
BID SET: 09/01/2026

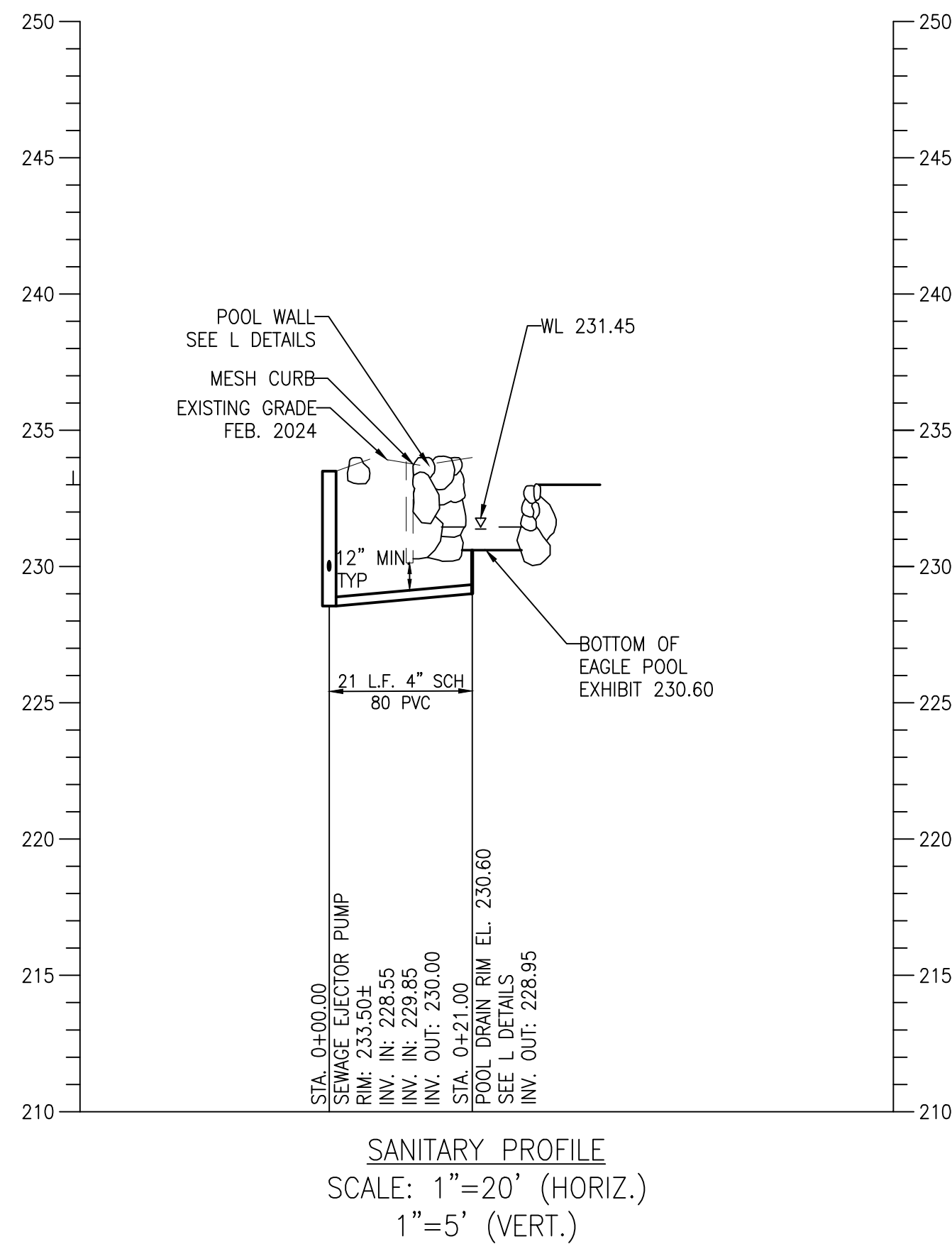
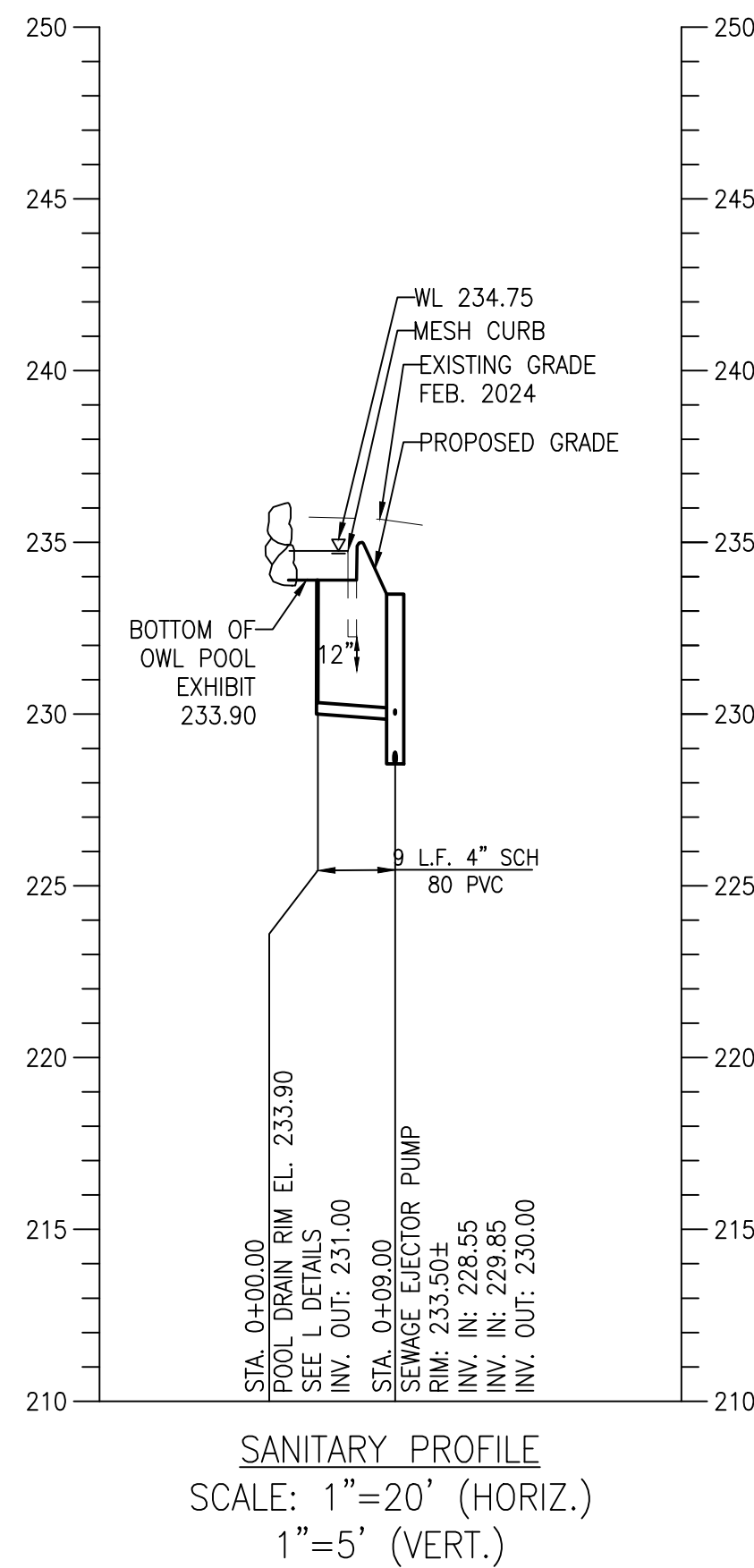
REVISION	DATE

DRAWING TITLE:
PROPOSED STORM DRAIN PLAN

DRAWING NO:
C501



NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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T: 410.785.7423

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

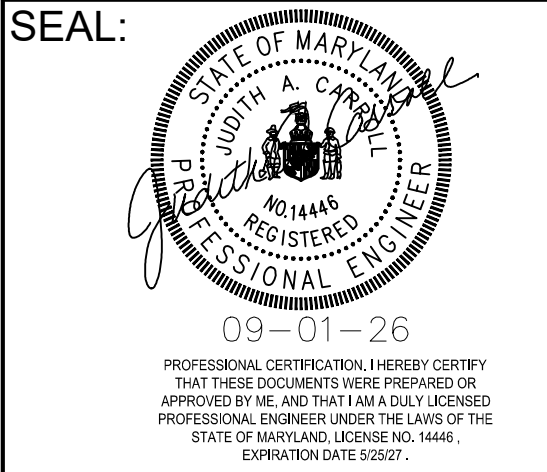
STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC.
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
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MEP ENGINEER:
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CLIENT:
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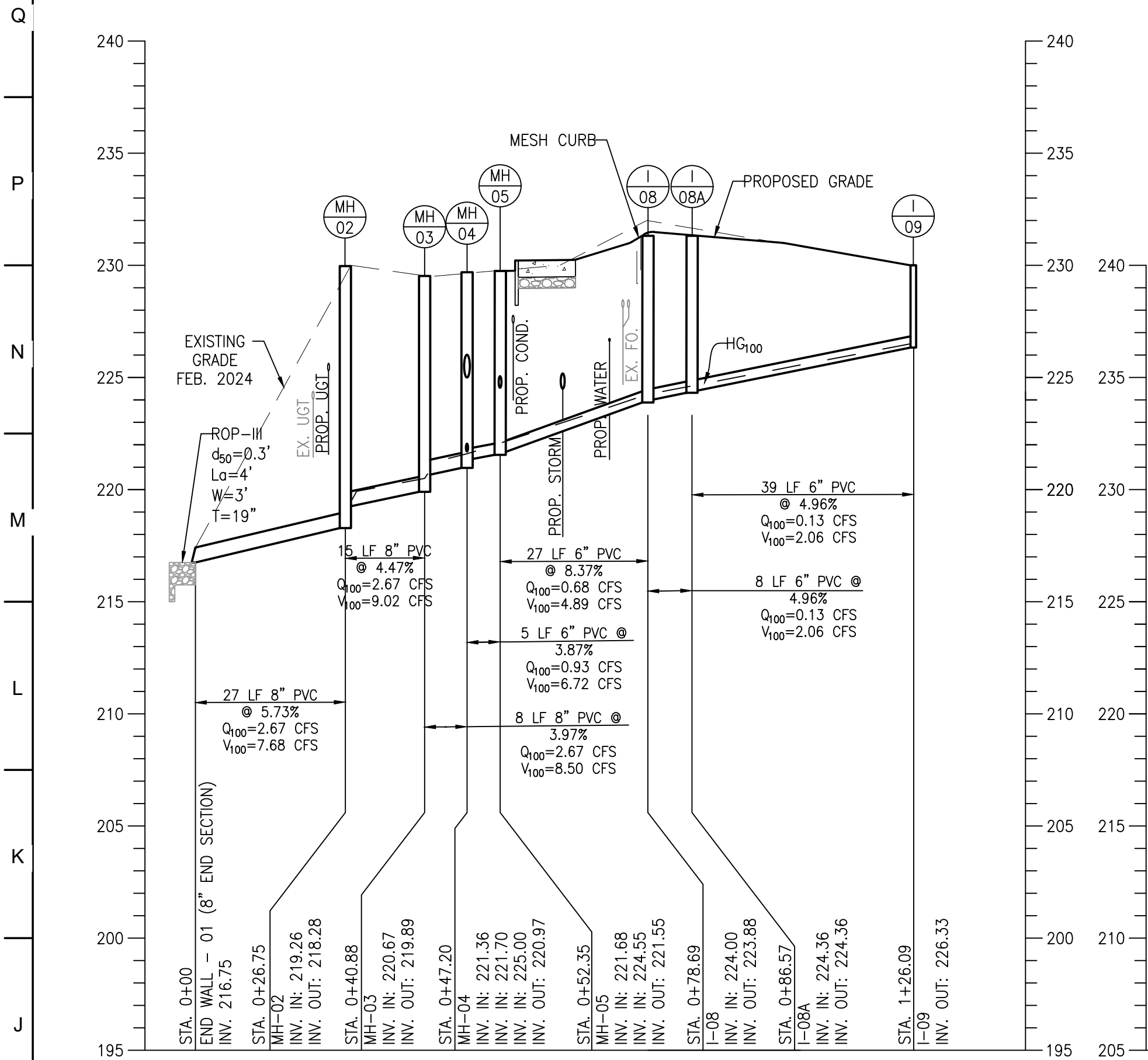


DATE: SEPTEMBER 01, 2026
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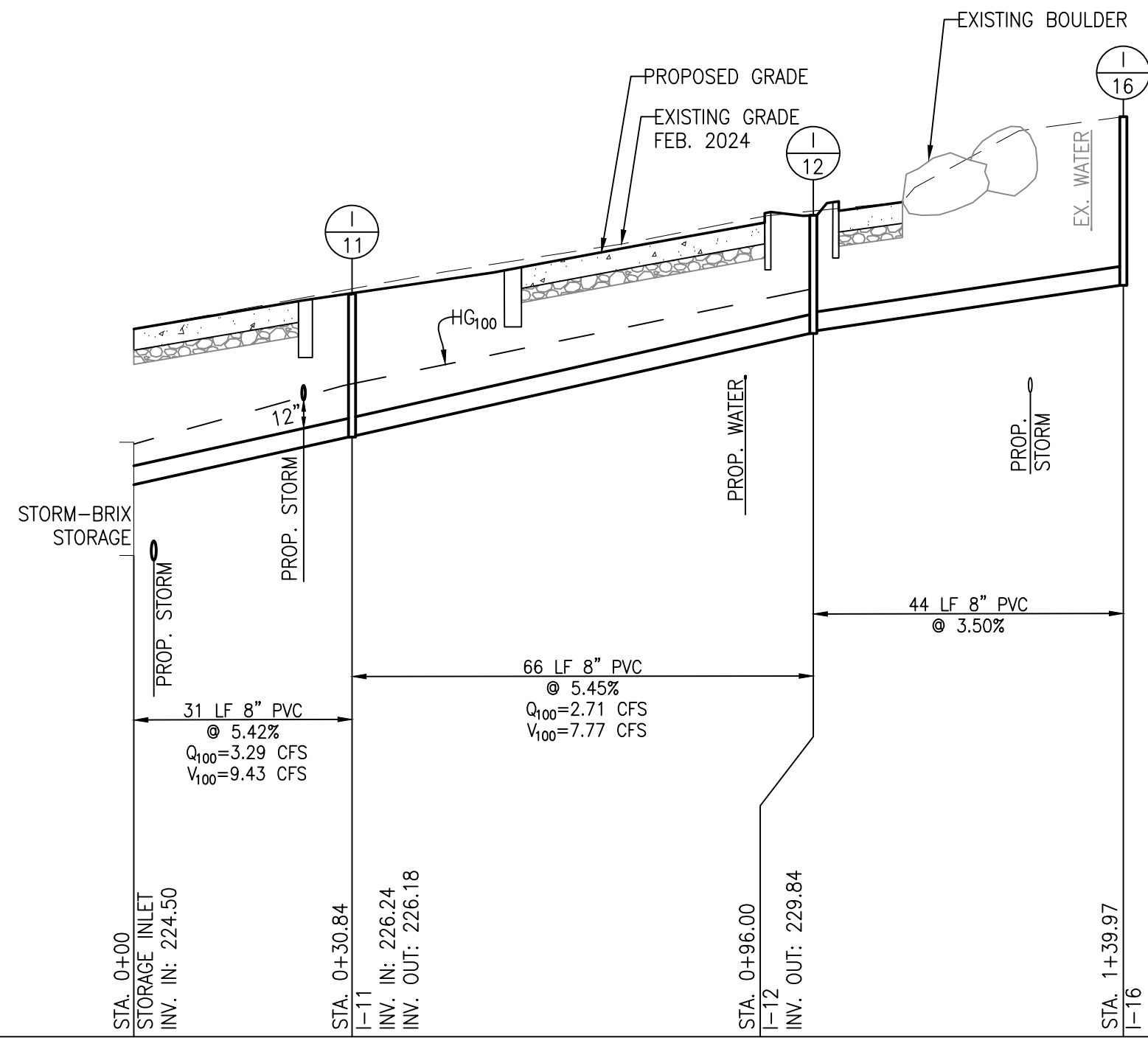
REVISION	DATE

DRAWING TITLE:
**WATER &
SEWER
PROFILES**

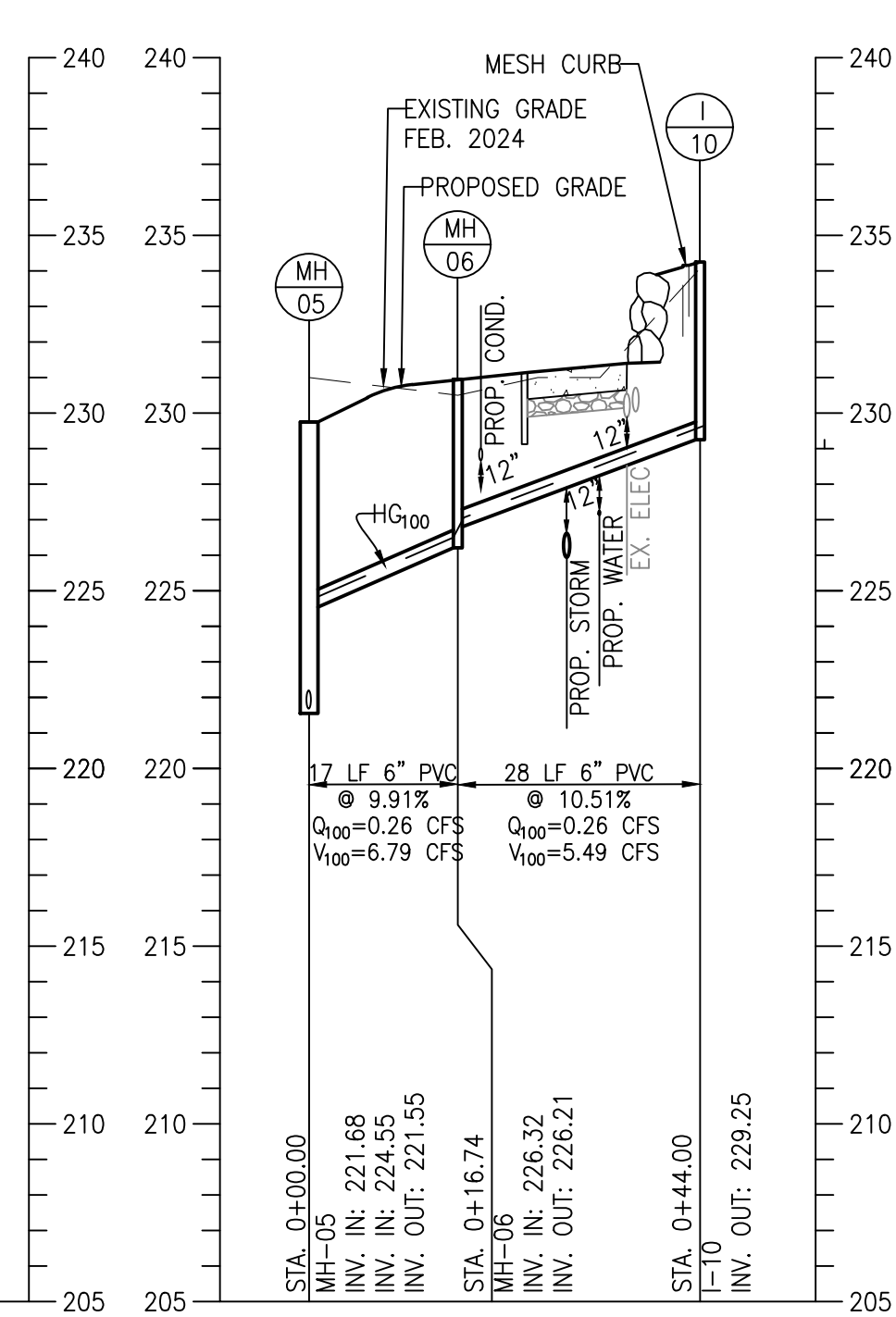
DRAWING NO:
C502



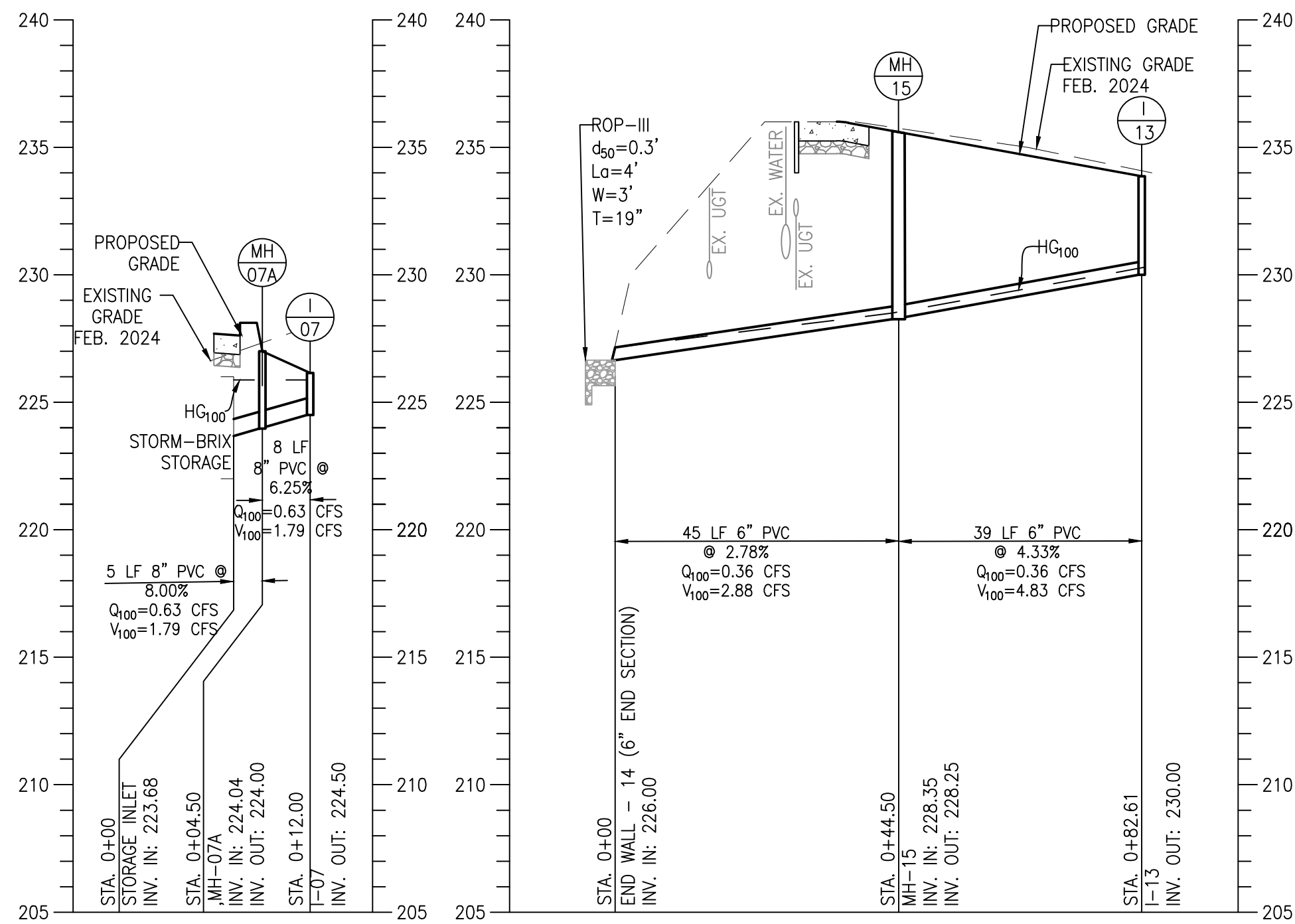
STORM DRAIN PROFILE
SCALE: 1"=20' (HORIZ.)
1"=5' (VERT.)



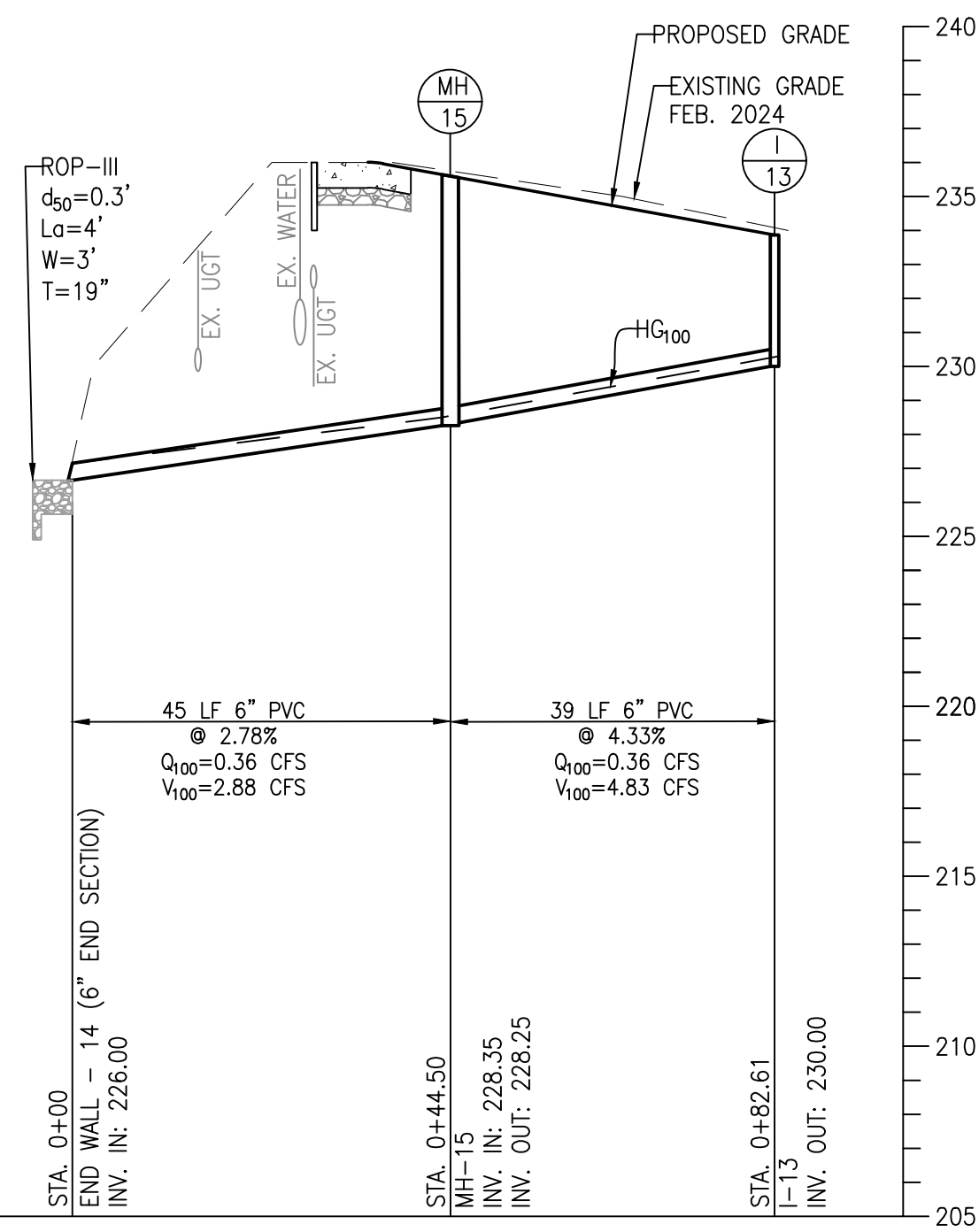
STORM DRAIN PROFILE
SCALE: 1"=20' (HORIZ.)
1"=5' (VERT.)



STORM DRAIN PROFILE
SCALE: 1"=20' (HORIZ.)
1"=5' (VERT.)



STORM DRAIN PROFILE
SCALE: 1"=20' (HORIZ.)
1"=5' (VERT.)



STORM DRAIN PROFILE
SCALE: 1"=20' (HORIZ.)
1"=5' (VERT.)

NOTE:
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HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
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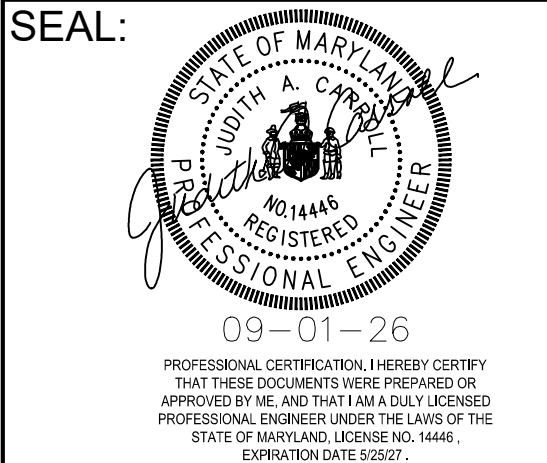
STRUCTURAL ENGINEER:
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2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
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MEP ENGINEER:
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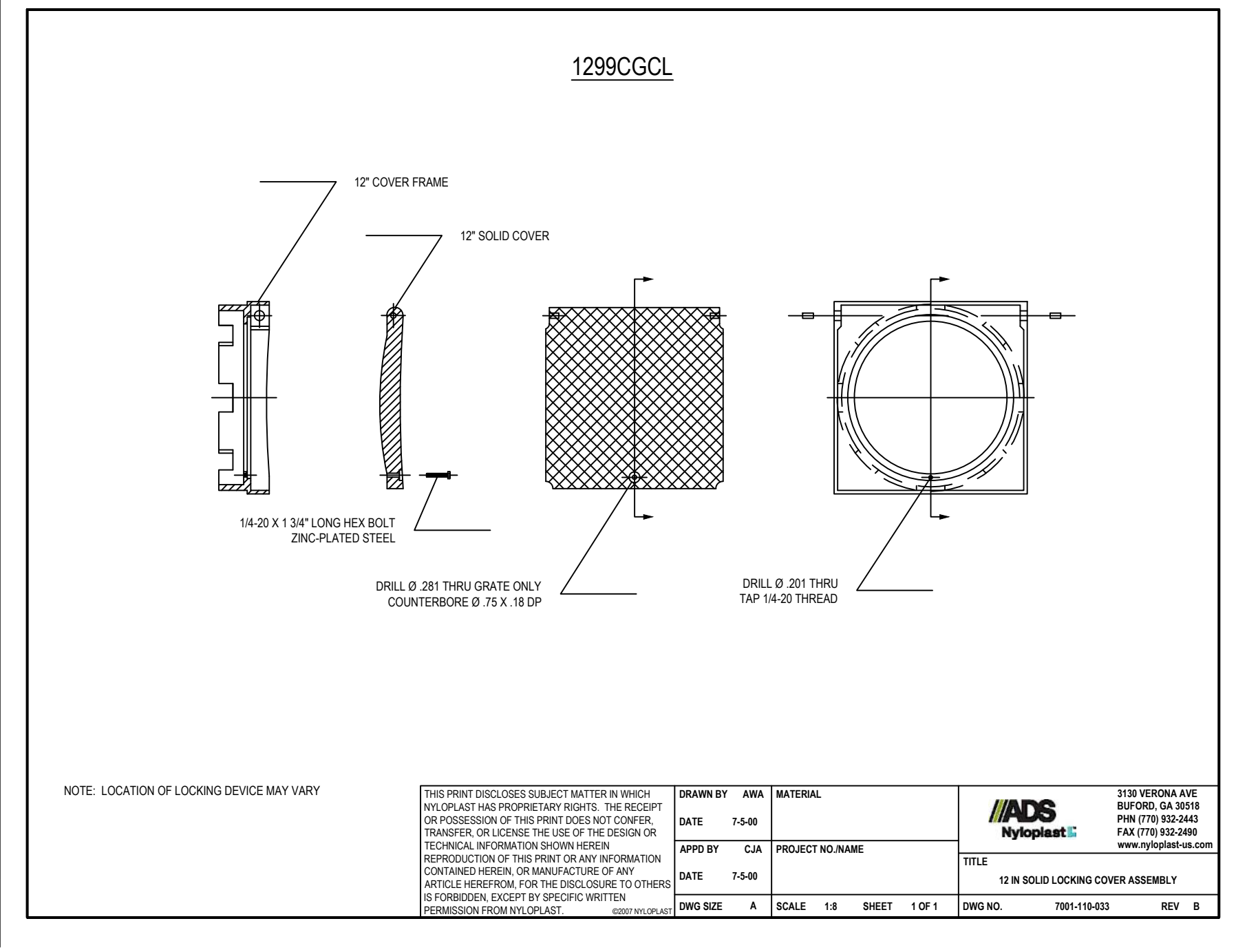
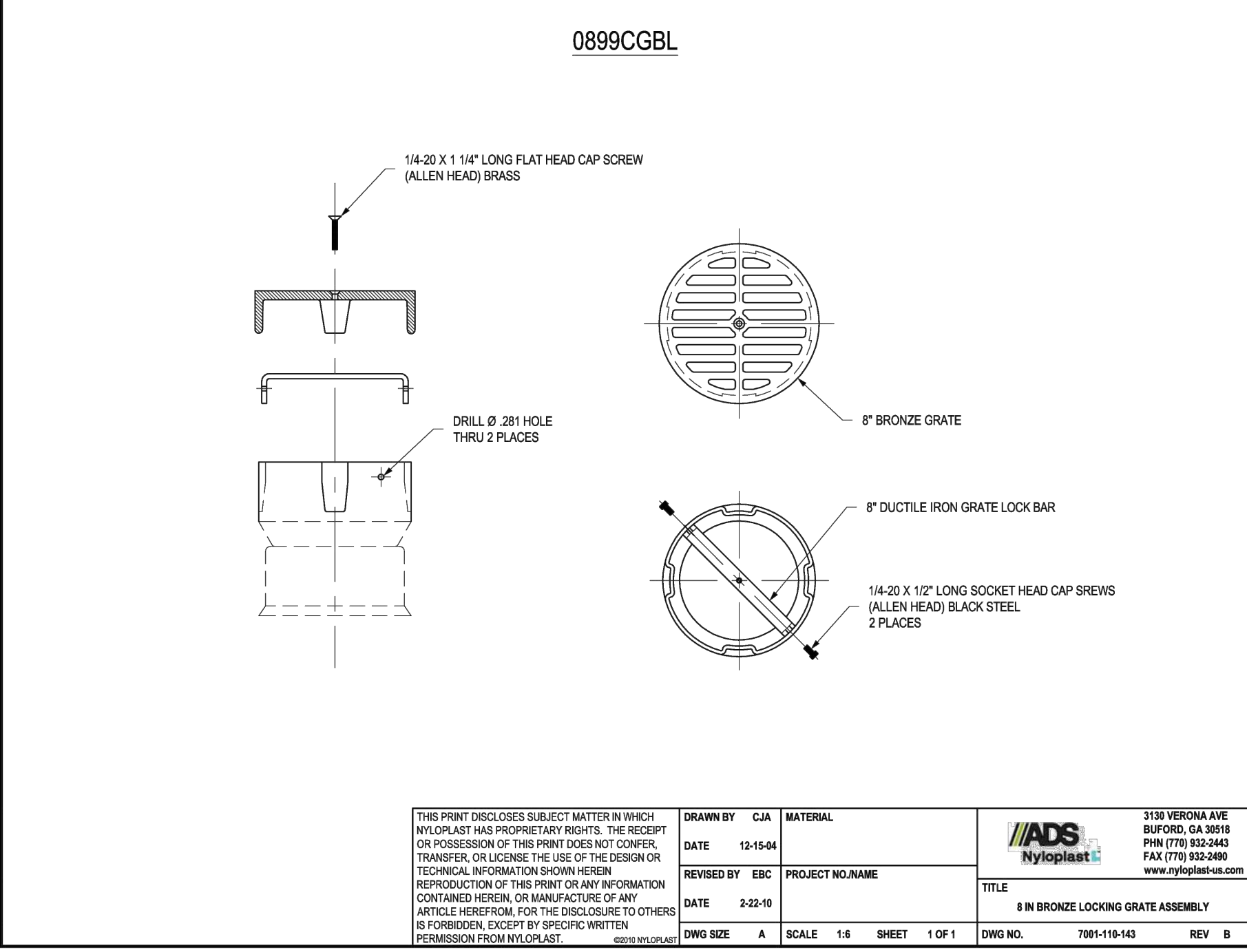
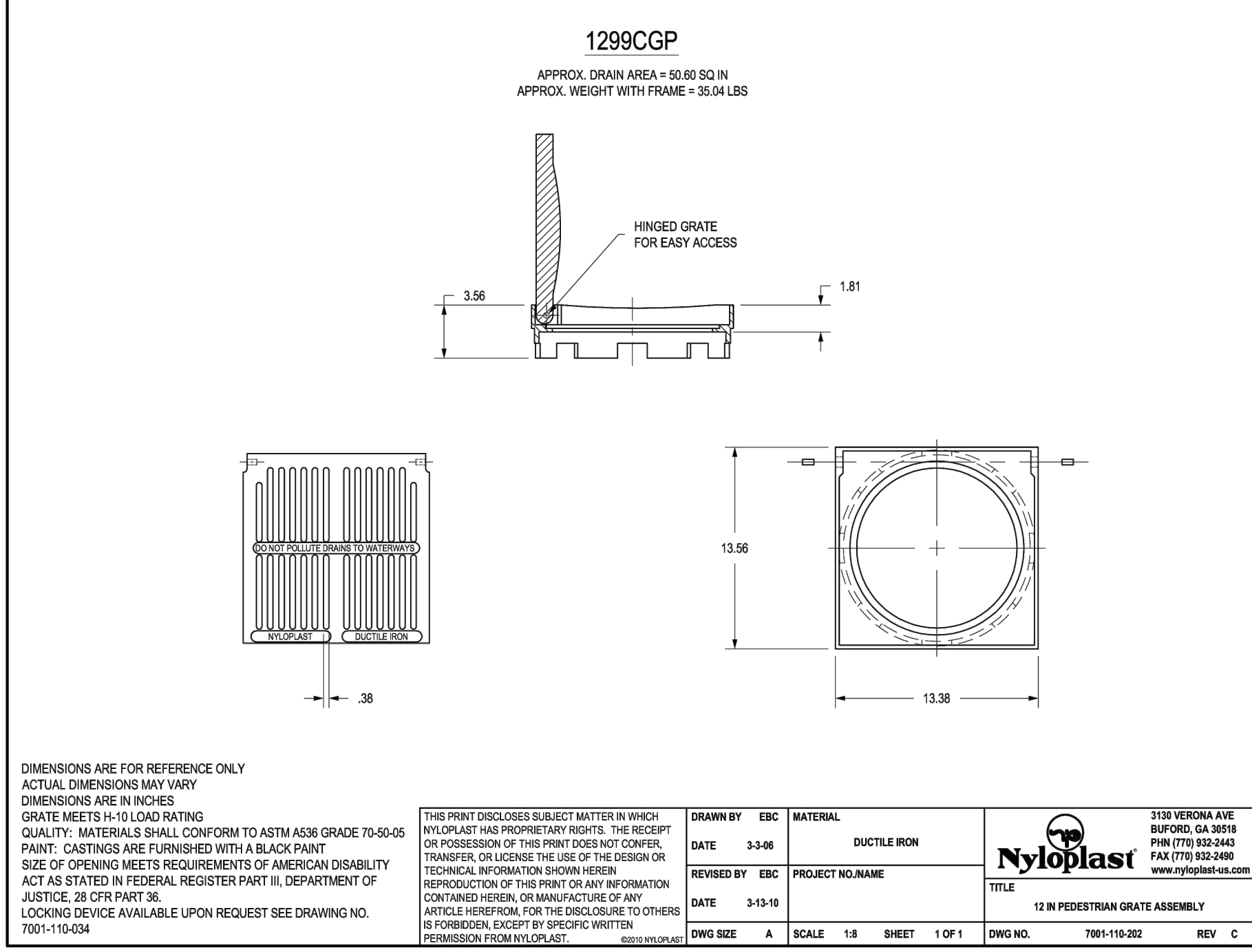
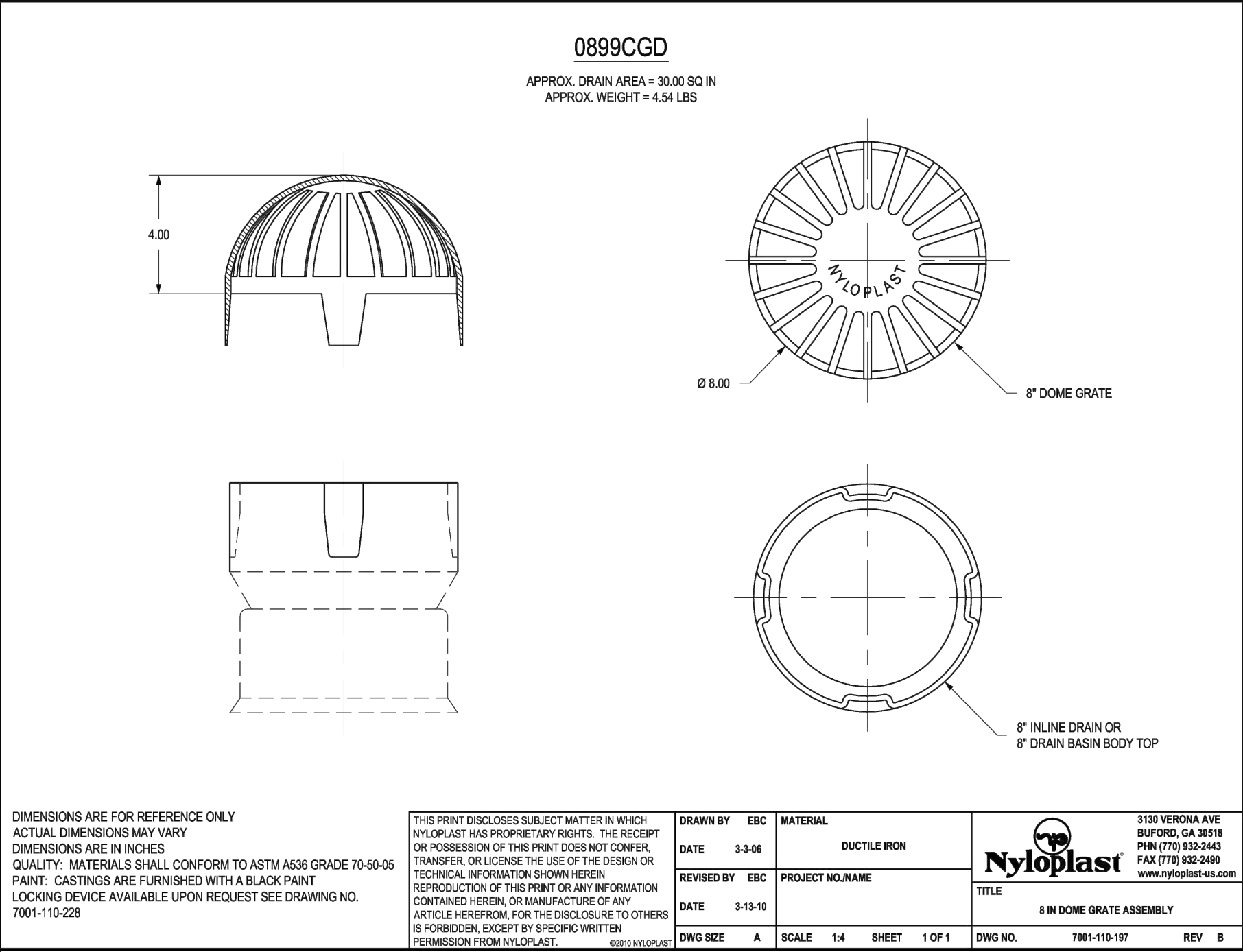
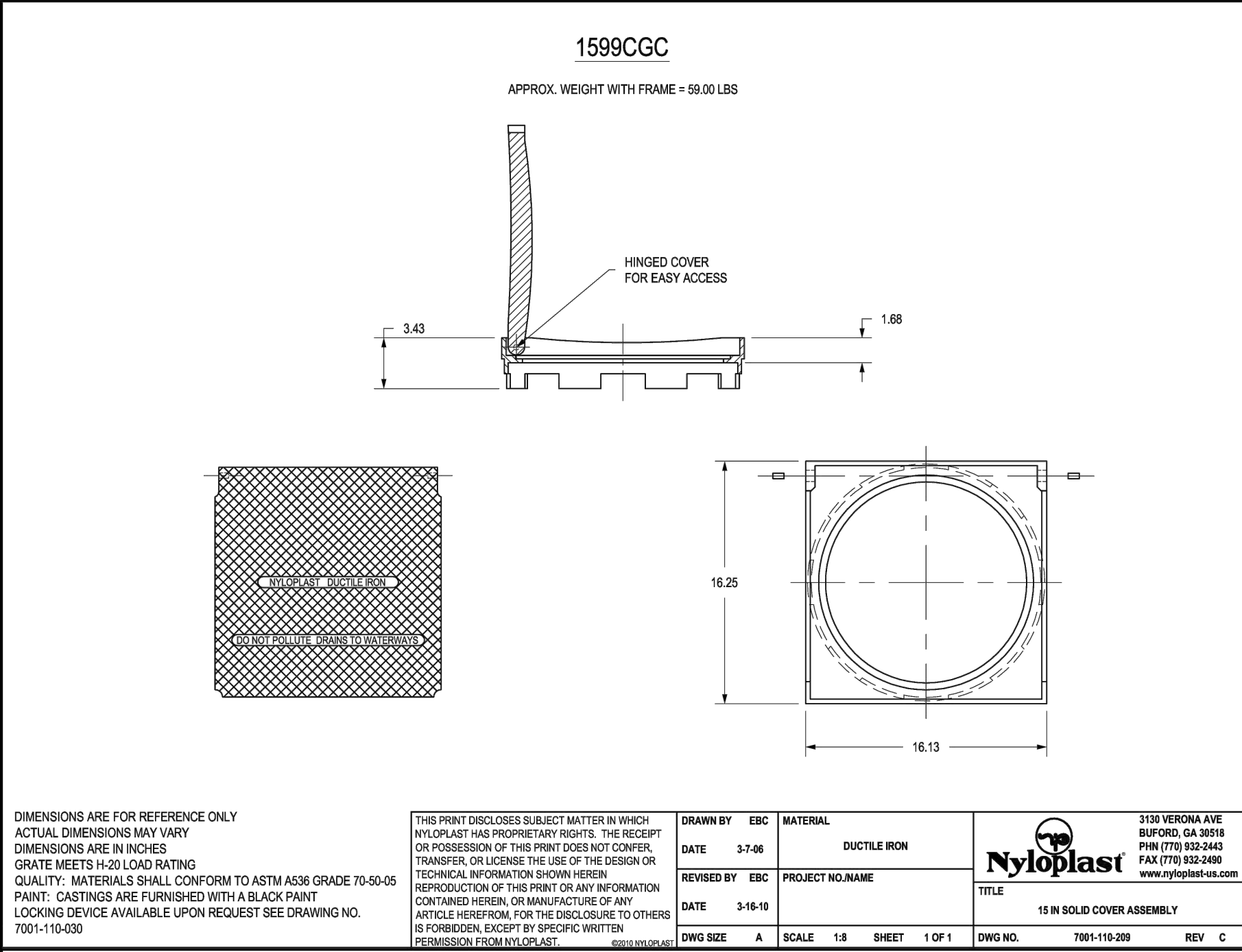
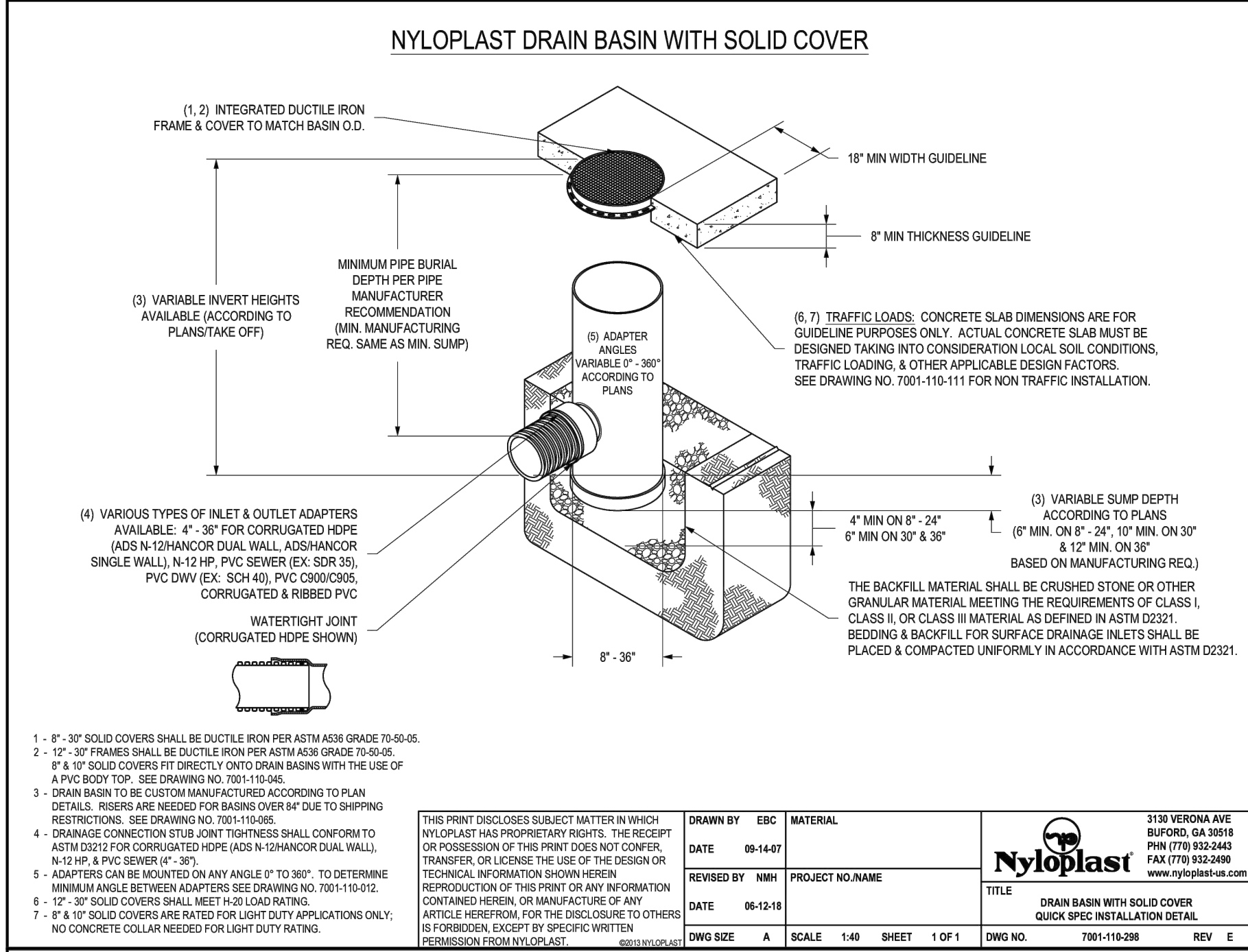
DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: MJE
CHECKED BY: CMS
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

DRAWING TITLE:
STORM DRAIN PROFILES

DRAWING NO:
C503

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NOTES:
ALL STORM DRAIN STRUCTURES MUST BE BOLTED DOWN AND LOCKABLE.

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



ARCHITECT:
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ROBINSON ANDERSON SUMMERS
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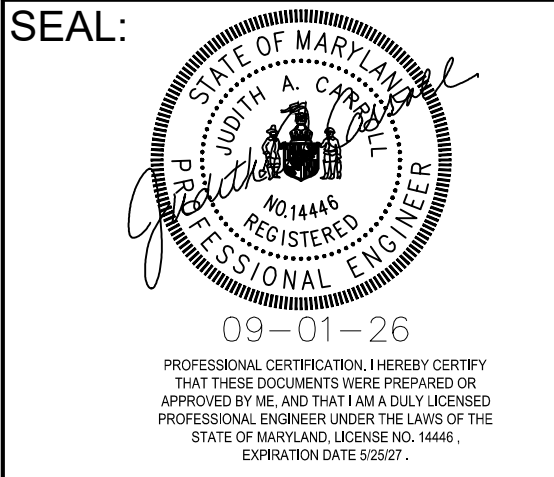
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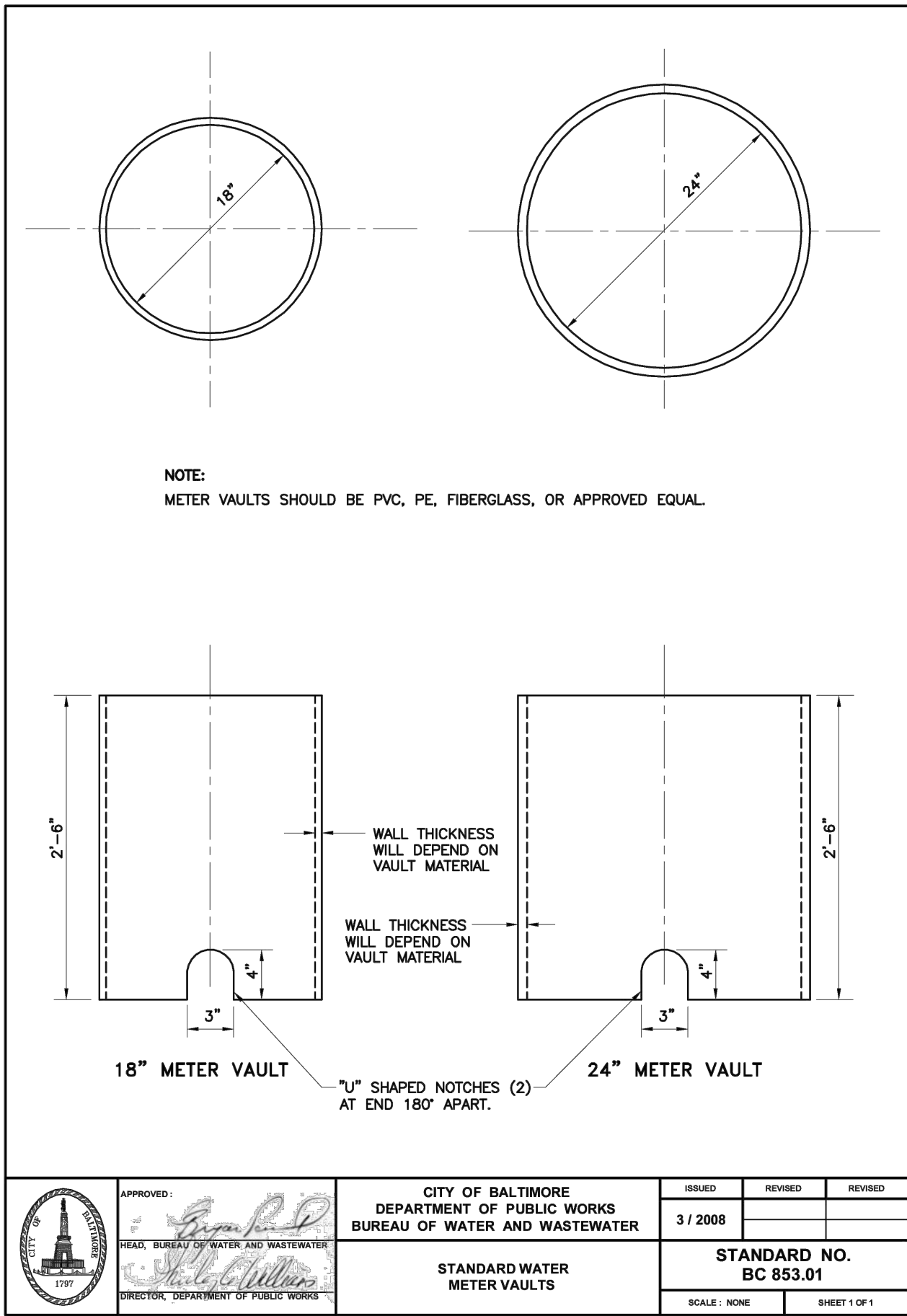
REVISION: DATE

DRAWING TITLE:
STORM DRAIN DETAILS

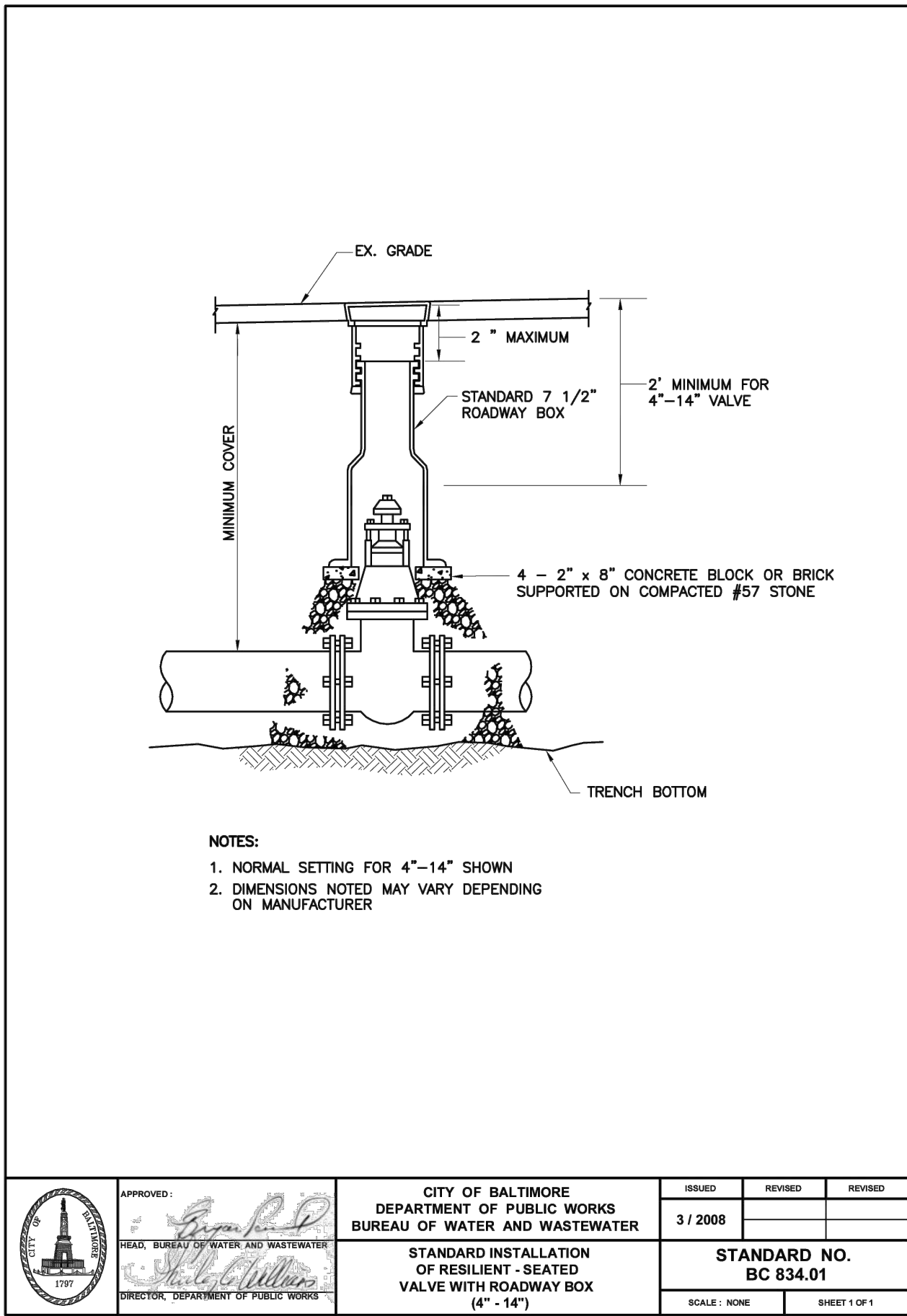
DRAWING NO:
C504

NOTE:
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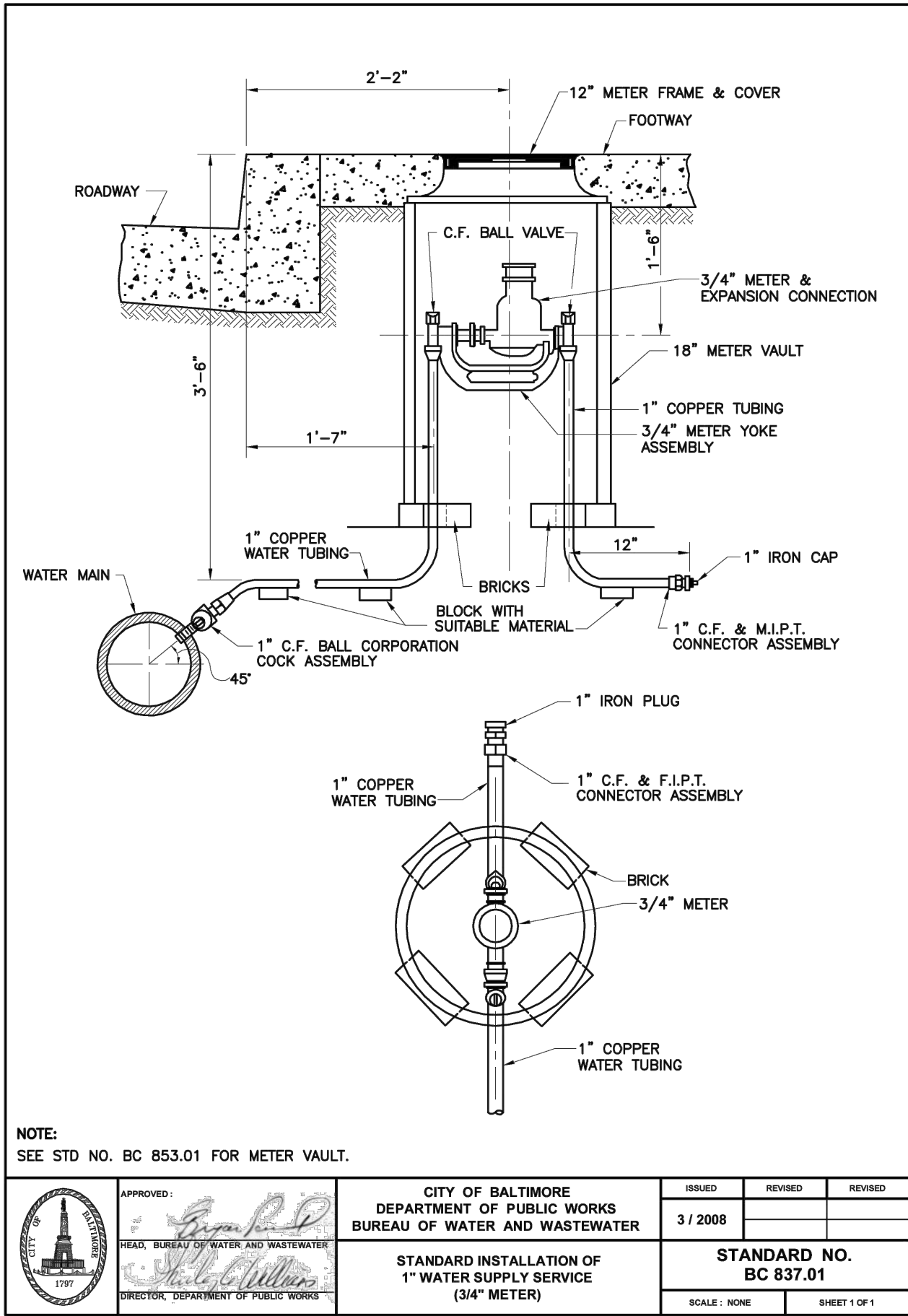
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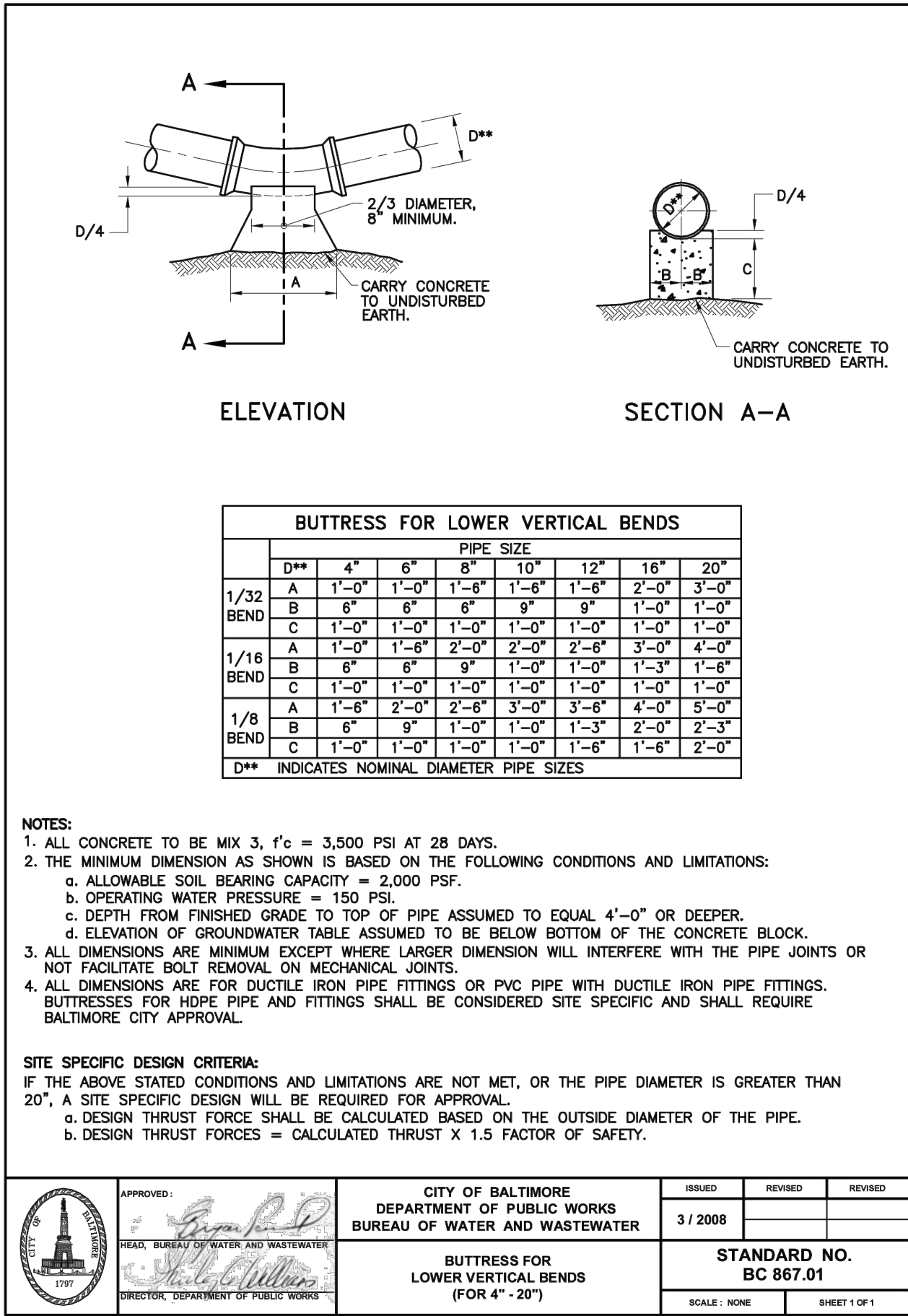
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STANDARD NO. BC 853.01				
SCALE: NONE				SHEET 1 OF 1



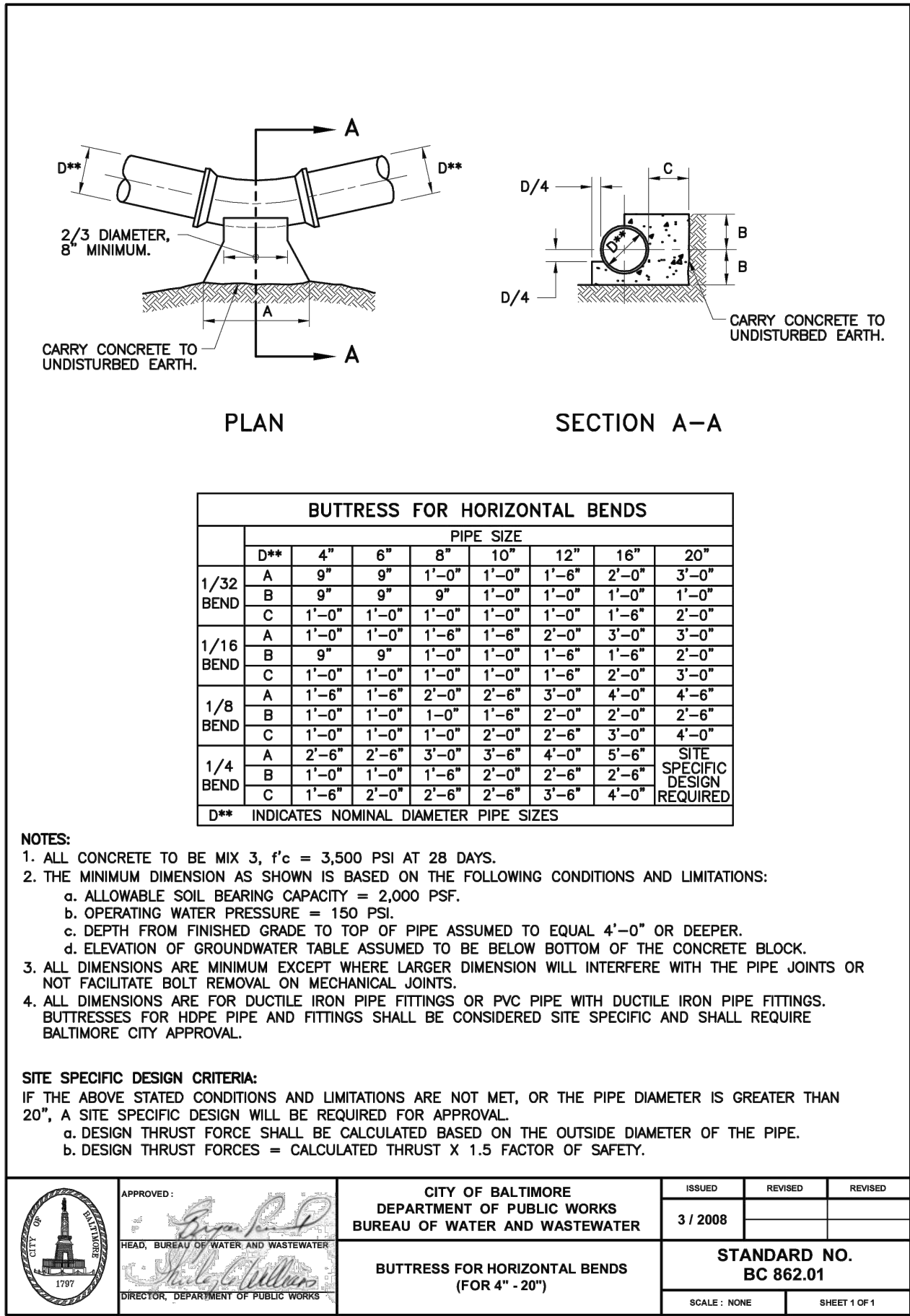
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3/2008				
STANDARD NO. BC 834.01				
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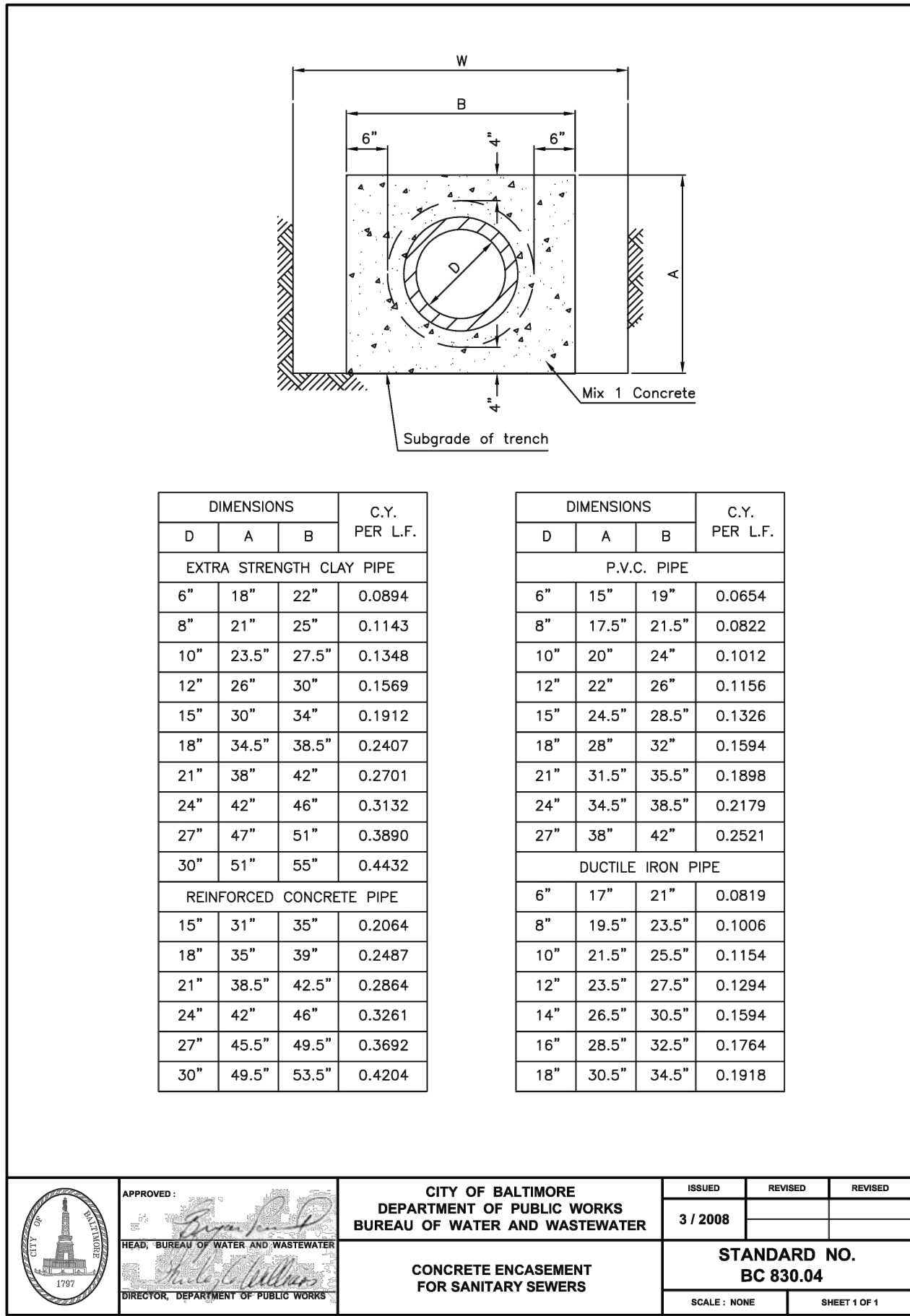
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3/2008				
STANDARD NO. BC 837.01				
SCALE: NONE				SHEET 1 OF 1



APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVIEWED	REVIEWED
3/2008				
STANDARD NO. BC 867.01				
SCALE: NONE				SHEET 1 OF 1



APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVIEWED	REVIEWED
3/2008				
STANDARD NO. BC 862.01				
SCALE: NONE				SHEET 1 OF 1



APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVIEWED	REVIEWED
3/2008				
STANDARD NO. BC 830.04				
SCALE: NONE				SHEET 1 OF 1



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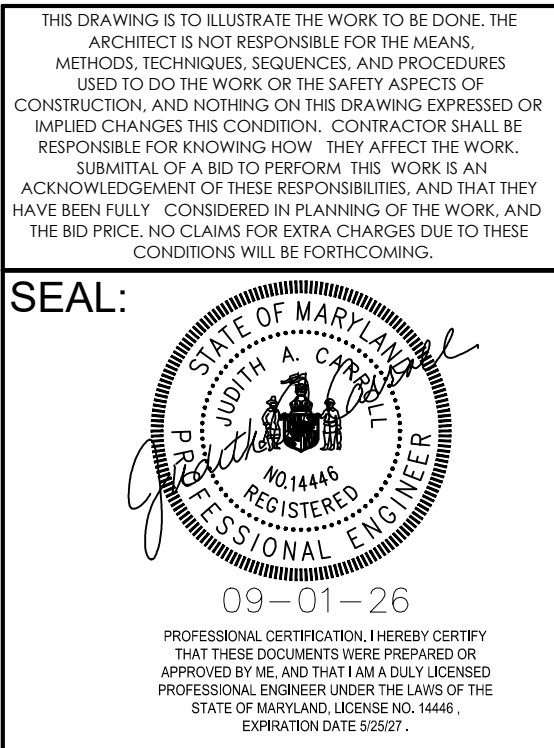
LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
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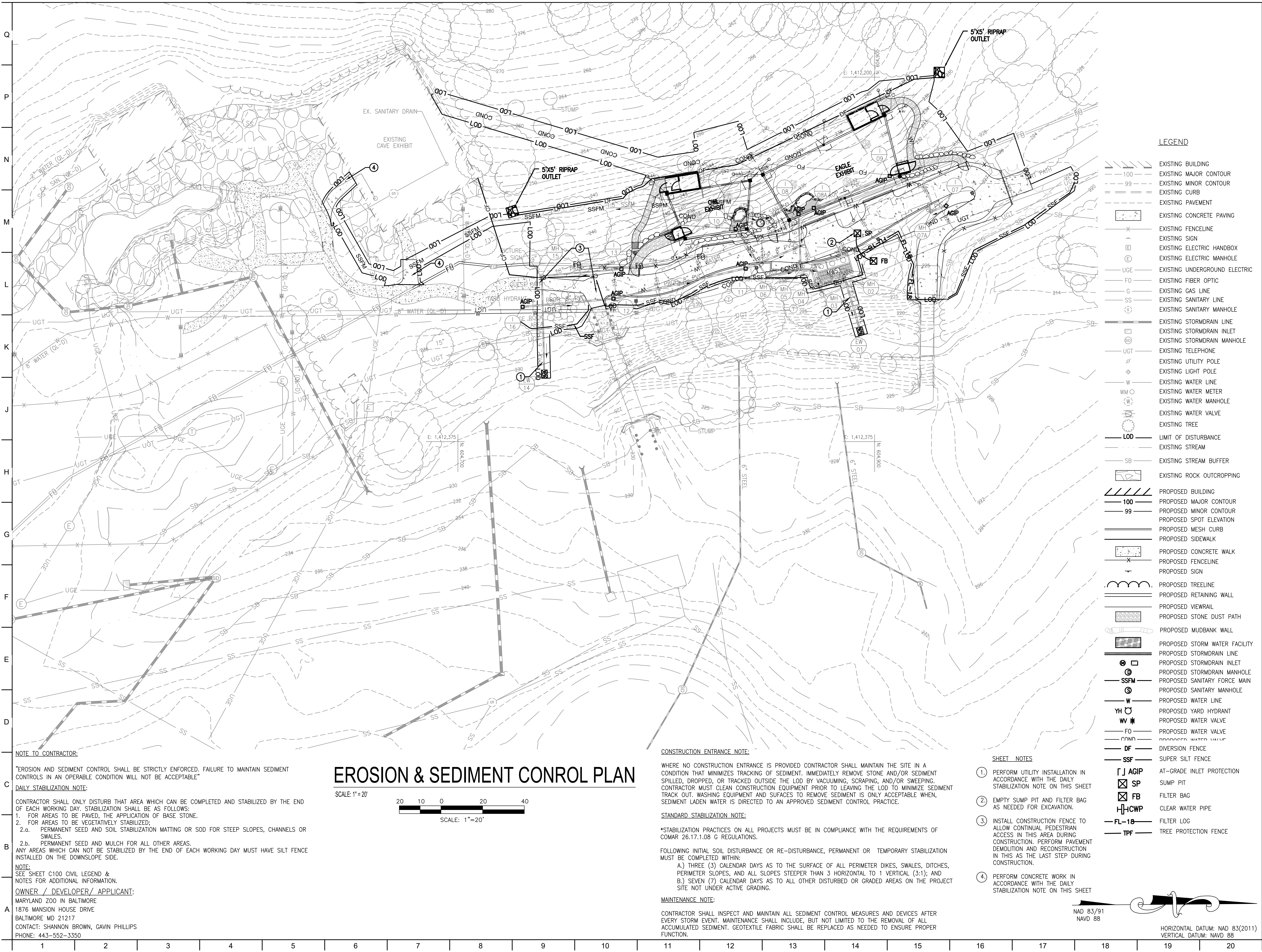


DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
UTILITY DETAILS

DRAWING NO:
C505

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88





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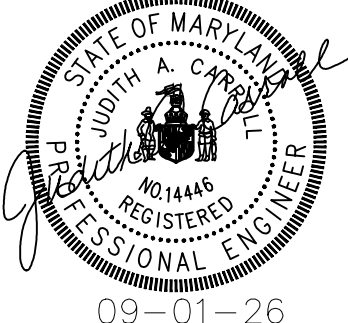
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SEAL:



09-01-26
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 5/2027.

DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
EROSION & SEDIMENT CONTROL PLAN

DRAWING NO:
C600

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DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL
SSF

ELEVATION

CROSS SECTION

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/4 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL
AGIP

PLAN / CUT AWAY VIEW

CROSS SECTION

CONSTRUCTION SPECIFICATIONS

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
- PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

DETAIL E-6 FILTER LOG

STANDARD SYMBOL
FL-18

SECTION

ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
- FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
- INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
- WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL E-6 FILTER LOG

STANDARD SYMBOL
FL-18

SECTION

ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
- FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
- INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
- WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL F-4 FILTER BAG

STANDARD SYMBOL
FB

PLAN VIEW

ELEVATION

CONSTRUCTION SPECIFICATIONS

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
- CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
- REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY. WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
- USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:
- REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

GRAB TENSILE PUNCTURE	250 LB	ASTM D-4632
FLOW RATE	150 LB	ASTM D-4633
PERMITTIVITY (SEC^-1)	70 GAL./MIN./FT^2	ASTM D-4491
UV RESISTANCE	1.2 SEC^-1	ASTM D-4491
APPARENT OPENING SIZE (AOS)	70% STRENGTH @ 500 HOURS	ASTM D-4355
SEAM STRENGTH	0.15-0.18 MM	ASTM D-4751
	90%	ASTM D-4632

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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DETAIL F-2 SUMP PIT

STANDARD SYMBOL
SP

ELEVATION

CONSTRUCTION SPECIFICATIONS

- USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
- WRAP PIPE WITH 1/4 INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
- EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
- SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
- BACKFILL PIT AROUND THE PIPE WITH 3/4 TO 1 1/2 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
- DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
- A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL
DF

ELEVATION

SECTION

CONSTRUCTION SPECIFICATIONS

- USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2 3/4 INCH MAXIMUM OPENING).
- USE 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
- FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
- SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
- EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
- WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
- KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CHESAPEAKE FLYWAY
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IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:

DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: MJE
CHECKED BY: CMS
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

DRAWING TITLE:
EROSION & SEDIMENT CONTROL DETAILS

DRAWING NO:
C601

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

Q

P

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M

L

K

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H

G

F

E

D

C

B

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
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EROSION AND SEDIMENT CONTROL - STANDARD SPECIFICATIONS FOR BALTIMORE CITY PART 1 OF 2

SHEET REVISION DATE: November 15, 2022

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

USING VEGETATION AS COVER TO PROTECT EXPOSED SOIL FROM EROSION.

PURPOSE

TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES

ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION; SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY

STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS. PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE. SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

INSPECT SEEDBED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.
2. IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
3. IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
4. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION

ESTABLISHMENT OF VEGETATIVE COVER ON CUT AND FILL SLOPES.

PURPOSE

TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES

ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

CRITERIA

A. INCREMENTAL STABILIZATION - CUT SLOPES

1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
 - a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
 - b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
 - c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
 - d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDBED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

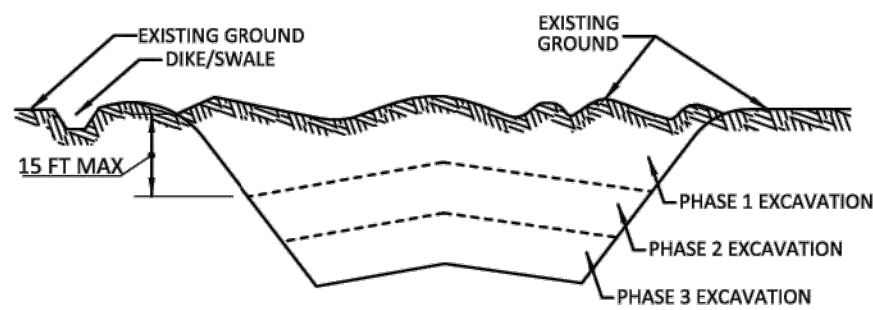


FIGURE B.1: INCREMENTAL STABILIZATION - CUT

B. INCREMENTAL STABILIZATION - FILL SLOPES

1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
 - a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
 - b. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
 - c. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
 - d. PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
 - e. PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDBED AREAS AS NECESSARY.

B-4-1 (CONTINUED)

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION B (INCREMENTAL STABILIZATION - FILL SLOPES).

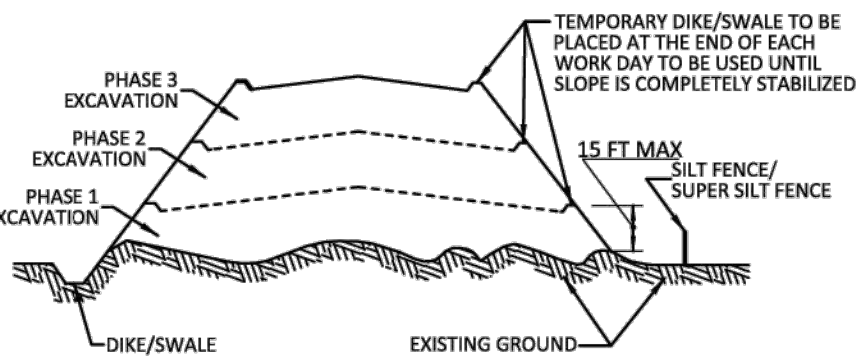


FIGURE B.2: INCREMENTAL STABILIZATION - FILL

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

- a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- ##### 2. PERMANENT STABILIZATION
- a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - i. SOIL PH BETWEEN 6.0 AND 7.0.
 - ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 - iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - b. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- ##### 3. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
- a. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
 - d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
 - e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN EXISTING SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
 - a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.
 - b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
6. TOPSOIL APPLICATION
 - a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 - b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

B-4-2 (CONTINUED)

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. SPECIFICATIONS

- a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
- b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
- c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
- d. SOIL OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

- a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 - i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.3. PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
 - ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDBED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
- b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
- ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
 - i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P₂O₅ (PHOSPHOROUS), 200 POUNDS PER ACRE; K₂O (POTASSIUM), 200 POUNDS PER ACRE.
 - ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 - iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 - iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

- a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 - b. WOOD CELLULOSE FIBER MULCH (WCFFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - i. WCFFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
 - ii. WCFFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - iii. WCFFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 - iv. WCFFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - v. WCFFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
- ##### 2. APPLICATION
- a. APPLY MULCH TO ALL SEEDBED AREAS IMMEDIATELY AFTER SEEDING.
 - b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDBED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
 - c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

B-4-3 (CONTINUED)

3. ANCHORING

- a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
 - i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
 - ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
 - iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3). AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION 4-B-4.3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): <u>7A</u> SEED MIXTURE (FROM TABLE B.1): <u>SEE BELOW</u>					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
N/A	ANNUAL RYEGRASS	40	2/15-4/30 8/15-11/30	½ IN.	435 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
N/A	FOXTAIL MILLET (WARM SEASON)	30	5/1-8/14	½ IN.		
N/A	PEARL MILLET (WARM SEASON)	20	5/1-8/14	½ IN.		

CLIENT:

MARYLAND ZOO

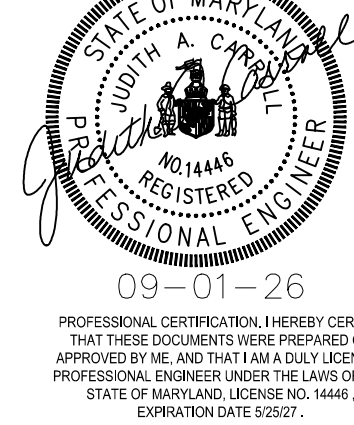
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THE DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10-07

DRAWN BY: MJE

CHECKED BY: CMS

SUBMISSION: DATE

BID SET: 09/01/2026

REVISION: DATE

REVISION: DATE

REVISION: DATE

REVISION: DATE

REVISION: DATE

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NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER/ APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

EROSION AND SEDIMENT CONTROL - STANDARD SPECIFICATIONS FOR BALTIMORE CITY PART 2 OF 2

SHEET REVISION DATE: NOVEMBER 15, 2022

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. GENERAL USE

- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE(FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE(SOIL TYPE, ON TABLE B.2; ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
- ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
- FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
- FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3.5 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

- AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
 - KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1.5 TO 3 POUNDS PER 1000 SQUARE FEET. NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.
- IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
 - WESTERN MD:
 - MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
 - CENTRAL MD:
 - MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
 - SOUTHERN MD, EASTERN SHORE:
 - MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
- TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1.5 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH 0.5 TO 1 INCH EVERY 3 TO 4 DAYS (DEPENDENT ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

- CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 0.75 INCH, PLUS OR MINUS 0.25 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
 - SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- ##### 2. SOD INSTALLATION
- DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
 - LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SURGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
- ##### 3. SOD MAINTENANCE
- IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ONE THIRD OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 7A SEED MIXTURE (FROM TABLE B.3): SEE BELOW					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ O ₅	K ₂ O	
	TALL FESCUE	60		¼-½ IN.				
	PERENNIAL RYEGRASS	20	2/15-4/30 8/15-10/31	¼-½ IN.	45 POUNDS PER ACRE (1.0 LB/ 1000 SF)	90 POUNDS PER ACRE (2 LB/ 1000 SF)	90 POUNDS PER ACRE (2 LB/ 1000 SF)	2 TONS/AC (90 LB/ 1000 SF)
	KENTUCKY BLUEGRASS	40		¼-½ IN.				

PERMANENT SEEDING NOTES:

1. THE SEEDING DATES LISTED ARE AVERAGES FOR THE IDENTIFIED HARDINESS ZONE. WHEN SEEDING TOWARD THE END OF THE LISTED PLANTING DATES, OR WHEN CONDITIONS ARE EXPECTED TO BE LESS THAN OPTIMAL, SELECT AN APPROPRIATE NURSE CROP FROM THE TEMPORARY SEEDING SUMMARY FOUND ON THE EROSION AND SEDIMENT CONTROL - STANDARD SPECIFICATIONS FOR BALTIMORE CITY PART 1 OF 2, AND PLANT TOGETHER WITH THE PERMANENT SEEDING MIX.

2. SEEDING TOWARD THE END OF PLANTING DATE. RANGES MAY REQUIRE SUPPLEMENTAL WATERING TO ENSURE PLANT ESTABLISHMENT.

3. FOR GUIDANCE ON STABILIZATION OUTSIDE OF A SEEDING SEASON, SEE B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION FOUND ON EROSION AND SEDIMENT CONTROL PART - STANDARD SPECIFICATIONS FOR BALTIMORE CITY 1 OF 2.

B-4-7 STANDARDS AND SPECIFICATIONS FOR HEAVY USE AREA PROTECTION

DEFINITION

THE STABILIZATION OF AREAS FREQUENTLY AND INTENSIVELY USED BY SURFACING WITH SUITABLE MATERIALS (E.G., MULCH AND AGGREGATE).

PURPOSE

TO PROVIDE A STABLE, NON-ERODING SURFACE FOR AREAS FREQUENTLY USED AND TO IMPROVE WATER QUALITY FROM THE RUNOFF OF THESE AREAS.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE APPLIES TO INTENSIVELY USED AREAS (E.G., EQUIPMENT AND MATERIAL STORAGE, STAGING AREAS, HEAVILY USED TRAVEL LANES).

CRITERIA

- A MINIMUM 4-INCH BASE COURSE OF CRUSHED STONE OR OTHER SUITABLE MATERIALS INCLUDING WOOD CHIPS OVER NONWOVEN GEOTEXTILE SHOULD BE PROVIDED AS SPECIFIED IN SECTION H-1 MATERIALS
- SELECT THE STABILIZING MATERIAL BASED ON THE INTENDED USE, DESIRED MAINTENANCE FREQUENCY, AND RUNOFF CONTROL.
- THE TRANSPORT OF SEDIMENTS, NUTRIENTS, OILS, CHEMICALS, PARTICULATE MATTER ASSOCIATED WITH VEHICULAR TRAFFIC AND EQUIPMENT, AND MATERIAL STORAGE NEEDS TO BE CONSIDERED IN THE SELECTION OF MATERIAL. ADDITIONAL CONTROL MEASURES MAY BE NECESSARY TO CONTROL SOME OF THESE POTENTIAL POLLUTANTS.
- SURFACE EROSION CAN BE A PROBLEM ON LARGE HEAVY USE AREAS. IN THESE SITUATIONS, MEASURES TO REDUCE THE FLOW LENGTH OF RUNOFF OR EROSION VELOCITIES NEED TO BE CONSIDERED.

MAINTENANCE

THE HEAVY USE AREAS MUST BE MAINTAINED IN A CONDITION THAT MINIMIZES EROSION. THIS MAY REQUIRE ADDING SUITABLE MATERIAL, AS SPECIFIED ON THE APPROVED PLANS, TO MAINTAIN A CLEAN SURFACE.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
 - THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
 - RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
 - ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
 - CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
 - WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
 - STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
 - IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.
- MAINTENANCE**
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION

CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACE TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

CONDITIONS WHERE PRACTICE APPLIES

AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

- MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
- VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.
- TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.
- BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
- CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

SUPPLEMENTAL EROSION AND SEDIMENT CONTROL NOTES

- FOR UTILITY TRENCHES OUTSIDE THE DRAINAGE AREA LIMITS OF EROSION AND SEDIMENT CONTROL (ESC) CONTROLS, THE CONTRACTOR SHALL OPEN ONLY A SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKDAY. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT. ANY EXCESS STOCKPILE MATERIAL SHALL BE REMOVED FROM THE SITE AT THE END OF EACH WORKDAY. FOR PERVIOUS SURFACES, THE USE OF ANY VEHICLE TRAFFIC IS PROHIBITED THE FIRST 24 HOURS AFTER A RAIN EVENT.
- IF A STOCKPILE AREA IS NOT SHOWN ON THE APPROVED ESC PLAN, NO STOCKPILING SHALL BE ALLOWED. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE AT THE END OF EACH WORK DAY AND SENT TO A DISPOSAL SITE GOVERNED BY AN APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- IF A STAGING AREA IS NOT SHOWN ON THE APPROVED ESC PLAN, NO STAGING AREA SHALL BE ALLOWED ON SITE. STAGING AREAS OUTSIDE OF THE LOD MUST BE LOCATED ON AN IMPERVIOUS SURFACE, AND SHALL NOT RESULT IN EARTH DISTURBANCE. STOCKPILES OF ERODIBLE MATERIAL WILL NOT BE PERMITTED AT A STAGING AREA
- ALL DISTURBED AREAS SHALL BE STABILIZED PER THE STABILIZATION SCHEDULE.
- THE ESC INSPECTOR HAS AUTHORITY TO REQUIRE ADDITIONAL ESC CONTROLS BEYOND THOSE SHOWN ON THE APPROVED ESC PLAN. ANY ADDITIONAL CONTROLS REQUIRED BY THE INSPECTOR SHALL BE PROVIDED BY THE CONTRACTOR AT THE DIRECTION OF THE INSPECTOR WITH 24 HOURS OF VERBAL NOTIFICATION BY THE ESC INSPECTOR.
- WHERE NO STABILIZED CONSTRUCTION ENTRANCE (SCE) IS PROVIDED, THE CONTRACTOR SHALL DESIGNATE PIECES OF CONSTRUCTION EQUIPMENT THAT SHALL BE ALLOWED WITHIN THE LOD. THIS EQUIPMENT SHALL BE KEPT WITHIN THE LOD UNTIL THE PROPOSED WORK IS COMPLETE, AND SHALL HAVE TREADS/TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL OR DELIVERY SHALL BE EITHER LIFTED FROM OR INTO THE LOD; AND, ANY SEDIMENT TRACKED OR DROPPED OUTSIDE THE LOD CLEANED IMMEDIATELY. FLUSHING WILL NOT BE PERMITTED.
- WHERE SAME DAY STABILIZATION IS SPECIFIED ON THE ESC PLAN, IT SHALL BE CONSIDERED THE PRIMARY ESC CONTROL. ANY CONTROLS PROVIDED DOWNSTREAM OF AREAS SPECIFIED FOR SAME DAY STABILIZATION SHALL BE CONSIDERED SECONDARY CONTROLS UNLESS SPECIFIED OTHERWISE. (SECONDARY CONTROLS ARE DEFINED AS CONTROLS PROVIDED AS BACKUP MEASURES TO A PRIMARY CONTROL).
- SAME DAY STABILIZATION IS DEFINED AS THE COMPLETION OF PROPOSED WORK WITHIN A DEFINED AREA WITH THE STIPULATION OF A NON-ERODIBLE SURFACE AT THE END OF EACH WORK DAY. EXAMPLES OF ACCEPTABLE NON-ERODIBLE SURFACES INCLUDE PAVEMENT, STEEL PLATES, A 2" MINIMUM STONE LAYER, OR STABILIZATION MATTING OVER PERMANENT SEEDING. THIRTY (30) MIL PLASTIC SHEETING WITH ANCHORING MAY BE CONSIDERED ACCEPTABLE IF EITHER SPECIFIED ON AN APPROVED PLAN, OR APPROVED BY THE ESC INSPECTOR. TEMPORARY SEEDING AND MULCH IS NOT CONSIDERED AN ACCEPTABLE SAME DAY STABILIZATION PRACTICE.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING

MAINTENANCE OF SEDIMENT CONTROL

CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE PROJECT, REPAIR AND MAINTAIN EXISTING SEDIMENT CONTROL DEVICES UNTIL ALL AREAS WITHIN LIMITS OF CONSTRUCTION ARE STABILIZED. ALL SEDIMENT CONTROL MEASURES REFERRED TO ON THESE PLANS SHALL BE IN ACCORDANCE WITH THE PUBLICATION ENTITLED "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".

EROSION AND SEDIMENT CONTROL NOTES

- THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL AS SET FORTH IN THE MARYLAND SEDIMENT AND EROSION MANUAL AND BALTIMORE CITY CODE ARTICLE 7.
- SUBMIT A WRITTEN NOTIFICATION TO: THE DEPARTMENT OF PUBLIC WORKS, OFFICE OF RESEARCH AND ENVIRONMENTAL PROTECTION: 3001 DRUID PARK DRIVE, ROOM 228, BALTIMORE, MD 21215, PHONE NUMBER, 410-396-0732. DPW.ESCINSPCTIONS@BALTIMORECITY.GOV, AT LEAST 72 HOURS PRIOR TO START OF CONSTRUCTION STATING:
 - A REQUEST FOR A PRECONSTRUCTION MEETING,
 - WHEN CONTRACTOR INTENDS TO BEGIN CONSTRUCTION,
 - WHEN CONTRACTOR INTENDS TO INSTALL STORMWATER MANAGEMENT FACILITIES,
 - SOURCE OF BORROW MATERIAL,
 - LOCATION OF DISPOSAL AREA OF SITE MATERIAL,
 - CONTRACTOR'S TENTATIVE CLOSING DATE.
- INITIAL DISTURBANCE WILL BE LIMITED TO THAT NECESSARY TO GAIN ENTRANCE TO THE SITE AND INSTALL NECESSARY SEDIMENT CONTROLS AS PER THE APPROVED PLANS.
- ALL SEDIMENT CONTROLS AND CRITICAL SLOPES MUST BE STABILIZED WITHIN THREE (3) CALENDAR DAYS. ALL OTHER INACTIVE DISTURBED AREAS ON THE PROJECT SITE MUST BE STABILIZED WITHIN SEVEN (7) CALENDAR DAYS.
- ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE WHENEVER POSSIBLE AND CONFINED TO AN AREA WHERE IT WILL NOT BE OBSTRUCT THE NORMAL COURSE OF DRAINAGE.
- PUMPING OF SEDIMENT LADEN WATER WILL NOT BE ALLOWED UNLESS IT IS FILTERED BY WAY OF AN APPROVED SEDIMENT TRAPPING DEVICE.
- CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES IS MANDATORY.
- ANY SEDIMENT CONTROL DEVICES DISTURBED DURING UTILITY CONSTRUCTION MUST BE RESTORED IMMEDIATELY.
- ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO MINIMIZE TRACKING OF MUD ON TO PUBLIC RIGHT-OF-WAYS.
- ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL TRACKED, SPILLED OR WASHED ON TO ADJACENT ROADS MUST BE IMMEDIATELY REMOVED AND DISPOSED OF IN A PROPER MANNER. NO FLUSHING WILL BE PERMITTED. ALL MATERIAL MUST BE REMOVED BY MEANS OF SHOVELING AND SWEEPING.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 5,000 SQ. FT., THE CONTRACTOR SHALL HAVE A BALTIMORE CITY EROSION AND SEDIMENT CONTROL INSPECTOR INSPECT AND APPROVE THE WORK COMPLETED AT THE STAGES OF CONSTRUCTION SPECIFIED BELOW:
 - UPON COMPLETION OF THE INSTALLATION OF THE PERIMETER SEDIMENT CONTROLS;
 - DURING ALL GRADING AND BUILDING OPERATIONS;
 - UPON FINAL STABILIZATION OF THE ENTIRE SITE PRIOR TO REMOVAL OF THE SEDIMENT CONTROLS
- THE CONTRACTOR SHALL NOT DEVIATE FROM THE APPROVED SEDIMENT AND EROSION CONTROL PLAN WITHOUT FIRST RECEIVING APPROVAL FROM THE OFFICE OF RESEARCH AND ENVIRONMENTAL PROTECTION. VARIATIONS TO THE ORIGINAL PLAN MUST BE SUBMITTED IN WRITING WITH ALL PROPOSED MODIFICATIONS STILL BEING HIGHLIGHTED. SUBSTANTIAL CHANGES WILL NECESSITATE AMENDMENT OF THE GRADING /BUILDING PERMIT.

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.



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

CIVIL:
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

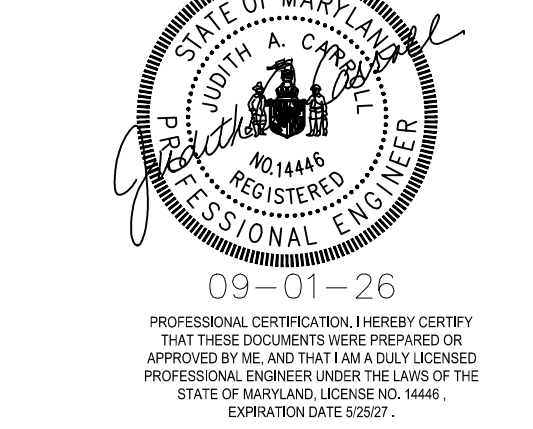
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THE DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE, NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10-07

DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026

REVISION	DATE

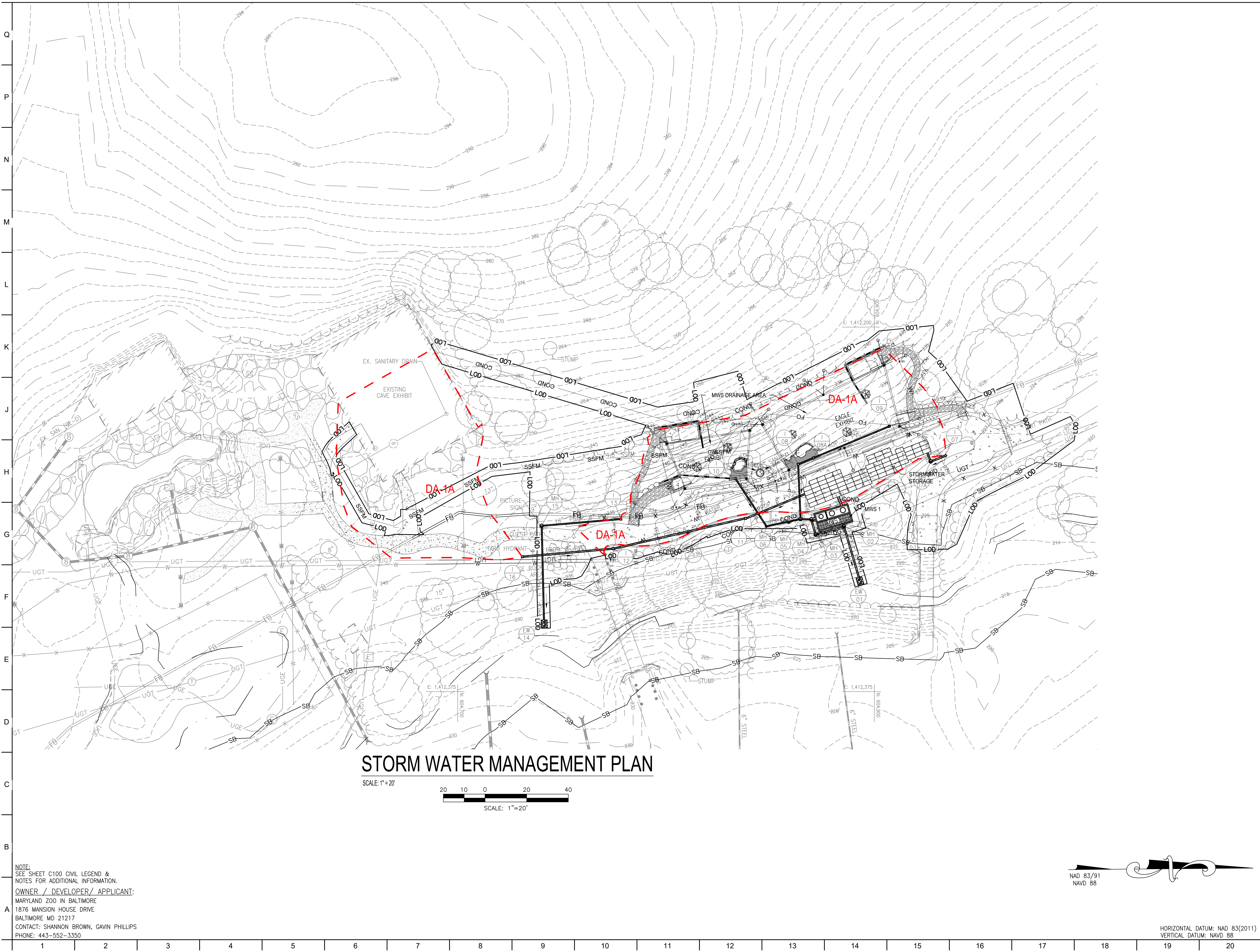
DRAWING TITLE:

**EROSION &
SEDIMENT
CONTROL NOTES**

DRAWING NO:

C603

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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SEAL:

09-01-26
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 02/02/27.

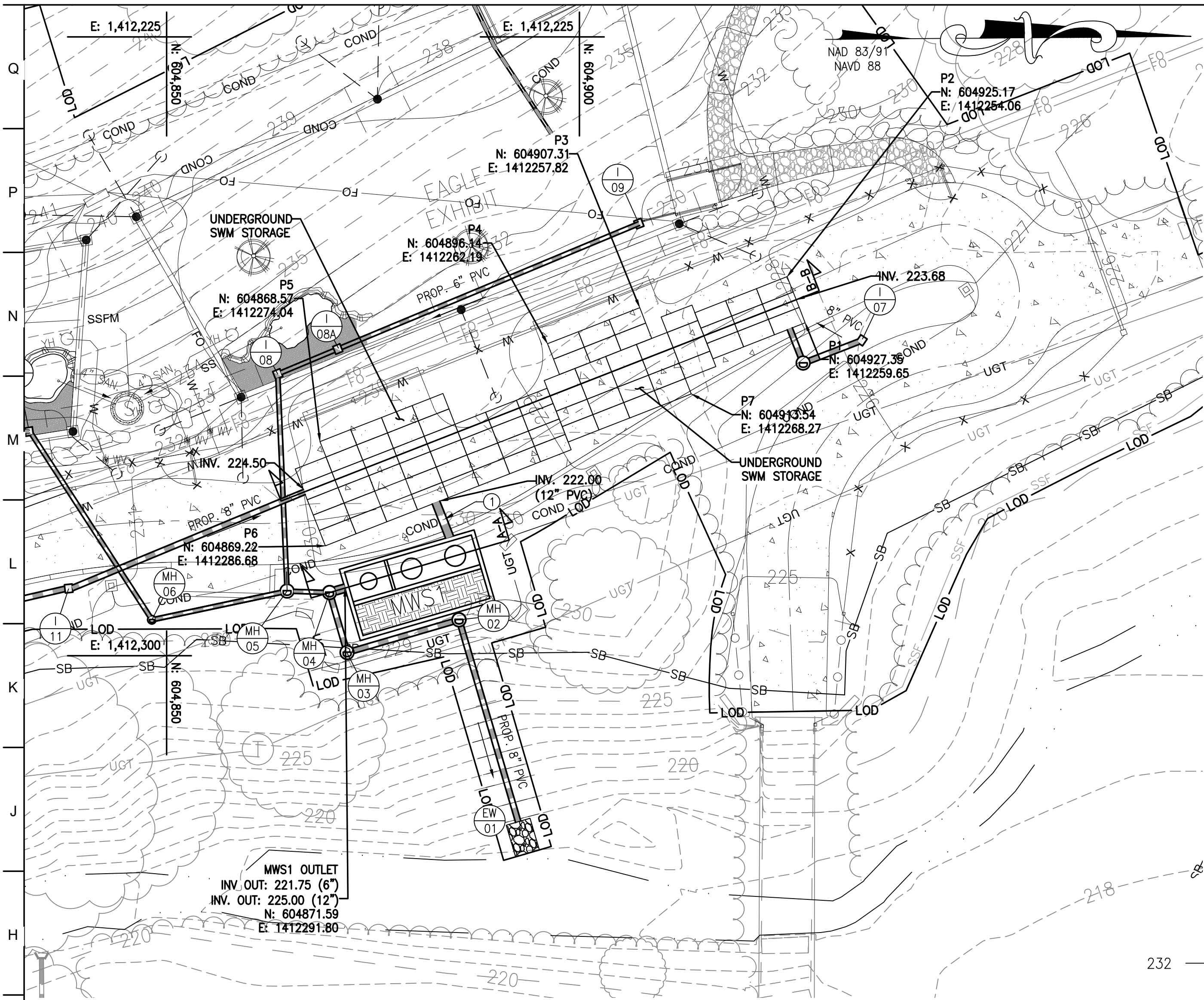
DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
STORM WATER MANAGEMENT PLAN

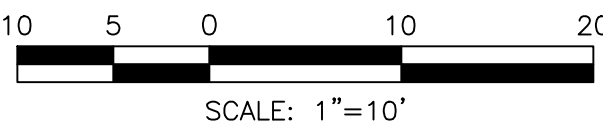
DRAWING NO:
C700

NOTE:
SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



MWS1 PLAN



AS-BUILT NOTE:

THE CONTRACTOR SHALL SUPPLY ALL OF THE FOLLOWING INFORMATION DURING AND AFTER THE CONSTRUCTION OF THE SWM SYSTEM. ALL REQUIRED DOCUMENTS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS OF THE DATE OF SUBSTANTIAL COMPLETION AS ACCEPTED BY THE OWNER:

- AS-BUILT TOPOGRAPHIC SURVEY BASED ON THE SAME DATUM AND BENCHMARKS AS THE ORIGINAL SURVEY USED IN DESIGN. THE AS-BUILT SURVEY SHALL SHOW THE FOLLOWING:
 - SIZE, ELEVATIONS, AND GRADES OF EXCAVATION FOR BMP(S).
 - SURFACE ELEVATIONS AND GRADES FOR EACH LAYER OF DIFFERENT MATERIAL IN THE BMP(S).
 - INVERT ELEVATIONS FOR ALL UNDERDRAINS, STORM PIPING, AND APPURTENANCE STRUCTURES IN THE BMP(S).
 - SURFACE ELEVATIONS AND SPOT GRADES OF THE COMPLETED BMP(S) IN LOCATIONS TO MATCH THE APPROVED SWM PLANS AND DETAILS. THE SURVEY SHALL BE IN AUTOCAD FORMAT. CONTACT THE ENGINEER FOR CADD STANDARDS TO BE USED.
- MATERIAL TICKETS FOR ALL MATERIALS USED IN CONSTRUCTION OF THE BMP(S).
- PHOTOGRAPHS OF CRITICAL INSPECTIONS INCLUDING, BUT NOT LIMITED TO:
 - PHOTOS OF EACH LAYER OF DIFFERENT MATERIAL IN THE BMP(S)
 - PHOTOS OF PLACEMENT OF ALL UNDERDRAINS, STORM PIPING, AND APPURTENANCE STRUCTURES IN THE BMP(S).
 - PHOTOS OF THE COMPLETED BMP(S) INCLUDING ALL STABILIZATION AND LANDSCAPING.
- COMPLETED AS-BUILT TABLES WITH THE INSPECTOR'S INITIALS IN ORIGINAL HANDWRITING - SEE THIS SHEET FOR REQUIRED INFORMATION.
- AS-BUILT DEPTH TO INVERT OF THE VERTICAL UNDERDRAIN MANIFOLD MUST BE MARKED ON THE CAP.

NOTE:
SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER/ APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

PROJECT NAME: MARYLAND ZOO OWL & EAGLE EXHIBIT BALTIMORE CITY BCNR NO.		
AS-BUILT DATA FOR MODULAR WETLAND FACILITY		
*TO BE COMPLETED BY THE PROJECT CONTRACTOR		
BMP ID: MWS1		
FEATURE	DESIGN	*AS-BUILT
FACILITY DETAIL		
FACILITY LxW	9' x 17'	
TOP OF FACILITY	230.00	
MIN. TOP OF GRADE (3" MULCH)	229.75	
BOTTOM OF FACILITY (INTERNAL)	221.75	
BOTTOM OF FACILITY (EXTERNAL)	221.09	
MWS INLET LENGTH SIZE & TYPE	4 FT 12" HDPE	
MWS INLET INVERT	222.00	
MWS INTERNAL WIER LENGTH / ELEVATION	3.5' / 225.00	
PRETREATMENT CHAMBER SIZE & TYPE	STORMBRIX 2'W X 4'L X 4'H	
TOTAL PRETREATMENT CHAMBER UNITS/VOLUME	75 UNITS / 2,280 C.F.	
PRETREATMENT CHAMBER INVERT	222.00	
PRETREATMENT CHAMBER INLET SIZE & TYPE	8" PVC / 8" PVC	
PRETREATMENT CHAMBER INLET INVERT	224.50 / 222.00	
RECHARGE BED BOTTOM ELEVATION	289.00	
RECHARGE BED THICKNESS	12"	
MWS OUTLET PIPE LENGTH SIZE & TYPE	1 FT 6" PVC / 1 FT. 12" HDPE	
MWS OUTLET INVERT	221.75 / 225.00	
OUTLET STRUCTURE COORDINATES (CENTER OF STRUCTURE)	BCSC: N: 10,730.90 E: -8,765.10 NAD83: N: 604,871.59 E: 1,412,291.80	

DATE AS-BUILT ACCEPTED BY BALTIMORE CITY: _____

SWM SEQUENCE OF CONSTRUCTION

- THIS SEQUENCE OF CONSTRUCTION SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS FOR THIS PROJECT. THE CONTRIBUTING DRAINAGE AREA INTO THESE SWM FACILITIES MUST EITHER BE STABILIZED PRIOR TO BEGINNING WORK, OR THE FLOW INTO THE FACILITY MUST BE DIVERTED AROUND THE CONSTRUCTION AREA.
- NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST THREE (3) WORKING DAYS PRIOR TO BEGINNING THIS WORK.
- NOTIFY AS-BUILT ENGINEER, PROFESSIONAL ENGINEER WHO WILL BE PERFORMING THE AS-BUILT CERTIFICATION, AND GEOTECHNICAL ENGINEER OF THE SWM FACILITY AT LEAST FIVE (5) WORKING DAYS PRIOR TO BEGINNING THE WORK.
- CONSTRUCT THE SWM FACILITIES IN ACCORDANCE WITH THE RESPECTIVE SEQUENCE OF CONSTRUCTION ON SHEET C001 NOTES & LEGEND.
- PERMANENTLY STABILIZE THE DISTURBED AREAS AND INSTALL PROPOSED LANDSCAPE MATERIAL AS SHOWN ON THE PROPOSED LANDSCAPE PLANS.
- WITHIN 30 DAYS OF THE COMPLETION OF THE STORMWATER MANAGEMENT FACILITY, SUBMIT FINAL "AS-BUILT" TO OWNER.

SHEET NOTE

- PROVIDE MINIMUM 12" VERTICAL & HORIZONTAL CLEARANCE BETWEEN STORM WATER STRUCTURES AND ALL UTILITY CROSSINGS.

CONTRACTOR AS BUILT NOTE

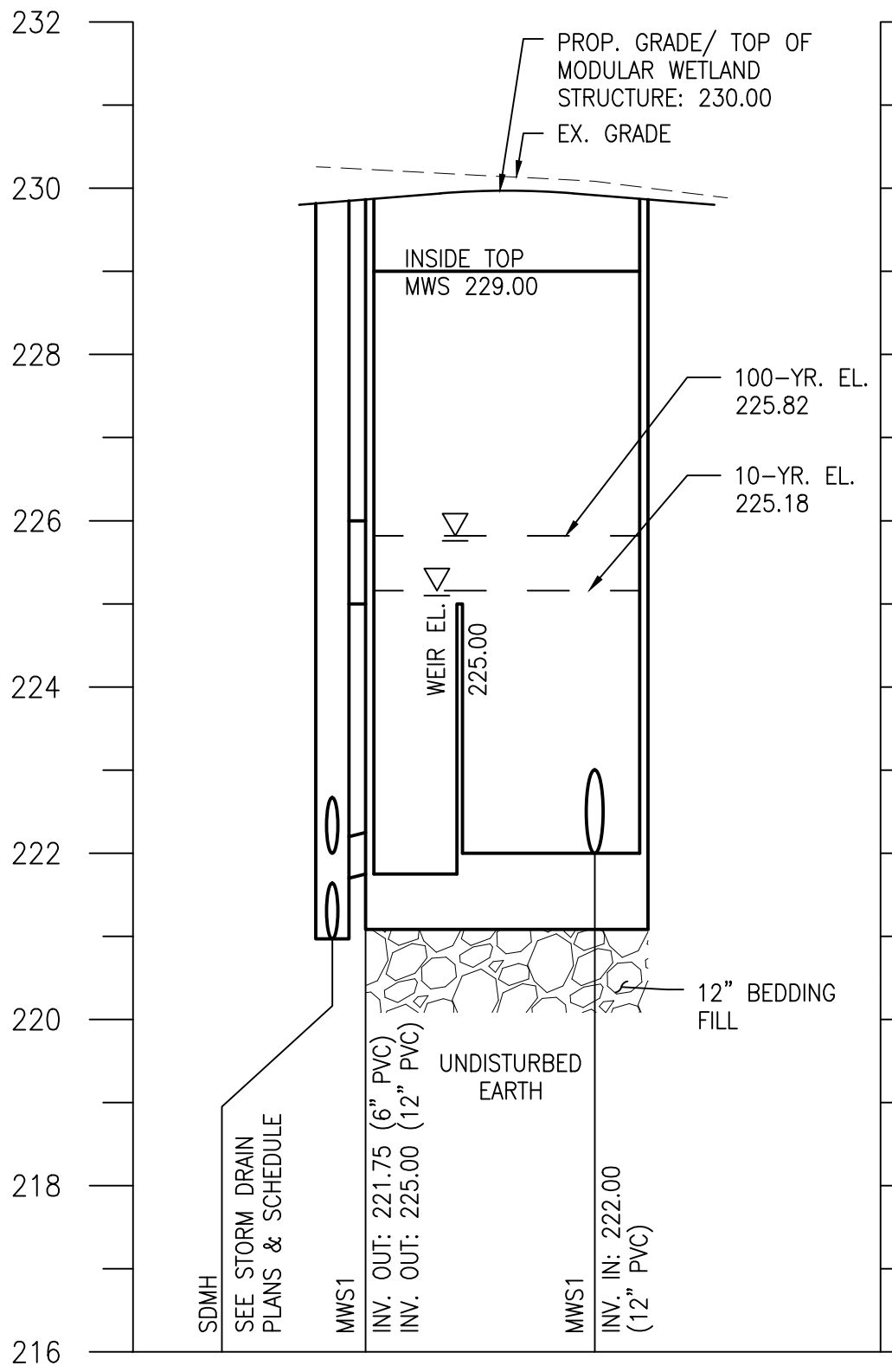
AS-BUILT PLANS AND CERTIFICATIONS ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER. BALTIMORE CITY WILL NOT PERFORM THE INSPECTION OR PREPARE AS-BUILT PLANS OR CERTIFICATION. IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS AND CERTIFICATIONS, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION AS REQUIRED BY THE CURRENT BALTIMORE CITY STORMWATER MANAGEMENT POLICY AND DESIGN MANUAL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

FACILITIES BEING CERTIFIED:
MODULAR WETLAND SYSTEM (MWS1)

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

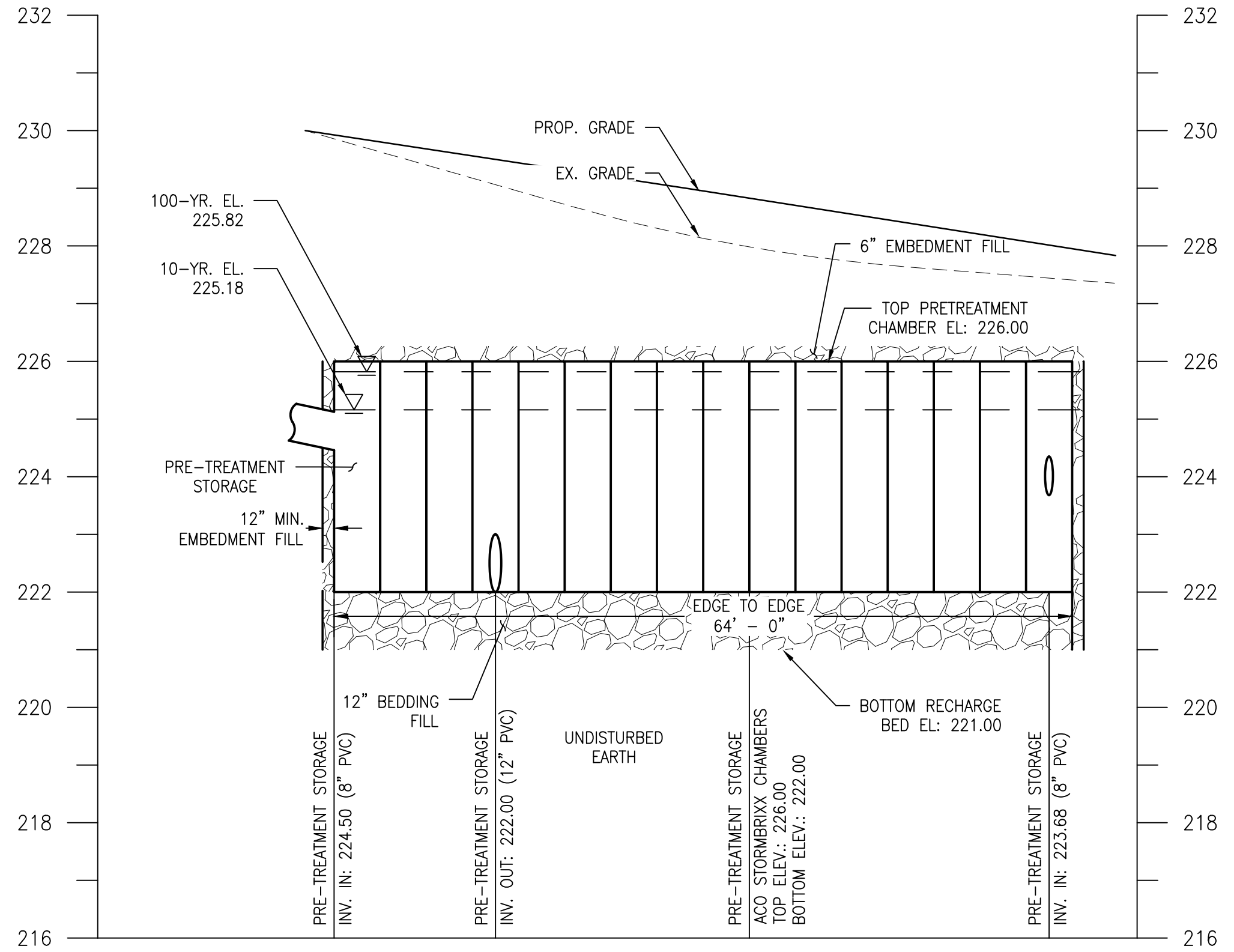
NOTES:

- ALL MATERIALS AND CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH THE CURRENT MARYLAND STORMWATER DESIGN MANUAL AND CITY STANDARDS.
- DRAINS SHALL NOT BE CONNECTED UNTIL ALL UPSTREAM AREAS ARE STABILIZED, ALL ROOF AREAS ARE FREE OF DEBRIS, AND OUTLET PIPE INSTALLATION HAS BEEN COMPLETED.
- SEE EROSION AND SEDIMENT CONTROL PLAN FOR EROSION AND SEDIMENT CONTROL MEASURES.
- SEE LANDSCAPE PLANS FOR FACILITY PLANTING SCHEDULE AND REQUIREMENTS.



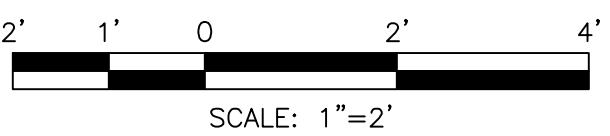
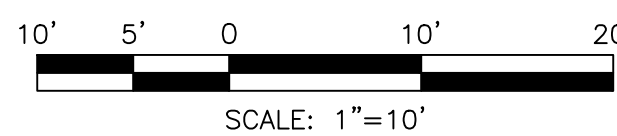
MWS-1 SECTION A-A

SCALE: HORIZ. 1"=10'
VERT. 1"=2'



MWS-1 SECTION B-B

SCALE: HORIZ. 1"=10'
VERT. 1"=2'



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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

CIVIL:
CARROLL ENGINEERING, INC.
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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

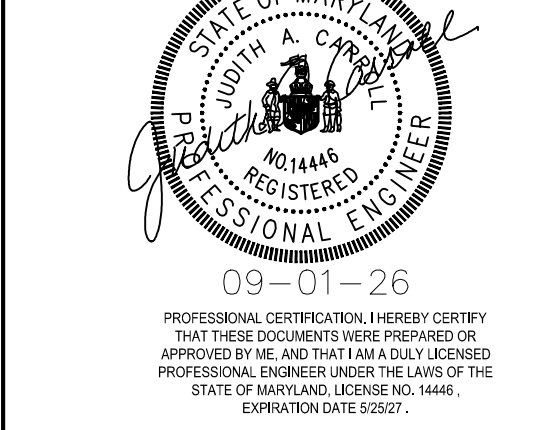
CLIENT:

MARYLAND ZOO
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE FLYWAY
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:



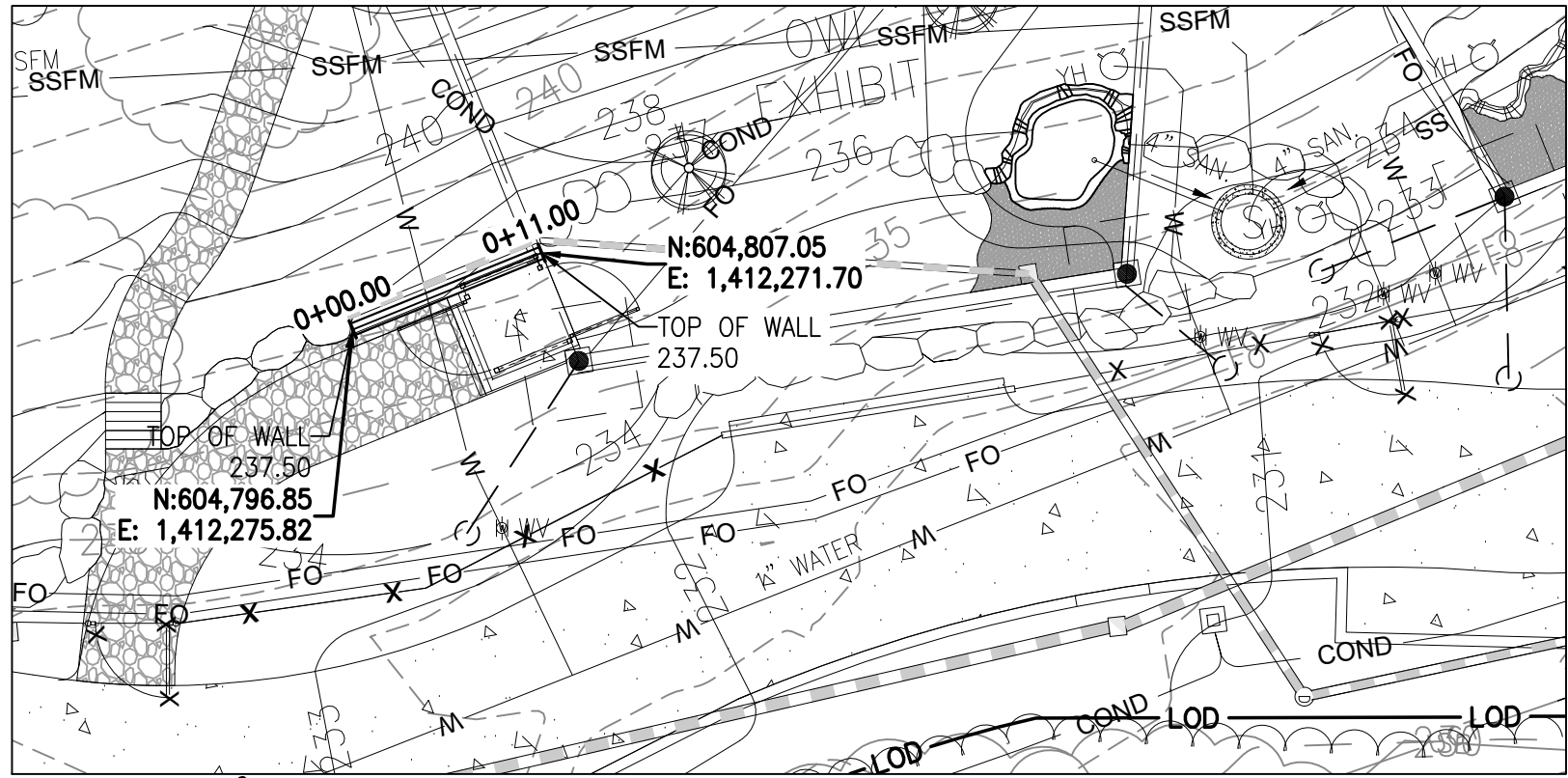
DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: MJE
CHECKED BY: CMS
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

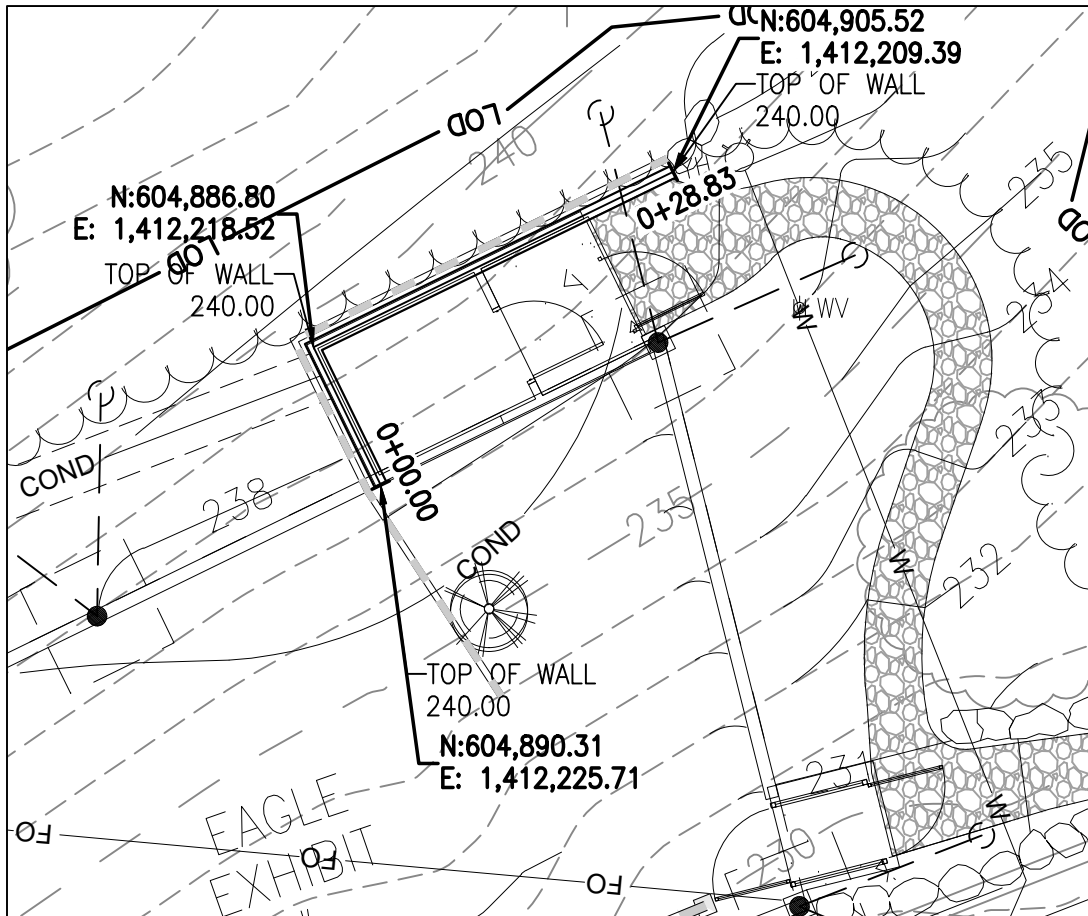
DRAWING TITLE:
MODULAR WETLAND 1 PLAN & SECTIONS

DRAWING NO:
C701

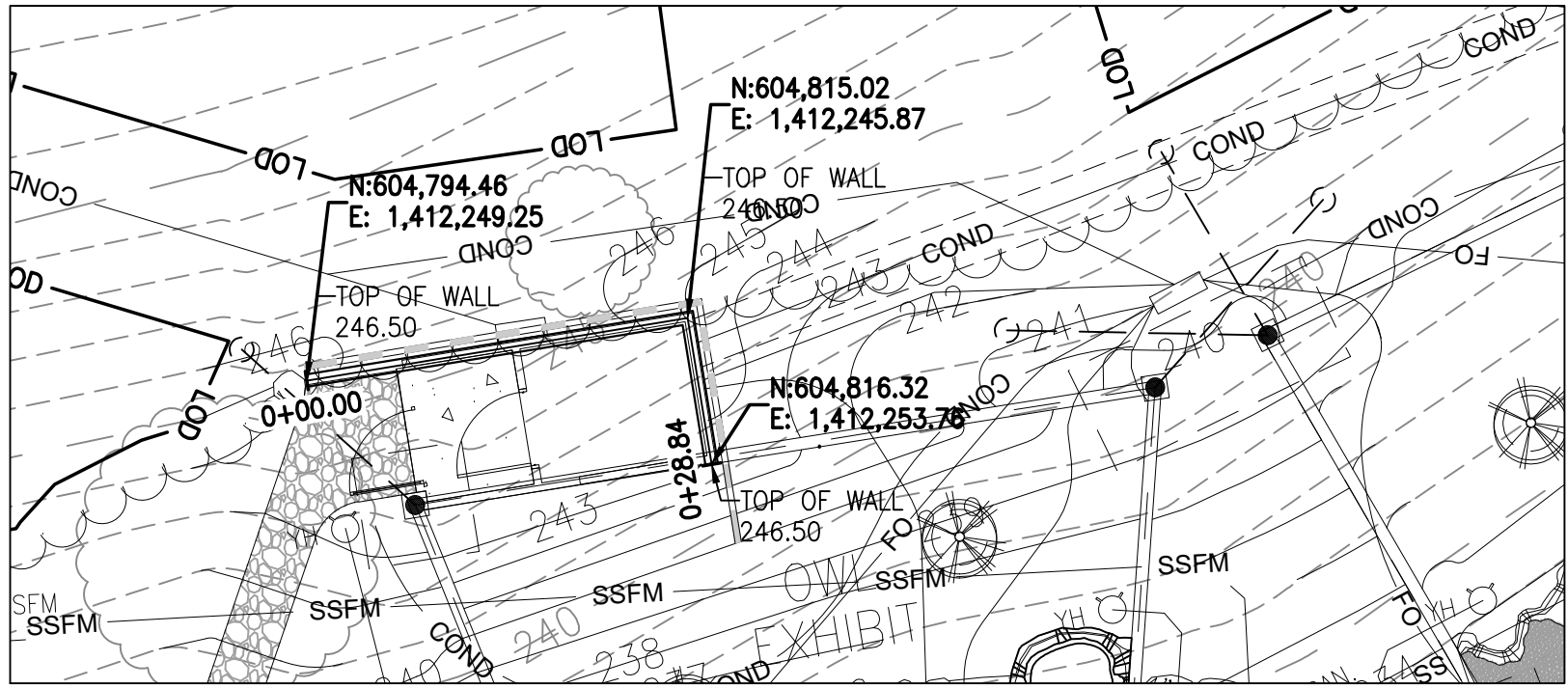
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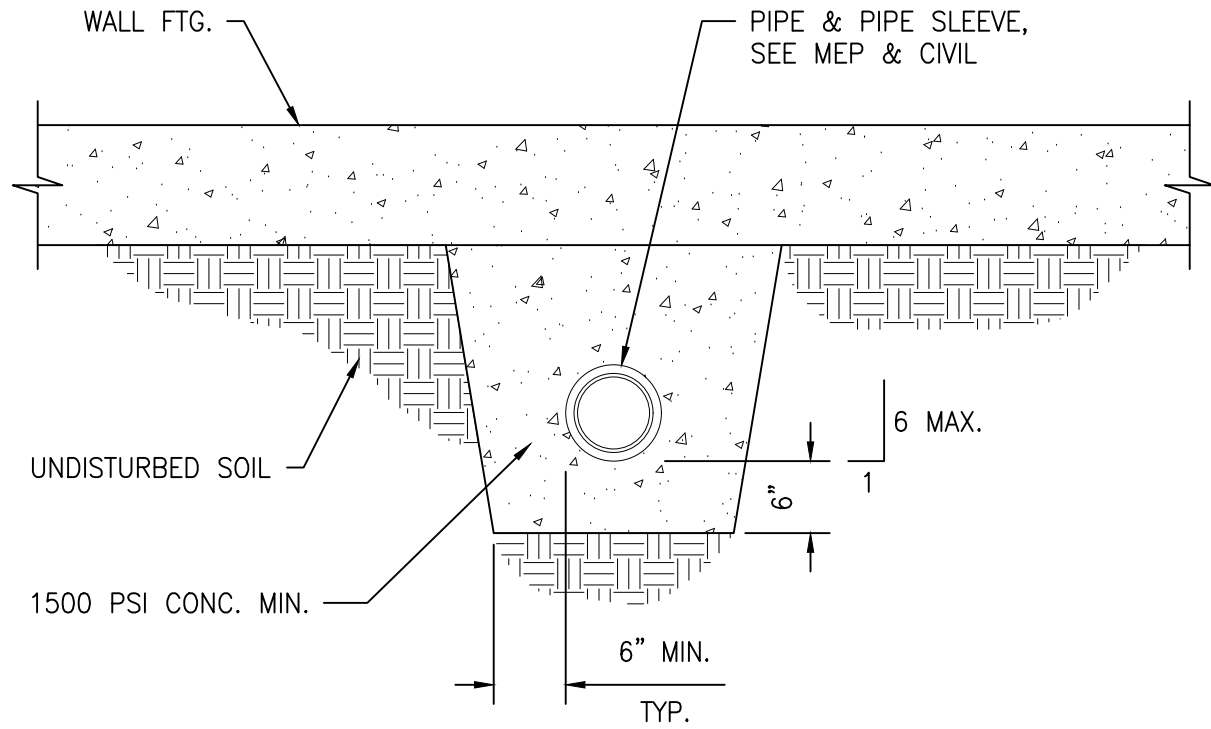
WALL A PLAN
SCALE: 1"=10'



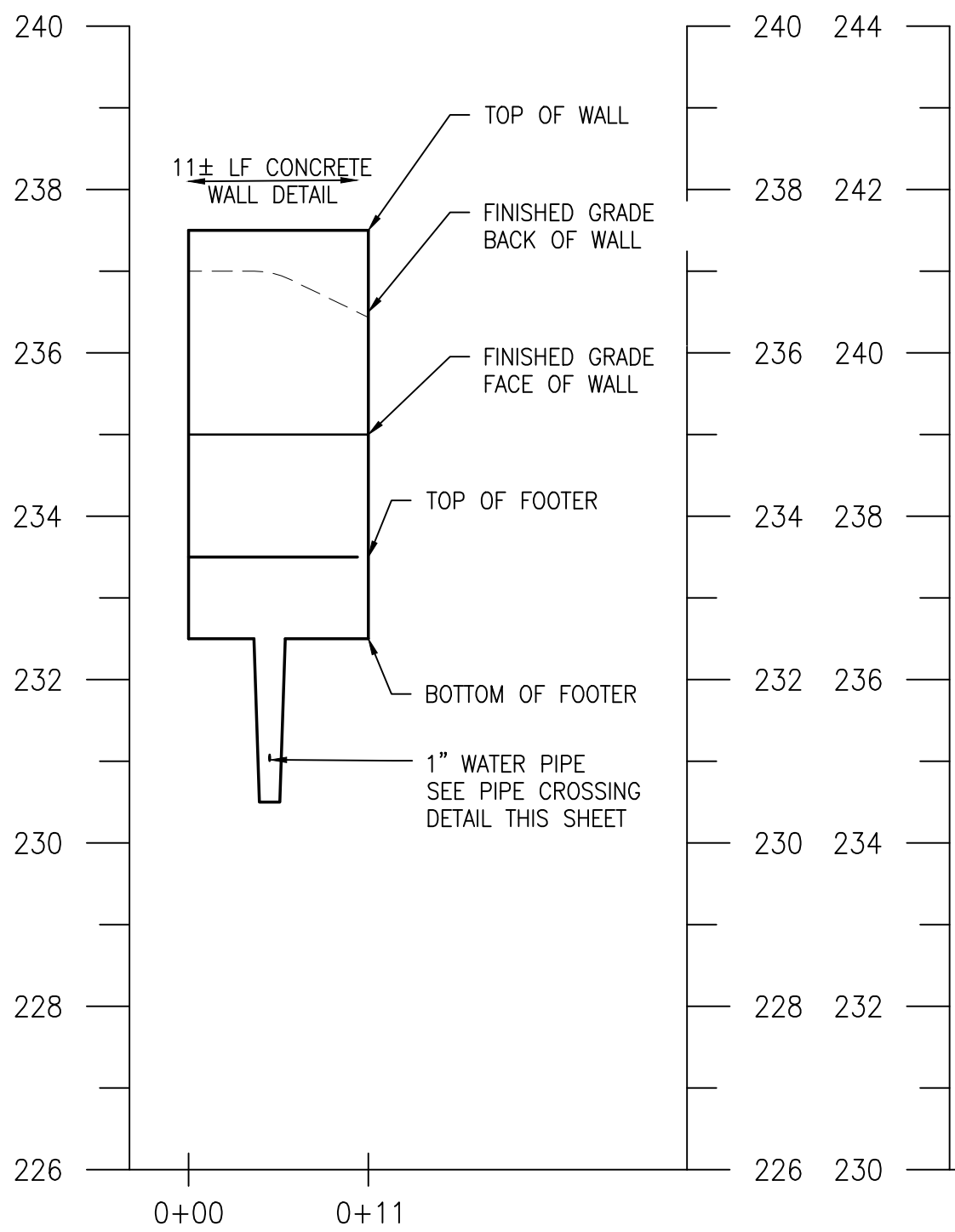
WALL B PLAN
SCALE: 1"=10'



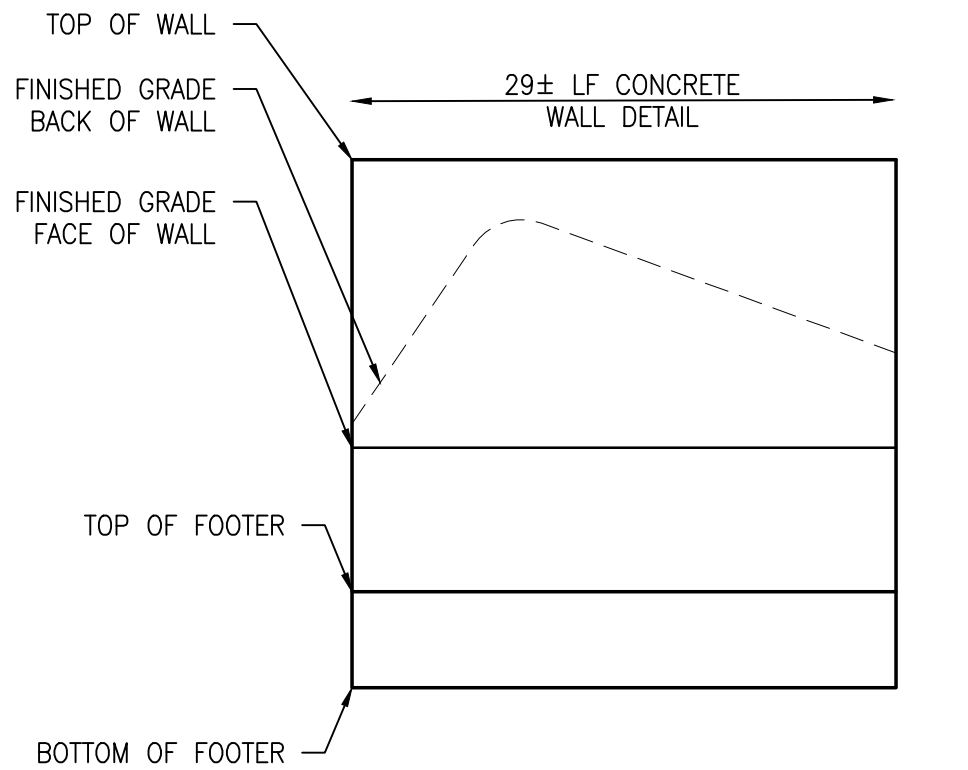
WALL C PLAN
SCALE: 1"=10'



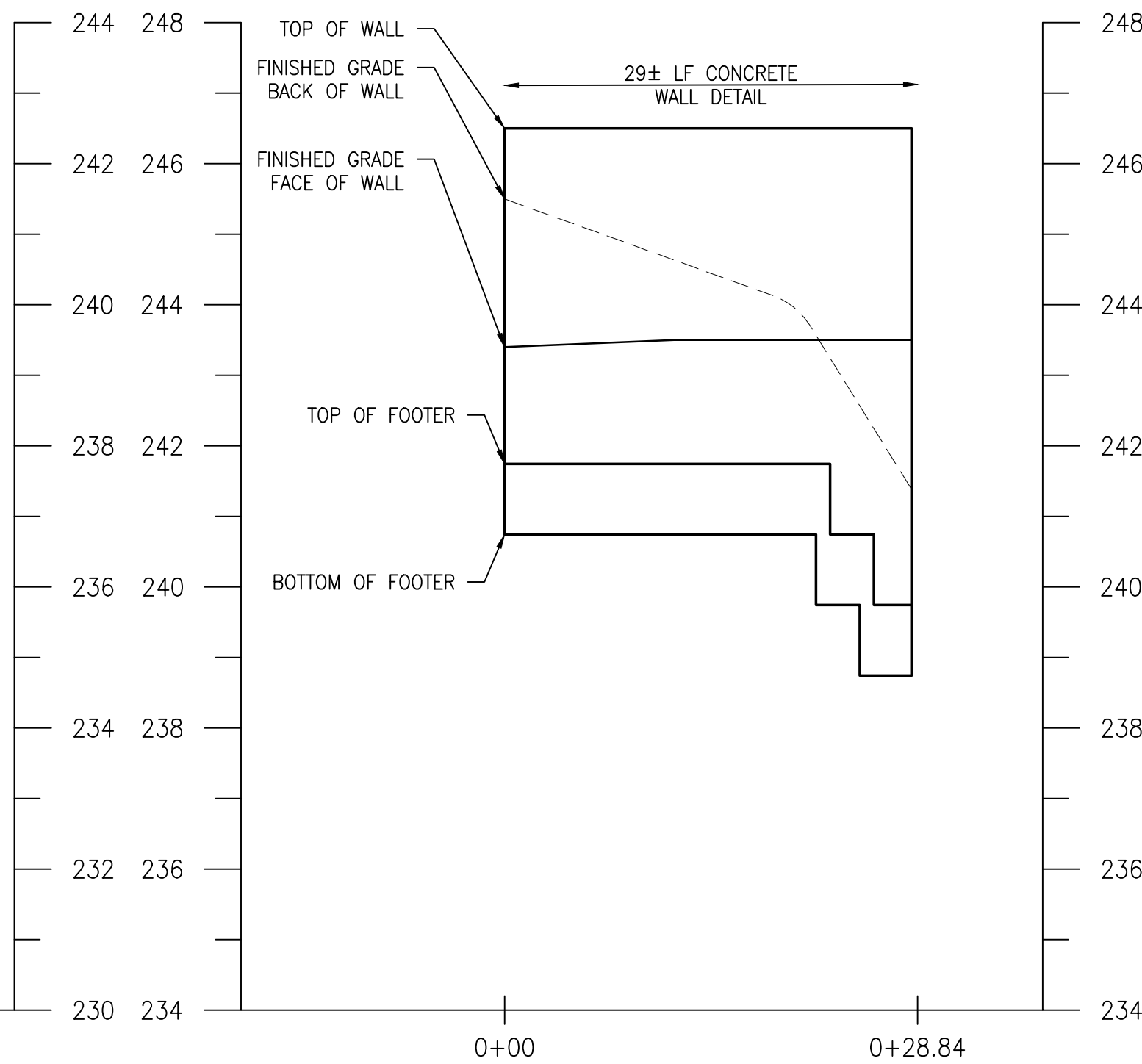
NOTE:
1. PIPE SLEEVE AND CONCRETE BACKFILL SHALL BE PLACED PRIOR TO WALL FOOTING. EXTEND CONCRETE BACKFILL FOR 1'-0" PAST EACH EDGE OF FOOTING.



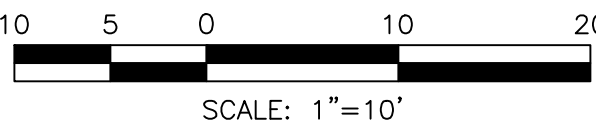
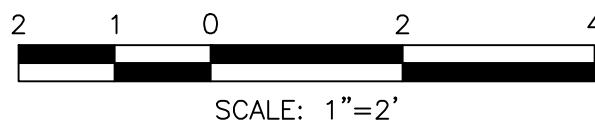
WALL A PROFILE
SCALE: HORIZ. 1"=10'
VERT. 1"=2'



WALL B PROFILE
SCALE: HORIZ. 1"=10'
VERT. 1"=2'



WALL C PROFILE
SCALE: HORIZ. 1"=10'
VERT. 1"=2'



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



ARCHITECT:
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LANDSCAPE ARCHITECT:
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STRUCTURAL ENGINEER:
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MEP ENGINEER:
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190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE FLYWAY
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

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DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: MJE
CHECKED BY: CMS
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

DRAWING TITLE:
WALL PLAN & PROFILES

DRAWING NO:
C800

NOTE:
SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.

OWNER / DEVELOPER / APPLICANT:

MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217

CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

NOTE:
1. SEE SHEET S501 FOR SITE CONCRETE WALL ON FOOTING DETAIL.



SHEET NOTE:

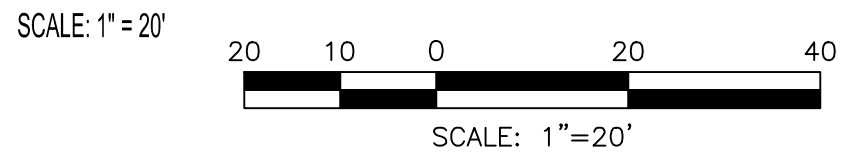
1. CONTRACTOR TO VERIFY ADEQUATE COVER OVER EXISTING UGE, UGT, AND WATER IN THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE AND/OR ADJUST UTILITY IF PROPOSED CONDITIONS DOES NOT PROVIDE ADEQUATE COVER. IF ADEQUATE COVER CANNOT BE MET, RELOCATION AND/OR ADJUSTMENT IS REQUIRED.

2. SEE LANDSCAPE PLANS FOR TREE PROTECTION FENCE (TPF) DETAIL.

NOTE:
SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.

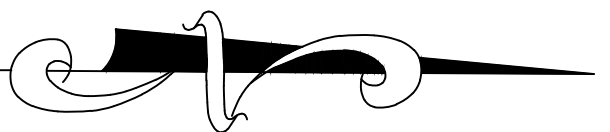
OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

SITE DEMOLITION PLAN ADD ALTERNATE



- SITE DEMO LIST:
1. TREE TO BE REMOVED
 2. EXISTING GUEST PATH TO BE REMOVED
 3. EXISTING SIGN TO BE CAREFULLY REMOVED, SALVAGED, AND RETURNED TO OWNER
 4. YARD HYDRANT TO BE RELOCATED; PROVIDE CAP FOR CONNECTING PIPE
 5. BOULDERS TO BE MOVED TO ACCOMMODATE NEW PATH, SALVAGED, AND REUSED
 6. UNDERGROUND FIBER OPTIC LINE TO BE RELOCATED.
 7. UNDERGROUND TELECOMMUNICATION LINE TO BE RELOCATED.
 8. UNDERGROUND WATER LINE TO BE RELOCATED.

NAD 83/91
NAVD 88



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



ARCHITECT:
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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
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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
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

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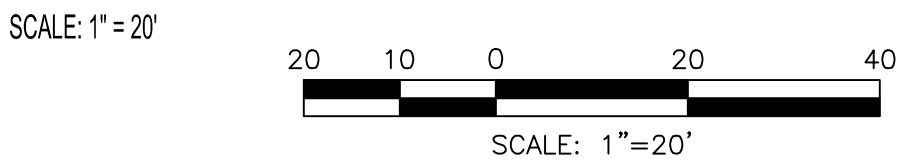
DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
**DEMOLITION PLAN
-
ADD ALTERNATE**

DRAWING NO:
C900

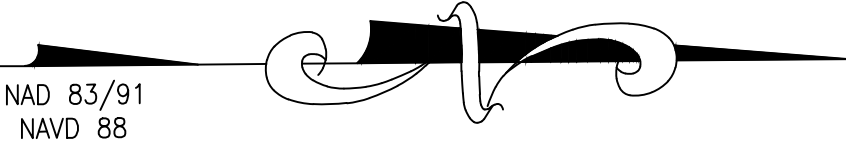


PROPOSED CONDITIONS PLAN ADD ALTERNATE



- SITE FEATURE LIST:
- ① PROPOSED PAVEMENT WALK
 - ② BOULDER/BOULDER WALL SEE LANDSCAPE PLANS
 - ③ EXCLUSION FENCE SEE LANDSCAPE PLANS
 - ④ PROPOSED RAIL, SEE LANDSCAPE PLANS
 - ⑤ PROPOSED TAPERED CURB, SEE GRADING PLAN AND SITE DETAILS
 - ⑥ MUDBANK WALL, SEE LANDSCAPE PLANS
 - ⑦ PROPOSED CURB

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER/ APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350



HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



ARCHITECT:
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MEP ENGINEER:
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BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

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DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
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SUBMISSION	DATE
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REVISION	DATE

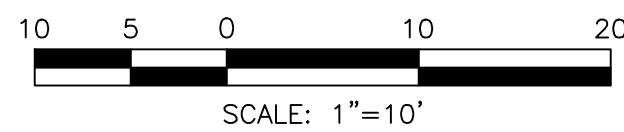
DRAWING TITLE:
**PROPOSED
CONDITIONS PLAN
-
ADD ALTERNATE**

DRAWING NO:
C901



PROPOSED GRADING PLAN ADD ALTERNATE

SCALE: 1"=10'



SHEET NOTE:

SITE SHALL BE GRADED SUCH THAT NO PONDING SHALL OCCUR WITHIN THE LIMITS OF DISTURBANCE. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES.

NOTE:

SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.

OWNER / DEVELOPER / APPLICANT:

MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350



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

CIVIL:
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

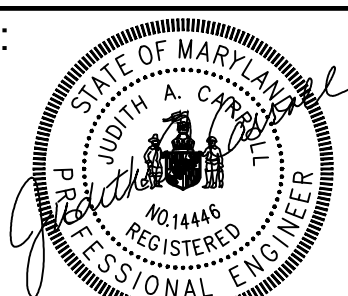
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE FLYWAY

THE MARYLAND ZOO
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1876 MANSION HOUSE DR
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SEAL:



09-01-26

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 103446, EXPIRATION DATE 02/02/27.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY

MJE

CHECKED BY

CMS

SUBMISSION

DATE

BID SET

09/01/2026

REVISION

DATE

DRAWING TITLE:

PROPOSED
GRADING PLAN
ADD ALTERNATE

DRAWING NO:

C902

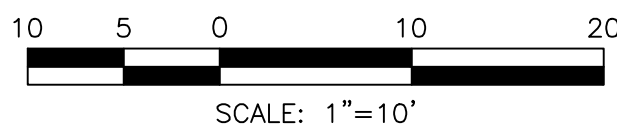
NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



PROPOSED SPOT GRADING PLAN ADD ALTERNATE

SCALE: 1" = 10'



SHEET NOTE:

SITE SHALL BE GRADED SUCH THAT NO PONDING SHALL OCCUR WITHIN THE LIMITS OF DISTURBANCE. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES.

ABBREVIATION LIST:

TC - TOP OF CURB
BC - BOTTOM OF CURB
TW - TOP OF WALL
BW - BOTTOM OF WALL
TG - TOP OF STORM DRAIN GRATE
TS - TOP OF STAIRS
BS - BOTTOM OF STAIRS

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER/ APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



ARCHITECT:
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LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
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T: 302.888.1544

STRUCTURAL ENGINEER:
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SALT LAKE CITY, UT 84117
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MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:

MARYLAND ZOO

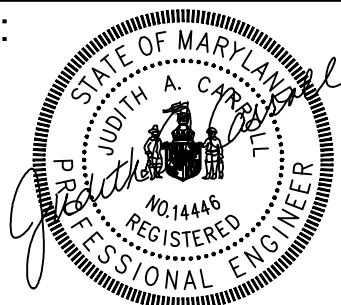
THE MARYLAND ZOO
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SEAL:



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 09/01/26.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY MJE

CHECKED BY CMS

SUBMISSION DATE

BID SET 09/01/2026

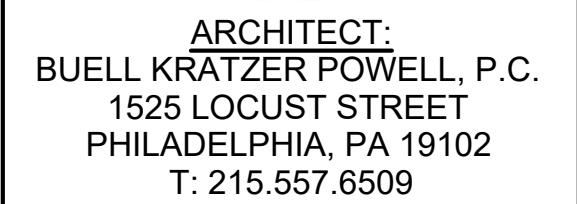
REVISION DATE

DRAWING TITLE:

PROPOSED SPOT
GRADING PLAN
ADD ALTERNATE

DRAWING NO:

C903



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

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
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CLIENT:

MARYLAND ZOO

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SEAL:



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY
THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MARYLAND, LICENSE NO. 14446,
EXPIRATION DATE 5/25/27.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY

CHECKED BY _____

SUBMISSION

BID SET	09/01/2026
---------	------------

REVISION

DATE _____

DRAWING TITLE:

DETAIL

REFERENCE PLAN

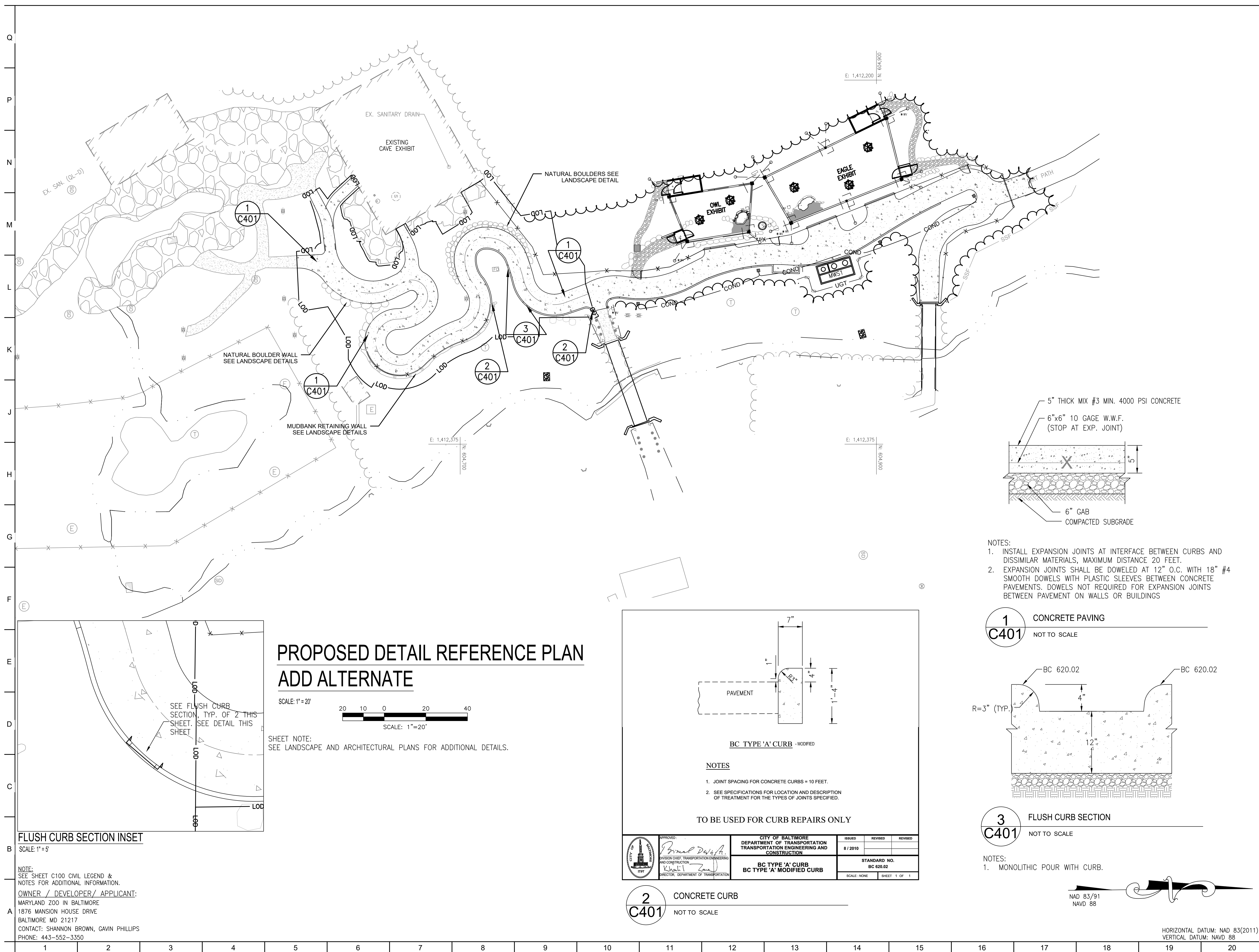
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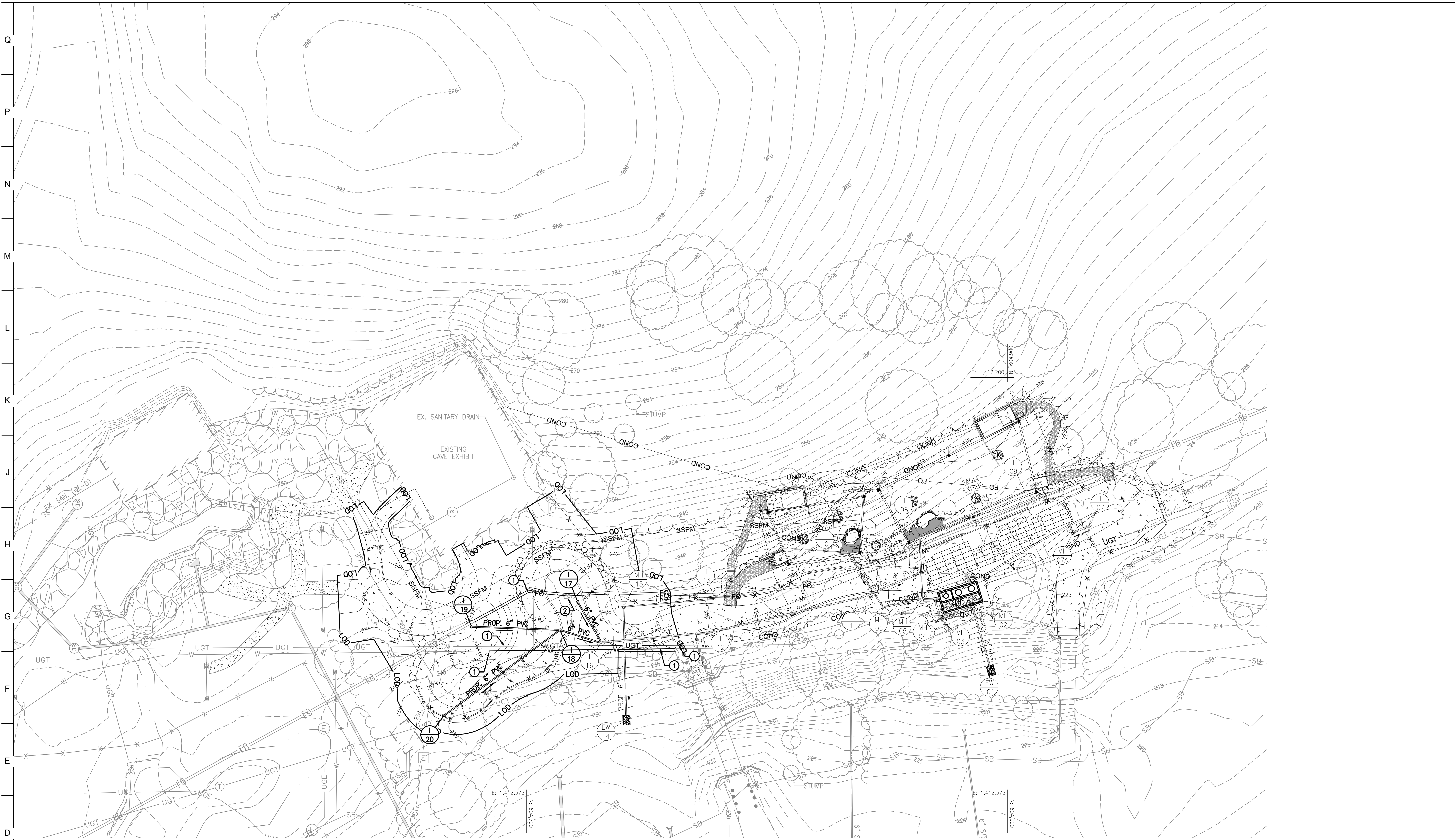
-
ADD ALTERNATE

ADD ALTERNATE

DRAWING NO:

C904





PROPOSED UTILITY PLAN ADD ALTERNATE

SCALE: 1"=20'



SCALE: 1"=20'

SHEET NOTES:

- CONTRACTOR TO VERIFY ADEQUATE COVER OVER EXISTING UGE, UGT, AND WATER IN THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE AND/OR ADJUST UTILITY IF PROPOSED CONDITIONS DOES NOT PROVIDE ADEQUATE COVER. IF ADEQUATE COVER CANNOT BE MET, RELOCATION AND/OR ADJUSTMENT IS REQUIRED. CONTRACTOR MUST COORDINATE UTILITY RELOCATION WITH UTILITY PROVIDER AND MUST INCLUDE THE COST OF COORDINATION AND UTILITY PROVIDERS COST IN THE BID PRICE.
- RESET HANDHOLE TO ACCOMMODATE PROPOSED GRADES.

Add Alt Storm Drain Schedule					Add Alt Pipe Schedule				
Structure No.	Description	Rm	Invert In	Invert Out	From	To	Length	Material	Size (Inches)
I-12	2808AG/0899CGPL	234.00	229.94 (6")	229.84 (6")	I-12	I-16	41	PVC	8
I-16	2808AG/0899CGPL	235.4	231.48 (6")	231.38 (6")	I-16	I-18	22	PVC	6
			231.48 (6")		I-18	I-20	60	PVC	6
I-17	2808AG/0899CGPL	236.00	N/A	233.00 (6")	I-16	I-17	20	PVC	6
I-18			232.57 (6")	232.47 (6")	I-18	I-19	37	PVC	6
	2808AG/0899CGPL	238.64		235.00 (6")					
I-19	2808AG/0899CGPL	242.4	N/A	240.70 (6")					
I-20	2808AG/0899CGPL	241.19	N/A	237.22 (6")					

NOTE:
SEE SHEET C100 CIVIL LEGEND &
NOTES FOR ADDITIONAL INFORMATION.
OWNER / DEVELOPER/ APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350



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LANDSCAPE ARCHITECT:
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MEDIA, PA 19063
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STRUCTURAL ENGINEER:
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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

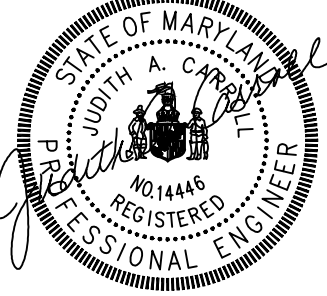
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

**CHESAPEAKE
FLYWAY**

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
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SEAL:



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10-07

DRAWN BY

MJE

CHECKED BY

CMS

SUBMISSION

DATE

BID SET

09/01/2026

REVISION

DATE

DRAWING TITLE:

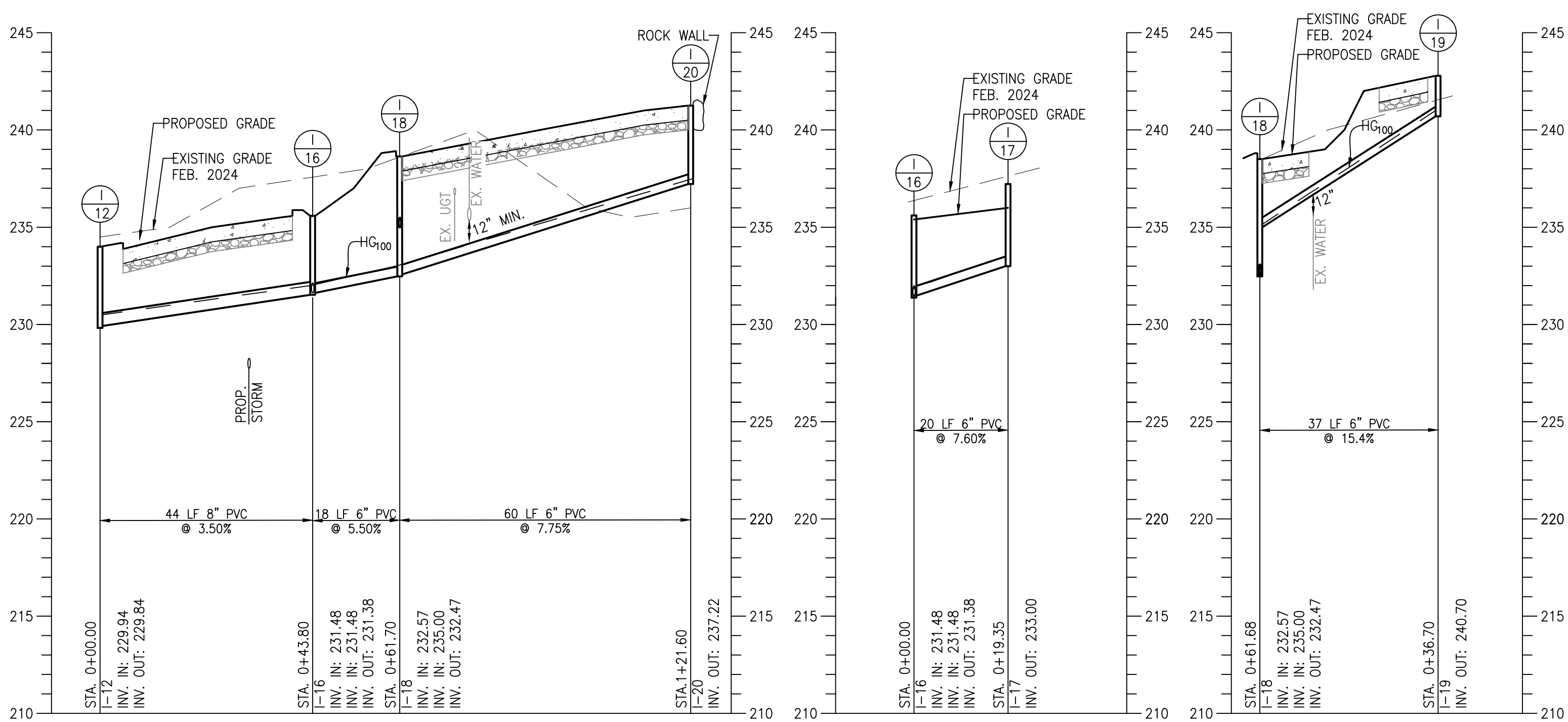
PROPOSED
UTILITY PLAN
ADD ALTERNATE

DRAWING NO:

C905

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

Q
P
N
M
L
K
J
H
G
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E
D
C
B



NOTE:
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1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: SHANNON BROWN, GAVIN PHILLIPS
PHONE: 443-552-3350

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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CLIENT:
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**CHESAPEAKE
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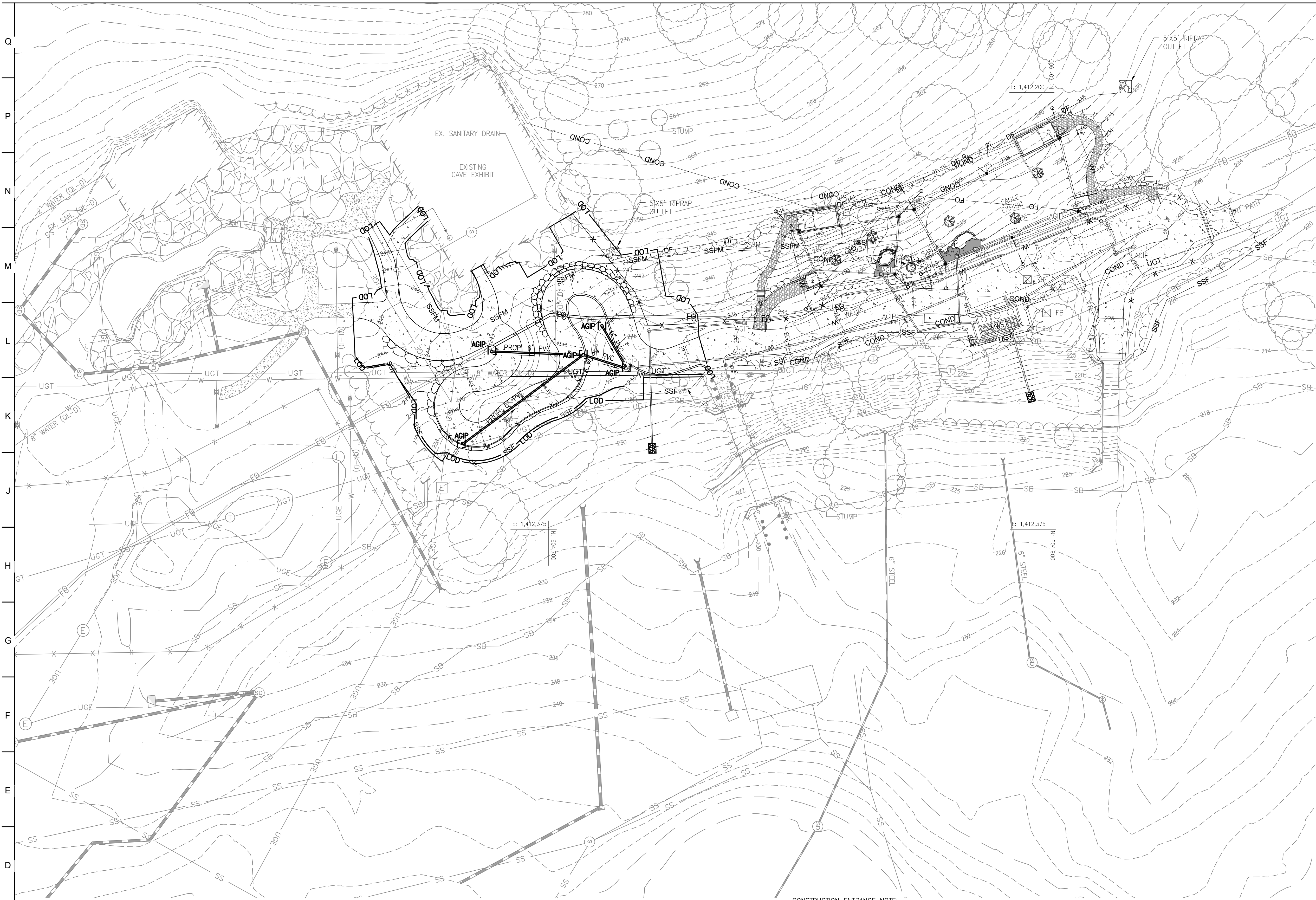
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DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	MJE
CHECKED BY	CMS
SUBMISSION	DATE
BID SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
UTILITY PROFILES
ADD ALTERNATE

DRAWING NO:
C906



NOTE TO CONTRACTOR:

"EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED. FAILURE TO MAINTAIN SEDIMENT CONTROLS IN AN OPERABLE CONDITION WILL NOT BE ACCEPTABLE"

DAILY STABILIZATION NOTE:

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

1. FOR AREAS TO BE PAVED, THE APPLICATION OF BASE STONE.
2. FOR AREAS TO BE VEGETATIVELY STABILIZED:
 - 2.a. PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR STEEP SLOPES, CHANNELS OR SWALES.
 - 2.b. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

NOTE:

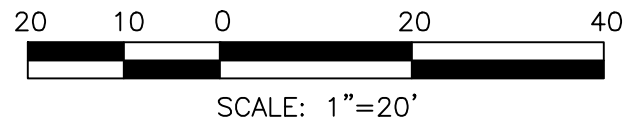
SEE SHEET C100 CIVIL LEGEND & NOTES FOR ADDITIONAL INFORMATION.

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BALTIMORE MD 21217
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EROSION & SEDIMENT PLAN ADD ALTERNATE

SCALE: 1"=20'



SCALE: 1"=20'

CONSTRUCTION ENTRANCE NOTE:

WHERE NO CONSTRUCTION ENTRANCE IS PROVIDED CONTRACTOR SHALL MAINTAIN THE SITE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED OUTSIDE THE LOD BY VACUUMING, SCRAPING, AND/OR SWEEPING. CONTRACTOR MUST CLEAN CONSTRUCTION EQUIPMENT PRIOR TO LEAVING THE LOD TO MINIMIZE SEDIMENT TRACK OUT. WASHING EQUIPMENT AND SURFACES TO REMOVE SEDIMENT IS ONLY ACCEPTABLE WHEN, SEDIMENT LADEN WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

STANDARD STABILIZATION NOTE:

*STABILIZATION PRACTICES ON ALL PROJECTS MUST BE IN COMPLIANCE WITH THE REQUIREMENTS OF COMAR 26.17.1.08 G REGULATIONS.

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

MAINTENANCE NOTE:

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

NAD 83/91
NAVD 88

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



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CLIENT:

MARYLAND ZOO

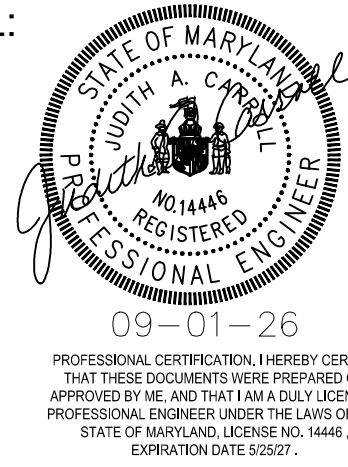
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PROJECT NO: 2023-10.07

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CHECKED BY: CMS

SUBMISSION: DATE

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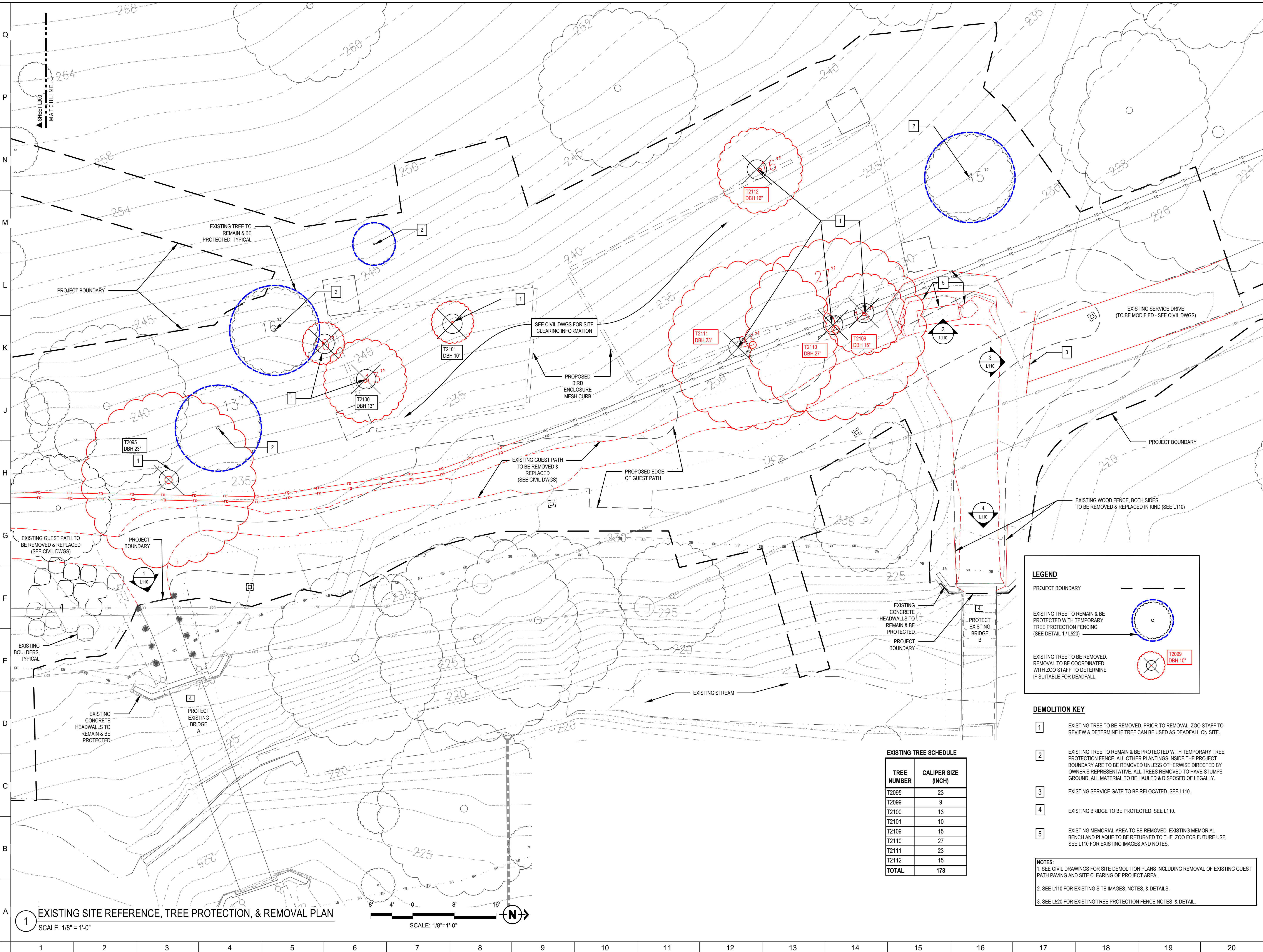
REVISION: DATE

DRAWING TITLE:

EROSION &
SEDIMENT
CONTROL PLAN
ADD ALTERNATE

DRAWING NO:

C907



BKP

ARCHITECT:
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SEAL:

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3984, EXPIRATION DATE 06/22/2027.

DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: KS / AV
CHECKED BY: GA
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

DRAWING TITLE:
EXISTING SITE
REFERENCE , TREE
REMOVAL, & TREE
PROTECTION PLAN

DRAWING NO:
L100



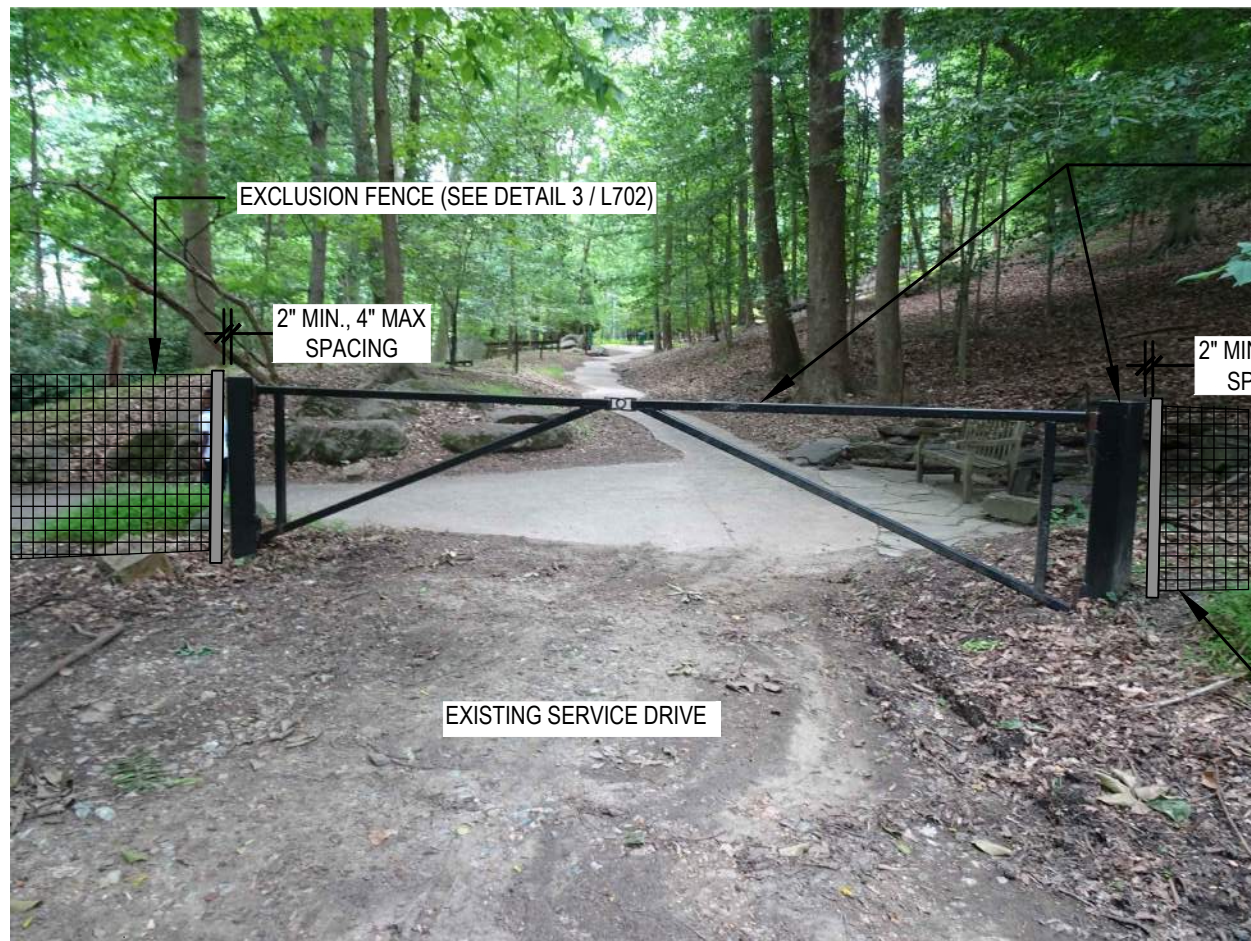
1 EXISTING BRIDGE A - IMAGE
NOT TO SCALE



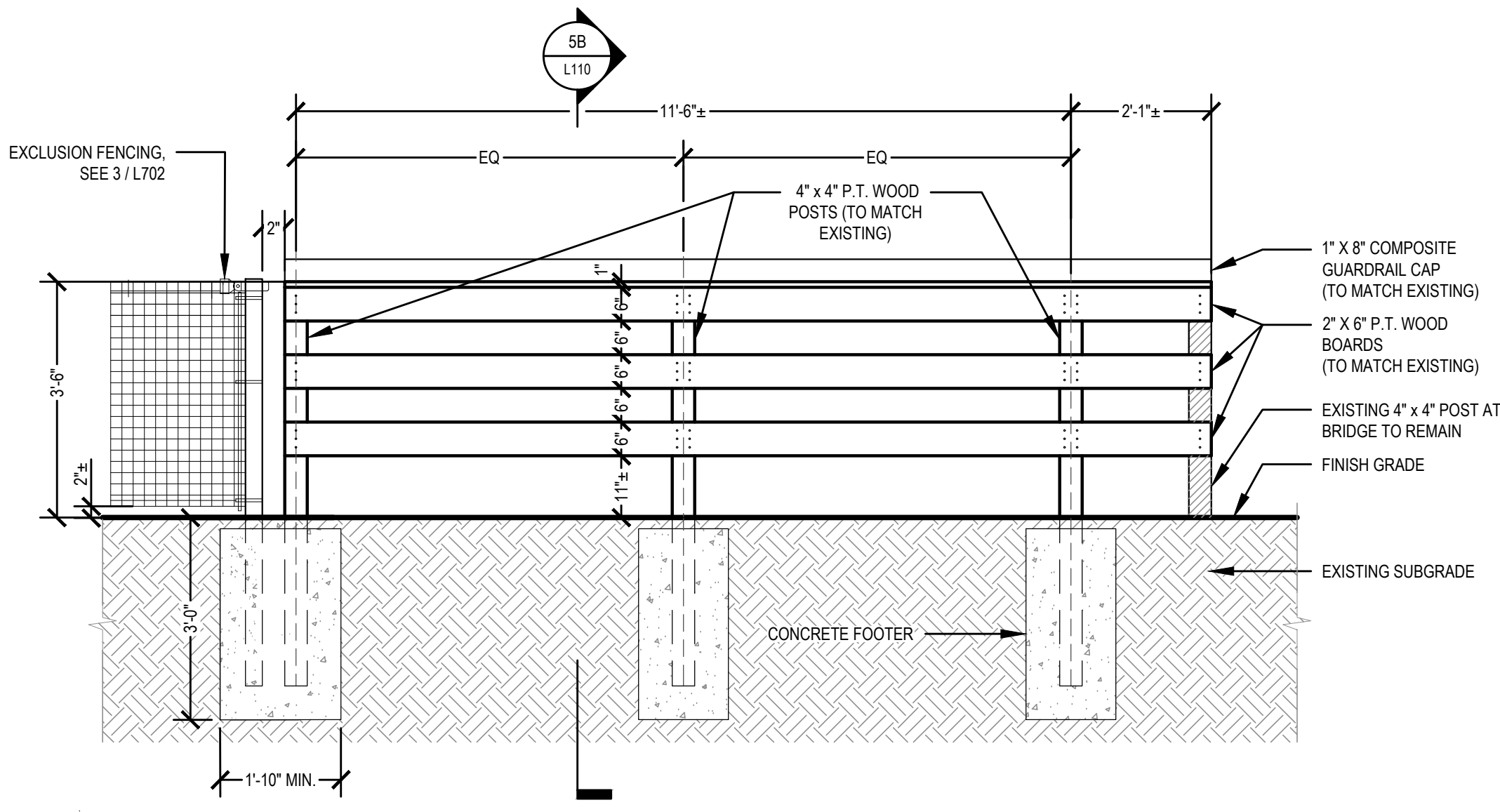
4 EXISTING BRIDGE B - IMAGE
NOT TO SCALE



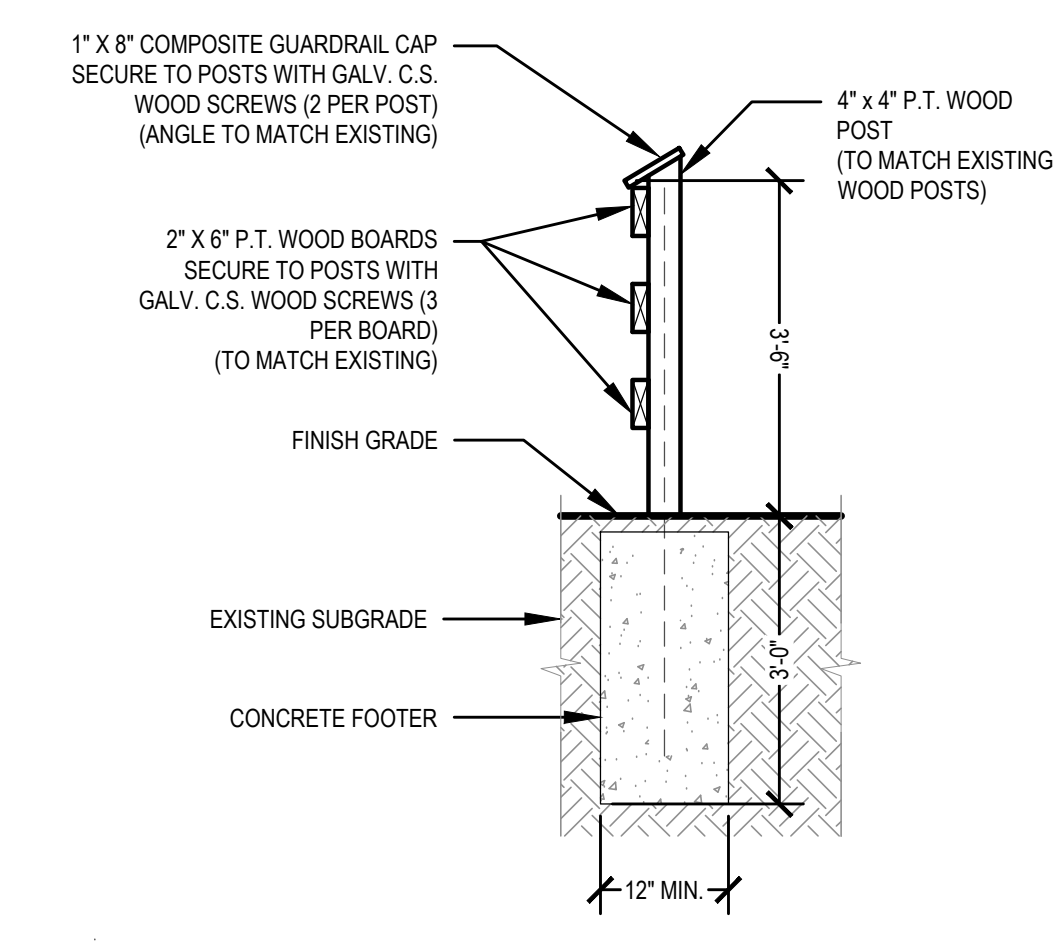
2 EXISTING MEMORIAL AREA - IMAGE
NOT TO SCALE



3 EXISTING SERVICE GATE & DRIVE - IMAGE
NOT TO SCALE



5A WOOD GUARDRAIL AT BRIDGE B
SCALE: 1/2" = 1'-0"



5B WOOD GUARDRAIL AT BRIDGE B - SECTION
SCALE: 1/2" = 1'-0"

BKP

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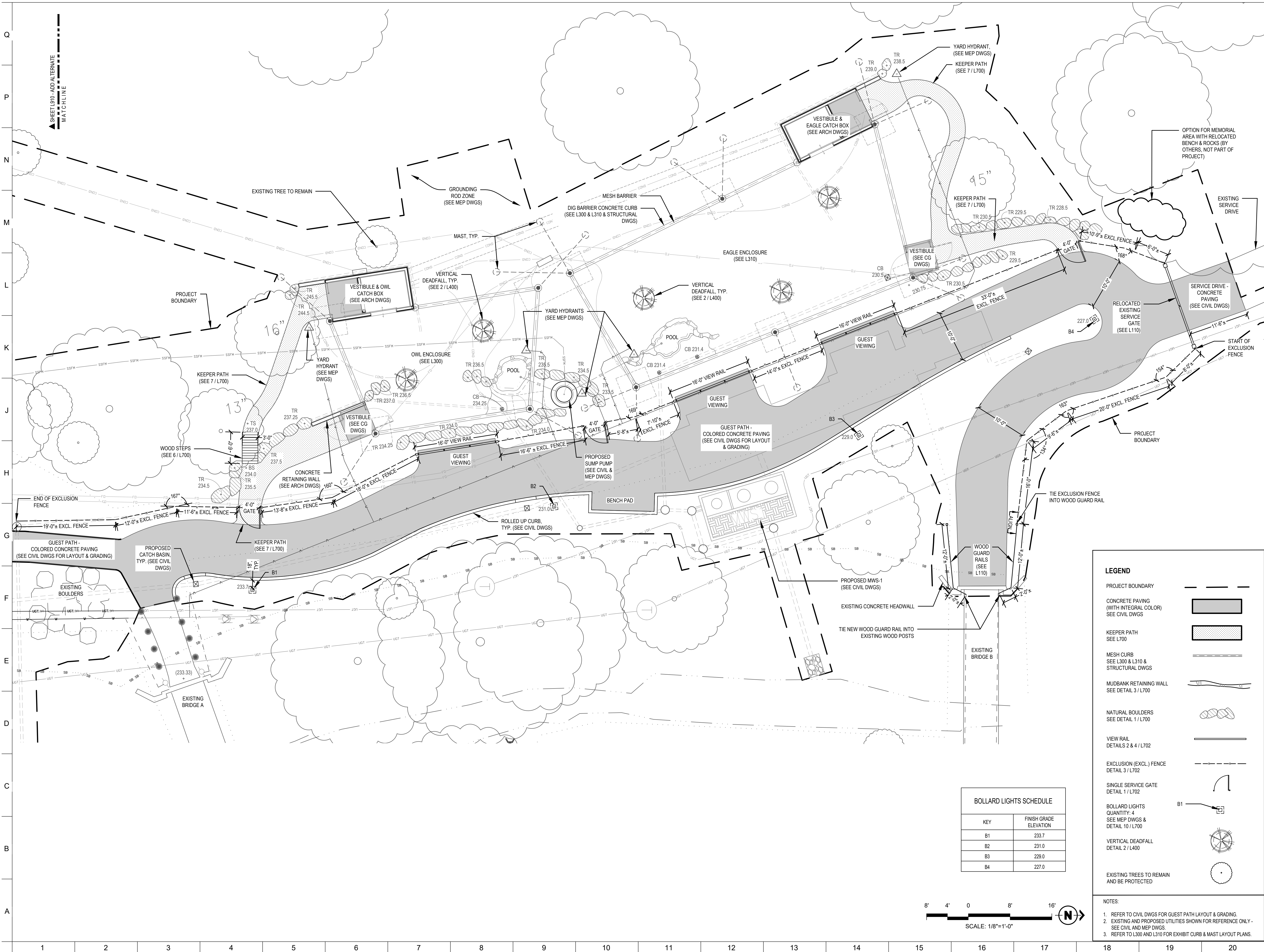
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REVISION: DATE

DRAWING TITLE:
EXISTING SITE
IMAGES, NOTES &
DETAILS

DRAWING NO:
L110

I:\RRA\INST\Maryland Zoo\MZB-Eagle Owl\CAD\CD\MZB-EOE_L210_CD.dwg, 8/31/2026 1:57:26 PM



BKP

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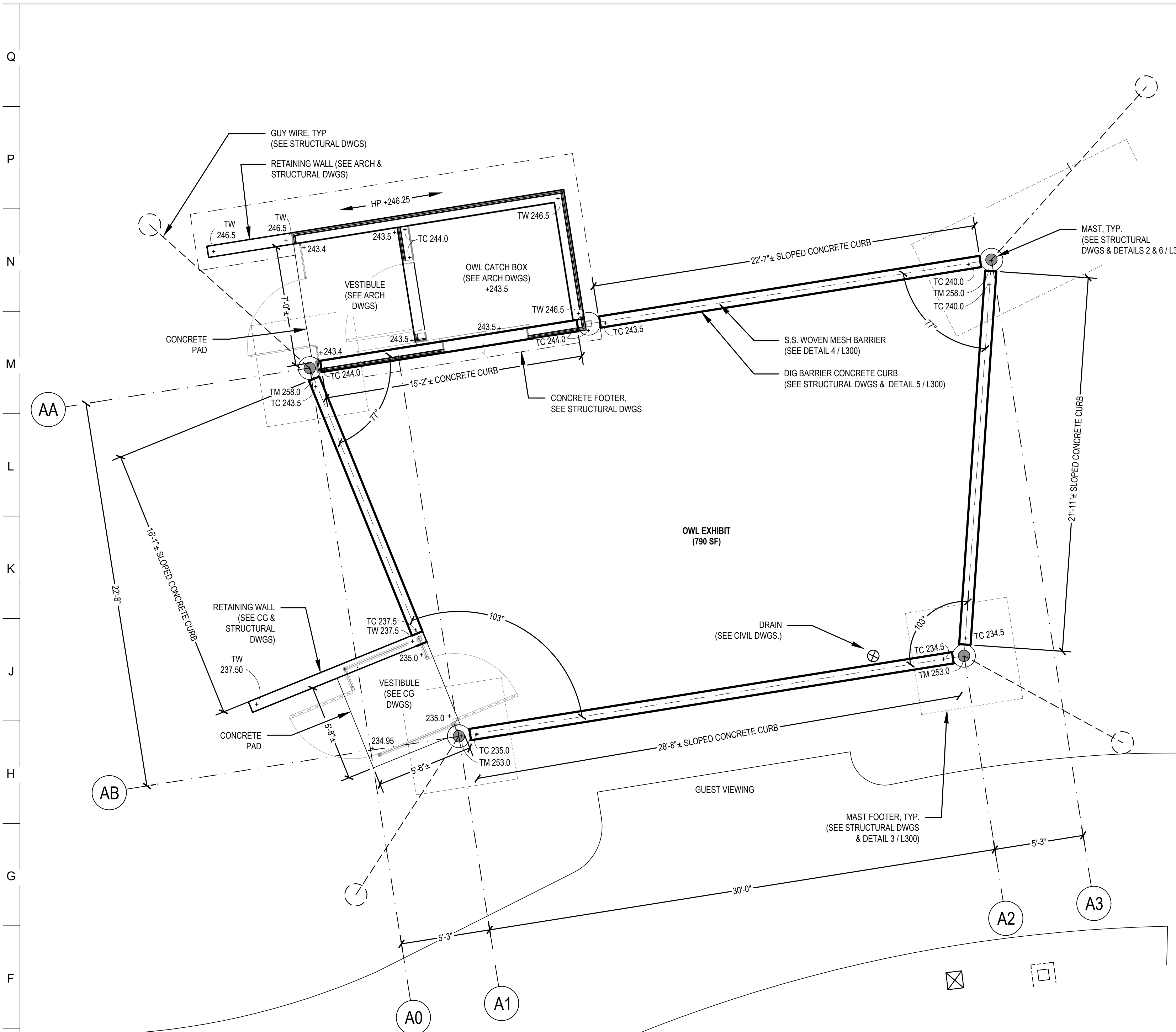
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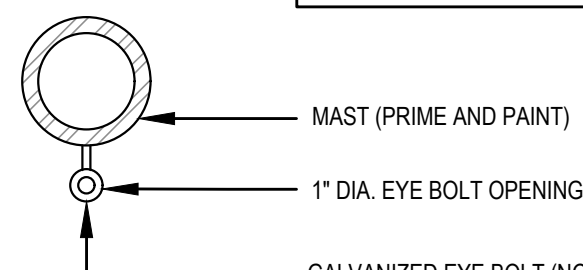
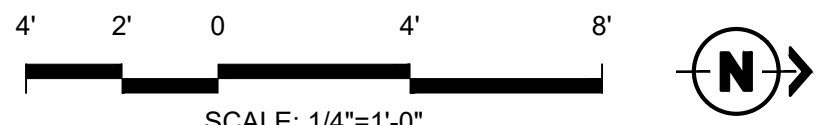
DATE: SEPTEMBER 01, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	KS / AV
CHECKED BY	GA
SUBMISSION	DATE
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DRAWING TITLE:
**OVERALL LOWER
SITE PLAN**

DRAWING NO:
L210



1 OWL ENCLOSURE CONCRETE CURB & MAST LAYOUT PLAN
SCALE: 1/4" = 1'-0"

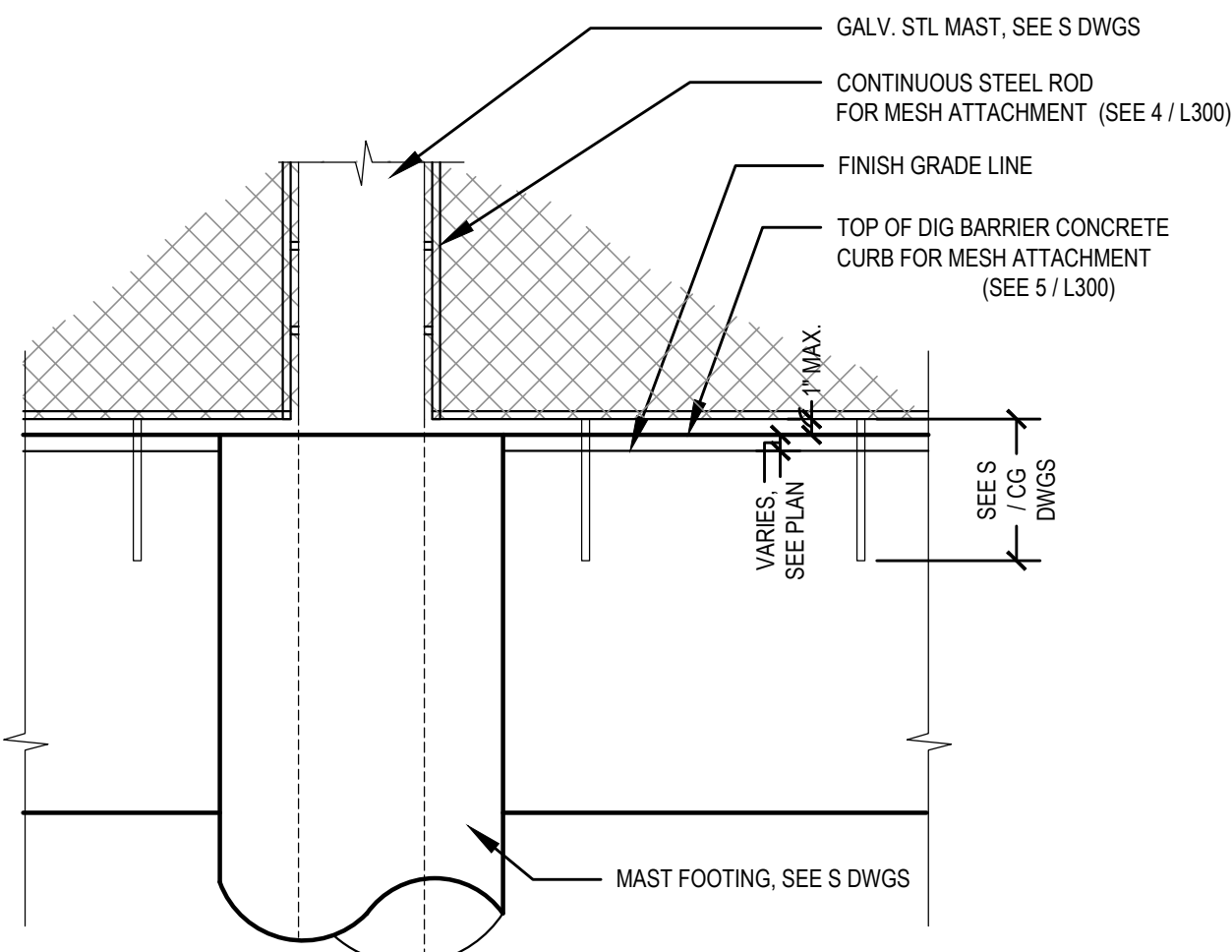


EYE BOLT SCHEDULE:	
OWL EXHIBIT:	12 EYE BOLTS (3 PER MAST)
EAGLE EXHIBIT:	18 EYE BOLTS (3 PER MAST)

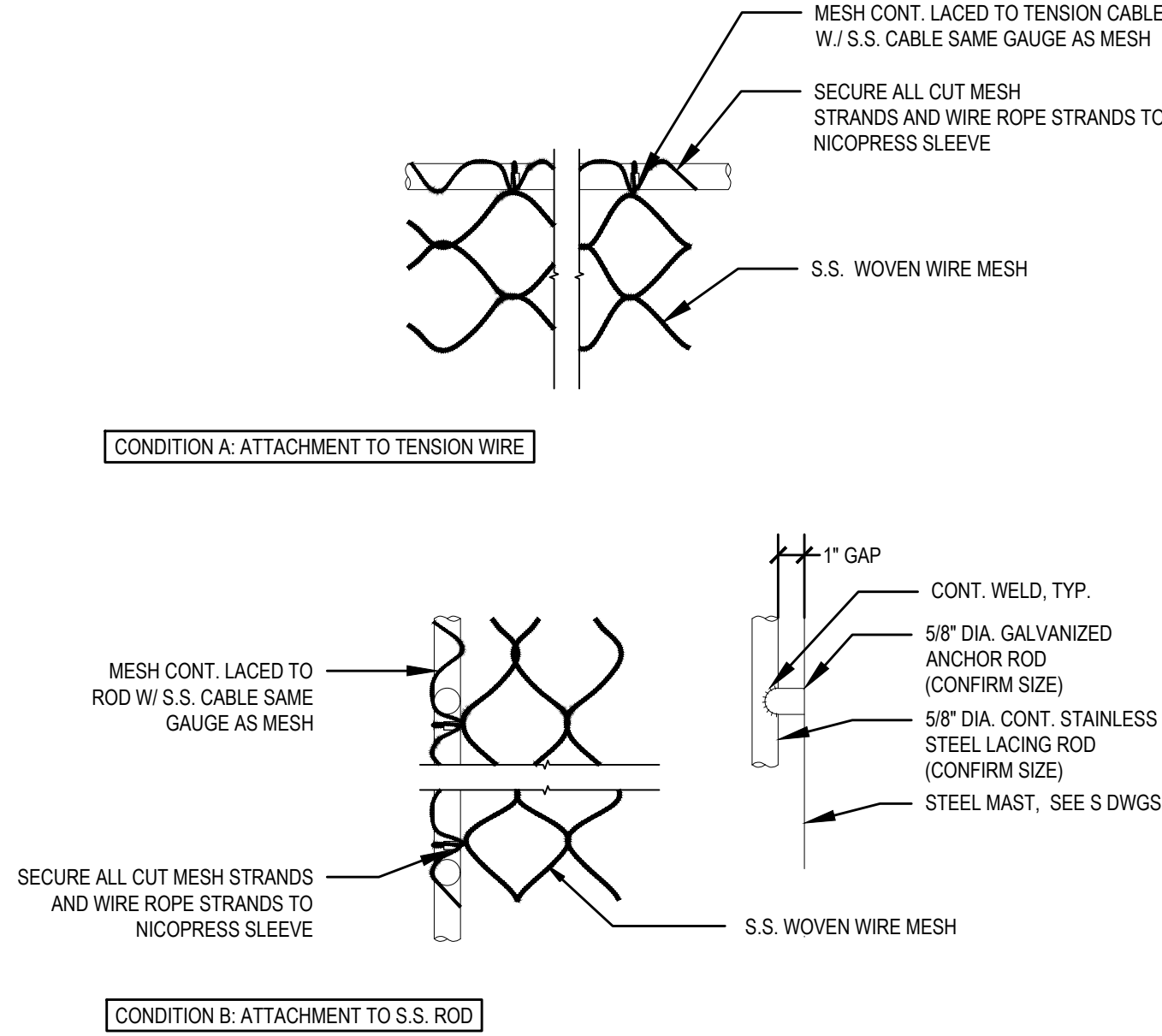
- GALVANIZED EYE BOLT (NOT PAINTED)
- EYE BOLTS TO BE WELDED IN ORIENTATION AS SHOWN ON DETAIL PLAN
- 3 EYE BOLTS PER MAST
- EYE BOLTS TO BE SET AT ELEVATIONS: 3', 7', AND 10' ABOVE FINISH GRADE

2 EYE BOLT - DETAIL PLAN
SCALE: 1" = 1'-0"

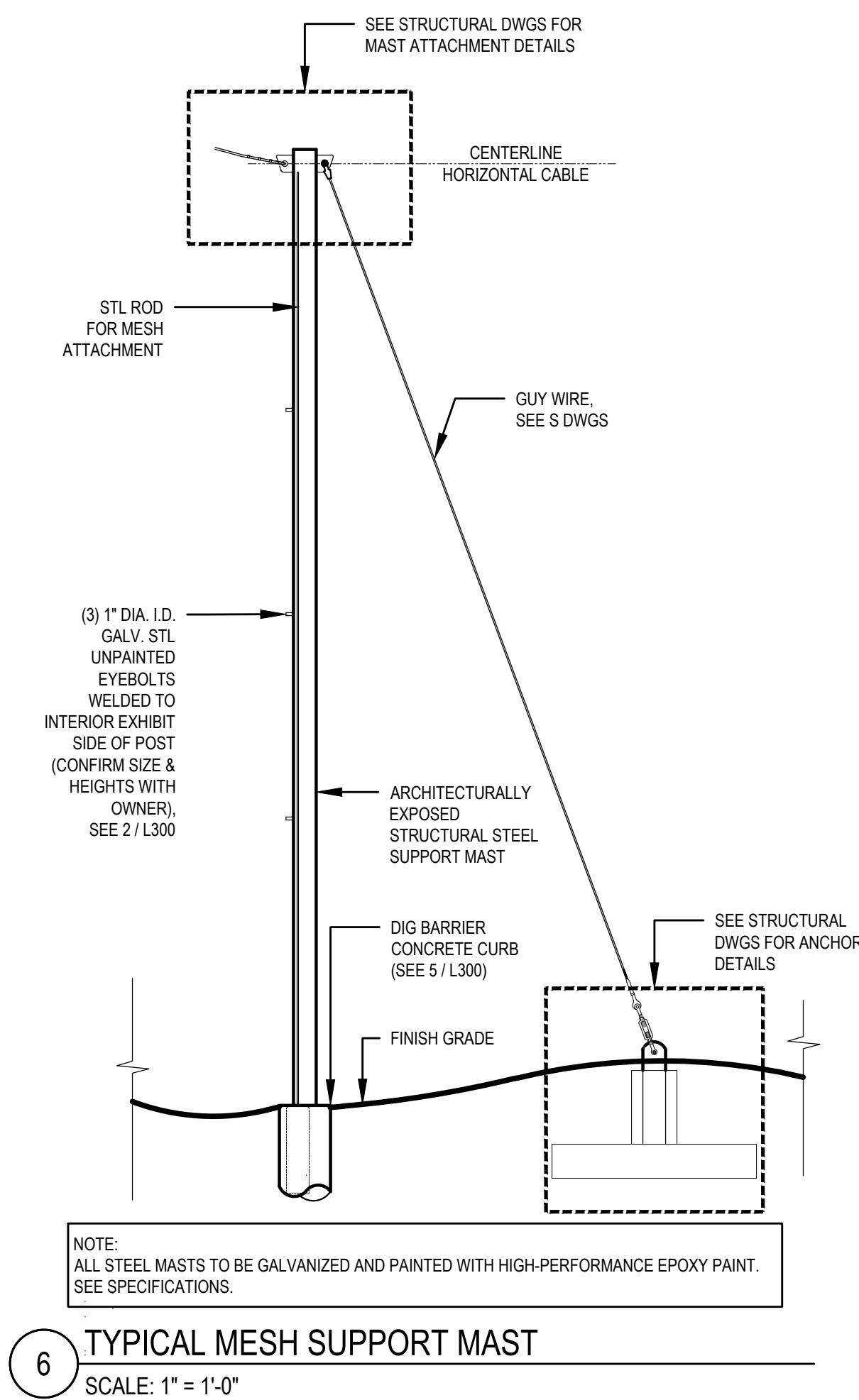
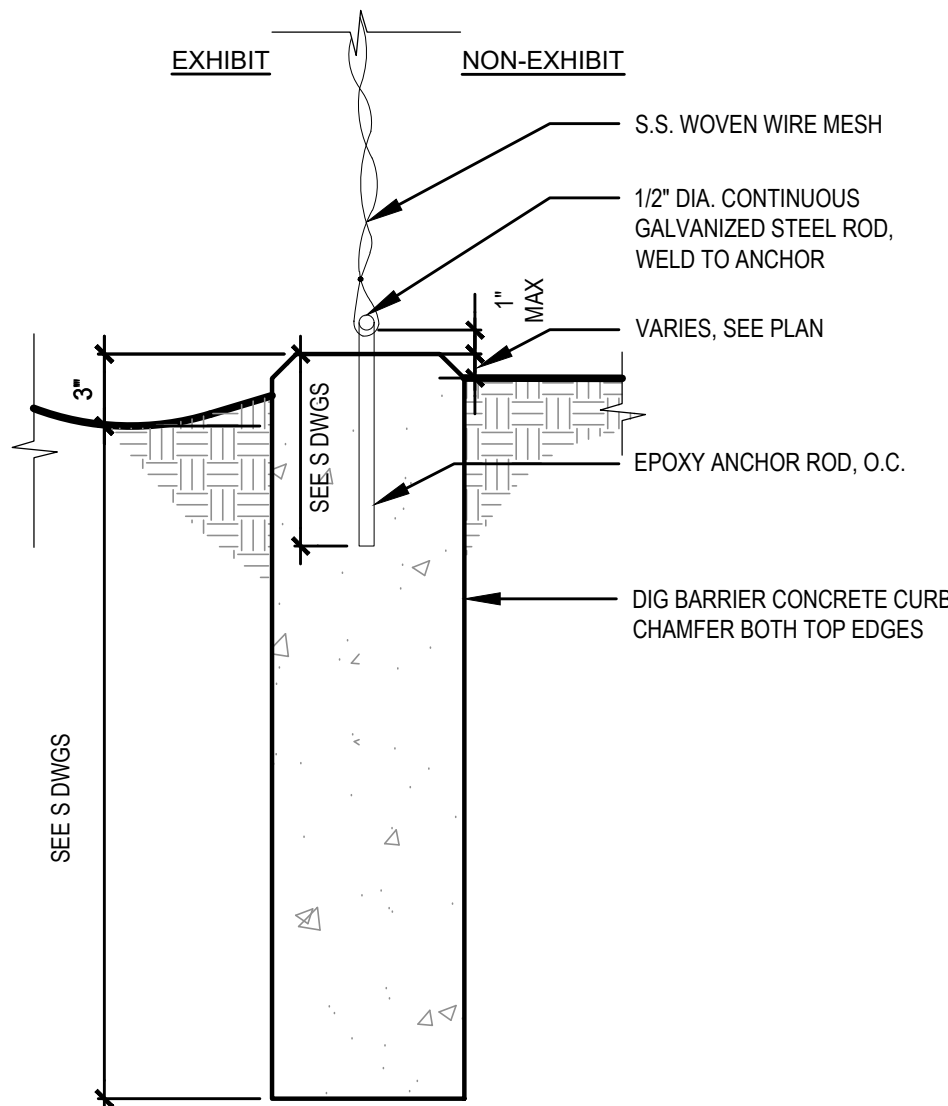
3 POST FOUNDATION & DIG BARRIER CONCRETE CURB - ELEVATION
SCALE: 1" = 1'-0"



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



5 DIG BARRIER CONCRETE CURB - ELEVATION
SCALE: 1" = 1'-0"



NOTE:
ALL STEEL MASTS TO BE GALVANIZED AND PAINTED WITH HIGH-PERFORMANCE EPOXY PAINT.
SEE SPECIFICATIONS.

6 TYPICAL MESH SUPPORT MAST
SCALE: 1" = 1'-0"

OWL ENCLOSURE MAST A SCHEDULE

MAST KEY	TOP OF MAST (TM) ELEVATION
A0AA	258.00
A1AA	258.00
A1AB	253.00
A2AB	253.00
A3AA	258.00

NOTE:
ARCHITECTURALLY EXPOSED STRUCTURAL STEEL MASTS. REFER TO SPECIFICATIONS AND STRUCTURAL DWGS FOR FINISHING ON WELDS AND CONNECTIONS. SEE ADDITIONAL NOTES BELOW.

OWL ENCLOSURE MESH SCHEDULE

#	MESH TYPE	SIZE
SIDE AND ROOF PANEL	Black oxide s.s. woven mesh	2" x 2" x 1/16"

- NOTES:
1. SEE STRUCTURAL ENGINEERING DRAWINGS FOR MAST, CABLING, DIG BARRIER CONCRETE CURB AND GUY WIRE DETAILS.
 2. SEE STRUCTURAL ENGINEERING DRAWINGS FOR ADDITIONAL LAYOUT INFORMATION.
 3. ALL STEEL MASTS TO BE GALVANIZED AND PAINTED WITH HIGH-PERFORMANCE EPOXY PAINT, SEE SPECIFICATIONS FOR MORE INFORMATION.
 4. THE BOTTOM OF ALL MASTS SHALL BE 2'-0" MINIMUM BELOW THE LOWEST ADJACENT GRADE AT THEIR RESPECTIVE BASES.
 5. PROVIDE (3) UNPAINTED EYE BOLTS AT EACH MAST. COORDINATE W/ ZOO STAFF. SEE EYE BOLT DETAIL 2 / L300.

BKP

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CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE FLYWAY
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:

DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: KS / AV
CHECKED BY: GA
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

DRAWING TITLE:
OWL ENCLOSURE
CONCRETE CURB &
MAST LAYOUT PLAN

DRAWING NO:
L300

BKP

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FLYWAY**

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SEAL:



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3984, EXPIRATION DATE 06/22/2027.

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY KS / AV

CHECKED BY GA

SUBMISSION DATE

BID SET 09/01/2026

REVISION

DATE

DRAWING TITLE:

EAGLE ENCLOSURE
CONCRETE CURB &
MAST LAYOUT PLAN

DRAWING NO:

L310**1 EAGLE ENCLOSURE CONCRETE CURB & MAST LAYOUT PLAN**

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

**EAGLE ENCLOSURE MAST
B SCHEDULE**

MAST KEY	TOP OF MAST (TM) ELEVATION
B1BC	256.50
B2BD	248.50
B3BB	256.50
B3BD	248.50
B4BD	248.50
B5BA	256.50

NOTE:
ARCHITECTURALLY EXPOSED STRUCTURAL
STEEL MASTS. REFER TO SPECIFICATIONS AND
STRUCTURAL DWGS FOR FINISHING ON WELDS
AND CONNECTIONS. SEE ADDITIONAL NOTES
BELOW.

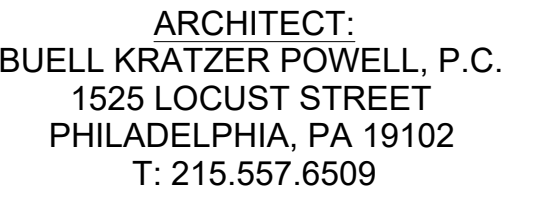
EAGLE ENCLOSURE MESH SCHEDULE

#	MESH TYPE	SIZE
SIDE AND ROOF PANEL	Black oxide s.s. woven mesh	2" x 2" x 1/16"

- NOTES:
- SEE STRUCTURAL ENGINEERING DRAWINGS FOR MAST, CABLING, DIG BARRIER CONCRETE CURB AND GUY WIRE DETAILS.
 - SEE STRUCTURAL ENGINEERING DRAWINGS FOR ADDITIONAL LAYOUT INFORMATION.
 - ALL STEEL MASTS TO BE GALVANIZED AND PAINTED WITH HIGH-PERFORMANCE EPOXY PAINT, SEE SPECIFICATIONS FOR MORE INFORMATION.
 - THE BOTTOM OF ALL MASTS SHALL BE -2'-0" MINIMUM BELOW THE LOWEST ADJACENT GRADE AT THEIR RESPECTIVE BASES.
 - PROVIDE (3) UNPAINTED EYE BOLTS AT EACH MAST. COORDINATE W/ ZOO STAFF. SEE EYE BOLT DETAIL 2 / L300.

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





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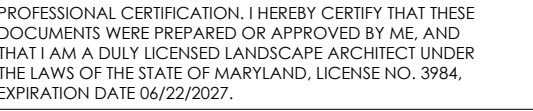
THE MARYLAND ZOO
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**CHESAPEAKE LAKE
FLYWAY**

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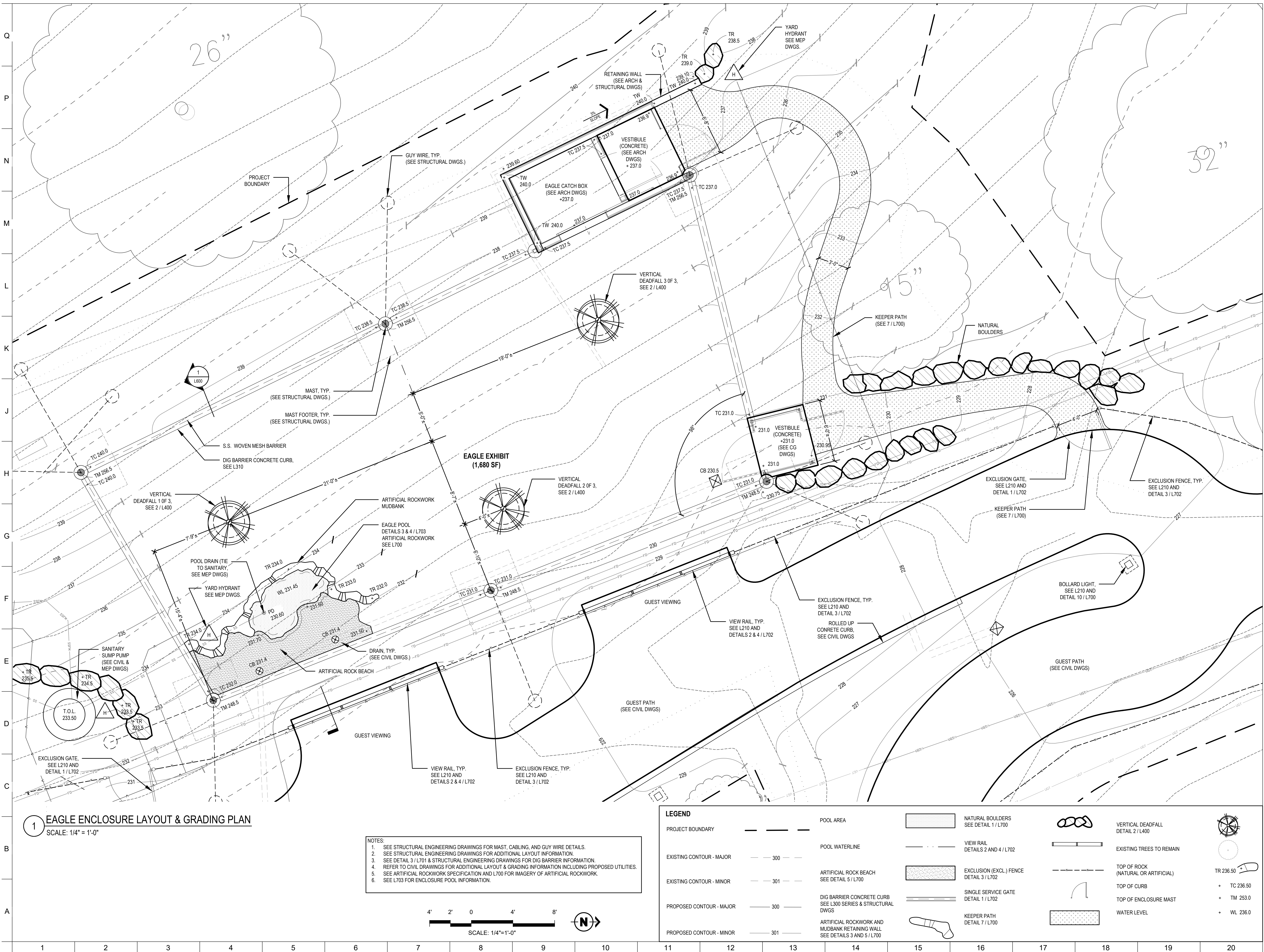
REVISION	DATE
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RAWING TITLE:

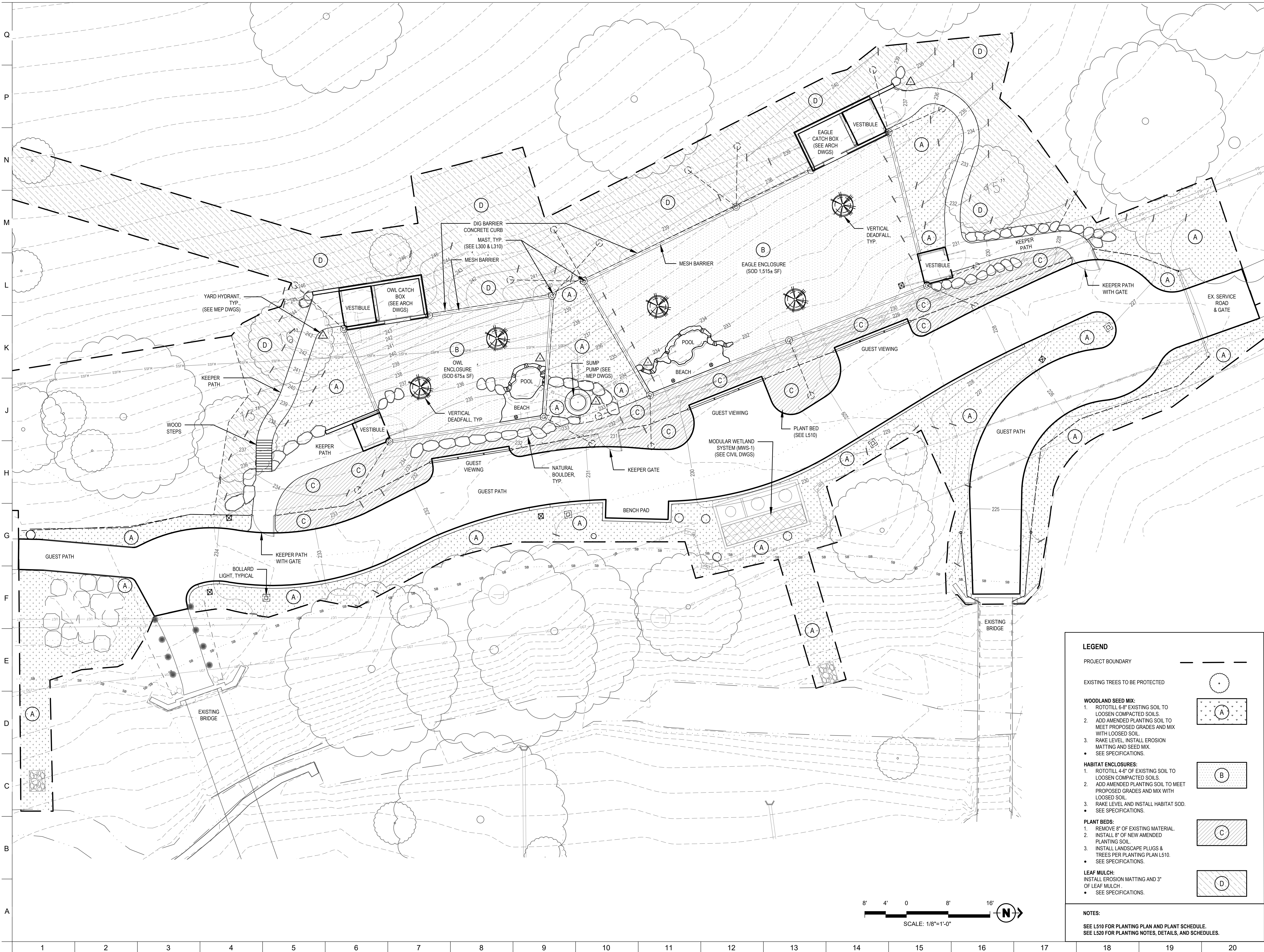
EAGLE ENCLOSURE LAYOUT PLAN

RAWING NO:

L410



I:\RRA\INST\Maryland Zoo\MZB-Eagle Owl\CAD\CD\MZB-EOE_L500_CD.dwg, 8/31/2026 1:59:51 PM



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DRAWING TITLE:
SITE BED PREP,
SEEDING &
SODDING PLAN

DRAWING NO:
L500

LEGEND

PROJECT BOUNDARY

EXISTING TREES TO BE PROTECTED

WOODLAND SEED MIX:

1. ROTOTILL 6-8" EXISTING SOIL TO LOOSEN COMPACTED SOILS.
2. ADD AMENDED PLANTING SOIL TO MEET PROPOSED GRADES AND MIX WITH LOOSED SOIL.
3. RAKE LEVEL. INSTALL EROSION MATTING AND SEED MIX.
- SEE SPECIFICATIONS.

HABITAT ENCLOSURES:

1. ROTOTILL 4-8" OF EXISTING SOIL TO LOOSEN COMPACTED SOILS.
2. ADD AMENDED PLANTING SOIL TO MEET PROPOSED GRADES AND MIX WITH LOOSED SOIL.
3. RAKE LEVEL AND INSTALL HABITAT SOD.
- SEE SPECIFICATIONS.

PLANT BEDS:

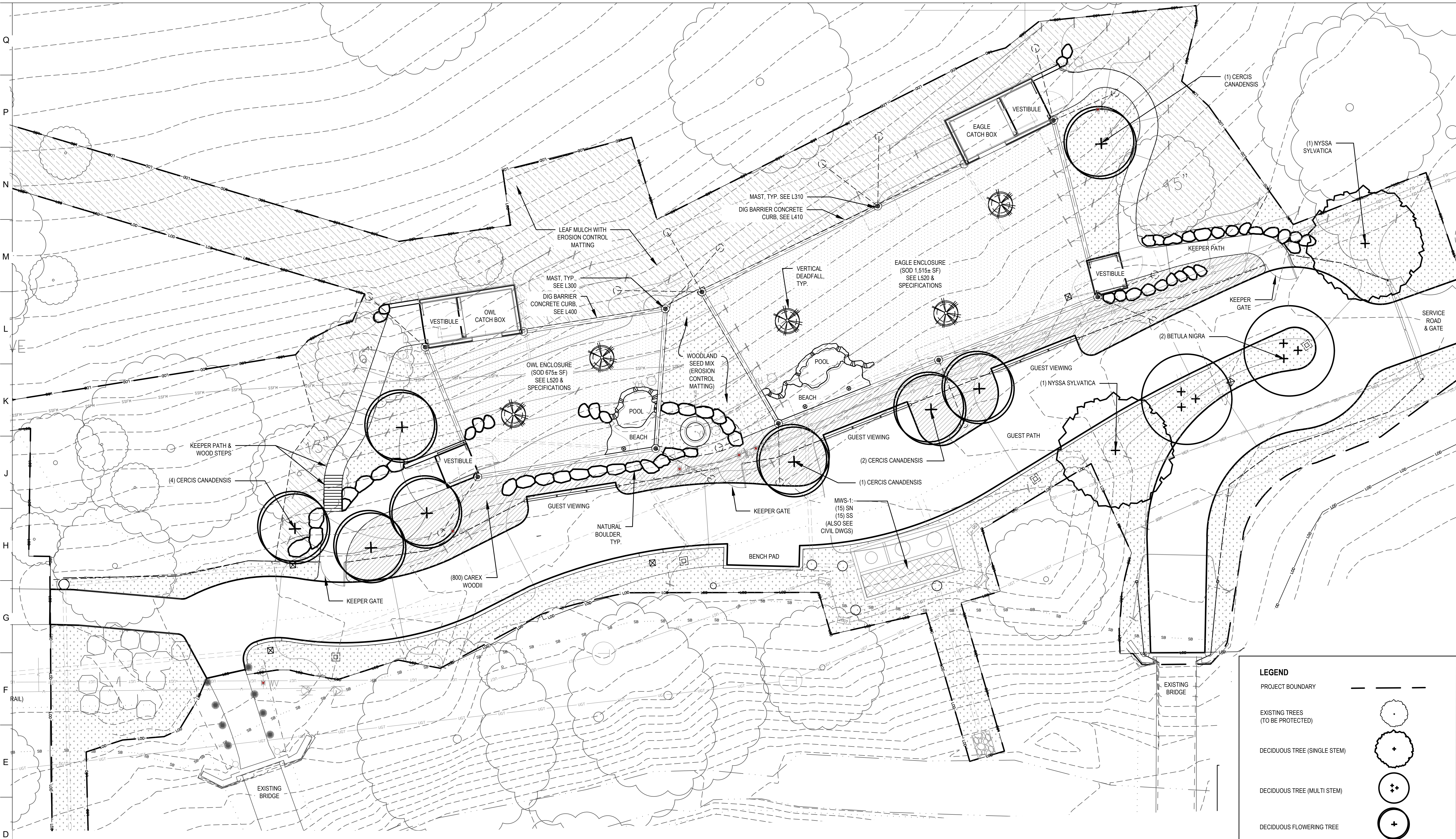
1. REMOVE 8" OF EXISTING MATERIAL.
2. INSTALL 8" OF NEW AMENDED PLANTING SOIL.
3. INSTALL LANDSCAPE PLUGS & TREES PER PLANTING PLAN L510.
- SEE SPECIFICATIONS.

LEAF MULCH:

1. INSTALL EROSION MATTING AND 3" OF LEAF MULCH.
- SEE SPECIFICATIONS.

NOTES:

SEE L510 FOR PLANTING PLAN AND PLANT SCHEDULE.
SEE L520 FOR PLANTING NOTES, DETAILS, AND SCHEDULES.



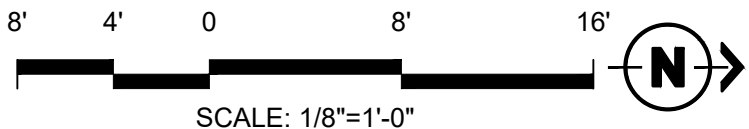
Maryland Zoo Eagle & Owl Exhibit
PLANT SCHEDULE

Botanical Name	Common Name	Quantity	Size	Notes	
DECIDUOUS TREES					
<i>Betula nigra</i>	River Birch	2	10' Ht., 2" Caliper	Multi stem	
<i>Cercis canadensis</i>	Eastern Redbud	8	7' Ht., 1.25" Caliper	Single stem	
<i>Nyssa sylvatica</i>	Black Tupelo	2	3" Caliper	Single stem	
Total Deciduous Trees:		12			
GROUNDCOVER					
<i>Carex woodii</i>	Woodland Sedge	800	LP32	25	15" o.c.
Total Groundcover Plants:		800	Total Flats:	25	

- GENERAL NOTES:
- WHERE THERE IS A DISCREPANCY IN PLANT QUANTITIES OR SPECIES, THE PLANTING PLAN SHALL PREVAIL.
 - THIS PLANTING PLAN AND PLANT SCHEDULE DO NOT INCLUDE TREE REPLACEMENTS OR MITIGATION REQUIREMENTS.
 - SEE L500 FOR SITE BED PREP, SEEDING, AND SOD PLAN.
 - SEE L520 FOR PLANTING DETAILS, NOTES AND SOD AND SEEDING CHARTS, ALSO SEE SPECIFICATIONS.

MODULAR WETLAND SYSTEM (MWS-1) PLANT SCHEDULE					
Key	Botanical Name	Common Name	Quantity	Size	Spacing
SN	<i>Sorghastrum nutans</i>	Indian Grass	15	1 Gal.	18" o.c.
SS	<i>Schizachyrium scoparium</i> 'Standing Ovation'	Standing Ovation Little Bluestem Grass	15	1 Gal.	18" o.c.
Total Herbaceous Plants:			30		
Note: SWM plants to be supplied and installed by modular wetland manufacturer.					

LEGEND	
PROJECT BOUNDARY	---
EXISTING TREES (TO BE PROTECTED)	
DECIDUOUS TREE (SINGLE STEM)	
DECIDUOUS TREE (MULTI STEM)	
DECIDUOUS FLOWERING TREE	
GROUNDCOVER (LANDSCAPE PLUGS)	
HABITAT ENCLOSURE SOD (SEE L520 & SPECIFICATIONS)	
WOODLAND SEED MIX WITH EROSION CONTROL MATTING (SEE L520 & SPECIFICATIONS)	
LEAF MULCH WITH EROSION CONTROL MATTING (SEE SPECIFICATIONS)	
MODULAR WETLAND SYSTEM (MWS #1 PLANTS TO BE SUPPLIED AND INSTALLED BY MODULAR WETLAND MANUFACTURER)	
NOTE: SEE SPECIFICATIONS AND L520 FOR PLANTING NOTES, SEED MIXES, AND DETAILS.	



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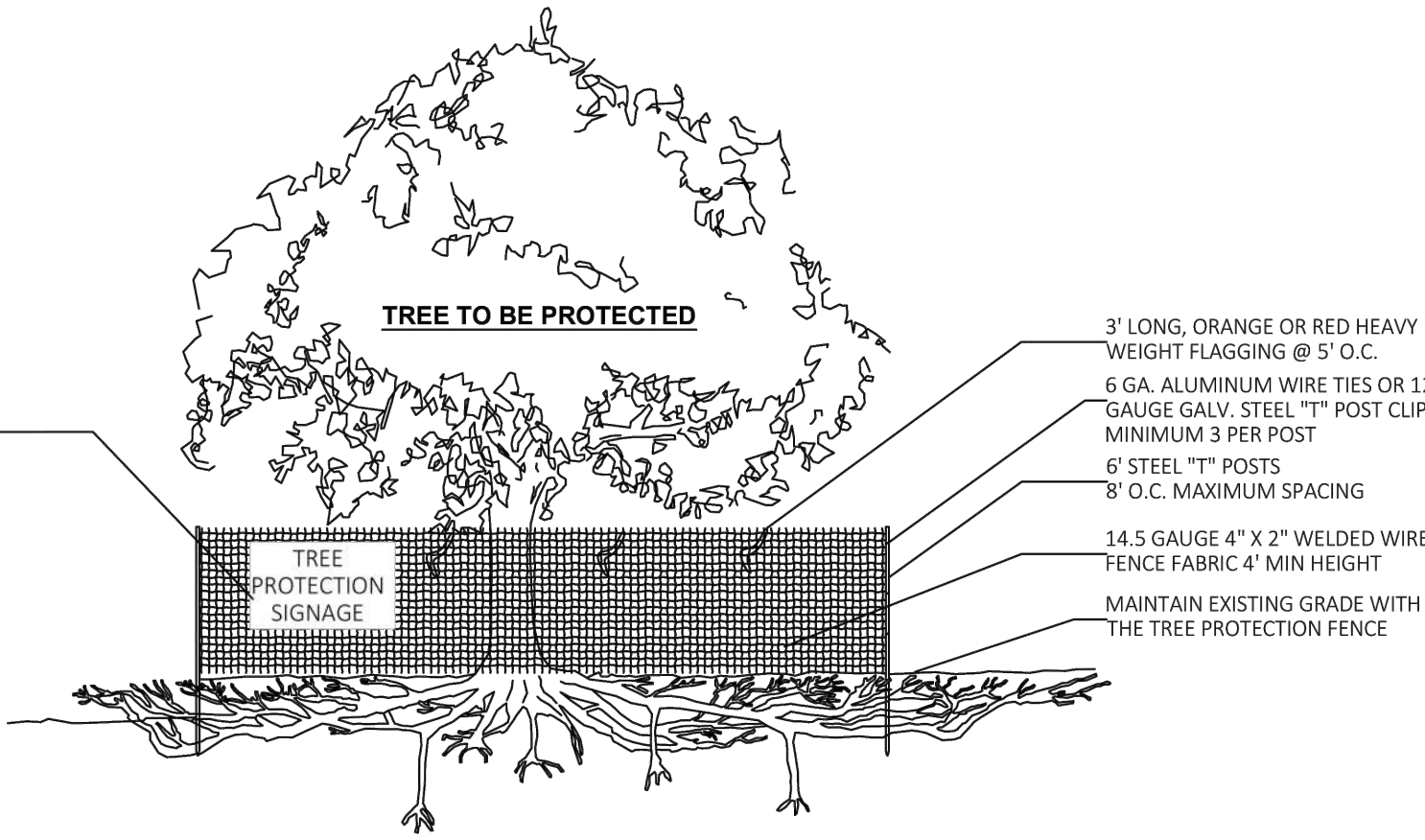
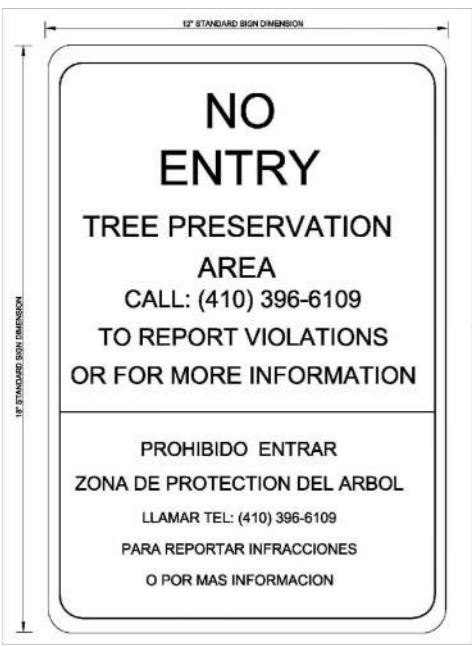
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DRAWING TITLE:
PLANTING PLAN

DRAWING NO:
L510

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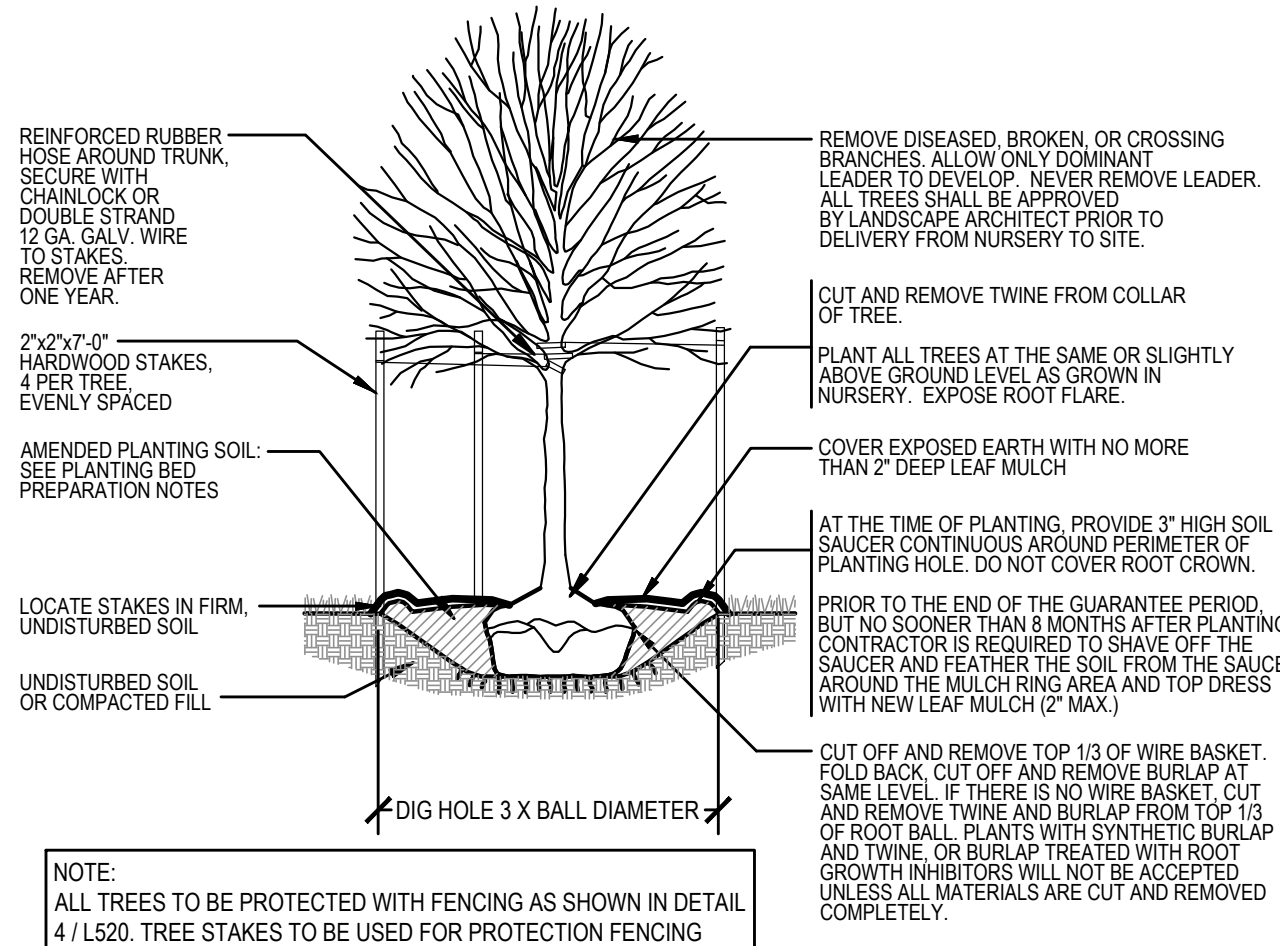


TREE PROTECTION DETAIL

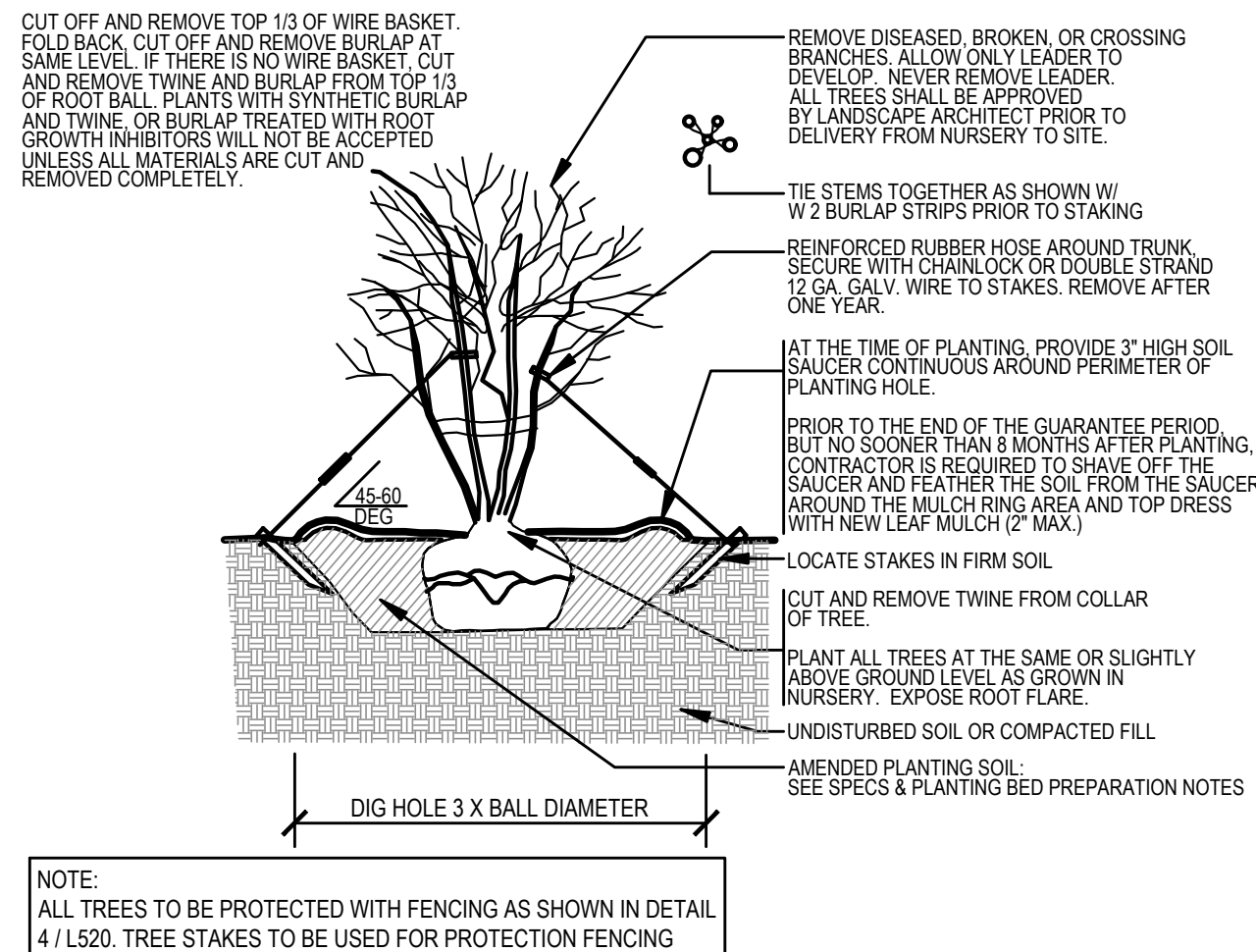
NOT TO SCALE

- TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION
- WHERE REQUIRED, SUPER SILT FENCE MAY BE USED IN LIEU OF WELDED WIRE FOR TREE PROTECTION PROVIDED IT IS INSTALLED AND MAINTAINED AS A TREE PROTECTION MEASURE AND IS POSTED WITH TREE PROTECTION SIGNS
- TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE FENCE ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED
- A STATE OF MARYLAND LICENSED TREE EXPERT AND/OR AN INTERNATIONAL SOCIETY OF ARBORICULTURE CERTIFIED ARBORIST MUST PERFORM ALL TREE PROTECTION MEASURES.
- APPROPRIATE TREE PROTECTION MEASURES APPLIED BY A QUALIFIED TREE CARE PROFESSIONAL MAY INCLUDE AND ARE NOT LIMITED TO: ROOT PRUNING, CROWN REDUCTION OR PRUNING, WATERING, FERTILIZING, AND/OR INSECT/DISEASE CONTROL
- TREE PROTECTION MEASURES SHALL BE DONE BY OR UNDER THE SUPERVISION OF AN ISA CERTIFIED ARBORIST AND MEET OR EXCEED ANSI A300 OR APPROVED TREE CARE INDUSTRY STANDARDS. A CERTIFIED ARBORIST MUST BE ONSITE DURING THE ENTIRETY OF TREE WORK.

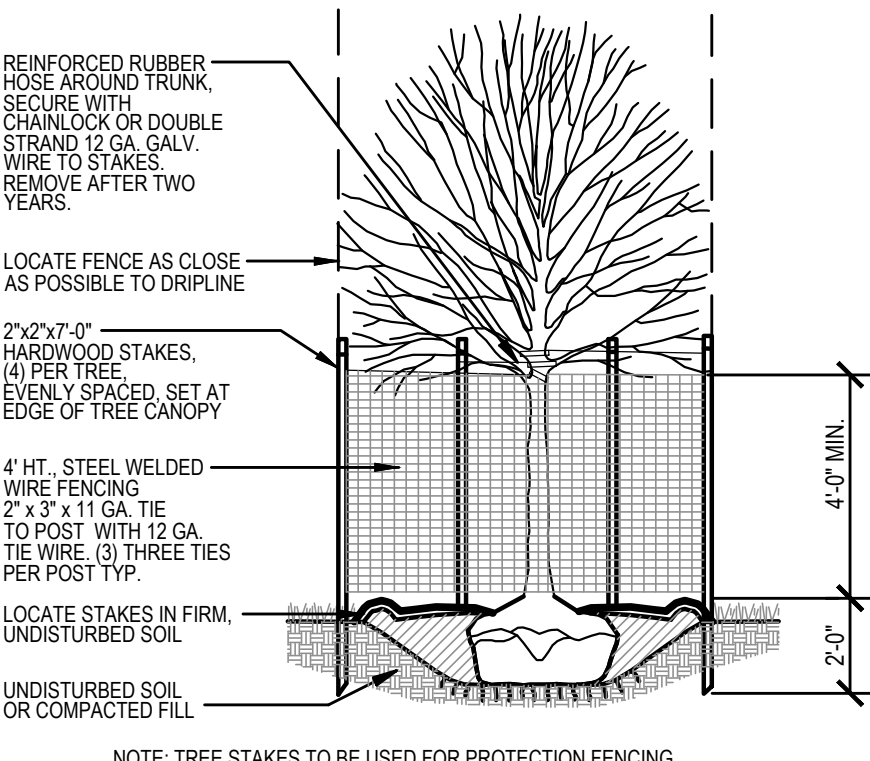
1 EXISTING TREE PROTECTION FENCE
NOT TO SCALE



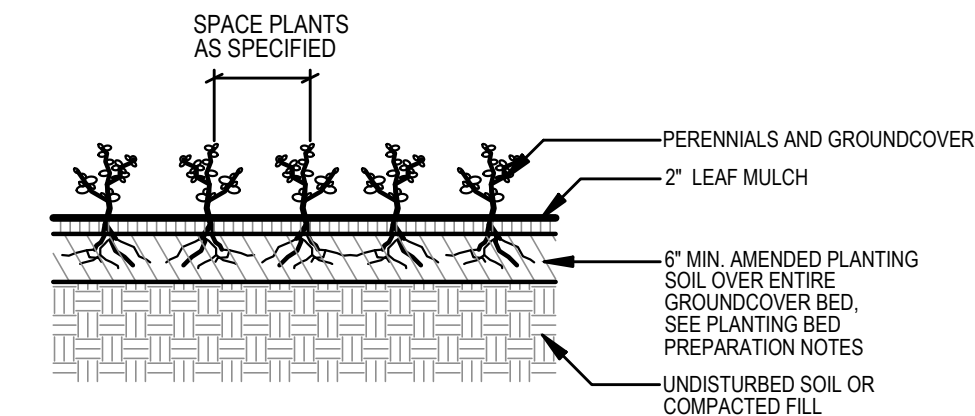
2 DECIDUOUS TREE PLANTING (WITH STAKING) DETAIL
NOT TO SCALE



3 MULTI-STEM DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



4 PROPOSED TREE PROTECTION FENCING
NOT TO SCALE



5 GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

EXISTING TREE PROTECTION GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.

GENERAL PLANTING NOTES

- The Landscape Contractor shall verify all existing site conditions prior to construction and shall coordinate his work with that of other Contractors.
- The Landscape Contractor shall notify the Owner's Representative of any major discrepancy that will affect work.
- 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.
- 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.
- 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.
- Acceptable planting times for shrubs, trees, groundcovers, perennials, and in-season annuals shall be as directed by Landscape Architect.
- 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.
- 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.
- 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.
- The location of new plants will be staked out by the Contractor and approved by the Owner's Representative before proceeding with planting.
- 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.
- All plants shall be maintained by the Landscape Contractor in a healthy growing condition and neat appearance through final acceptance.
- 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.
- 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.
- All beds adjacent to lawns will have a clean cut vertical edge.
- All rootballs removed from containers will be scarified and roots thoroughly separated prior to planting.
- All plastic or no-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. After planting, rake beds to a smooth even finish and cover with a 2" layer of leaf mulch taking care not to cover the leaves or base of the plants.
- All debris shall be disposed of off-site.
- The Landscape Contractor is to water thoroughly immediately after planting and as often as necessary thereafter until final acceptance.
- 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.
- Trees shall not be located within ten (10) feet of utilities.
- All trees to be protected with fencing as shown on detail 4 / L520.

EAGLE & OWL EXHIBIT WOODLAND SEEDING MIX:

Percentage (%)	Botanical Name	Common Name
10	<i>Agrostis perennans</i>	Autumn Bentgrass
6	<i>Carex vulpinoidea</i>	Fox Sedge
2	<i>Aster pilosus</i>	Heath Aster
30	<i>Sorghastrum nutans, 'Holt'</i>	Indiangrass, 'Holt'
7	<i>Tridens flavus</i>	Purpletop
45	<i>Schizachyrium scoparium</i>	Little Bluestem
100		

EAGLE & OWL ENCLOSURES SOD:

Roll Size	2' x 5' (10 square feet)
Age	12-18 months
Soil Thickness	.75"
Rolls Per Pallet	60 (600 square feet)
MD Certified	Yes
Seed Blend	25% Skye KB 25% Starr KB 25% Bluenote KB 25% Blue Coat KB

- GENERAL NOTES:
- SEE L500 FOR SITE BED PREP, SEEDING & SOD PLAN.
 - SEE L510 FOR PLANTING PLAN & PLANT SCHEDULE.
 - ALSO SEE SPECIFICATIONS.



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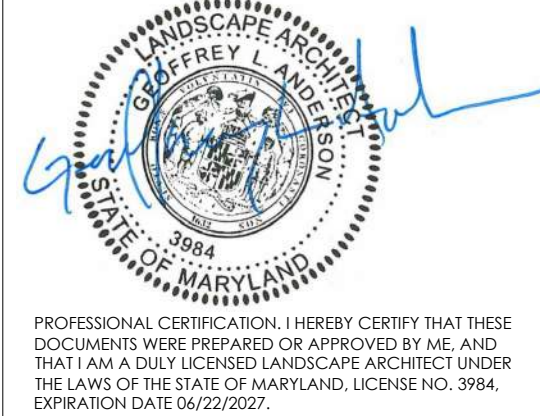
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SEAL:



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY: KS / AV

CHECKED BY: GA

SUBMISSION DATE

BID SET 09/01/2026

REVISION DATE

DRAWING TITLE:
SITE PLANTING DETAILS,
SEED MIXES, & NOTES

DRAWING NO:

L520

BKP

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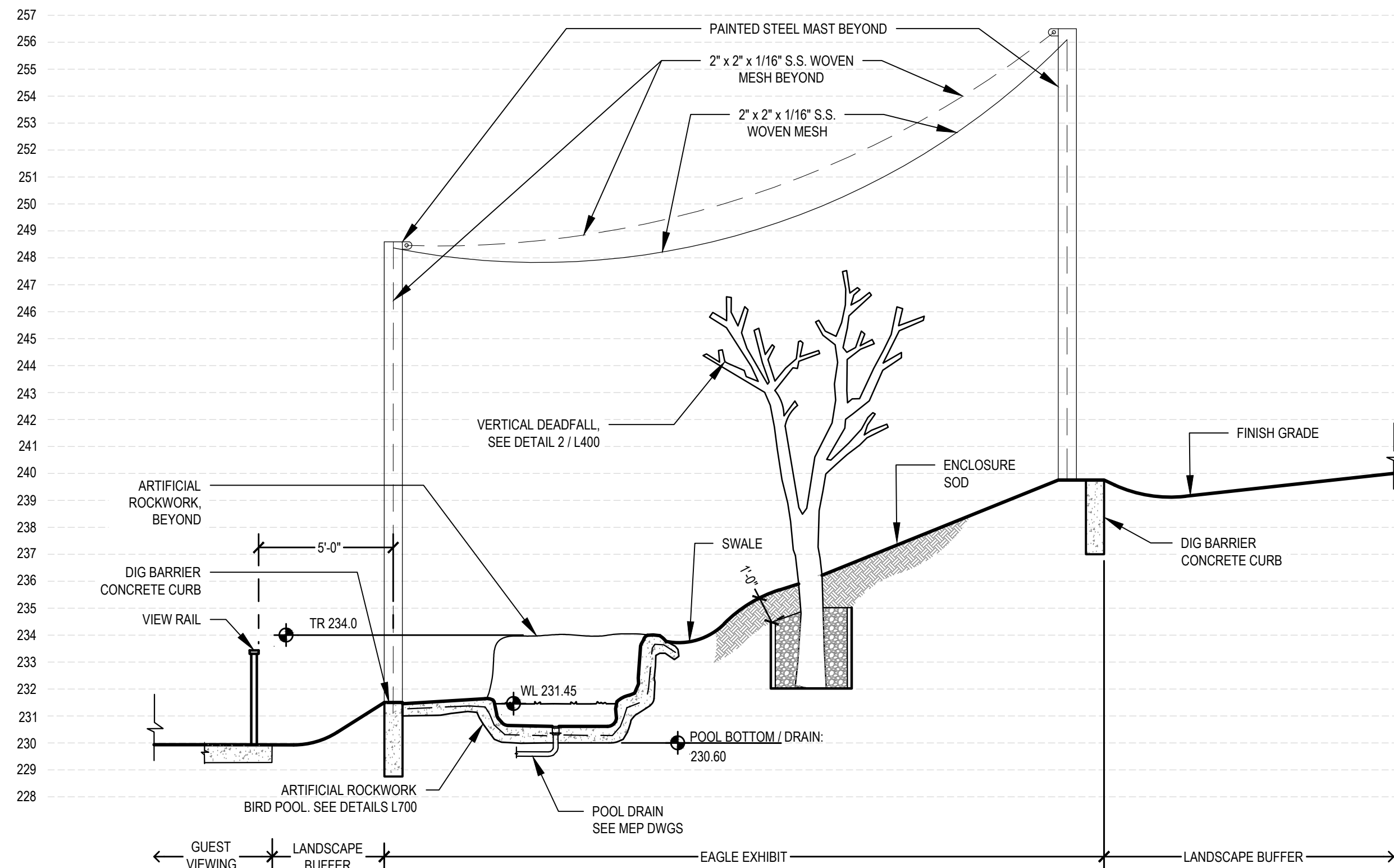
REVISION DATE

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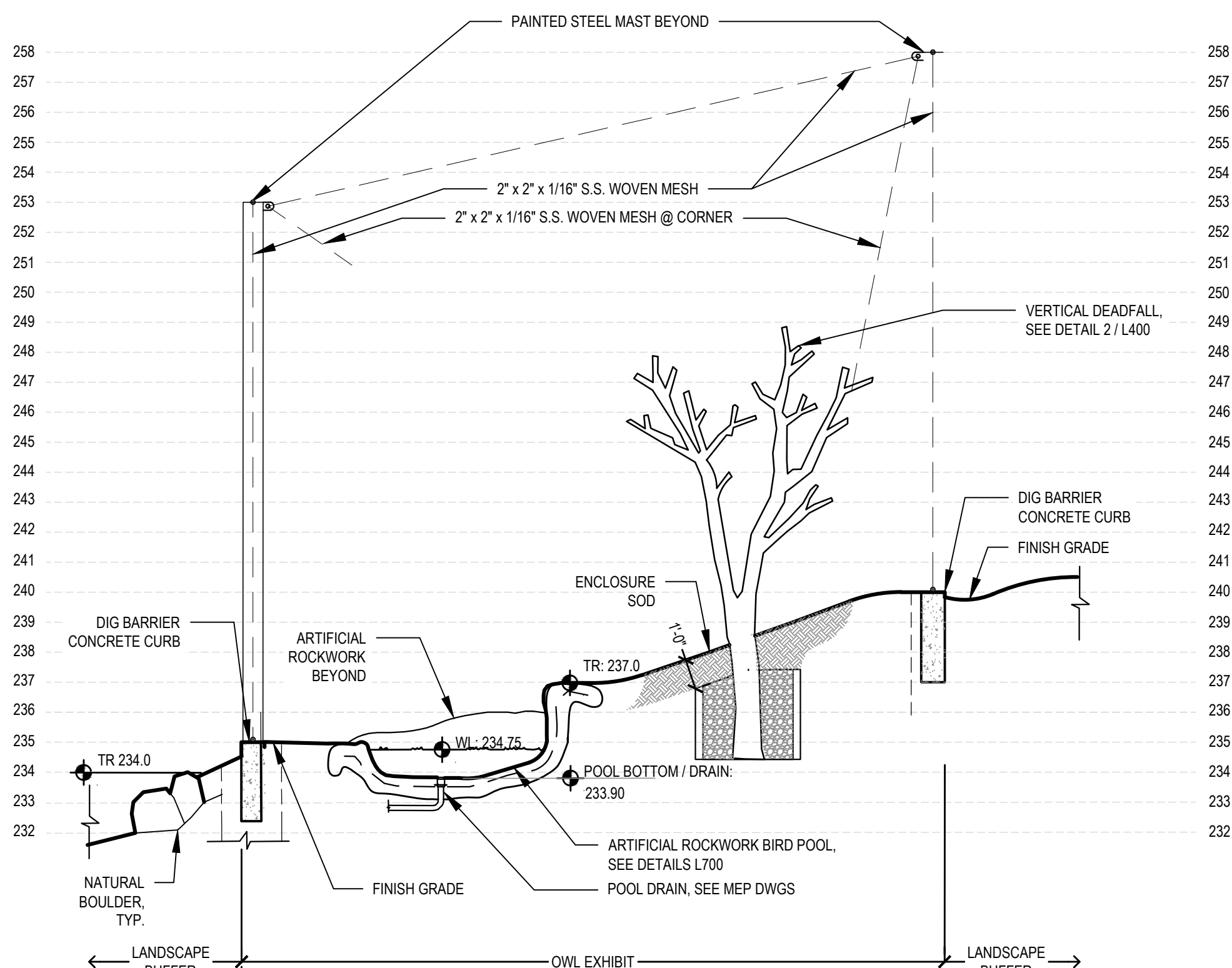
SECTIONS

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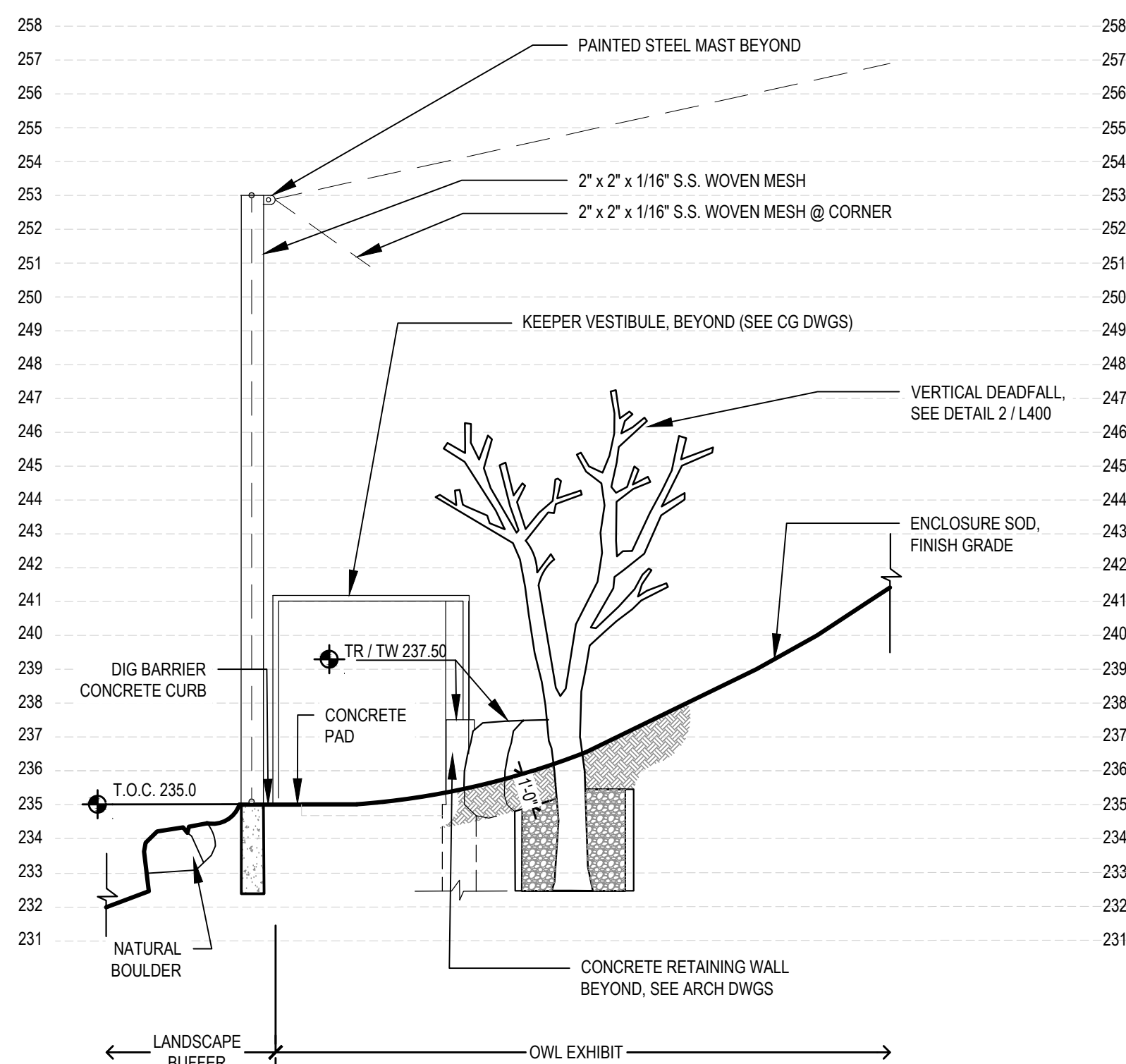
L600



1 EAGLE EXHIBIT - SECTION
SCALE: 1/4" = 1'-0"



2 OWL EXHIBIT - SECTION
SCALE: 1/4" = 1'-0"

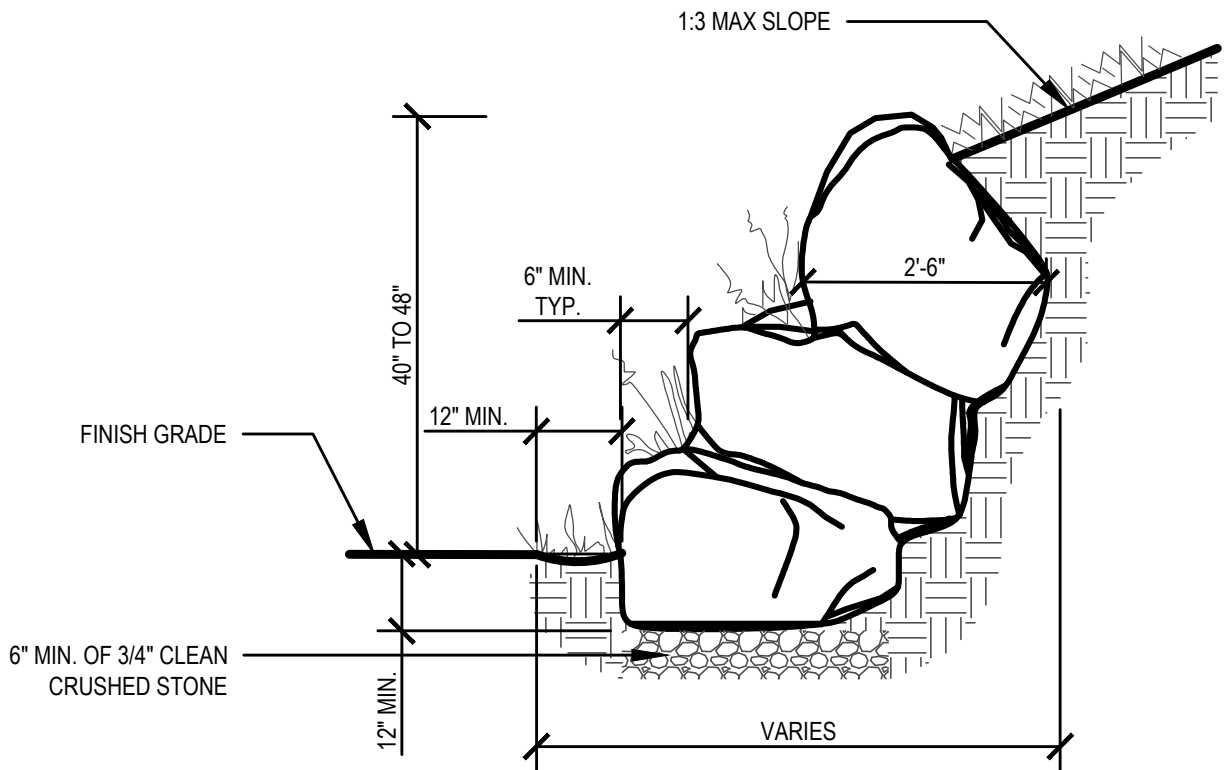


4 OWL EXHIBIT - SECTION
SCALE: 1/4" = 1'-0"

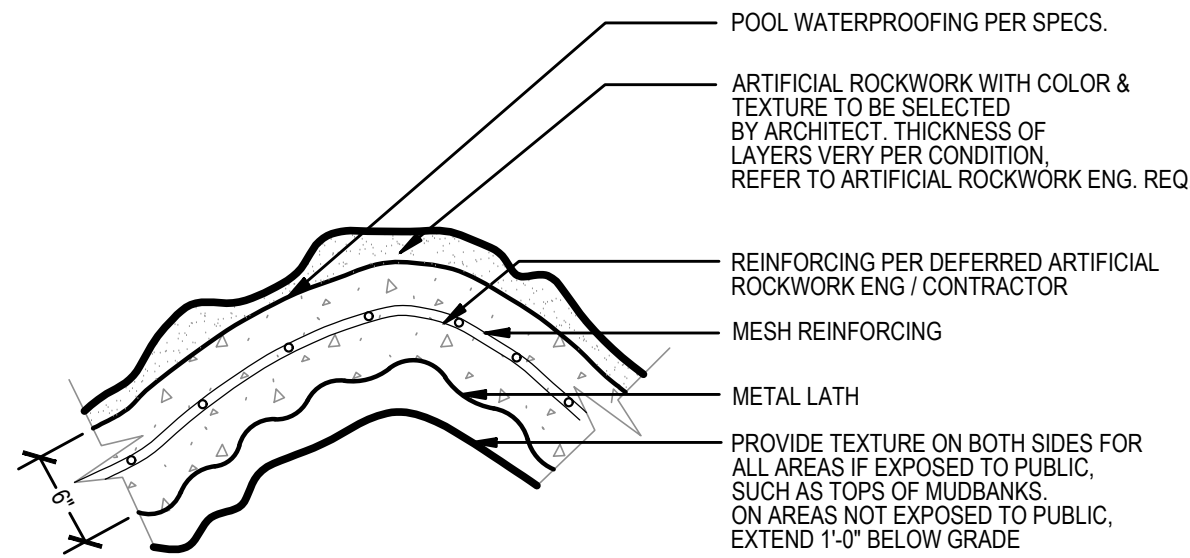
NOTE:
SECTIONS ARE FOR REFERENCE PURPOSES ONLY.
SEE PLANS & DETAILS FOR DETAILED INFORMATION.

Q
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- FILL GAPS BETWEEN BOULDERS WITH PLANTING SOIL. SEE SPECIFICATIONS.
- BOULDERS CAN VARY IN SIZE (MIN. 2'-6")

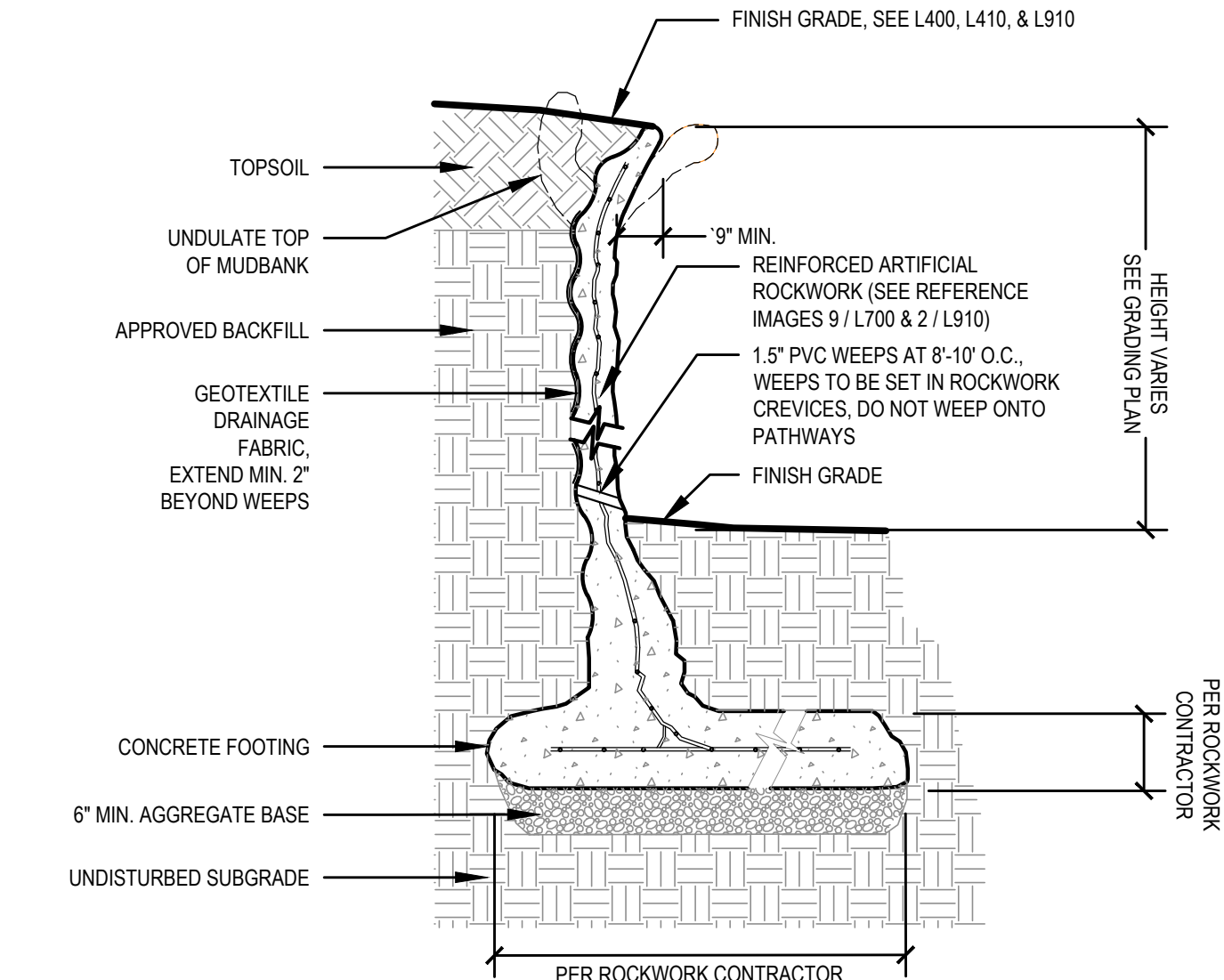


1 NATURAL BOULDER WALL
SCALE: 1/2" = 1'-0"

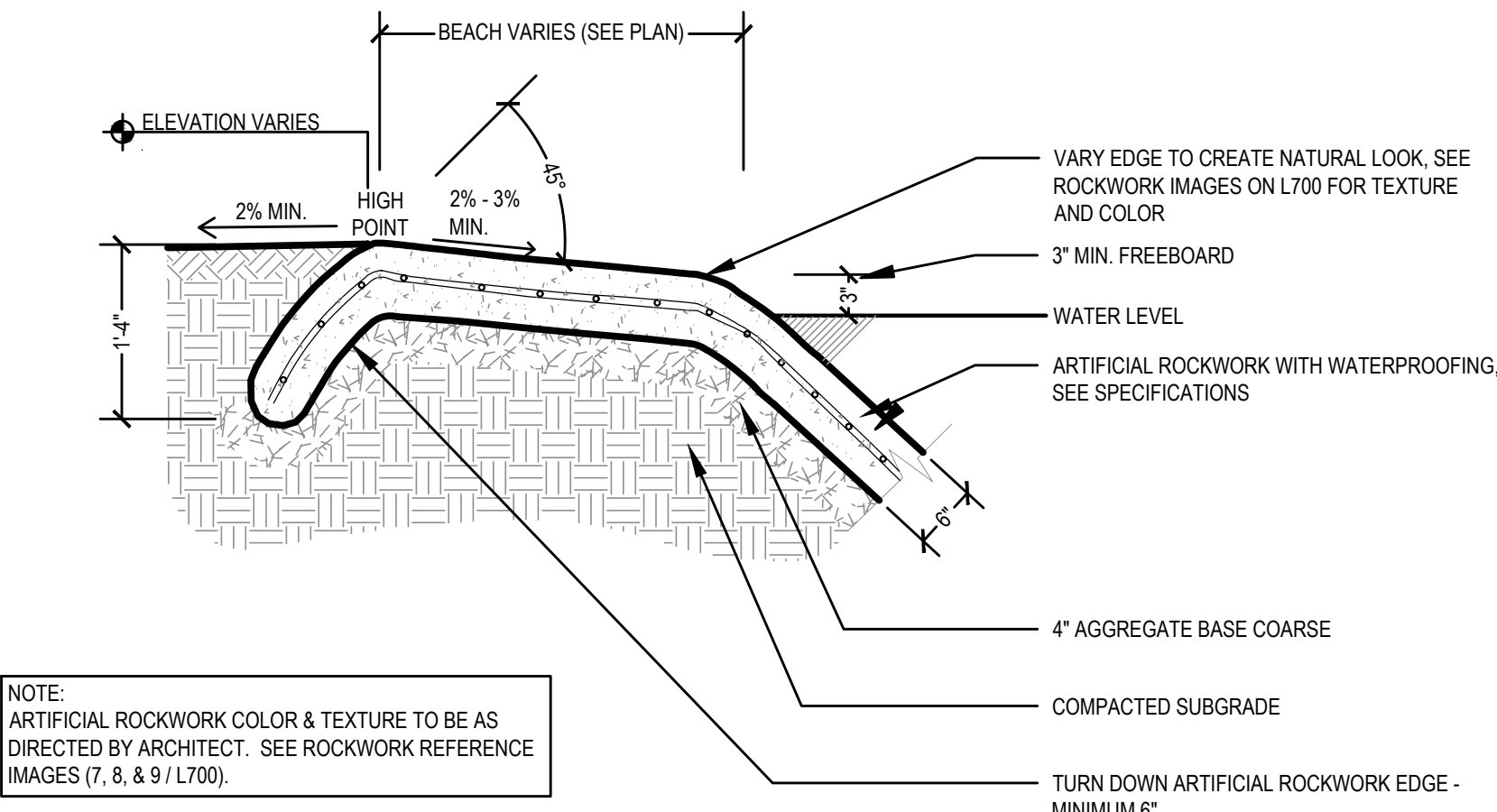


NOTE:
1. DIMENSIONS SHOWN REPRESENT GENERAL GUIDELINES AND DESIGN INTENT. ROCKWORK CONTRACTOR IS RESPONSIBLE FOR ROCKWORK DESIGN, ENGINEERING, AND INSTALLATION DETAILS, TYP.
2. SEE IMAGES ON L700 FOR ARTIFICIAL ROCKWORK COLORS AND TEXTURES.

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

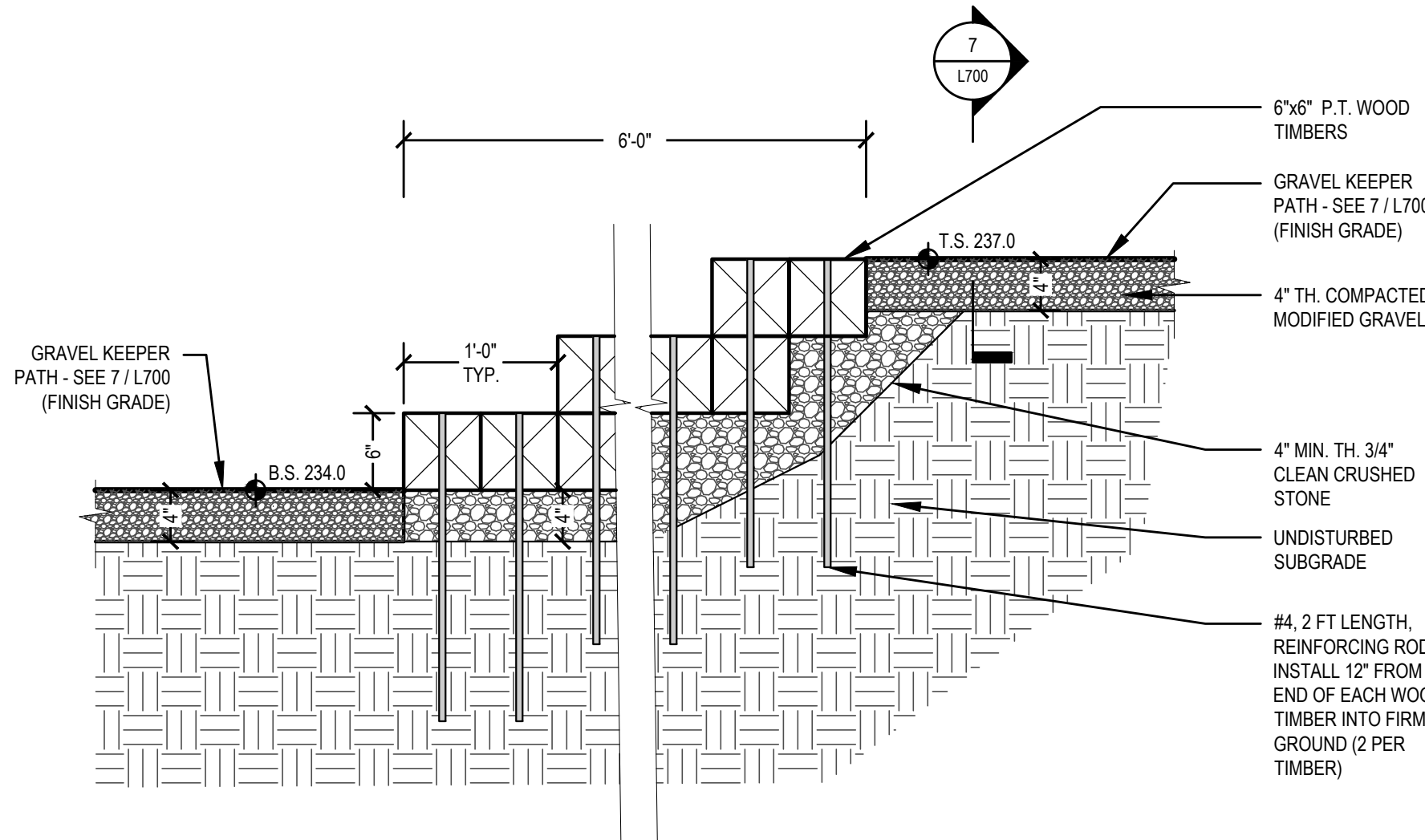


3 ARTIFICIAL ROCKWORK MUDBANK RETAINING WALL
NOT TO SCALE

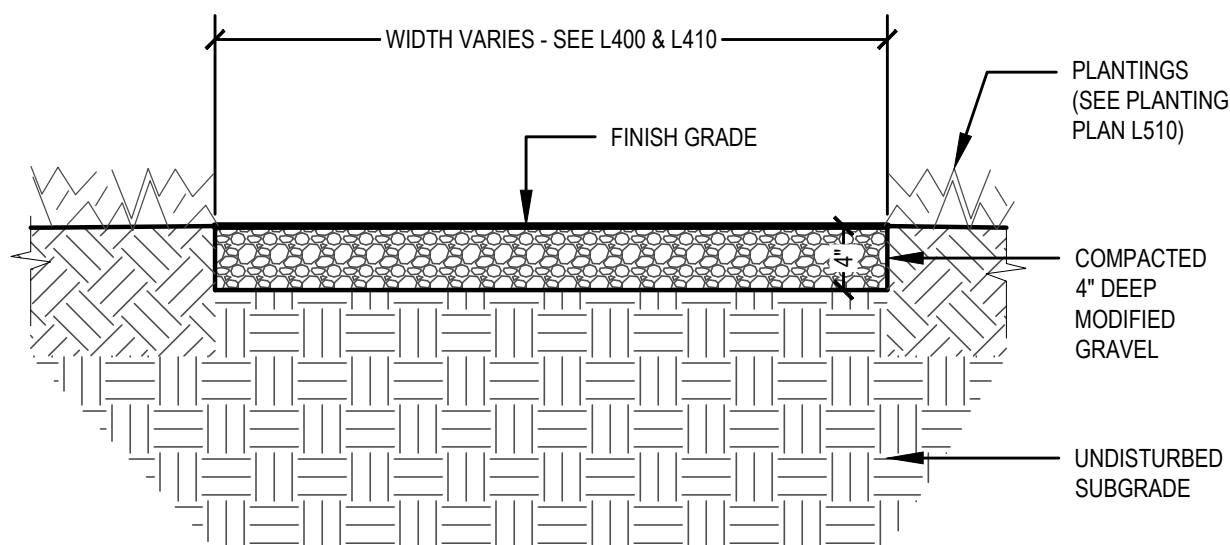


NOTE:
ARTIFICIAL ROCKWORK COLOR & TEXTURE TO BE AS DIRECTED BY ARCHITECT. SEE ROCKWORK REFERENCE IMAGES (7, 8, & 9 / L700).

5 ARTIFICIAL ROCKWORK OWL / EAGLE POOL EDGE TURN DOWN SLAB
NOT TO SCALE



6 WOOD STEPS AT KEEPER PATH
SCALE: 1" = 1'-0"



7 GRAVEL KEEPER PATH
SCALE: 1" = 1'-0"

- ROCKWORK POOL NOTES:
1. USE INTEGRAL TAN COLOR
 2. PAINT WITH WARM BROWN COLORS
 3. ROCKWORK TO HAVE SMOOTH TEXTURE AROUND POOL
 4. AREA AROUND POOL TO SLOPE TO STORM DRAIN
 5. AREA FROM BEACH TO WATER LEVEL SHALL SLOPE GENTLY
 6. REFER TO DETAIL 9 / L700 - TRANSITION FROM BEACH TO LOW MUDBANK RETAINING WALL

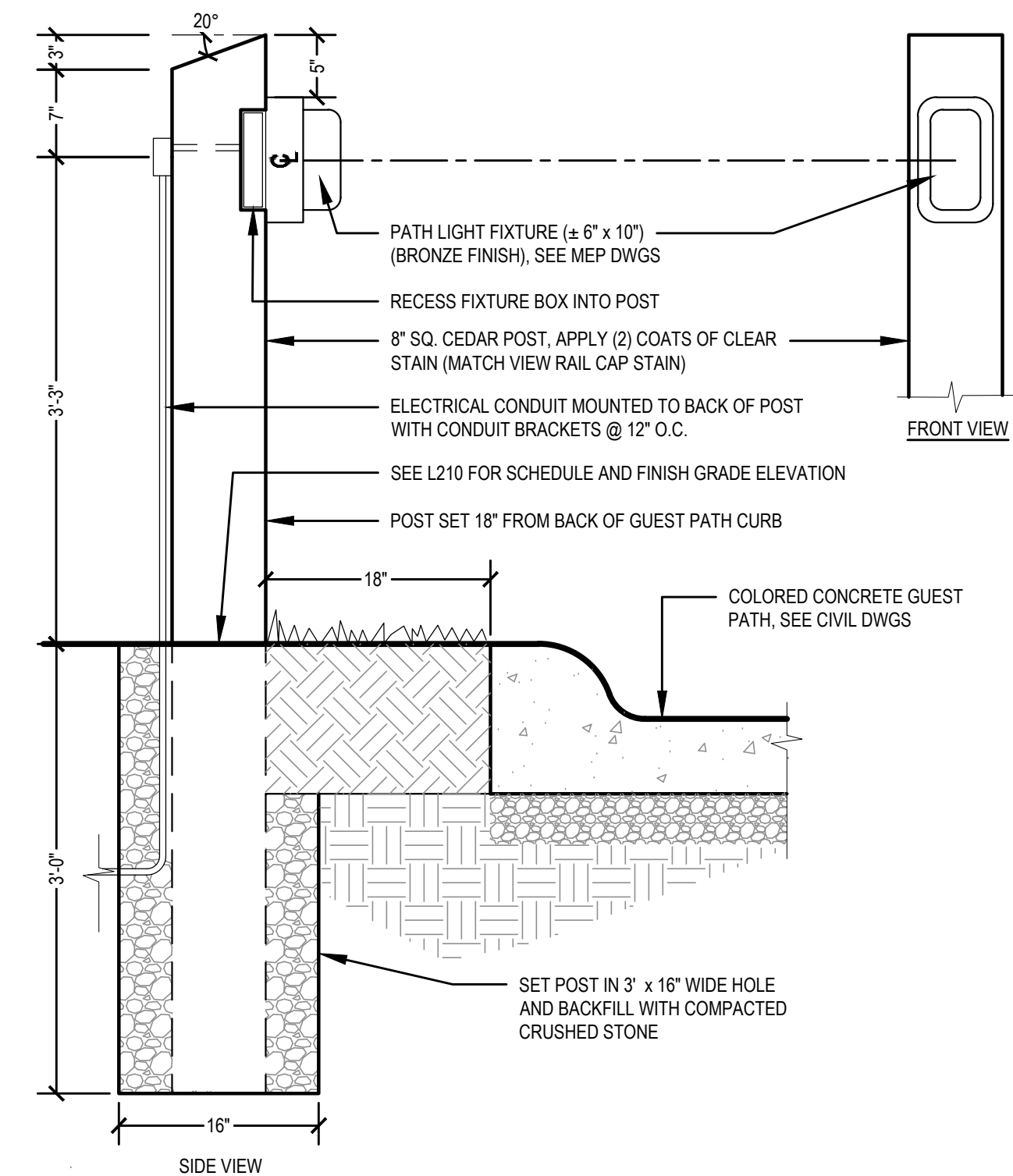


8 ROCKWORK REFERENCE IMAGES
NOT TO SCALE
BIRD POOLS & BEACH

- ROCKWORK LOW MUDBANK WALL NOTES:
1. USE INTEGRAL TAN COLOR
 2. PAINT WITH WARM BROWN COLORS WITH SOME HIGHLIGHTS
 3. MATCH REFERENCE IMAGES BELOW FOR LOW MUDBANK RETAINING WALLS ALONG WEST EDGE OF BIRD ENCLOSURE POOLS
 4. MATCH TEXTURE IN REFERENCE IMAGES BELOW
 5. TOP OF MUDBANK WALL SHALL BE UNEVEN AS SHOWN IN REFERENCE IMAGES BELOW



9 ROCKWORK REFERENCE IMAGES
NOT TO SCALE
MUDBANK RETAINING WALL AT EDGE OF BIRD POOLS



10 BOLLARD LIGHT
SCALE: 1" = 1'-0"

BKP

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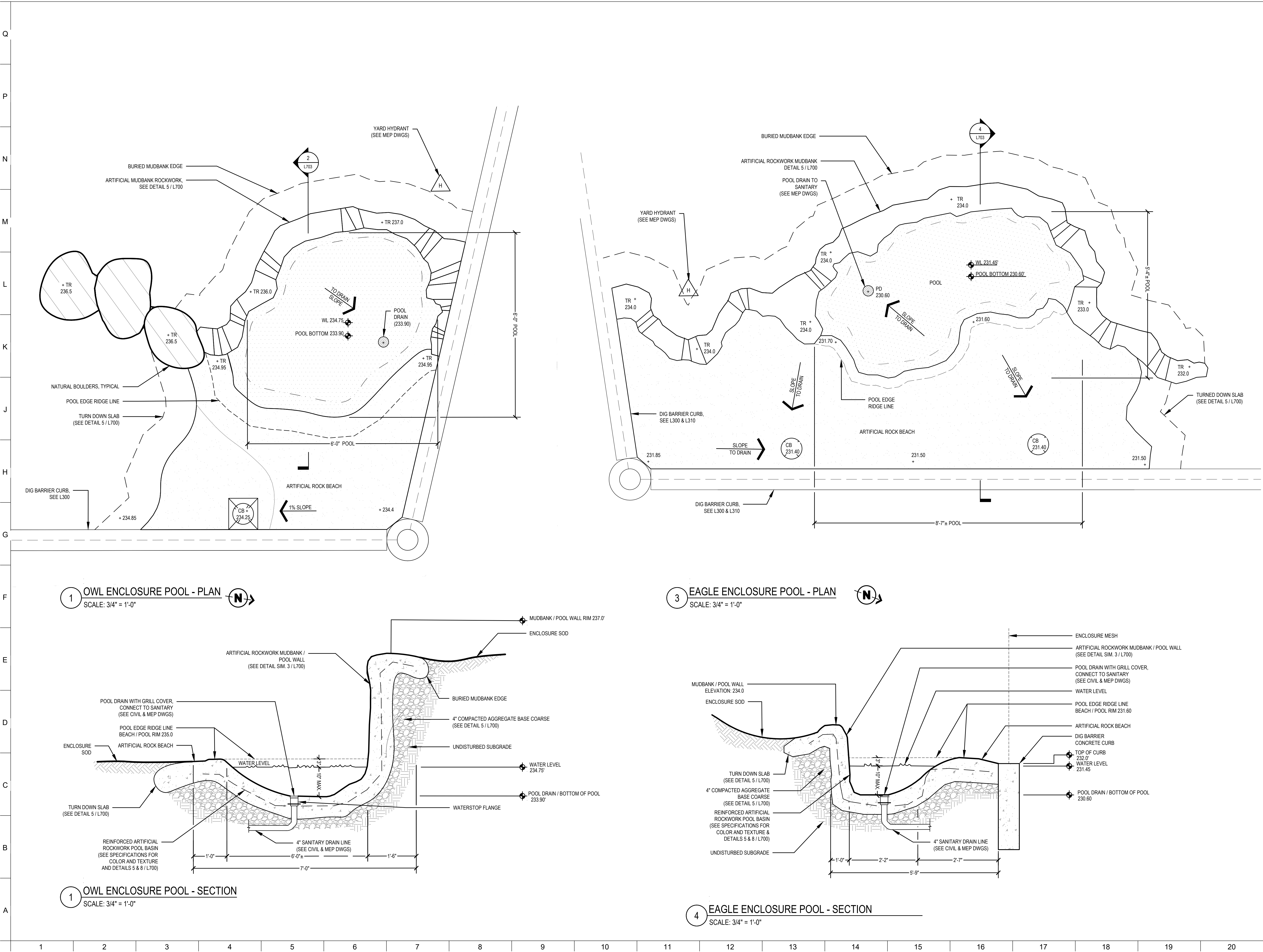
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DRAWING TITLE:
SITE ROCKWORK DETAILS

DRAWING NO:
L700



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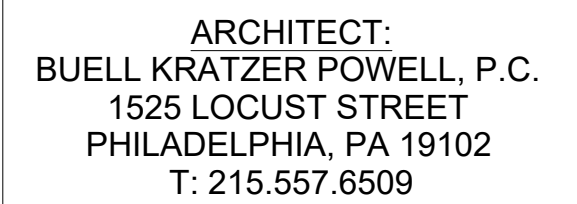
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DRAWING TITLE:
BIRD POOLS
ENLARGEMENTS

DRAWING NO:
L703



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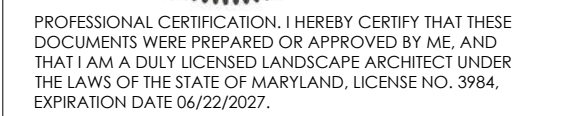
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SUBMISSION

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REVISION

DATE

DRAWING TITLE:

**ADD ALTERNATE
OVERALL UPPER SITE
PLAN**

DRAWING NO:

L910



THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

L970



Q

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A

STRUCTURAL DRAWING LEGEND		
CONCRETE CONSTRUCTION	STEEL CONSTRUCTION	GENERAL ANNOTATIONS
 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)  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)  SLAB ON GRADE BLOCKOUT AROUND ALL COLUMNS  FOOTING STEP  HELICAL PILE (DESIGNED BY MANUFACTURER) SEE PLAN FOR REQUIRED LOADING  LATERAL LOAD HELICAL PILE (DESIGNED BY MANUFACTURER) SEE PLAN FOR REQUIRED LOADING	 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)  MOMENT FRAME CONNECTION (SEE STRUCTURAL ELEVATIONS)  BRACED FRAME CONNECTION (SEE STRUCTURAL ELEVATIONS)  DOUBLE SHEAR CONNECTION (SEE STEEL CONNECTION SCHEDULE)  CANTILEVER MOMENT CONNECTION (SEE STRUCTURAL DETAILS)  STEEL ANGLE BRACING (SEE STRUCTURAL DETAILS)  BEAM SIZE = BEAM DESIGNATION X = # OF HEADED STUDS (SPACED UNIFORMLY ACROSS BEAM) Y = BEAM CAMBER (CROWN UPWARD @ MIDSPAN) Z = SPECIAL REACTIONS OR OTHER NOTES A = DEVIATION FROM TYPICAL NOTED TOP OF STEEL ELEVATION  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)  CONCRETE SLAB ON STEEL DECK (SEE PLANS AND GENERAL NOTES FOR SPECIFIC INFORMATION)	 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)  CONCRETE FOOTING TAG  COLUMN TAG (X=MATERIAL, #-DESIGNATION) C=CONCRETE, M=MASONRY, S=STEEL, W=WOOD  BASE PLATE TAG  WALL TAG (X=MATERIAL, #-DESIGNATION) C=CONCRETE, M=MASONRY, W=WOOD  BEAM TAG (X=MATERIAL, #-DESIGNATION) C=CONCRETE, M=MASONRY, W=WOOD  LINTEL TAG (X=MATERIAL, #-DESIGNATION) C=CONCRETE, M=MASONRY  98'-0" ELEVATION AT TOP OF FOOTING  CHANGE IN ELEVATION  ROOF SLOPE DESIGNATION (SEE ARCH FOR ACTUAL SLOPES)  SPECIAL DECK OR FLOOR AREA  DETAIL OR PLAN REFERENCE  TYPICAL (TYP) OR SIMILAR (SIM) DETAIL  SHEET REFERENCE  SECTION REFERENCE  TYPICAL (TYP) OR SIMILAR (SIM) DETAIL  SHEET REFERENCE  ELEVATION REFERENCE  SHEET REFERENCE  DESIGNATES PLAN NORTH  GREY TONE OR LIGHTER DRAWING ELEMENTS DESIGNATE EXISTING STRUCTURAL COMPONENTS AND/OR ELEMENTS
STRUCTURAL ABBREVIATIONS		
ABV ABOVE ADDL ADDITIONAL ALT ALTERNATE ARCH ARCHITECT(URAL) BLDG BUILDING BLW BELOW BTM BOTTOM BTWN BETWEEN CFS COLD FORMED STEEL 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 CRWH CONCRETE RETAINING WALL CTR CENTERED CW# CONCRETE WALL DBA DEFORMED BAR ANCHOR DBE DECK BEARING ELEVATION (SEE ARCH) 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 KIPS KLF KIPS PER LINEAL FOOT KSF KIPS PER SQUARE FOOT KSI KIPS PER SQUARE INCH LBS POUNDS LG LIGHT GAUGE LH LONG LEG HORIZONTAL LV LONG LEG VERTICAL LSH LONG SIDE HORIZONTAL LW LIGHT-WEIGHT MANUF MANUFACTURER MAX MAXIMUM MCA MASONRY COLUMN MECH MECHANICAL MEP MECHANICAL/PLUMB MIN MINIMUM	MISC MISCELLANEOUS M# MASONRY LINTEL M#H 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 PEMB PRE-ENGINEERED METAL BUILDING PL PLATE PLF POUNDS PER LINEAL FOOT PSF POUND PER SQUARE FOOT PSI POUND PER SQUARE INCH REIN 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 TOP TOP OF FOOTING TOS TOP OF SLAB TOW TOP OF WALL TYP TYPICAL UNO UNLESS NOTED OTHERWISE VERT VERTICAL VIF VERIFY IN FIELD WI WITH W/C WATER / CEMENT RATIO WC# WOOD COLUMN WWF WELDED WIRE FABRIC

GENERAL PROJECT INSTRUCTIONS

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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

- GOVERNING BUILDING CODES AND GENERAL DESIGN STANDARDS**
 - 2021 INTERNATIONAL BUILDING CODE (IBC)
 - ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- ROOF LIVE LOADING:**
 - ROOF LIVE LOAD = 20 PSF
 - ROOF SNOW LOAD = 24 PSF
 - GROUND SNOW LOAD, $P_g = 25$ PSF
 - FLAT ROOF SNOW LOAD, $P_f = 24$ PSF
 - SNOW EXPOSURE FACTOR, $C_e = 1.10$
 - IMPORTANCE FACTOR, $I_s = 1.00$
 - THERMAL FACTOR, $C_t = 1.20$
 - SLOPE FACTOR(S), $C_s = 1.00$
- SEISMIC DESIGN CRITERIA AND PARAMETERS:**
 - RISK CATEGORY II (ALL OTHERS) - BUILDING TYPE
 - SEISMIC DESIGN CATEGORY = A
 - SPECTRAL RESPONSE ACCELERATIONS:
 $S_s = 0.14$ g $S_{ds} = 0.12$ g
 $S_1 = 0.04$ g $S_{d1} = 0.04$ g
 - SOIL SITE CLASS = SITE CLASS-C (VERY DENSE SOIL)
 $F_a = 1.30$ $F_v = 1.50$
 - BASIC SEISMIC-FORCE-RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
 $R = 4.00$ $C_d = 4.00$ $\Omega = 2.50$
 - IMPORTANCE FACTOR, $I_e = 1.00$
 - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE (ELF-STATIC)
- WIND DESIGN CRITERIA:**
 - BASIC WIND SPEED (V) = 115 MPH
 - ALLOWABLE STRESS WIND DESIGN SPEED (V) = 89 MPH
 - RISK CATEGORY II (ALL OTHERS) - BUILDING TYPE
 - EXPOSURE CATEGORY = EXPOSURE C (ALL OTHERS)
 - INTERNAL PRESSURE COEFFICIENT (G_{cpi}) = ± 0.18
 - TOPOGRAPHIC FACTOR (K_{zt}) = 1.00
 - COMPONENTS AND CLADDING BASED ON 20 SQ. FT. TRIBUTARY AREA:
 - WALL INTERIOR ZONES = 23.6 PSF / 27.0 PSF
 - WALL END ZONES = 23.6 PSF / 33.4 PSF
 - ROOF INTERIOR ZONES = 16.0 PSF / 32.1 PSF
 - ROOF END ZONES = 16.0 PSF / 38.5 PSF
 - ROOF CORNER ZONES = 16.0 PSF / 67.5 PSF

FOUNDATION CRITERIA & EARTHWORK GUIDELINES

- GEOTECHNICAL INFORMATION**
 - A SOILS INVESTIGATION AND GEOTECHNICAL REPORT WAS COMPLETED ON BEHALF OF THIS PROJECT BY CENTURY ENGINEERING, AND IS DATED 05/17/2025. 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.
- SHALLOW FOUNDATION REQUIREMENTS:**
 - ALL FOOTINGS + FOUNDATIONS TO BE PLACED ON PROPERLY PREPARED NATIVE SOILS AND/OR COMPACTED STRUCTURAL FILL.
 - BOTTOM OF FOOTING MUST BEAR AT LEAST 30 INCHES BELOW FINAL GRADE.
 - 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.
 - 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.
 - 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.
 - ALL STRUCTURAL FILL SHALL BE TESTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND THE GOVERNING BUILDING CODE.
- SOIL PROPERTIES + DESIGN PARAMETERS:**
 - NET SOIL BEARING PRESSURE = 3,000 PSF
 - LATERAL LOAD SLIDING COEFFICIENT = 0.58
 - SHORT-TERM SOIL CAPACITY INCREASE (WIND/SEISMIC) = 100%
 - LATERAL SOIL PROPERTIES FOR USE IN RETAINING STRUCTURE:
 - SOIL UNIT WEIGHT = 120 PCF
 - ACTIVE PRESSURE (K_a) = 52 PCF
 - AT-REST PRESSURE (K_o) = 79 PCF
 - PASSIVE PRESSURE (K_p) = 250 PCF
- HELICAL PILE / ROCK ANCHOR FOUNDATION CRITERIA:**
 - HELICAL PILE / ROCK ANCHORS SHALL BE A DEFERRED SUBMITTAL AND DESIGNED BY A PROFESSIONAL ENGINEER AS INDICATED IN THE DEFERRED SUBMITTAL SECTION OF THESE NOTES.
 - SEE PLAN NOTES AND DETAILS FOR LOADING CRITERIA FOR HELICAL PILE / ROCK ANCHOR DESIGN.
 - INSTALLATION OF HELICAL PILE / ROCK ANCHOR SHALL BE IN ACCORDANCE WITH SPECIFIED EMBEDMENT DEPTH AND TORSIONAL RESISTANCE CRITERIA AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL OF THE HELICAL PILE / ROCK ANCHORS AND GEOTECHNICAL REPORT.
 - GENERAL CONTRACTOR SHALL PROVIDE AN AS-INSTALLED PLAN SHOWING ALL HELICAL PILE / ROCK ANCHOR LOCATIONS, DIMENSIONS, ANGLES AND DEPTHS.

DEFERRED SUBMITTALS (STRUCTURAL)

- DEFERRED SUBMITTALS REQUIRED BY STRUCTURAL ENGINEER ARE AS FOLLOWS:
 - HELICAL PILE / ROCK ANCHORS
- 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.
- 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.
- 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.

BKP

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MARYLAND ZOO

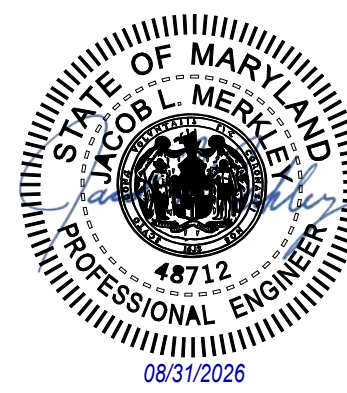
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

EAGLE AND
OWL EXHIBITS

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE, NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:



DATE: AUGUST 31, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	SDS
CHECKED BY	SDS
SUBMISSION	DATE
REVIEW SET	09/01/2026

REVISION	DATE

DRAWING TITLE:
GENERAL
STRUCTURAL NOTES

DRAWING NO:

S001



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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 (II/IV) FOR ALL CONCRETE IN CONTACT WITH SOIL, AND TYPE III AT ALL OTHER LOCATIONS. BLENDED HYDRAULIC CEMENT TYPE 1L IS ALSO ACCEPTABLE SO LONG AS IT MEETS THE PERFORMANCE, DURABILITY, SULFATE RESISTANCE, ETC. OF SPECIFIED PORTLAND CEMENT TYPES LISTED ABOVE.
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
FOOTINGS	3500	0.50	F0	S0	W0	C0
WALLS	4500	0.45	F1	S0	W0	C1
COLUMNS	4500	0.45	F1	S0	W0	C1
CATCH BOX SOG	4500	0.45	F3	S0	W0	C1

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 (IN²/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 (IN²/FT) SHALL BE AT LEAST 0.018 X GROSS WALL THICKNESS, WITH BARS SPACED NO FURTHER APART THAN 18 INCHES ON CENTER.
3. REINFORCING PLACEMENT

A. 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.

B. 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"
- CONCRETE REINFORCING & CONSTRUCTION (CONT.)
4. 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 SPICES, CONTRACTOR MAY SPlice REINFORCING WITH MECHANICAL COUPLERS CAPABLE OF DEVELOPING 125% TENSION CAPACITY OF THE BAR BEING SPICED. CONTRACTOR SHALL SUBMIT APPROVED ICC EVALUATION SERVICE REPORT (ICC-ES) FOR THE DESIRED PRODUCT. IF MECHANICAL SPICES ARE USED, SPICES 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 OR 180-DEGREE STANDARD ACI HOOK, TERMINATOR, OR A PROPERLY PLACED CORNER BAR, UNLESS SHOWN OTHERWISE.

G. SPICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED, SO THE SPICE LAPS WILL NOT OVERLAP. SPICES IN TWO CURTAINS WHERE USED SHALL NOT OCCUR IN THE SAME LOCATION, SPICE LAPS SHALL NOT OVERLAP.

H. 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.
5. CONSTRUCTION REQUIREMENTS:

A. TIE WIRES AND CHAIRS SHALL BE USED TO SUPPORT REINFORCING BARS, WELDED WIRE FABRIC, TIE BARS AND POST-TENSION TENDONS.

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.
6. 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. 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.

D. 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.

E. ALL DISCONTINUOUS CONTROL OR CONSTRUCTION JOINTS MUST BE REINFORCED WITH (2) - #4 X 48" CENTERED ON THE DISCONTINUITY.

F. DISTANCE BETWEEN CONSTRUCTION JOINTS (COLD JOINTS) MUST NOT EXCEED 100'-0" IN ANY DIRECTION.

G. 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/RCS C 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 = 50 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. ANCHOR RODS: ASTM F1554, GRADE 36 WITH ASTM A563 HEAVY HEX NUTS AND ASTM F436 HARDENED WASHERS UNLESS OTHERWISE NOTED. 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 SPICES, UNLESS OTHERWISE NOTED.

B. UNLESS NOTED OTHERWISE, ALL STRUCTURAL SHAPES AND MISCELLANEOUS STEEL, PLATES, BOLTS, AND ANCHORS EXPOSED TO OUTDOOR ELEMENTS SHALL BE GALVANIZED OR PAINTED WITH APPROVED RUST INHIBITING PRIMER.

C. 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.

D. WELDING OF DEFORMED BAR ANCHORS AND/OR HEADED STUD ANCHOR ARE TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

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 2 DOUGLAS FIR-LARCH OR BETTER OR AS NOTED OTHERWISE

B. ENGINEERED LAMINATED VENEER LUMBER (LVL): ALL LVL MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

F_b = 2600 PSI, F_v = 285 PSI, E = 1900 KSI.

C. 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

D. 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 DCO-IMIDICLOPRID-STABILIZER, PT1 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.

b. FIRE RETARDANT: PRESSURE TREAT WITH DRICON OR EQUAL AS APPROVED BY THE ARCHITECT.

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

b. HOLD DOWN ANCHORS: "HDUE"

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 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.

b. WALLS: NAIL ALL SHEATHING PANELS WITH 8D COMMON NAILS AT 6" OC AT ALL EDGES AND AT 12" OC AT ALL INTERMEDIATE SUPPORTS (3/8" OR 7/16" PANELS ON STUDS SPACED AT 24" OC REQUIRES 6" SPACING AT ALL INTERMEDIATE SUPPORTS). SOLID BLOCK ALL 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. 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.

BKP

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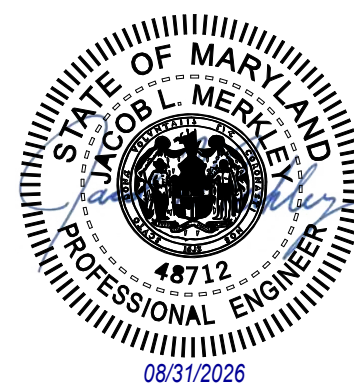
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EAGLE AND
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THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE, THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE, NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:



DATE: AUGUST 31, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	SDS
CHECKED BY	SDS
SUBMISSION	DATE
REVIEW SET	09/01/2026

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. UNLESS WAIVED BY THE BUILDING OFFICIAL, 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. REPORTS OF PRECONSTRUCTION TESTS FOR SHOTCRETE.
 - B. REPORTS OF MATERIAL PROPERTIES VERIFYING COMPLIANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR WELDABILITY AS SPECIFIED IN SECTION 26.6.4 OF ACI 318 FOR REINFORCING BARS IN CONCRETE COMPLYING WITH A STANDARD OTHER THAN ASTM A706 THAT ARE TO BE WELDED.
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.

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.
 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.

HELICAL PILE / ROCK ANCHOR FOUNDATION INSPECTION AND TESTING TABLE		
VERIFICATION + INSPECTION	PO	CO
OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE ACCURATE RECORDS FOR EACH ELEMENT.	-	X
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM HELICAL DIMENSIONS, TIP ELEVATIONS, FINAL DEPTH, FINAL INSTALLATION TORQUE.	-	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 1705.9 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 HELICAL PILE INSTALLATION, PRELIMINARY DEPTHS, AND POTENTIAL LOADING REQUIREMENTS.

3. REFER TO STRUCTURAL DRAWINGS FOR SERVICE LOADING REQUIRED AT EACH HELICAL PILE LOCATION.

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 A705	X	-	
- INSPECT SINGLE-PASS FILLET WELDS, MINIMUM 5/16"	X	-	
- INSPECT ALL OTHER WELDS	-	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	-	X	
- MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED	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 USUALLY BASED UPON SECTION 1705.3 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION 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.			

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. QUALITY IS OFFICIALLY 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.			



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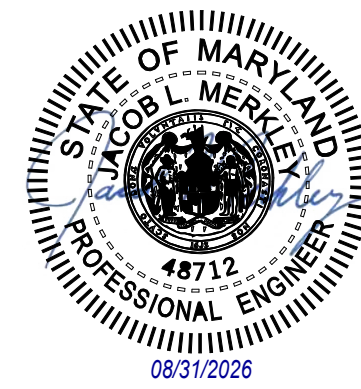
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SEAL:



DATE: AUGUST 31, 2026

PROJECT NO: 2023-10.07

DRAWN BY

SDS

CHECKED BY _____

SDS

SUBMISSION

DATE _____

REVIEW SET

09/01/2

REVISION

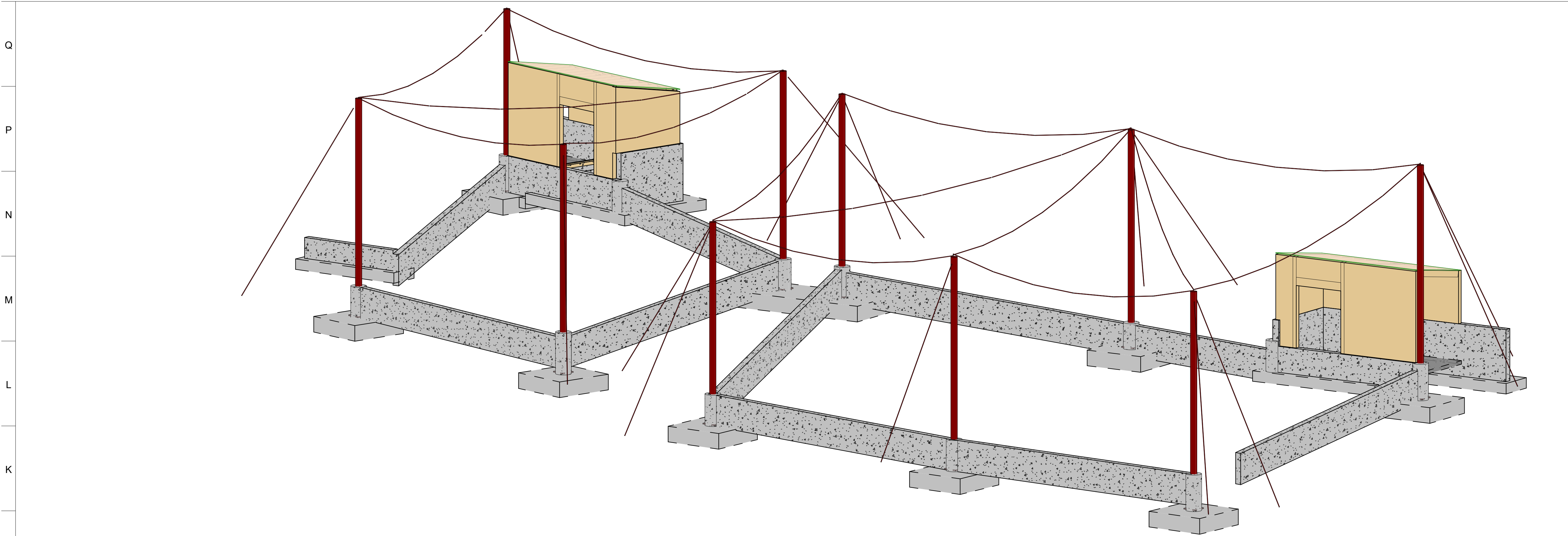
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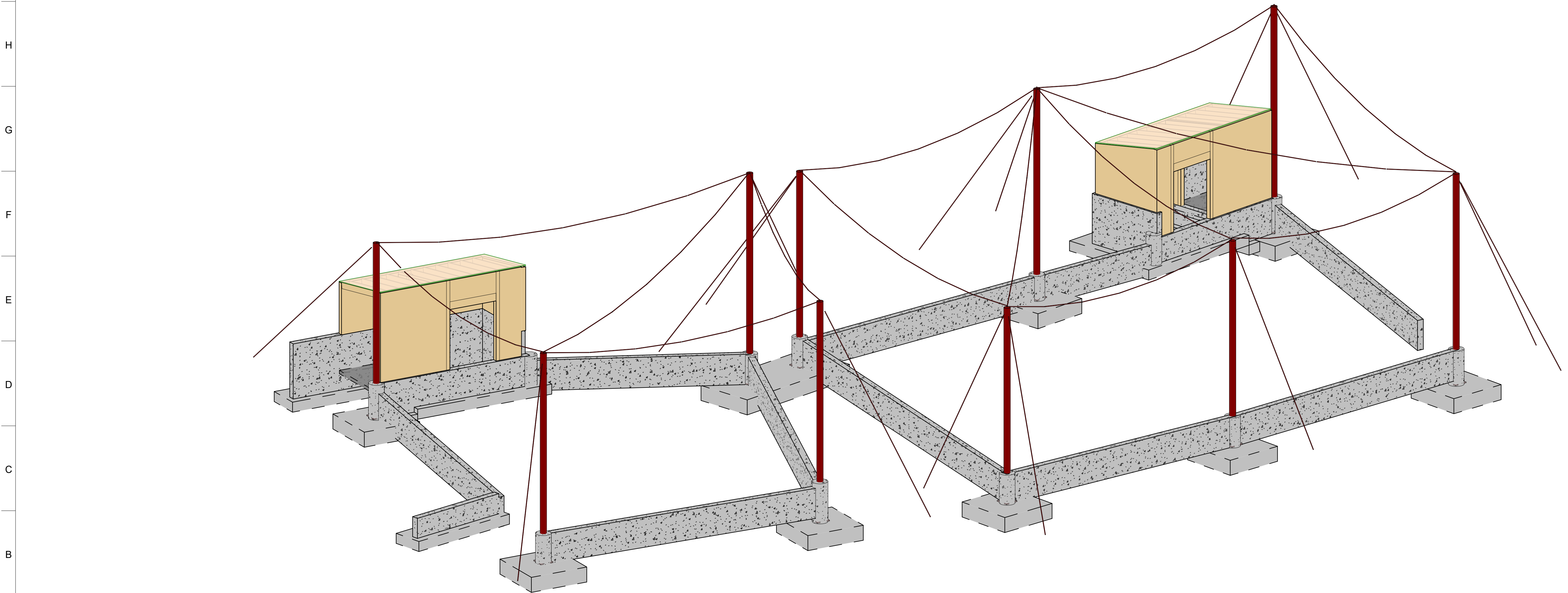
SPECIAL INSPECTIONS TABLE

DRAWING NO:

S003



J1 ISOMETRIC VIEW - GENERAL PURPOSE ONLY
Scale:



A1 ISOMETRIC VIEW - GENERAL PURPOSE ONLY
Scale:



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CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

EAGLE AND OWL EXHIBITS
THE MARYLAND ZOO
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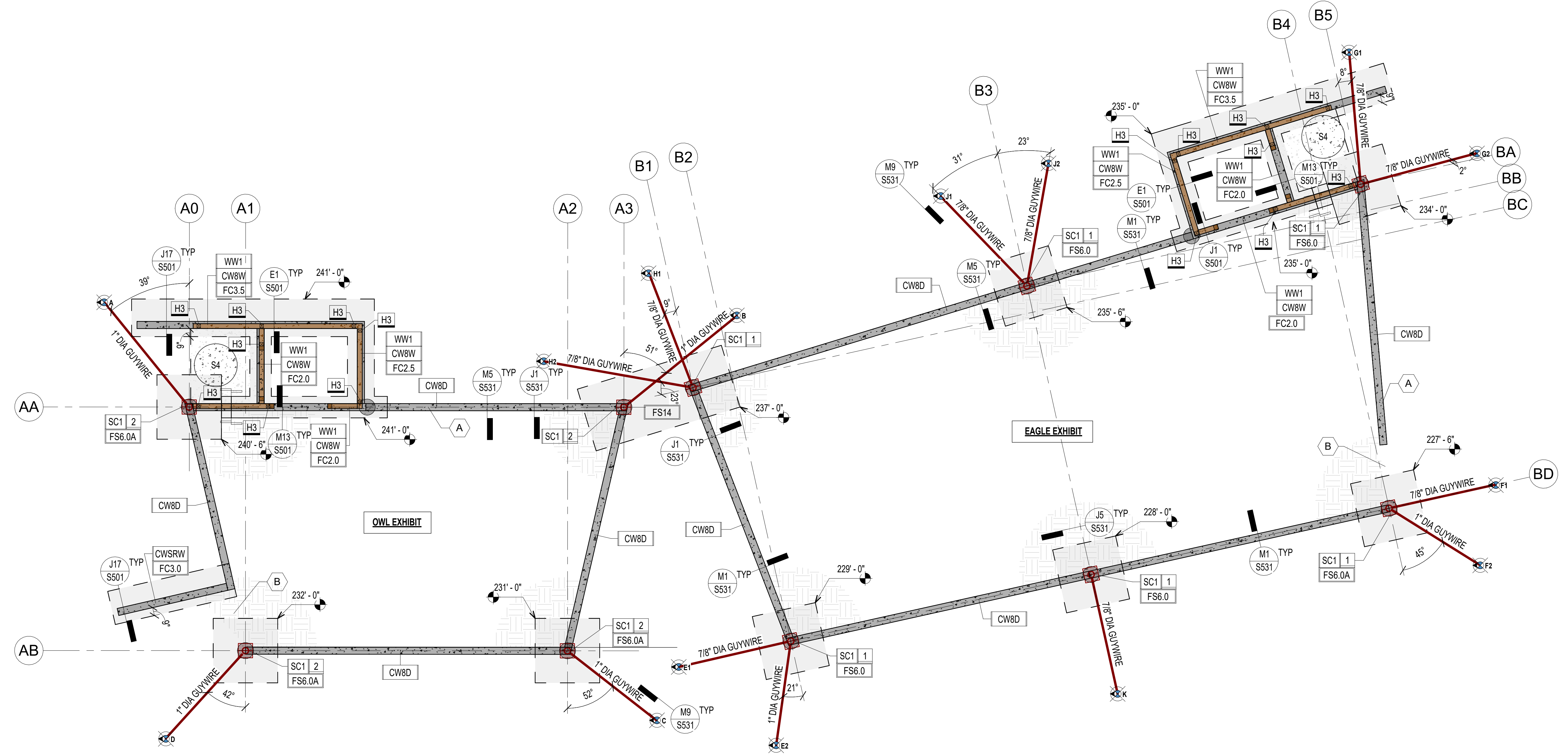
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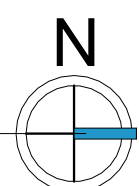
DRAWING TITLE:
3D ISOMETRIC VIEWS

DRAWING NO:
S100

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F1
S101
FOOTING + FOUNDATION PLAN
Scale: 3/16" = 1'-0"



FOOTING + FOUNDATION PLAN NOTES

1. SEE ARCHITECTURAL, CIVIL, SITE AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS ETC.
2. ALL DIMENSIONS SHOWN ON THIS PLAN ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR TO COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS FOR ALL SLAB DEPRESSIONS AND SLOPES TO DRAINS, ETC.
4. SEE ARCHITECTURAL, CIVIL, SITE AND LANDSCAPE DRAWINGS FOR ADDITIONAL EXTERIOR CONCRETE SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
5. ALL PIERS/COLUMNS SHALL BE CENTERED ON FOOTINGS UNLESS NOTED OTHERWISE.
6. UNLESS NOTED OTHERWISE ALL FOUNDATION WALLS SHALL BE CENTERED ON CONTINUOUS WALL FOOTINGS.
7. 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.
8. CONTRACTOR TO COORDINATE SIZE, LOCATION, AND THICKNESS OF ALL HOUSEKEEPING/EQUIPMENT PADS WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
9. 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.
10. 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.
11. 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.
12. PRIOR TO BACKFILLING, ALL BUILDING CONCRETE WALLS SHALL BE BRACED UNTIL ROOF DECK IS INSTALLED.
13. ALL STEEL CABLES AND GUY WIRES SHALL BE GALVANIZED STEEL WITH A 6X19 EIPS CLASSIFICATION WITH GALVANIZED HARDWARE AS REQUESTED BY THE CLIENT.
14. 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.
15. ALL GUY WIRES ARE TO BE INSTALLED TAUT, BUT WITH NO RESIDUAL PRETENSION LOAD INDUCED.
16. ALL STEEL SHOWN IN THIS PLAN VIEW AND CONNECTING ELEMENTS ARE TO BE GALVANIZED AND PAINTED PER ARCHITECTURAL AND LANDSCAPE DRAWINGS UNLESS NOTED OTHERWISE.

KEYNOTES

- A CONCRETE REINFORCED DIG BARRIER TO EXTEND DOWN TO FROST DEPTH SEE LANDSCAPE DRAWINGS FOR WALL MESH AND CONNECTION TO DIG BARRIER, TYP
- B VESTIBULE OPENING, SEE ARCH + LANDSCAPE FOR LOCATION, DIMENSIONS, AND SITE CONCRETECO

ROCK ANCHORS

ALL ROCK ANCHORS SHALL BE DESIGNED BY THE CONTRACTOR (OR HIS SUB CONTRACTOR) IS TO DESIGN A ROCK ANCHOR (DYWIDAG) SYSTEM CAPABLE OF RESISTING THE TENSION SERVICE LOADS SHOWN IN THE ROCK ANCHOR SCHEDULE ON S303.

1. INSTALLATION OF ROCK ANCHORS ARE TO BE COORDINATED WITH THE EXISTING AND NEW UTILITIES BY THE CONTRACTOR TO INSURE THAT NO UTILITIES ARE DAMAGED DURING INSTALLATION.



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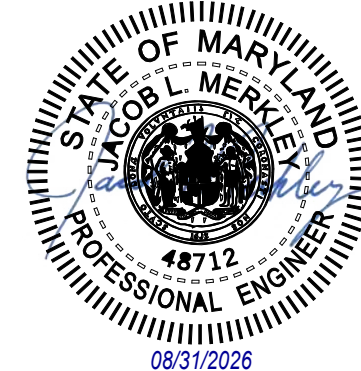
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DRAWING TITLE:
FOOTING +
FOUNDATION PLAN

DRAWING NO:

S101

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F1
S121
ROOF FRAMING PLAN
Scale: 3/16" = 1'-0"

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. COORDINATE ALL DECK EDGES AROUND PERIMETER AND OPENINGS WITH ARCHITECTURAL DRAWINGS.
6. ALL STEEL CABLES AND GUY WIRES SHALL BE GALVANIZED STEEL WITH A 6X19 EIPS CLASSIFICATION WITH GALVANIZED HARDWARE AS REQUESTED BY THE CLIENT.

7. SEE LANDSCAPE DRAWINGS FOR TOP OF EXHIBIT MAST ELEVATIONS.

8. 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.

9. ALL GUY WIRES ARE TO BE INSTALLED TAUT, BUT WITH NO RESIDUAL PRETENSION LOAD INDUCED.
10. ALL STEEL SHOWN IN THIS PLAN VIEW AND CONNECTING ELEMENTS IS TO BE GALVANIZED.

11. 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.

12. ALL WOOD HEADERS ARE TO HDR1. SEE HEADER SCHEDULE ON S302 FOR ADDITIONAL INFORMATION.

KEYNOTES

- A

MESH ROOF ENCLOSURE (MESH DESIGN AND CONNECTIONS BY OTHERS), MESH DESIGNER TO PROVIDE ADDITIONAL SECONDARY CABLES IF REQUIRED
- B

MESH WALL ENCLOSURE (MESH DESIGN AND CONNECTION BY OTHERS), TYP



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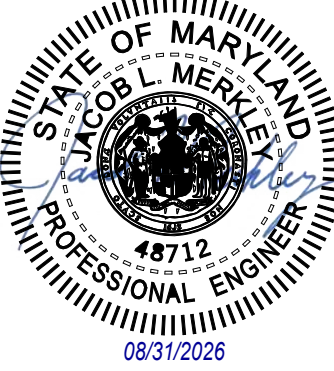
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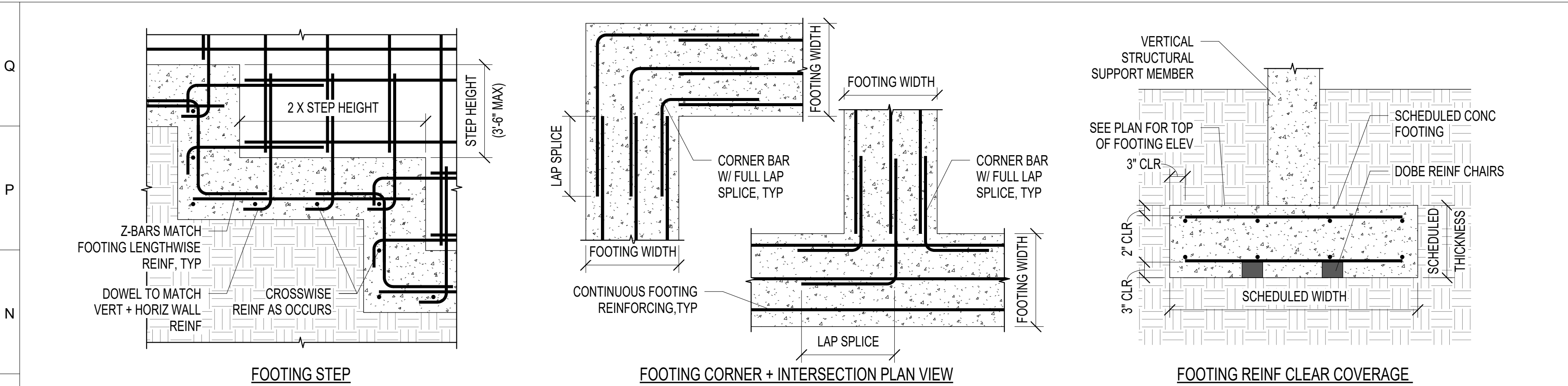


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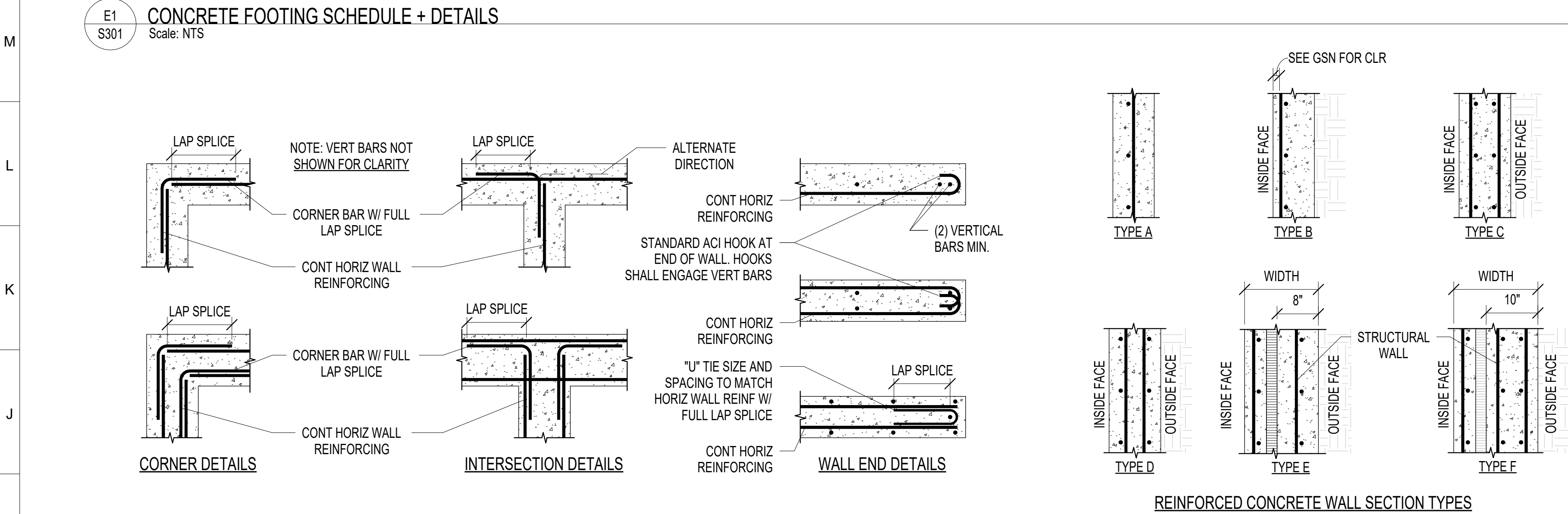
DRAWING TITLE:
ROOF FRAMING PLAN

DRAWING NO:
S121



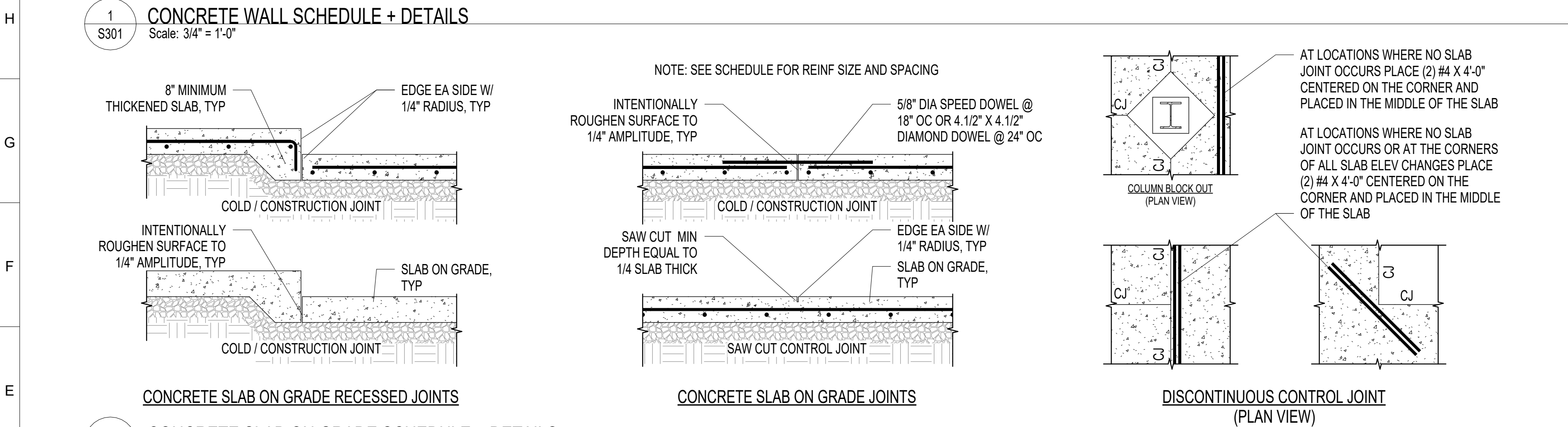
FX##	CONCRETE FOOTING SCHEDULE												
MARK	WIDTH	LENGTH	THICK	CROSSWISE REINFORCING				LENGTHWISE REINFORCING				COMMENTS	
				NO. BARS	BAR SIZE	LENGTH	SPACING	NO. BARS	BAR SIZE	LENGTH	SPACING		
FC2.0	2' - 0"	CONT	12"					3	#5	CONT	9"		
FC2.5	2' - 6"	CONT	12"		#5	2' - 0"	12" OC	4	#5	CONT	8"		
FC3.0	3' - 2"	CONT	12"		#5	2' - 6"	12" OC	4	#5	CONT	10 5/8"	SEE NOTE 8	
FC3.5	3' - 6"	CONT	12"		#5	3' - 0"	12" OC	5	#5	CONT	9"	SEE NOTE 8	
FS6.0	6' - 0"	6' - 0"	18"	8	#6	5' - 6"	9"	8	#6	5' - 6"	9"		
FS6.0A	6' - 0"	6' - 0"	18"	7	#7	5' - 6"	11"	7	#7	5' - 6"	11"	TOP + BTM	
FS14	6' - 0"	14' - 0"	18"	15	#7	5' - 6"	12"	7	#7	13' - 6"	11"	TOP + BTM	

- NOTES:
- CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS, UNO.
 - SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS, UNO.
 - ALL FOOTINGS SHALL BE FORMED AND NOT EARTH FORMED OR OVERSIZED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.
 - PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER.
 - REINFORCING IN CONTINUOUS FOOTINGS SHALL PASS THROUGH INTERSECTING SPOT FOOTINGS.
 - TOP REINFORCING IF NOTED ON SCHEDULE OR SHOWN IN DETAILS SHALL BE #5 @ 12" OC UNLESS NOTED OTHERWISE.
 - 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.
 - PROVIDE TOP + BOTTOM REINFORCING EACH WAY PER SCHEDULE WITH 90 DEGREE HOOK AT EACH END OF REINFORCING.
 - SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.



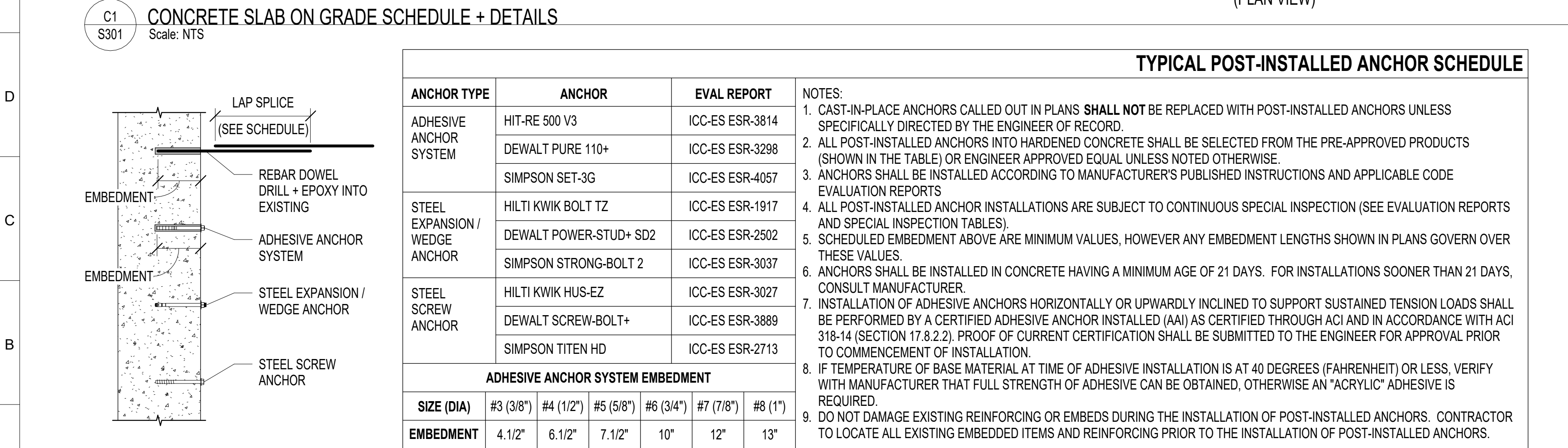
CW#	MARK	WIDTH	TYPE	WALL REINFORCING		COMMENTS
				HORIZONTAL	VERTICAL	
	CW8D	8"	TYPE A	#4@12" OC	#4@12" OC	
	CW8W	8"	TYPE B	#5@12" OC	#4@12" OC	
	CWSRW	8"	TYPE B	#5@12" OC	#4@12" OC	

- NOTES:
- AT TOP AND BTM OF WALL, INCLUDING ALL DECK BEARING ELEVATIONS PROVIDE (2) #5 CONT IN ADDITION TO SCHEDULED REINFORCING.
 - OUTSIDE FACE OF REINFORCING DESIGNATION TO BE PLACED ON THE SOIL SIDE OF THE WALL.
 - SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.



CONCRETE SLAB ON GRADE SCHEDULE				
S#				
MARK	THICK	SLAB REINFORCING	SLAB BASE MATERIAL	COMMENTS
S4	4"	UNREINFORCED	SEE GEOTECH	

- NOTES:
- SEE GEOTECHNICAL REPORT FOR ADDITIONAL SLAB ON GRADE REQUIREMENTS.
 - PERFORMANCE OF CONCRETE SLAB ON GRADE ARE SOLELY BASED ON PROPER PREPARATION OF SUBGRADE MATERIAL. THEREFORE STRUCTURAL DESIGN STUDIO CANNOT BE RESPONSIBLE FOR ANY SLAB CRACKING. CONTRACTOR TO TAKE SPECIAL CARE IN PREPARATION OF SUBGRADE MATERIAL.
 - SEE TYPICAL CONTROL JOINT DETAILS, ARCHITECTURAL DRAWINGS AND GENERAL STRUCTURAL NOTES FOR CONTROL JOINT REQUIREMENTS.
 - SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.



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:

- CAST-IN-PLACE ANCHORS CALLED OUT IN PLANS **SHALL NOT** BE REPLACED WITH POST-INSTALLED ANCHORS UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER OF RECORD.
- 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.
- ANCHORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S PUBLISHED INSTRUCTIONS AND APPLICABLE CODE EVALUATION REPORTS
- ALL POST-INSTALLED ANCHOR INSTALLATIONS ARE SUBJECT TO CONTINUOUS SPECIAL INSPECTION (SEE EVALUATION REPORTS AND SPECIAL INSPECTION TABLES).
- SCHEDULED EMBEDMENT ABOVE ARE MINIMUM VALUES, HOWEVER ANY EMBEDMENT LENGTHS SHOWN IN PLANS GOVERN OVER THESE VALUES.
- ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS. FOR INSTALLATIONS SOONER THAN 21 DAYS, CONSULT MANUFACTURER.
- 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.
- 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.
- 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.

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STRUCTURAL SCHEDULES

DRAWING NO:
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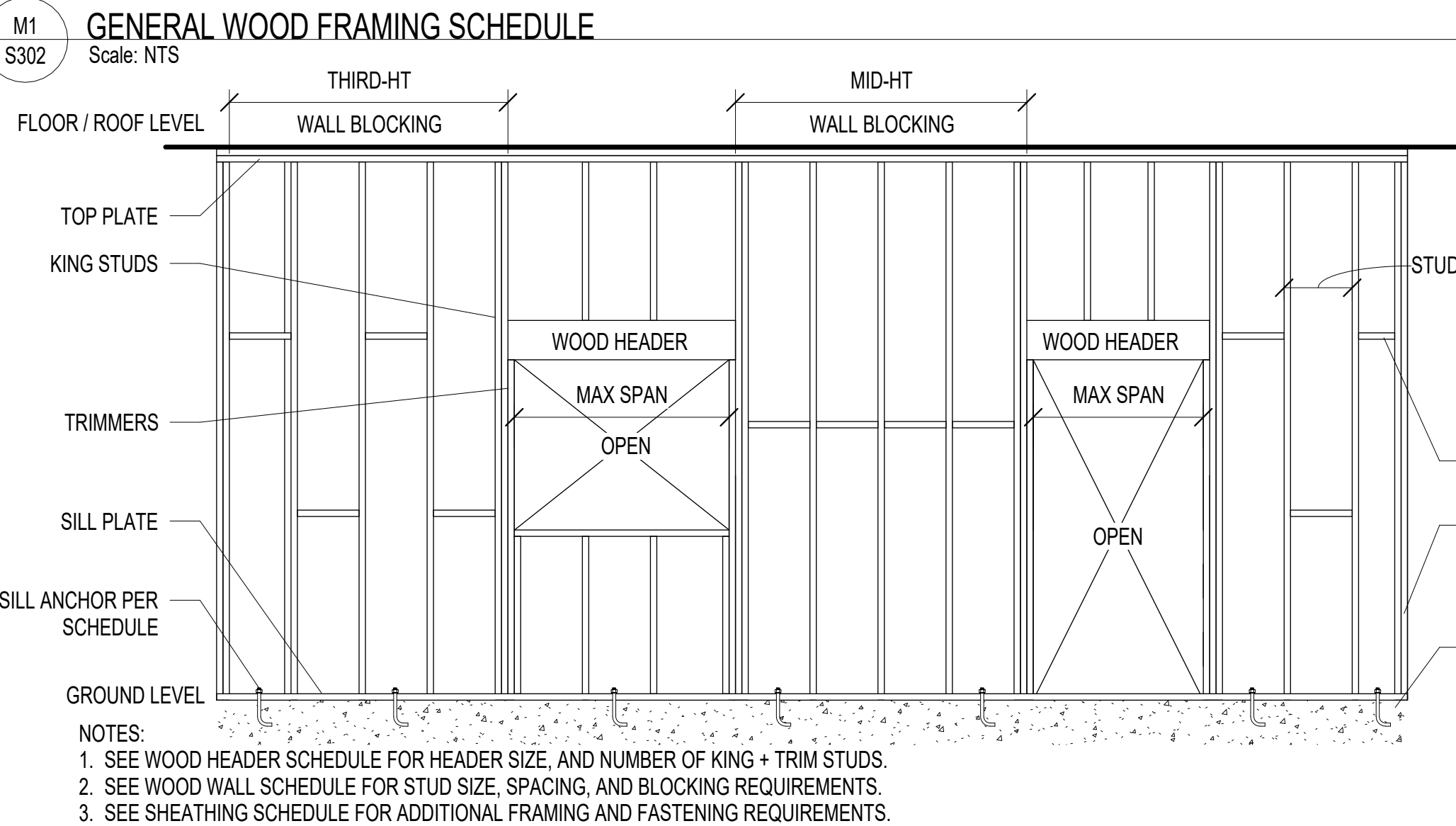
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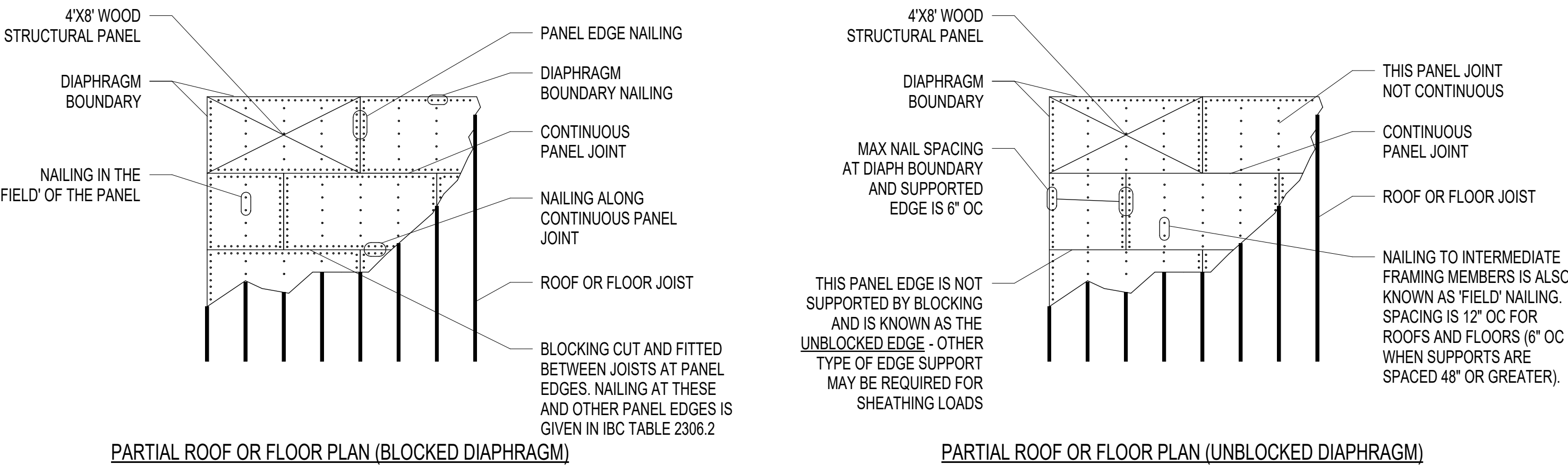
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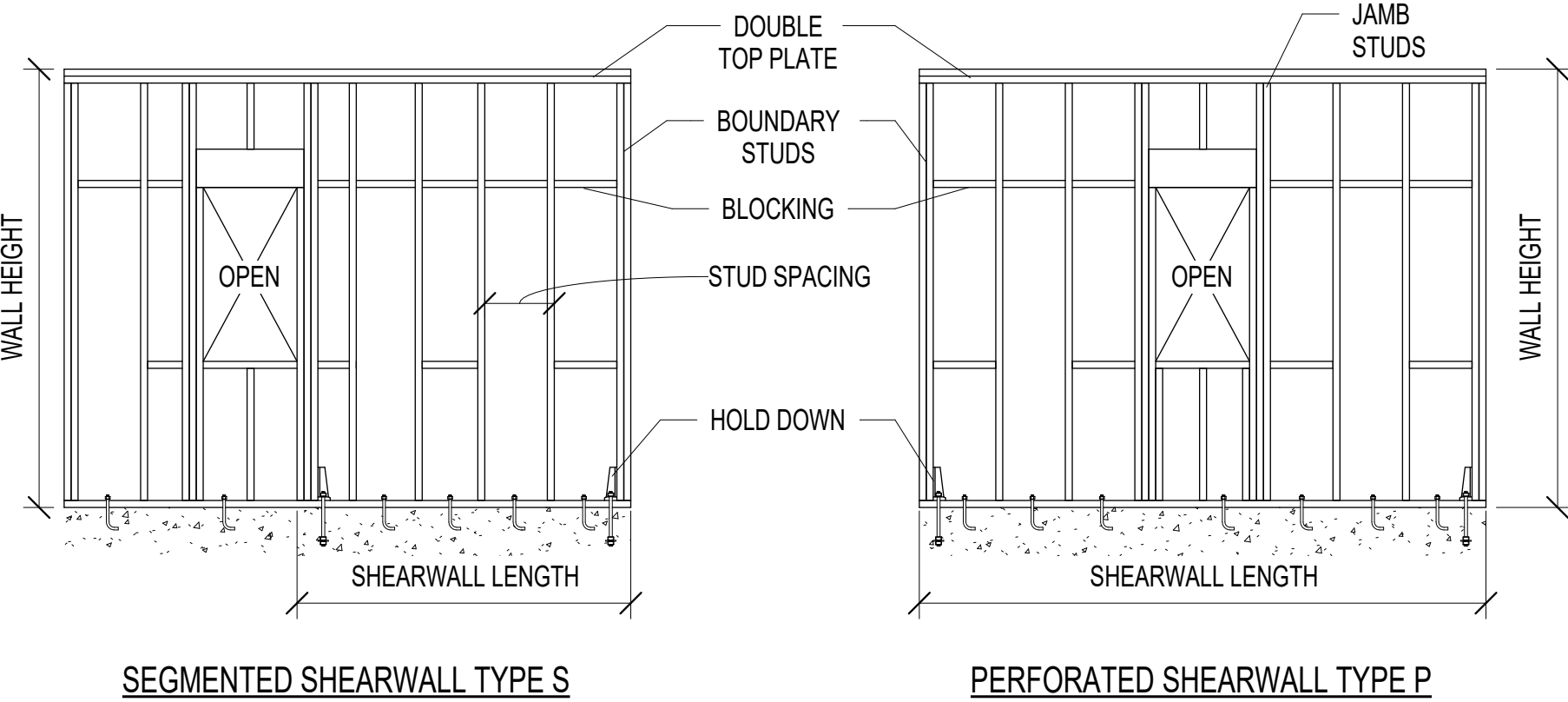
GENERAL WOOD FRAMING SCHEDULE									
CONNECTION		MINIMUM NAILING, U.N.O.			CONNECTION		MINIMUM NAILING, U.N.O.		
JOIST TO SILL, TOP PLATE OR GIRDER		(3)8d, (3)3" X 0.131", TOENAIL			RIM JOIST TO TOP PLATE		8d @ 6" OC,3" X 0.131" @ 6" OC, TOENAIL		
BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS		(2)8d, (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		
TOP OR BOTTOM PLATE TO STUD		(2)16d, (3)3" X 0.131", END NAIL			CEILING JOIST TO TOP PLATE		(3)8d, (3)3" X 0.131", TOENAIL EACH JOIST		
STUD TO TOP OR BOTTOM PLATE		(4)8d, (4)3" X 0.131", TOENAIL; (2)16d, (3)3" X 0.131", END NAIL			CONTINUOUS HEADER TO STUD		(4)8d, TOENAIL		
STUD TO STUD (NOT AT BRACED WALL PANELS)		16d @ 24" OC, 3" X 0.131" @ 16" OC, FACE NAIL			CEILING JOIST, LAPS OVER PARTITIONS		(3)16d, (4)3" X 0.131", FACE NAIL		
TOP PLATE TO TOP PLATE		16d @ 16" OC, 3" X 0.131" @ 12" OC, FACE NAIL			CEILING JOISTS TO PARALLEL RAFTERS (HEEL JOIST)		SEE IBC TABLE 2308.7.3.1, FACE NAIL		
BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW		(3)8d, (3)3" X 0.131", TOENAIL EACH END			RAFTER OR ROOF TRUSS TO TOP PLATE		(3)10d, (3)3" X 0.131", TOENAIL		
RIM JOIST TO TOP PLATE		8d @ 6" OC,3" X 0.131" @ 6" OC, TOENAIL			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"		
					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



H1 S302 TYPICAL WOOD WALL + HEADER SCHEDULE
Scale: NTS

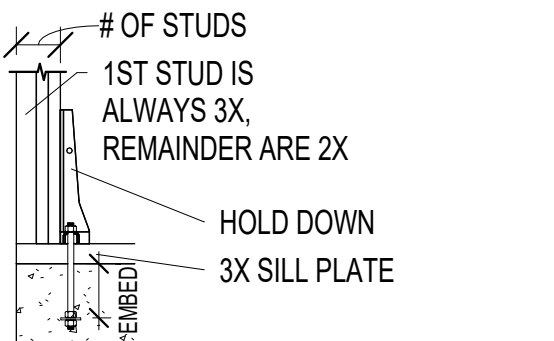


E1 S302 WOOD DIAPHRAGM SHEATHING SCHEDULE + DETAILS
Scale: NTS



A1 S302 WOOD SHEARWALL SCHEDULE
Scale: NTS

HOLDOWN PROPERTIES				
MARK	MODEL NO.	BOUNDARY STUDS	ANCHOR BOLT	
			DIAMETER	EMBEDMENT
H3	HDUE3-SDS3	2	5/8"	9"
H4	HDU4-SDS2.5	2	5/8"	9"
H5	HDU5-SDS2.5	2	5/8"	9"
H8	HDU8-SDS2.5	3	7/8"	12"
H11	HDU11-SDS2.5	4	1"	14"
H14	HDU14-SDS2.5	5	1"	14"



WOOD HEADER SCHEDULE					
MARK	HEADER	MAX SPAN	KING STUDS	TRIM STUDS	COMMENTS
HDR1	(3) 2X8	5'-0"	2	1	
NOTES: 1. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.					

WOOD WALL SCHEDULE						
MARK	STUD	SPACING	BLOCKING	TOP PLATE	SILL ANCHOR	COMMENTS
VVW1	2X6	16" OC	MID-HT	DOUBLE 2X	5/8"@24" OC	SEE NAILING SCHEDULE TYPE A
NOTES: 1. ALL EXTERIOR WALLS ARE TO BE SHEATHED W/ 15/32" OSB W/ 8d NAILS @ 6" OC EDGE 12" OC FIELD UNO. 2. SEE SHEAR WALL SCHEDULE FOR REQUIREMENTS FOR NAILING, HOLD DOWN, SILL ANCHORS, AND FRAMING REQUIREMENTS. 3. SILL PLATE SHALL BE CONNECTED USING 5/8" DIA J-BOLTS (9" EMBED) @ 24" OC UNO. 4. ALL SILL NAILING MUST BE STAGGERED TO AVOID SILL PLATE SPLITTING.						

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.							

H14 S302 CONCRETE LAP SCHEDULE
Scale: NTS

WOOD DECK SCHEDULE						
MARK	THICKNESS	TYPE	BOUNDARY NAILING	FIELD NAILING	BLOCKING	COMMENTS
WD	15/32"	OSB	10d@6" OC	10d@6" OC		
NOTES: 1. FOR BLOCKED EDGE NAILING NOMINAL DEPTH OF BLOCKING MUST BE 3" MIN.						

						WOOD SHEAR WALL SCHEDULE			
MARK	TYPE	EDGE NAILING	FIELD NAILING	SILL ANCHOR	JAMB STUDS	HOLDOWN	STRAP	COMMENTS	
A	TYPE S	8d@6" OC	10d@12" OC	5/8"@24" OC	2	HDUE3-SDS3			
SHEAR WALL NOTES:						HOLDOWN NOTES:			
1. ALL SHEATHING AT SHEAR WALLS SHALL BE 7/16" OSB STR I GRADE SHEATHING.						1. ALL HOLD DOWNS SHALL BE SIMPSON OR APPROVED EQUIVALENT DESIGNATED SPECIFIC FOR WOOD CONSTRUCTION.			
2. SEE WOOD WALL SCHEDULE FOR STUD SIZE, SPACING, AND BLOCKING REQUIREMENTS.						2. ALL HOLD DOWN ANCHOR BOLTS SHALL BE HEAVY HEX HEADED W/ DOUBLE NUT AND WASHER.			
3. IN ADDITION TO WALL BLOCKING INDICATED IN THE WOOD WALL SCHEDULE, ALL PANEL EDGES SHALL BE BLOCKED.						3. ALL HOLD DOWNS MUST BE PLACED IN THE CENTER OF THE SUPPORTING CONCRETE WALL/FOOTING.			
4. ALL SILL ANCHORS IN SHEARWALLS SHALL INCLUDE A 1/4" X 3" X 3" MIN PLATE WASHER BETWEEN THE SILL PLATE AND NUT.						4. CONTRACTOR TO TAKE SPECIAL CARE IN DIMENSIONAL PLACEMENT OF HOLD DOWNS TO PROPERLY PLACE ANCHORS ACCOUNTING FOR ALL # OF STUDS (INCLUDING 3X), WALL ENDS, ANCHOR DIAMETERS, AND MANUFACTURER'S REQUIREMENTS. POST-INSTALLATION OPTIONS OF MIS-ALIGNED ANCHOR BOLTS <u>WILL NOT</u> BE ALLOWED.			
5. ALL SILL NAILING MUST BE STAGGERED TO AVOID SILL PLATE SPLITTING.						5. AT FLOORS PROVIDE HOLDOWN AT SILL PLATE ABOVE AND BELOW DOUBLE TOP PLATE W/ SOLID BLOCKING. SEE TYPICAL FLOOR TO FLOOR HOLDOWN DETAIL AND PLAN FOR DESIGNATIONS AND INFORMATION.			
6. SEE HOLDOWN TABLE FOR MINIMUM NUMBER OF BOUNDARY STUDS. AT JAMBS PROVIDE NUMBER OF STUDS INDICATED MINIMUM AND COORDINATE WITH HEADER JAMB STUD REQUIREMENTS.						6. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.			

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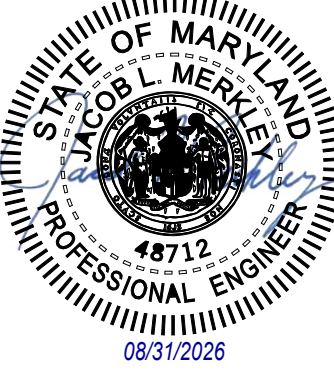
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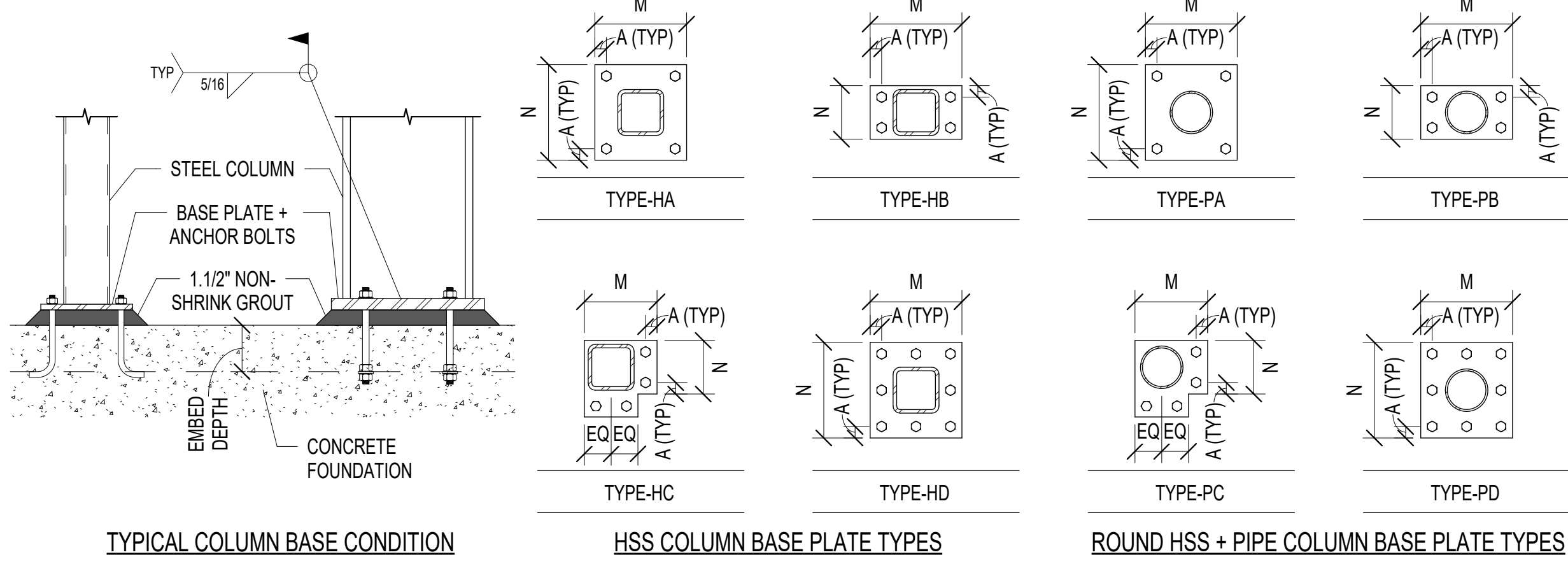
DRAWING TITLE:
STRUCTURAL SCHEDULES

DRAWING NO:

S302



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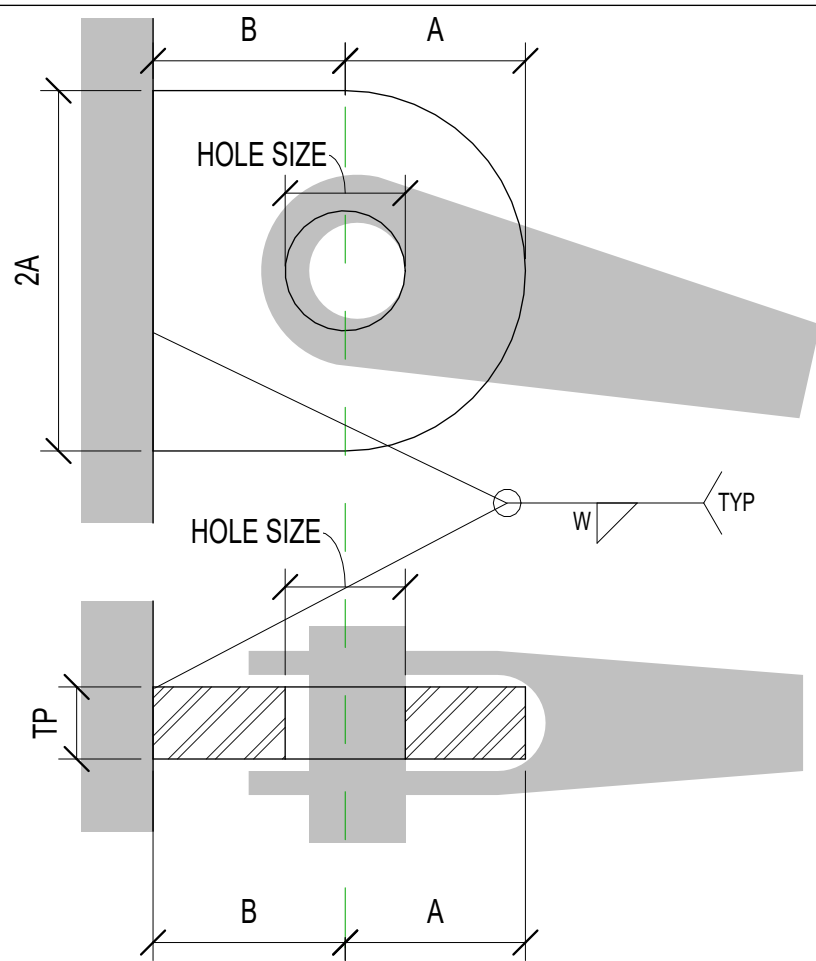
TYPICAL COLUMN BASE CONDITION

HSS COLUMN BASE PLATE TYPES

ROUND HSS + PIPE COLUMN BASE PLATE TYPES

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

WIRE ROPE CONNECTION PLATE SCHEDULE					
CABLE SIZE	THICKNESS (TP)	HOLE SIZE	WELD W	PLATE DIMENSIONS	
				A	B
1/4"	1/2"	3/4"	1/4"	1"	3"
3/8"	1/2"	1"	5/16"	1.1/4"	3"
1/2"	1/2"	1.1/4"	5/16"	1.5/8"	3"
5/8"	3/4"	1.1/2"	3/8"	1.7/8"	3"
3/4"	1"	1.5/8"	3/8"	2"	3"
7/8"	1"	1.3/4"	3/8"	2.1/2"	3"
1"	1.1/4"	2.1/4"	7/16"	3"	3"
1.1/4"	1.1/2"	2.3/4"	1/2"	3.1/2"	3.1/4"
1.1/2"	1.3/4"	3.1/4"	1/2"	4.3/4"	3.1/2"
HARDWARE NOTES: 1. EACH WIRE ROPE IS CONNECTED USING A FORGED CLEVIS SOCKET FITTING ON ONE END AND A OPEN BODY FORGED CLEVIS AND SOCKET TURNBUCKLE AT THE OTHER END. MANUFACTURERS TO BE ESMET OR CROSBY. 2. HARDWARE IS TO MATCH THE SAME FINISH AS THE WIRE ROPE. IF THIMBLES ARE USED, THEY MUST BE RATED AS HEAVY DUTY. 3. GENERAL CONTRACTOR TO COORDINATE HOLE SIZE AND LOCATION IN TABS WITH PURCHASED HARDWARE. 4. DO NOT USE SHACKLES AT CONNECTION POINT.					



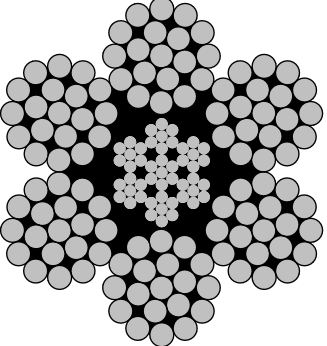
G1
S303 WIRE ROPE CONNECTION PLATE SCHEDULE
Scale: NTS

HELICAL PILE / ROCK ANCHOR DESIGN LOADING SCHEDULE										
MARK	TYPE	X-DIM	DEAD	LIVE	SNOW	WIND	ICE	WIND ICE	SEISMIC	COMMENTS
A	LATERAL	13'-0"	5k		25k	15k	35k	27k		
B	LATERAL	13'-8"	5k		35k	21k	50k	39k		
C	LATERAL	10'-8"	5k		25k	16k	40k	29k		
D	LATERAL	11'-0"	5k		35k	21k	50k	39k		
E1	LATERAL	10'-6"	5k		30k	20k	50k	37k		
E2	LATERAL	9'-11"	5k		30k	20k	50k	37k		
F1	LATERAL	10'-3"	5k		35k	22k	51k	40k		
F2	LATERAL	10'-0"	5k		35k	22k	51k	40k		
G1	LATERAL	12'-6"	5k		30k	19k	45k	36k		
G2	LATERAL	11'-3"	5k		30k	19k	45k	36k		
H1	LATERAL	11'-6"	5k		25k	15k	36k	29k		
H2	LATERAL	14'-0"	5k		25k	15k	36k	29k		
J1	LATERAL	11'-6"	5k		20k	11k	30k	21k		
J2	LATERAL	11'-6"	5k		20k	11k	30k	21k		
K	LATERAL	11'-6"	5k		10k	5k	10k	8k		
NOTES: 1. ALL HELICAL PILES / ROCK ANCHORS ARE TO BE DESIGNED BY THE CONTRACTOR AS A DELEGATED DESIGN. CONTRACTOR TO WORK CLOSELY WITH THE GEOTECHNICAL ENGINEER DURING THE DESIGN PROCESS. ANY QUESTIONS RELATED TO THE HELICAL PILES, ROCK ANCHORS, OR SOIL CONFLICTS TO BE DIRECTED TO THE GEOTECHNICAL ENGINEER. 2. ALL LOADS SHOWN IN THIS TABLE ARE "LOAD CASES". THE HELICAL PILE / ROCK ANCHOR DESIGNER IS TO USE ALL APPLICABLE LOAD COMBINATIONS AS OUTLINED IN THE GOVERNING BUILDING CODE TO DETERMINE THE PROPER DESIGN MAGNITUDES. 3. DURING INSTALLATION OF HELICAL PILES, CONTRACTOR TO TAKE SPECIAL CARE NOT TO DAMAGE ANY EXISTING UTILITIES. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO INSTALLING ANY HELICAL PILES. 4. IN THE EVENT THAT MULTIPLE HELICAL PILES / ROCK ANCHORS ARE REQUIRED FOR A SINGLE CABLE CONNECTION, A BRIDGE PLATE/MEMBER MUST BE PROVIDED AND DESIGNED BY THE CONTRACTOR THAT SPANS BETWEEN THE HELICAL PILES / ROCK ANCHORS AND IS ABLE TO SUPPORT THE SCHEDULED LOADS AT A SINGLE POINT. 5. THE DESIGN INTENT IS TO USE HELICAL PILES. IF BEDROCK IS ENCOUNTERED, THE CONTRACTOR IS TO DESIGN A ROCK ANCHOR SYSTEM (DYWIDAG) CAPABLE OF RESISTING THE SAME LOADS. THE CONTRACTOR IS TO DESIGN THE NECESSARY CAP PLATE(S) TO RECEIVE THE GUY WIRE CONNECTION TAB. 6. ALL HELICAL PILES / ROCK ANCHORS TO BE INSTALLED AT THE SAME ANGLE AS THE SUPPORTING GUY WIRE. THEY ARE NOT TO BE INSTALLED VERTICAL. 7. "X-DIM" IS THE HORIZONTAL DISTANCE FROM CENTER OF STEEL COLUMN TO HELICAL PILE / ROCK ANCHOR. CONTRACTOR TO COORDINATE DIMENSIONS WITH SITE CONDITIONS AND ARCHITECTURAL / LANDSCAPE DRAWINGS.										

A1
S303 HELICAL PILE / ROCK ANCHOR SCHEDULE
Scale: NTS

STEEL COLUMN SCHEDULE		
SC#	COLUMN SIZE	COMMENTS
SC1	HSS7.500X0.500	
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 FINISH.		

STEEL BASE PLATE SCHEDULE										
#	MARK	TYPE	"M" DIM	"N" DIM	PLATE THICKNESS	GROUT THICKNESS	"A" DIM	NO. OF ANCHORS	ANCHOR SIZE	ANCHOR EMBED
1	1	TYPE-PD	16"	16"	1"	1 1/2"	2"	8	7/8"	11"
2	2	TYPE-PD	16"	16"	1"	1 1/2"	2"	8	1"	1' - 1"
NOTES: 1. ALL COLUMNS TO BE CENTERED ON BASE PLATES UNLESS SPECIFICALLY NOTED OTHERWISE. 2. ALL ANCHOR BOLTS SHALL BE STANDARD 90 DEGREE HOOK BOLTS W/ 3" HOOK LENGTH UNO. 3. ALL ANCHORS DESIGNATED "HEADED" ARE TO BE HEADED ANCHOR RODS W/ 3"x3"x3/8" 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.										

WIRE ROPE (6X19 CLASS) INFORMATION SCHEDULE						
WIRE ROPE SIZE	WIRE ROPE TYPE	CORE	GRADE	FINISH	MIN BREAKING STRENGTH	
1/4"	6X19	IWRC	EIPS	GALVANIZED	6,100 LBS	 HARDWARE NOTES: 1. EACH WIRE ROPE IS CONNECTED USING A FORGED CLEVIS SOCKET FITTING ON ONE END AND A OPEN BODY FORGED CLEVIS AND SOCKET TURNBUCKLE AT THE OTHER END. MANUFACTURERS TO BE ESMET OR CROSBY. 2. HARDWARE IS TO MATCH THE SAME FINISH AS THE WIRE ROPE. IF THIMBLES ARE USED, THEY MUST BE RATED AS HEAVY DUTY. 3. GENERAL CONTRACTOR TO COORDINATE HOLE SIZE AND LOCATION IN TABS WITH PURCHASED HARDWARE. 4. DO NOT USE SHACKLES AT CONNECTION POINT.
3/8"	6X19	IWRC	EIPS	GALVANIZED	13,600 LBS	
1/2"	6X25	IWRC	EIPS	GALVANIZED	24,000 LBS	
5/8"	6X25	IWRC	EIPS	GALVANIZED	37,000 LBS	
3/4"	6X25	IWRC	EIPS	GALVANIZED	53,000 LBS	
7/8"	6X25	IWRC	EIPS	GALVANIZED	71,500 LBS	
1"	6X25	IWRC	EIPS	GALVANIZED	93,000 LBS	
1.1/4"	6X25	IWRC	EIPS	GALVANIZED	143,500 LBS	
1.1/2"	6X25	IWRC	EIPS	GALVANIZED	206,000 LBS	

G10
S303 WIRE ROPE INFORMATION SCHEDULE
Scale: NTS



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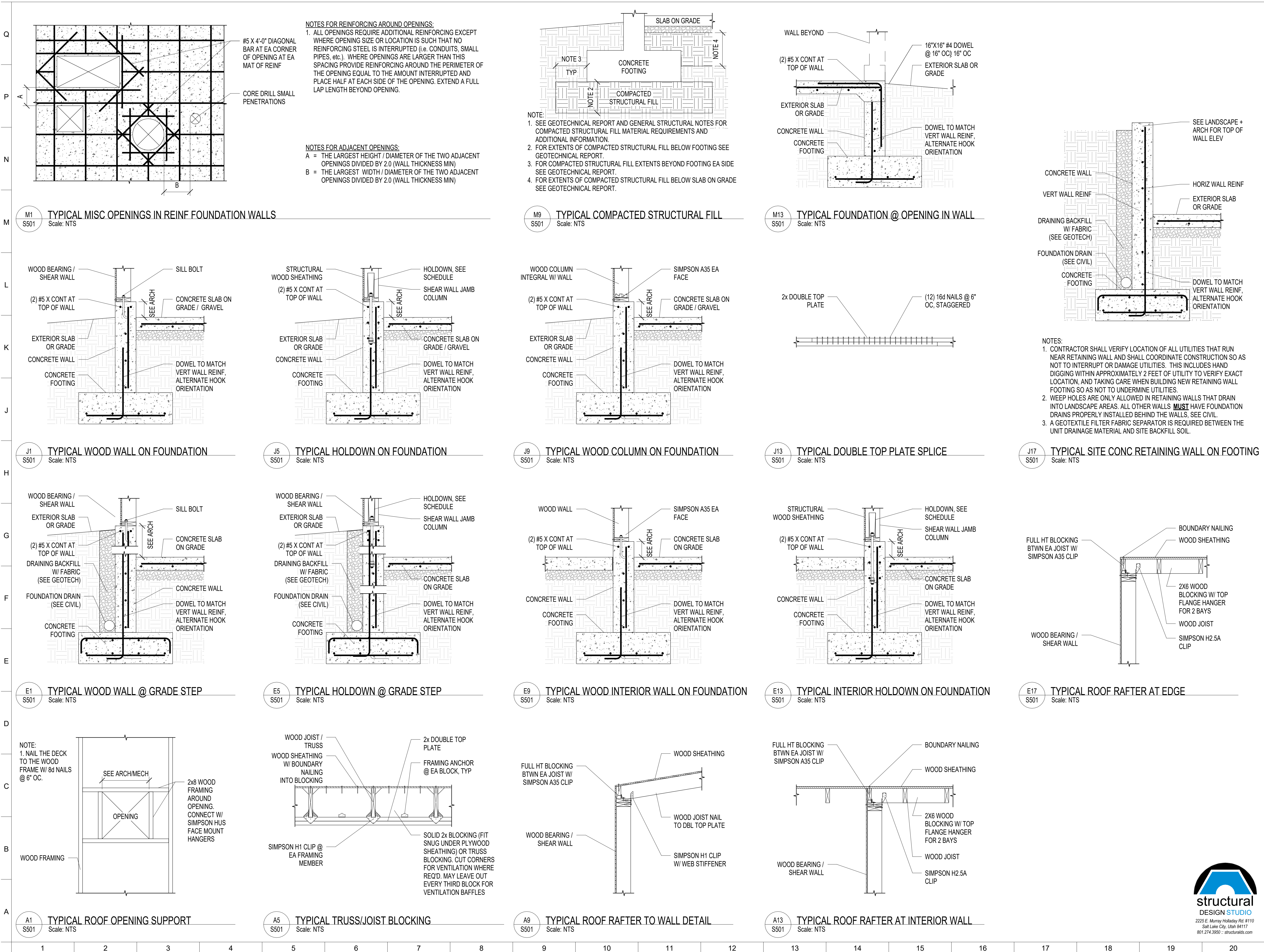


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SEAL:

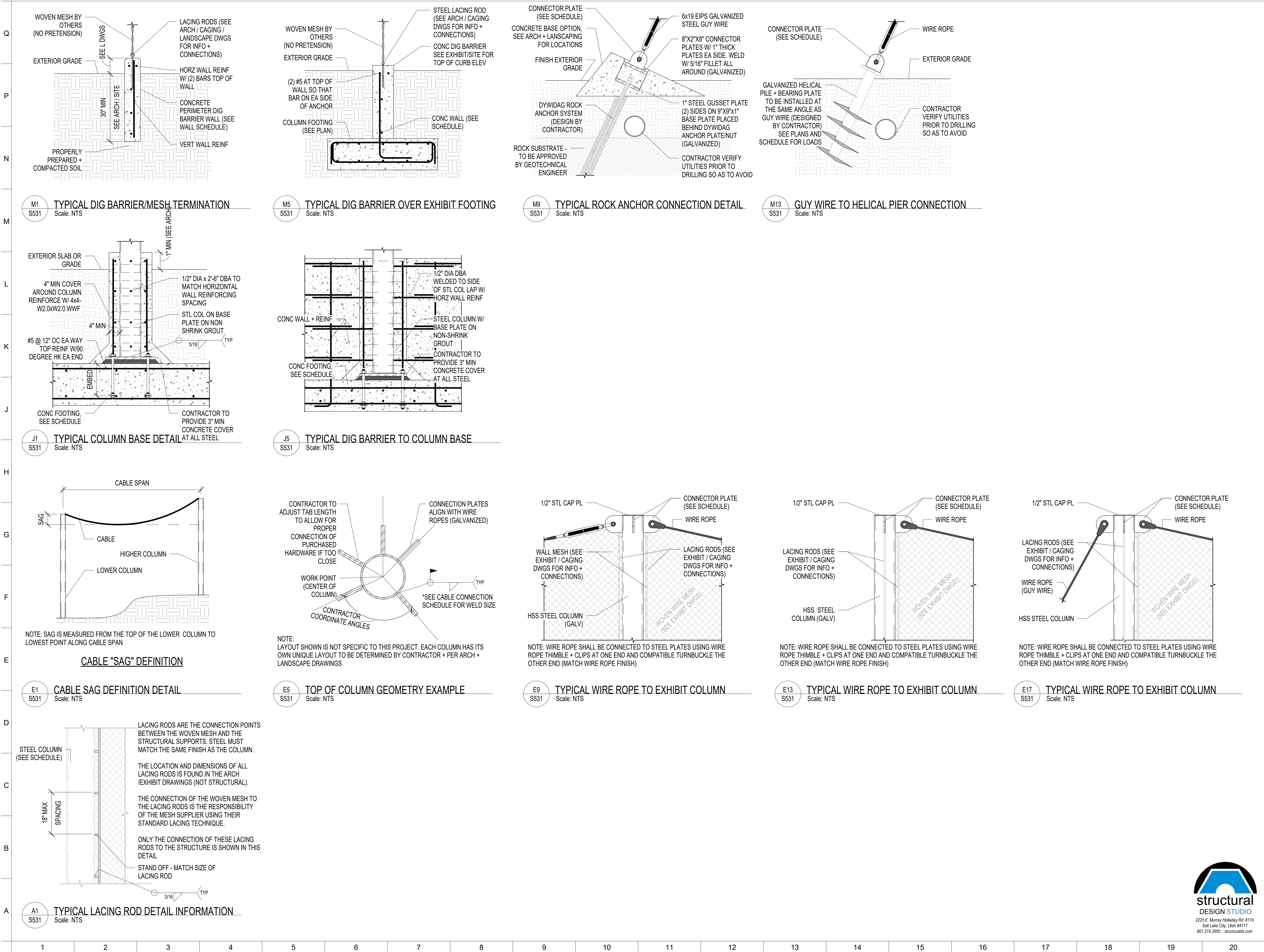
STATE OF MARYLAND
JACOB L. MERLETTI
PROFESSIONAL ENGINEER
48712
08/31/2026

DATE: AUGUST 31, 2026	
PROJECT NO: 2023-10.07	
DRAWN BY	SDS
CHECKED BY	SDS
SUBMISSION	DATE
REVIEW SET	09/01/2026
REVISION	DATE

DRAWING TITLE:
STRUCTURAL DETAILS

DRAWING NO:
S501





BKP

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CLIENT:

EAGLE AND OWL EXHIBITS

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

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STATE OF MARYLAND

JACOB L. MERLEY

PROFESSIONAL ENGINEER

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DRAWING TITLE:

EXHIBIT
STRUCTURAL
DETAILS

DRAWING NO:

S531

structural
DESIGN STUDIO

2225 E. Murray Holladay Rd. #110
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801.274.3950 - structural@sdsg.com

ABBREVIATIONS																		SYMBOLS																	
Q	<	ANGLE	E	EAST	ID	INSIDE DIAMETER	QT	QUARRY TILE	W	WEST	SECTION																								
	@	AT	EA	EACH	IN	INCH	QTY	QUANTITY	W/	WITH																									
	AB	ANCHOR BOLT	EF	EXHAUST FAN	INCL	INCLUDE	R	RISER	WB	WATER BOWLS																									
	ABV	ABOVE	EIFS	EXTERIOR INSULATION & FINISH SYSTEM	INFO	INFORMATION	RA	RETURN AIR	WC	WATER CLOSET																									
	A/C	AIR CONDITIONING	EJ	EXPANSION JOINT	INST	INSTALL(ATION)	RAD	RADIUS	WD	WOOD																									
	ACP	ACOUSTICAL CEILING PANEL	EL	ELEVATION	INSUL	INSULATE(ION)	RB	RUBBER BASE	WDW	WINDOW																									
	ACT	ACOUSTICAL CEILING TILE	ELEC	ELECTRICAL	INT	INTERIOR	RD	ROOF DRAIN	WGL	WIRE GLASS																									
	ADJ	ADJUSTABLE	ELEV	ELEVATOR	INV	INVERT	REC/P	RECEPTACLE	WH	WATER HEATER																									
	AFF	ABOVE FINISHED FLOOR	EMER	EMERGENCY	JAN	JANITOR	REF	REFERENCE	W/O	WITHOUT																									
	AHU	AIR HANDLING UNIT	EPBD	ELECTRICAL PANELBOARD	JB	JUNCTION BOX	REFG	REFRIGERATOR	WP	WATERPROOFING																									
P	ALT	ALTERNATE	EPS	EXPANDED POLYSTYRENE	JCT	JUNCTION	REINF	REINFORCE(D)(ING)	WPT	WORKING POINT	EXTERIOR ELEVATION																								
	ALUM	ALUMINUM	EPX	EPOXY	JST	JOIST	REQD	REQUIRED	WR	WATER RESISTANT																									
	AP	ACCESS PANEL	EQ	EQUAL	JT	JOINT	REQMT	REQUIREMENT	WRB	WEATHER BARRIER																									
	APC	ARCH. PRECAST CONCRETE	EQUIP	EQUIPMENT	KIT	KITCHEN	RESIN	RESILIENT	WSCOT	WAINSCOT																									
	APPR	APPROXIMATE	EST	ESTIMATE	K-O	KNOCK-OUT	RET	RETURN	WT	WEIGHT																									
	A/ARCH	ARCHITECT(URAL)	EW	EACH WAY	LAB	LABORATORY	RF	RADIO FREQUENCY																											
	ASB	ASBESTOS	EWC	ELECTRIC WATER COOLER	LAM	LAMINATE	RFG	ROOFING																											
	ATTEN	ATTENUATION	EXH	EXHAUST	LAV	LAVATORY	RH	RIGHT HAND																											
	AUTO	AUTOMATIC	EXIST	EXISTING	LBS	POUNDS	RL	RAIN LEADER																											
	AVG	AVERAGE	EXP	EXPANSION	LF	LINEAR FEET (FOOT)	RM	ROOM																											
N	AWP	ACOUSTICAL WALL PANEL	EXP C	EXPOSED CONSTRUCTION	LH	LEFT HAND	RO	ROUGH OPENING			INTERIOR ELEVATION																								
	BC	BOTTOM OF CURB	EXT	EXTERIOR	LKR	LOCKER	RT	RUBBER TILE																											
	BBD	BULLETIN BOARD	FB	FACE BRICK	LT	LIGHT	RTU	ROOFTOP UNIT																											
	BD	BOARD	FD	FLOOR DRAIN	LVR	LOUVER	RW	RIGHT OF WAY																											
	BLDG	BUILDING	FE	FIRE EXTINGUISHER	LW	LIGHTWEIGHT	S	SOUTH																											
	BLK	BLOCK	FEC	FIRE EXTINGUISHER CABINET	M	METER(S)	SAN	SANITARY																											
	BLKG	BLOCKING	FF	FINISHED FLOOR	MACH	MACHINE	SAB	SOUND ATTENUATION BLANKET																											
	BM	BENCH MARK	FFE	FINISHED FLOOR ELEVATION	MAS	MASONRY	SC	SOLID CORE																											
	BO	BOTTOM OF	FGL	FIBERGLASS	MATL	MATERIAL	SCH/ SCHED	SCHEDULE																											
	BOT	BOTTOM OF CURB	FH	FIRE HYDRANT	MAX	MAXIMUM	SCWD	SOLID CORE WOOD DOOR																											
M	BRG	BEARING	FHC	FIRE HOSE CABINET	MB	MARKERBOARD	SD	STORM DRAIN			ENLARGEMENT																								
	BRK	BRICK	FHVC	FIRE HOSE VALVE CABINET	MECH	MECHANICAL	SHLVG	SHELVING																											
	BSMT	BASEMENT	FIN	FINISH(ED)	MED	MEDIUM	SHT	SHEET																											
	BTWN	BETWEEN	FKT	FIXTURE	MEMB	MEMBRANE	SHTH	SHEATHING																											
	C	CARPET	FLSHG	FLASHING	MANUF/MFG/MFR	MANUFACTURER	SIM	SIMILAR																											
	CAB	CABINET	FLR	FLOOR	MH	MANHOLE	SOF	SPRAY FIREPROOFING																											
	CBD	CHALKBOARD	FLUR	FLUORESCENT	MIN	MINIMUM	SPEC	SPECIFICATION																											
	CCTV	CLOSED CIRCUIT TELEVISION	FND	FOUNDATION	MIR	MIRROR	SPR	SPRINKLER																											
	CFM	CUBIC FEET PER MINUTE	FOC	FACE OF CONCRETE	MISC	MISCELLANEOUS	SQ	SQUARE																											
	CG	CAGING	FOM	FACE OF MASONRY	MLDG	MOLDING	SS	STAINLESS STEEL																											
L	CI	CAST IRON	FR	FIRE RATED	MO	MASONRY OPENING	ST	STREET			BUILDING GRID																								
	CIP	CAST-IN-PLACE CONCRETE	FRMG	FRAMING	MR	MAP RAIL	ST	STONE																											
	CJ	CONTROL JOINT	FRP	FIBERGLASS REINF. PLASTIC	MT	MOUNT	STA	STATION																											
	CL	CENTERLINE	FRT	FIBER RETARDANT TREATED	MTD/ MNTD	MOUNTED	STC	SOUND TRANSMISSION COEF.																											
	CLG	CEILING	FT	FOOT, FEET	MTG	MOUNTING	STD	STANDARD																											
	CLOS	CLOSET	FTG	FOOTING	MTL	METAL	STL	STEEL																											
	CLR	CLEAR	FURN	FURNITURE	MUL	MULLION	STOR	STORAGE																											
	CM	CENTIMETER	FURR	FURRING	MWP	MEMBRANE WATERPROOFING	STRUCT	STRUCTURAL																											
	CMU	CONCRETE MASONRY UNIT	FVC	FIRE VALVE CABINET	N	NORTH	SUBFLR	SUBFLOOR																											
	CNTR	COUNTER	G	GAS	NIC	NOT IN CONTRACT	SUSP	SUSPENSION																											
K	CO	CLEAN OUT	GA	GAUGE	NO	NUMBER	SYM	SYMMETRY(RICAL)			MATCH LINE																								
	COL	COLUMN	GAL	GALLON	NOM	NOMINAL	T	TREAD																											
	CONC	COLUMN	GALV	GALVANIZED	NRC	NOISE REDUCTION COEFFICIENT	TB	TACKBOARD																											
	CONST	CONSTRUCT(ION)	GAW	GALVANIZED AFTER WELD	NTS	NOT TO SCALE	TBD	TO BE DETERMINE																											
	CONT	CONTINUOUS	GB	GRAB BAR	OC	ON CENTER	T&B	TOP & BOTTOM																											
	CONTR	CONTRACT(OR)	GC	GENERAL CONTRACTOR	OD	OUTSIDE DIAMETER	TO	TOP OF																											
	CORR	CORRIDOR	GCMU	GLAZED CONC. MASONRY UNIT	OH	OVERHEAD	TOC	TOP OF CURB																											
	CR	CLASSROOM	GEN	GENERAL	OPNG	OPENING	TEL	TELEPHONE																											
	CRS	COURSE	GFCI	GROUND FAULT CIRC. INTERUP.	OPP	OPPOSITE	T&G	TONGUE & GROOVE																											
	CPT	CARPET TILES	GFRG	GLASS FIBER REIN. CONC.	PRKG	PARKING	THHD	THRESHOLD																											
J	CTSK	COUNTERSINK	GL	GLASS	PC	PRECAST	THK	THICK(NESS)			REVISION NUMBER																								
	CT	CERAMIC TILE	GPM	GALLONS PER MINUTE	PERF	PERFORATE(D)	THRU	THROUGH																											
	CUH	CABINET UNIT HEATER	GR	GRADE	PERM	PERIMETER	TOS	TOP OF STEEL																											
	CU YD	CUBIC YARD	GS	GALVANIZED STEEL	PIP	POURED IN PLACE	TOW	TOP OF WALL																											
	CW	COLD WATER	GSU	GLAZED STRUCTURAL UNIT	PL	PROPERTY LINE	TPT	TEXTURES PAINT																											
	DBL	DOUBLE	GYP	GYPSONIUM	PL	PLATE	TRT	TREAT(ED)																											
	DEMO	DEMOLISH, DEMOLITION	HB	HOSE BIBB	PLAM	PLASTIC LAMINATE	TOS	TOP OF SLAB																											
	DEPT	DEPARTMENT	HBD	HARDBOARD	PLAS	PLASTER	TV	TELEVISION																											
	DF	DRINKING FOUNTAIN	HBC	HORIZONTAL BRICK COURSE(S)	PLUMB	PLUMBING	TYP	TYPICAL																											
	DG	DOOR GRILLE	HC	HORIZONTAL COURSE(S) (CMU)	PLYWD/PLY	PLYWOOD	UC	UNDERCUT																											
H	DI	DROP INLET	HDPE	HIGH DENSITY POLYETHYLENE	PNL	PANEL	UG	UNDERGROUND			ROOM NAME AND NUMBER																								
	DIAG	DIAGONAL	HDR	HEADER	PNT	PAINT	UH	UNIT HEATER																											
	DIA	DIAMETER	HDNR	HARDENER	POLY	POLYETHYLENE	UNFIN	UNFINISHED																											
	DIM	DIMENSION	HDWD	HARDWOOD	PR	PAIR	UNO	UNLESS NOTED OTHERWISE																											
	DIV	DIVISION	HDWR	HARDWARE	PREFAB	PREFABRICATE(D)	V	VINYL																											
	DMT	DEMOUNTABLE	HGT	HEIGHT	PREFIN	PREFINISHED	VAC	VACUUM																											
	DN	DOWN	HM	HOLLOW METAL	PREP	PREPARE	VB	VINYL BASE																											
	DP	DAMPPOOFING	HORIZ	HORIZONTAL	PROJ	PROJECT	VBC	HORIZONTAL BRICK COURSE(S)																											
	DR	DOOR	HP	HORSEPOWER	PSF	POUNDS PER SQUARE FOOT	VCT	VINYL COMPOSITION TILE																											
	DS	DOWN SPOUT	HPC	HIGH PERFORMANCE COATING	PSI	POUNDS PER SQUARE INCH	VERT	VERTICAL																											
G	DT	DRAIN TILE	HR	HOUR	PT	PRESSURE TREATED	VEST	VESTIBULE			CAGING / TRANSFER DOOR NUMBER																								
	DTL	DETAIL	HS	HIGH STRENGTH	PTN	PARTITION	VIF	VERIFY IN FIELD																											
	DW	DRYWALL	HT	HEIGHT	PVC	POLYVINYL CHLORIDE	VR	VAPOR RETARDER																											
	DWG	DRAWING	HTG	HEATING	HTR	HEATER	VT	VINYL TILE																											
	DWR	DRAWER	HVAC	HEATING, VENTILATING AIR CONDITIONING	PVMT	PAVEMENT	VWB	VINYL WALL BASE																											
			HW	HOT WATER			VWC	VINYL WALL COVERING																											
	F												CAGING / TRANSFER DOOR OPERATOR																						
E											DIMENSION STRING																								
D							</																												

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CLIENT:

MARYLAND ZOO

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

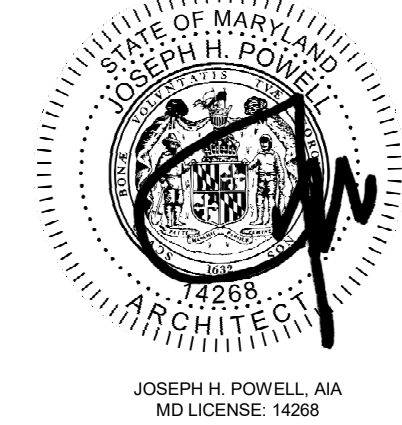
CHESAPEAKE
FLYWAY

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE, MD 21217

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SEAL:



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY	CC
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CHECKED BY	JP
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SUBMISSION	DATE
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BID SET	09/01/2026
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REVISION

DATE

DRAWING TITLE:

SCHEDULES AND DOOR DETAILS

DRAWING NO:

A002

NOTE:
THERE ARE TWO (2) CATCHBOXES, ONE AT THE OWL EXHIBIT AND ONE AT THE EAGLE EXHIBIT. THE CATCHBOXES ARE IDENTICAL BUT MIRRORED. SEE LANDSCAPE DRAWINGS FOR LOCATION/ LAYOUT.

FINISH SCHEDULE													
ROOM		FLOOR	WALLS								CEILING		
			NORTH		EAST		SOUTH		WEST				
NO.	NAME	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	NOTES
A101	CATCHBOX VEST	CONCRETE	WOOD FRAMING		WOOD FRAMING		WOOD FRAMING		CAGING		EXPOSED RAFTERS		OWL CATCHBOX
A102	CATCHBOX	6" PEA GRAVEL OVER GRADE	WOOD FRAMING		WOOD FRAMING		WOOD FRAMING		WOOD FRAMING		EXPOSED RAFTERS		OWL CATCHBOX
A201	CATCHBOX VEST	CONCRETE	WOOD FRAMING		CAGING		WOOD FRAMING		WOOD FRAMING		EXPOSED RAFTERS		EAGLE CATCHBOX
A202	CATCHBOX	6" PEA GRAVEL OVER GRADE	WOOD FRAMING		WOOD FRAMING		WOOD FRAMING		WOOD FRAMING		EXPOSED RAFTERS		EAGLE CATCHBOX
A301	OWL VESTIBULE	CONCRETE	WOVEN MESH		WOVEN MESH		WOVEN MESH		WOVEN MESH		WOVEN MESH		
A302	EAGLE VESTIBULE	CONCRETE	WOVEN MESH		WOVEN MESH		WOVEN MESH		WOVEN MESH		WOVEN MESH		

ROOM FINISH SCHEDULE NOTES:

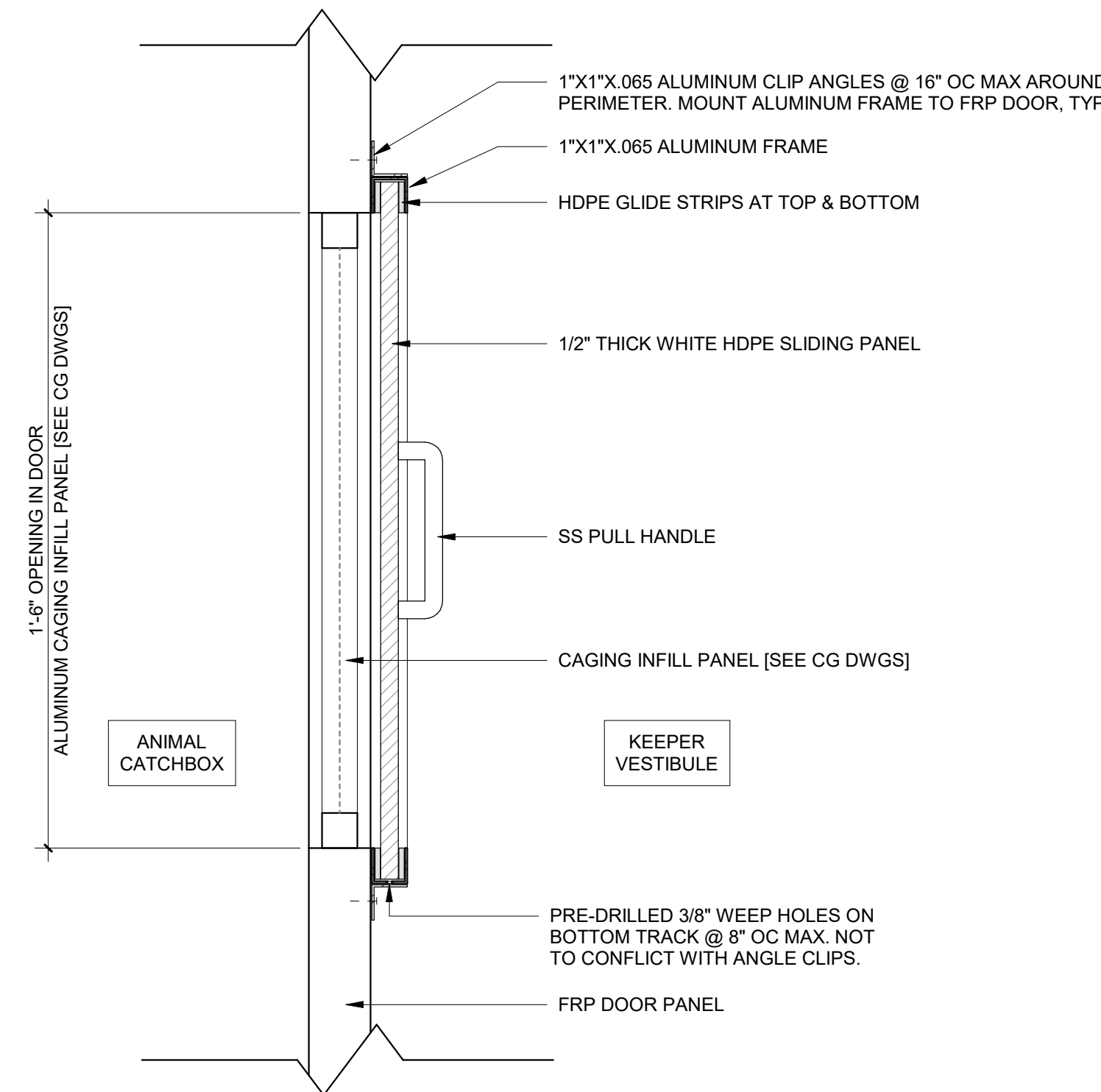
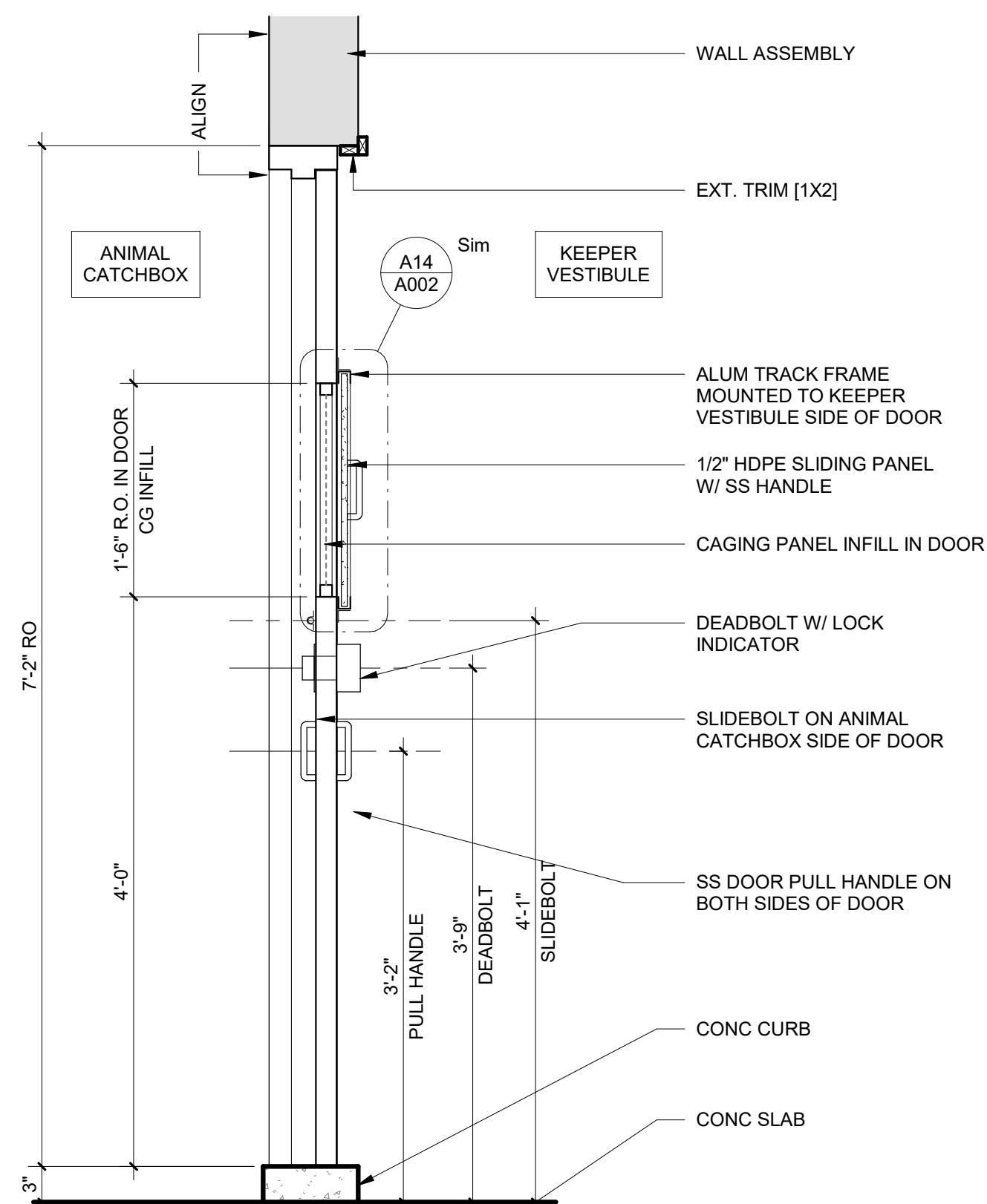
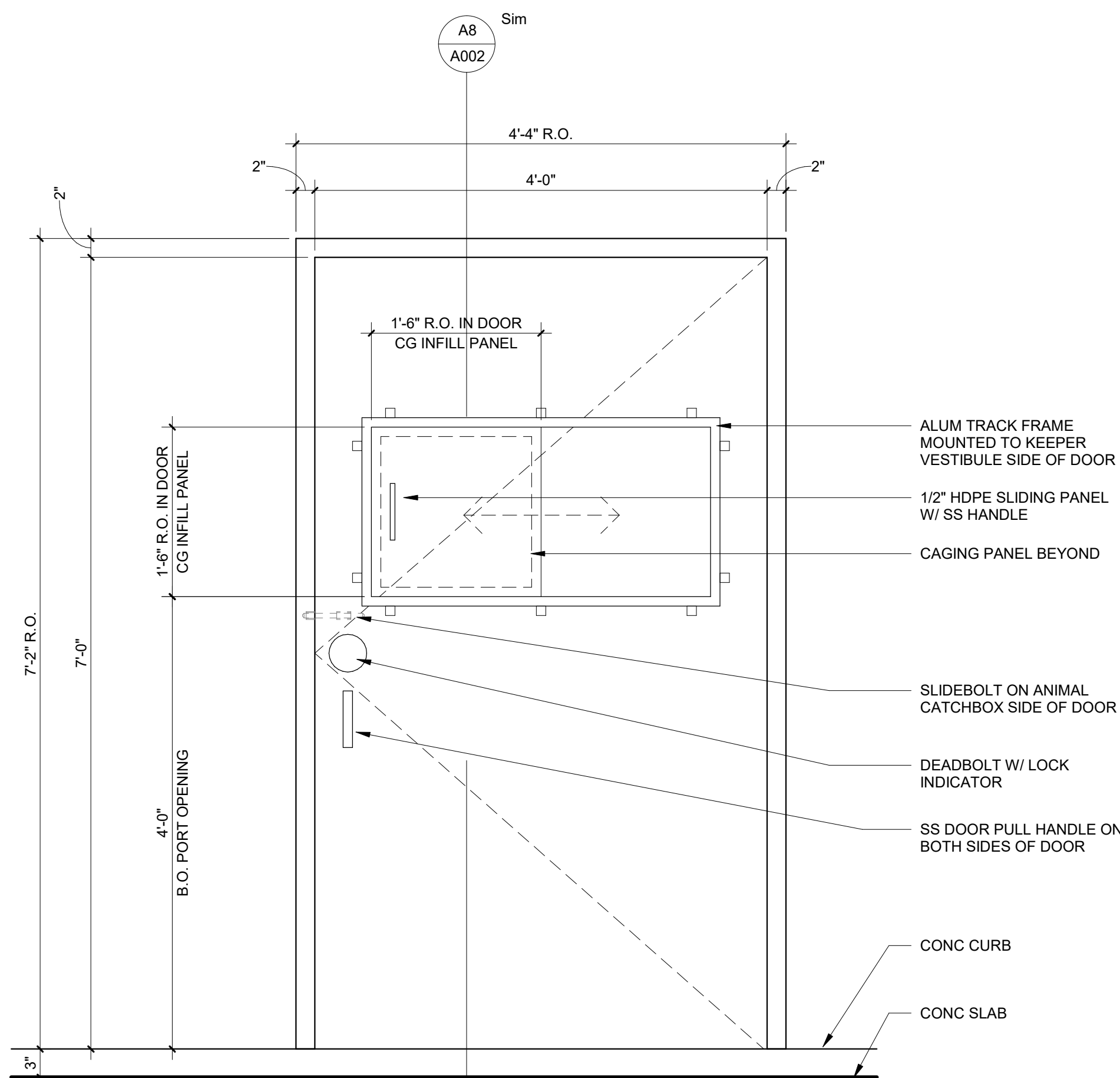
1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION

DOOR SCHEDULE							
DOOR NO.	DOOR HEIGHT	WIDTH	MATERIAL	FINISH	FRAME MATERIAL	FINISH	NOTES
A101	7' - 0"	4' - 0"	FRP	PTD	FRP	PTD	OWL CATCHBOX
A201	7' - 0"	4' - 0"	FRP	PTD	FRP	PTD	EAGLE CATCHBOX

DOOR SCHEDULE NOTES:

1. REFER TO CAGING [CG] DRAWINGS FOR KEEPER (K) AND ANIMAL TRANSFER (T) DOORS
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

NOTE:
GC TO PROVIDE PADLOCKS FOR **ALL** DOORS [KEEPER DOORS, TRANSFER DOORS, GATES, ETC] AND KEYING FOR ALL LOCKING SYSTEMS.
PADLOCK PRODUCT: ABUS 83/45
KEYING SYSTEM: PIMLICO - LEVEL 2 FOR THE ZOO'S SYSTEM, KEY TO: AF/AF15/AF21 [COORDINATE W/ CLIENT]



A1	FRP DOOR AT CATCHBOXES - A101 & A201
----	--------------------------------------

1" = 1'-0"						
1	2	3	4	5	6	7

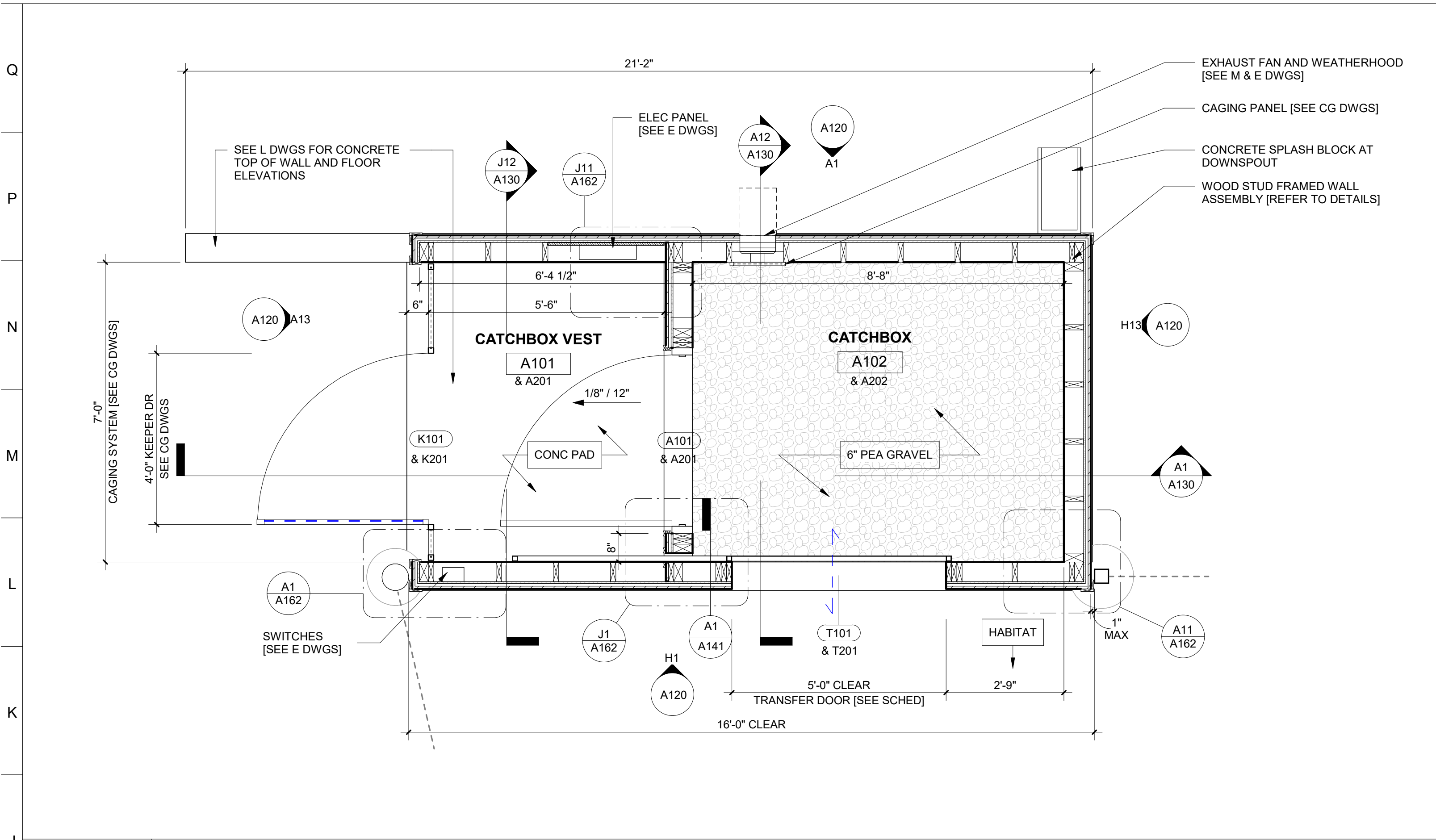
A8	FRP DOOR SECTION
----	------------------

1" = 1'-0"					
8	9	10	11	12	13

A14 PORT OPENING IN FRP DOOR DETAIL

3" = 1'-0"						
14	15	16	17	18	19	20

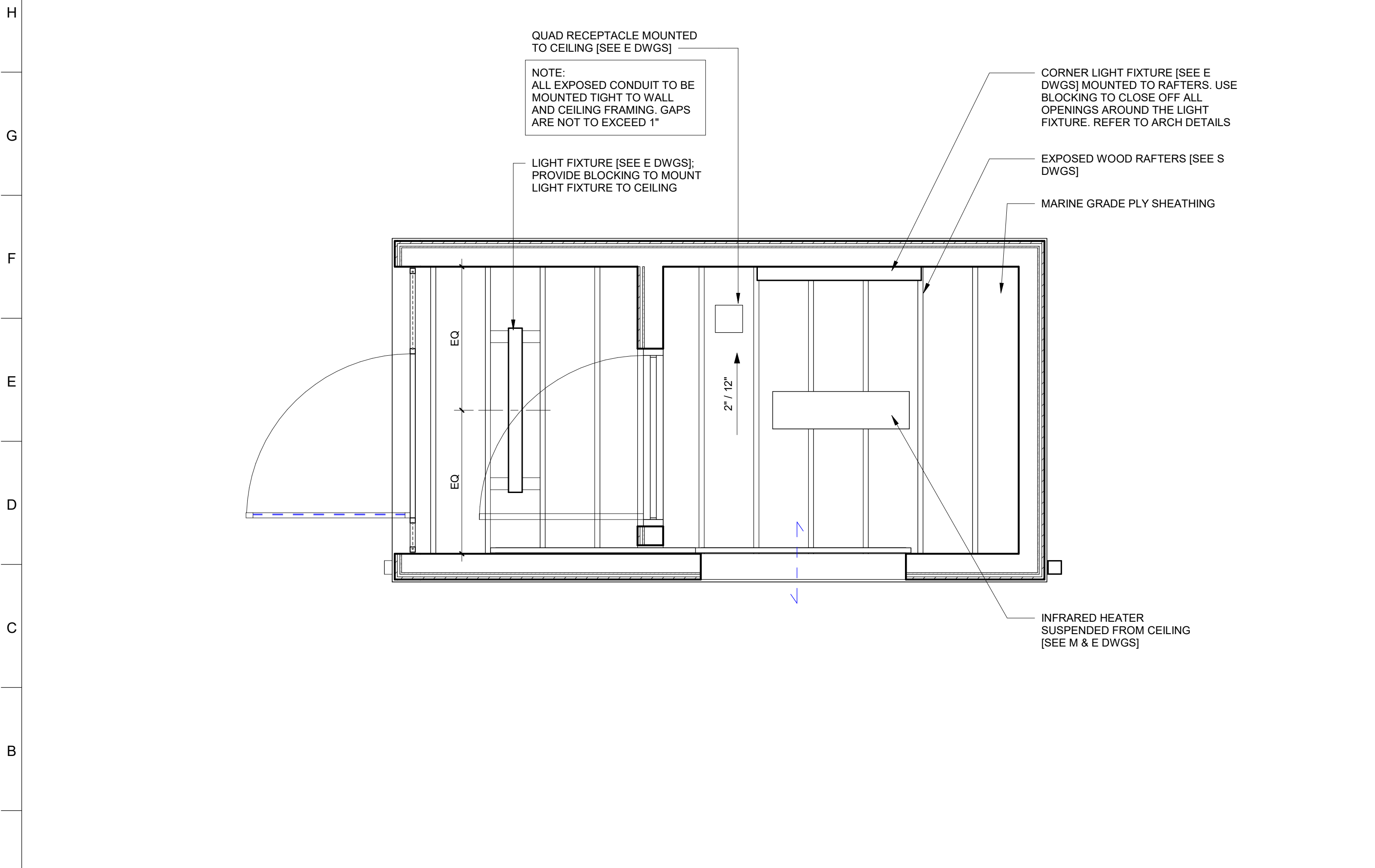
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----



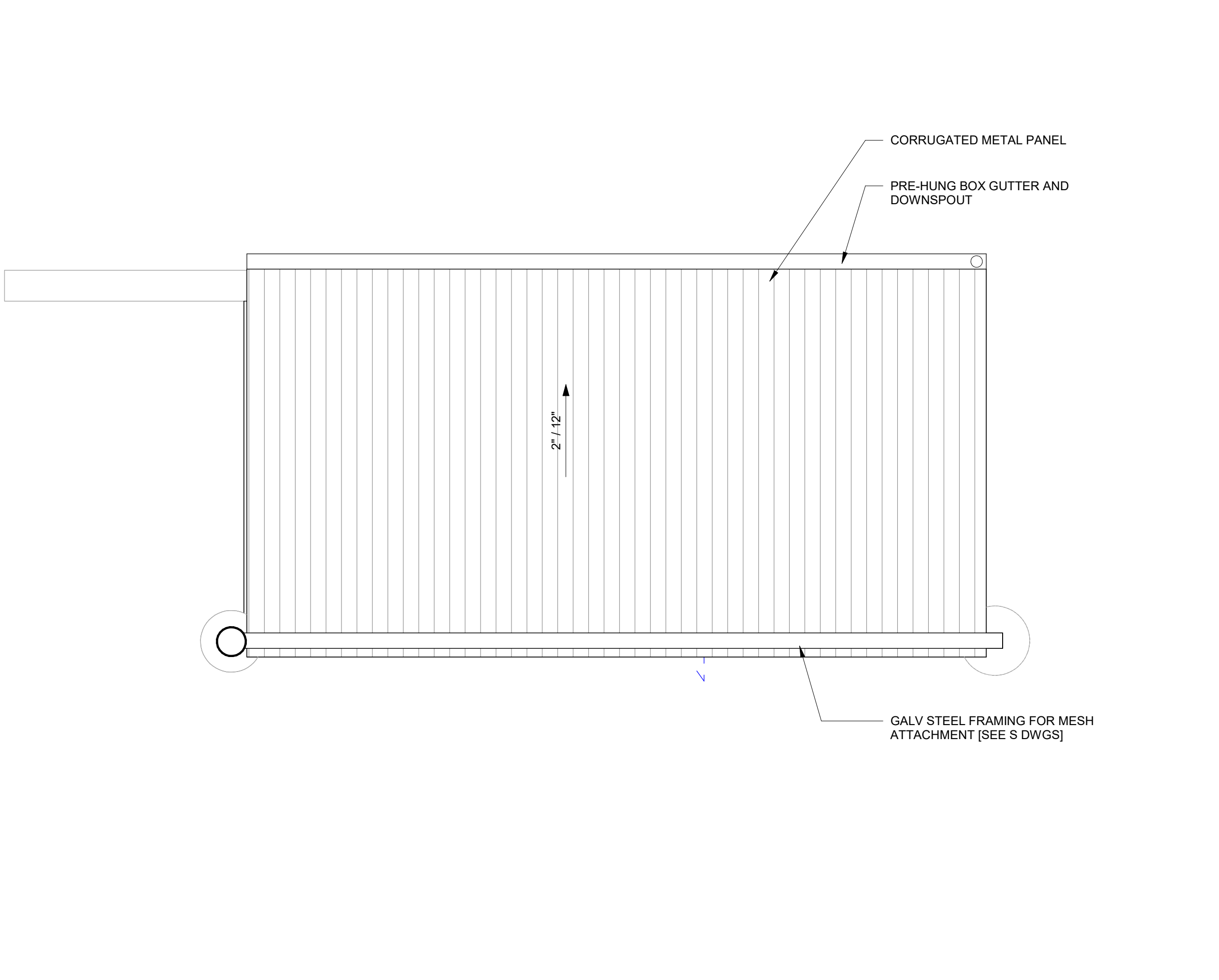
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NOTE:
CONTRACTOR RESPONSIBLE FOR BLOCKING NEEDED FOR EQUIPMENT AND CAGING ATTACHMENT. FASTENERS SUCH AS NAILS AND SCREWS ARE TO BE DRIVEN FLUSH OR SLIGHTLY COUNTERSUNK. FASTENERS ARE NOT TO PENETRATE OR EXTEND THROUGH THE OPPOSITE SIDE OF THE WALL. GRIND DOWN ALL EXPOSED FASTENERS AND BURRS. THERE ARE TO BE NO EXPOSED SHARP EDGES. TYP.

J1 CATCHBOX FLOOR PLAN
1/2" = 1'-0"



A1 CATCHBOX RCP PLAN
1/2" = 1'-0"



A12 CATCHBOX ROOF PLAN
1/2" = 1'-0"



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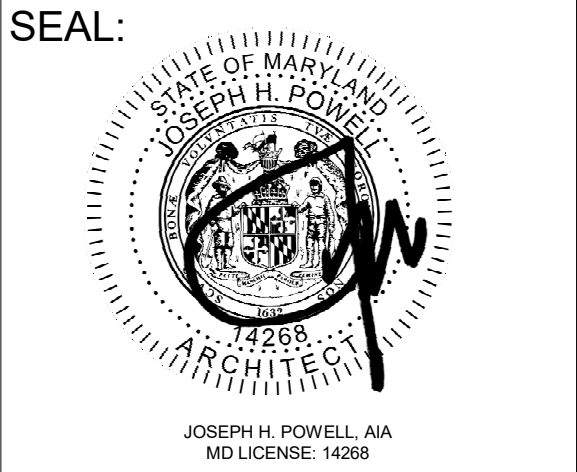
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CHESAPEAKE FLYWAY
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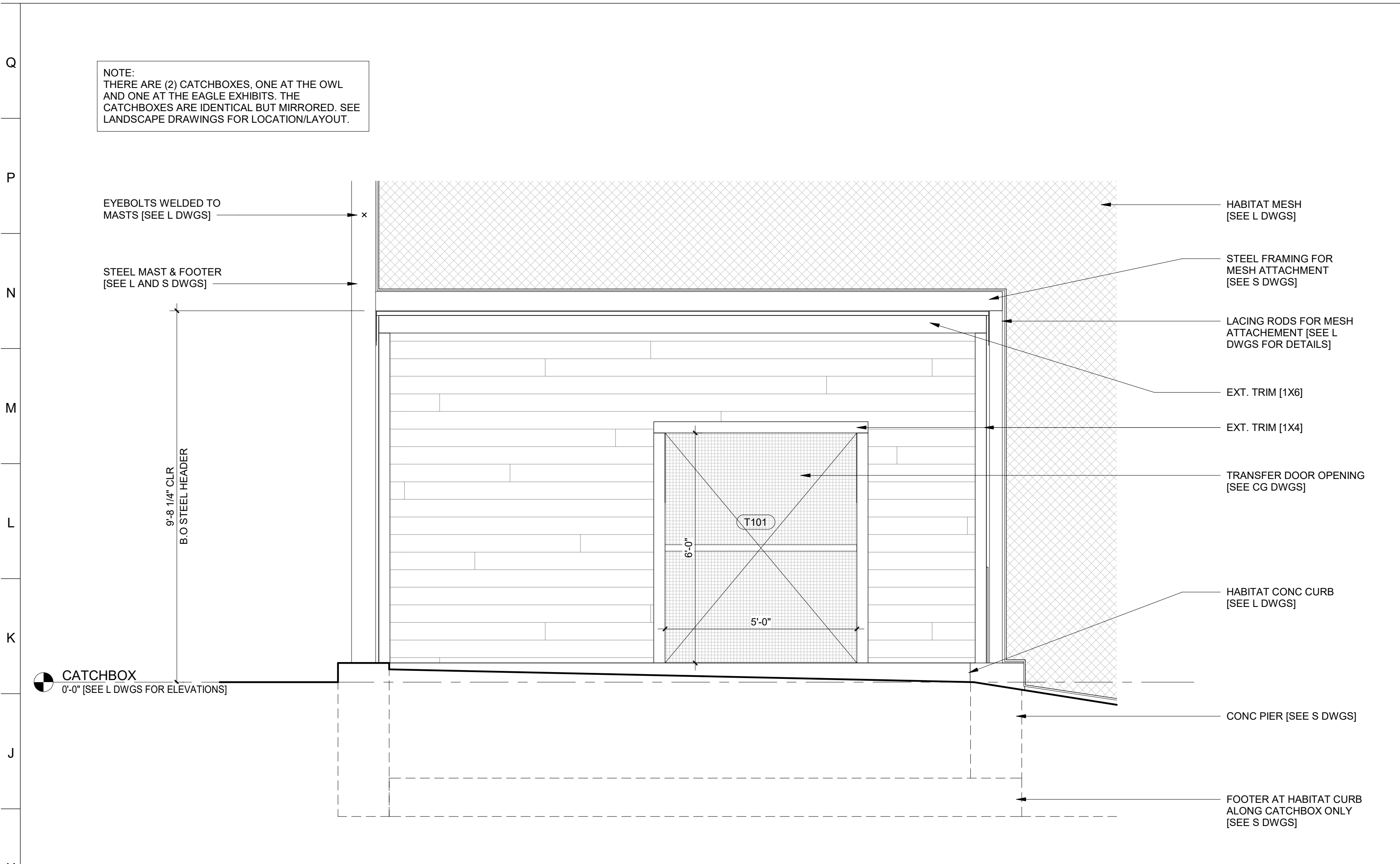
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BID SET 09/01/2026

REVISION	DATE

DRAWING TITLE:
CATCHBOX PLANS

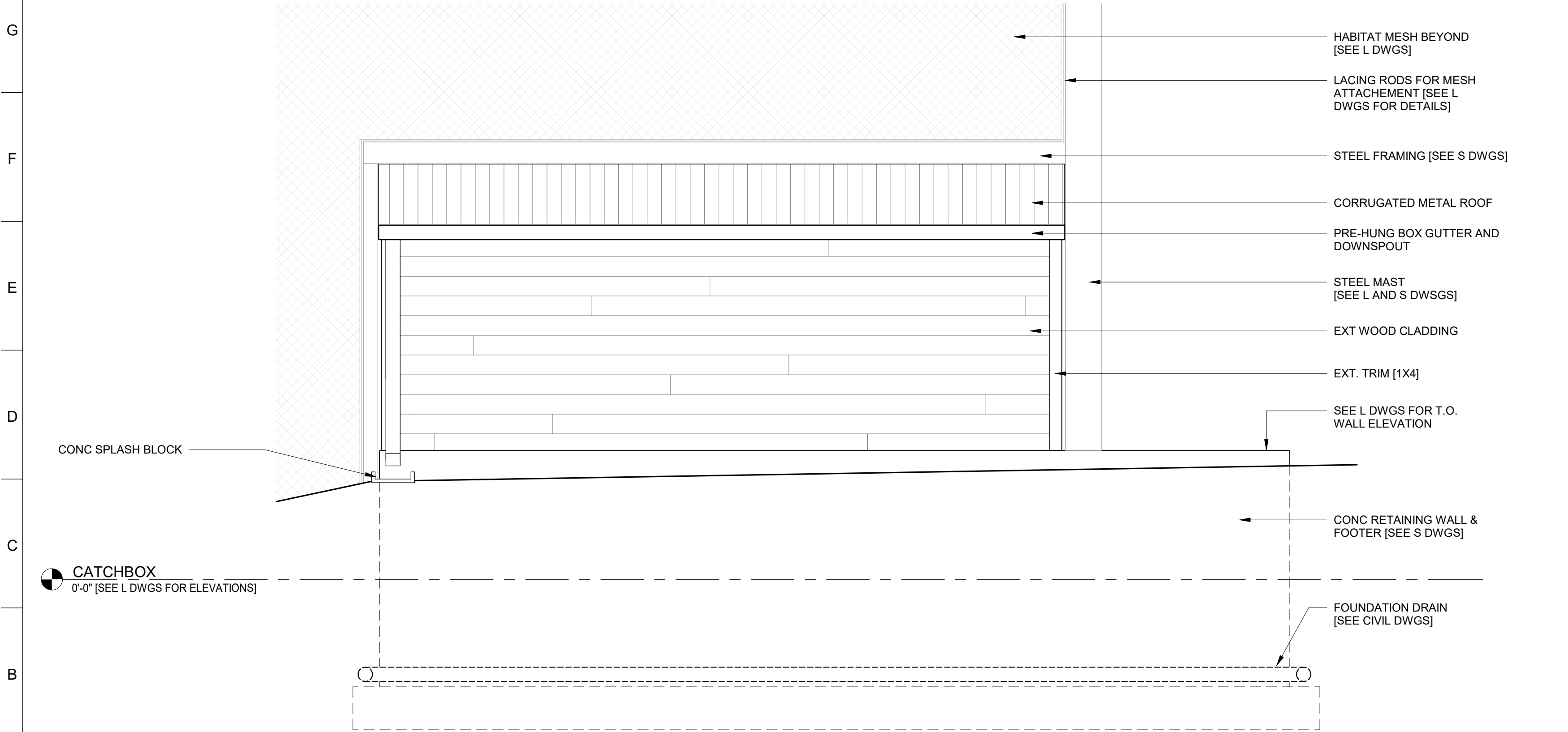
DRAWING NO:

A110



H1 PLAN SOUTH ELEVATION

1/2" = 1'-0"



A1 PLAN NORTH ELEVATION

1/2" = 1'-0"

1

2

3

4

5

6

7

8

9

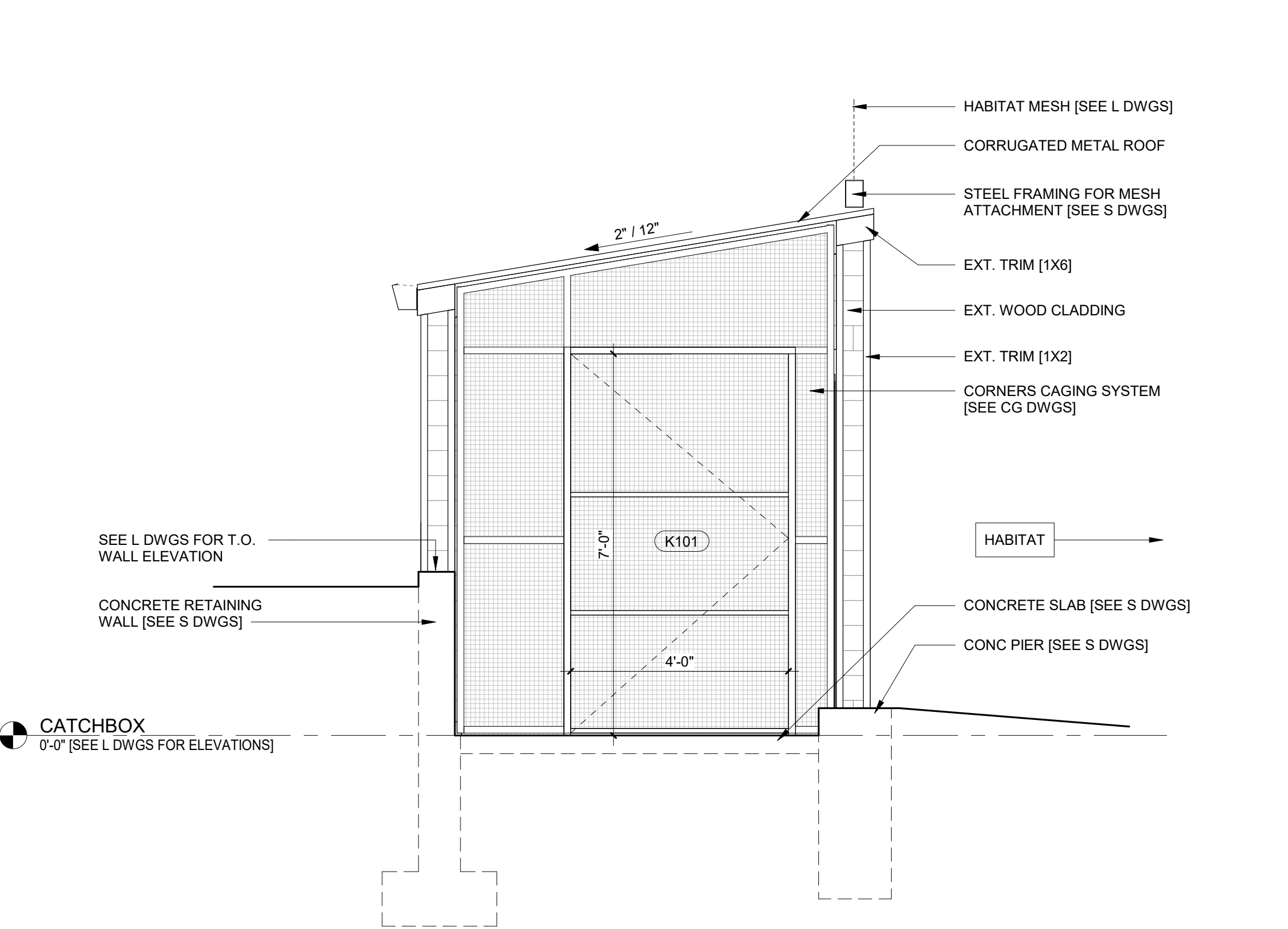
10

11

12

H13 PLAN EAST ELEVATION

1/2" = 1'-0"



A13 PLAN WEST ELEVATION

1/2" = 1'-0"

13

14

15

16

17

18

19

20



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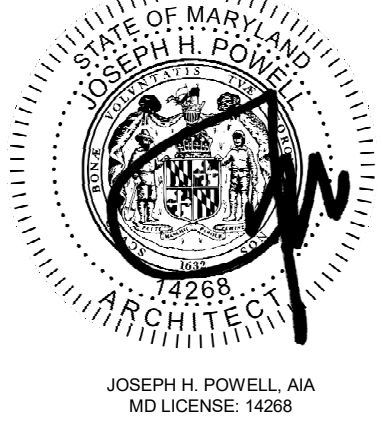
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**CHESAPEAKE
FLYWAY**
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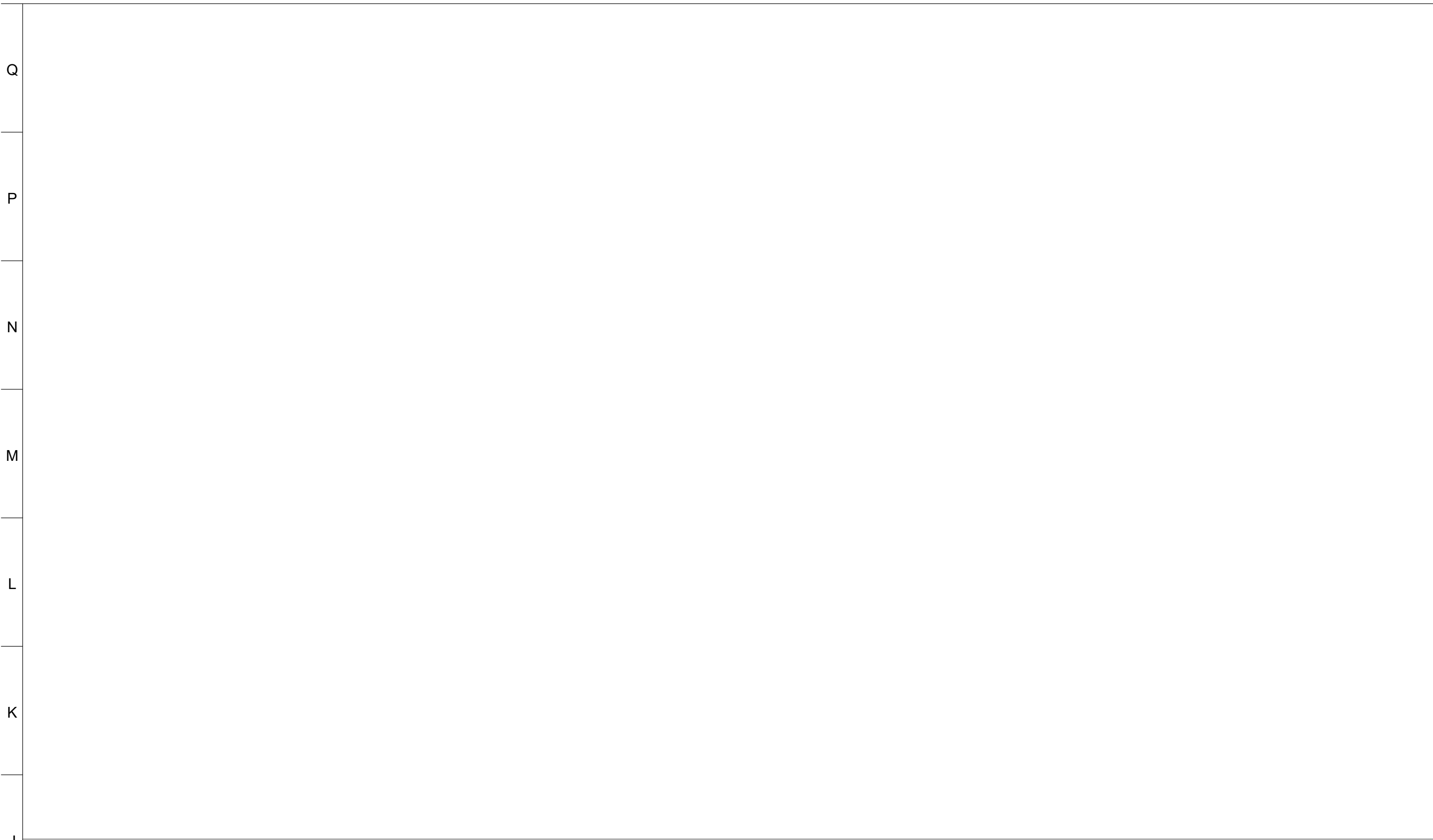
DATE: SEPTEMBER 01, 2026
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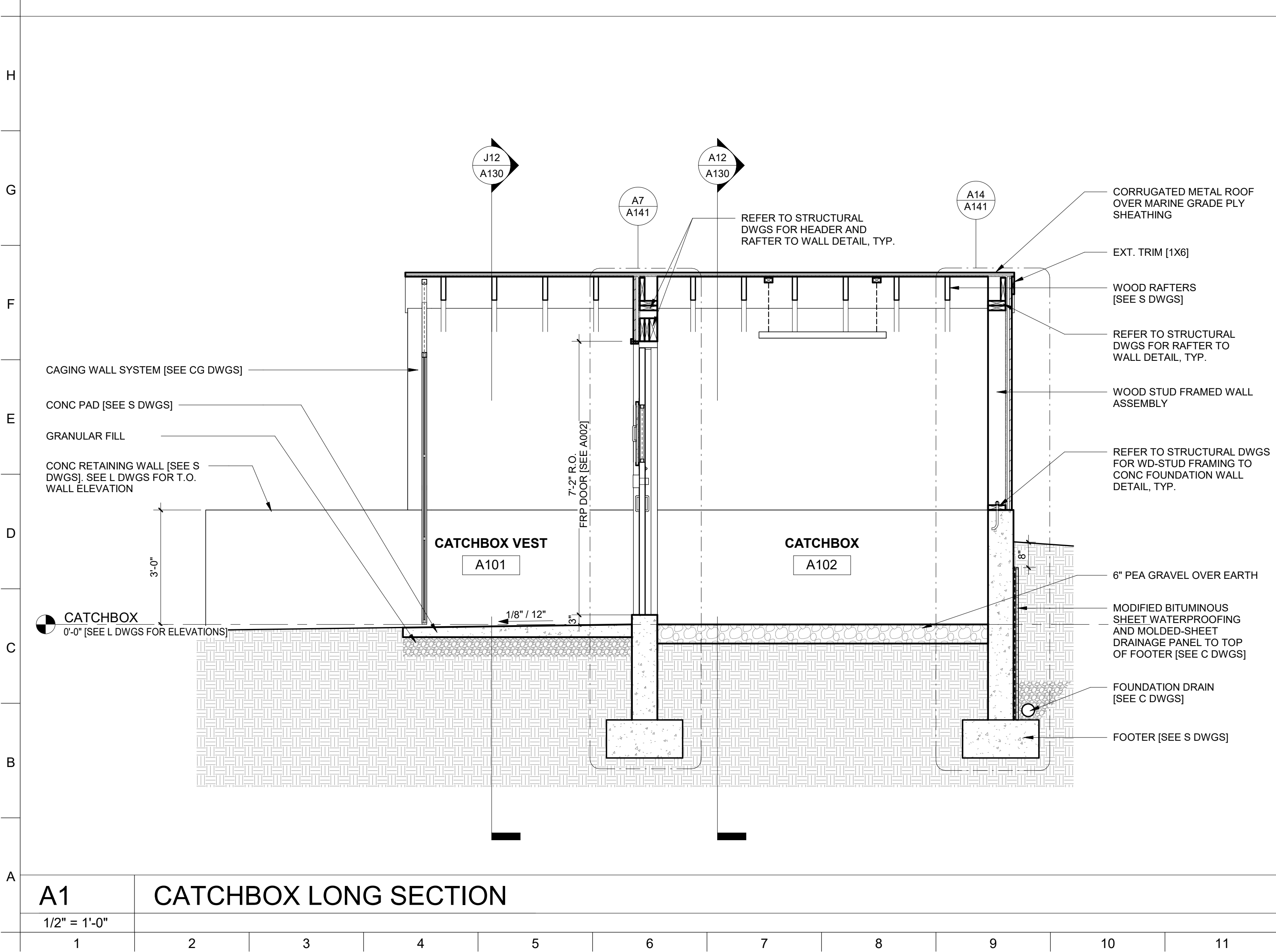
DRAWING TITLE:
**CATCHBOX
ELEVATIONS**

DRAWING NO:

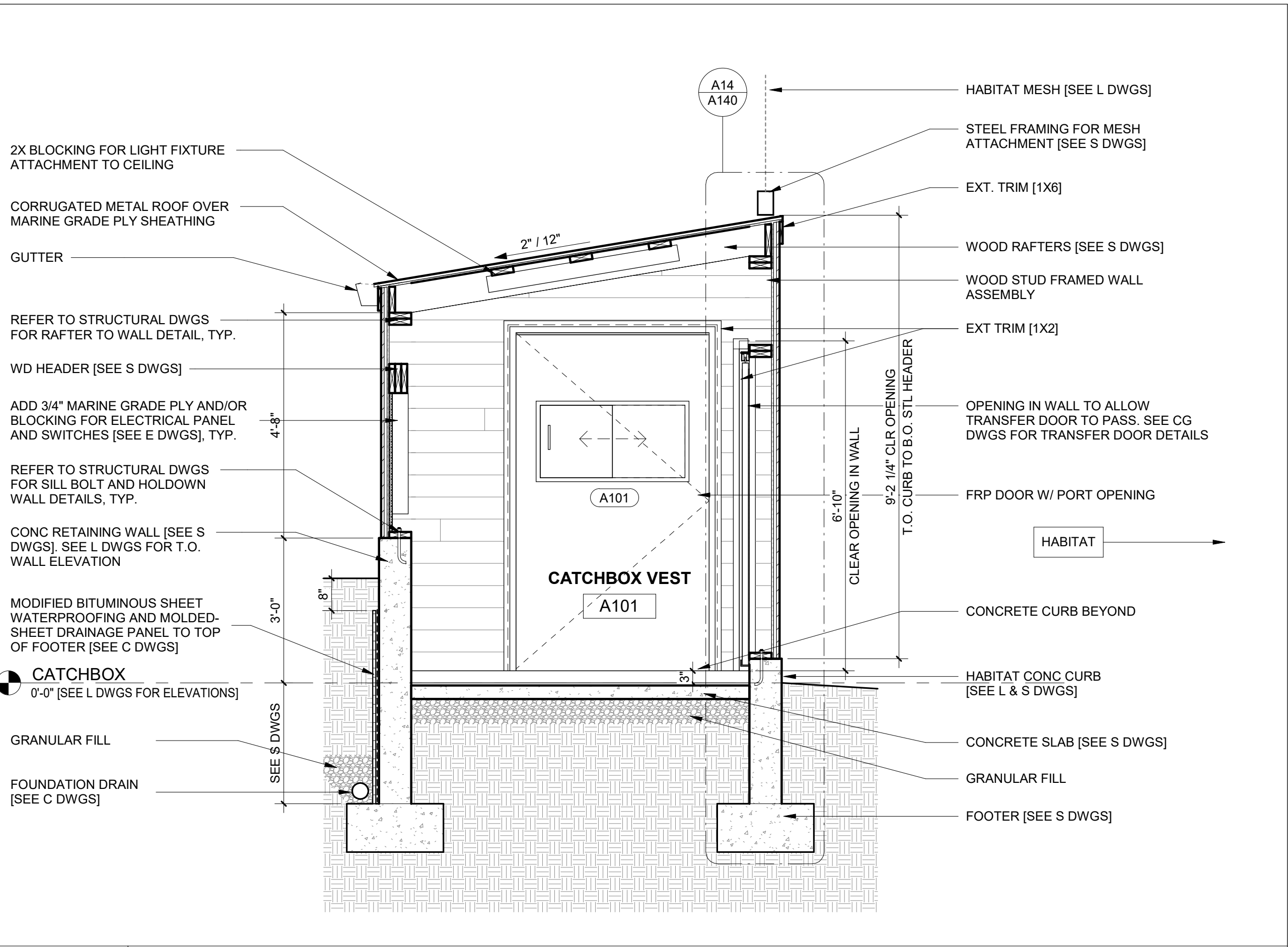
A120



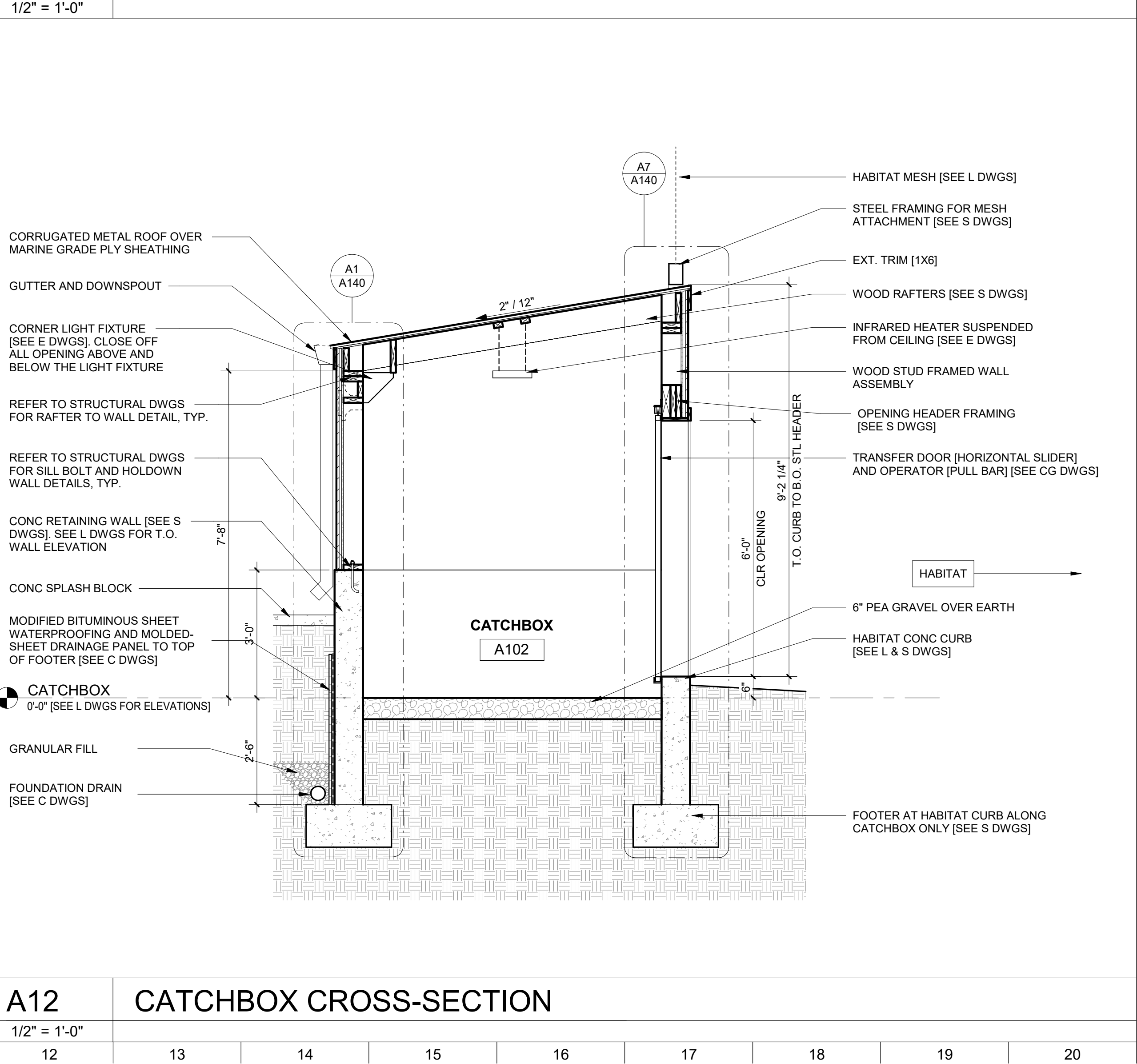
A1 CATCHBOX LONG SECTION



A12 CATCHBOX CROSS-SECTION



A130 CATCHBOX CROSS-SECTION



A130 CATCHBOX CROSS-SECTION



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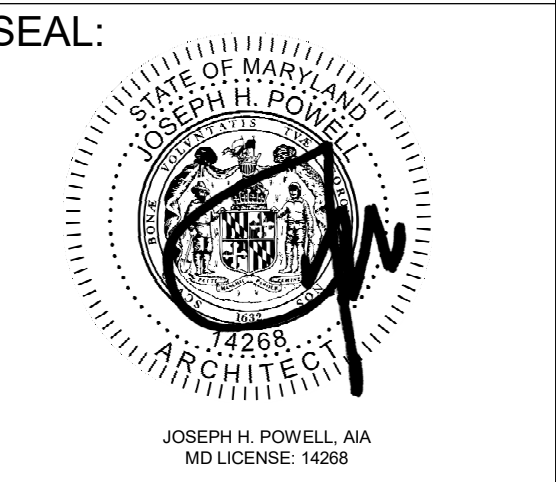
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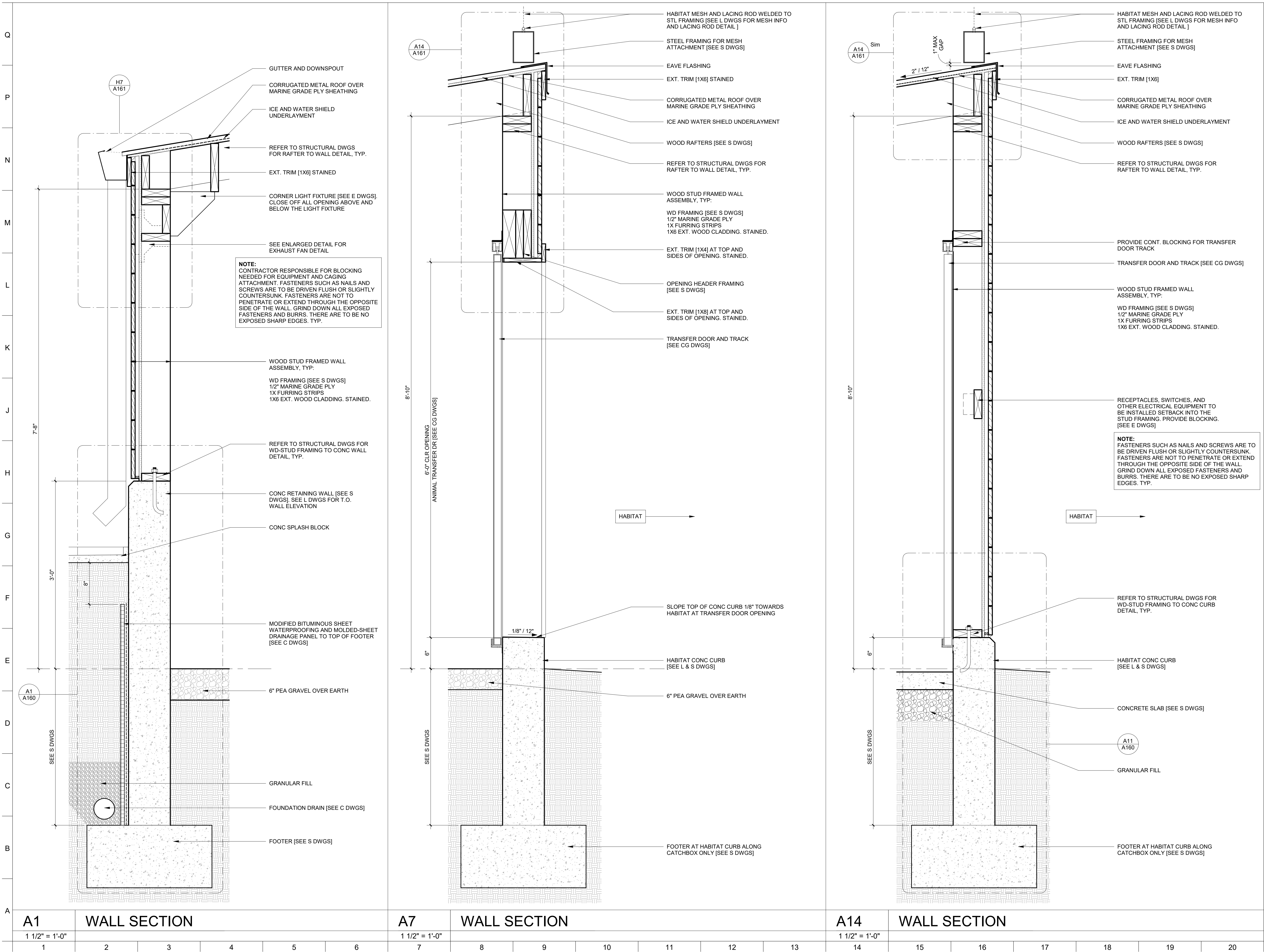


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DRAWING TITLE:
CATCHBOX BUILDING SECTIONS

DRAWING NO:
A130



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SEAL:

STATE OF MARYLAND
JOSEPH H. POWELL, AIA
14288
ARCHITECT

JOSEPH H. POWELL, AIA
MD LICENSE: 14288

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CC

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JS

SUBMISSION

DATE

BID SET

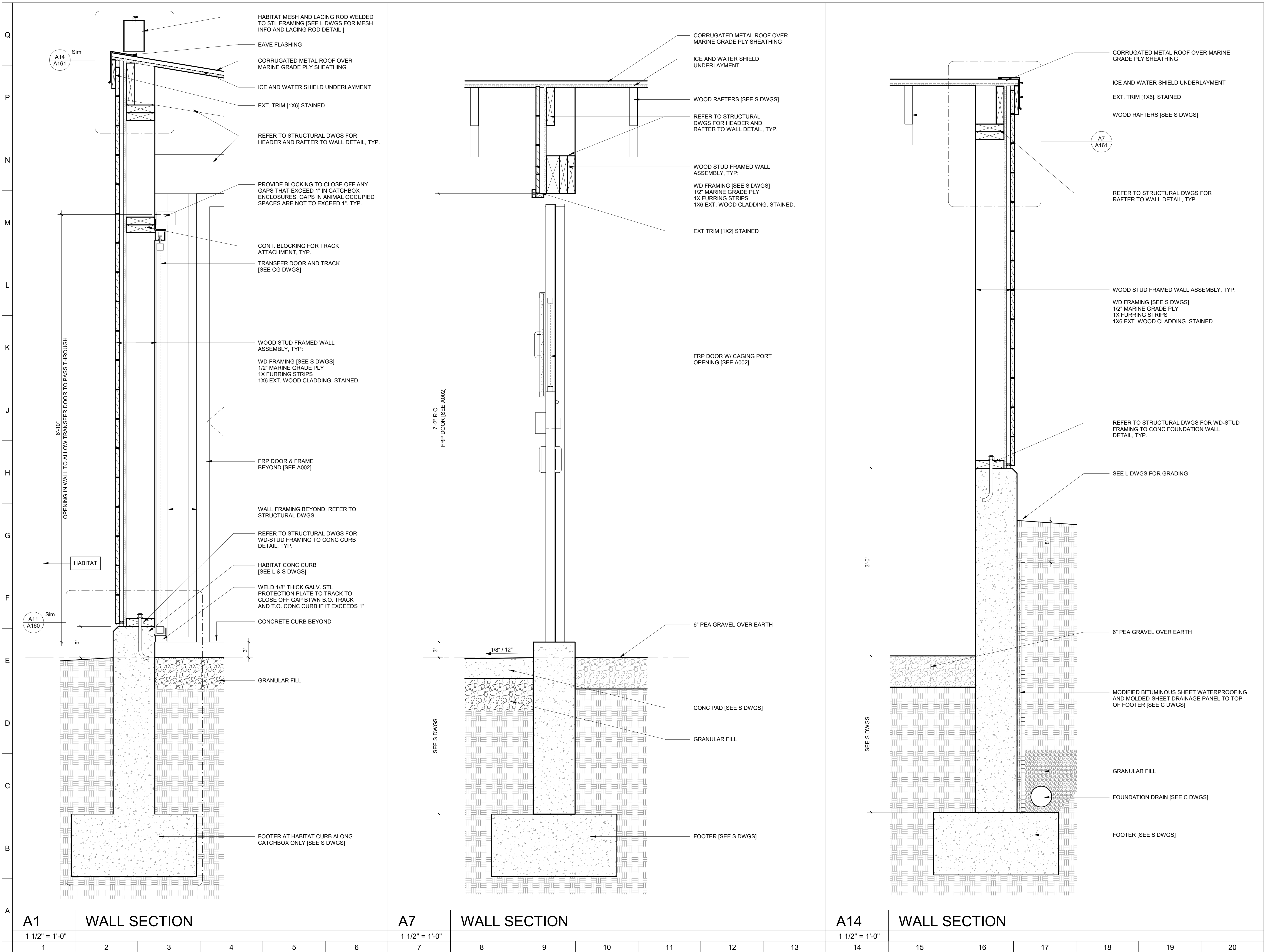
09/01/2026

REVISION

DATE

DRAWING TITLE:
CATCHBOX WALL
SECTIONS

DRAWING NO:
A140



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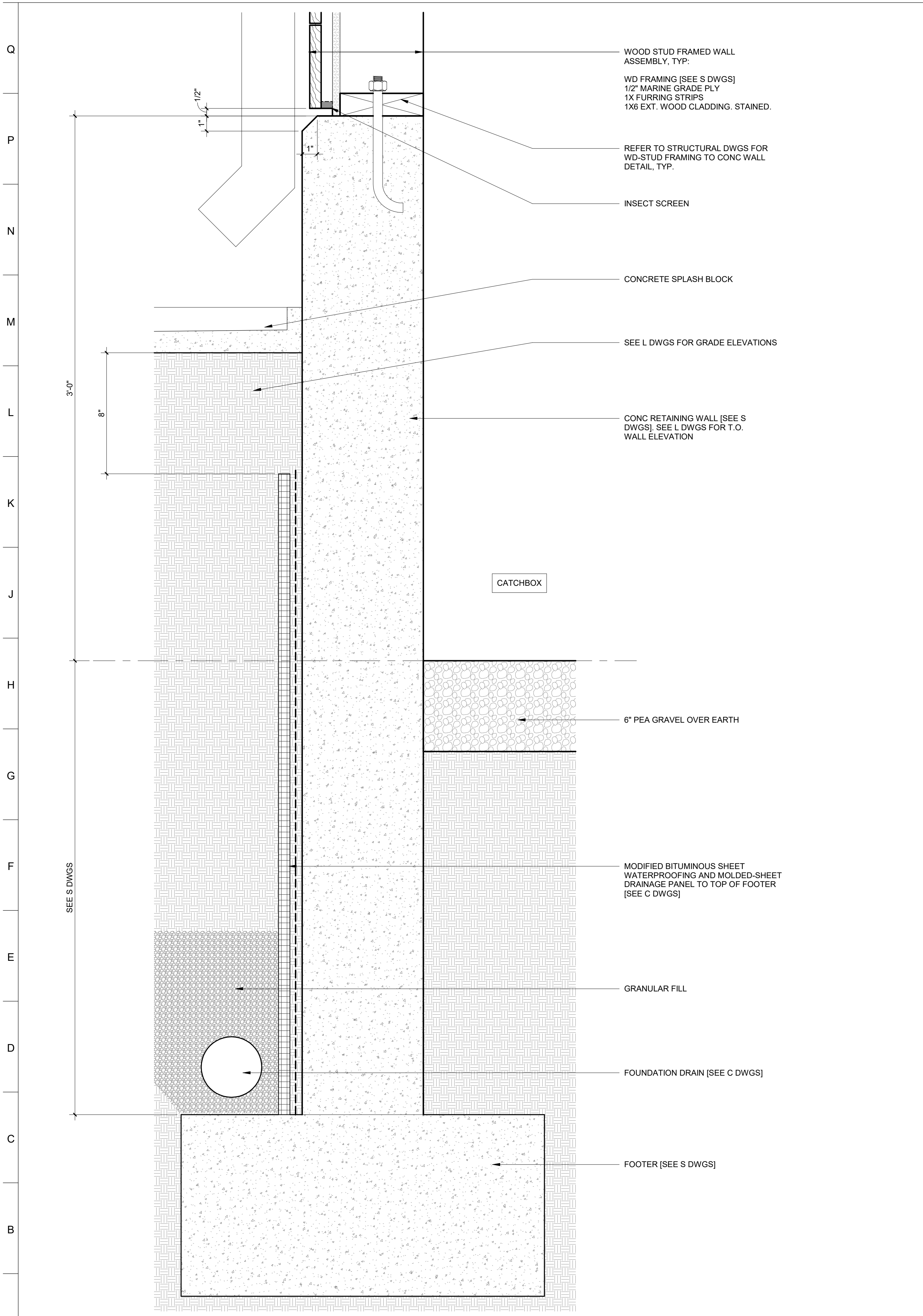
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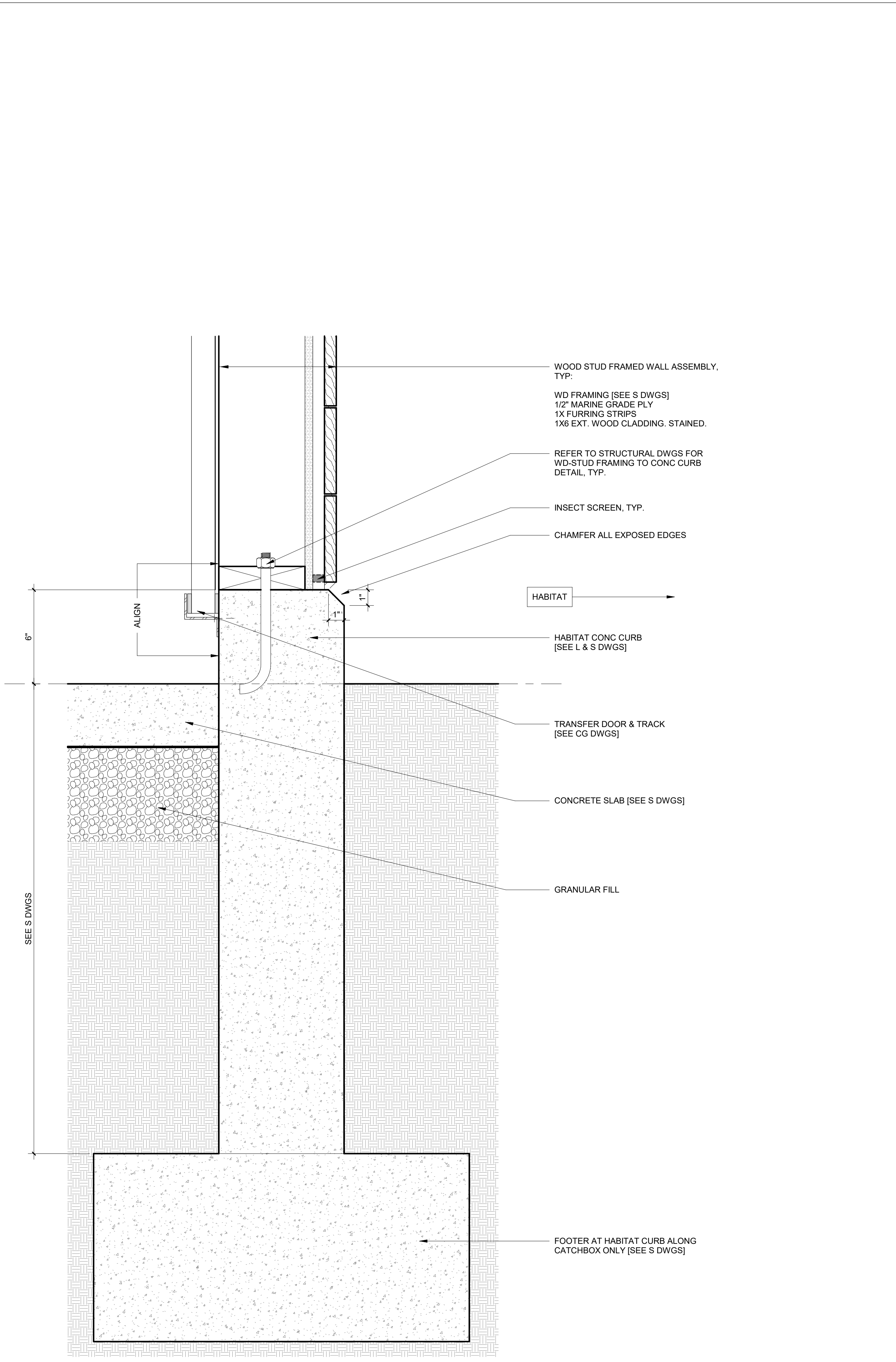
DRAWING TITLE:
CATCHBOX WALL SECTIONS

DRAWING NO:
A141



A1 TYP SECTION @ CATCHBOX CONC RETAINING WALL

3" = 1'-0"	1	2	3	4	5	6	7	8	9	10
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A11 TYP SECTION @ CATCHBOX CONC CURB WALL

3" = 1'-0"	11	12	13	14	15	16	17	18	19	20
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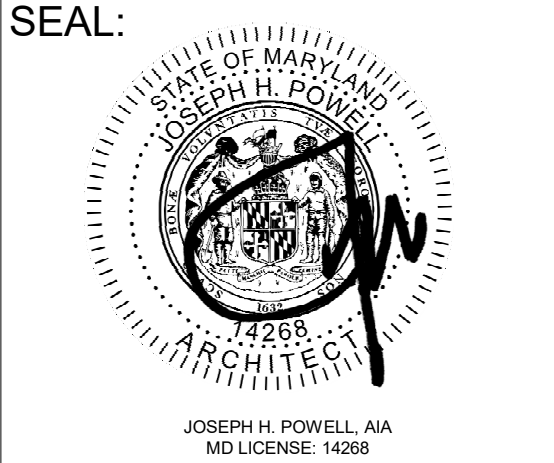
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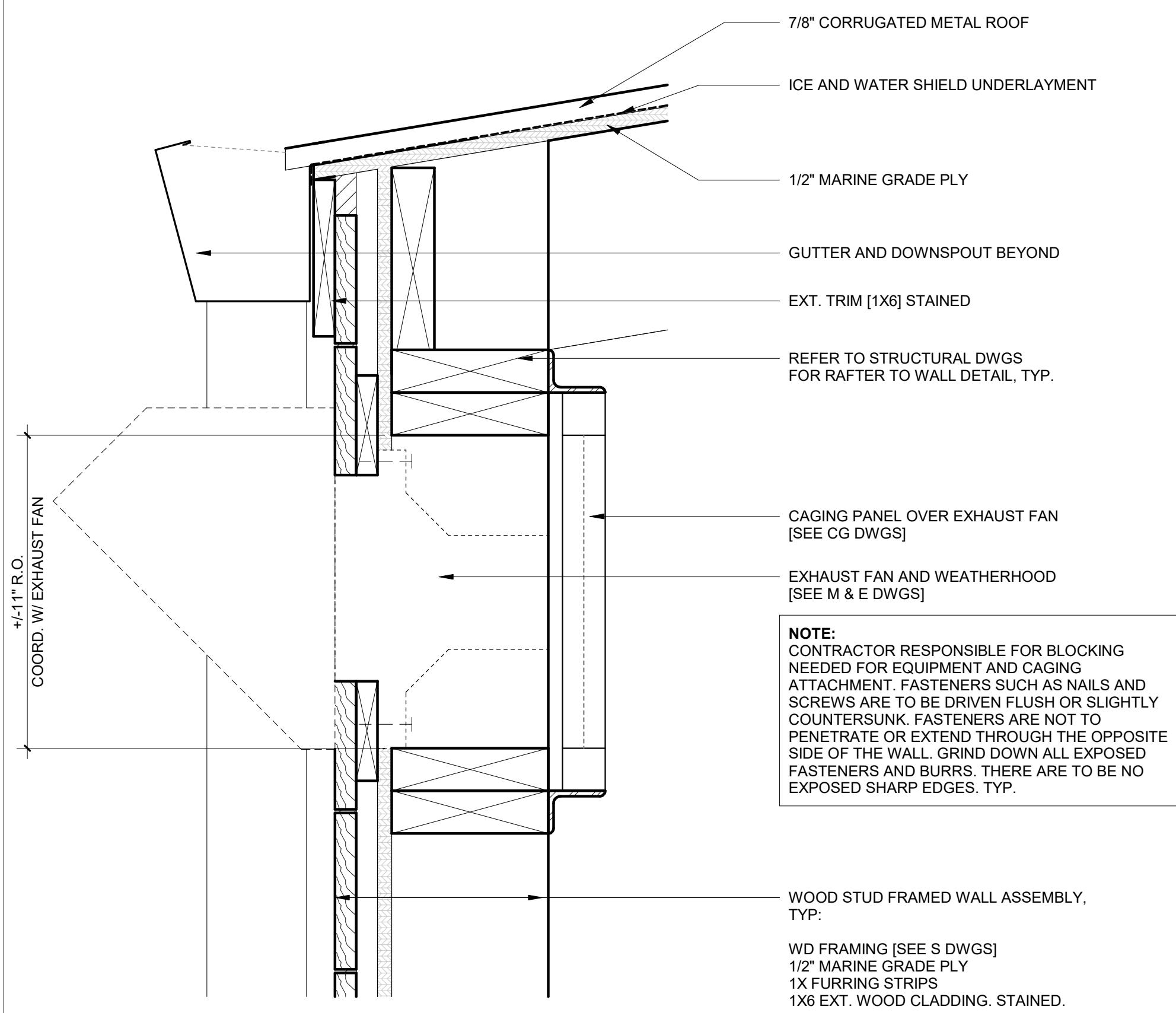
REVISION	DATE

DRAWING TITLE:
ENLARGED DETAILS

DRAWING NO:

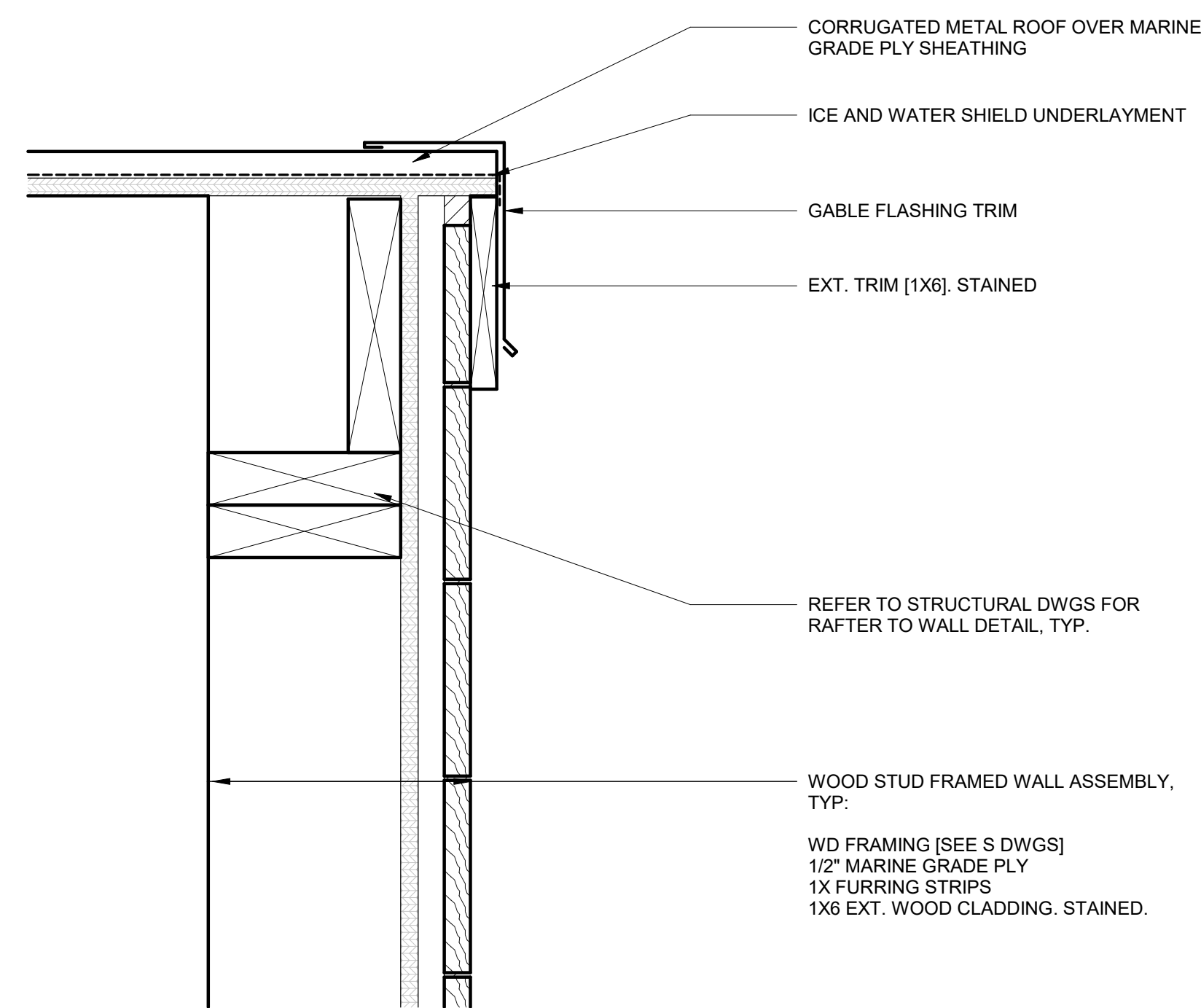
A160

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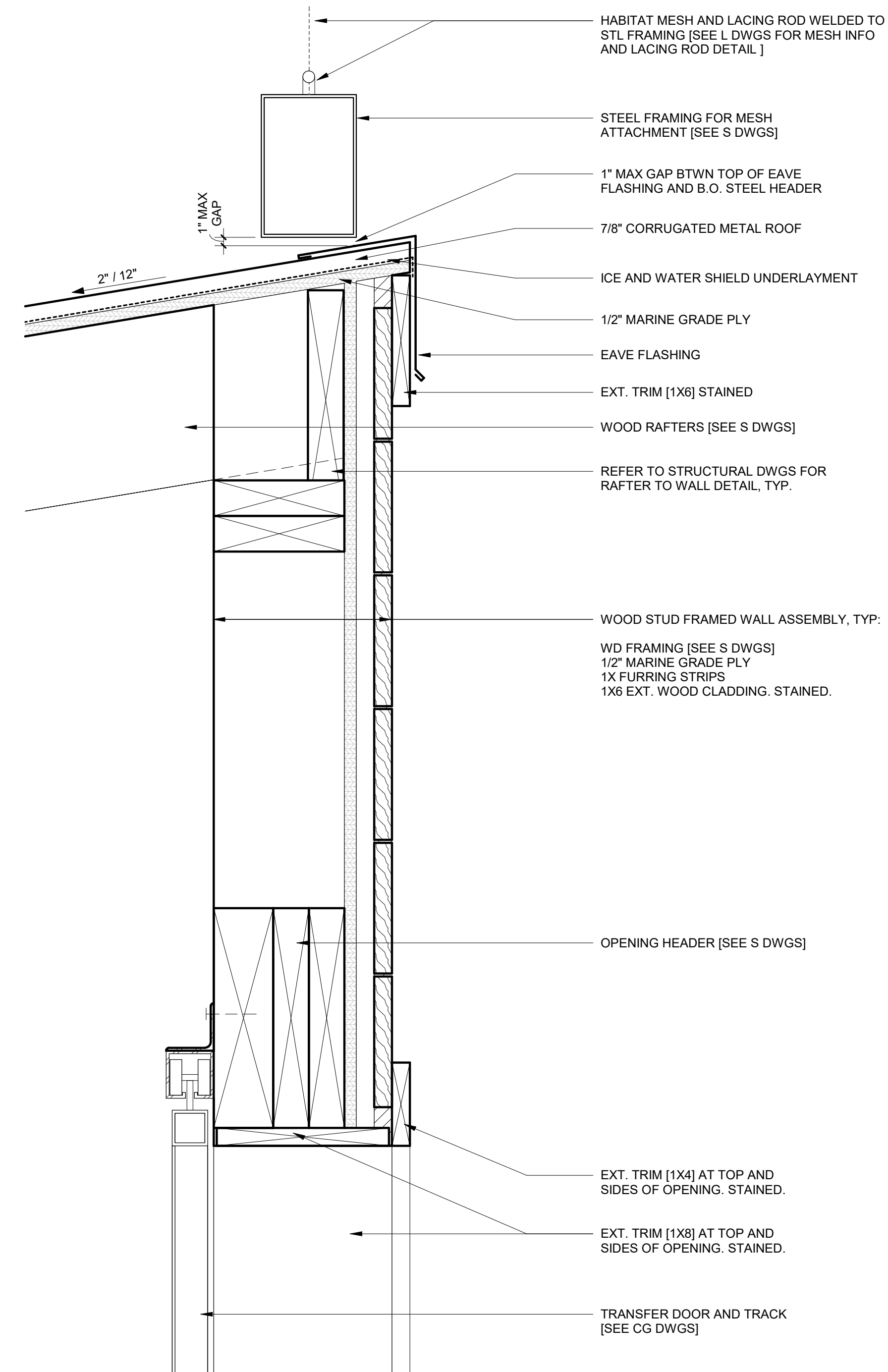
H7	LOW EAVE DETAIL
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3" = 1'-0"



A7	GABLE END DETAIL
----	------------------

3" = 1'-0"



A14	HIGH EAVE DETAIL
-----	------------------

3" = 1'-0"

BKP

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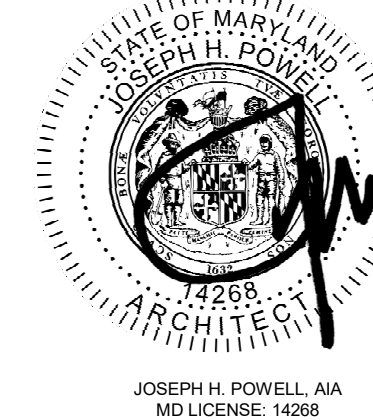
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SEAL



DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY	C
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CHECKED BY	J
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SUBMISSION	D
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BID SET	09
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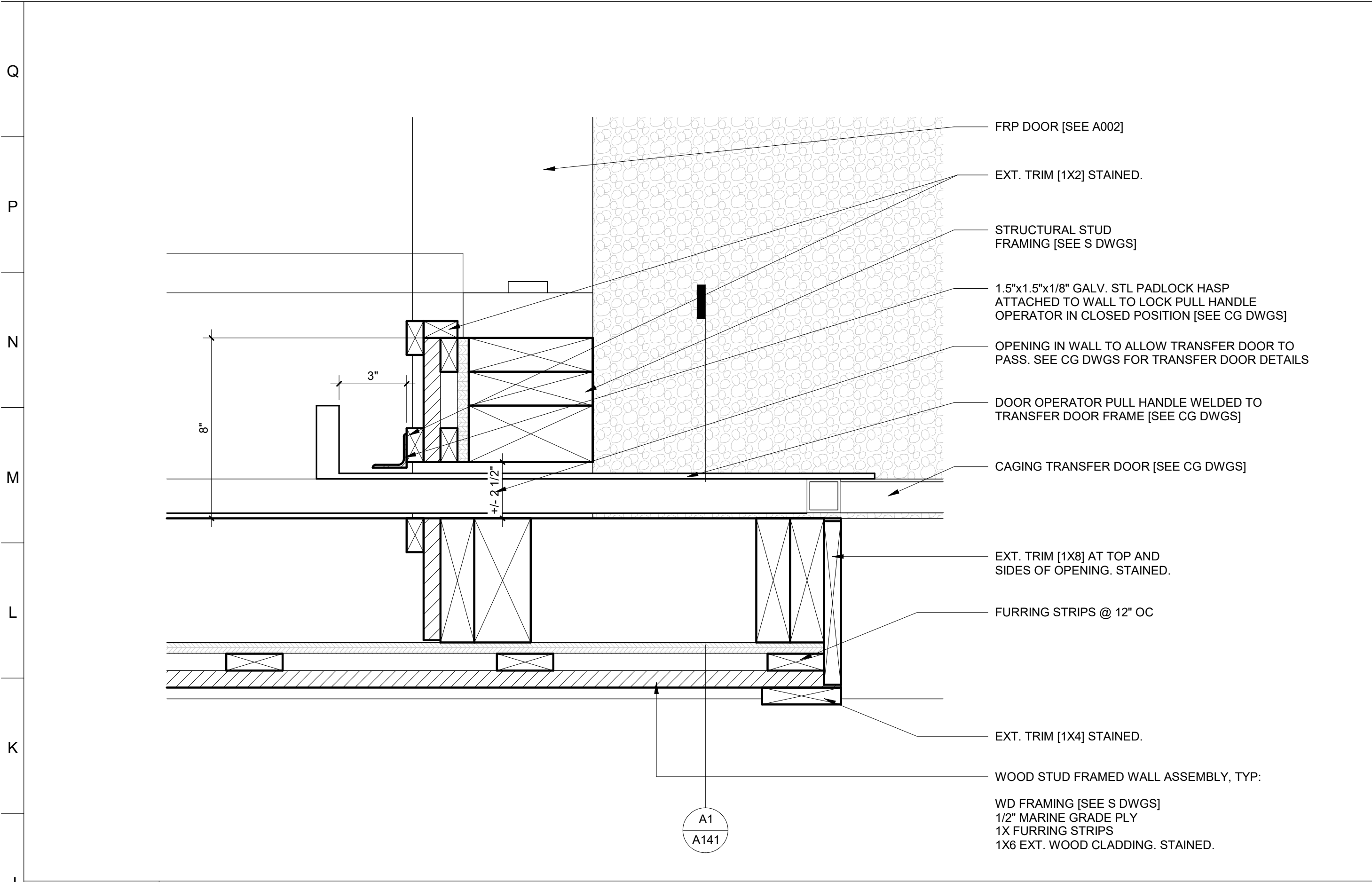
REVISION	D
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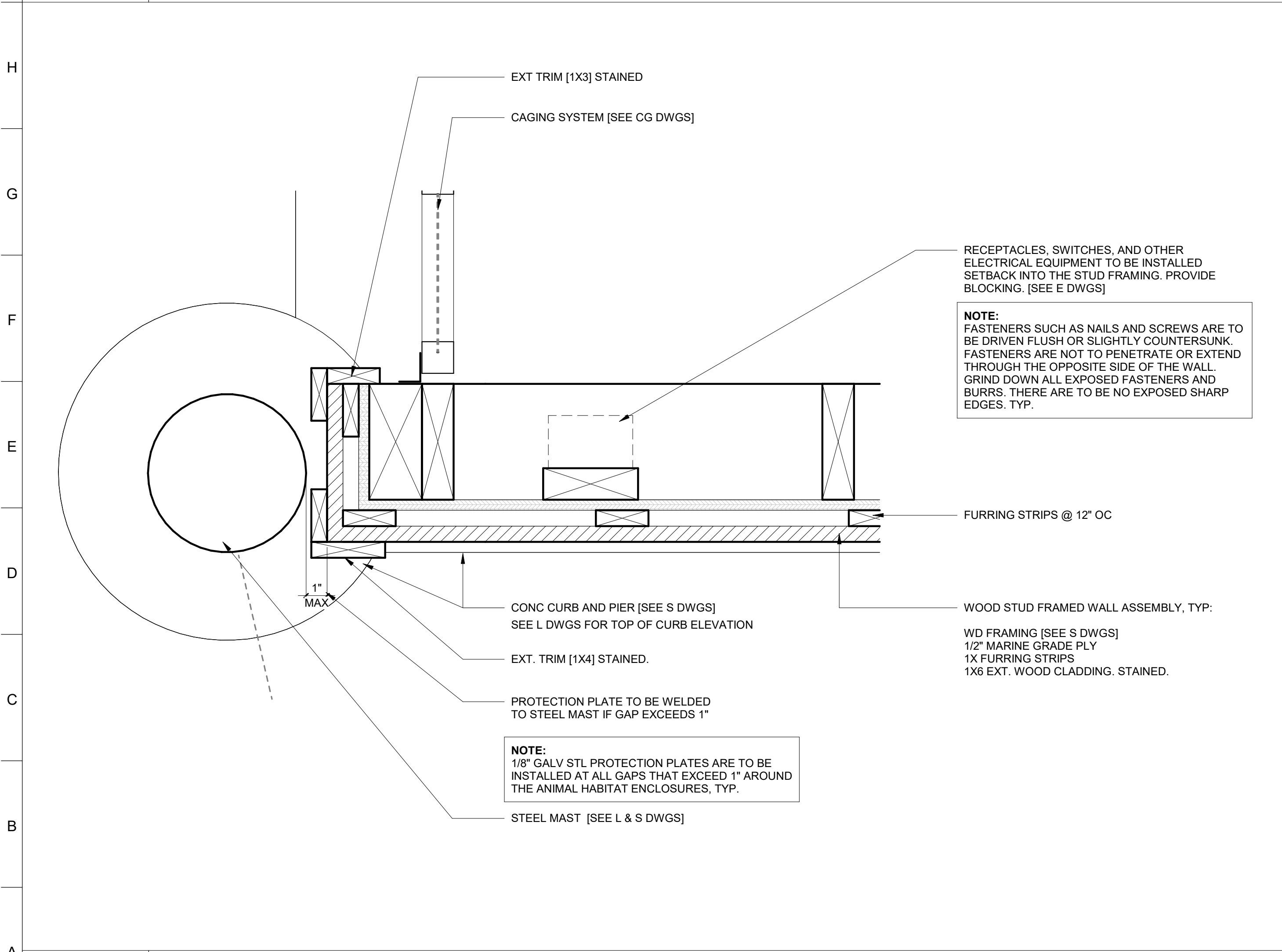
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DRAWING NO:

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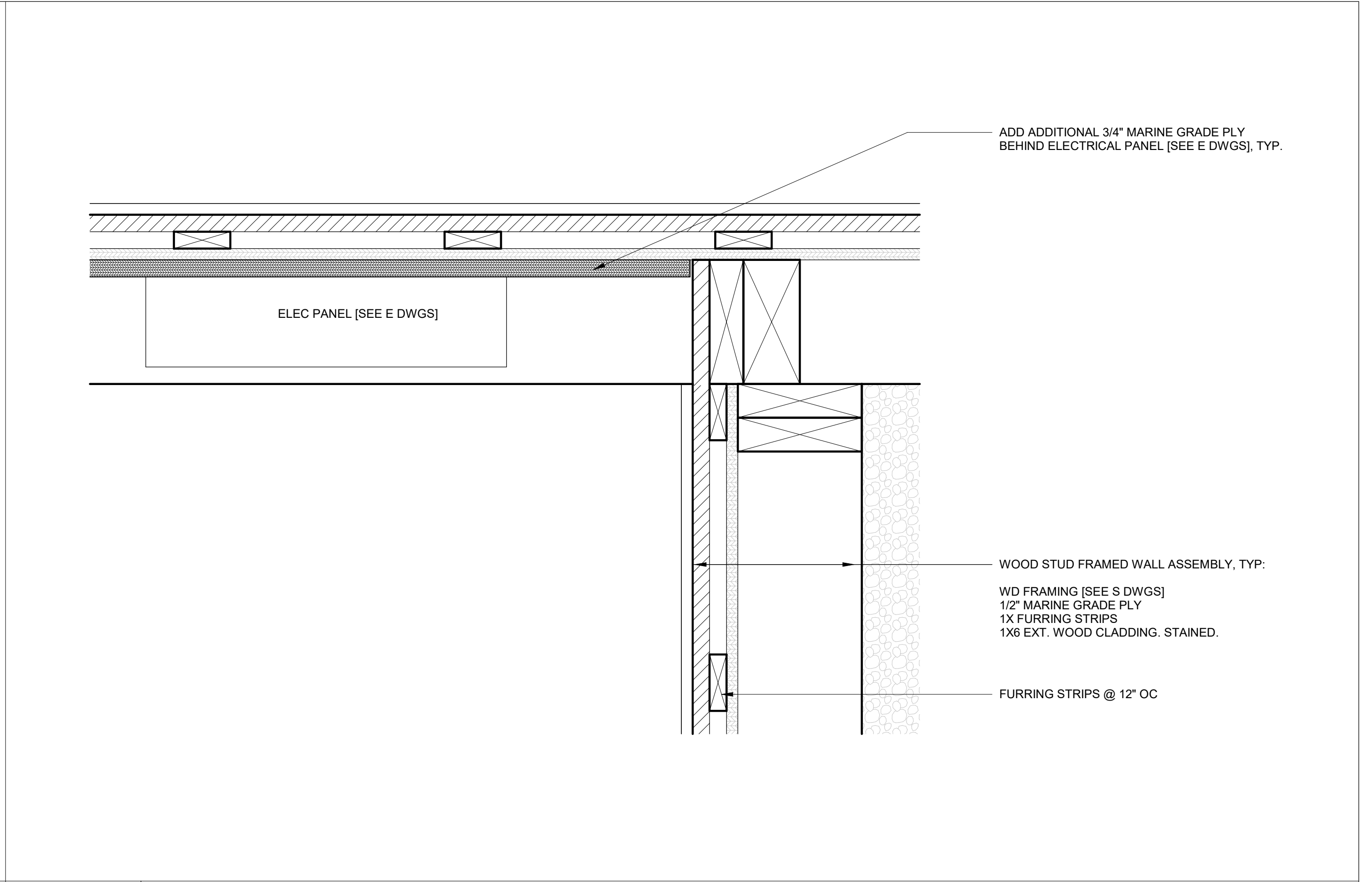


J1 ENLARGED PLAN DETAIL @ FRP AND TRANSFER DR OPENINGS
3" = 1'-0"

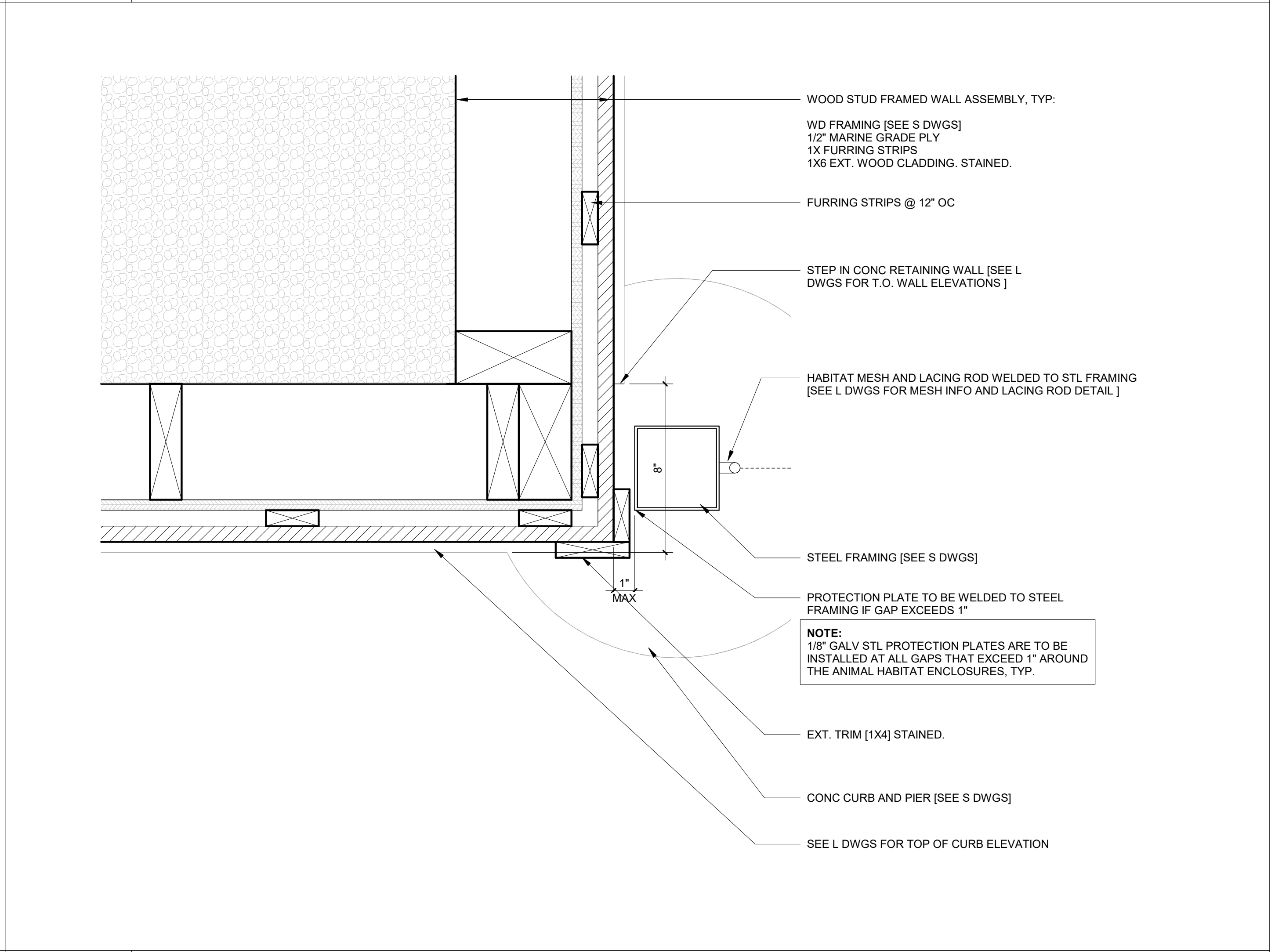


A1 ENLARGED PLAN DETAIL @ MAST
3" = 1'-0"

1	2	3	4	5	6	7	8	9	10
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J11 ENLARGED PLAN DETAIL @ INTERIOR WALL
3" = 1'-0"



A11 ENLARGED PLAN DETAIL @ STEEL FRAMING
3" = 1'-0"

11	12	13	14	15	16	17	18	19	20
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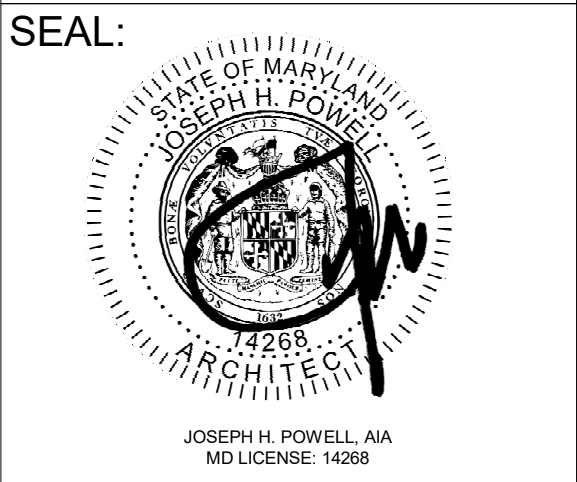
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DRAWING TITLE:
ENLARGED DETAILS

DRAWING NO:

A162

Q

P

N

M

L

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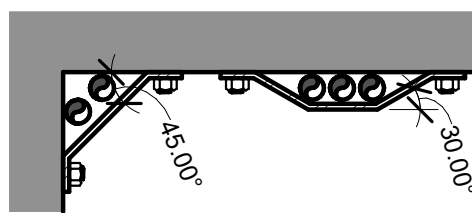
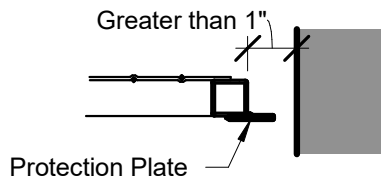
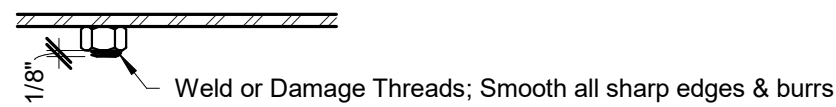
C

B

A

Animal Management Requirements of Construction

1. **General** - All items on this sheet shall be installed and/or performed as part of the base scope of work whether or not specifically detailed or noted elsewhere.
- A. Animal Management Requirements of Construction apply to all:
- a. Holding Buildings & Facilities.
- b. Indoor & outdoor transfer areas/chutes.
- B. Animal habitats, both on and off exhibit.
2. **Sharp Edges** - No construction materials are permitted to have sharp edges within an animal zone or animal reach zone.
- A. All exposed flashing must have crimped edge.
- B. All exposed hardware, fasteners, & similar items must be clipped, ground smooth, or otherwise treated to eliminate all sharp edges.
3. **Vermín Control** - Minimize potential for vermin infestation by:
- A. Seal all gaps occurring in adjoining construction with epoxy sealant as specified or approved by Architect.
- B. Cap all tubes at all exposed ends.
- C. Seal all tube steel vent holes with epoxy sealant as specified or approved by Architect.
4. **Caging Penetrations** - All required penetrations in caging systems shall be coordinated and installed so that they are kept to an absolute minimum. Wherever possible, group penetrating elements together and "gang install" to create a single penetration. Any gaps remaining between penetrating elements must be less than 1".
5. **Wall Penetrations** - All pipe, duct, or other penetration between animal space and any other space shall be sealed completely (no voids, cracks, or holes allowed) with non-shrink cementitious grout or epoxy sealant as specified or approved by the Architect. Provide stainless steel escutcheon plate on all pipe penetrations for plumbing lines, drain leaders, sprinkler lines, or other pipes. Escutcheon plate shall be installed on non-animal side of wall only.
6. **Fixed Fasteners** - Bolts & fasteners shall have a maximum projection of 1/8". All exposed fasteners within an animal space or Animal Reach Zone shall be fixed in place per the following instructions:
- A. Weld - spot weld all exposed fasteners (bolt heads, nuts, etc.). Minimize welding to galvanized surfaces. All sharp edges of welds shall be made smooth.
- B. Damage Threads - Exposed threads of bolts or anchors shall be damaged to prevent the nut from backing off. Sharp edges shall be made smooth. Contractor to verify that nuts cannot be removed.
7. **Maximum Gaps** - All gaps larger than 1" between installed items, or between installed items and existing construction shall have a continuous section of cover plate welded to the construction to reduce the gap to the maximum allowable dimension or less. Cover / Protection plate shall be of the same material and finish as the surrounding caging and have a thickness of 1/8". This section does not apply to any gap that is specifically dimensioned or noted in the drawings.
8. **Building Service Cover Plates and Conduit** - Cover plates or PVC conduit shall be installed wherever exposed cables, chains, electric lines, hydraulic lines, or other building service elements that occur within an Animal Reach Zone. Cover plate shall be of the same material and finish as the surrounding caging and have a thickness of 1/8". Cover plate shall be fixed to new or existing construction with SS anchor or weld, UNO. Conduit housed elements are to be tight to wall and ceiling, not to exceed 1" gap.
9. **Transfer Door Operators** - Transfer door operators and other animal management devices mounted to the face of a caging system may require additional framing beyond what is shown in the drawings to accommodate mounting and/or locking. Framing shall be of the same material and finish as the surrounding caging.
10. **Locking Systems** - Coordinate all locking systems with specified padlocks. If padlocks are not specified, confirm padlock information with Owner and coordinate with locking systems. Verify that proper clearances are provided for specified or Owner provided padlocks.



NOTE: GALV. STEEL MASTS, GALV. STEEL STRUCTURAL FRAMING, AND GALV. STL VESTIBULE FRAMING TO RECEIVE PIGMENTED POLYURETHANE COATING [SEE SPECS]

*DO NOT PAINT EYEBOLTS, CAGING AT THE CATCHBOXES, AND DOOR/GATE HARDWARE

*REFER TO L DWGS FOR OTHER COMPONENTS TO RECEIVE HPC.

NOTE: THERE ARE TWO (2) CATCHBOXES, ONE AT THE OWL EXHIBIT AND ONE AT THE EAGLE EXHIBIT. THE CATCHBOXES ARE IDENTICAL BUT MIRRORRED. SEE LANDSCAPE DRAWINGS FOR LOCATION/LAYOUT.

NOTE: GC TO PROVIDE PADLOCKS FOR ALL DOORS [KEEPER DOORS, TRANSFER DOORS, GATES, ETC] AND KEYING FOR ALL LOCKING SYSTEMS. PADLOCK PRODUCT: ABUS 83/45 KEYING SYSTEM: PIMLICO - LEVEL 2 FOR THE ZOO'S SYSTEM, KEY TO: AF/AF15/AF21 [COORDINATE W/ CLIENT]

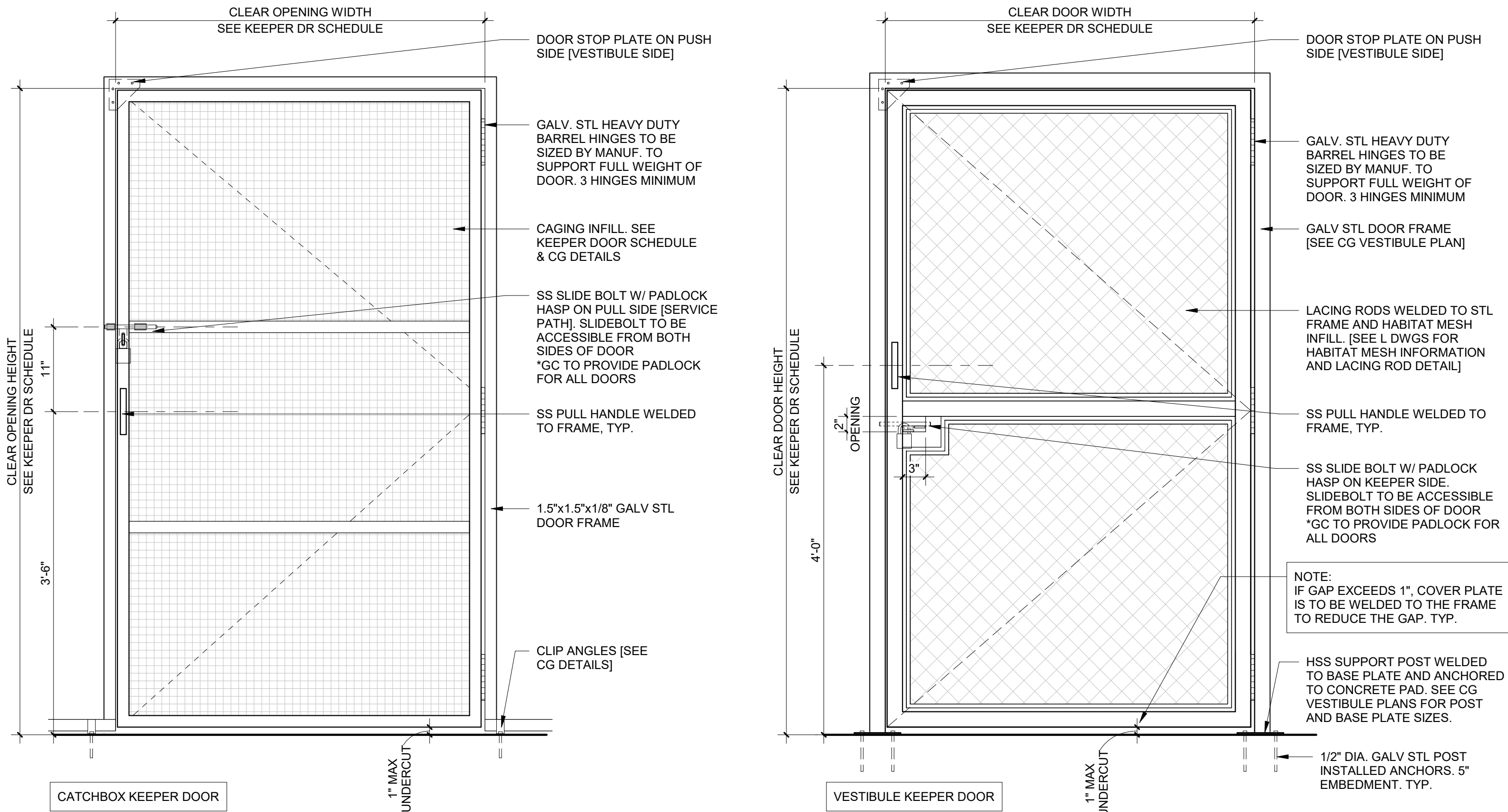
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KEEPER DOOR SCHEDULE

DOOR NO.	CLEAR WIDTH	CLEAR HEIGHT	FRAME MATERIAL	DOOR MATERIAL	COMMENTS
K101	4' - 0"	7' - 0"	GALV STL	1"x1" 12 GA. WELDED WIRE MESH	OWL CATCHBOX
K201	4' - 0"	7' - 0"	GALV STL	1"x1" 12 GA. WELDED WIRE MESH	EAGLE CATCHBOX
K301A	4' - 0"	7' - 0"	GALV STL	WOVEN HABITAT MESH [SEE L DWGS]	OWL VESTIBULE
K301B	4' - 0"	7' - 0"	GALV STL	WOVEN HABITAT MESH [SEE L DWGS]	EAGLE VESTIBULE
K302A	4' - 0"	7' - 0"	GALV STL	WOVEN HABITAT MESH [SEE L DWGS]	OWL VESTIBULE
K302B	4' - 0"	7' - 0"	GALV STL	WOVEN HABITAT MESH [SEE L DWGS]	EAGLE VESTIBULE

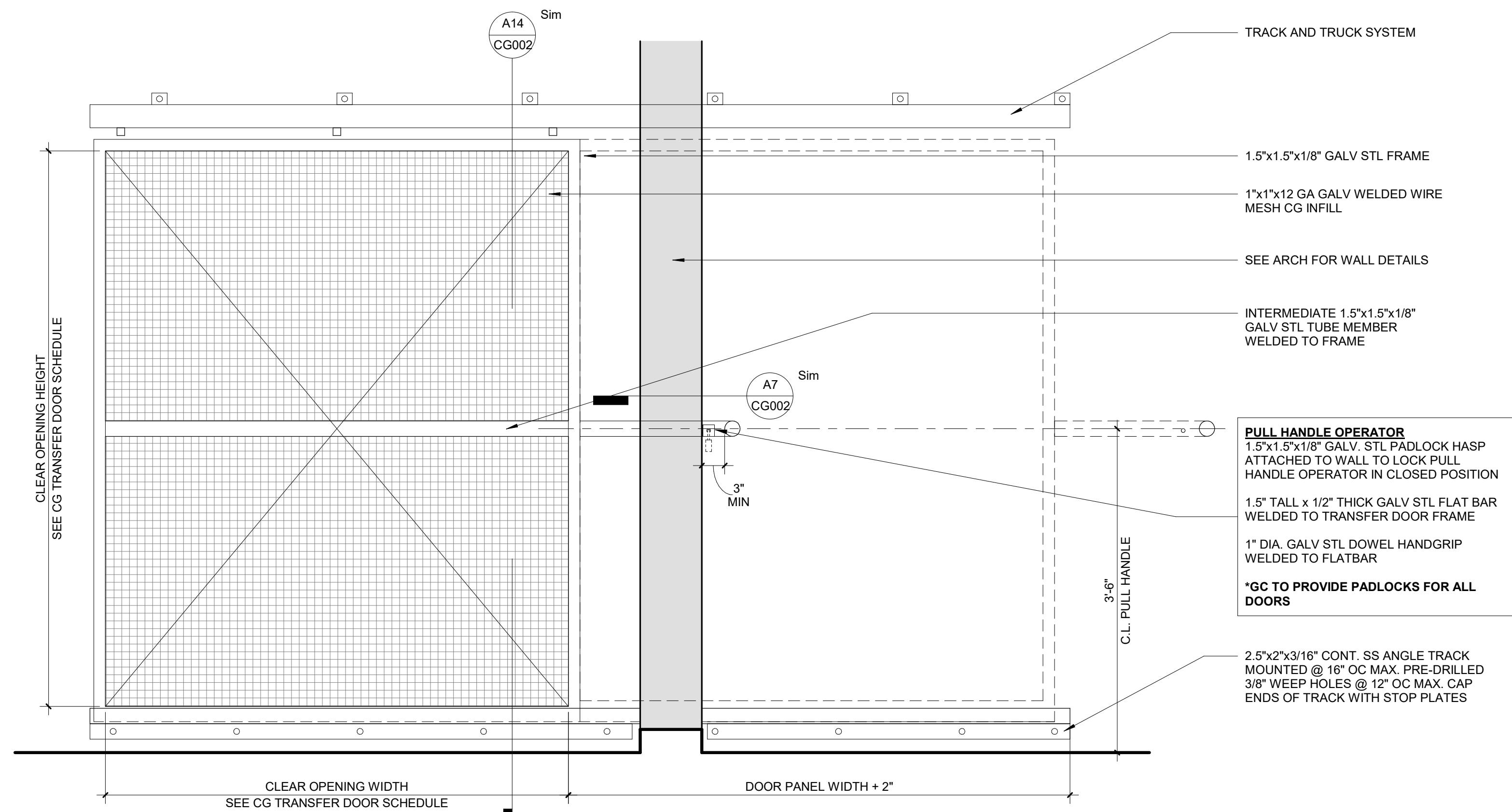
TRANSFER DOOR SCHEDULE

DOOR NO.	DOOR TYPE	CLEAR WIDTH	CLEAR HEIGHT	SILL HEIGHT	FRAME MATERIAL	DOOR PANEL MATERIAL	OPERATOR TYPE	COMMENTS
T101	HORIZONTAL SLIDER	5' - 0"	6' - 0"	0' - 6"	1.5"x1.5x1/8" HSS GALV STL	1"x1" 12 GA. WELDED WIRE MESH	PULL BAR	OWL CATCHBOX
T201	HORIZONTAL SLIDER	5' - 0"	6' - 0"	0' - 6"	1.5"x1.5x1/8" HSS GALV STL	1"x1" 12 GA. WELDED WIRE MESH	PULL BAR	EAGLE CATCHBOX



TYP. KEEPER DOOR

1" = 1'-0"



A15

HORIZONTAL TRANSFER DR ELEVATION

1" = 1'-0"

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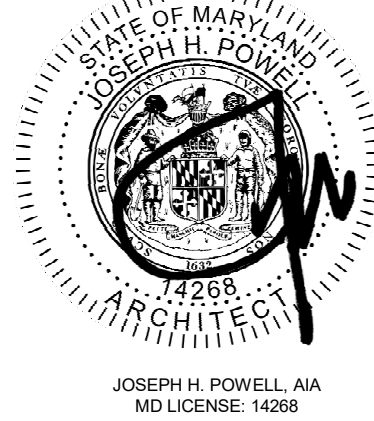
MARYLAND ZOO

THE MARYLAND ZOO
IN BALTIMORE
1876 MANSION HOUSE DR
BALTIMORE, MD 21217

CHESAPEAKE
FLYWAY
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DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

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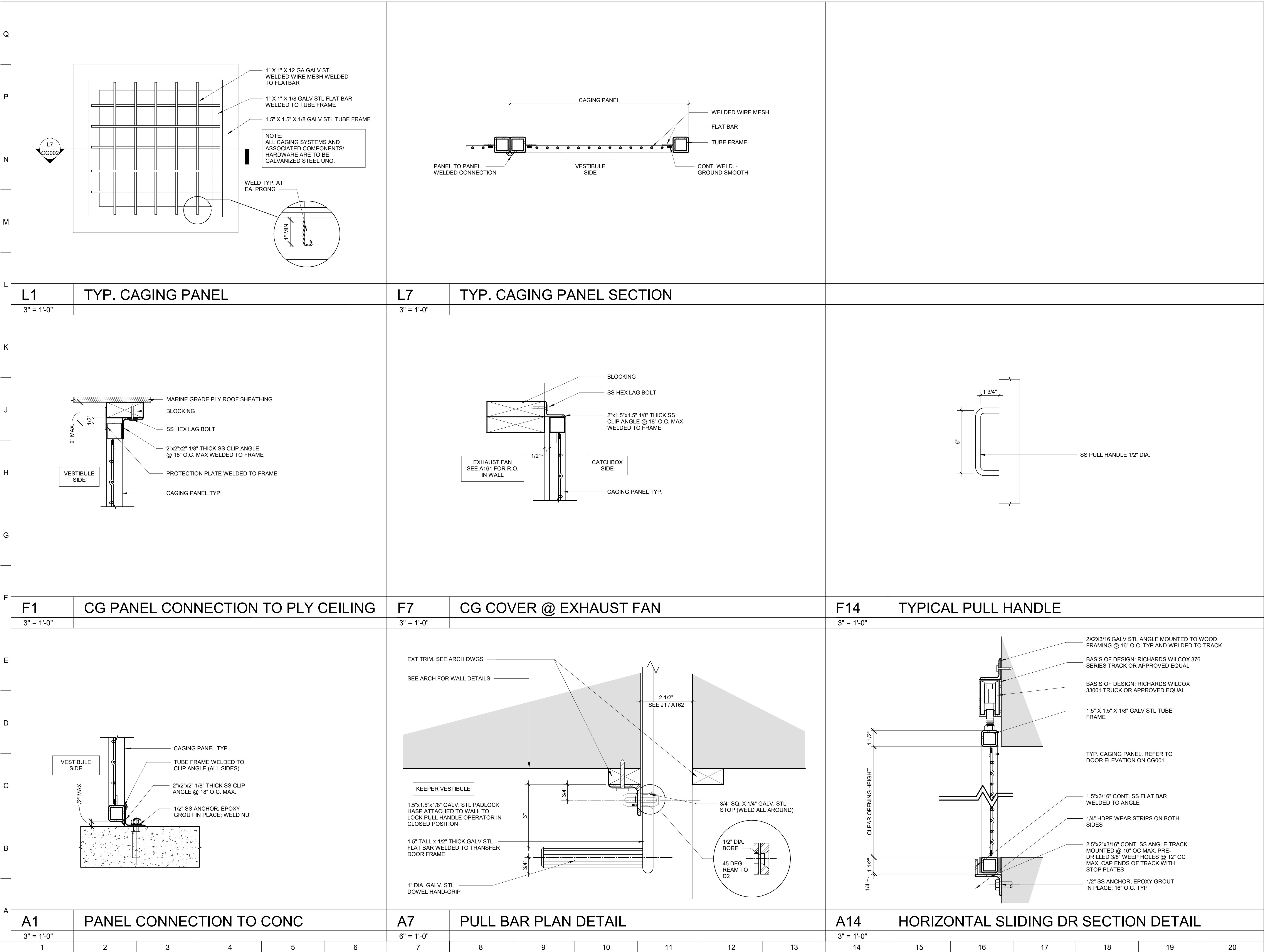
REVISION DATE

DRAWING TITLE:

CAGING SYSTEM
REQUIREMENTS,
DOORS, AND
SCHEDULES

DRAWING NO:

CG001



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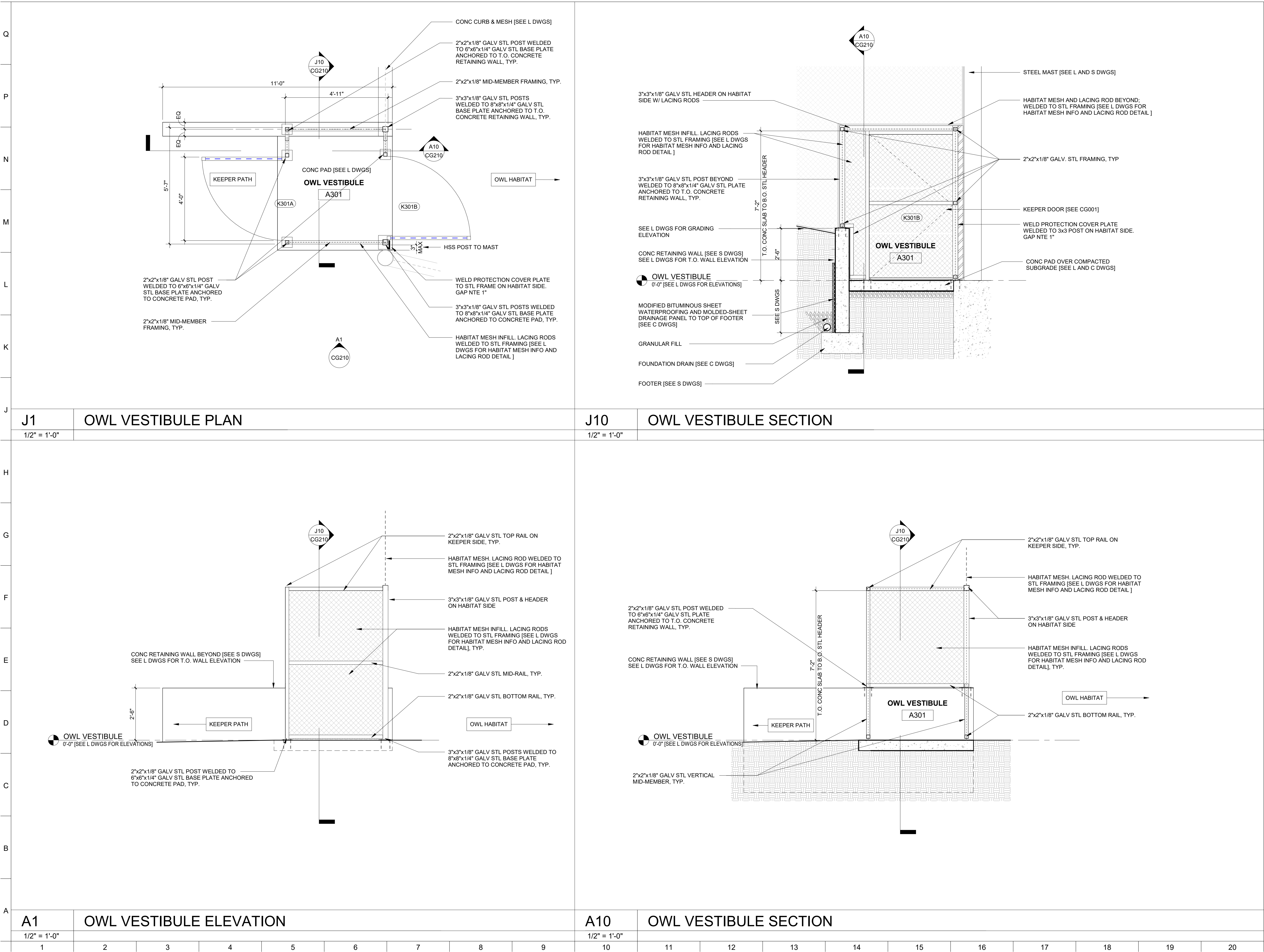
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DRAWING TITLE:

CAGING DETAILS AT CATCHBOX

DRAWING NO:

CG002



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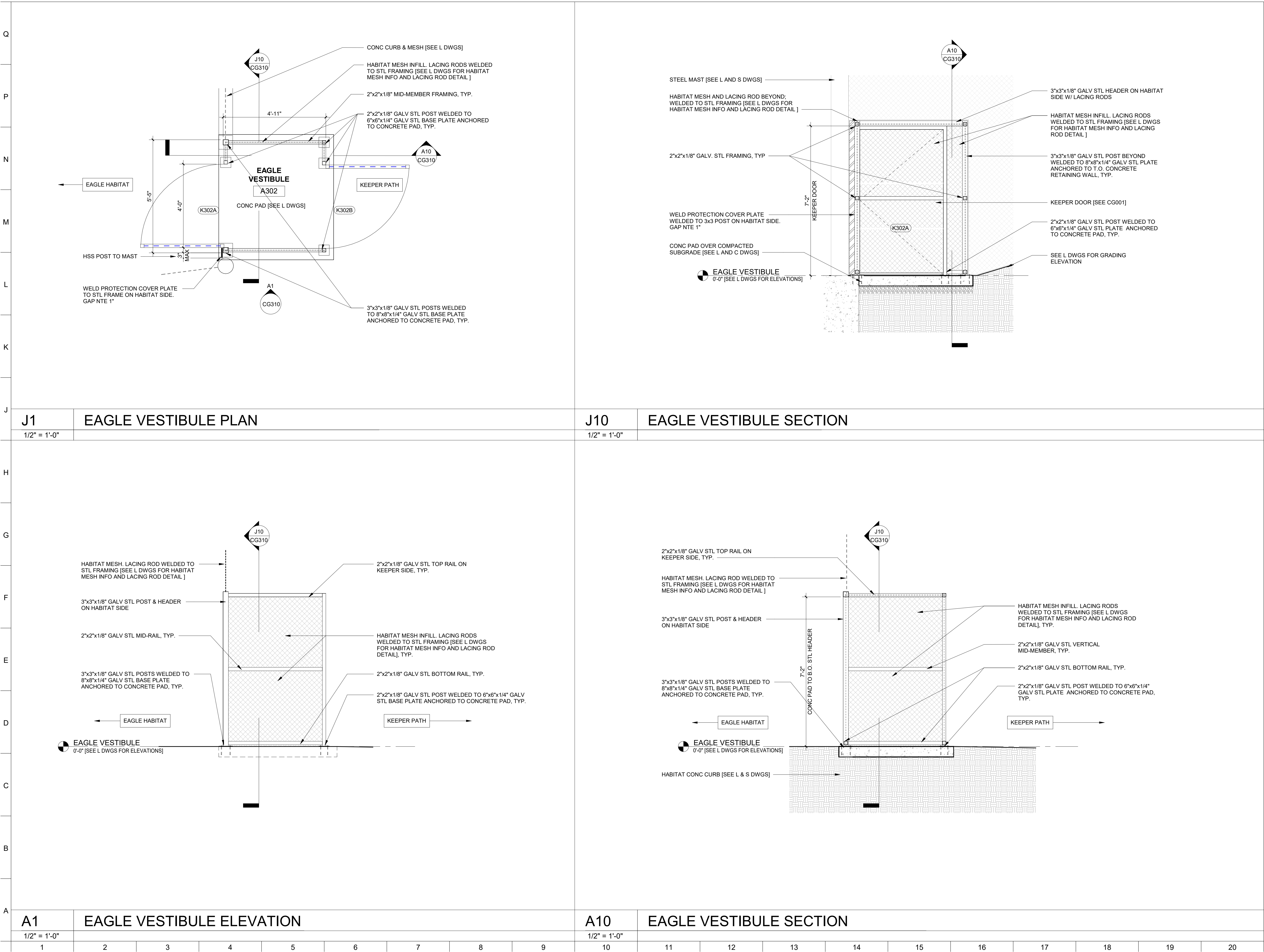
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DRAWING TITLE:
OWL VESTIBULE

DRAWING NO:
CG210



BKP

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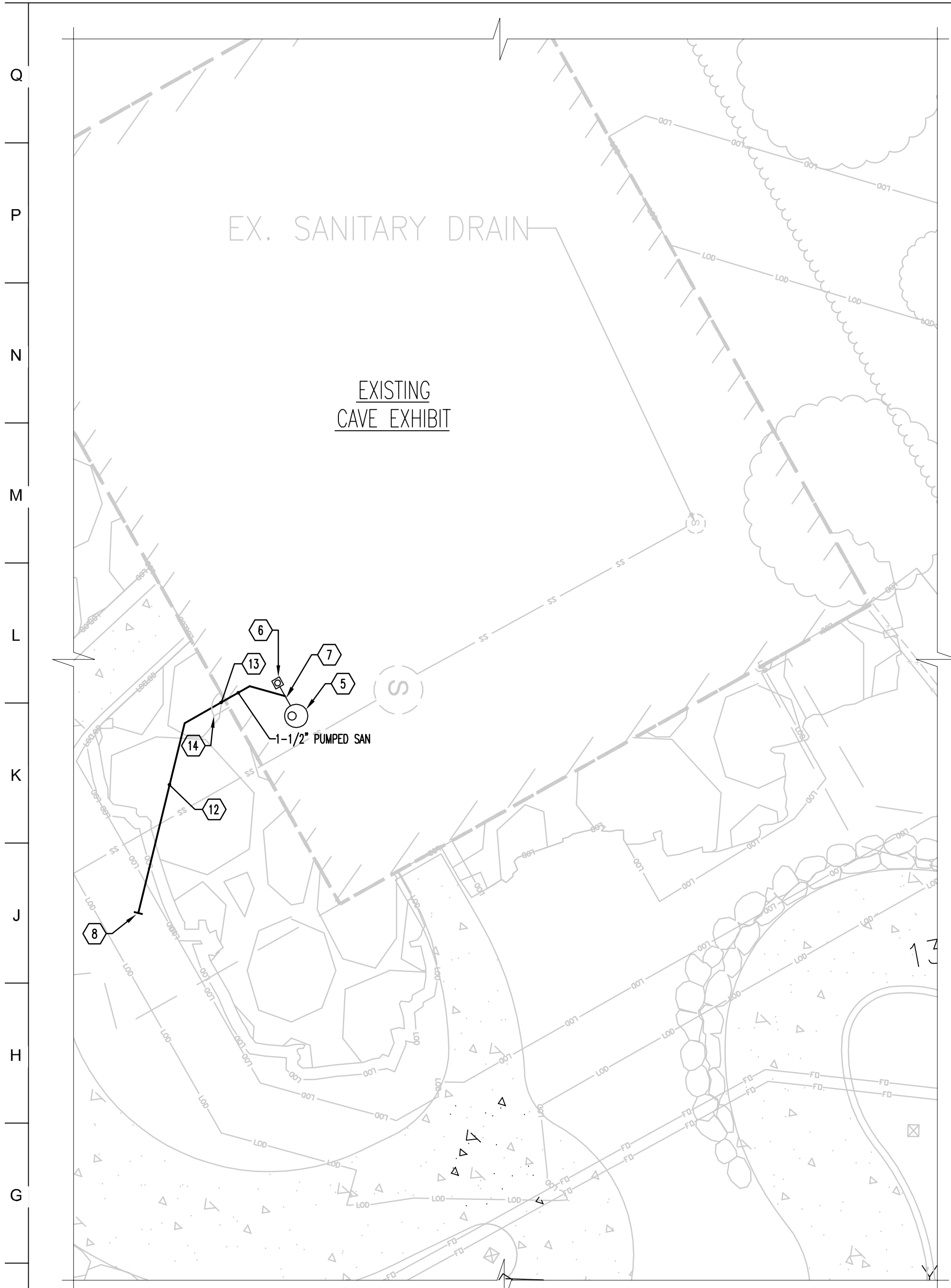
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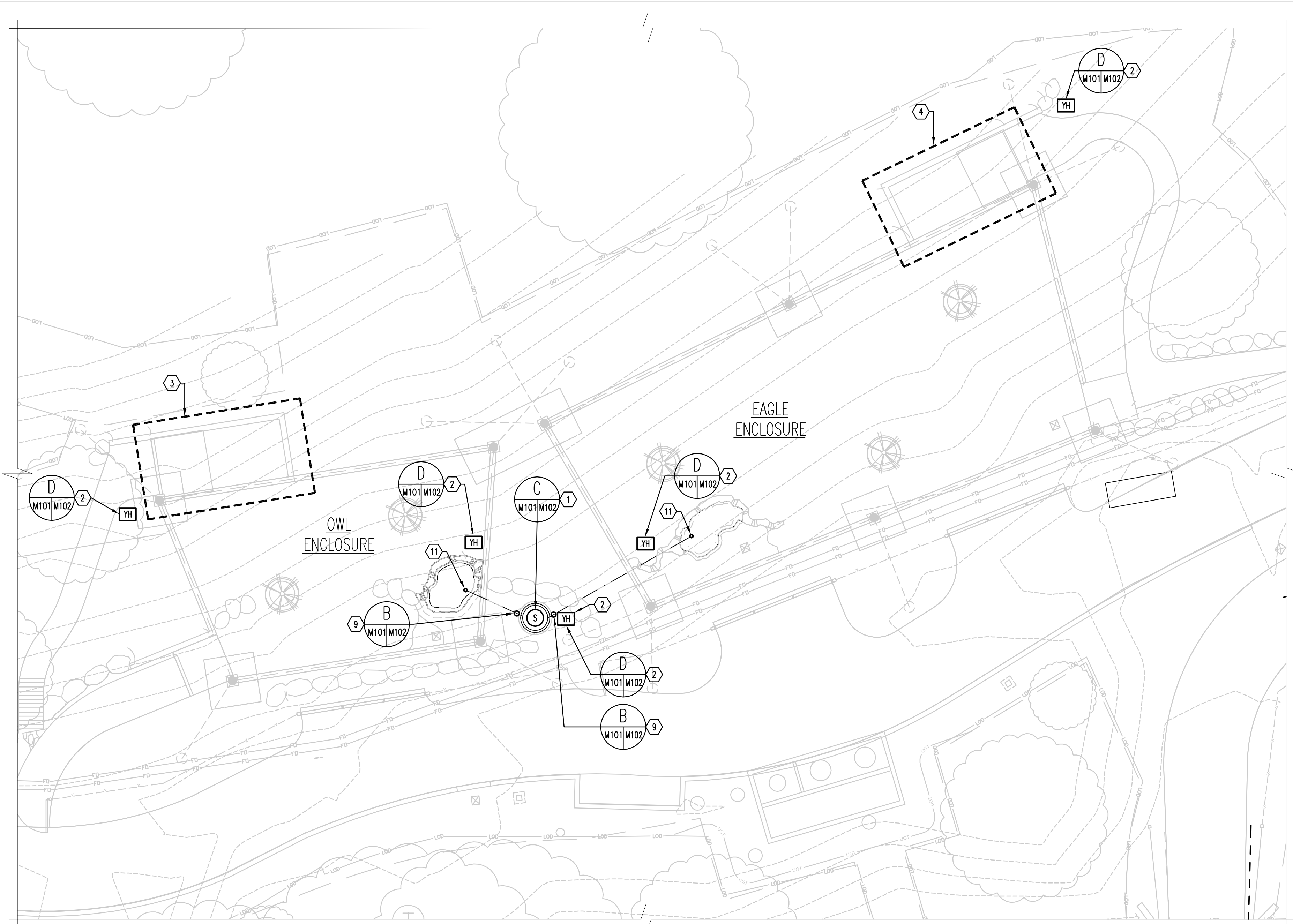
EAGLE VESTIBULE

DRAWING NO:

CG310



SITE PLAN - PLUMBING
SCALE: 1/8"=1'-0"

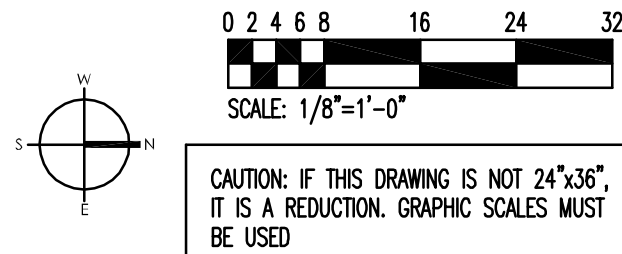


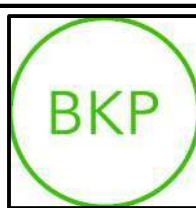
SITE PLAN - PLUMBING
SCALE: 1/8"=1'-0"

MECHANICAL / PLUMBING LEGEND					
SYMBOL	ABBRV	DESCRIPTION	SYMBOL	ABBRV	DESCRIPTION
	CX	CONNECT NEW WORK TO EXISTING			AUTOMATIC AIR VENT
	EX	EXISTING WORK TO REMAIN			STRAINER
	RX	REMOVE EXISTING WORK			UNION
		RELOCATED WORK		YH	YARD HYDRANT
	SAN	SANITARY LINE			THERMOMETER
	VP	VENT PIPE			PRESSURE GAUGE
	CW	COLD WATER			PIPE TURNED UP, PIPE TURNED DOWN
	HW	HOT WATER		FD	FLOOR DRAIN
	HWR	HOT WATER RECIRCULATING		FC	FLEXIBLE CONNECTION
		SHUT OFF VALVE IN RISER			SUPPLY DUCT TURNED UP, TURNED DOWN
		GATE VALVE, GLOBE VALVE			RETURN DUCT TURNED UP, TURNED DOWN
		CHECK VALVE			DIRECTION OF RISE IN DUCT
		STATIONARY FLOW METER, PORTABLE FLOW METER, GPM			SQUARE TO ROUND TRANSITION
	BFP	BACK FLOW PREVENTER			REFER TO NOTE 1 ON THIS SHEET
		BALANCING VALVE		AFF	ABOVE FINISHED FLOOR
		TEMPERATURE CONTROL VALVE(2 WAY, 3 WAY)		CLG	CEILING
		PRESSURE REDUCING VALVE		CFM	CUBIC FEET PER MINUTE
		RELIEF OR SAFETY VALVES		DN	DOWN
		BUTTERFLY VALVE		EF	EXHAUST FAN
		MANUAL AIR VENT		EXH	EXHAUST
		AUTOMATIC AIR VENT		TYP	TYPICAL

DRAWING NOTES

- SEWAGE WASTE SUMP PUMP. REFER TO DETAIL B. REFER TO CIVIL DRAWINGS FOR CONTINUATION OF PIPING.
- PROVIDE YARD HYDRANT AT THIS LOCATION. REFER TO CIVIL DRAWINGS FOR WATER CONNECTION.
- REFER TO OWL CATCHBOX PLAN ON SHEET M-102 FOR WORK IN THIS AREA.
- REFER TO EAGLE CATCHBOX PLAN ON SHEET M-102 FOR WORK IN THIS AREA.
- EXISTING SUMP PUMP.
- EXISTING FLOOR DRAIN.
- CONNECT NEW 1-1/2" PUMPED SANITARY TO EXISTING SANITARY CONNECTION TO EXISTING SUMP.
- REFER TO CIVIL DRAWINGS SITE PLAN FOR CONTINUATION.
- PROVIDE 5-1/4" REGULAR STYLE SLIDE CANADA VALVE BOX, EQUAL TO SIP INDUSTRIES ITEM #045605.
- PROVIDE VGBA TESTED AND CERTIFIED POOL DRAIN WITH SUMP. CMP GALAXY POOL DRAIN OR EQUAL. COLOR BLACK.
- PROVIDE POOL DRAIN, EQUAL TO ZURN #FD2210 OR EQUAL. CMP GALAXY POOL DRAIN OR EQUAL. COLOR BLACK.
- EXTEND PUMPED SANITARY UNDER CONCRETE PATHWAY FOR ZOOKEEPER ENTRANCE TO BACKUP SPACE TO CAVE EXHIBIT.
- EXTEND PUMPED SANITARY UNDERGROUND THROUGH DOORWAY THRESHOLD.
- LOCATION OF EXISTING CAVE EXHIBIT BACKUP SPACE ENTRANCE DOOR.





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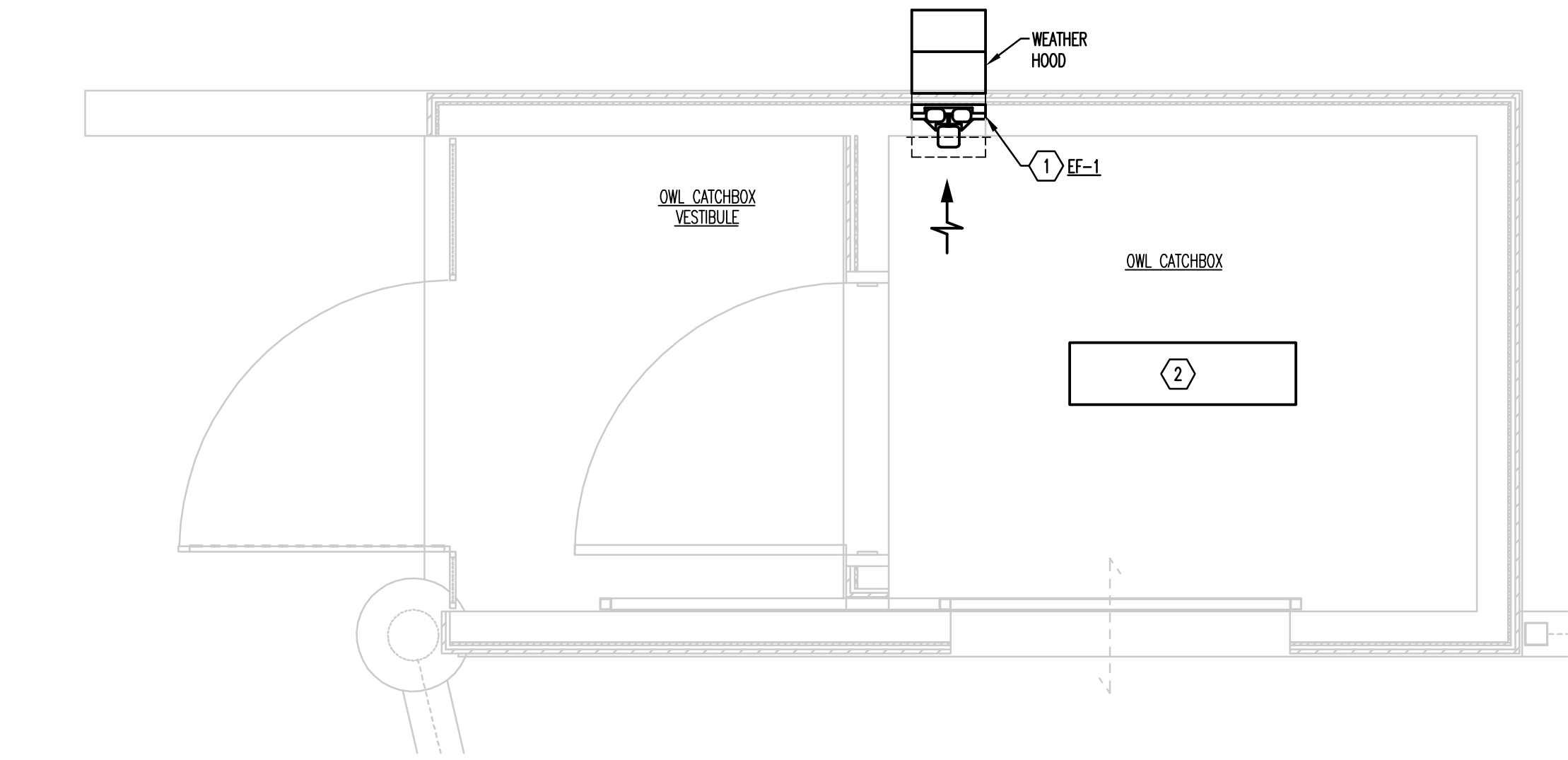
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DRAWING TITLE:
EAGLE AND OWL EXHIBIT -
SITE PLAN - PLUMBING

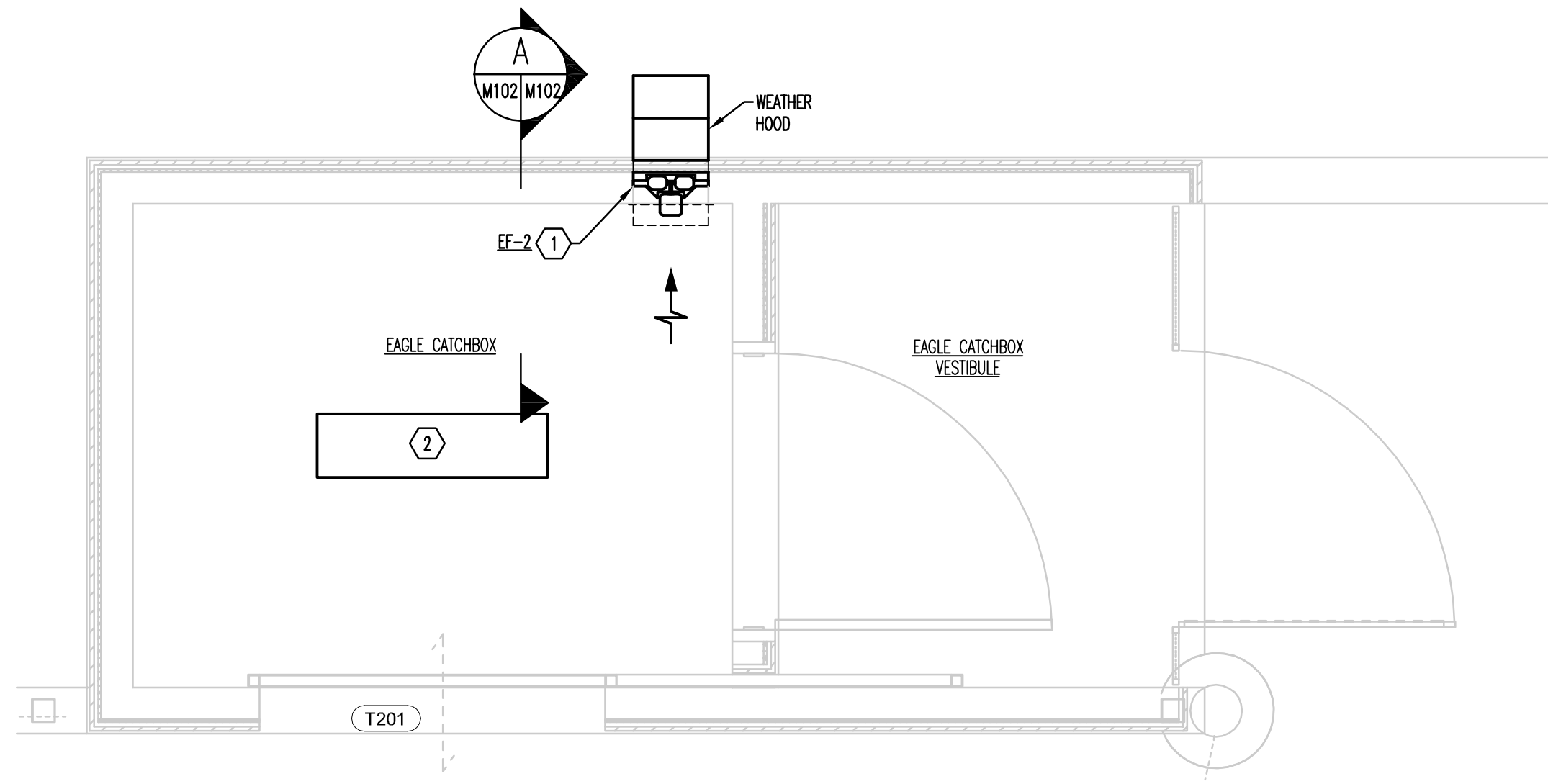
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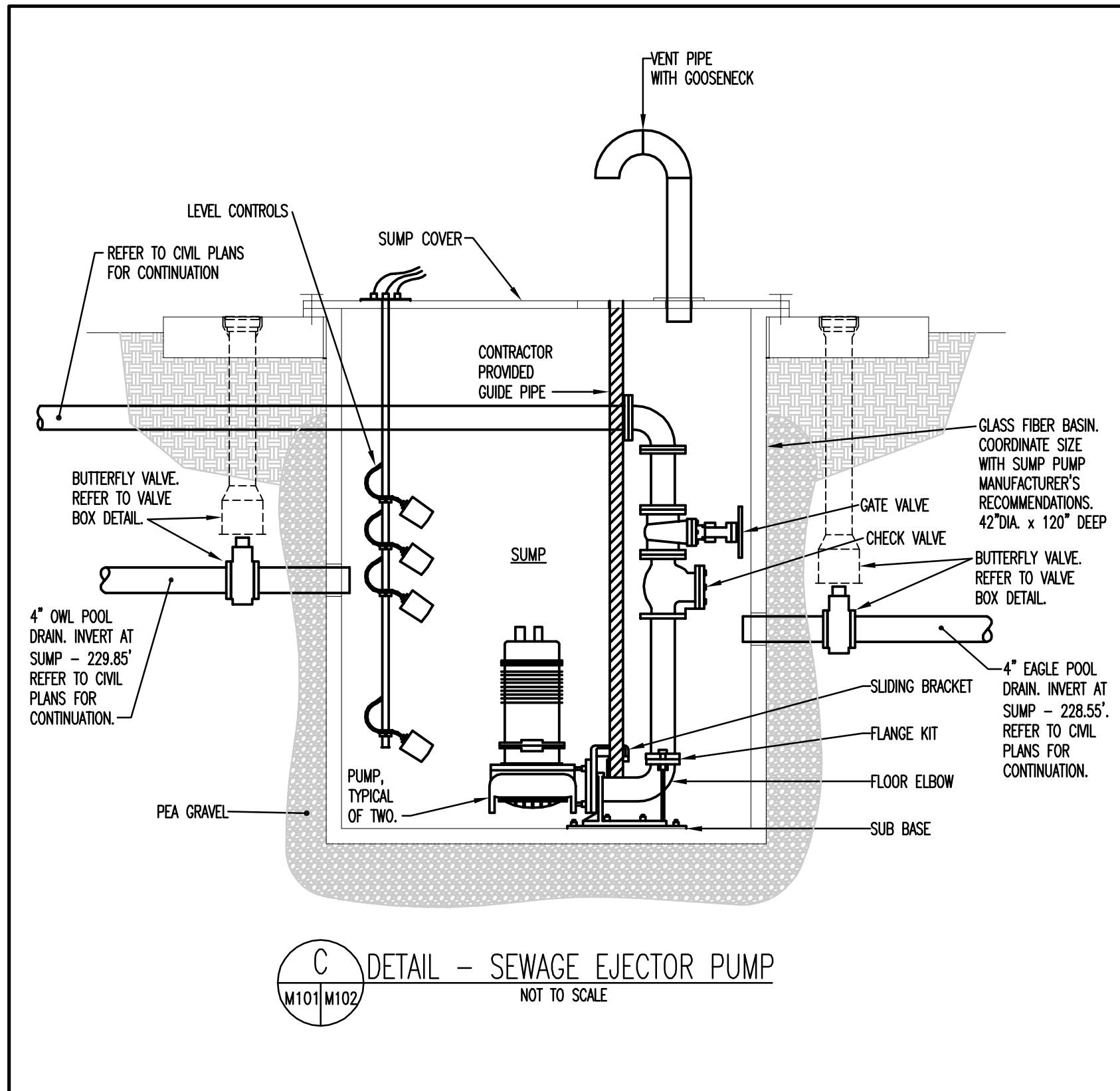
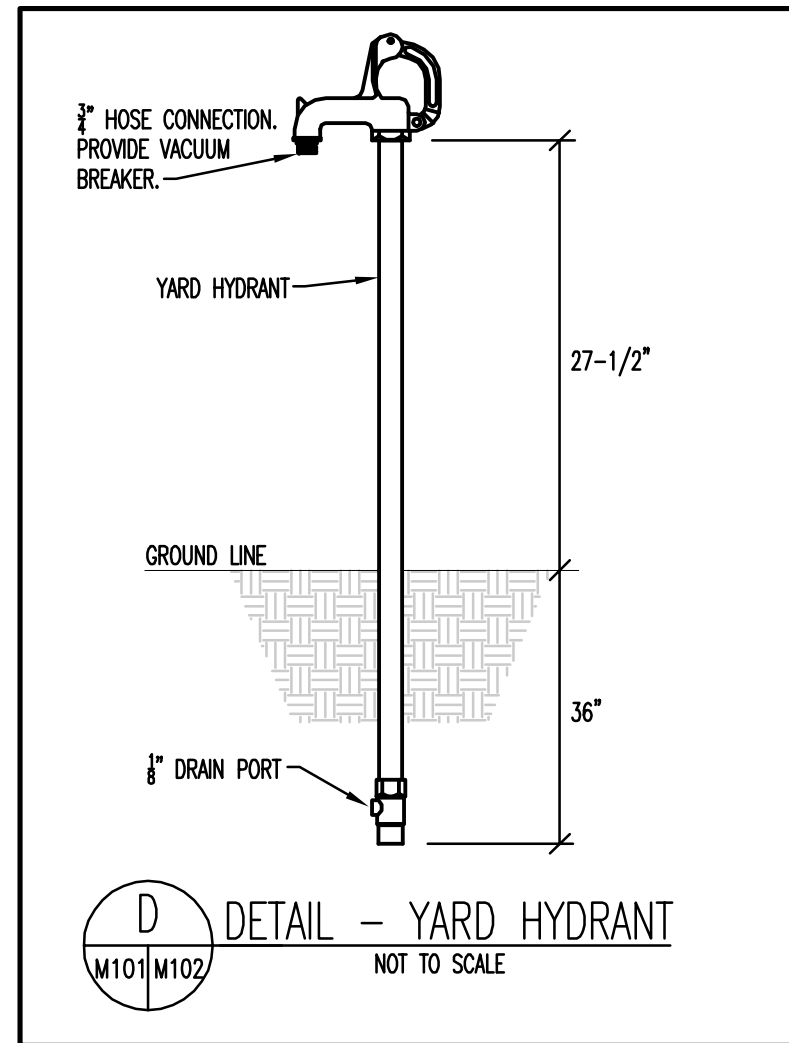
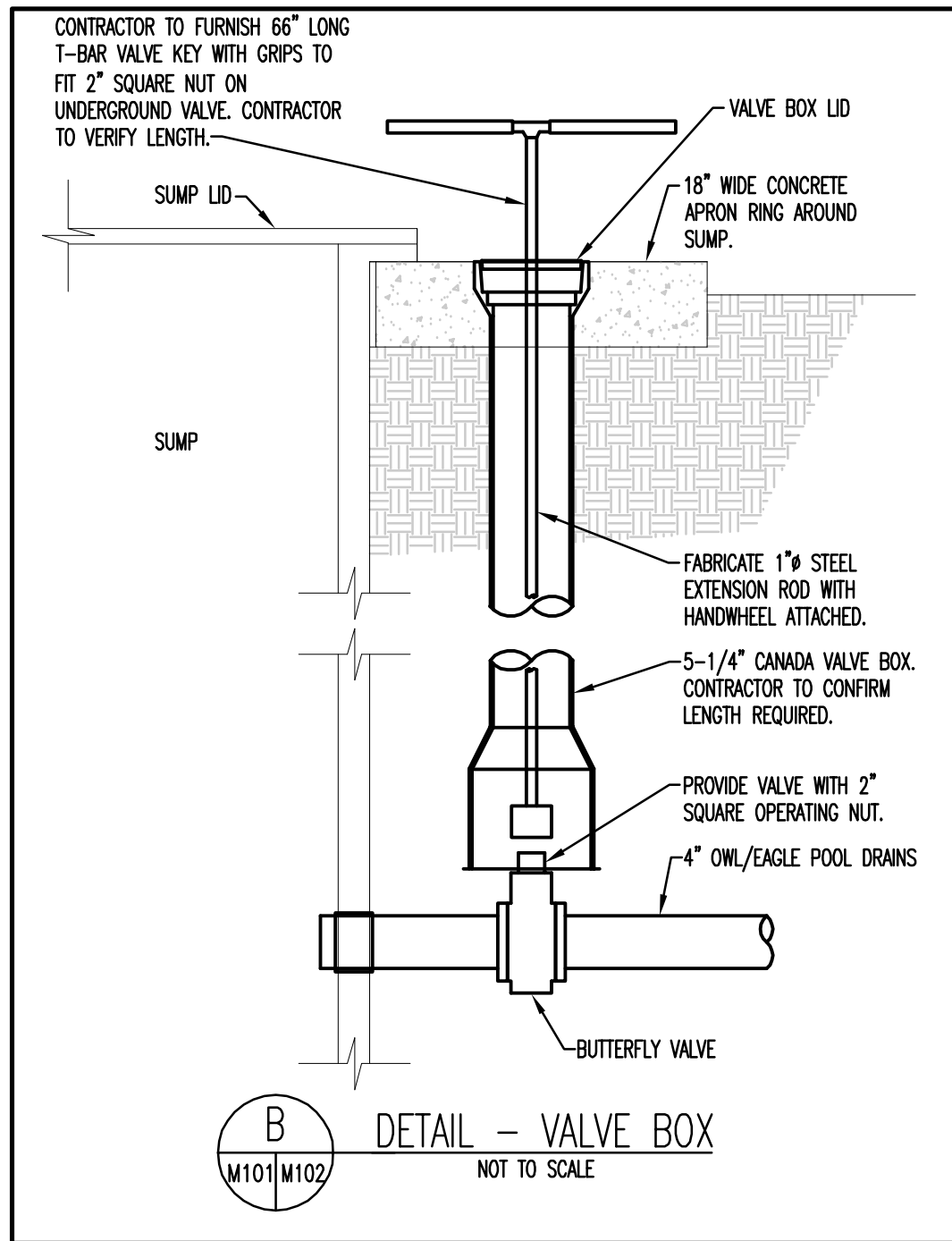
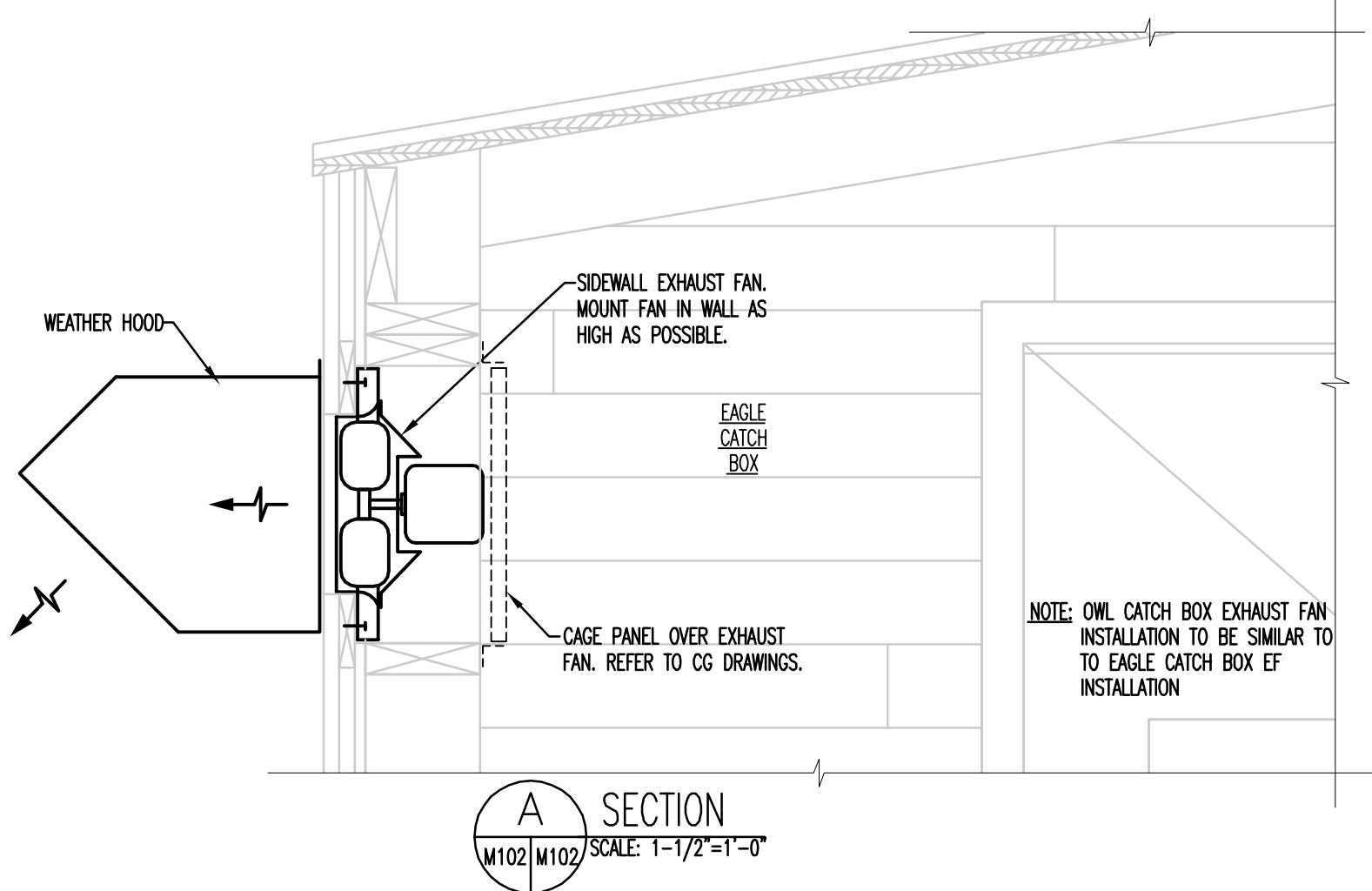
OWL CATCHBOX PLAN - NEW WORK
SCALE: 1/2"=1'-0"



EAGLE CATCHBOX PLAN - NEW WORK
SCALE: 1/2"=1'-0"

EXHAUST FAN SCHEDULE													
DESIG.	SERVES	TYPE	CFM	FAN RPM	ESP IN WG	BHP	MOTOR HP	WATTS	MOTOR RPM	BELT/DIRECT	VOLTS/PHASE	GREENHECK MODEL NUMBER	REMARKS
EF-1	OWL CATCH BOX	①	255	1,550	0.15	—	1/25	75	③	DIRECT	120/1	SE1-8-440	②
EF-2	EAGLE CATCH BOX	①	255	1,550	0.15	—	1/25	75	③	DIRECT	120/1	SE1-8-440	②
NOTES: ① DIRECT DRIVE SIDEWALL MOUNTED PROPELLER FAN ② PROVIDE FAN MANUFACTURER'S 45° WEATHERHOOD ON EXTERIOR. FABRICATE INSIDE ENCLOSURE. REFER TO ARCHITECTURAL DRAWINGS. ③ EC MOTOR.													

SEWAGE WASTE SUMP PUMP SCHEDULE											
DESIGN	SERVICE	TYPE	GPM	HEAD FEET	MOTOR				MANUFACTURER		REMARKS
					RPM	HP	VOLTS	PHASE	NAME	MODEL	
SWP-1	SEWAGE WASTE SUMP	SUBMERSIBLE	25	35	1750	1/2	120	1	WEIL	#145GAMESFDM	(1)(2)(3)(4)(5)
NOTES: (1) DUPLEX SUMP PUMP SYSTEM; SUBMERSIBLE GUIDE RAIL TYPE SUMP PUMPS, 2" DISCHARGE. (2) DISCHARGE ELECTRIC AND VENT SHALL PROTRUDE THROUGH THE SIDE OF THE BASIN AND GATE/CHECK VALVES SHALL BE INSIDE OF THE BASIN. (3) AMES, INC. DUPLEX CONTROL PANEL IN A NEMA 4X FIBERGLASS ENCLOSURE WITH (2) CB MOTOR PROTECTORS, (2) MAGNETIC STARTERS, (1) PLC WITH PUMP ALTERNATION, EOPM30ND, (2) HOA WITH RUN LIGHTS, (1) HIGH WATER ALARM WITH LIGHT, BUZZER AND SILENCING SWITCH WITH DRY CONTACTS FOR "ON/OFF" AND HWA. PROVIDE (4) AMES, INC. #GSEP30ND SUBMERSIBLE ENCAPSULATED MECHANICAL BALL FLOAT SWITCHES. OFF, ON, HWA, LAG. (4) PROVIDE AK INDUSTRIES #083642AMESFDM, 42" DIA. X 120" DEEP FIBERGLASS BASIN WITH FIBERGLASS ANTIFLOATATION FLANGE ON THE BOTTOM OF THE BASIN. PROVIDE MATCHING BLANK GASIGHT PEDESTRIAN RATED ALUMINUM STEEL COVER. (5) THE CONTRACTOR SHALL INSTALL AN IMMERSION HEATER PROBE IN THE BASIN AND WIRE BACK TO THE CONTROL PANEL. IT SHALL INCLUDE STAINLESS STEEL HEATER ELEMENT (500W AT 115V). PROVIDE A PANEL MOUNTED THERMOSTAT TO CONTROL THE IMMERSION HEATER.											



DRAWING NOTES

- MOUNT EXHAUST FAN IN EXTERIOR WALL AS CLOSE TO ROOF STRUCTURE AS POSSIBLE. REFER TO SECTION-A.
- PROVIDE RADIANT HEATER. SUSPEND HEATER FROM ROOF STRUCTURE WITH CHAIN AND HOOKS, DIMENSIONS : 40"D x 11"W x 2"H. 150 WATTS, CORD AND PLUG. INFRATHERM PRODUCTS INC, SWEETER HEATER MODEL #0H11x40.

BKP

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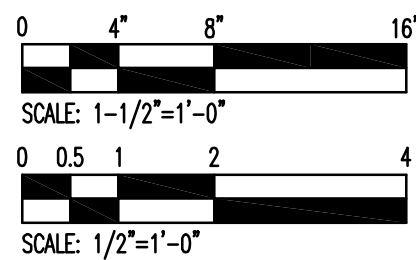
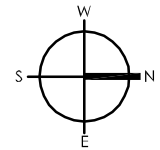
DATE: SEPTEMBER 01, 2026
PROJECT NO: 2023-10.07
DRAWN BY: KWA
CHECKED BY: KWA
SUBMISSION: DATE
BID SET: 09/01/2026

REVISION: DATE

DRAWING TITLE:
PART FLOOR PLANS,
SCHEDULES AND DETAILS

DRAWING NO:

M102



CAUTION: IF THIS DRAWING IS NOT 24"x36", IT IS A REDUCTION. GRAPHIC SCALES MUST BE USED

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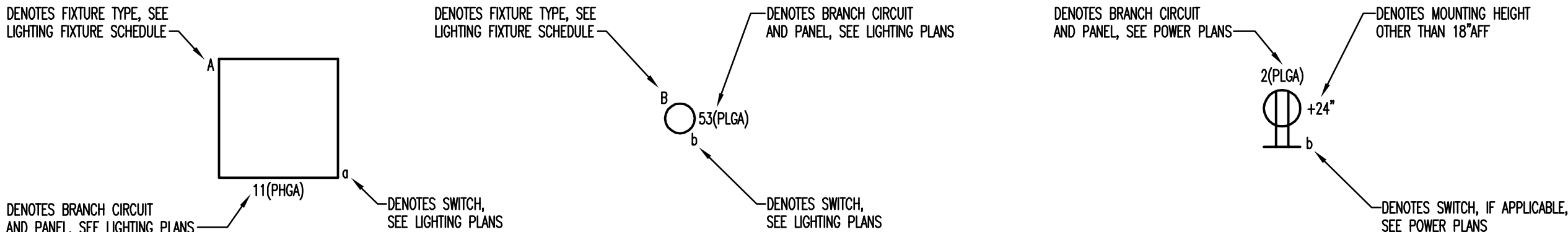
B

A

LIGHTING FIXTURE SCHEDULE					
TYPE	DESCRIPTION	MANUFACTURER	LAMPS	VOLTS	REMARKS
A	4" LONG LED SURFACE MOUNT LINEAR STRIP LIGHT WITH FLAT FROST DIFFUSED LENS, DIE-FORMED COLD ROLLED STEEL CHANNEL AND COVER, 0-10VDC D DIMMING DRIVER, WIRE GUARD AND U.L. LISTED FOR DAMP LOCATIONS	METALUX #4SNK-26SL-FDL-UNV-L835-CD1-WG-SNK/SWN-4FT-B LITHONIA	LED 2600L 17W	120	SEE ARCHITECTURAL DRAWINGS FOR MOUNTING DETAIL
B	4" LONG LED CORRECTIONAL CORNER-MOUNT WITH DIE-FORMED 12 GAUGE CONTINUOUS ONE-PIECE DOORLESS HOUSING, 0.125" PRISMATIC ACRYLIC FIXTURE SIDE LENS, 0.125" CLEAR POLYCARBONATE ENVIRONMENTAL SIDE LENS, 0-10VDC DIMMING DRIVER STAINLESS STEEL, 1 CIRCUIT AND U.L. LISTED FOR WET LOCATIONS	FAIL-SAFE #FCC-S-4-LD4-2-HI-35-UNV-80-84-ED1D01-WL KENALL	LED 842SL 87W	120	
C	EXTERIOR WALL SCONCE FOR BOLLARD MOUNTING WITH HEAVY-DUTY ONE-PIECE, CORROSION RESISTANT DIE-CAST ALUMINUM HOUSING, ONE-PIECE, SHATTER PROOF FROSTED GLASS LENS, SURFACE MOUNTING, VANDAL-RESISTANT, STAINLESS STEEL HARDWARE, UNIVERSAL INPUT VOLTAGE 120/277V, STARTING TEMPERATURE RATED AT -20°F, GASKETED, IP65 RATED AND U.L. LISTED FOR WET LOCATIONS	LUMUX #L154-WHITE-3000K-120/277-BRONZE	LED 866L 24W	120	SEE BOLLARD DETAIL ON DRAWING E102

ELECTRICAL ABBREVIATIONS			
A	AMPERE	GFI	GROUND FAULT INTERRUPTER
AC	ALTERNATING CURRENT	HP	HORSEPOWER
ACU	AIR CONDITIONING UNIT	JB	JUNCTION BOX
AFF	ABOVE FINISHED FLOOR	KVA	KILO-VOLT-AMPERES
APPROX	APPROXIMATE	LTG	LIGHTING
ARCH	ARCHITECT	MCB	MAIN CIRCUIT BREAKER
ATC	AUTOMATIC TEMPERATURE CONTROL	MH	MOUNTING HEIGHT
AWG	AMERICAN WIRE GAUGE	MLO	MAIN LUGS ONLY
BLDG	BUILDING	NC	NORMALLY CLOSED
C	CONDUIT	NF	NON-FUSED
CB	CIRCUIT BREAKER	OH	OVERHEAD
CCTV	CLOSED CIRCUIT TELEVISION	Ø	PHASE
CKT	CIRCUIT	P	POLE
CLG	CEILING	PVC	POLYVINYL CHLORIDE
DISC	DISCONNECT	RX	REMOVE EXISTING
DN	DOWN	SE	SERVICE ENTRANCE
DWG	DRAWING	SN	SOLID NEUTAL
ECB	ENCLOSED CIRCUIT BREAKER	TYP	TYPICAL
EF	EXHAUST FAN	UG	UNDERGROUND
ELEC	ELECTRIC	UH	UNIT HEATER
ETR	EXISTING TO REMAIN	UNO	UNLESS NOTED OTHERWISE
EX	EXISTING	V	VOLTS
FA	FIRE ALARM	W	WATTS
FACP	FIRE ALARM CONTROL PANEL	WP	WEATHERPROOF IN-USE COVER
F	FUSED	XFMR	TRANSFORMER

SYMBOL	DESCRIPTION
	4" LED CORRECTIONAL CORNER MOUNT FIXTURE
	4" LED LINEAR PENDANT MOUNT FIXTURE
	LED BOLLARD FIXTURE
	SINGLE POLE SWITCH; SUBSCRIPT DENOTES SWITCHING SCHEME; MH=48" AFF
	DUPLEX RECEPTACLE; MH=24" AFF
	QUAD RECEPTACLE; MH=24" AFF
	JUNCTION BOX; CEILING/WALL MOUNTED
	EXISTING ELECTRIC PANELBOARD
	NEW ELECTRIC PANELBOARD
	SURGE ARRESTER
	EMON DEMON METER
	DISCONNECT SWITCH
	MANUAL MOTOR STARTER SWITCH; MH=60" AFF
	MOTOR
	18" BLUE FAN WITH MANUFACTURER PROVIDED INLINE ON/OFF SWITCH. PROVIDE COMPLETE WITH #10-42 YOKE ASSEMBLY MOUNT FOR EACH FAN. PATTERSON CO., ITEM#200BH10A, MFR#H10A. FAN SHALL BE 120V, 1 PHASE
	SMOKE DETECTOR
	CCTV CAMERA
	TELEPHONE HAND HOLE
	HAND HOLE
	UNDERGROUND ELECTRICAL LINE (POWER CO.)
	UNDERGROUND TELEPHONE LINE
	UNDERGROUND FIBER OPTIC LINE
	WIRE IN CONDUIT RUN BELOW GRADE
	WIRE IN CONDUIT; HATCH MARKS DENOTE QUANTITY OF #12 CONDUCTORS IN 3/4" UNLESS INDICATED OTHERWISE; ARROW DENOTES HOME RUN TO PANEL INDICATED
	NEW WORK
	EXISTING WORK TO REMAIN
	REMOVE EXISTING WORK
	RELOCATED WORK



LIGHTING FIXTURE AND RECEPTACLE IDENTIFICATION AND BRANCH CIRCUIT CONVENTIONS
NOT TO SCALE

VOLTAGE DROP CALCULATIONS

1. OWL BUILDING PARAMETERS
- A. COMMERCIAL 75 DEGREES C
 - B. POWER FACTOR 0.85
 - C. 3 PHASE
 - D. 208V
 - E. COPPER CONDUCTOR
 - F. CONDUIT (NON STEEL)
 - G. LENGTH OF RUN: 285'-0"
 - H. KVA LOAD: 28A
 - I. 4/2, #6GRO FEEDERS
2. VOLTAGE DROP: 1.23%

LIGHTING POWER DENSITY CALCULATIONS

1. OWL HOLDING:
- A. OWL VESTIBULE - 0.6W/FT²
 - B. OWL CATCH BOX - 1.3W/FT²
2. EAGLE HOLDING:
- A. EAGLE VESTIBULE - 0.6W/FT²
 - B. EAGLE CATCH BOX - 1.3W/FT²

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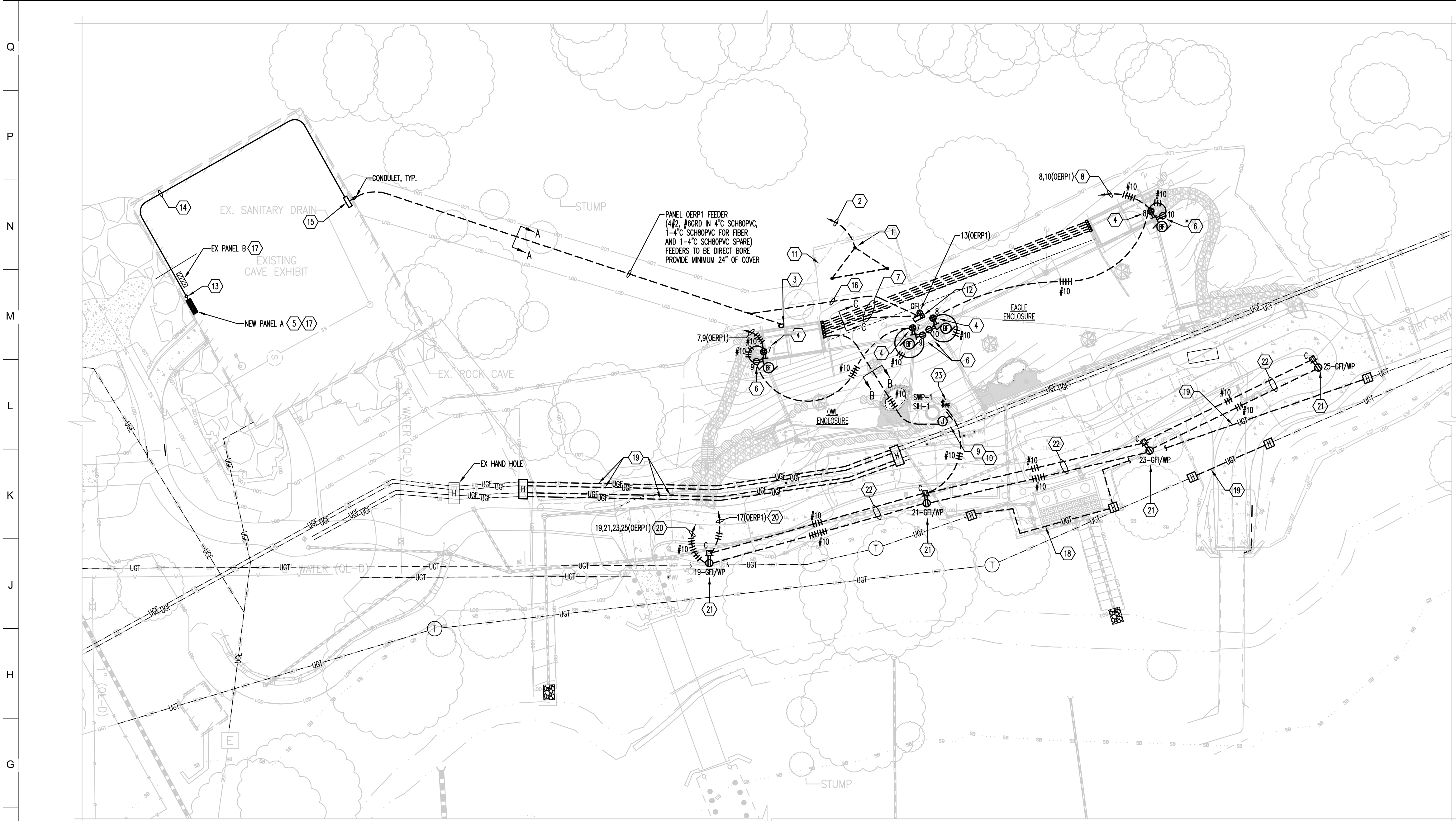
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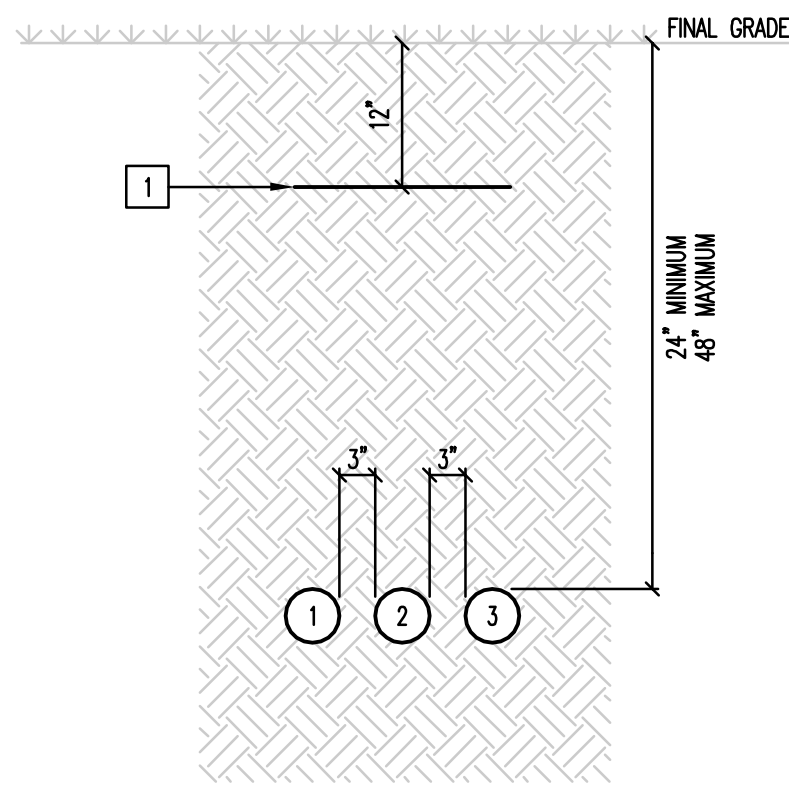
ELECTRICAL LEGEND

DRAWING NO:

E001

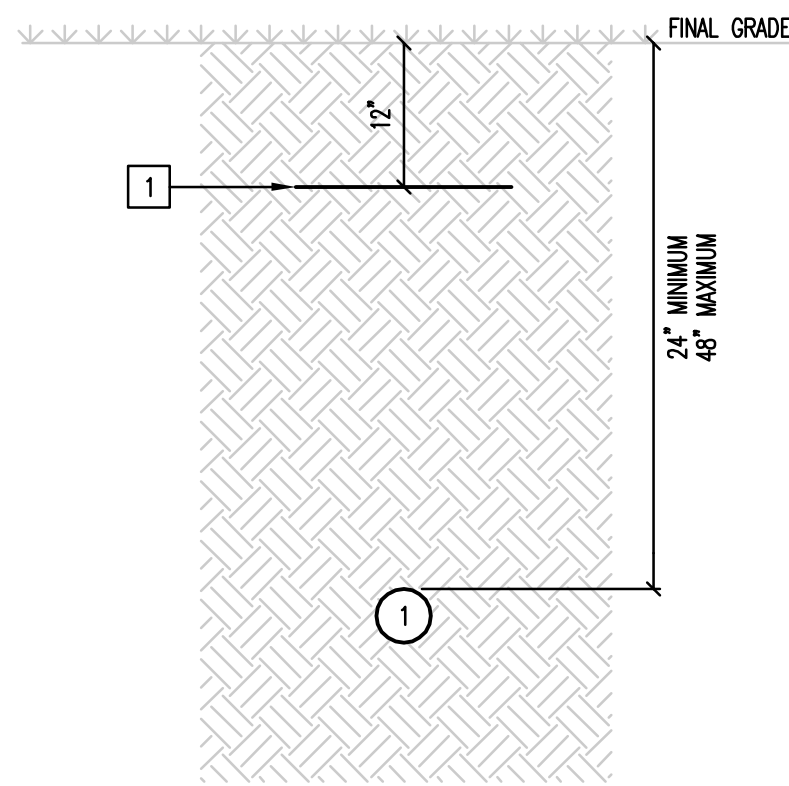


SITE PLAN - ELECTRICAL - NEW WORK - BASE BID
SCALE: 1/16"=1'-0"



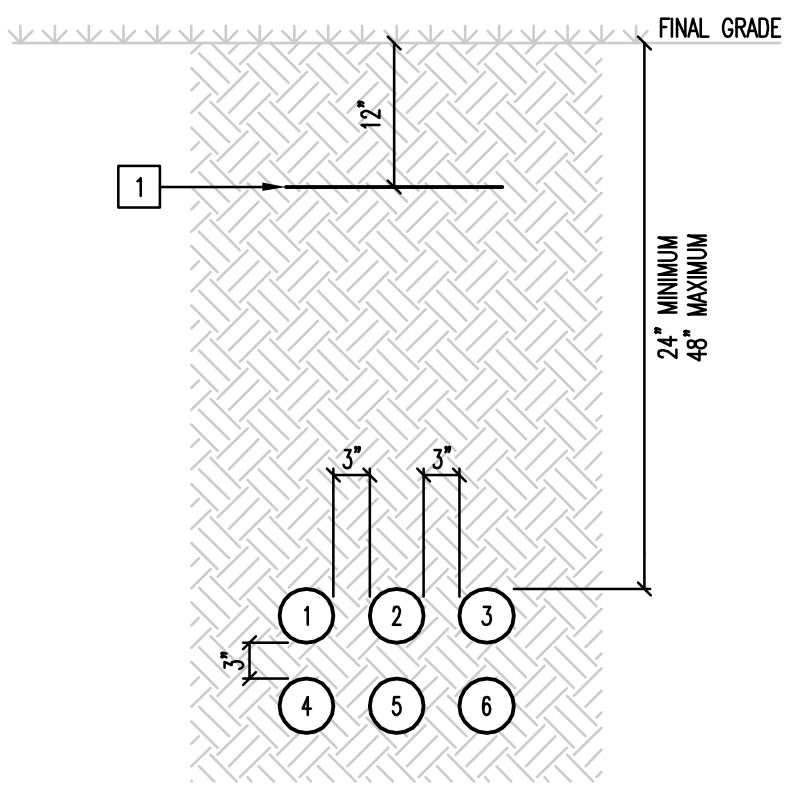
DETAIL - DUCT BANK A-A
NOT TO SCALE

DUCT BANK A-A SCHEDULE		
CONDUIT	SIZE	DESCRIPTION
1	4"	EAGLE/OWL HOLDING FEEDER
2	4"	FIBER/FIRE ALARM/LOW VOLTAGE
3	4"	SPARE



DETAIL - DUCT BANK B-B
NOT TO SCALE

DUCT BANK B-B SCHEDULE		
CONDUIT	SIZE	DESCRIPTION
1	1"	BRANCH CIRCUITS 14,16(OERP1)



DETAIL - DUCT BANK C-C
NOT TO SCALE

DUCT BANK C-C SCHEDULE					
CONDUIT	SIZE	DESCRIPTION	CONDUIT	SIZE	DESCRIPTION
1	1"	BRANCH CIRCUITS 2,4,8(OERP1)	4	1"	SPARE
2	1"	BRANCH CIRCUITS 8,10(OERP1)	5	1"	SPARE
3	1"	BRANCH CIRCUIT 12(OERP1)	6	1"	BRANCH CIRCUIT 13(OERP1)

NOTES:

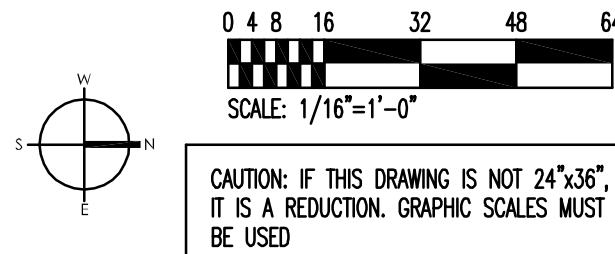
- 1 PROVIDE A RED DIRECTOR MAGNETIC TAPE IMPRINTED WITH A CONTINUOUS WARNING "CAUTION ELECTRICAL LINE BURIED BELOW" REPEATED EVERY 36". THE TAPE SHALL BE INDUCTIVITY AND CONDUCTIVITY TRACEABLE USING A STANDARD PIPE CABLE LOCATING DEVICE.
- 2 ENVELOPE SHALL BE 3" CONCRETE WITH 3" SPACING BETWEEN CONDUITS.
- 3 ALL DUCT BANKS UNDER PAVED AREAS SHALL BE REINFORCED.
- 4 PROVIDE 1/8" NYLON DRAW CORD IN ALL CONDUITS.
- 5 ALL CONDUIT SHALL BE SCHEDULE 80 PVC, UNO.

GENERAL NOTES

1. NEW DUCT BANK(S) SHALL BE RUN BELOW EX UTILITIES WHEN CROSSING.
2. NEW DUCT BANK(S) TO BE ENCASED IN CONCRETE WHERE BELOW PAVED AREAS.
3. SEE THIS DRAWING FOR DUCT BANK SECTIONS AND SCHEDULES.
4. PROVIDE #10AWG CONDUCTORS WHEN RUN IN DUCT BANK OR WHERE CONDUITS ARE BURIED BELOW GRADE.
5. ALL SCH80PVC CONDUITS RUN IN DUCT BANK OR BURIED BELOW GRADE SHALL BE 1" UNLESS NOTED OTHERWISE.
6. ALL EXPOSED CONDUIT TO BE INSTALLED TIGHT AGAINST WALLS, FRAMING, ROOF, ETC. NOT TO EXCEED 1/2" GAP.

DRAWING NOTES

- 1 NEW GROUND FIELD: (3) 10'-0"x3/4" GROUND RODS SPACED APPROXIMATELY 12'-0" ON CENTER WITH #2 BARE COPPER GROUND CONDUCTOR. CABLED TO GROUND RODS.
- 2 EXTEND #2 BARE COPPER GROUND IN 1" (SCH80PVC) TO S.E. RATED FUSED DISCONNECT SWITCH GROUND BUS AND PANEL OERP1 GROUND BUS. PROVIDE 3" CONCRETE ENVELOPE WHERE RUN UNDER PAVING.
- 3 60A, 3P/60A, 50, 240V S.E. RATED DISCONNECT SWITCH IN NEMA 3R ENCLOSURE FOR INCOMING FEEDERS. MOUNT AT 42" ABOVE FINAL GRADE TO BOTTOM.
- 4 MOUNT QUAD RECEPTACLE TO MAST AT 48" ABOVE GRADE. RECEPTACLE TO BE GF1 TYPE IN A WEATHERPROOF, IN-USE ENCLOSURE.
- 5 RX PANEL A AND REPLACE WITH NEW PANEL A. RECONNECT EX BRANCH CIRCUIT WIRING TO SAME CIRCUIT NUMBER. REWORK EX CONDUITS AS REQUIRED.
- 6 RECEPTACLE FOR BLUE FAN. MOUNT TO MAST AT 72" ABOVE GRADE. RECEPTACLE TO BE GF1 TYPE IN A WEATHERPROOF, IN-USE ENCLOSURE.
- 7 EXTEND (6) SIX EMPTY 1" (SCH80PVC) FOR BRANCH CIRCUIT WIRING FROM PANEL OERP1 TO THE EAGLE CATCH BOX/ENCLOSURE. CONDUITS WILL BE BURIED. CAP SPARE CONDUIT ON BOTH ENDS. CONDUIT CONTENTS BELOW:
CONDUIT #1: BRANCH CIRCUITS 2,4,8(OERP1)
CONDUIT #2: BRANCH CIRCUITS 8,10(OERP1)
CONDUIT #3: BRANCH CIRCUIT 12(OERP1)
CONDUIT #4: SPARE
CONDUIT #5: SPARE
CONDUIT #6: BRANCH CIRCUIT 13(OERP1) TO FIBER JUNCTION BOX.
- 8 ROUTE BRANCH CIRCUIT WIRING HOME RUN VIA CONDUITS INDICATED IN DRAWING NOTE #7. HOME RUN INDICATED FOR CLARITY.
- 9 120V ELECTRICAL CONNECTION TO SWP-1 CONTROL PANEL. INSTALL SWP-1 CONTROL PANEL IN NEMA 4 HOFFMAN ENCLOSURE. MOUNT TO CONTRACTOR PROVIDED UNISTRUT MOUNTING FRAME. COORDINATE EXACT LOCATION WITH CIVIL AND LANDSCAPE DIVISIONS. CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO EQUIPMENT.
- 10 SUMP IMMERSION HEATER CONTROL WIRING IS CONNECTED TO SWP-1 CONTROL PANEL.
- 11 NEW GROUND FIELD BOUNDARY OFFSET OF 5'-0".
- 12 NEW 30"x24"x12"D NEMA 4 JUNCTION BOX FOR FIBER. PROVIDE GF1 TYPE RECEPTACLE MOUNTED INSIDE OF JUNCTION BOX FOR NETWORK SWITCH.
- 13 NEW CONDUITS (2-1 1/2" AND 1-2") FROM CAVES TO EAGLE/OWL SHED UP THRU ROOF VIA NEW PORTALS PLUS 23035, ALUMI-FLASH EXTRA WIDE BASE WITH 412 BLACK CAP ROOF FLASHING DEVICE.
- 14 ROUTE NEW CONDUITS TO EAGLE/OWL SHED AROUND PERIMETER OF ROOF. INSTALL DIRECTLY TO MEMBRANE ROOF UTILIZING NON-PENETRATING ROOF BLOCK CONDUIT SUPPORTS.
- 15 PROVIDE WEATHERPROOF JUNCTION BOX FOR CONDUITS TO EAGLE/OWL SHED. SIZE PER NEC. MOUNT JUNCTION BOX TO UNISTRUT AT PARAPET WALL. ROUTE CONDUITS OVER PARAPET WALL AND DOWN TO BELOW GRADE.
- 16 PROPOSED ROUTING OF NEW 4" SCH80PVC TO FIBER JUNCTION BOX. DIRECT BORE. COORDINATE WITH CIVIL DIVISION. PROVIDE MINIMUM 24" OF COVER.
- 17 THE CONTRACTOR SHALL CIRCUIT TRACE ALL EX BRANCH CIRCUITS TO CONFIRM THAT THE CONNECTED DEVICE MATCHES THE EX PANEL DIRECTORY. THIS INFORMATION MUST BE SENT TO THE ENGINEER OF RECORD PRIOR TO STARTING NEW CONSTRUCTION.
- 18 CONTRACTOR TO REWORK SECTION OF EX UTILITY CONDUIT TO AVOID MODULAR WETLANDS. PROVIDE HAND HOLES AS REQUIRED. COORDINATE WITH CIVIL DIVISION AND UTILITY CONDUIT OWNER.
- 19 CONTRACTOR TO CONFIRM THAT SUFFICIENT COVER (24" MIN) IS OVER UTILITY CONDUIT UNDER THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE UTILITY CONDUIT TO PROVIDE SUFFICIENT COVER ABOVE UTILITY CONDUIT UNDER THIS CONTRACT. PROVIDE HAND HOLES AS REQUIRED. COORDINATE WITH CIVIL DIVISION AND UTILITY CONDUIT OWNER.
- 20 EXTEND BRANCH CIRCUIT WIRING IN 1" (SCH80PVC) IN DUCT BANK SIMILAR TO DUCT BANK C-C. PROVIDE 3" CONCRETE ENVELOPE AROUND CONDUITS WHEN RUN UNDER PAVING. CONCRETE SHALL BE DYED RED. SCH80PVC CONDUIT STUB UPS SHALL BE BROWN IN COLOR AT STUB-UP TO BOLLARDS. SEE DETAIL ON DRAWING E102 FOR ADDITIONAL INFORMATION.
- 21 APPROXIMATE LOCATION OF NEW BOLLARD BY OTHERS. COORDINATE EXACT LOCATION WITH LANDSCAPE DIVISION. SEE DETAIL ON DRAWING E102 FOR ADDITIONAL INFORMATION. LIGHTS AT BOLLARDS TO BE SWITCHED. RECEPTABLES TO BE ENERGIZED AT ALL TIMES.
- 22 EXTEND BRANCH CIRCUIT WIRING IN 1" (SCH80PVC) IN DUCT BANK SIMILAR TO DUCT BANK C-C. PROVIDE 3" CONCRETE ENVELOPE AROUND CONDUITS WHEN RUN UNDER PAVING. CONCRETE SHALL BE DYED RED. SCH80PVC CONDUIT STUB UPS SHALL BE BROWN IN COLOR AT STUB-UP TO BOLLARDS. SEE DETAIL ON DRAWING E102 FOR ADDITIONAL INFORMATION.
- 23 MOUNT SWITCH TO CONTRACTOR PROVIDED UNISTRUT MOUNTING FRAME AT SUMP.



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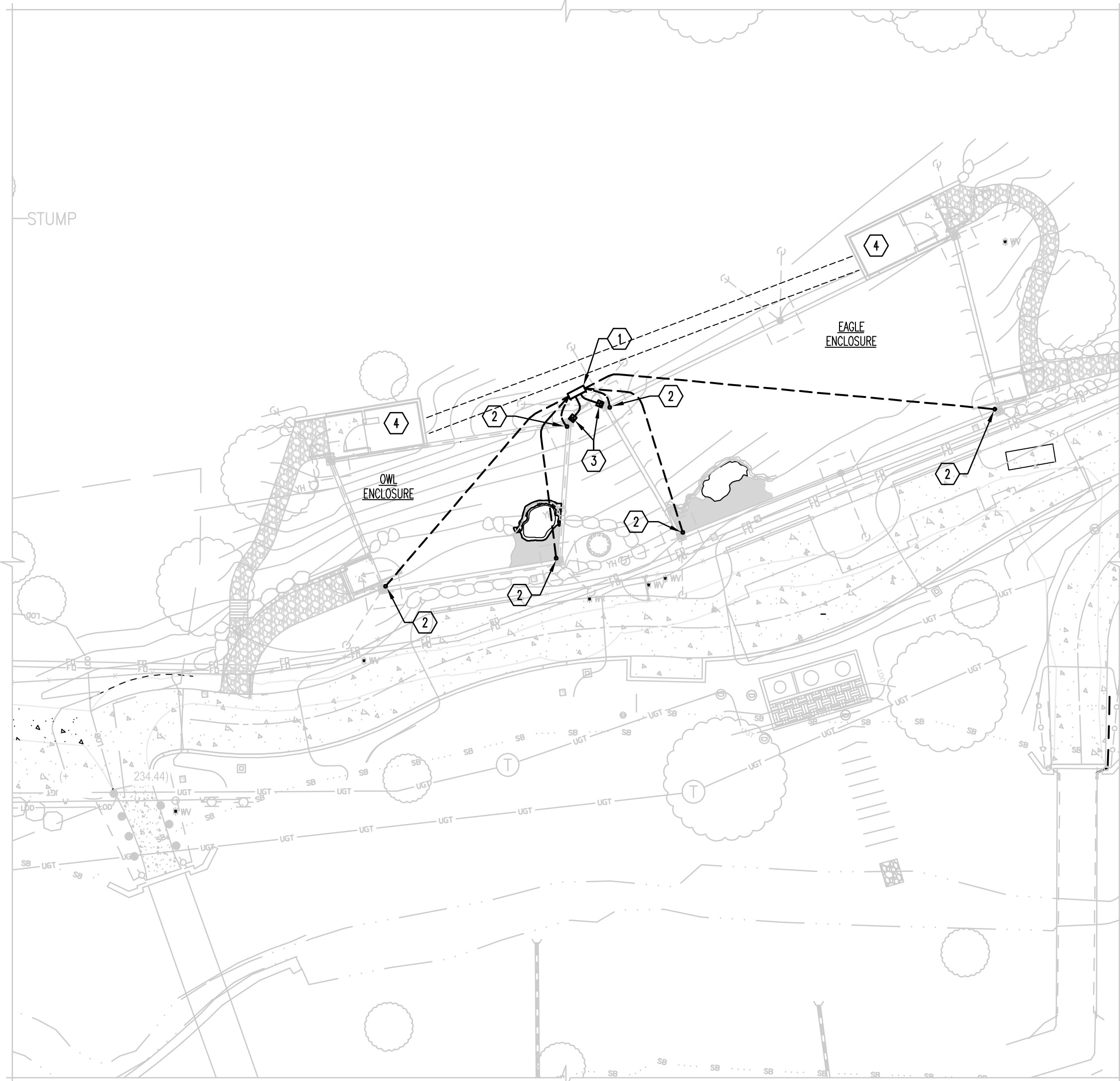
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PLAN - ELECTRICAL

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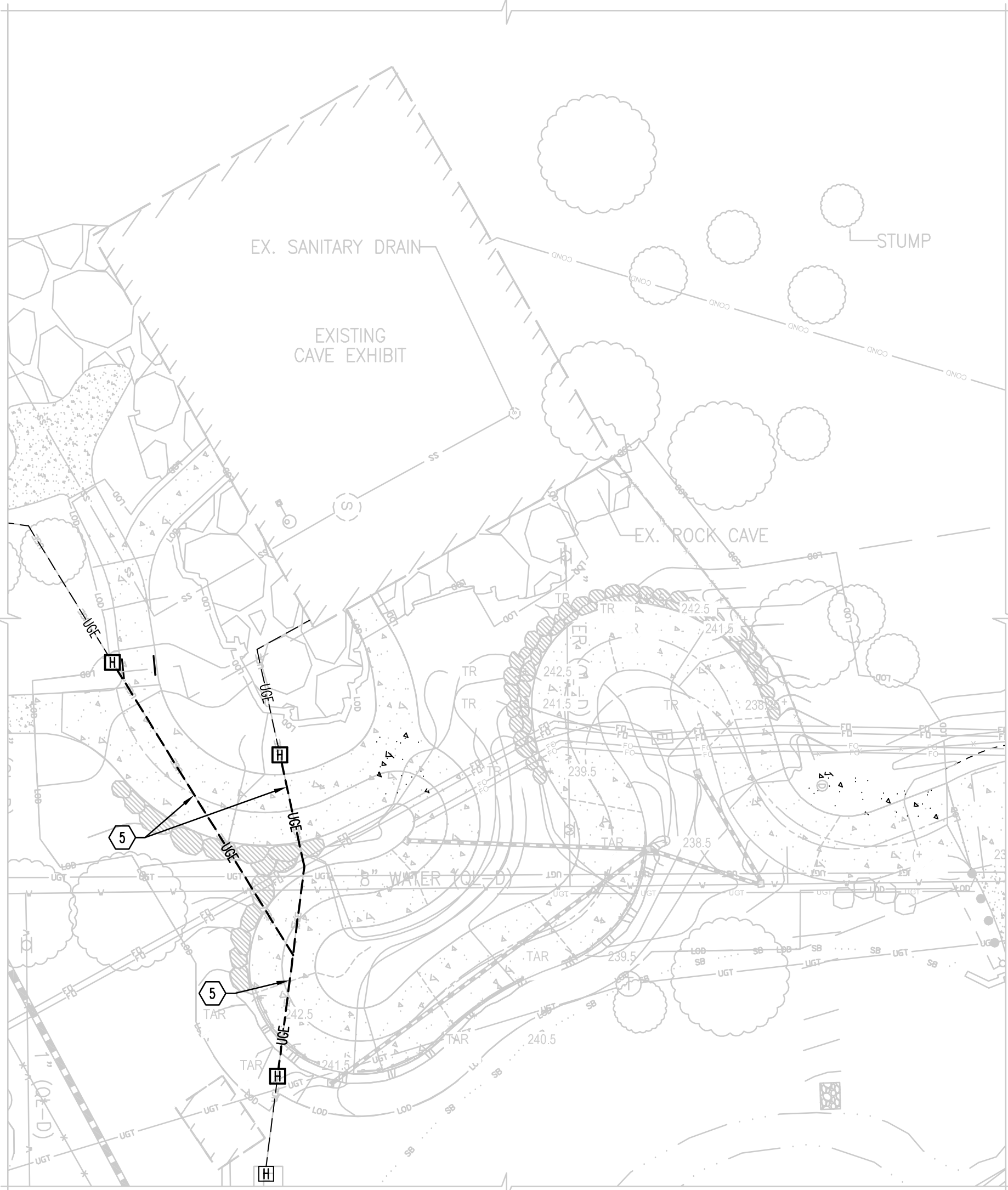
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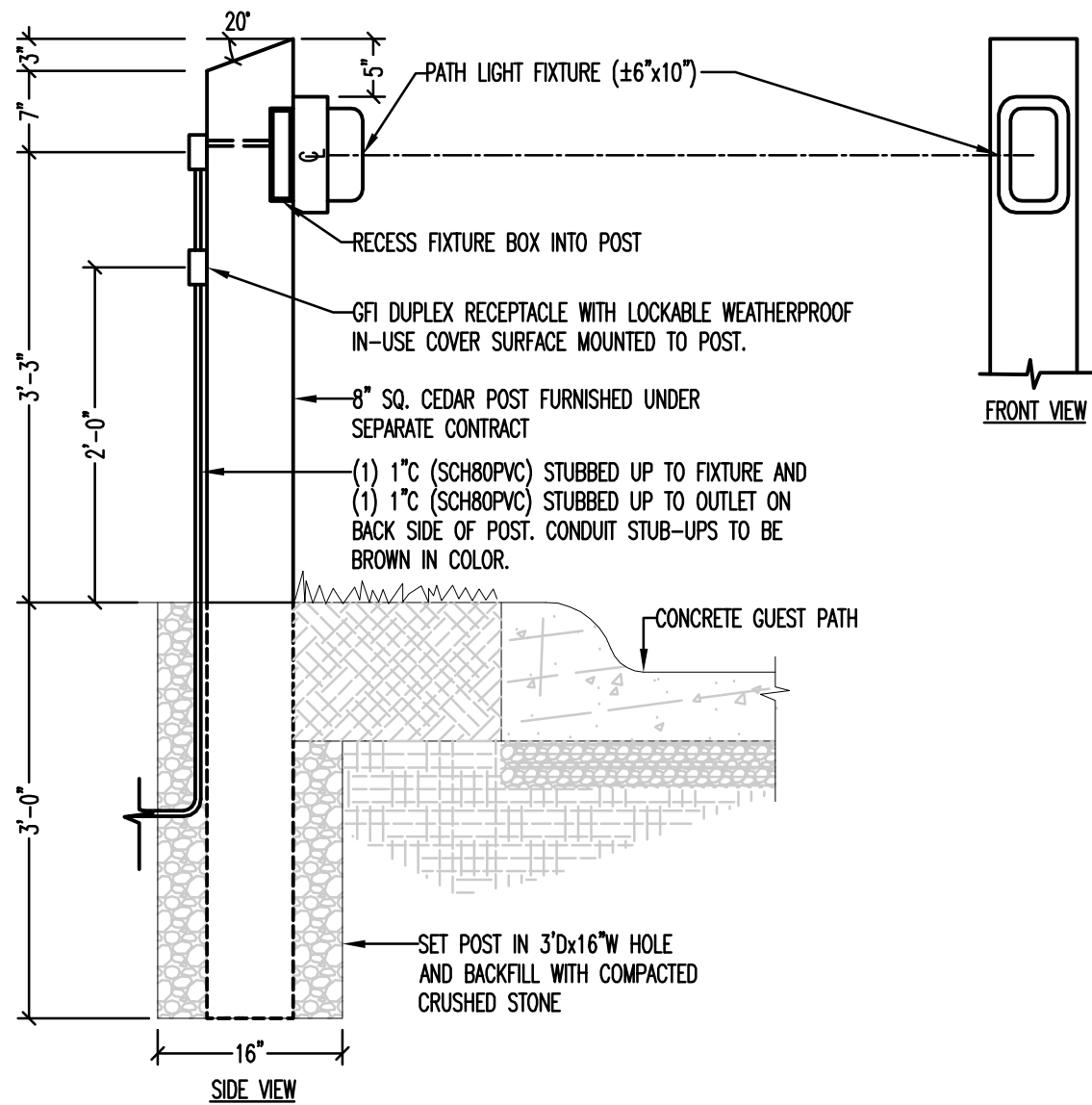
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



SITE PLAN - ELECTRICAL - CAMERA LOCATIONS - BASE BID
SCALE: 1/16"=1'-0"



SITE PLAN - ELECTRICAL - ALTERNATE
SCALE: 1/16"=1'-0"



DETAIL - BOLLARD LIGHT
NOT TO SCALE

NOTE: COORDINATE WITH CIVIL AND LANDSCAPE DIVISIONS.

GENERAL NOTES

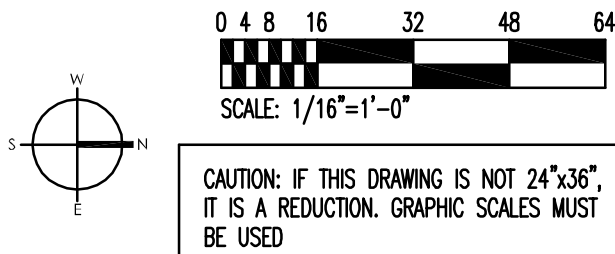
1. NEW DUCT BANK(S) SHALL BE RUN BELOW EX UTILITIES WHEN CROSSING.
2. NEW DUCT BANK(S) TO BE ENCASED IN CONCRETE WHERE BELOW PAVED AREAS.
3. SEE THIS DRAWING FOR DUCT BANK SECTIONS AND SCHEDULES.
4. PROVIDE #10AWG CONDUCTORS WHEN RUN IN DUCT BANK OR WHERE CONDUITS ARE BURIED BELOW GRADE.
5. ALL EXPOSED CONDUIT TO BE INSTALLED TIGHT AGAINST WALLS, FRAMING, ROOF, ETC. NOT TO EXCEED 1/2" GAP.

DRAWING NOTES

1. NEW 30"x24"x12" NEMA 4 JUNCTION BOX FOR FIBER. BOX IS ALSO INDICATED ON SHEET E101.
2. EXTEND EMPTY 2" SCH80PVC FROM FIBER JUNCTION BOX TO CAMERA LOCATIONS AS INDICATED. STUB EMPTY CONDUITS UP 12" ABOVE FINISHED GRADE. INSTALL CONDUIT STUB SO THAT THERE IS 1/4" GAP MAXIMUM BETWEEN THE STUB UP AND THE MAST. ZOO PERSONNEL TO MOUNT CONTRACTOR FURNISHED, OWNER INSTALLED CCTV CAMERAS AND PULL CAMERA CABLING. PROVIDE NYLON PULL CORD IN EACH CONDUIT.
3. EXTEND EMPTY 2" SCH80PVC FROM FIBER JUNCTION BOX TO JUNCTION BOX LOCATIONS AS INDICATED. STUB EMPTY CONDUITS UP 12" ABOVE FINISHED GRADE. INSTALL CONDUIT STUB SO THAT THERE IS 1/4" GAP MAXIMUM BETWEEN THE STUB UP AND THE MAST. ZOO PERSONNEL TO MOUNT CONTRACTOR FURNISHED, OWNER INSTALLED JUNCTION BOXES AND PULL ASSOCIATED CABLING. PROVIDE NYLON PULL CORD IN EACH CONDUIT.
4. SEE DRAWING E103 FOR CCTV CAMERA LOCATION INSIDE OF EAGLE AND OWL SHEDS.
5. CONTRACTOR TO CONFIRM THAT SUFFICIENT COVER (24" MIN) IS OVER UTILITY CONDUIT UNDER THE PROPOSED CONDITIONS. CONTRACTOR SHALL RELOCATE UTILITY CONDUIT TO PROVIDE SUFFICIENT COVER ABOVE UTILITY CONDUIT UNDER THIS CONTRACT. PROVIDE HAND HOLES AS REQUIRED. COORDINATE WITH CIVIL DIVISION AND UTILITY CONDUIT OWNER.

I.T. EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	QUANTITY	MANUFACTURER AND MODEL NUMBER	FURNISHED BY	INSTALLED BY
ACCESS POINT	ALL-WEATHER IP67 AP WITH 6 SPATIAL STREAMS, EXTENDED-RANGE AFC 6 GHZ SUPPORT, INTEGRATED DIRECTIONAL ANTENNA AND ARTICULATING MOUNTING BRACKET	1	UNIFI CO. MODEL #U7-PRO-OUTDOOR	CONTRACTOR	CONTRACTOR
CAMERAS	ALL-WEATHER, TAMPER-RESISTANT 4K POE CAMERA WITH 1/1.8" BMP IMAGE SENSOR, MULTI-TOPS AI ENGINE AND 3-AXIS MANUAL ADJUSTMENT	12	UNIFI CO. MODEL #UVC-G6-TURRET-W	CONTRACTOR	OWNER
MOUNTS	ARM MOUNT ACCESSORY	12	UNIFI CO. MODEL #UACC-CAMERA-W	CONTRACTOR	OWNER
24 PORT SWITCH	24-PORT, LAYER 3 SWITCH CAPABLE OF HIGH-POWER POE++ OUTPUT	1	UNIFI CO. MODEL #USW-PRO-24-POE (400W)	CONTRACTOR	CONTRACTOR
WEATHERPROOF JUNCTION BOX	10x8x6 FIBERGLASS WEATHERPROOF NEMA 4X ENCLOSURE WITH QUICK RELEASE LATCHES	2	ALTELIX CO. SKU #N100806	CONTRACTOR	CONTRACTOR
WEATHERPROOF CABINET (SWITCH)	30x24x12 SS 304 WEATHERPROOF NEMA 4X ENCLOSURE WITH LOCKABLE HANDLE	1	NVENT/HOFFMAN #A30H2412SSLP3PT	CONTRACTOR	CONTRACTOR
CABLING-CAT6A	CAT6A SHIELDED RISER (OMR) ETHERNET CABLE, BLUE, 23AWG SOLID BARE COPPER, 750MHZ, F/UTP, POE++ , 100W, ETL LISTED, 1000FT SPOOL	2	TRUE CABLE	CONTRACTOR	SEE NOTES BELOW
CONDUITS	2" SCH80 PVC, BROWN IN COLOR WHERE STUBBED UP TO MASTS	SEE PLANS	SEE SPECS	CONTRACTOR	CONTRACTOR



CAUTION: IF THIS DRAWING IS NOT 24"x36", IT IS A REDUCTION. GRAPHIC SCALES MUST BE USED

BKP

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SEAL:

DATE: SEPTEMBER 01, 2026

PROJECT NO: 2023-10.07

DRAWN BY	KWA
CHECKED BY	KWA
SUBMISSION	DATE
BID SET	09/01/2026

REVISION	DATE

DRAWING TITLE:

OWL EXHIBIT - SITE
PLAN - FIBER AND LOW
VOLTAGE

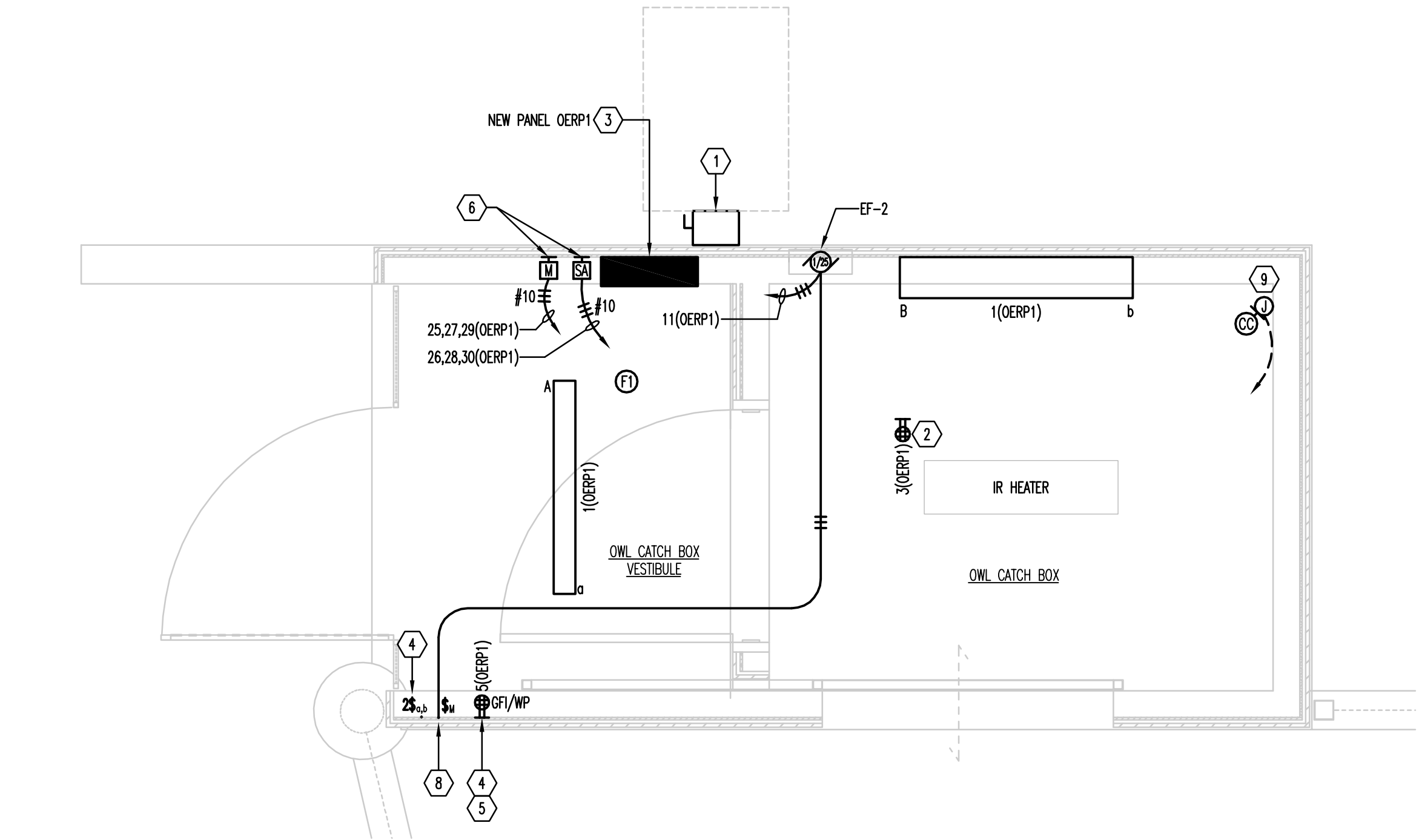
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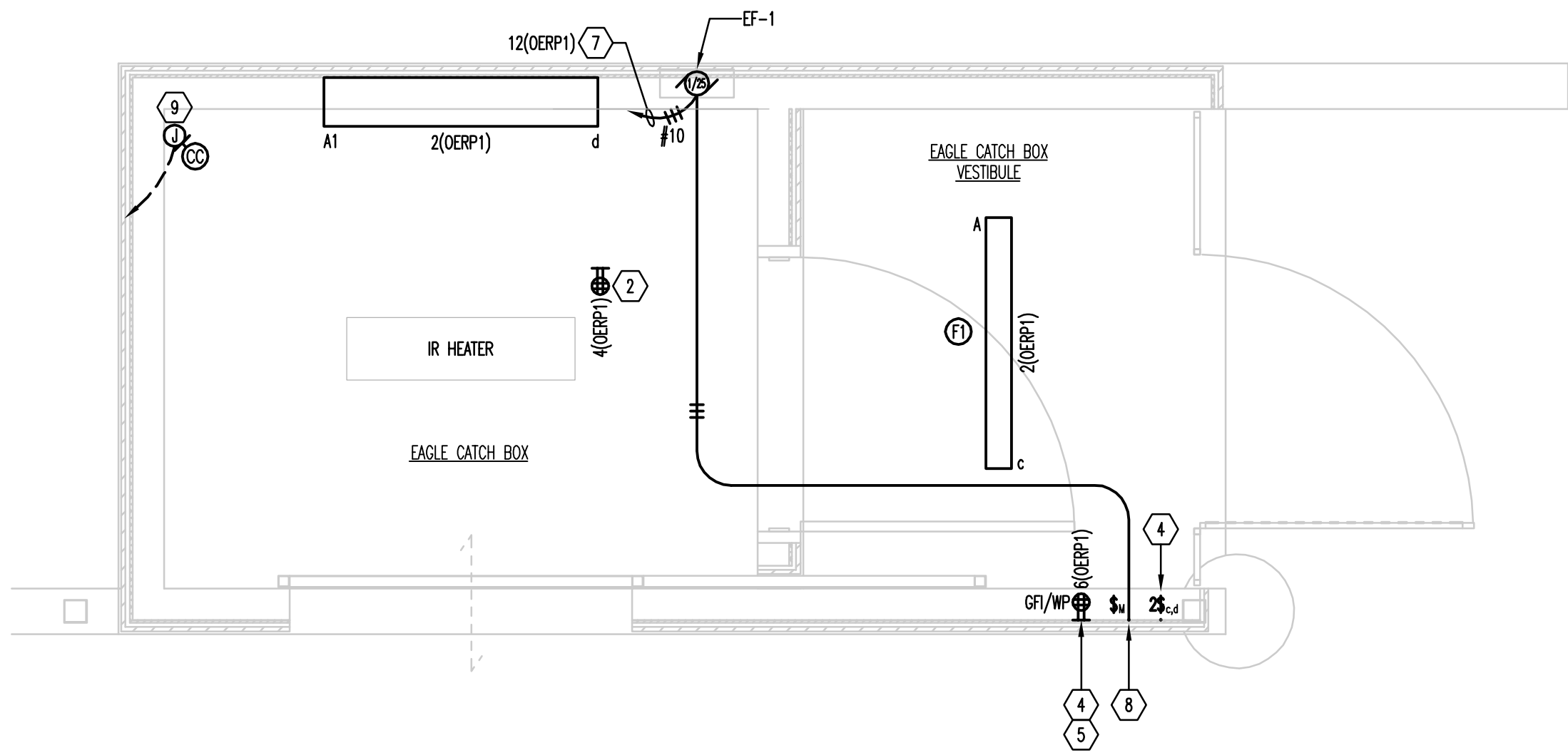
11045 - MARYLAND ZOO EAGLE AND OWL EXHIBIT

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OWL CATCH BOX PLAN - NEW WORK
SCALE: 1/2"=1'-0"



EAGLE CATCH BOX PLAN - NEW WORK
SCALE: 1/2"=1'-0"

GENERAL NOTES

1. THE CONTRACTOR SHALL COORDINATE MOUNTING HEIGHTS OF ALL NEW ELECTRICAL EQUIPMENT AND DEVICES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN. ALERT THE AOR AND EOR OF ANY DISCREPANCIES PRIOR TO ROUGH-IN.
2. 120V LIGHTING, LOW VOLTAGE CONTROL AND POWER BRANCH CIRCUIT WIRING IS NOT INDICATED. THE CONTRACTOR SHALL PROVIDE ALL 120V, LOW VOLTAGE CONTROL AND POWER BRANCH CIRCUIT WIRING.
3. PROVIDE SCH40 PVC CONDUITS WHERE INSTALLED IN WET AREAS.
4. PROVIDE NEMA 3R ENCLOSURES FOR ELECTRICAL EQUIPMENT IN WET AREAS.
5. ALL EXPOSED CONDUIT TO BE INSTALLED TIGHT AGAINST WALLS, FRAMING, ROOF, ETC. NOT TO EXCEED 1/2" GAP.

DRAWING NOTES

1. 60A, 3PFB60A, SN, 240V, S.E. RATED DISCONNECT SWITCH IN NEMA 3R ENCLOSURE. MOUNT AT 42" TO BOTTOM.
2. RECEPTACLE INSTALLED ON CEILING FOR INFRARED HEATER.
3. PROVIDE NEMA 3R RATED PANEL ENCLOSURE. MOUNT RECESSED INTO FRAMING.
4. MOUNT IN WEATHERPROOF ENCLOSURES, RECESSED INTO FRAMING.
5. MOUNT AT 48" AFF.
6. MOUNT EMON-EMON METER AND SURGE ARRESTOR ADJACENT TO NEW PANEL OERP1. MOUNT AT SO THAT TOP OF EQUIPMENT IS 6" BELOW CEILING TO ALLOW FOR ADDITIONAL WALL MOUNT TOOLS/BROOMS.
7. BRANCH CIRCUIT WIRING HOME RUN INDICATED FOR CLARITY. ROUTE THIS BRANCH CIRCUIT HOME RUN VIA BURIED 3/4" INDICATED ON DRAWING E-101.
8. MOUNT MANUAL MOTOR STARTER SWITCH ADJACENT TO EF. RECESS MOUNT INTO FRAMING. PROVIDE WEATHERPROOF ENCLOSURE COMPLETE WITH LOCK-OUT PROVISIONS.



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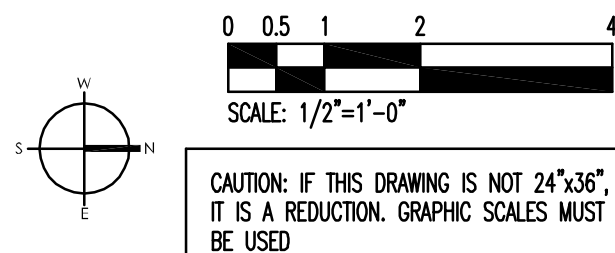
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REVISION	DATE

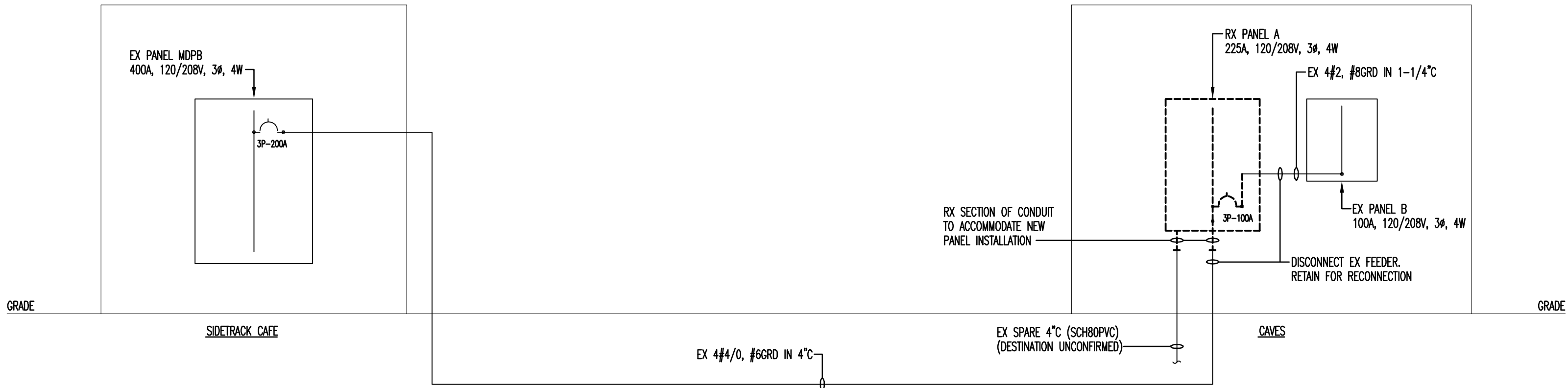
DRAWING TITLE:
OWL EXHIBIT - PART
FLOOR PLANS
-ELECTRICAL-NEW
WORK

DRAWING NO:

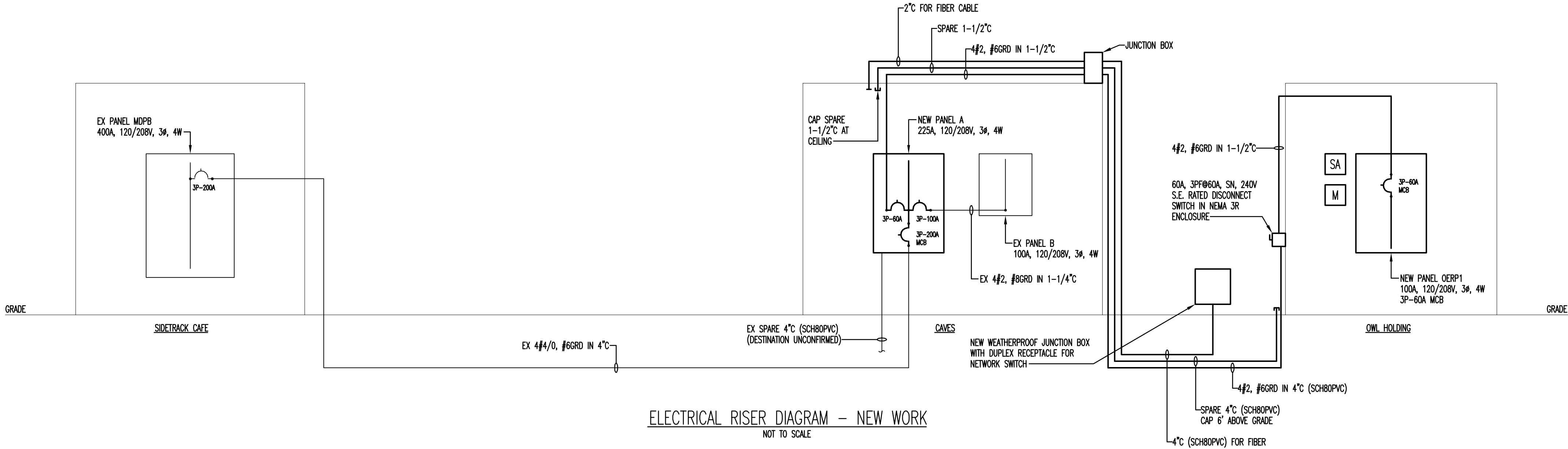
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ELECTRICAL RISER DIAGRAM - DEMOLITION
NOT TO SCALE



ELECTRICAL RISER DIAGRAM - NEW WORK
NOT TO SCALE

NEW PANEL A SCHEDULE														
VOLTAGE:		120 / 208		BUS: 225A		MOUNTING: SURFACE				MANUF: SEE SPECS				
PHASE:		3		MAIN: 3P-200A MCB		LOCATION: CAVES								
WIRE:		4		FEED FROM: PANEL MDPB						TYPE: SEE SPECS				
AIC:		22K												
CKT	DESCRIPTION	BREAKER		LOAD		NOTES	LOAD		BREAKER		DESCRIPTION	CKT		
		POLE	TRIP	KVA	PHASE		PHASE	KVA	TRIP	POLE				
1	RECEPT BELOW PANEL	1	20		A			A	20	2	GRINDER PUMP	2		
3	SERVICE AREALTS	1	20		B			B				4		
5	RECEPT ICE BOX	1	20		C			C	20	1	GROTTO LV & UNDERWATER LTS	6		
7	WEASEL LV LTS	1	20		A			A	20	1	CRICKET LV LTS	8		
9	SNAKE EXHIBIT	1	20		B	1	B	B	20	1	A-LV LTS, B-PROJECTOR	10		
11	EMERGENCY LTS	1	20		C			C	20	1	BREAKDOWN LV LTS	12		
13	PUMP IN GROTTO	1	20		A	1	A	A	20	1	A-BAT LV, B-SERVICE LTS	14		
15	CIRC FAN	3	20		B	1	B	B	20	1	A-WATER HEATER, B-SNAKE LV	16		
17					C	1	C	C	20	1	A-STEP LTS, B-WATER HEATER	18		
19					A			A	30	3	UNIT HEATER 1	20		
21	COPPERHEAD LT	1	20		B			B				22		
23	SNAKE HEATER	2	60		C			C				24		
25					A			A	100	3	PANEL B	26		
27	BAT HEATER SOUTH (OFF)	2	20		B			B				28		
29					C			C				30		
31	PANEL OERPI	3	60	3.6	A			A		1	BUSSED SPACE	32		
33				4.28	B			B		1	BUSSED SPACE	34		
35				2.16	C			C		1	BUSSED SPACE	36		
37	BUSSED SPACE	1			A			A		1	BUSSED SPACE	38		
39	BUSSED SPACE	1			B			B		1	BUSSED SPACE	40		
41	BUSSED SPACE	1			C			C		1	BUSSED SPACE	42		
TOTAL CONNECTED:				A: 3.6	B: 4.28	C: 2.16			KVA: 10.04			AMPS: 27.90		
NOTES:														
1. PROVIDE TANDEM STYLE BREAKER.														
2. THE CONTRACTOR SHALL CIRCUIT TRACE ALL EX BRANCH CIRCUITS TO CONFIRM THAT THE CONNECTED DEVICE MATCHES THE PANEL DIRECTORY. THIS INFORMATION MUST BE SENT TO THE ENGINEER OF RECORD PRIOR TO THE START OF CONSTRUCTION.														

EX PANEL B SCHEDULE														
VOLTAGE:		120 / 208		BUS: 100A		MOUNTING: SURFACE				MANUF: SQUARE D C.O.				
PHASE:		3		MAIN: MLO		LOCATION: CAVES								
WIRE:		4		FEED FROM: PANEL B						TYPE: QO LOAD CENTER				
AIC:		10K												
CKT	DESCRIPTION	BREAKER		LOAD		NOTES	LOAD		BREAKER		DESCRIPTION	CKT		
		POLE	TRIP	KVA	PHASE		PHASE	KVA	TRIP	POLE				
1	HALLWAY UNIT HEATER	3	30		A			A	20	2	UNIT HEATER OVER SINK	2		
3					B			B				4		
5					A			A	20	2	NORTHEAST HEAT	6		
7	UNIT HEATER EAST	2	20		B			B				8		
9					A			A	20	2	NORTHWEST HEAT	10		
11	CONTROL FOR BAT HEAT (OFF)	2	20		B			B				12		
13					A			A	20	1	WMFIRECEPT	14		
15	SNAKE SITE ALARM	1	15		B			B	20	1	FIRE ALARM	16		
17	BUSSED SPACE	1			A			A	20	1	SEC	18		
19	BUSSED SPACE	1			B			B		1		20		
TOTAL CONNECTED:				A: 0		B: 0		KVA: 0				AMPS: 0.00		
NOTES:														
1. THE CONTRACTOR SHALL CIRCUIT TRACE ALL EX BRANCH CIRCUITS TO CONFIRM THAT THE CONNECTED DEVICE MATCHES THE PANEL DIRECTORY. THIS INFORMATION MUST BE SENT TO THE ENGINEER OF RECORD PRIOR TO THE START OF CONSTRUCTION.														

NEW PANEL OERP1														
VOLTAGE:		120 / 208		BUS: 100A		MOUNTING: SURFACE				MANUF: SEE SPECS				
PHASE:		3		MAIN: 3P-60A		LOCATION: OWL SHED								
WIRE:		4		FEED FROM: PANEL A IN CAVES						TYPE: SEE SPECS				
AIC:		22K												
CKT	DESCRIPTION	BREAKER		LOAD		NOTES	LOAD		BREAKER		DESCRIPTION	CKT		
		POLE	TRIP	KVA	PHASE		PHASE	KVA	TRIP	POLE				
1	LIGHTING-OWL CATCH BOX	1	20	0.11	A			A	0.11	20	1	LIGHTING-EAGLE CATCH BOX	2	
3	CLG RECEPT-OWL CATCH BOX	1	20	0.36	B			B	0.36	20	1	CLG RECEPT-EAGLE CATCH BOX	4	
5	RECEPT-OWL CATCH VEST	1	20	0.36	C			C	0.36	20	1	RECEPT-EAGLE CATCH VEST	6	
7	RECEPTS-OWL MASTS	1	20	0.72	A			A	0.72	20	1	RECEPTS-EAGLE MASTS	8	
9	BLUE FANS-OWL ENCLOSURE	1	20	0.6	B			B	0.6	20	1	BLUE FANS-EAGLE ENCLOSURE	10	
11	EF-OWL CATCH BOX	1	15	0.09	C			C	0.09	15	1	EF-EAGLE CATCH BOX	12	
13	RECEPT FOR NETWORK SWITCH	1	20	0.36	A			A	0.5	20	1	SUMP/IMMERSION HEATER	14	
15	BOLLARD LIGHTS	1	20	0.1	B			B	1.18	20	1	SWP-11	16	
17	BOLLARD RECEPTACLE	1	20	0.18	C			C	0	20	1	SPARE	18	
19	BOLLARD RECEPTACLE	1	20	0.18	A			A	0	20	1	SPARE	20	
21	BOLLARD RECEPTACLE	1	20	0.18	B			B	0	20	1	SPARE	22	
23	BOLLARD RECEPTACLE	1	20	0.18	C			C	0	20	1	SPARE	24	
25	SPARE	1	20	0	A			A	0	20	1	SPARE	26	
27	SPARE	1	20	0	B			B	0	20	1	SPARE	28	
29	SPARE	1	20	0	C			C	0	20	1	SPARE	30	
31	SPARE	1	20	0	A			A	0	20	1	SPARE	32	
33	SPARE	1	20	0	B			B	0	20	1	SPARE	34	
35	SPARE	1	20	0	C			C	0	20	1	SPARE	36	
37	EMON DMON METER	3	30	0.18	A			A	0.72	30	3	SURGE ARRESTOR	26	
39				0.18	B			B	0.72				28	
41				0.18	C			C	0.72				30	
TOTAL CONNECTED:				A: 3.6		B: 4.28		C: 2.16		KVA: 10.04		AMPS: 27.90		
NOTES														



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DRAWING TITLE:
RISER DIAGRAMS AND
PANEL SCHEDULES

DRAWING NO:
E601

11045 - MARYLAND ZOO EAGLE AND OWL EXHIBIT