



UNDERGROUND FACILITIES PROTECTION NOTE:

UNDERGROUND STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED FROM PREVIOUS MAPS AND RECORD DRAWINGS AND FIELD SURVEY. THE LOCATION OF EXISTING SURFACE FEATURES SUCH AS CATCH BASIN RIMS, MANHOLE COVERS, WATER VALVES, ETC. AND ELEVATION DATA SUCH AS COVER ELEVATIONS AND PIPE INVERTS ARE THE RESULT OF FIELD SURVEY UNLESS NOTED OTHERWISE. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH IS NOT KNOWN TO THE UNDERSIGNED. THE SIZE, LOCATION AND THE ELEVATIONS OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES. THE "UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION" (MISS UTILITY) MUST BE NOTIFIED A MINIMUM OF 72 HOURS (3 BUSINESS DAYS) PRIOR TO CONDUCTING TEST BORINGS, EXCAVATION OR CONSTRUCTION. CALL 1-800-267-7777

# THE MARYLAND ZOO IN BALTIMORE AFRICAN WATERING HOLE GRADING AND DRAINAGE UPGRADES

1 SAFARI PLACE  
BALTIMORE CITY, MARYLAND 21217

(KCI - 00044502\_002)

KCI TECHNOLOGIES INC.

530 CHESTNUT RIDGE ROAD  
WOODCLIFF LAKE, NEW JERSEY

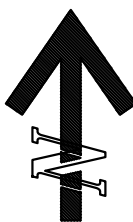
SITE PLAN DRAWINGS

AUGUST 2026



VICINITY MAP

1"=250'



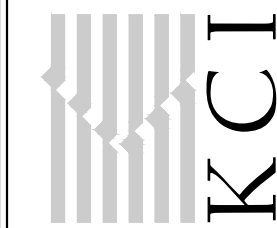
## DRAWING LIST

### PLANS PREPARED BY KCI

|       |                                      |
|-------|--------------------------------------|
| C-000 | COVER SHEET                          |
| C-100 | EXISTING CONDITIONS & REMOVALS PLAN  |
| C-110 | SOIL EROSION & SEDIMENT CONTROL PLAN |
| C-130 | SITE PLAN                            |
| C-150 | GRADING & DRAINAGE PLAN              |
| C-151 | GRADING CROSS SECTIONS               |
| C-500 | CIVIL DETAILS (SHEET 1 OF 2)         |
| C-501 | CIVIL DETAILS (SHEET 2 OF 2)         |

| NO. | DATE | REVISION | BY |
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KCI Technologies Inc.  
530 Chestnut Ridge Road  
Woodcliff Lake, NJ 07677  
T: 201.775.6000 www.kci.com



PROJECT  
THE MARYLAND ZOO IN BALTIMORE  
AFRICAN WATERING HOLE  
GRADING AND DRAINAGE UPGRADES  
1 SAFARI PLACE, BALTIMORE CITY, MARYLAND 21217

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. 28935 EXPIRATION DATE: 11/15/27

SHEET TITLE

COVER SHEET

|             |            |
|-------------|------------|
| PROJECT NO. | 00044502   |
| SCALE       | AS SHOWN   |
| DATE        | 08/20/2026 |
| DRAWN BY    | NTW        |
| CHECKED BY  | MJK/MS     |

DRAWING NO.

C-000

1 OF 8 SHTS





LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- SPOT ELEVATION
- CURB
- CONCRETE WALL
- WOOD FENCE
- METAL FENCE
- EDGE OF ROCK LANDSCAPE
- EDGE OF ROCK LAND
- TELECOM LINE
- ELECTRIC LINE
- SANITARY SEWER PIPE
- STORM DRAIN PIPE
- WALLOW
- WATER
- BUILDING OUTLINE
- SANITARY MANHOLE
- STORM MANHOLE
- INLET
- CLEAN-OUT
- DECIDUOUS TREE
- SURVEY TRAVERSE STATION
- LIMIT OF DISTURBANCE

EXISTING CONDITIONS & REMOVALS NOTES:

- BACKGROUND INFORMATION TAKEN FROM TOPOGRAPHIC SURVEY ENTITLED "MARYLAND ZOO TOPOGRAPHIC SURVEY", PREPARED BY KCI TECHNOLOGIES INC., DATED APRIL 21, 2026.  
A. THE HORIZONTAL DATUM OF THIS SURVEY HAS BEEN REFERENCED TO THE MARYLAND STATE COORDINATE SYSTEM, NAD83 2011.  
B. THE VERTICAL DATUM OF THE SURVEY IS NAVD 1988.
- ADDITIONAL BACKGROUND INFORMATION TAKEN FROM DRAWING ENTITLED, "AFRICAN PLAINS - WATER HOLE EXHIBIT", PREPARED BY WBCM CONSULTING ENGINEERS, DATED MARCH 15, 1990.
- REFER TO SURVEY FOR ADDITIONAL SURVEY NOTES.
- THE CONTRACTOR SHALL ENSURE THAT REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL NOT DIVERT FROM THE PROPOSED WORK IDENTIFIED WITHIN THIS PLAN SET UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER.
- THE MEANS AND METHODS OF CONSTRUCTION AND DEMOLITION ACTIVITIES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL FIELD VERIFY INVERT(S) AT INLETS IF FEASIBLE. IF NOT FEASIBLE, CONTRACTOR SHALL NOTIFY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING DRAINAGE INFRASTRUCTURE AND REPAIR ACCORDINGLY.
- CONTRACTOR SHALL FIELD VERIFY THE PRESENCE OF ANY UTILITY AND PROTECT THEM THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND REPAIR ACCORDINGLY.
- ALL CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND TAKEN TO AN APPROVED, PERMITTED DISPOSAL FACILITY. NO RUBBLE SHALL BE LEFT ON SITE.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY MEANS OF DUST CONTROL AND MAINTAIN BALTIMORE CITY AIR QUALITY STANDARDS DURING THE DEMOLITION AND REMOVAL OF SITE DEBRIS AND CONSTRUCTION.
- THE CONTRACTOR SHALL SUBMIT A DEMOLITION / CONSTRUCTION STAGING PLAN TO THE OWNER AND ENGINEER FOR APPROVAL PRIOR TO BEGINNING ANY WORK.
- THE CONTRACTOR SHALL REMOVE OR SECURE ALL EQUIPMENT, TOOLS, MATERIALS, AND DEBRIS WITHIN OR ADJACENT TO THE WORK AREA AT THE END OF EACH WORK DAY IN A MANNER ACCEPTABLE TO THE ZOO AND IN ACCORDANCE WITH ALL ZOO SAFETY AND ANIMAL PROTECTION REQUIREMENTS.
- ALL FEATURES WITHIN THE LIMIT OF DISTURBANCE INDICATED ON THIS PLAN ARE TO BE REMOVED OR DEMOLISHED UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SUBSTANTIAL DISCREPANCIES IDENTIFIED BETWEEN THIS PLAN AND FIELD CONDITIONS.
- ALL DEMOLITION ACTIVITIES SHALL BE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL CODES. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL UTILITIES ARE DISCONNECTED IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS PRIOR TO STARTING DEMOLITION OF ANY STRUCTURE. ALL EXCAVATIONS ASSOCIATED WITH DEMOLISHED STRUCTURES SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO SUPPORT SITE AND BUILDING IMPROVEMENTS.

KCI Technologies Inc.  
530 Chestnut Ridge Road  
Woodcliff Lakes, NJ 07877  
T: 201.775.6000 www.kci.com

PROJECT  
THE MARYLAND ZOO IN BALTIMORE  
AFRICAN WATERING HOLE  
GRADING AND DRAINAGE UPGRADES  
1 SAFARI PLACE, BALTIMORE CITY, MARYLAND 21217

SEAL

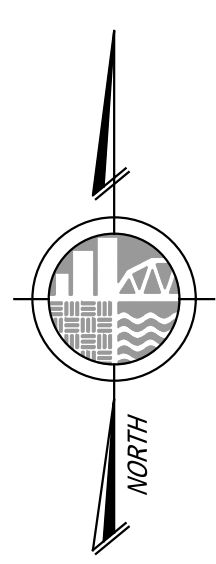
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 28935 EXPIRATION DATE: 11/15/27

SHEET TITLE  
EXISTING CONDITIONS & REMOVALS PLAN

PROJECT NO. 00044502  
SCALE 1" = 20'  
DATE 08/20/2026  
DRAWN BY NTW  
CHECKED BY MJK/MS  
DRAWING NO. C-100  
2 OF 8 SHOTS

NO. DATE REVISION BY





E 1412.825  
N 604.300

#422  
E 1412.825  
N 603.900

0 20' 40'  
1"=20'

N 604.300  
E 1413.100



**LEGEND**  
— LIMIT OF DISTURBANCE  
— SF — SILT FENCE  
□ INLET PROTECTION

**SOIL EROSION & SEDIMENT CONTROL NOTES:**

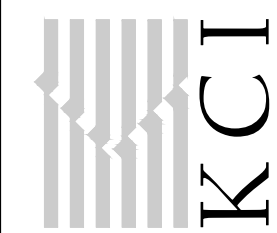
- CONTRACTOR SHALL COMPLY WITH ALL SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS AS SET FORTH IN THE MARYLAND SEDIMENT AND EROSION MANUAL AND BALTIMORE CITY CODE ARTICLE 7.
- THE CONTRACTOR SHALL NOT DEVIATE FROM THE APPROVED SEDIMENT AND EROSION CONTROL PLAN WITHOUT FIRST RECEIVING APPROVAL FROM THE PLANS REVIEW AND INSPECTIONS DIVISION. VARIATIONS TO THE ORIGINAL PLAN MUST BE SUBMITTED IN WRITING WITH ALL PROPOSED MODIFICATIONS BEING HIGHLIGHTED. SUBSTANTIAL CHANGES WILL NECESSITATE AMENDMENT OF THE GRADING/BUILDING PERMIT.
- INITIAL DISTURBANCE WILL BE LIMITED TO THAT NECESSARY TO GAIN ENTRANCE TO THE SITE AND INSTALL NECESSARY SEDIMENT CONTROL MEASURES AS PER THE APPROVED PLANS.
- ALL SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND CRITICAL SLOPES SHALL BE STABILIZED WITHIN THREE (3) CALENDAR DAYS FROM START OF CONSTRUCTION (SOC). ALL OTHER DISTURBED AREAS ON THE PROJECT SITE MUST BE STABILIZED WITHIN SEVEN (7) CALENDAR DAYS FROM SOC.
- ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE WHENEVER POSSIBLE AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL COURSE OF DRAINAGE.
- PUMPING OF SEDIMENT LADEN WATER SHALL NOT BE ALLOWED UNLESS IT IS FILTERED BY WAY OF AN APPROVED SEDIMENT TRAPPING DEVICE.
- CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES IS MANDATORY.
- ANY SEDIMENT CONTROL MEASURES DISTURBED DURING CONSTRUCTION SHALL BE RESTORED IMMEDIATELY.
- ALL POINTS OF INGRESS AND EGRESS SHALL BE PROTECTED TO MINIMIZE TRACKING OF MUD ONTO PUBLIC ROADS OR INTO THE PUBLIC RIGHT-OF-WAY.
- ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL TRACKED, SPILLED OR WASHED ONTO ADJACENT AREAS MUST BE IMMEDIATELY REMOVED AND DISPOSED OF PROPERLY. NO FLUSHING SHALL BE PERMITTED. ALL MATERIAL MUST BE REMOVED BY MEANS OF SHOVELING OR SWEEPING.
- ANY AREAS OF THE SITE THAT CAN NOT BE STABILIZED BY THE END OF THE WORK DAY SHALL HAVE SILT FENCE INSTALLED ON THE DOWN SLOPE SIDE.
- CONTRACTOR SHOULD EXCAVATE ONLY A SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED BY THE END OF THE WORK DAY.
- PLACE ALL EXCAVATED MATERIAL ON UPSLOPE SIDE OF THE TRENCH. ANY SEDIMENT CONTROL MEASURES DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
- ANY EXCESS STOCKPILE MATERIAL SHALL BE REMOVED FROM SITE AT THE END OF EACH WORK DAY.

**SEQUENCE OF CONSTRUCTION:**

- CONTRACTOR MUST OBTAIN ALL REQUIRED PERMITS PRIOR TO BEGINNING ANY WORK.
- CONTACT MISS UTILITY (1-800-257-7777) AT LEAST 3 DAYS IN ADVANCE OF THE START OF WORK.
- AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL SUBMIT, IN WRITING, TO DEPARTMENT OF PUBLIC WORKS, OFFICE OF RESEARCH & ENVIRONMENTAL PROTECTION, PLANS REVIEW AND INSPECTIONS, 3001 DRUID PARK DRIVE, ROOM 228, BALTIMORE, MD 21215. PHONE NUMBER: 410-396-0732, FAX: 410-523-9047. DPW.ESGINSPECTIONS@BALTIMORECITY.GOV, AND C.C. THE OWNER THE FOLLOWING INFORMATION:  
A. ANTICIPATED CONSTRUCTION START DATE  
B. DISPOSAL LOCATION FOR SITE MATERIAL  
C. ESTIMATED TIME OF COMPLETION
- INSTALL SILT FENCE AND INLET PROTECTION FOR EXISTING INLETS TO REMAIN. NO SITE GRADING OR SOIL DISTURBANCE ACTIVITIES SHALL BE PERFORMED UNTIL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED.
- ROUGH GRADE WITHIN LIMITS OF DISTURBANCE AND BEGIN UTILITY WORK.
- STORM DRAINAGE LINES SHALL BE CONSTRUCTED AS SHOWN ON DRAWING C-150. STORM DRAINS SHALL BE FLUSHED OUT AFTER EVERY STORM EVENT. ROCK LANDSCAPING AND CONCRETE BERM CONSTRUCTION MAY PROCEED CONCURRENTLY WITH DRAINAGE WORK.
- PERFORM FINE GRADING AS NEEDED FOR THE SITE TO BE BROUGHT TO FINAL GRADE. PERMANENT SOIL STABILIZATION SHALL BE PERFORMED AS SOON AS POSSIBLE AFTER FINAL GRADING.
- TEMPORARY STRUCTURAL EROSION CONTROL PRACTICES ARE REMOVED AFTER SITE STABILIZATION IS COMPLETED AND ANY AREA(S) DISTURBED BY THEIR REMOVAL SHALL BE STABILIZED TO THE SATISFACTION OF THE ENGINEER.

| NO. | DATE | REVISION | BY |
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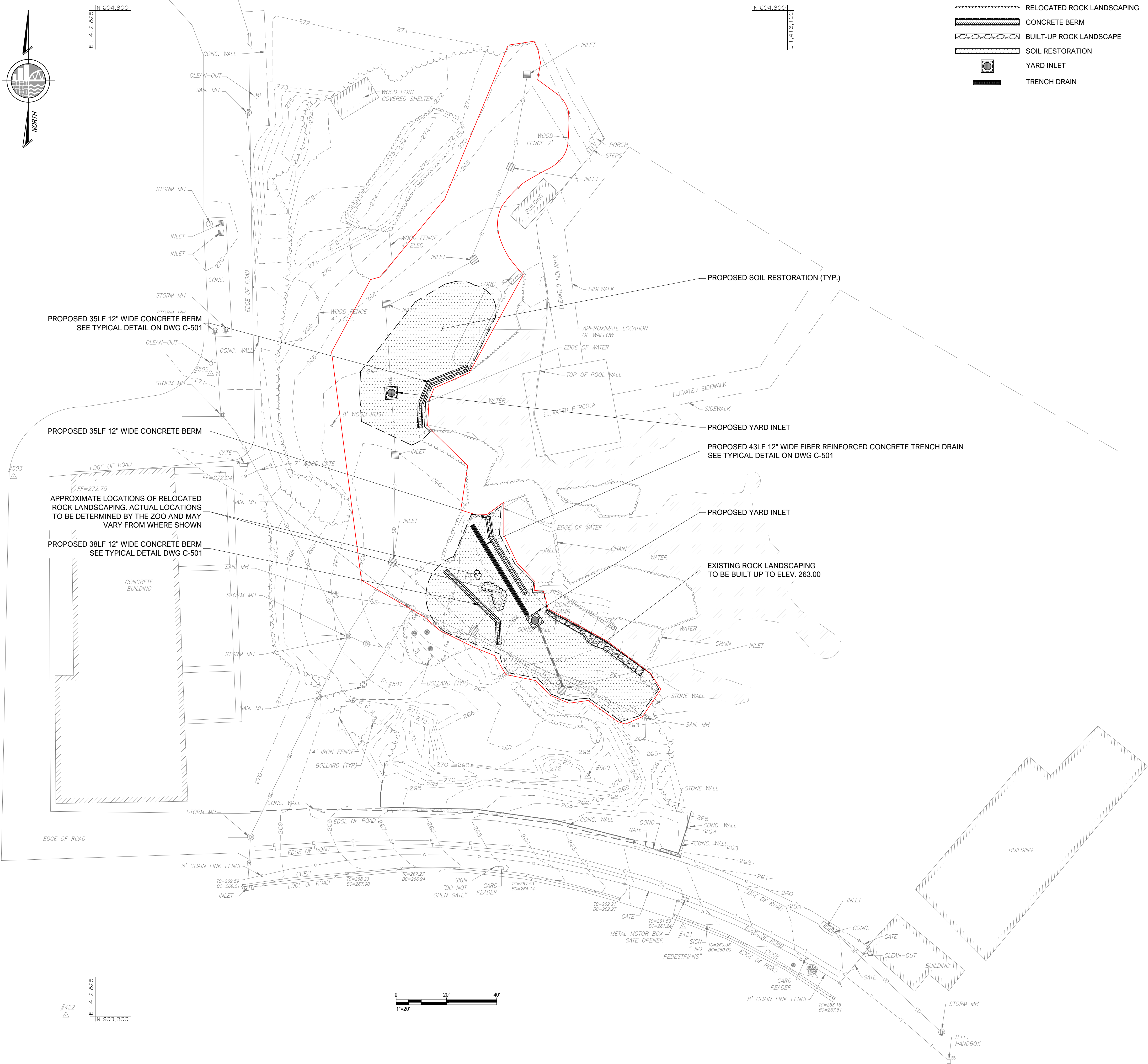
SHEET TITLE

**SOIL EROSION &  
SEDIMENT CONTROL PLAN**

PROJECT NO. 00044502  
SCALE 1" = 20'  
DATE 08/20/2026  
DRAWN BY NTW  
CHECKED BY MJK/MS  
DRAWING NO.

**C-110**  
3 OF 8 SHTS





NOTES:

- CONTRACTOR SHALL CONTACT MISS UTILITY OF MARYLAND AT 1-800-257-7777 OR 811 OR SUBMIT A TICKET ONLINE AT LEAST THREE (3) FULL BUSINESS DAYS AND NO MORE THAN TWELVE (12) BUSINESS DAYS BEFORE START OF EXCAVATION OR DEMOLITION.
- EXISTING SITE CONDITIONS SHOWN ON THIS DRAWING ARE BASED ON A 2026 TOPOGRAPHIC SURVEY SUPPLEMENTED WITH INFORMATION FROM A 1990 SITE PLAN DRAWING. THE LIMITED SUBSURFACE INFORMATION SHOWN ON THIS DRAWING IS PROVIDED AS GENERAL INFORMATION FOR THE CONTRACTOR. NO CERTIFICATION OR GUARANTEE OF ACCURACY OR COMPLETENESS OF THE INFORMATION GIVEN IS IMPLIED. CONTRACTOR MUST VERIFY SURFACE FEATURES AND SUBSURFACE CONDITIONS AS NEEDED TO PROCEED WITH THE WORK. IN THE EVENT THAT FIELD CONDITIONS VARY SIGNIFICANTLY FROM INFORMATION SHOWN, OR BELOW GROUND CONFLICTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY BY THE CONTRACTOR.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING SITE FEATURES WITHIN THE WORK LIMITS SHOWN HEREON BEFORE STARTING ANY WORK CALLED FOR ON THIS PLAN. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES RESULTING FROM CONSTRUCTION ACTIVITIES OR A FAILURE TO PROTECT AND PRESERVE ANY AND ALL SITE FEATURES TO REMAIN.
- ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND BALTIMORE CITY STANDARDS AND SPECIFICATIONS.
- IF NECESSARY, CONTRACTOR SHALL COORDINATE ALL DISCONNECTIONS AND REMOVALS OF EXISTING GAS, ELECTRIC, CABLE OR TELEPHONE SERVICES AND EQUIPMENT WITH THE UTILITY OWNER, OR PROVIDE THE OWNER'S CONTRACTOR SITE ACCESS TO COMPLETE THE NECESSARY WORK.
- ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE CONTRACTOR SHALL TERMINATE AND CAP THE FACILITY IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS AND ALL STATE AND LOCAL REQUIREMENTS.
- ROUTINE AND ORDINARY WORK NECESSARY TO COMPLETE THIS TYPE OF PROJECT, NOT SPECIFICALLY MENTIONED BY THE ENGINEER, SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT FIRST NOTIFYING THE ENGINEER, AND OBTAINING APPROVAL, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES AND RISK PERFORMING THE WORK AT NO COST TO THE OWNER.
- FRAMES AND GRATES SHALL BE HEAVY-DUTY DUCTILE IRON UNLESS OTHERWISE NOTED. GRATES SHALL BE SECURELY BOLTED OR OTHERWISE FASTENED TO PREVENT DISPLACEMENT BY ANIMALS OR MAINTENANCE ACTIVITIES.
- GRATE OPENINGS SHALL BE SIZED TO PREVENT INJURY OR ENTRAPMENT OF ANIMAL FEET, HOOVES, OR CLAWS. COORDINATE GRATE TYPE AND OPENING DIMENSIONS WITH THE ZOO PRIOR TO INSTALLATION.
- DRAINAGE STRUCTURES, TRENCH DRAINS, FRAMES, AND GRATES SHALL BE INSTALLED FLUSH WITH ADJACENT FINISHED GRADE UNLESS OTHERWISE INDICATED.
- ROCK STABILIZATION SHALL CONSIST OF APPROPRIATELY SIZED AND EMBEDDED STONE TO PREVENT DISPLACEMENT DUE TO ANIMAL ACTIVITY, STORMWATER FLOWS, OR MAINTENANCE OPERATIONS.
- CONTRACTOR SHALL COORDINATE ALL WORK WITHIN ANIMAL EXHIBIT AREAS WITH THE APPROPRIATE ZOO PERSONNEL TO MINIMIZE DISRUPTION TO ZOO OPERATIONS AND ENSURE ANIMAL SAFETY.
- GRADING AND SOIL STABILITY SHALL BE MAINTAINED AT ALL TIMES. THIS SHALL BE CONSIDERED THROUGHOUT THE ENTIRE EXHIBIT, HOWEVER, THE MOST PERTINENT AREAS ARE OUTLINE IN RED ON THIS DRAWING.
- CONTRACTOR SHALL COORDINATE ALL OPERATIONS INCLUDING BUT NOT LIMITED TO PROJECT SEQUENCING AND PHASING, STAGING AND STORAGE, OPERATIONAL SCHEDULE, AND EXHIBIT ACCESS WITH THE ZOO.

STRUCTURAL NOTES:

- INSPECT CONCRETE BERMS AT LEAST ANNUALLY AND AFTER SIGNIFICANT STORM EVENTS FOR CRACKING, SETTLEMENT, SPALLING, OR DISPLACEMENT. REPAIR DAMAGED AREAS PROMPTLY TO KEEP HABITAT AREA RUNOFF SEDIMENT FROM REACHING THE EXISTING WATERBODY.
- CONCRETE BERMS AND EXPOSED CONCRETE FEATURES SHALL CONSIST OF DURABLE CONCRETE SUITABLE FOR REPEATED ANIMAL LOADING AND ABRASION. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI UNLESS OTHERWISE APPROVED BY THE ENGINEER/ZOO.
- ALL STRUCTURES, FRAMES, GRATES, AND APPURTENANCES INSTALLED WITHIN ANIMAL ENCLOSURE SHALL BE ABLE TO WITHSTAND ANTICIPATED LOADING FROM MAINTENANCE VEHICLES AND RESIDENT ANIMALS. COORDINATE WITH THE ENGINEER/ZOO FOR APPROVAL OF MATERIALS TO BE PURCHASED AND INSTALLED.
- TIGHTEN OR REPLACE LOOSE, DAMAGED, OR MISSING FASTENERS AND/OR FITTINGS IDENTIFIED DURING ROUTINE MAINTENANCE INSPECTIONS.
- FOUNDATIONS HAVE BEEN DESIGNED BASED ON A PRESUMPTIVE BEARING PRESSURE OF 1500PSF. GEOTECHNICAL CAPACITY SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER. SHOULD CONDITIONS VARY FROM THOSE ASSUMED, THE STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO CONTINUATION OF WORK.
- ALL FOOTINGS SHALL BE PLACED DIRECTLY ON COMPETENT NATURAL, GRANULAR SOILS OR ENGINEERED CERTIFIED COMPACTED FILL OVER COMPETENT NATURAL SOILS.
- ALL FILL SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS (MAXIMUM) COMPACTED WITH VIBRATORY ROLLERS. FILL MATERIAL SHALL BE TESTED BY MODIFIED PROCTOR DENSITY METHOD (ASTM D1557) AND MUST QUALIFY AS SELECT WITH LESS THAN 10% PASSING THROUGH THE NO. 200 SIEVE. SOIL SHALL BE PLACED WITH MOISTURE CONTENT AND ENERGY TO PROVIDE 92% OF MAXIMUM DRY DENSITY BELOW SLABS ON GRADE AND 95% BELOW FOOTINGS. IN PLACE DENSITY TESTS SHALL BE TAKEN FOR EACH 10,000 s.f. IN EACH LIFT. FOR ACCEPTANCE OF SOIL, AVERAGE OF DENSITY TESTS MUST EXCEED THE SPECIFIED COMPACTION. NO TESTS SHALL BE PERMITTED TO FALL BELOW 88% COMPACTION BELOW SLABS ON GRADE OR 90% COMPACTION BELOW FOOTINGS.
- SHALLOW FOUNDATIONS
  - ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 2'6" BELOW FINAL GRADE WHEN BEARING ON SOIL.
  - EXCAVATIONS SHALL BE DEWATERED TO ALLOW INSTALLATION OF FOOTINGS IN DRY ATMOSPHERE.
- ALL CONCRETE WORK SHALL CONFORM TO REQUIREMENTS OF THE ACI BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE (318) - ULTIMATE STRENGTH DESIGN.
- CLEAR COVER OF REINFORCING STEEL (INCLUDING TIES AND STIRRUPS) SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS:

|                                                |    |
|------------------------------------------------|----|
| BELOW-GRADE FOUNDATIONS, WALLS, & GRADE BEAMS: |    |
| FORMED FACES.....                              | 2" |
| CAST AGAINST EARTH.....                        | 3" |
- ALL CONCRETE, INCLUDING FOUNDATIONS, EXPOSED TO WEATHER AND/OR OUTSIDE THE BUILDING ENVELOPE SHALL BE AIR ENTRAINED, 6%±1.5% BY VOLUME FOR 3/4" COARSE AGGREGATE, AND 7.5%±1.5% BY VOLUME FOR 3/8" LIGHT WEIGHT AGGREGATE. AIR ENTRAINING ADMIXTURE TO COMPLY WITH ASTM C260.
- ALL PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE III UNLESS NOTED OTHERWISE IN SPECIFICATIONS.
- ALL NORMAL WEIGHT AND LIGHTWEIGHT CONCRETE AGGREGATE SHALL CONFORM TO ASTM C33 AND ASTM C330 RESPECTIVELY.
- CONCRETE SLUMP SHALL CONFORM TO APPROVED MIX DESIGN.
- SPliced BARS MARKED CONTINUOUS ON DRAWINGS SHALL BE LAPPED PER THE LAP SPLICE TABLES, UNLESS OTHERWISE NOTED.
- WELDING OF REINFORCEMENT IS PROHIBITED UNLESS OTHERWISE NOTED.
- ALL REINFORCING BARS SHALL BE OF NEW BILLET STEEL CONFORMING TO ASTM A615, WITH THE FOLLOWING GRADE:

|                                             |
|---------------------------------------------|
| #3 THROUGH #10 - GRADE 60 (Fy = 60,000 PSI) |
|---------------------------------------------|
- ALL CONCRETE SHALL BE MIXED, TRANSPORTED AND PLACED IN ACCORDANCE WITH ACI STANDARDS 318 AND 304.
- ALL REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE TO ACI 315.
- ALL WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A1064.
- TEST CYLINDERS SHALL BE TAKEN FROM THE MIXER IN ACCORDANCE WITH ASTM C172 AND THE PROJECT SPECIFICATIONS.
- STONE AGGREGATE USED IN CONCRETE MIX SHALL BE FREE OF MATERIALS WITH HARMFUL REACTIVITY TO ALKALI IN CEMENT
- THE MAXIMUM WATER SOLUBLE CHLORIDE ION CONTENT IN CONCRETE FROM ALL INGREDIENTS SHALL BE LESS THAN 0.06% OF WEIGHT OF CEMENT, PER ASTM C1218.

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SEAL

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STATE OF MARYLAND, LICENSE NO.  
28935 EXPIRATION DATE: 11/15/27

SHEET TITLE  
**SITE PLAN**

PROJECT NO. 00044502  
SCALE 1" = 20'  
DATE 08/20/2026  
DRAWN BY NTW  
CHECKED BY MJK/MS  
DRAWING NO.  
**C-130**  
4 OF 8 SHTS





NOTES:

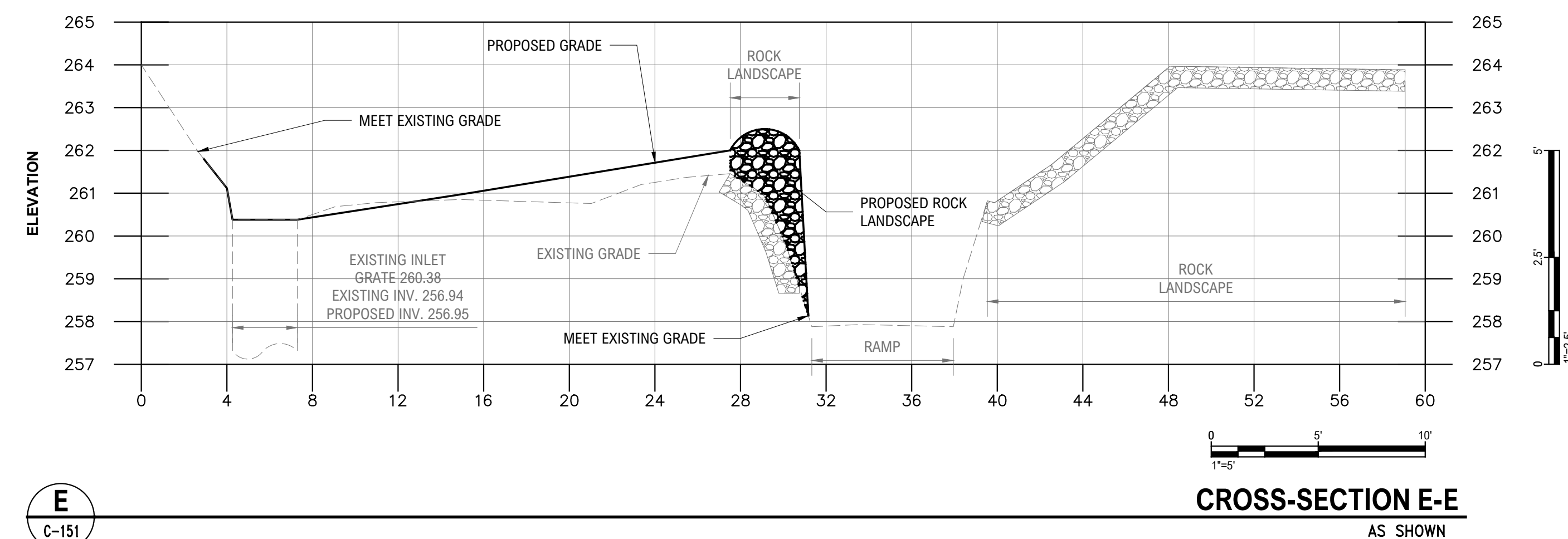
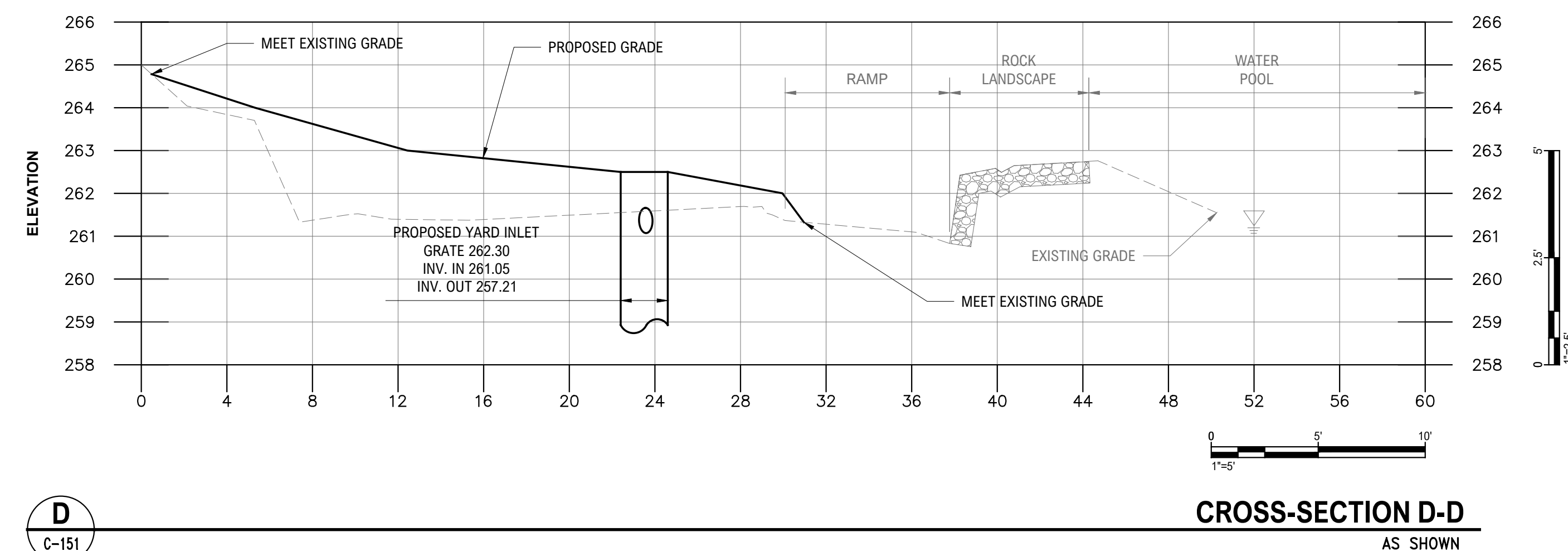
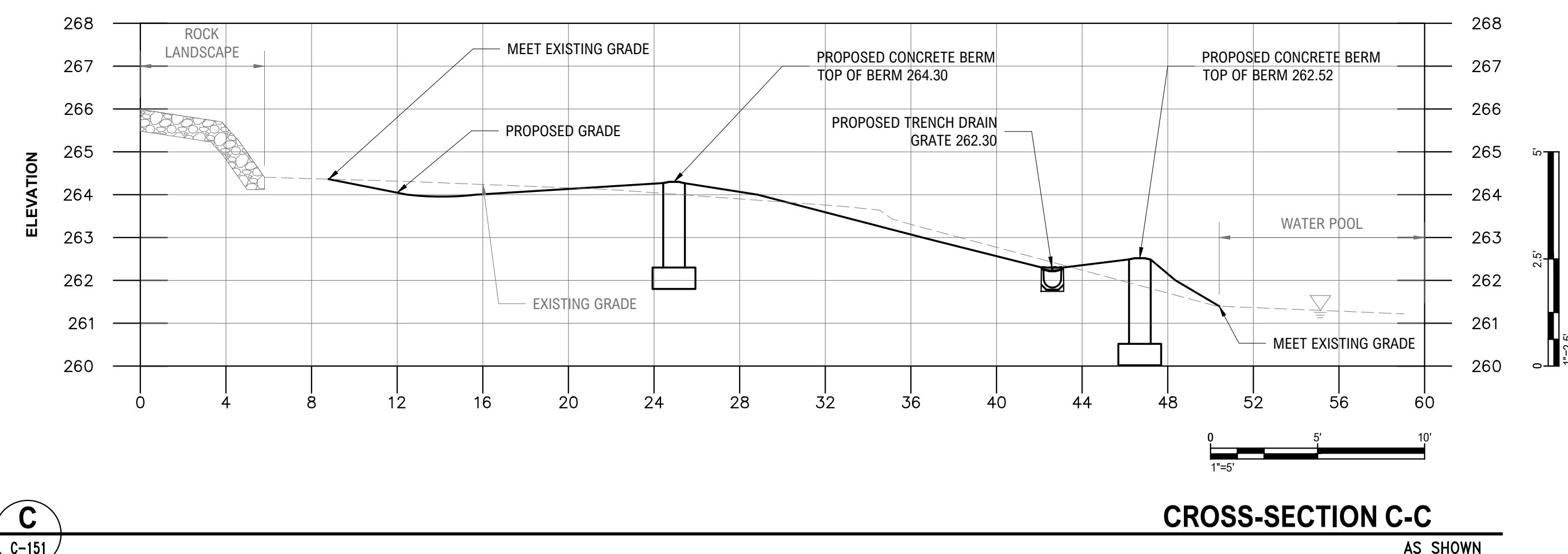
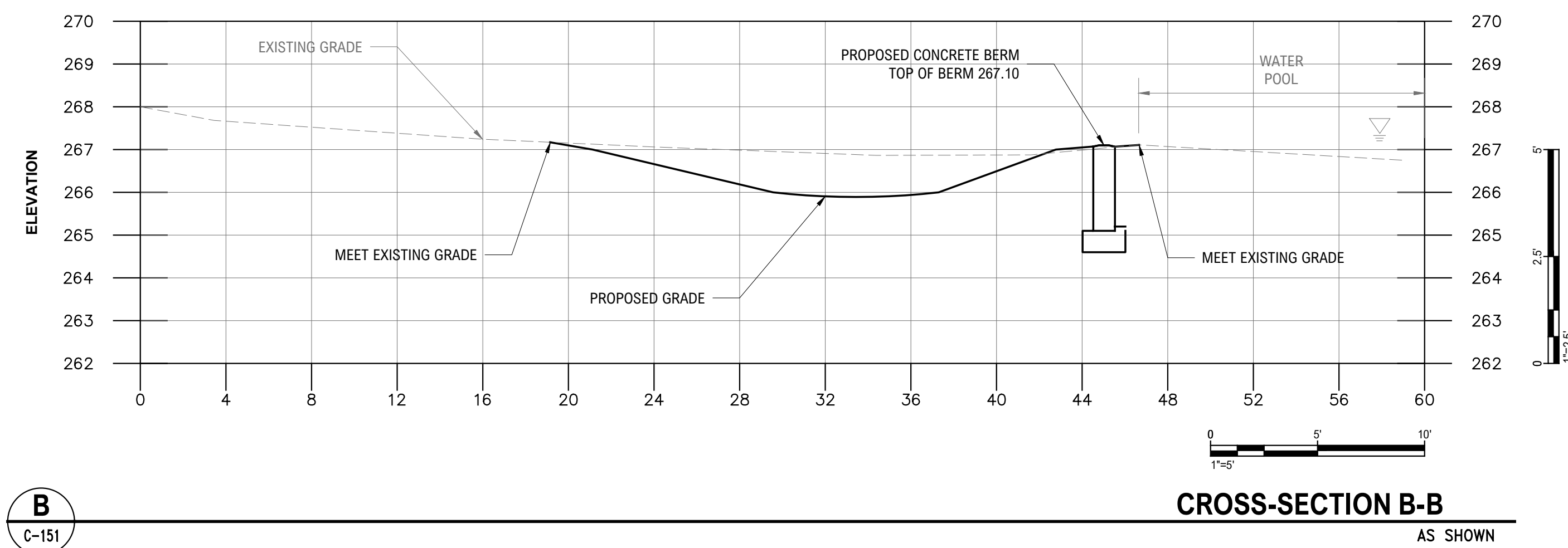
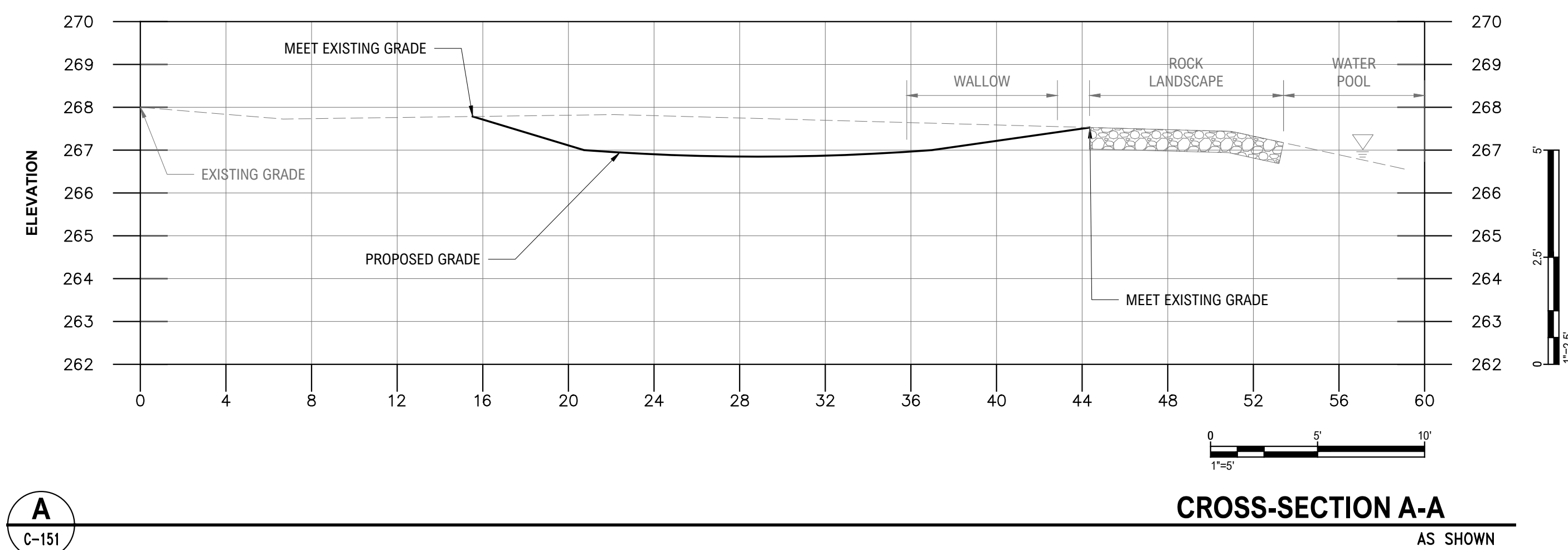
- CONTRACTOR SHALL CONTACT MISS UTILITY OF MARYLAND AT 1-800-257-7777 OR 811 OR SUBMIT A TICKET ONLINE AT LEAST THREE (3) FULL BUSINESS DAYS AND NO MORE THAN TWELVE (12) BUSINESS DAYS BEFORE START OF EXCAVATION OR DEMOLITION.
- EXISTING SITE CONDITIONS SHOWN ON THIS DRAWING ARE BASED ON A 2026 TOPOGRAPHIC SURVEY SUPPLEMENTED WITH INFORMATION FROM A 1990 SITE PLAN DRAWING.
- THE LIMITED SUBSURFACE INFORMATION SHOWN ON THIS DRAWING IS PROVIDED AS GENERAL INFORMATION FOR THE CONTRACTOR. NO CERTIFICATION OR GUARANTEE OF ACCURACY OR COMPLETENESS OF THE INFORMATION GIVEN IS IMPLIED. CONTRACTOR MUST VERIFY SURFACE FEATURES AND SUBSURFACE CONDITIONS AS NEEDED TO PROCEED WITH THE WORK. IN THE EVENT THAT FIELD CONDITIONS VARY SIGNIFICANTLY FROM INFORMATION SHOWN, OR BELOW GROUND CONFLICTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY BY THE CONTRACTOR.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING SITE FEATURES WITHIN THE WORK LIMITS SHOWN HEREON BEFORE STARTING ANY WORK CALLED FOR ON THIS PLAN. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES RESULTING FROM CONSTRUCTION ACTIVITIES OR A FAILURE TO PROTECT AND PRESERVE ANY AND ALL SITE FEATURES TO REMAIN.
- ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND BALTIMORE CITY STANDARDS AND SPECIFICATIONS.
- CONTRACTOR SHALL ADJUST TO FINISH GRADE FRAMES, AND GRATES OR COVERS OF ALL EXISTING STORM AND SANITARY SEWER STRUCTURES WITHIN THE LIMITS OF THE WORK.
- THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TOWARDS STORMWATER STRUCTURES AT ALL TIMES.
- CONTRACTOR SHALL MEET EXISTING GRADES AT THE LIMIT OF WORK LINE AS INDICATED ON THIS SHEET.
- IF NECESSARY, CONTRACTOR SHALL COORDINATE ALL DISCONNECTIONS AND REMOVALS OF EXISTING GAS, ELECTRIC, CABLE OR TELEPHONE SERVICES AND EQUIPMENT WITH THE UTILITY OWNER, OR PROVIDE THE OWNER'S CONTRACTOR SITE ACCESS TO COMPLETE THE NECESSARY WORK.
- ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE CONTRACTOR SHALL TERMINATE AND CAP THE FACILITY IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS AND ALL STATE AND LOCAL REQUIREMENTS.
- ROUTINE AND ORDINARY WORK NECESSARY TO COMPLETE THIS TYPE OF PROJECT, NOT SPECIFICALLY MENTIONED BY THE ENGINEER, SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT FIRST NOTIFYING THE ENGINEER, AND OBTAINING APPROVAL, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES AND RISK PERFORMING THE WORK AT NO COST TO THE OWNER.
- CONTRACTOR SHALL VERIFY WITH THE ZOO EXISTING DRAINAGE INVERTS FOR INLETS INDICATED AS "CAN NOT OPEN" PRIOR TO CONSTRUCTION/PROCUREMENT OF MATERIALS.

STORMWATER MAINTENANCE NOTES:

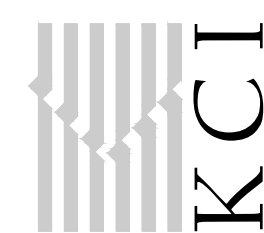
- THE ZOO/OWNER SHALL INSPECT THE STORMWATER CONVEYANCE SYSTEM FOLLOWING SIGNIFICANT RAINFALL EVENTS, ANIMAL IMPACTS, AND OTHER CONDITIONS THAT MAY AFFECT SYSTEM PERFORMANCE. INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE ZOO'S MAINTENANCE AND ANIMAL SAFETY PROCEDURES.
- REMOVE ACCUMULATED SEDIMENT, DEBRIS, VEGETATION, ANIMAL WASTE, AND OTHER OBSTRUCTIONS FROM CATCH BASINS, TRENCH DRAINS, GRATES, HOODED OUTLETS, AND OTHER CONVEYANCE FEATURES AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE AND HYDRAULIC CAPACITY.
- MAINTAIN ALL STORMWATER CONVEYANCE FEATURES AND OVERLAND FLOW PATHS FREE OF OBSTRUCTIONS TO PRESERVE THE INTENDED DIVERSION OF RUNOFF AWAY FROM ADJACENT AQUATIC EXHIBITS IN ACCORDANCE WITH THE DESIGN INTENT.
- IF PONDING, REDUCED FLOW, OR OTHER CONDITIONS INDICATE A POTENTIAL BLOCKAGE, THE ZOO/OWNER SHALL INSPECT THE AFFECTED CONVEYANCE FEATURES AND REMOVE OBSTRUCTIONS USING APPROPRIATE MAINTENANCE METHODS.
- INSPECT HOODED OUTLET DEVICES TO VERIFY PROPER OPERATION AND REMOVE ACCUMULATED MATERIAL AS NECESSARY TO MAINTAIN CAPTURE OF FLOATABLES WHILE PREVENTING CLOGGING.
- INSPECT CONCRETE DRAINAGE STRUCTURES, BERMS, GRATES, FRAMES, BOLTS, AND ASSOCIATED HARDWARE FOR CRACKING, SETTLEMENT, SPALLING, DISPLACEMENT, LOOSE FASTENERS, OR OTHER DAMAGE. REPAIR OR REPLACE DEFICIENT COMPONENTS PROMPTLY.
- INSPECT ROCK-LINED AREAS FOR DISPLACED OR DAMAGED STONE. RESET OR REPLACE STONE AS NECESSARY TO MAINTAIN INTEGRITY OF LINING AND THE INTENDED DRAINAGE PATTERN.
- RESTORE POSITIVE DRAINAGE BY MINOR REGRADING, PLACING FILL, OR PERFORMING OTHER CORRECTIVE MEASURES WHERE PONDING, EROSION, SETTLEMENT, OR SEDIMENT ACCUMULATION IS OBSERVED.
- PERFORM MAINTENANCE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALL PROPRIETARY DRAINAGE PRODUCTS.
- DOCUMENT INSPECTIONS, MAINTENANCE ACTIVITIES, AND REPAIRS IN ACCORDANCE WITH THE ZOO'S MAINTENANCE PROCEDURES. INSPECTION FREQUENCY SHALL BE ESTABLISHED IN ACCORDANCE WITH ZOO/OWNER'S MAINTENANCE PROCEDURES, APPLICABLE REGULATORY REQUIREMENTS, AND OBSERVED SITE CONDITIONS.
- THE STORMWATER SYSTEM IS DESIGNED TO CONVEY STORMWATER IN ACCORDANCE WITH THE DESIGN CRITERIA AND CONDITIONS IDENTIFIED IN THE CONTRACT DOCUMENTS. THE ZOO/OWNER SHALL BE RESPONSIBLE FOR ROUTINE INSPECTION AND MAINTENANCE OF THE STORMWATER SYSTEM AND FOR COORDINATION OF MAINTENANCE ACTIVITIES WITH ZOO ANIMAL SAFETY AND EXHIBIT OPERATIONS.
- THE ZOO/OWNER SHALL BE RESPONSIBLE FOR EVALUATING ANIMAL-SPECIFIC RISKS ASSOCIATED WITH STORMWATER CONVEYANCE FEATURES, GRATES, DRAINAGE STRUCTURES, OUTLETS, AND OTHER SITE FEATURES AND SHALL IMPLEMENT APPROPRIATE OPERATIONAL OR ANIMAL MANAGEMENT MEASURES.
- MAINTENANCE ACTIVITIES SHALL NOT ALTER THE APPROVED DRAINAGE PATTERN, DESIGN GRADES, OR INTENDED FLOW PATHS WITHOUT REVIEW AND APPROVAL BY THE ENGINEER/ZOO AND, WHERE REQUIRED, THE AUTHORITY HAVING JURISDICTION.

|                                                                                                                                                                                                                                         |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| KCI Technologies Inc.<br>530 Chesnut Ridge Road<br>Woodliff Lakes, NJ 07877<br>T: 201.775.6000 www.kci.com                                                                                                                              |                                                                                         |
| PROJECT                                                                                                                                                                                                                                 | THE MARYLAND ZOO IN BALTIMORE<br>AFRICAN WATERING HOLE<br>GRADING AND DRAINAGE UPGRADES |
| SEAL                                                                                                                                                                                                                                    | 1 SAFARI PLACE, BALTIMORE CITY, MARYLAND 21217                                          |
| PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28935 EXPIRATION DATE: 11/15/27 |                                                                                         |
| SHEET TITLE<br>GRADING & DRAINAGE PLAN                                                                                                                                                                                                  |                                                                                         |
| PROJECT NO.                                                                                                                                                                                                                             | 00044502                                                                                |
| SCALE                                                                                                                                                                                                                                   | 1" = 20'                                                                                |
| DATE                                                                                                                                                                                                                                    | 08/20/2026                                                                              |
| DRAWN BY                                                                                                                                                                                                                                | NTW                                                                                     |
| CHECKED BY                                                                                                                                                                                                                              | MJK/MS                                                                                  |
| DRAWING NO.                                                                                                                                                                                                                             | C-150                                                                                   |
| 5 OF 8 SHTS                                                                                                                                                                                                                             |                                                                                         |



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KCI Technologies Inc.  
530 Chestnut Ridge Road  
Woodcliff Lake, NJ 07677  
T: 201.775.6000 [www.kci.com](http://www.kci.com)



PROJECT

THE MARYLAND ZOO IN BALTIMORE  
AFRICAN WATERING HOLE  
GRADING AND DRAINAGE UPGRADES

1 SAFARI PL ACE BALTIMORE CITY MARY AND 21217

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. 28935 EXPIRATION DATE: 1/15/27

SHEET TITLE

## GRADING CROSS SECTIONS

|             |           |
|-------------|-----------|
| PROJECT NO. | 0004450   |
| SCALE       | AS SHOWN  |
| DATE        | 08/20/202 |
| DRAWN BY    | NTV       |
| CHECKED BY  | MJK/M     |

DRAWING NO.

**C-151**

6 OF 8 SH



FILE NAME: P:\00044000\44502\_002110\_Dwg\CS\DDC-500 CIVIL DETAILS.dwg PLOT TIME: Thursday, August 20, 2026 - 11:51 AM BY: Nolan Wilson

A  
C-500

SILT FENCE  
N.T.S.

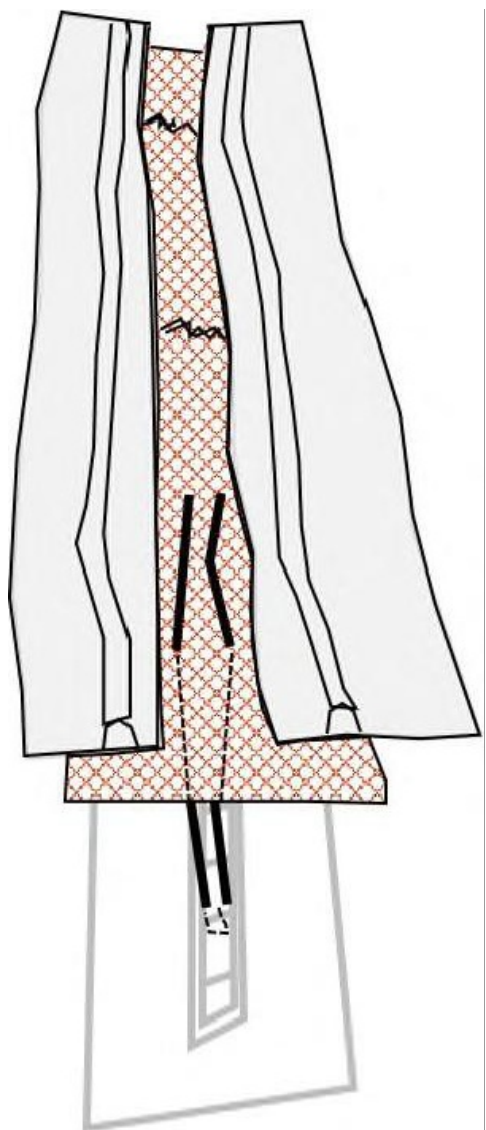
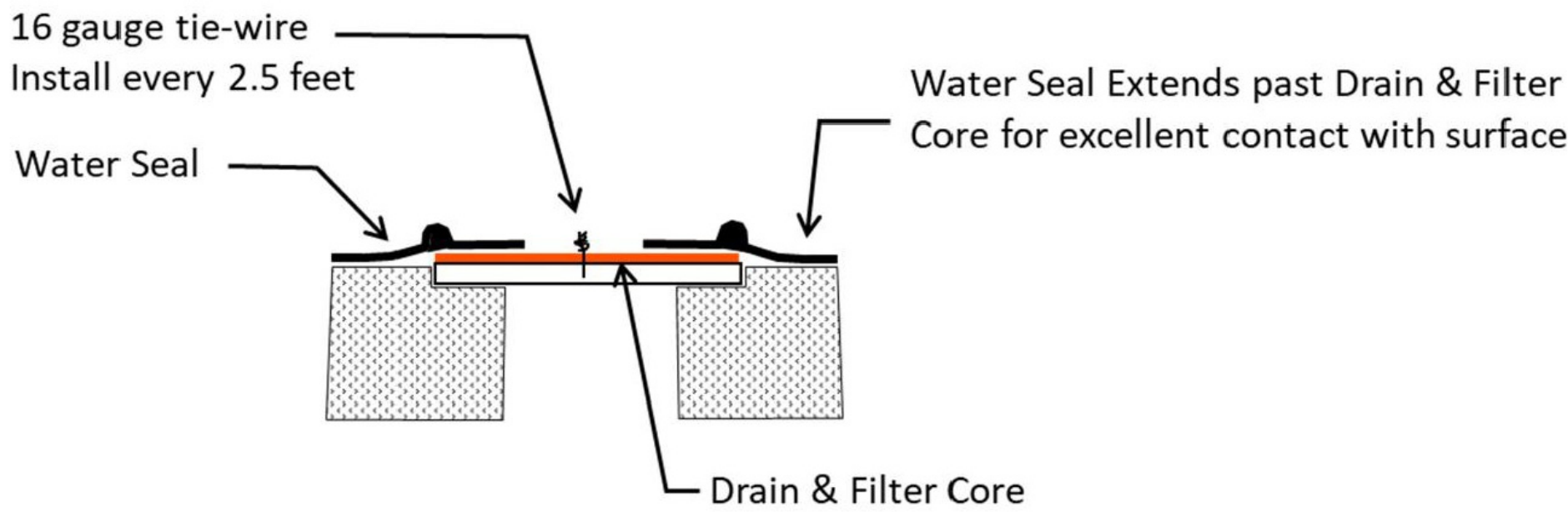
INSTALLATION NOTES:

1. PLACEMENT: SELECT CORRECT SIZE (TABLE 1). LAY THE SLOT GUARD ON TOP OF THE SLOT OR TRENCH DRAIN GRATE. FOR SAFETY, ASSURE THAT GRATE IS IN PLACE. DO NOT REMOVE GRATE.
2. ANCHOR METHOD: ATTACH WITH 16 GAUGE TIE WIRE EVERY 2.5 LINEAR FEET (FIG 1). CUT WIRE TO 12" LENGTHS. FEED ONE END OF WIRE DOWN THRU SLOT GUARD, AROUND GRATE BAR, AND BACK-UP THRU SLOT GUARD, ABOVE GROUND, PULL TIGHT AND TWIST WIRES SEVERAL TIMES. CUT OFF EXCESS AND BEND TWISTED NUB DOWN.
3. OVERLAP: SLOT GUARD SEGMENTS OVERLAP FOR LONG SLOT/TRENCH DRAINS.
4. CLEAN: ACCUMULATION OF LEAVES, DEBRIS AND SEDIMENT CAN CAUSE BACKUPS. CLEAN AFTER EVERY STORM OR AS NECESSARY.
5. PROTECT: IN STOP AND GO TRAFFIC AREAS WHERE EXPOSED TO CONSTANT TIRE ABUSE, IT IS USEFUL TO PLACE TRAFFIC CONES OR DELINEATORS ON OR NEAR SLOT GUARD TO DISCOURAGE RUN-OVERS. SLOT GUARD WORKS WELL WITH PERIODIC RUN-OVERS, BUT DOES NOT SURVIVE LONG IN CONSTANT STOP AND START TRAFFIC.

MAINTENANCE NOTES:

1. PERFORM MAINTENANCE AS REQUIRED. INSPECT FOLLOWING RAINFALL EVENTS AND AT LEAST DAILY DURING PROLONGED RAINFALL. MAINTAIN PROVIDE AN ADEQUATE SEDIMENT HOLDING CAPACITY. DEBRIS SHALL BE REMOVED DAILY AND SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT ACCUMULATION REACHES 50% OF THE BARRIER HEIGHT. REMOVED SEDIMENT SHALL BE INCORPORATED IN THE PROJECT AT DESIGNATED LOCATIONS.

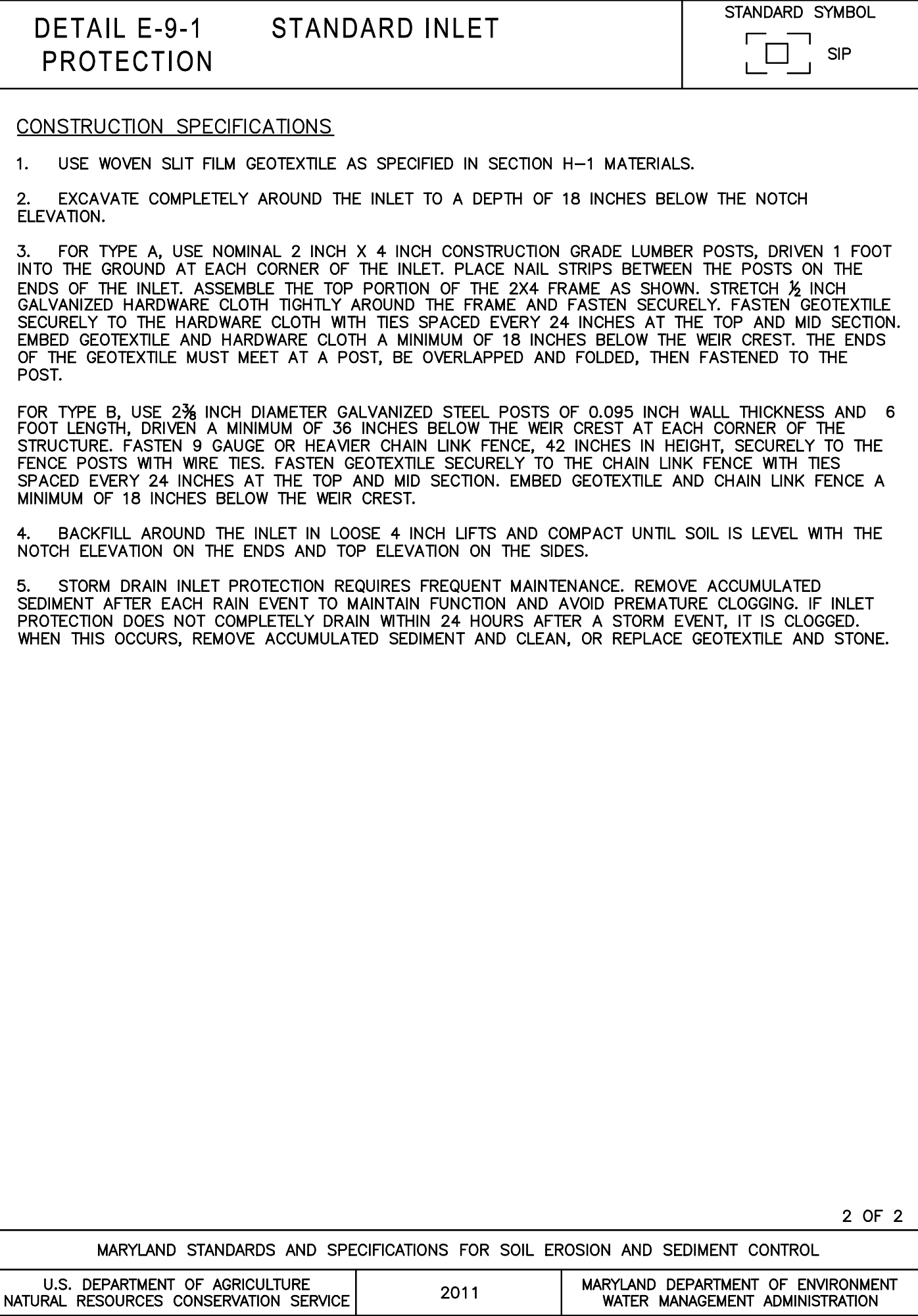
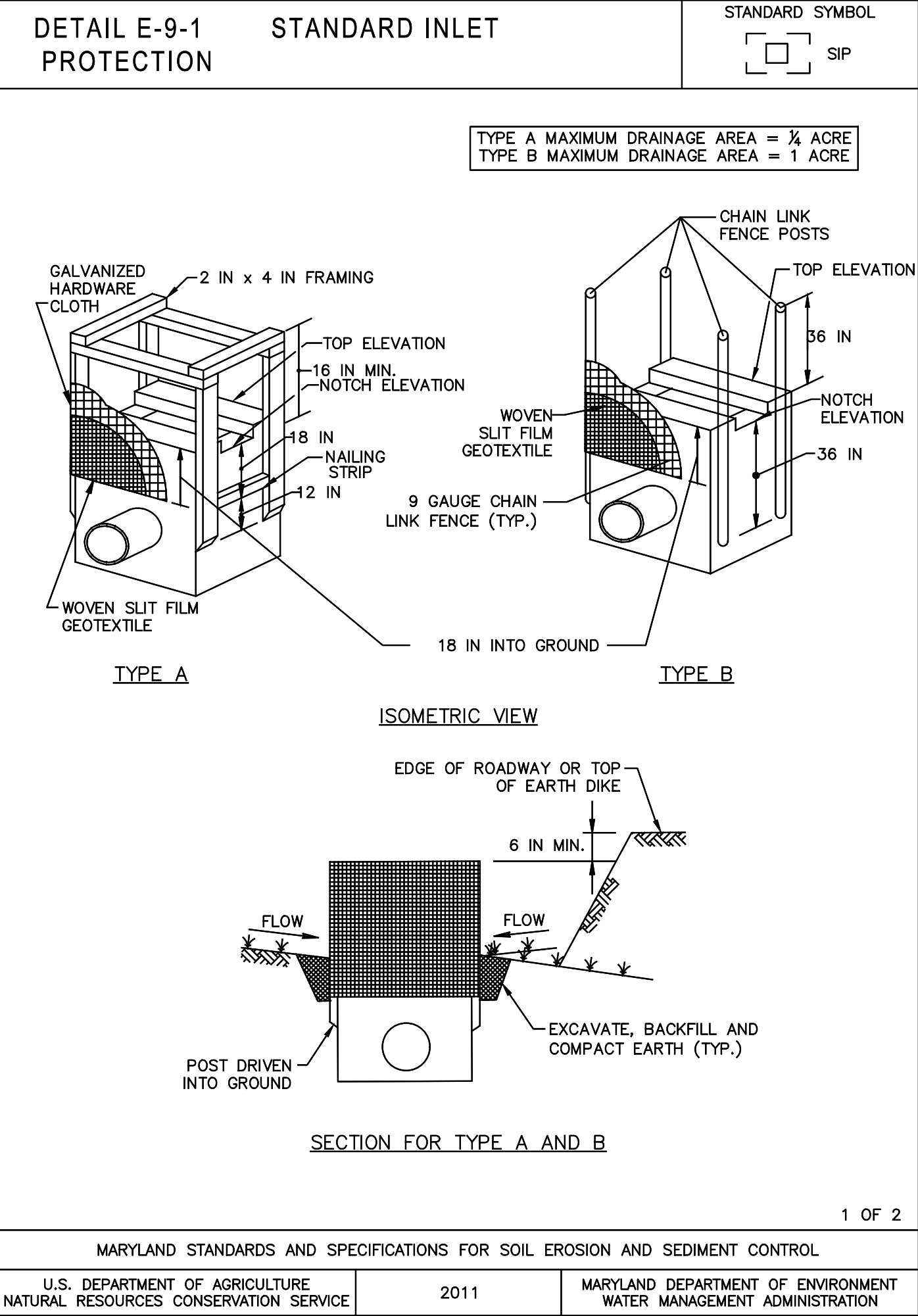
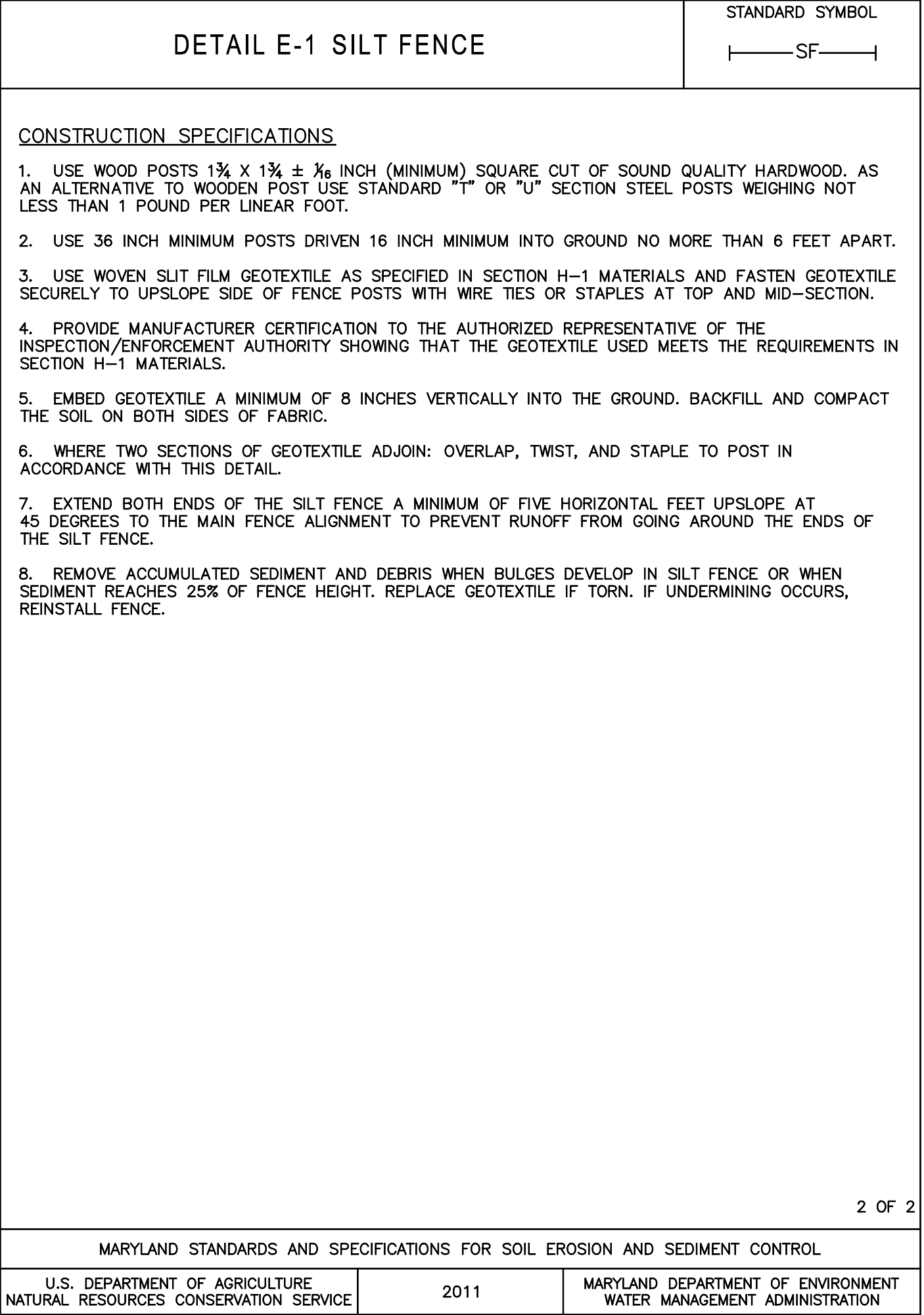
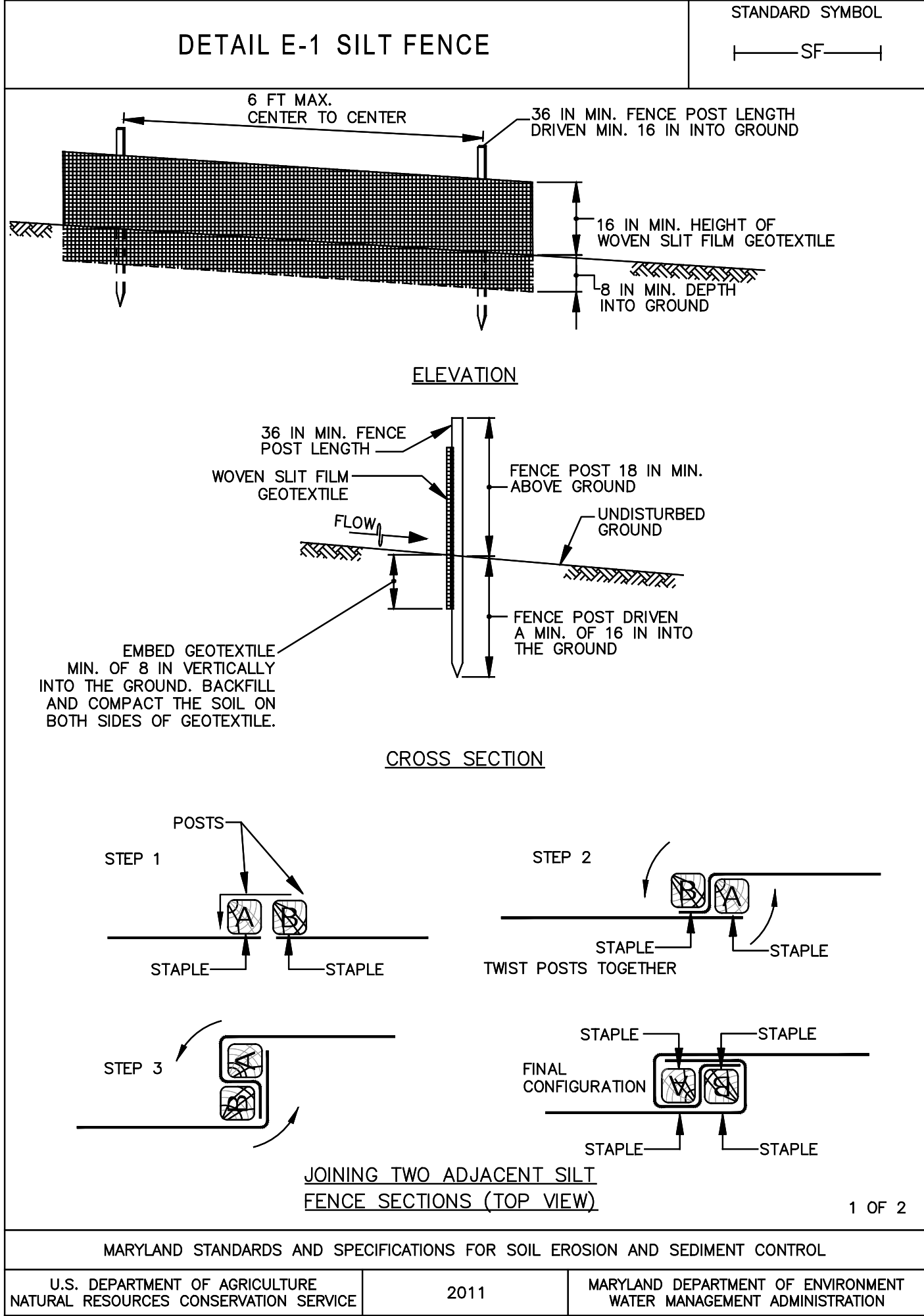
| TABLE 1                   |          |
|---------------------------|----------|
| SLOT/TRENCH DRAINS UP TO: | SG SIZE  |
| 6" WIDTH                  | SG 84X06 |
| 12" WIDTH                 | SG 84X12 |
| 15" WIDTH                 | SG 84X15 |
| 20" WIDTH                 | SG 84X20 |



TRENCH DRAIN PROTECTION  
N.T.S.

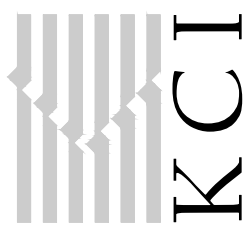
B  
C-500

INLET PROTECTION  
N.T.S.



| NO. | DATE | REVISION | BY |
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KCI Technologies Inc.  
530 Chestnut Ridge Road  
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PROJECT

THE MARYLAND ZOO IN BALTIMORE  
AFRICAN WATERING HOLE  
GRADING AND DRAINAGE UPGRADES

1 SAFARI PLACE, BALTIMORE CITY, MARYLAND 21217

SEAL

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28935 EXPIRATION DATE: 11/15/27

SHEET TITLE

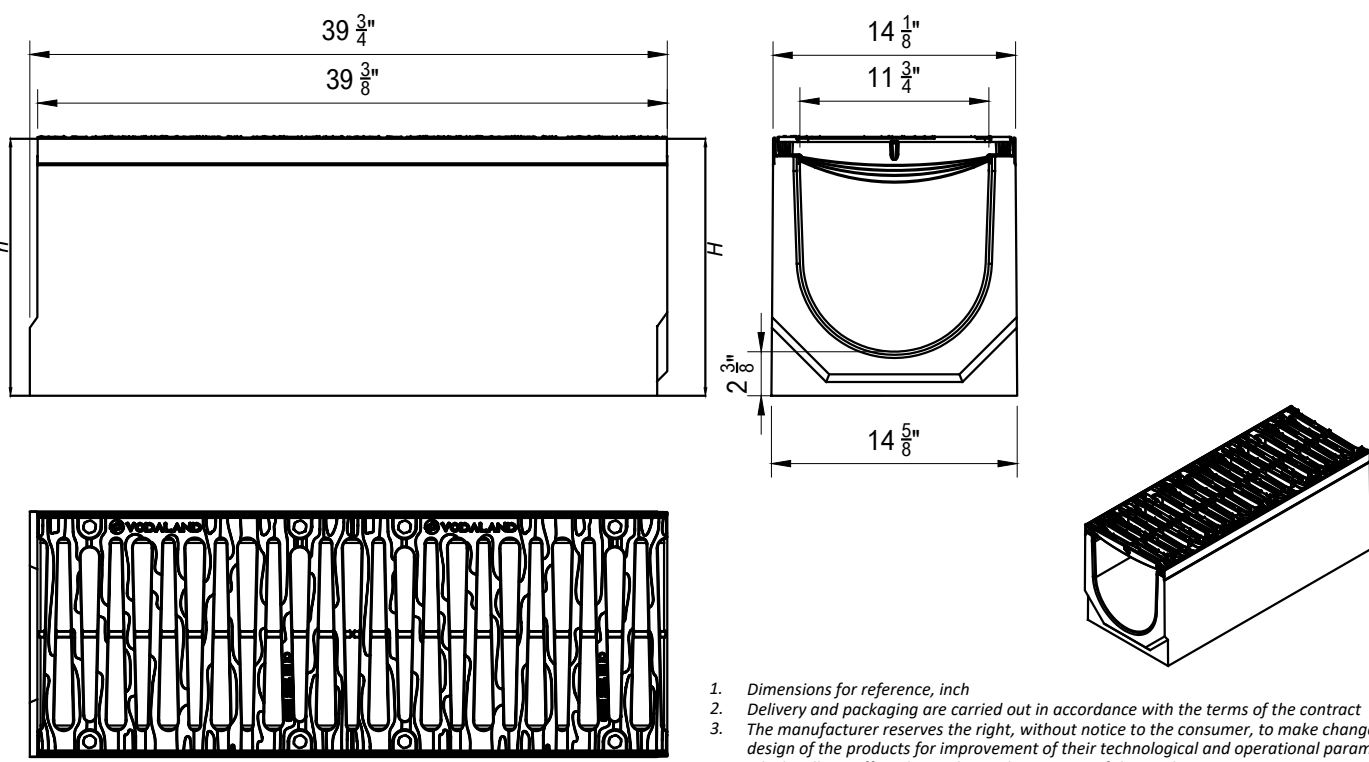
CIVIL DETAILS  
(SHEET 1 OF 2)

|             |            |
|-------------|------------|
| PROJECT NO. | 00044502   |
| SCALE       | AS SHOWN   |
| DATE        | 08/20/2026 |
| DRAWN BY    | NTW        |
| CHECKED BY  | MJK/MS     |
| DRAWING NO. |            |

C-500  
7 OF 8 SHTS

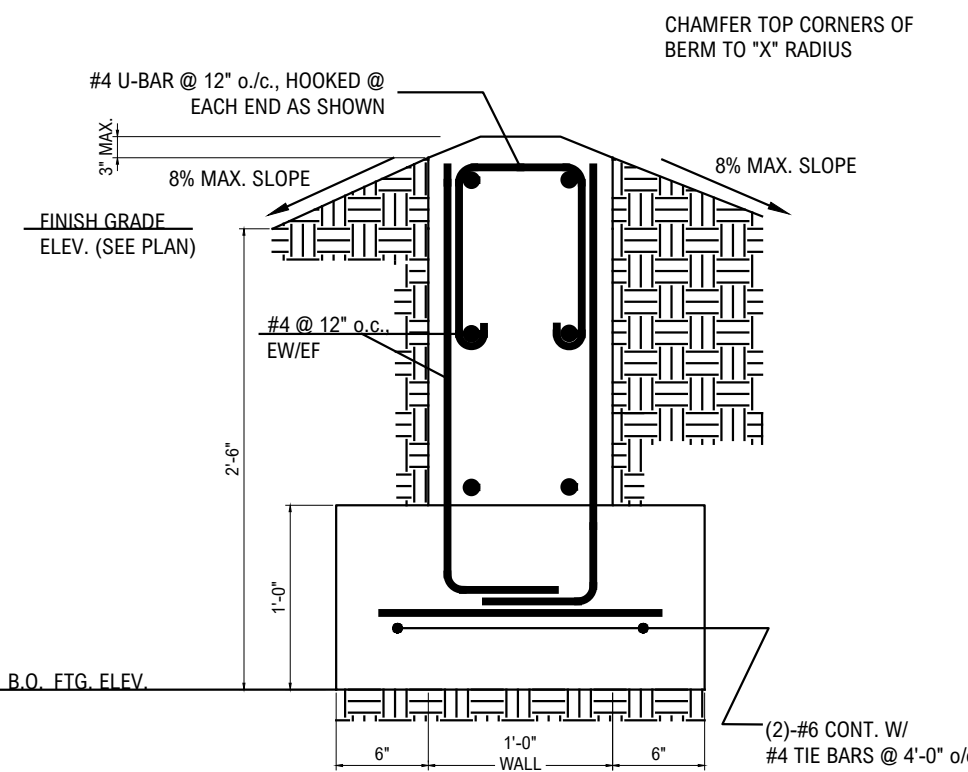


FILE NAME: P:\00044000\44502\_002\10\_Dwg\CDDDC-500 CIVIL DETAILS.dwg PLOT TIME: Thursday, August 20, 2026 - 11:51 AM BY: Nolan Wilson



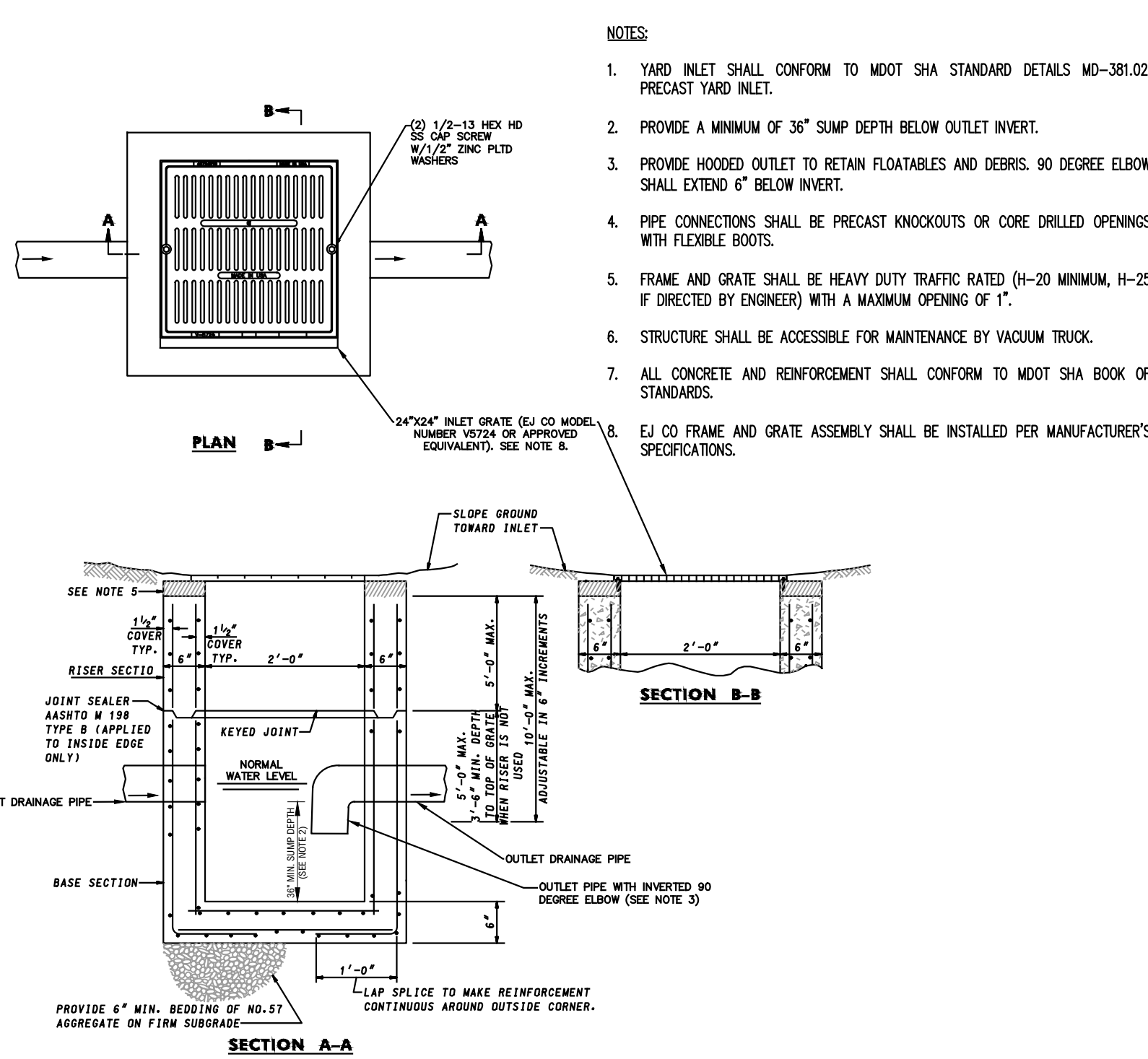
- Dimensions for reference, inch.
- Delivery and packaging are carried out in accordance with the terms of the contract.
- The manufacturer reserves the right, without notice to the consumer, to make changes to the design of the products for improvement of their technological and operational parameters, which will not affect the quality and properties of the product.
- Deviation of the actual weight of the nominal can be up to 10%.
- Trench drain shall be installed per manufacturer's specifications.

**A**  
C-501  
**FIBER REINFORCED CONCRETE TRANCH DRAIN**  
N.T.S.



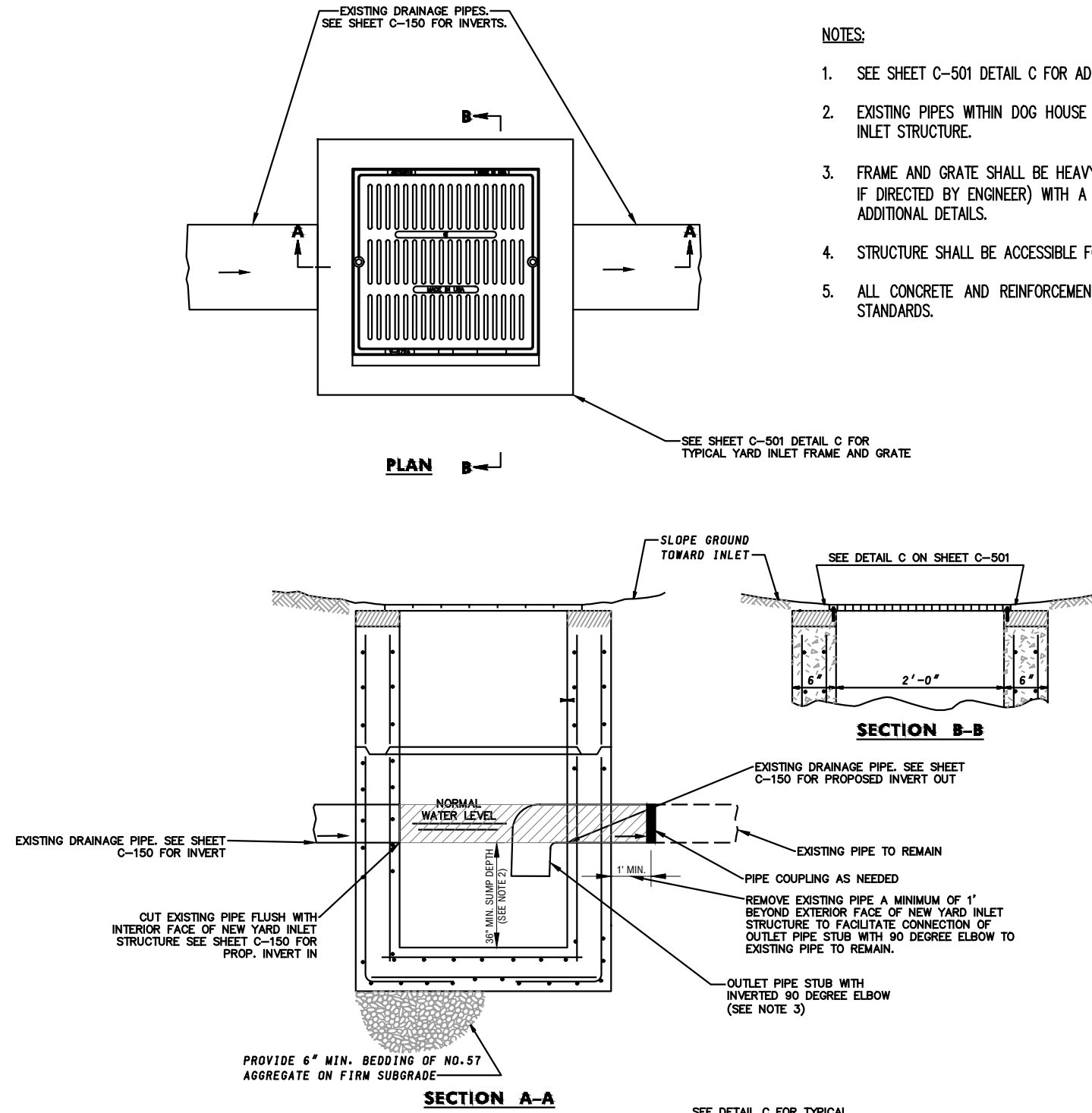
- NOTES:**
- PROVIDE COMPACTED APPROVED SUBGRADE BENEATH BERM. COMPACT TO 95% OF MAXIMUM DRY DENSITY PER ASTM D698.
  - BACKFILL BOTH SIDES OF BERM WITH APPROVED SOIL AND COMPACT TO 92-95% OF MAXIMUM DRY DENSITY. SLOPE FINISH GROUND SURFACE AWAY FROM BERM AS SHOWN. FEATHER ADJACENT SOIL GRADES TO BERM.
  - BERM SHALL BE CAST-IN-PLACE CONCRETE CONFORMING TO PROJECT SPECIFICATIONS.
  - CONTROL JOINTS SHALL BE TOOLED OR SAWCUT AT MAXIMUM SPACING OF 10 FEET UNLESS OTHERWISE NOTED. JOINTS SHOULD BE CUT TO A MINIMUM DEPTH OF ONE-QUARTER OF THE BERM'S THICKNESS.
  - EXPOSED CONCRETE SHALL HAVE INTEGRAL EARTH-TONE COLORING TO BE SELECTED AND TEXTURED FINISH TO MINIMIZE VISUAL CONTRAST WITH SURROUNDING SOILS.

**B**  
C-501  
**CONCRETE BERM**  
N.T.S.



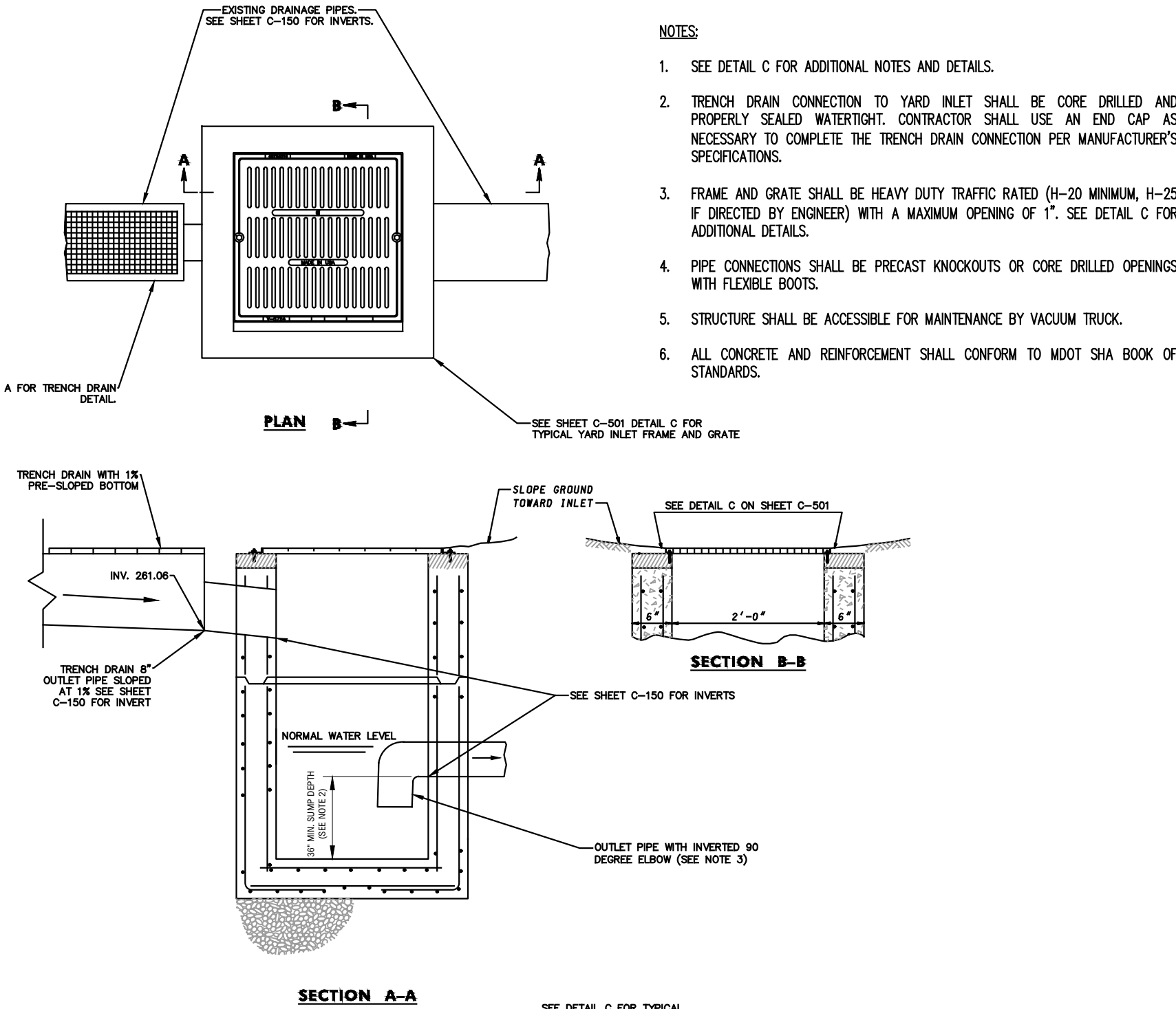
- NOTES:**
- YARD INLET SHALL CONFORM TO MDOT SHA STANDARD DETAILS MD-381.02, PRECAST YARD INLET.
  - PROVIDE A MINIMUM OF 36" SUMP DEPTH BELOW OUTLET INVERT.
  - PROVIDE HOODED OUTLET TO RETAIN FLOATABLES AND DEBRIS. 90 DEGREE ELBOW SHALL EXTEND 6" BELOW INVERT.
  - PIPE CONNECTIONS SHALL BE PRECAST KNOCKOUTS OR CORE DRILLED OPENINGS WITH FLEXIBLE BOOTS.
  - FRAME AND GRATE SHALL BE HEAVY DUTY TRAFFIC RATED (H-20 MINIMUM, H-25 IF DIRECTED BY ENGINEER) WITH A MAXIMUM OPENING OF 1".
  - STRUCTURE SHALL BE ACCESSIBLE FOR MAINTENANCE BY VACUUM TRUCK.
  - ALL CONCRETE AND REINFORCEMENT SHALL CONFORM TO MDOT SHA BOOK OF STANDARDS.
  - EJ CO FRAME AND GRATE ASSEMBLY SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

**C**  
C-501  
**TYPICAL HOODED YARD INLET**  
N.T.S.



- NOTES:**
- SEE SHEET C-501 DETAIL C FOR ADDITIONAL NOTES AND DETAILS.
  - EXISTING PIPES WITHIN DOG HOUSE MANHOLE SHALL BE CUT TO WIDTH OF YARD INLET STRUCTURE.
  - FRAME AND GRATE SHALL BE HEAVY DUTY TRAFFIC RATED (H-20 MINIMUM, H-25 IF DIRECTED BY ENGINEER) WITH A MAXIMUM OPENING OF 1". SEE DETAIL C FOR ADDITIONAL DETAILS.
  - STRUCTURE SHALL BE ACCESSIBLE FOR MAINTENANCE BY VACUUM TRUCK.
  - ALL CONCRETE AND REINFORCEMENT SHALL CONFORM TO MDOT SHA BOOK OF STANDARDS.

**D**  
C-501  
**DOG HOUSE HOODED YARD INLET**  
N.T.S.



- NOTES:**
- SEE DETAIL C FOR ADDITIONAL NOTES AND DETAILS.
  - TRENCH DRAIN CONNECTION TO YARD INLET SHALL BE CORE DRILLED AND PROPERLY SEALED. CONTRACTOR SHALL USE AN END CAP AS NECESSARY TO COMPLETE THE TRENCH DRAIN CONNECTION PER MANUFACTURER'S SPECIFICATIONS.
  - FRAME AND GRATE SHALL BE HEAVY DUTY TRAFFIC RATED (H-20 MINIMUM, H-25 IF DIRECTED BY ENGINEER) WITH A MAXIMUM OPENING OF 1". SEE DETAIL C FOR ADDITIONAL DETAILS.
  - PIPE CONNECTIONS SHALL BE PRECAST KNOCKOUTS OR CORE DRILLED OPENINGS WITH FLEXIBLE BOOTS.
  - STRUCTURE SHALL BE ACCESSIBLE FOR MAINTENANCE BY VACUUM TRUCK.
  - ALL CONCRETE AND REINFORCEMENT SHALL CONFORM TO MDOT SHA BOOK OF STANDARDS.

**E**  
C-501  
**TRENCH DRAIN CONNECTION TO HOODED YARD INLET**  
N.T.S.

| NO. | DATE | REVISION | BY |
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KCI Technologies Inc.  
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**KCI**

PROJECT  
**THE MARYLAND ZOO IN BALTIMORE  
AFRICAN WATERING HOLE  
GRADING AND DRAINAGE UPGRADES**  
1 SAFARI PLACE, BALTIMORE CITY, MARYLAND 21217

SEAL

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SHEET TITLE  
**CIVIL DETAILS  
(SHEET 2 OF 2)**

PROJECT NO. 00044502  
SCALE AS SHOWN  
DATE 08/20/2026  
DRAWN BY NTW  
CHECKED BY MJK/MS  
DRAWING NO.

**C-501**  
8 OF 8 SHTS