



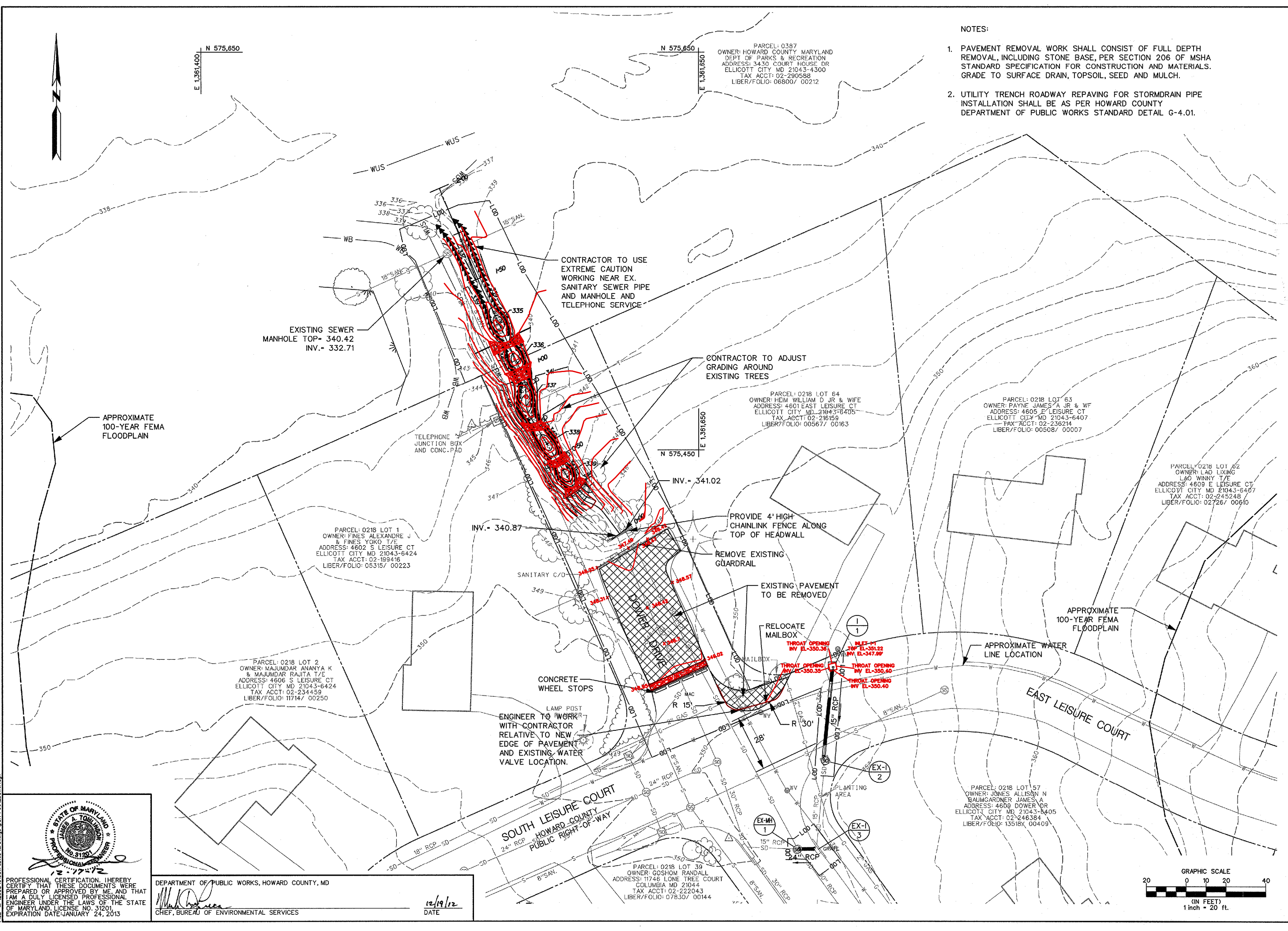
N 575,650
E 1,361,400

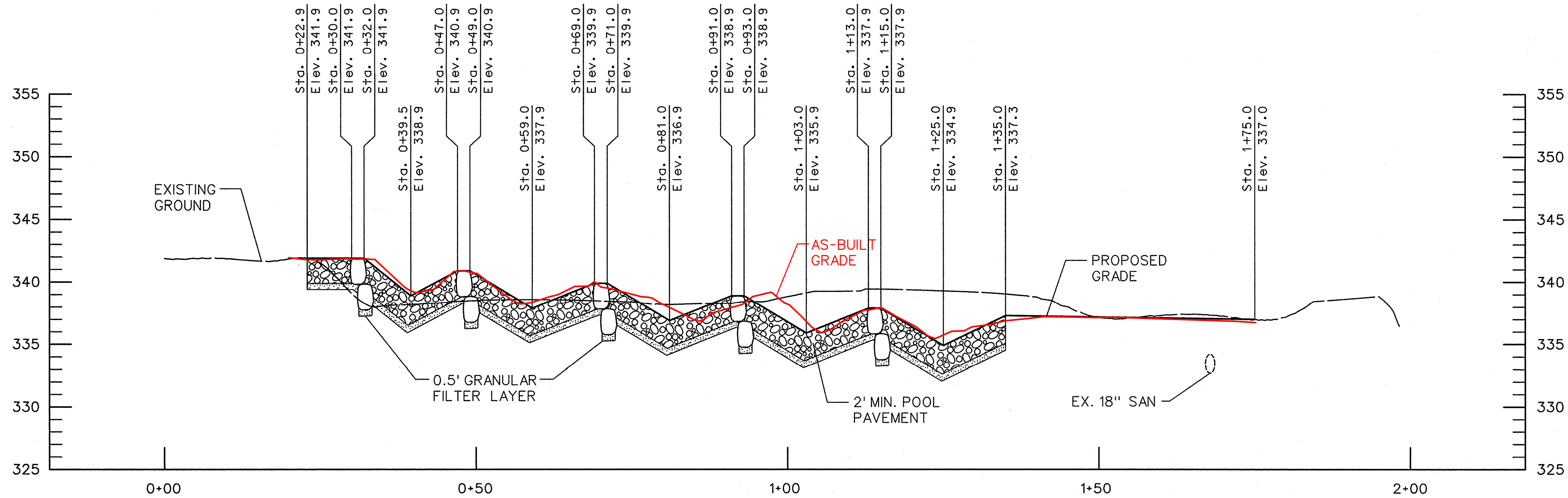
N 575,650
E 1,361,650

PARCEL: 0387
OWNER: HOWARD COUNTY MARYLAND
DEPT OF PARKS & RECREATION
ADDRESS: 3430 COURT HOUSE DR
ELLCOTT CITY MD 21043-4300
TAX ACCT: 02-290588
LIBER/FOLIO: 06800/ 00212

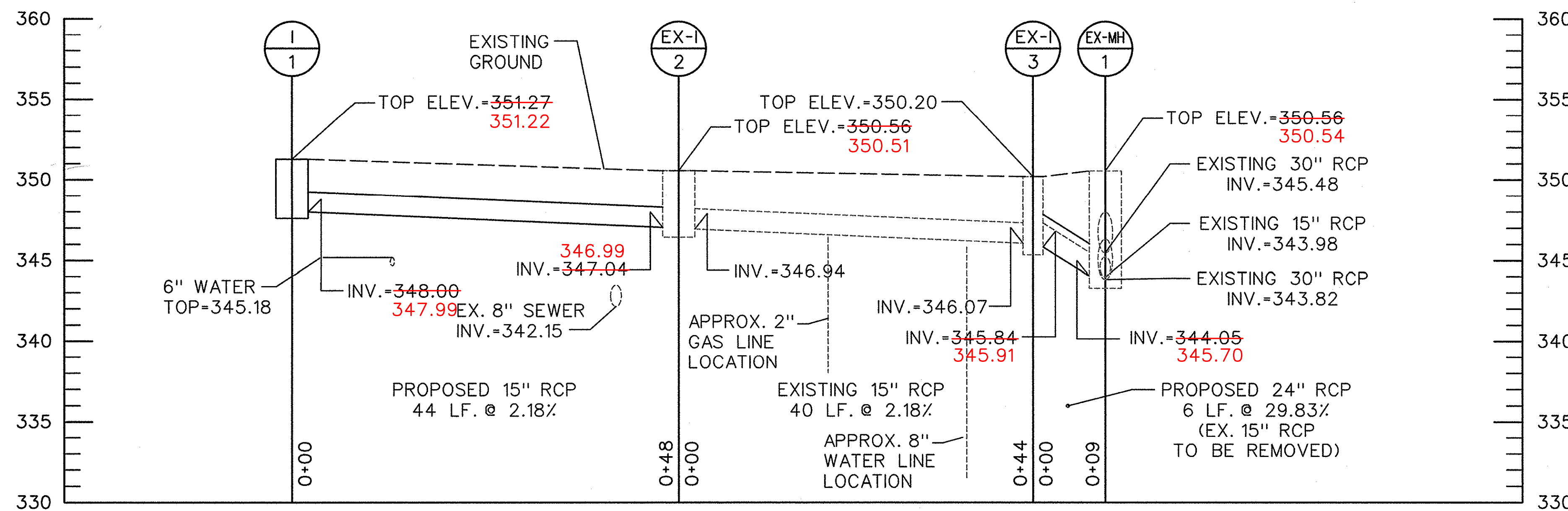
NOTES:

1. PAVEMENT REMOVAL WORK SHALL CONSIST OF FULL DEPTH REMOVAL, INCLUDING STONE BASE, PER SECTION 206 OF MSHA STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS. GRADE TO SURFACE DRAIN, TOPSOIL, SEED AND MULCH.
2. UTILITY TRENCH ROADWAY REPAVING FOR STORMDRAIN PIPE INSTALLATION SHALL BE AS PER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DETAIL G-4.01.





STREAM PROFILE
 SCALE: HOR: 1"=10'
 VERT: 1"=5'



I-1 TO EX-MH-1 PROFILE
 SCALE: HOR: 1"=10'
 VERT: 1"=5'

NOTE: DUE TO THE UNCERTAINTY OF ITS LOCATION, THE WATER LINE MAY NEED TO BE RELOCATED PRIOR TO PLACEMENT OF THE PROPOSED PIPE.

STRUCTURE TABLE

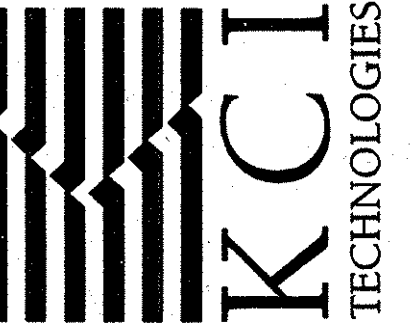
ID	STD	TOP ELEV.	INVERT IN	INVERT OUT
I-1	D-4.11	351.27 351.22	--	348.00 347.99
EX-I-2	EX.	350.56 350.51	347.04 346.99	346.94
EX-I-3	EX.	350.20	346.07	345.84 345.91
EX-MH-1	EX.	350.56 350.54	344.05 345.70	343.82

PIPE SCHEDULE

FROM	TO	SIZE	TYPE	INVERT IN	INVERT OUT	LENGTH
I-1	EX-I-2	15"	RCP	348.00 347.99	347.04 346.99	44'
EX-I-3	EX-MH-1	24"	RCP	345.84 345.91	344.05 345.70	6'

NO.	REVISIONS DESCRIPTION	DATE

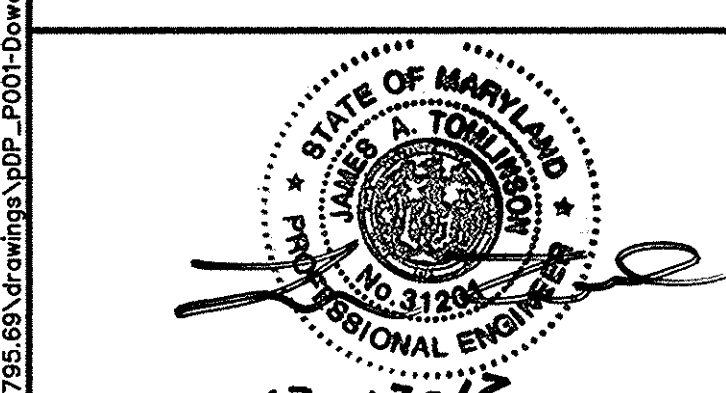
936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com



STREAM RESTORATION PROJECT
 CAPITAL PROJECT D-1158
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MD 21046

PROFILES & DETAILS

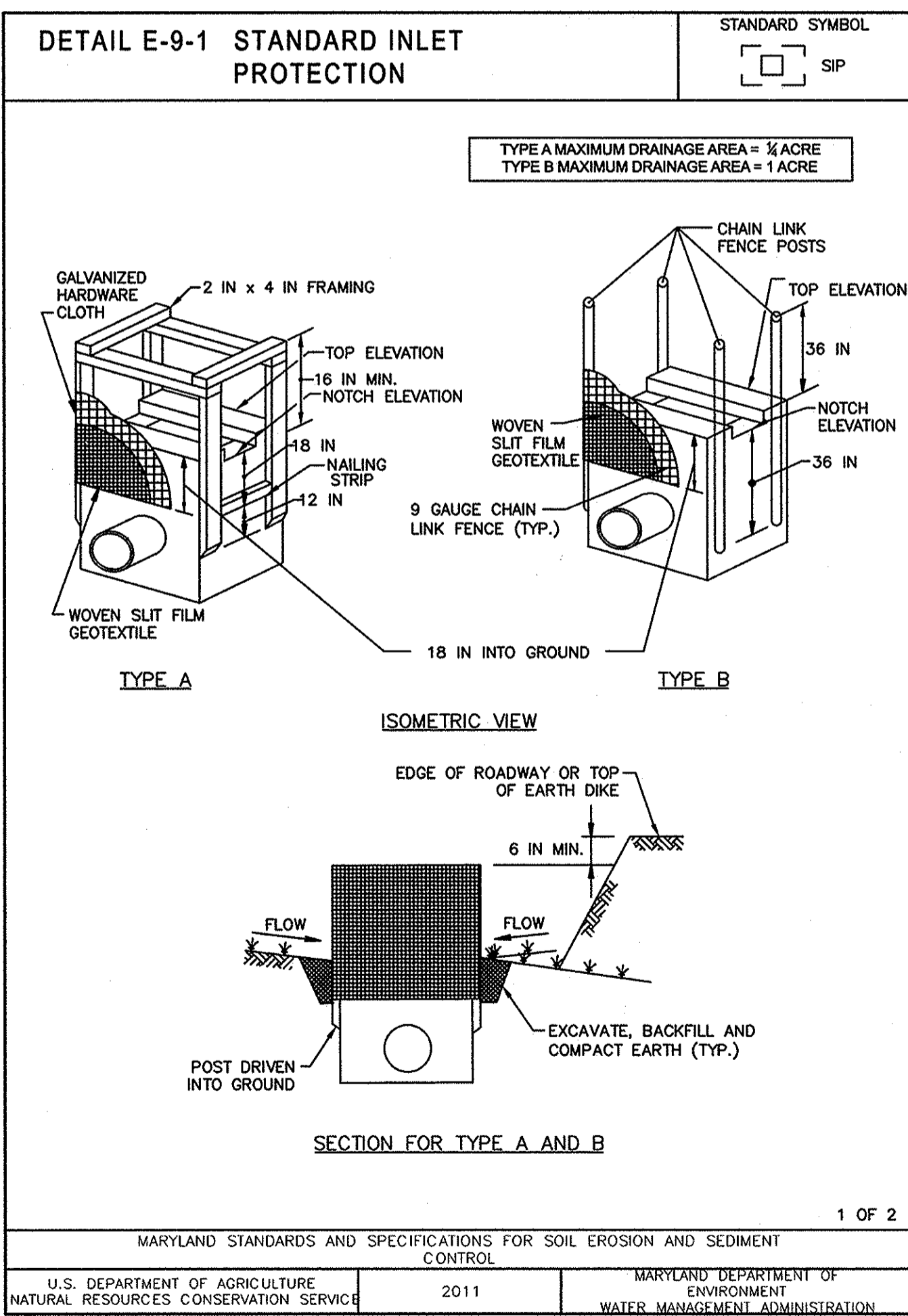
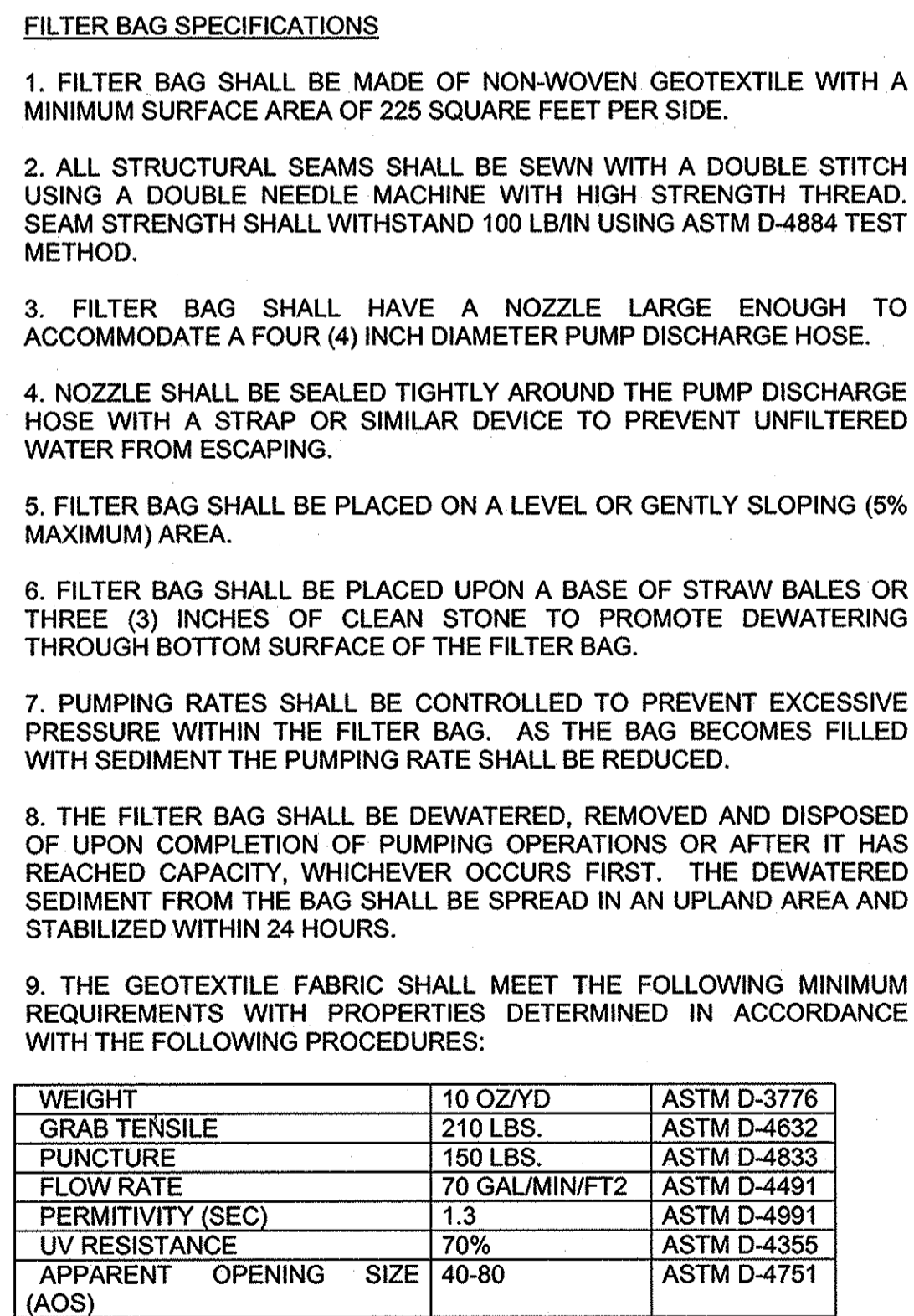
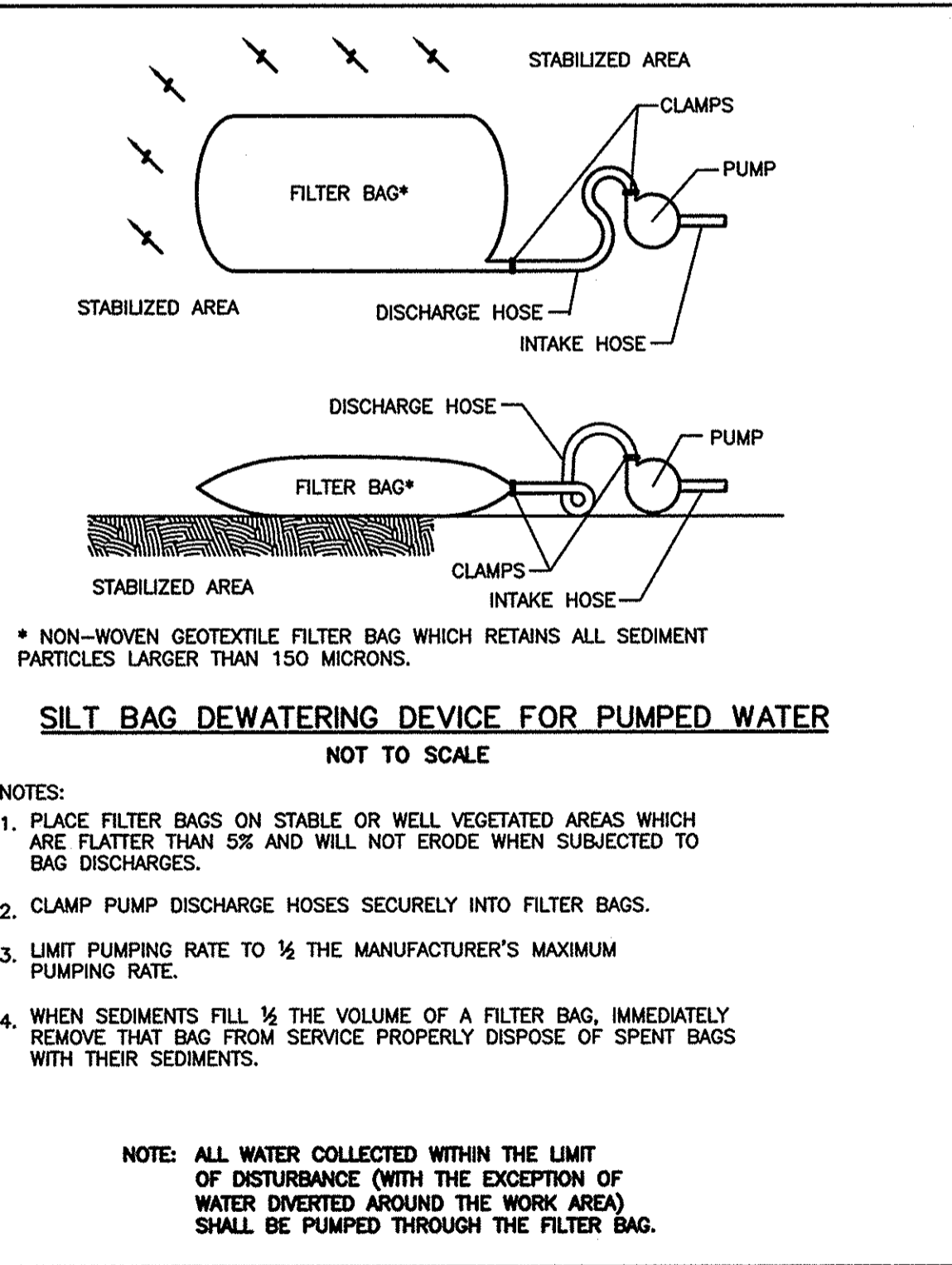
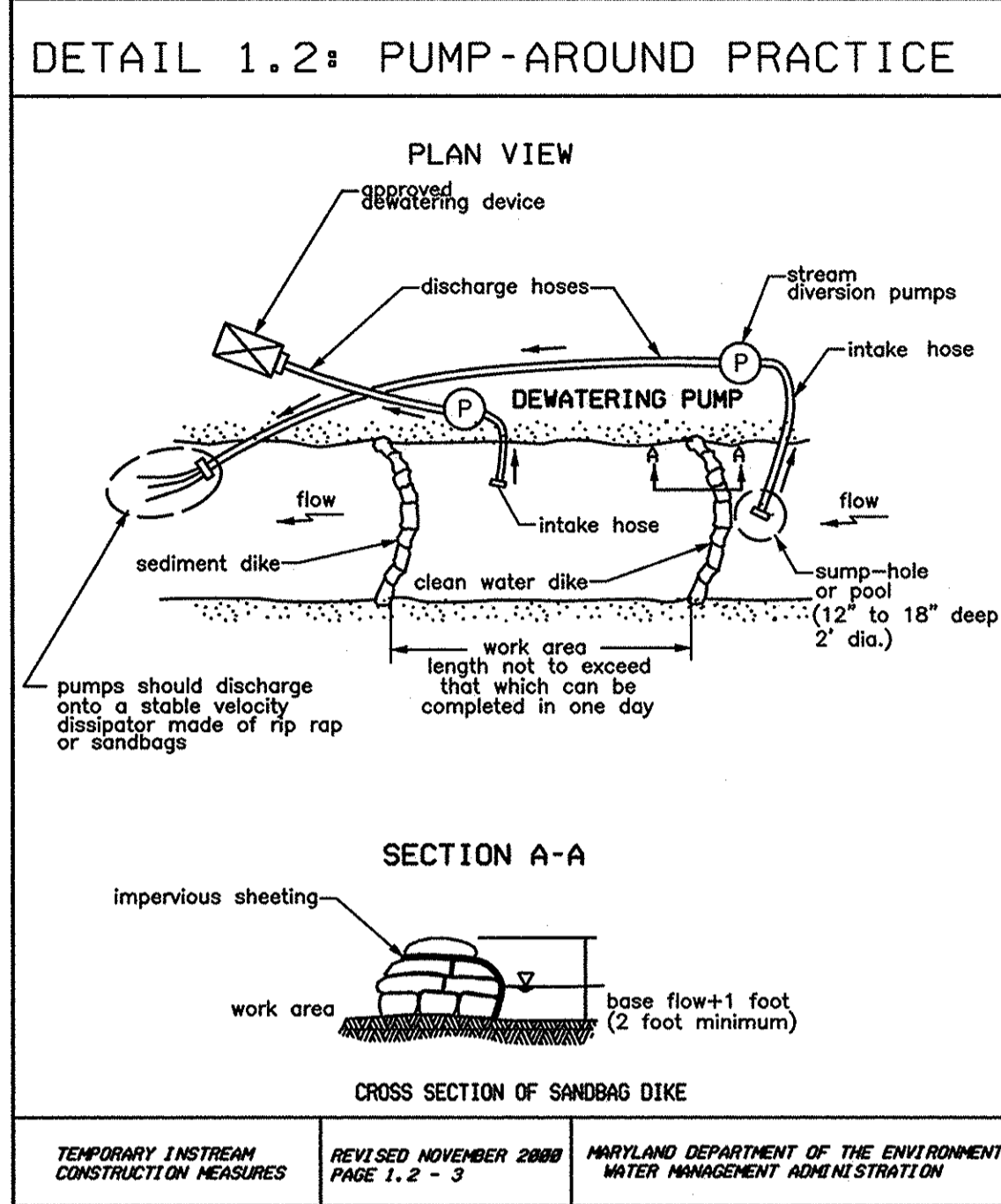
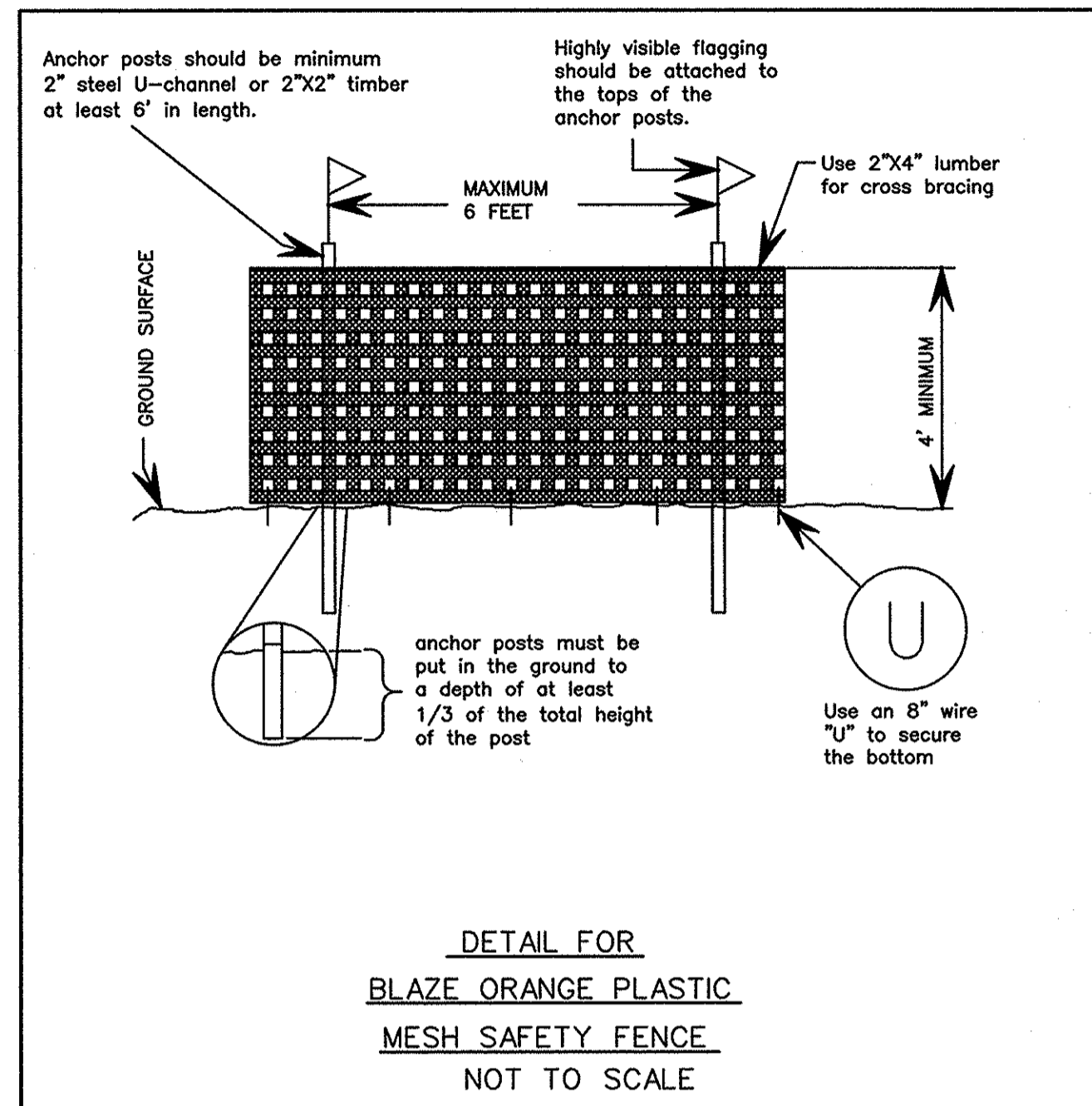
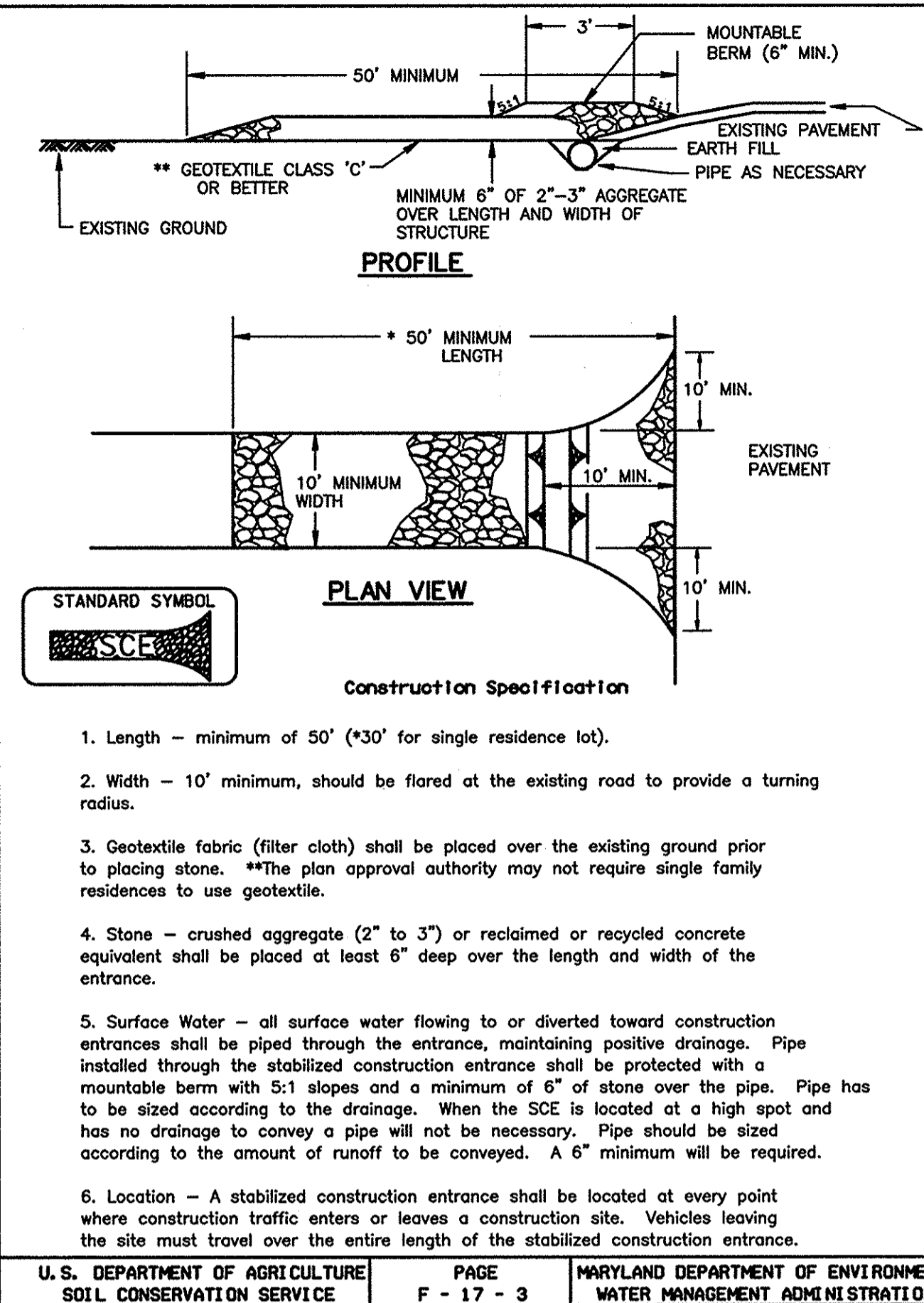
SCALE:	AS SHOWN
DATE:	DECEMBER 2012
KCI JOB NO.:	01-081795.69
CAPITAL PROJECT NO.:	D-1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



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. 31294. EXPIRATION DATE: JANUARY 24, 2013.

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
 M. J. ...
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 12/19/12
 DATE

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



MWGC 1.2: PUMP-AROUND PRACTICE
 TEMPORARY MEASURE FOR DEWATERING IN-CHANNEL CONSTRUCTION SITES

DESCRIPTION

THE WORK SHOULD CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW AROUND IN-STREAM CONSTRUCTION SITES.

IMPLEMENTATION SEQUENCE

SEDIMENT CONTROL MEASURES, PUMP-AROUND PRACTICES, AND ASSOCIATED CHANNEL AND BANK CONSTRUCTION SHOULD BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL 1.2):

- CONSTRUCTION ACTIVITIES INCLUDING THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES SHOULD NOT BEGIN UNTIL ALL NECESSARY EASEMENTS AND/OR RIGHT-OF-WAYS HAVE BEEN ACQUIRED. ALL EXISTING UTILITIES SHOULD BE MARKED IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES THAT MAY RESULT FROM CONSTRUCTION AND SHOULD REPAIR THE DAMAGE AT HIS/HER OWN EXPENSE TO THE COUNTY'S OR UTILITY COMPANY'S SATISFACTION.
- THE CONTRACTOR SHOULD NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT OR WMA SEDIMENT CONTROL INSPECTOR AT LEAST 5 DAYS BEFORE BEGINNING CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR SHOULD INFORM THE LOCAL ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT INSPECTION AND ENFORCEMENT DIVISION AND THE PROVIDER OF LOCAL UTILITIES A MINIMUM OF 48 HOURS BEFORE STARTING CONSTRUCTION.
- THE CONTRACTOR SHOULD CONDUCT A PRE-CONSTRUCTION MEETING ON SITE WITH THE WMA SEDIMENT CONTROL INSPECTOR, THE COUNTY PROJECT MANAGER, AND THE ENGINEER TO REVIEW LIMITS OF DISTURBANCE, EROSION AND SEDIMENT CONTROL REQUIREMENTS, AND THE SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHOULD STAKE OUT ALL LIMITS OF DISTURBANCE PRIOR TO THE PRE-CONSTRUCTION MEETING SO THEY MAY BE REVIEWED. THE PARTICIPANTS WILL ALSO DESIGNATE THE CONTRACTOR'S STAGING AREAS AND FLAG ALL TREES WITHIN THE LIMIT OF DISTURBANCE WHICH WILL BE REMOVED FOR CONSTRUCTION ACCESS. TREES SHOULD NOT BE REMOVED WITHIN THE LIMIT OF DISTURBANCE WITHOUT APPROVAL FROM THE WMA OR LOCAL AUTHORITY.
- CONSTRUCTION SHOULD NOT BEGIN UNTIL ALL SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER AND THE SEDIMENT CONTROL INSPECTOR. THE CONTRACTOR SHOULD STAY WITHIN THE LIMITS OF THE DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHENEVER POSSIBLE.
- UPON INSTALLATION OF ALL SEDIMENT CONTROL MEASURES AND APPROVAL BY THE SEDIMENT CONTROL INSPECTOR AND THE LOCAL ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT INSPECTION AND ENFORCEMENT DIVISION, THE CONTRACTOR SHOULD BEGIN WORK AT THE UPSTREAM SECTION AND PROCEED DOWNSTREAM BEGINNING WITH THE ESTABLISHMENT OF STABILIZED CONSTRUCTION ENTRANCES. IN SOME CASES, WORK MAY BEGAIN DOWNSTREAM IF APPROPRIATE. THE SEQUENCE OF CONSTRUCTION MUST BE FOLLOWED UNLESS THE CONTRACTOR'S WRITTEN APPROVAL FROM THE WMA OR LOCAL AUTHORITY. THE CONTRACTOR SHOULD ONLY BEGIN WORK IN AN AREA WHICH CAN BE COMPLETED BY THE END OF THE DAY INCLUDING GRADING ADJACENT TO THE CHANNEL AT THE END OF EACH WORKDAY. THE WORK AREA MUST BE STABILIZED AND THE PUMP AROUND REMOVED FROM THE CHANNEL. WORK SHOULD NOT BE CONDUCTED IN THE CHANNEL DURING RAIN EVENTS.
- SANDBAG DIKES SHOULD BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREA AS SHOWN ON THE PLANS, AND STREAM FLOW SHOULD BE PUMPED AROUND THE WORK AREA. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER MADE OF RIPRAP OR SANDBAGS.
- WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A DEWATERING BASIN, SEDIMENT BAG, OR OTHER APPROVED MEASURE. THE MEASURE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE.
- TRAVERSING A CHANNEL REACH WITH EQUIPMENT WITHIN THE WORK AREA WHERE NO WORK IS PROPOSED SHOULD BE AVOIDED. IF EQUIPMENT HAS TO TRAVERSE SUCH A REACH FOR ACCESS TO ANOTHER AREA, THEN TIMBER MATS OR SIMILAR MEASURES SHOULD BE USED TO MINIMIZE DISTURBANCE TO THE CHANNEL. TEMPORARY STREAM CROSSINGS SHOULD BE USED ONLY WHEN NECESSARY AND ONLY WHERE NOTED ON THE PLANS OR SPECIFIED. (SEE SECTION 4, STREAM CROSSINGS, MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION).
- ALL STREAM RESTORATION MEASURES SHOULD BE INSTALLED AS INDICATED BY THE PLANS AND ALL BANKS GRADED IN ACCORDANCE WITH THE GRADING PLANS AND TYPICAL CROSS-SECTIONS. ALL GRADING MUST BE STABILIZED AT THE END OF EACH DAY WITH SEED AND MULCH OR SEED AND MATTING AS SPECIFIED ON THE PLANS.
- AFTER AN AREA IS COMPLETED AND STABILIZED, THE CLEAN WATER DIKE SHOULD BE REMOVED. AFTER THE FIRST SEDIMENT FLUSH, A NEW CLEAN WATER DIKE SHOULD BE ESTABLISHED UPSTREAM FROM THE OLD SEDIMENT DIKE. FINALLY, UPON ESTABLISHMENT OF A NEW SEDIMENT DIKE BELOW THE OLD ONE, THE OLD SEDIMENT DIKE SHOULD BE REMOVED.
- A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHOULD BE ACCOMPLISHED BY LOCATING A SANDBAG DIKE AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHOULD DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN STEM PUMP AROUND.
- IF A TRIBUTARY IS TO BE RESTORED, CONSTRUCTION SHOULD TAKE PLACE ON THE TRIBUTARY BEFORE WORK ON THE MAIN STEM REACHES THE TRIBUTARY CONFLUENCE. CONSTRUCTION IN THE TRIBUTARY, INCLUDING PUMP AROUND PRACTICES, SHOULD FOLLOW THE SAME SEQUENCE AS FOR THE MAIN STEM OF THE RIVER OR STREAM. WHEN CONSTRUCTION ON THE TRIBUTARY IS COMPLETED, WORK ON THE MAIN STEM SHOULD RESUME. WATER FROM THE TRIBUTARY SHOULD CONTINUE TO BE PUMPED AROUND THE WORK AREA IN THE MAIN STEM.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ACCESS TO AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES UNTIL THE SEDIMENT CONTROL INSPECTOR APPROVES THEIR REMOVAL.
- AFTER CONSTRUCTION, ALL DISTURBED AREAS SHOULD BE REGRADED AND REVEGETATED AS PER THE PLANTING PLAN.

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM



**DOWNER DRIVE
 STREAM RESTORATION PROJECT**

CAPITAL PROJECT D-1158

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MD 21046

**EROSION &
 SEDIMENT
 CONTROL
 DETAILS**

SCALE:	N/A
DATE:	DECEMBER 2012
KCI JOB NO.:	01-081795.69
CAPITAL PROJECT NO.:	D-1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

ES-03

SHEET NO.: 7 OF 11

PROFESSIONAL CERTIFICATION, 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. 31201, EXPIRATION DATE JANUARY 24, 2013

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson
 DATE 1/3/13

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

M. G. C. [Signature]
 DATE 12/19/12
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

BY: KIRBY Patten, Division P053, Water Resources, GMA Emp, FILE: M:\2008\081795.69\Drawings\SES_P001-Detail.dgn

MASTER PLANT SCHEDULE

LIVE STAKES

(834 SQ FT / 0.02 AC)

QTY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING/RATE
64	CORNUS RACEMOSA	GRAY DOGWOOD	3' LENGTH 1"-1.5" DIA.	DORMANT STEMS	2' O.C.
64	CORNUS AMOMUM	SILKY DOGWOOD	3' LENGTH 1"-1.5" DIA.	DORMANT STEMS	2' O.C.
64	ALNUS INCANA SSP. RUGOSA	SPECKLED ALDER	3' LENGTH 1"-1.5" DIA.	DORMANT STEMS	2' O.C.
64	SALIX NIGRA	BLACK WILLOW	3' LENGTH 1"-1.5" DIA.	DORMANT STEMS	2' O.C.

RIPARIAN ZONE

(6,397 SQ FT / 0.15 AC)

QTY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING/RATE
12	AMELANCHEIR CANADENSIS	SERVICEBERRY	3'-5' HEIGHT	3 GAL. CONTAINER	10'-12' O.C.
13	BETULA NIGRA	RIVER BIRCH	5'-6' HEIGHT	5 GAL. CONTAINER	10'-12' O.C.
13	ACER RUBRUM	RED MAPLE	5'-6' HEIGHT	5 GAL. CONTAINER	10'-12' O.C.
13	QUERCUS BICOLOR	SWAMP WHITE OAK	5'-6' HEIGHT	3 GAL. CONTAINER	10'-12' O.C.
13	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	5'-6' HEIGHT	3 GAL. CONTAINER	10'-12' O.C.

PERMANENT SEEDING FOR LIVE STAKES AND RIPARIAN ZONE

(7,231 SQ FT / 0.17 AC)

BOTANICAL NAME	COMMON NAME	APPLICATION RATE (LBS./AC)	% OF MIX	QUANTITY (LBS)	REMARKS
PANICUM VIRGATUM	SWITCHGRASS	18.0	24%	3.1	-
POA PALUSTRIS	FOWL BLUEGRASS	30.0	40%	5.1	-
PANICUM CLANDESTINUM	DEER TONGUE GRASS	18.0	24%	3.1	-
BROMUS CILIATUS	FRINGED BROME	9.0	12%	1.5	-

TOTAL APPLICATION RATE OF 75 LBS / AC

SEED TOTAL 12.8 LBS

AESTHETIC PLANTINGS FOR PAVEMENT REMOVAL ZONE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENT
SHRUBS						
CA	17	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	18"-24" HT.	CONT.	PLANT 3' O.C.
IV	5	ILEX VERTICILLATA	WINTERBERRY HOLLY	24"-30" HT.	CONT.	PLANT 5' O.C.
IT	5	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	24"-30" HT.	CONT.	PLANT 5' O.C.
JC	8	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	24"-30" HT.	CONT.	PLANT 5' O.C.
ND	18	NANDINA DOMESTICA 'HARBOUR DWARF'	HARBOUR DWARF NANDINA	18"-24" HT.	CONT.	PLANT 3' O.C.
PL	6	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	30"-36" HT.	CONT.	PLANT 7' O.C.
VD	5	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	30"-36" HT.	CONT.	PLANT 7' O.C.
PERENNIALS / ORNAMENTAL GRASSES / GROUNDCOVER						
HE	240	HEMEROCALLIS 'STELLA D'ORO'	STELLA D'ORO DAYLILY	10"-12" HT.	CONT.	PLANT 18" O.C.
JH	10	JUNIPERUS HORIZONTALIS 'WILTON'	BLUE RUG JUNIPER	12"-18" SP.	CONT.	PLANT 3' O.C.
RF	30	RUDBECKIA FULGIDA SPECIOSA 'GOLDSTURM'	BLACK-EYED SUSAN	18"-24" HT.	CONT.	PLANT 24" O.C.
PV	32	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCHGRASS	24"-30" HT.	CONT.	PLANT 3' O.C.
SE	90	SEDUM 'AUTUMN JOY'	AUTUMN JOY SEDUM	18"-24" HT.	CONT.	PLANT 18" O.C.

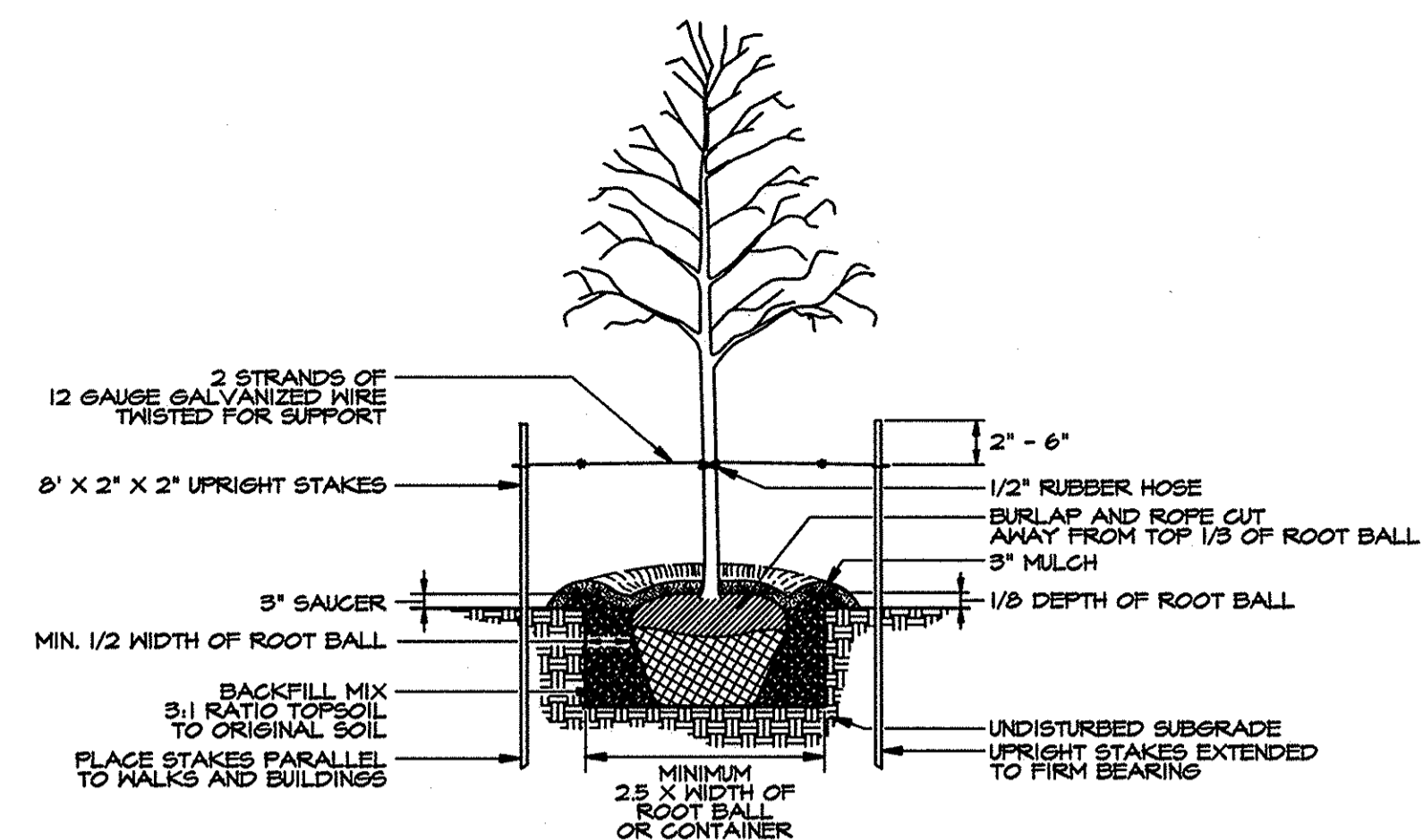
NOTE: SEE SHEET LS-01 FOR SPECIFIC PLACEMENT OF PLANTINGS WITHIN THE PAVEMENT REMOVAL AREA

TURF GRASS ZONE

(312 SQ FT / 0.01 AC)

QTY(LBS)	BOTANICAL NAME
2	SHA SPECIAL PURPOSE SEED MIX 920.06.07 (B)

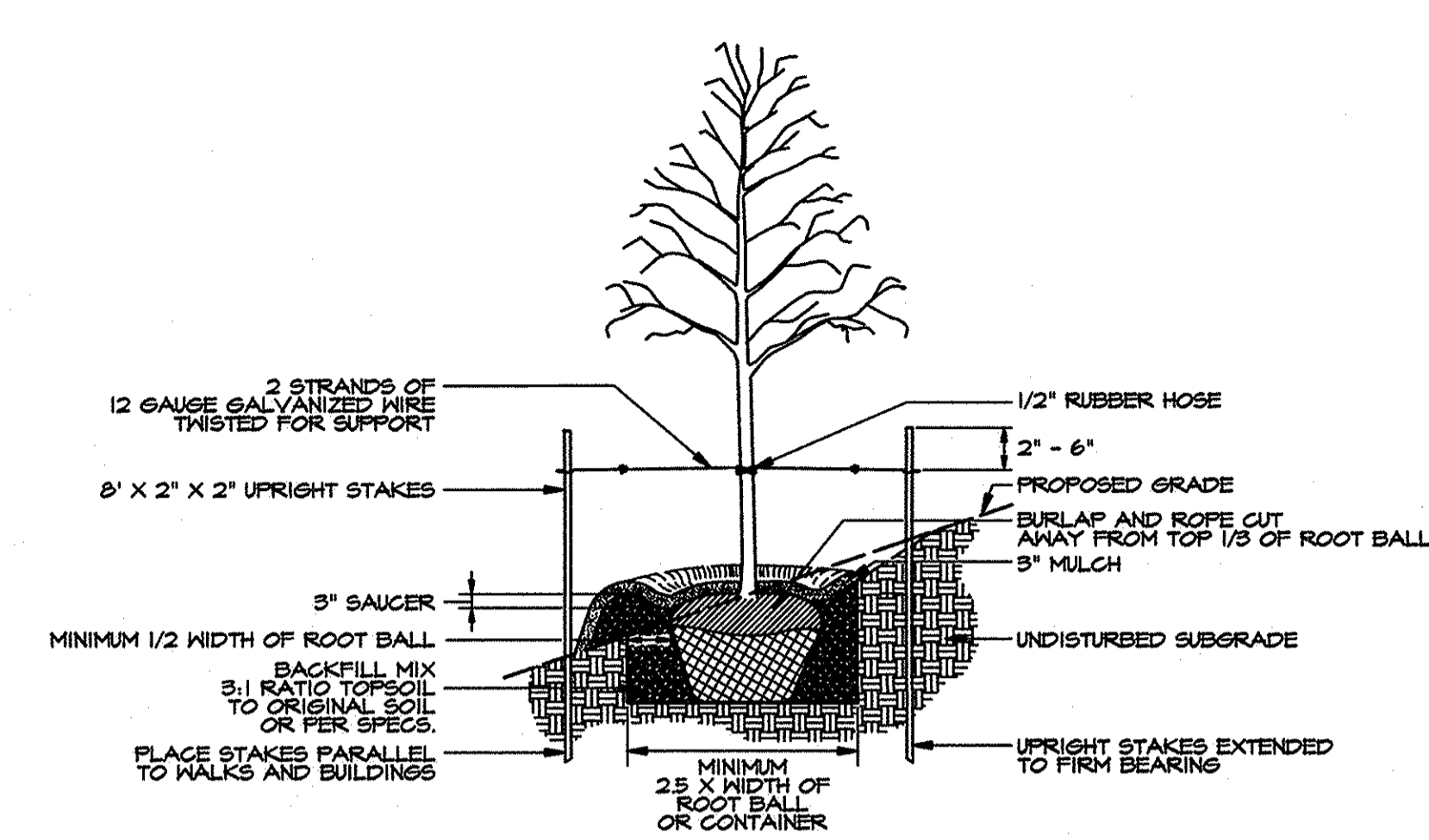
APPLICATION RATE OF 200 LBS / AC



DECIDUOUS TREE PLANTING DETAIL

B & B NOT TO SCALE

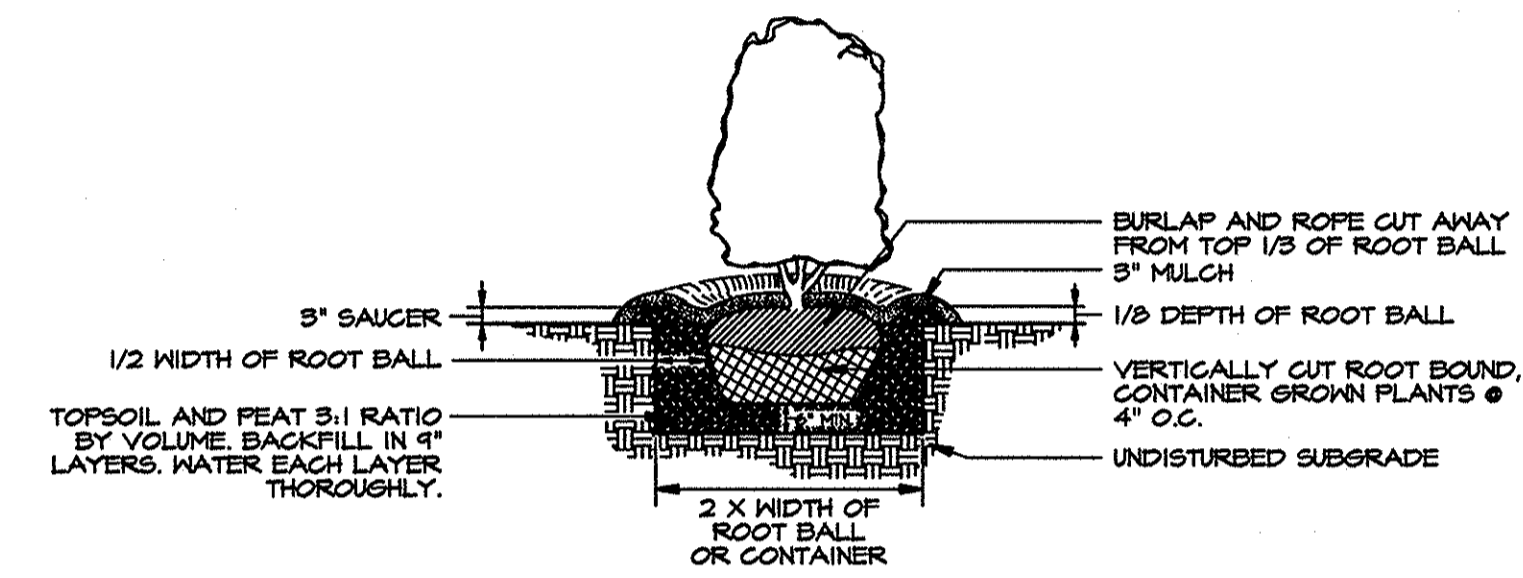
- NOTES:
- OMIT STAKES FOR TREES IN THE RIPARIAN FOREST ZONE.
 - FLOOD ALL PLANTS IN THE RIPARIAN FOREST ZONE AND LIVE STAKE ZONE TWICE WITHIN THE FIRST 24 HOURS.
 - TREE SHELTERS SHALL BE ADDED TO ALL TREES.



SLOPE PLANTING DETAIL FOR TREES

B & B NOT TO SCALE

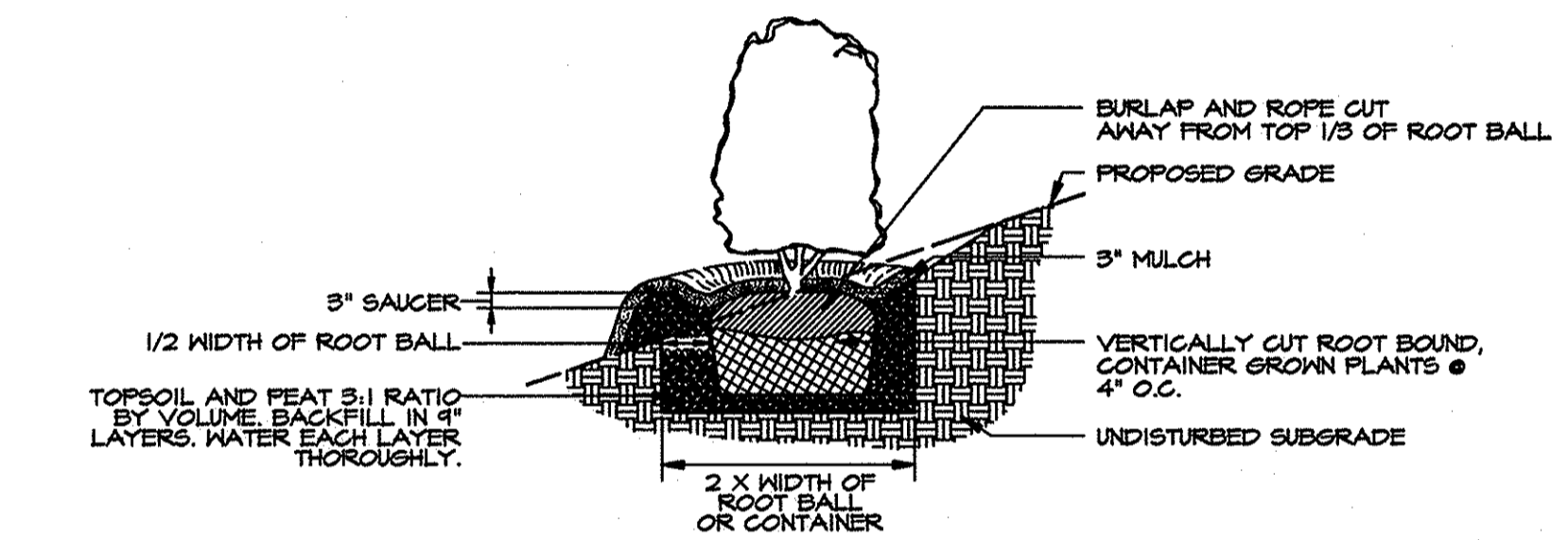
- NOTES:
- OMIT STAKES FOR TREES IN THE RIPARIAN FOREST ZONE.
 - FLOOD ALL PLANTS IN THE RIPARIAN FOREST ZONE AND LIVE STAKE ZONE TWICE WITHIN THE FIRST 24 HOURS.
 - TREE SHELTERS SHALL BE ADDED TO ALL TREES.



SHRUB PLANTING DETAIL

B & B AND CONTAINER GROWN NOT TO SCALE

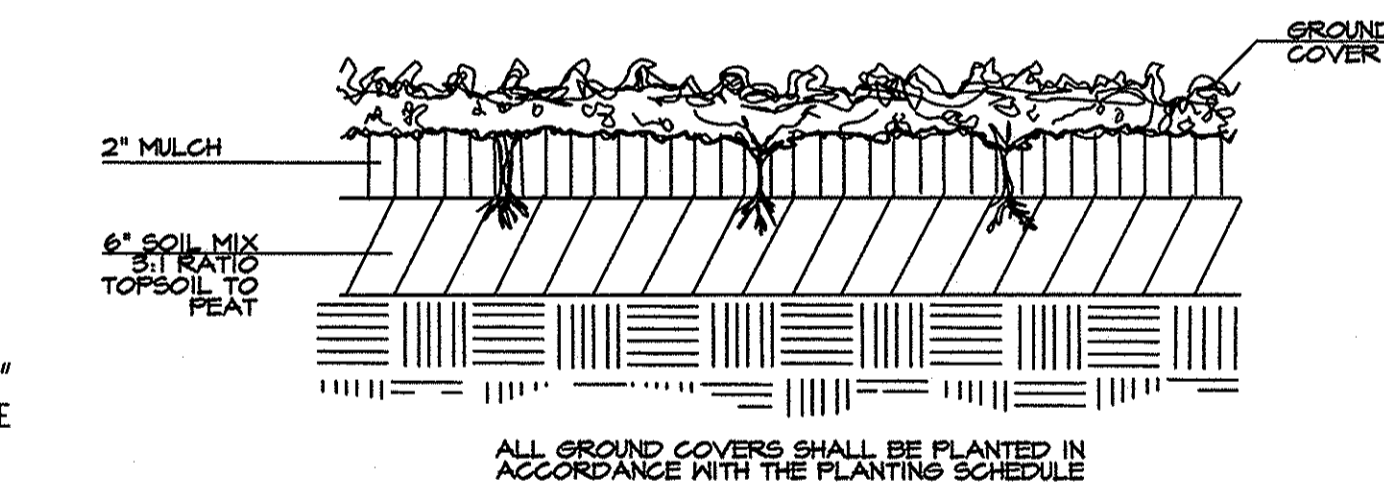
- NOTES:
- FLOOD ALL PLANTS IN THE RIPARIAN FOREST ZONE AND LIVE STAKE ZONE TWICE WITHIN THE FIRST 24 HOURS.



SLOPE PLANTING DETAIL FOR SHRUBS

B & B AND CONTAINER GROWN NOT TO SCALE

- NOTES:
- FLOOD ALL PLANTS IN THE RIPARIAN FOREST ZONE AND LIVE STAKE ZONE TWICE WITHIN THE FIRST 24 HOURS.

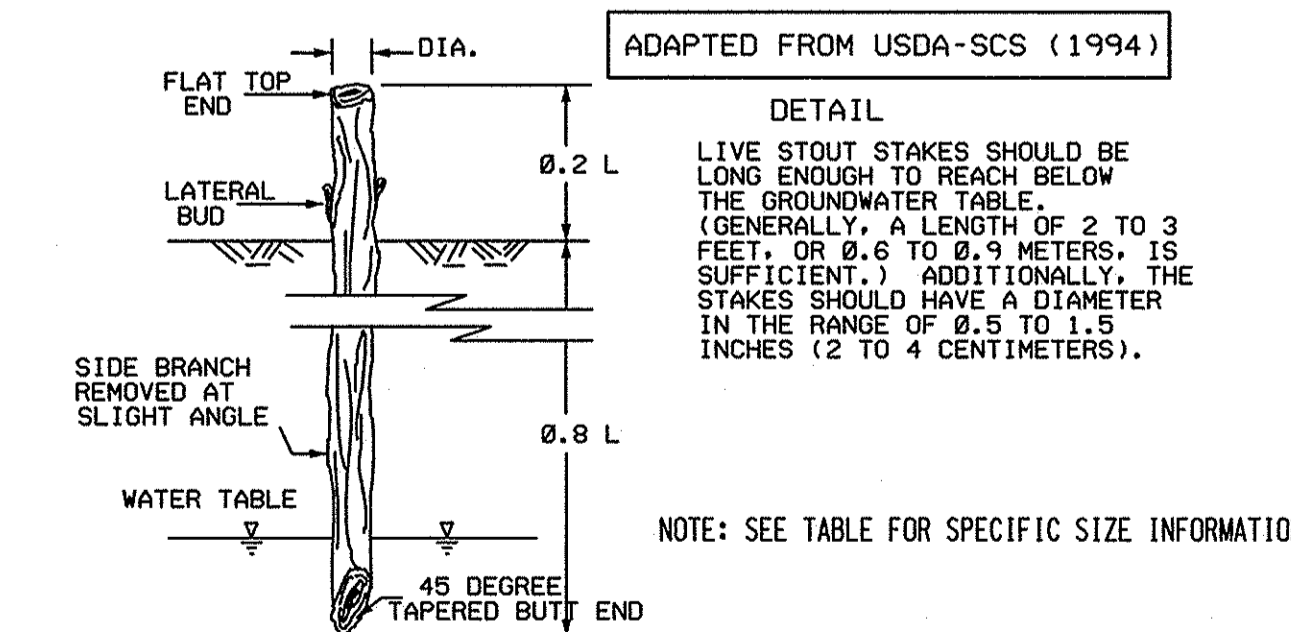


GROUNDCOVER PLANTING DETAIL

NOT TO SCALE

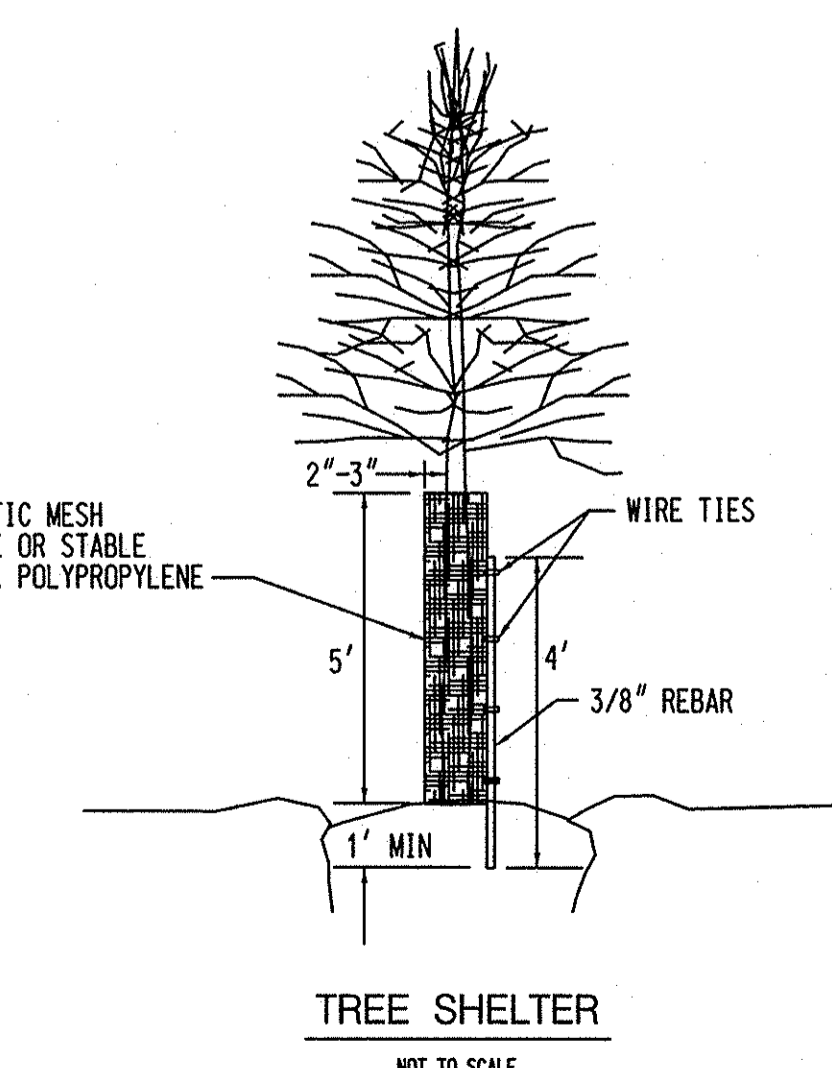
DETAIL 2.4: LIVE STAKES

ADAPTED FROM USDA-SCS (1994)



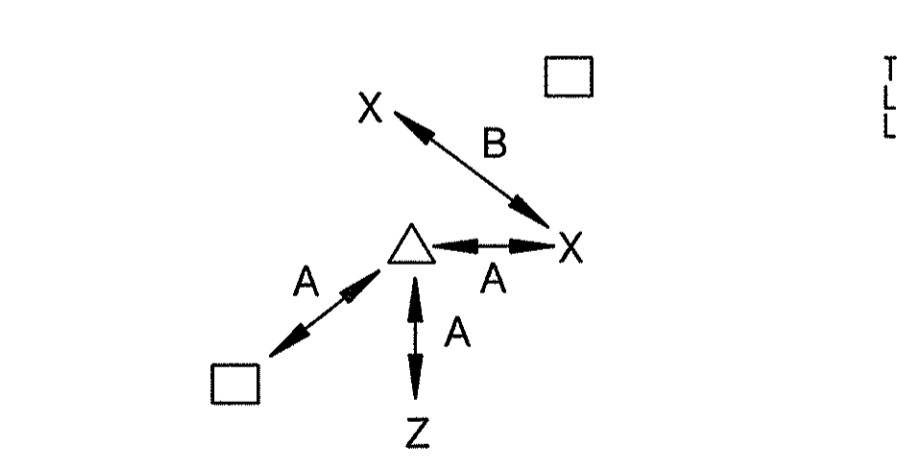
NOTE: SEE TABLE FOR SPECIFIC SIZE INFORMATION

SECTION VIEW
LIVE STAKES SHALL BE SPACED 2 TO 3 FEET (0.6 TO 0.9 METERS) APART TO GIVE A DENSITY OF 2 TO 4 CUTTINGS PER SQUARE YARD (0.8 SQUARE METERS).



TREE SHELTER

NOT TO SCALE



△, □ TREE SPECIES A: MINIMUM SPACING PER SCHEDULE
X, Z SHRUB SPECIES B: DUPLICATE SPECIES SPACING MINIMUM 2 TIMES MINIMUM SPACING

TREE AND SHRUB RANDOM SPACING FOR RIPARIAN FOREST ZONE ONLY

NOT TO SCALE

TYPICAL PLAN VIEW NATURAL FIBER MATTING WITH LIVE STAKES

NOT TO SCALE

NATURAL FIBER MATTING TO BE ROLLED LENGTHWISE ALONG STREAMBANK EXTENDING TO THE BOTTOM OF PROTECTION AND A MINIMUM OF TWO FEET PAST TOP OF BANK. IF MORE THAN ONE ROLL IS REQUIRED, MID-BANK OVERLAP SHOULD BE A MINIMUM OF ONE FOOT AND SECURELY FASTENED WITH STAKES. (SEE SPECIFICATIONS FOR MATERIALS)

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

12/17/12
DATE

NO.	REVISIONS DESCRIPTION	DATE
1	ENTIRE SHEET	SEPT 2010

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



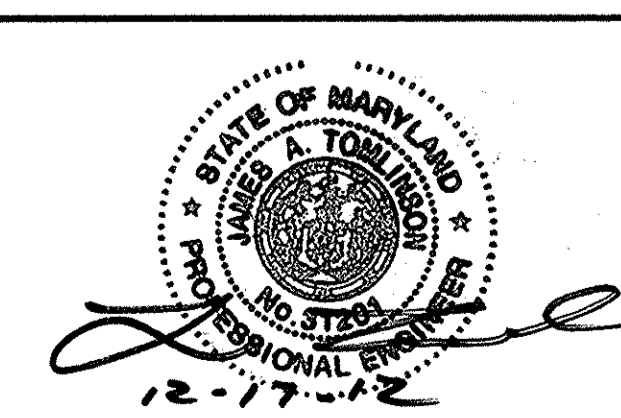
STREAM RESTORATION PROJECT
DOWER DRIVE
CAPITAL PROJECT D-1158
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

LANDSCAPE NOTES & DETAILS

SCALE:	
DATE:	DECEMBER 2012
KCI JOB NO.:	01-081795.69
CAPITAL PROJECT NO.:	D-1158
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

LD-01
SHEET NO.: 9 OF 11

BY: Kirby Patten, Division: P053, Water Resources, GMA, Emp. No. 22009, 01081795.69, Drawings: LD-01-Dower.dgn



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. 31201, EXPIRATION DATE JANUARY 24, 2013

