<u>NO.</u> A-01	SHEET	SHEET TITLE	
<b>A_04</b>	NO.		
A-02	2. 3.	GENERAL NOTES PROJECT LOCATION PLAN	•
<b>B-01</b>	4.	EXISTING CONDITIONS AND WETLAND DELINEATION SITE PLAN KEY	
	5.	EXISTING CONDITIONS AND WETLAND DELINEATION PLAN AREA 01	
B-03	6.	EXISTING CONDITIONS AND WETLAND DELINEATION PLAN AREA 02	•
<b>B-04</b>	7.	EXISTING CONDITIONS AND WETLAND DELINEATION PLAN AREA 03	
C-01	8.	PROPOSED SEDIMENT CONTROL AND DREDGING PLAN KEY	
C-02	9.	PROPOSED SEDIMENT CONTROL AND DREDGING PLAN AREA 01	•
C-03	10.	PROPOSED SEDIMENT CONTROL AND DREDGING PLAN AREA 02	
C-04	11.	PROPOSED SEDIMENT CONTROL AND DREDGING PLAN AREA 03	•
C-05	12.	AREA 01 - CROSS-SECTIONS (1 OF 2)	• • •
C-06	13.	AREA 01 - CROSS-SECTIONS (2 OF 2)	
C-07	14.	AREA 02 - CROSS-SECTIONS	
C-08	15.	AREA 03 - CROSS-SECTIONS (1 OF 2)	
C-09	16.	AREA 03 - CROSS-SECTIONS (2 OF 2)	
D.04	47	PIPELINE ROUTING	
D-01 D-02	17. 18.	PIPELINE ROUTING PIPELINE ROUTING	•
E-01	19.	STAGING AREA	
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F-01	20.	WETLAND CREATION AREAS	
F-02	21.	WETLAND CREATION AREAS	
· · · · ·	•	PLANTING PLAN	
F-04		PLANTING PLAN	
F-05	24.	PLANTING DETAILS AND NOTES	•
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G-01	25.	SECTION AND DETAILS	• .
G-02		TYPICAL DETAILS	
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H-01	27.	ISTHMUS ACCESS ROAD - PLAN & PROFILE	
H-02	28.	ISTHMUS ACCESS ROAD - PLAN & PROFILE	
H-03	29.	ISTHMUS ACCESS ROAD - PLAN & PROFILE	
H-04	30.	ISTHMUS ACCESS ROAD - PLAN & PROFILE	
1-01	31.	TEMPORARY EROSION & SEDIMENT CONTROL PLAN -	
, <b> -</b> - 		INITIAL PHASE STAGING AREA	
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1-02	32.	TEMPORARY EROSION & SEDIMENT CONTROL PLAN -	
	•	FINAL PHASE STAGING AREA	
1-03	33.	TEMPORARY EROSION & SEDIMENT CONTROL PLAN -	
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1-05	35.	TEMPORARY EROSION & SEDIMENT CONTROL - DETAILS & NOTES	•
1-06	36.	<b>TEMPORARY EROSION &amp; SEDIMENT CONTROL - DETAILS &amp; NOTES</b>	
1-07	37.	<b>TEMPORARY EROSION &amp; SEDIMENT CONTROL - DETAILS &amp; NOTES</b>	
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J-01	38.	DAM REPAIR - TITLE SHEET	
J-02	39,	DAM REPAIR - GENERAL NOTES	
J-03	40.	DAM REPAIR - EXISTING CONDITION PLAN	
J-04	41.	DAM REPAIR - PROPOSED SITE PLAN	•
J-05	42.	DAM REPAIR - SECTIONS AND DETAILS	
J-06	43.	DAM REPAIR - TEMPORARY EROSION & SEDIMENT CONTROL PLAN - INFI	FIAL PI
J-07	44.	DAM REPAIR - TEMPORARY EROSION & SEDIMENT CONTROL PLAN - FIN	AL PH
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J-08	46.	DAM REPAIR - SOIL BORING LOGS	
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J-09 Subdivision Plot # or	L/F	COLUMEIA TOWN CENTER     Section/Areo     SECTION /     Lot/Porcel No.     L(       Grid //     Zoning     Tox Mop No.     Elect Distr     Census Tract	
J-09 Subdivision Plat 1 or PMASE	L/F 23	COLUMBIA TOWN CENTER     Section/Area     SECTION /     Lot/Porcel No.     Lot/Porcel No.       Grid // 2     Zoning     Tax Mop No.     Elect Distr     Census Tract       20/2     605	4.02
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Chief, Division of Land Development

Director DEP.

<u>|||||0</u> Date

Date

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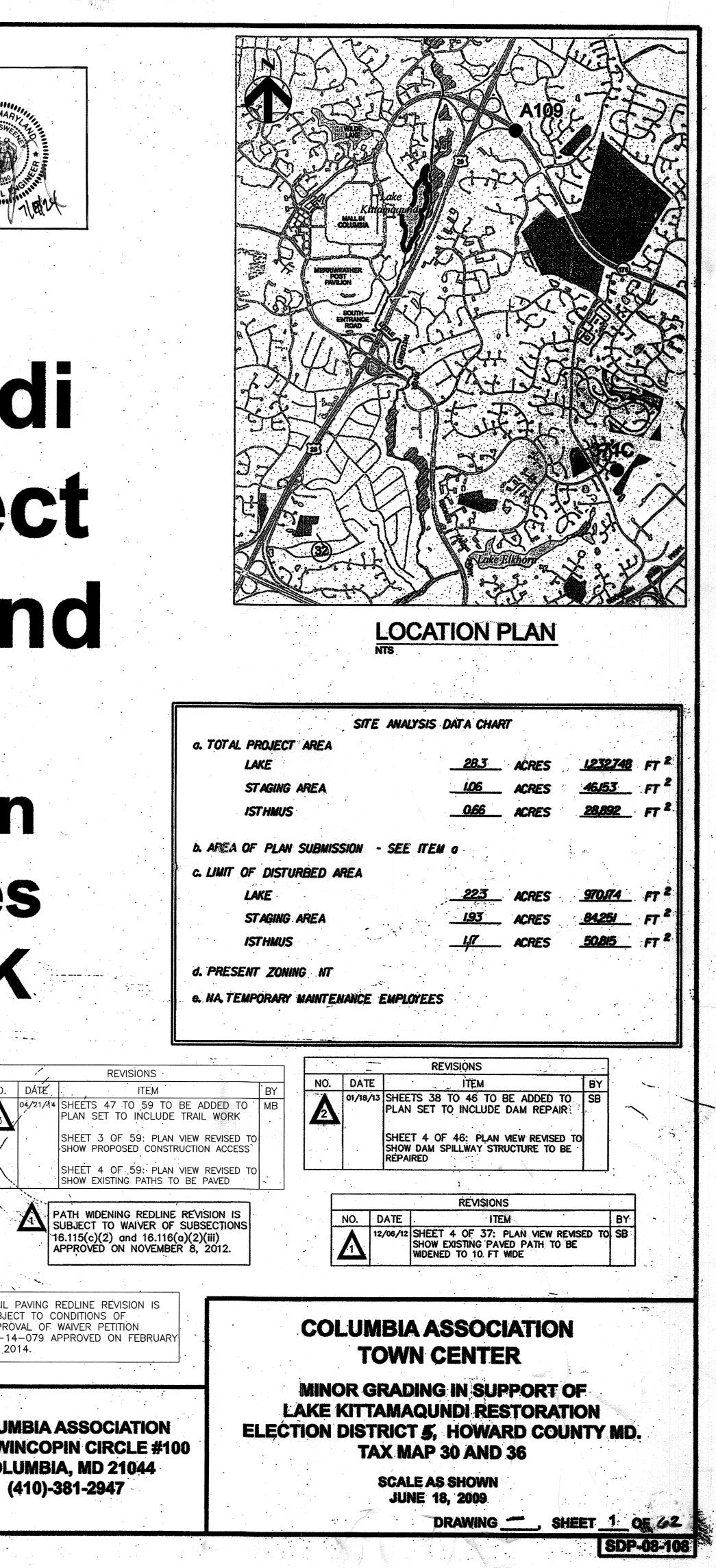
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# Lake Kittamaqundi Restoration Project Columbia, Maryland

## Columbia Association Construction Services Project No. 040107DK

	K-01	47.	MULTIUSE TRAII	L - COVER SHEET		•	
	K-02	48.	MULTIUSE TRAII	L - KEY SHEET			
	K-03	49.	MULTIUSE TRAII	L - DESIGN PLANS			
	K-04	50.	MULTIUSE TRAII	L - DESIGN PLANS		•	$\Lambda$
	K-05	51.	MULTIUSE TRAII	L - DESIGN PLANS			
	K-06	52.	<b>MULTIUSE TRAII</b>	L - DESIGN PLANS			
	K-07	53.	MULTIUSE TRAII	L - DESIGN PLANS			
	K-08	54.	MULTIUSE TRAIL	- CROSS SECTION	S & DETAILS		
	K-09	55.	MULTIUSE TRAII	L - BOARDWALK DET	AILS	3	
	K-10	56.	MULTIUSE TRAII	L - BOARDWALK DET	AILS		
	K-11	57.	MULTIUSE TRAII	- EROSION & SEDII	MENT CONTROL PLAN		4. 
	K-12	58.	MULTIUSE TRAII	- EROSION & SEDI	MENT CONTROL PLAN		
	K-13	59.	MULTIUSE TRAII	L - EROSION & SEDI	MENT CONTROL NOTES & DE	ETAILS	
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	(isty P. ) & Comp	Dalal Diance En	gineer	HDR Engineering, Inc. 6700 LAKE WRIGHT DRIVE SUITE 300 NORFOLK, VIRGINIA 23502 767-222-1500	PIETER DAHMEN, PE HDR ENGINEERING INC.	11-24-200	



#### HOWARD COUNTY GENERAL NOTES:

- I. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
- 2. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 24-hours prior to the start of work.
- 3. The contractor shall notify "Miss Utility" at I-800-257-7777 at least 48 hours prior to any excavation work being done.
- 4. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory stans shall be in place prior to the placement of any asphalt.
- 5. Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)." A minimum spacing of 20' shall be maintained between any streetilght and any tree.
- 6. All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3" long. A galvanized steel pole cap shall be mounted on top of each post.
- 7. All plan dimensions are to face of curb unless otherwise noted.
- 8. The existing topography is taken from aerial survey with (maximum two foot) contour intervals prepared by Mercado Consultants Inc. dated 5-22-06.
- 9. The coordinates shown hereon are based upon the Howard County Geodetic Control, which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. Alo9, 37IC and "Harris AZ Mark" were used for this project.
- IO. No permanent increse in impervious area.
- I. Existing utilities are based on GIS mapping.
- 12. No floodplain study was prepared for this project.
- 13. Project background information (unless included in title block):
- . Hydraulically dredging the upper half of the lake to its original depths.
- Pumping the dredged material to a temporary staging area on the South Entrance Road for mechanical dewaterina.
- Trucking dewatered material to an off-site licensed placement facility.
- Constructing a penninsula and wetlands in the upper portion of the lake to create a Forebay.
- Install access road on Isthmus with turf reinforced matting and placement of riprap at existing overflow areas on the isthmus to prevent further erosion.
- Providing imbricated riprap for erosion protection at select spots on the right bank of the Little Patuxenf River.
- Restoration of all disturbed areas, including removal of gravel & paving at the staging area.
- 14. No grading, removal of vegetative cover or trees, paving or new structures shall be permitted outside the limits of disturbance in wetlands, streams, or their associated buffers, forest conservation easements, or IOO-year floodplain without DPZ approval.
- 15. This subject property is zoned NT per the February 2,2004 Comprehensive Zoning Plan and per the "Comp Life" Zoning Amendments effective July 28, 2006.
- 16. This project is exempt from the requirements of Section 16.124 of the Howard County Code for Landscaping since disturbance resulting from project activities is temporary and no permanent structures are proposed.
- **17.** This project is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation since it is part of a Planned Unit Development which had preliminary development plan approval and 50% or more of the land was recorded and substantially developed before December 31,
- 18. The Contractor shall be responsible for repairs to property damage caused by the Contractor.
- **19.** Project is subject to approval by the U.S. Army Corps of Engineers, Baltimore District, the MDE Nontidal Wetlands and Waterways Division, and the MDE Dam Safety Division. Copies of the applicable permits or authorizations shall be submitted to the DPZ, Division of Land Development. MDE permit tracking number is 200863535.
- 20. The Contractor shall comply with all applicable Federal, State and Local Laws and Regulations including project permits. Effluent leaving the site shall not exceed Maryland turbidity limits of 150 Ntu at any time or 50 Ntu as a monthly average per COMAR 26.08.02.
- 21. No wetland areas landward of the ordinary high water are disturbed by the project. Wetlands within the lake (mainly nonpersistent-emergent and lacustrine unconsolidated bottom wetlands) are subject to disturbance from project activity, refer to JPA 2008-63535.MO2.
- WP-17-110 to allow the installation of five Poster Tree art sculptures within Kennedy Gardens adjacent 22. to Lake Kitamagundi was approved on May 16, 2017, subjust to these conditions: • All Grading and clearing shall be minimized to the extent required to install five proposed tree
  - sculptures. Any disturbed areas must be returned to the existing grade, and stabilized as appropriate.
  - The petitioner shall obtain state and federal authorization of regulated activities, if applicable.
  - The petitioner shall obtain all required permits from the Howard County Department of Inspections,
  - Licenses and Permits.
- Include the alternative compliance request number, description, and decision on all associated plans, and permits. minimum

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APPROVED: DEPARTMENT C	OF PLANNING AND Z	ONING	
Chief, Development Engineering		Lz/23/07 Date	A M
Chief, Development Engineering	Division <sub>Ce</sub>	Date	MDE W
Vert Shenlook		1/07/10	
Chief, Division of Land Developm	nent Organ	<u>ເ/ຄາ/ເຈ</u> Date	
Monas & Butles Director, DEP		1/2/10	
Director, DEP		Date	

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Department of Inspection, Licenses and Permits, Sediment Control Division prior to the start of any construction (3/3-1855).
- 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1.b) 14 days as to all other disturbed or araded areas on the project site.
- 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol I. Chapter 12 of the HOWARD COUNTY DESIGN MANUAL. Storm Drainage.
- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54). temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

1.06 Acres

1.91 Acres

0.66 Acres

0.00 Acres

.042 Acres

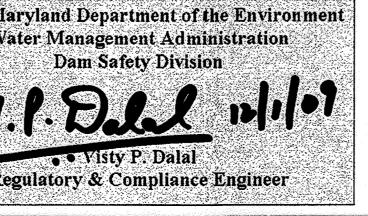
11.09 Cu.Yds.

11.09 Cu.Yds.

7. Site Analysis: Staging Area Total Area of Site Area Disturbed Area to be roofed or paved Area to be vegetatively stabilized Total Cut Total FIII Total Dredging Values per 2006 Bathymetric Survey Offsite waste/borrow area location:

Cu.Yds. Site with an approved sediment control plan and active permit, as approved by the inspector and Howard SCD.

- Site Analysis: Isthmus Area Total Area of Site Area Disturbed 1.91 Acres 0.00 Acres Area to be roofed or paved 0.85 Acres Area to be vegetatively stabilized Total Cut 254 Cu.Yds. Total Fill 252 Cu.Yds. Offsite waste/borrow area location: On Site
- 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 10. On all sites with disturbed areas in excess of 2 acres. approval of the inspection agency shall be requested upon completion of installation of perimeter erosion sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.



HX	5	
	-	
HDR Engineering, Inc. 5700 LAKE WRIGHT DRIVE		
SUITE 300 NORFOLK, VIRGINIA 23502 757-222-1500		

PLANS HAVE BEEN **DESIGNED UNDER MY** SUPERVISION

**PIETER DAHMEN, PE** HDR ENGINEERING INC.



#### HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES:

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

8

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

Preferred - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sa.ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq.ft) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sa.ft.)

Acceptable - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq.ft) and 1000 Ibs/acre IO-IOIO fertilizer (23 Ibs/1000 sq.ft) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March I - April 30, and August I - October 15, seed with 60 Ibs/acre (1.4 Ibs/1000 sq.ft) of Kentucky 31 Tall Fescue. For the period May I-July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (DS Ibs/100() sq.ft.) of weeping lovegrass. During the period of October 15 - February 28, protect site by:

Option I - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 -Use sod.

Option 3 - Seed: with 60 lbs/acre Kentucky 30 Tail Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq.ft) of unrolled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft) of emulsified asphalt on flat areas. On slope 8 feet or higher.use 348 gallons per acre (8 gal/1000 sa.ft) for anchorina.

Maintenance -- Inspect all seeding areas and make needed repairs. replacements and reseedings.

#### TEMPORARY SEEDING NOTES:

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

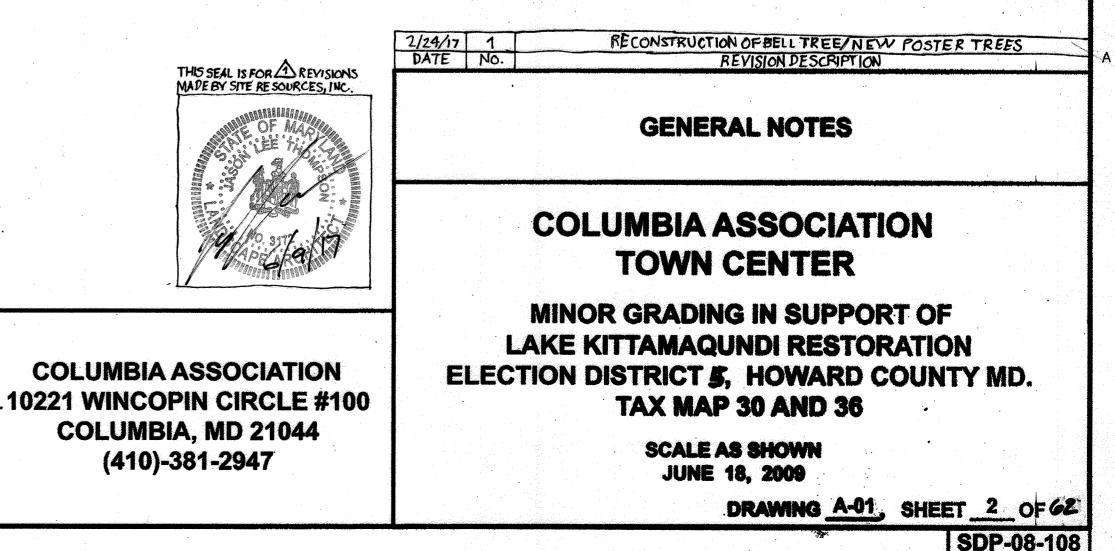
Seedbed preparation: - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

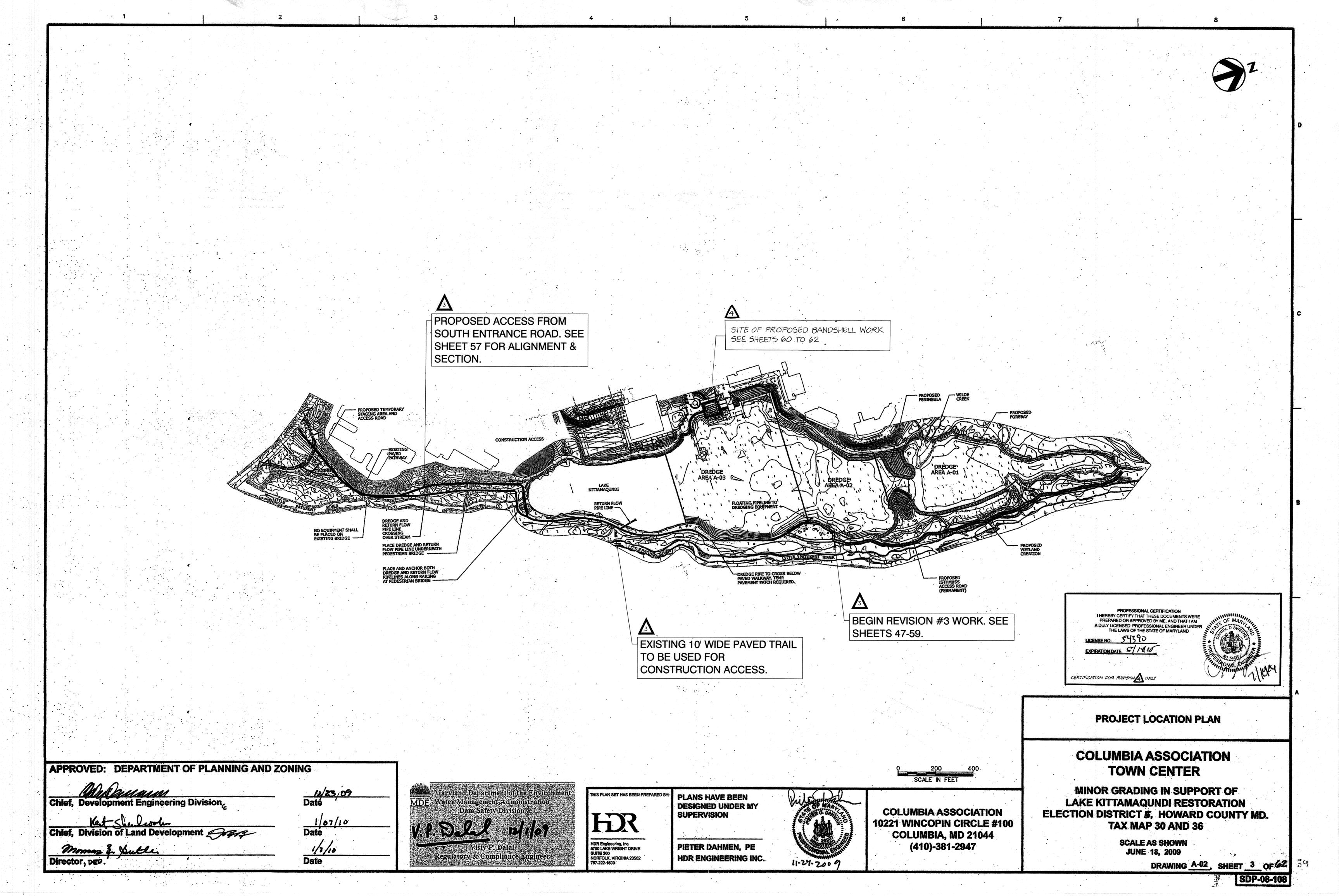
Soil Amendments: - Apply 600 Ibs/acre 10-10-10 fertilizer (14 Ibs/1000 sq.ft).

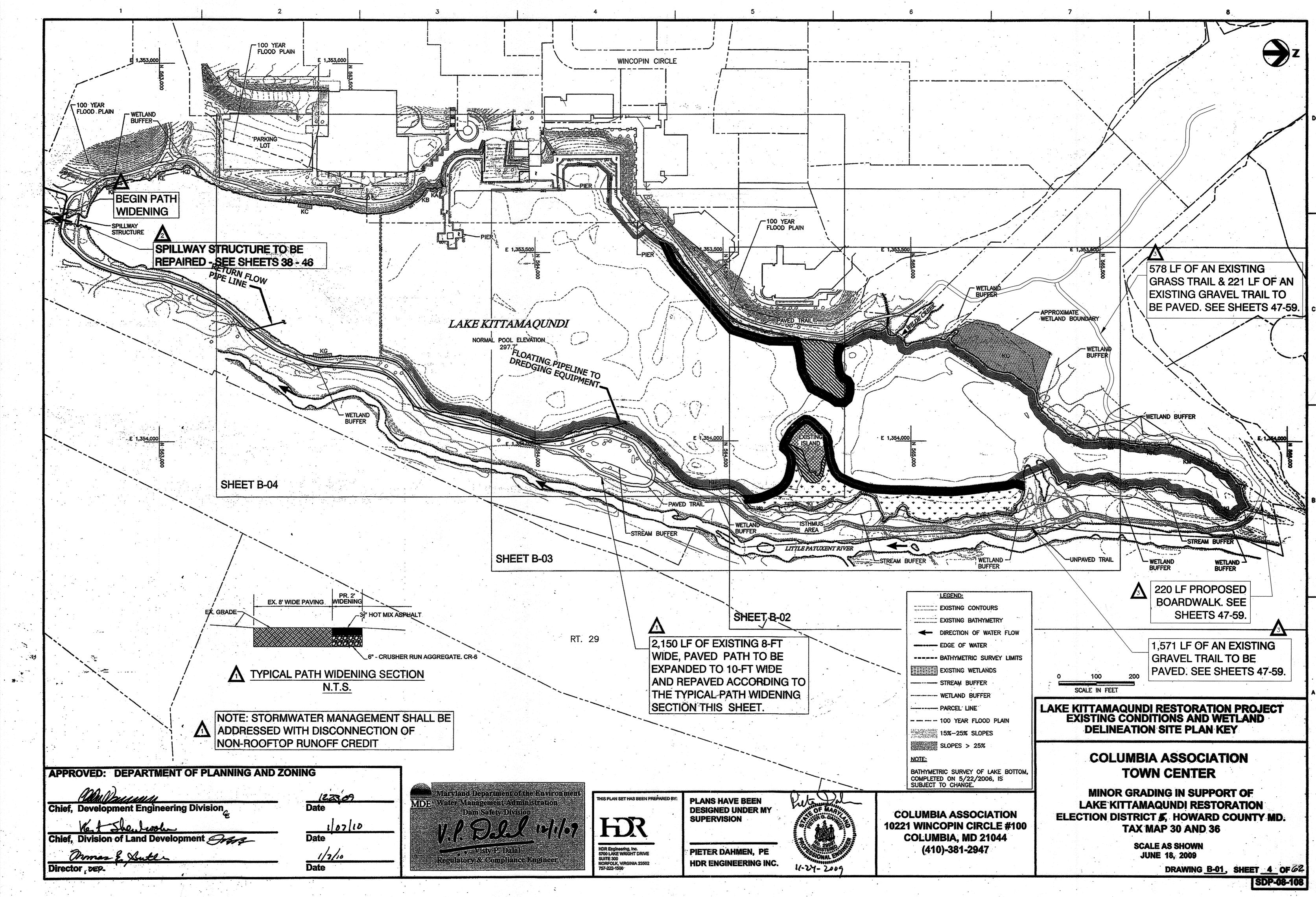
Seeding: -- For periods March I-April 30 and from August 15 - October 15. seed with 2-1/2 bushel per acre of annual rye (3.2 Ibs/1000 sa.ft). For the period May 1-August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 eq.ft.). For the period November 16 — February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

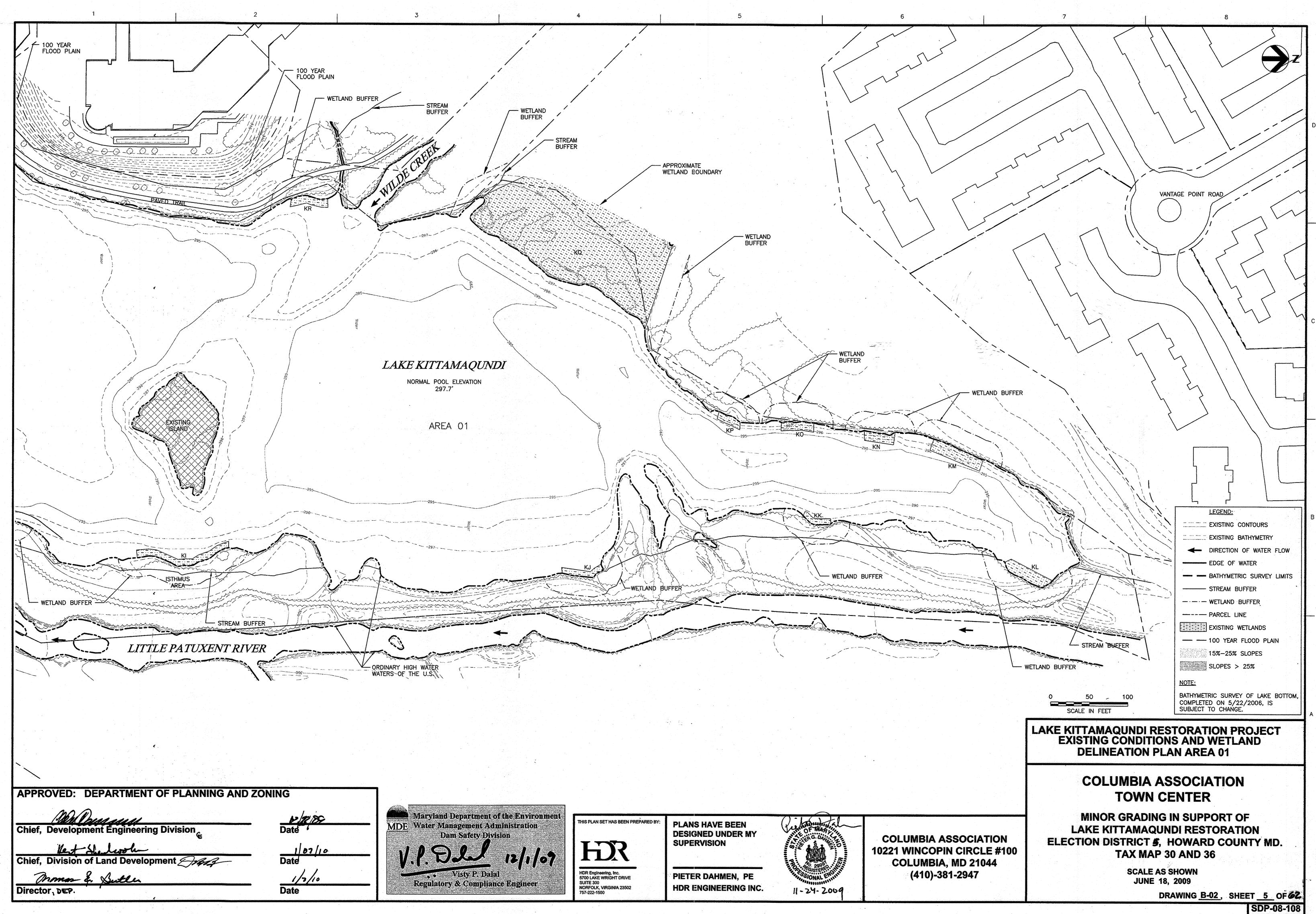
Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sa.ft) of unrolled weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal.per acre (5 gal/1000 sa.ft) of emulsified asphalt on flat areas. On slope 8 ft.or haher. use 348 ad. per acre (8 gal/1000 sa.ft.) for anchorina.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.



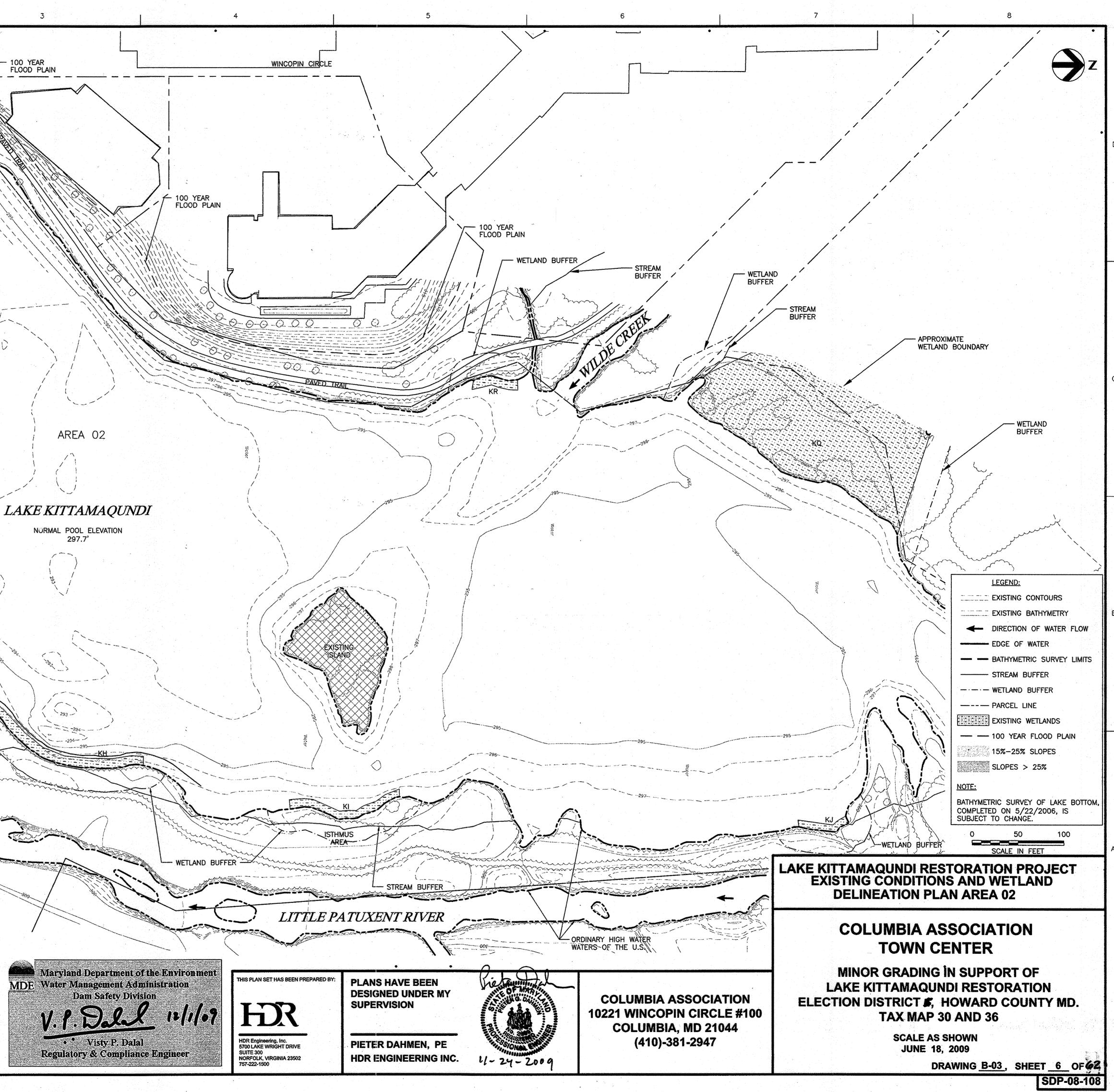




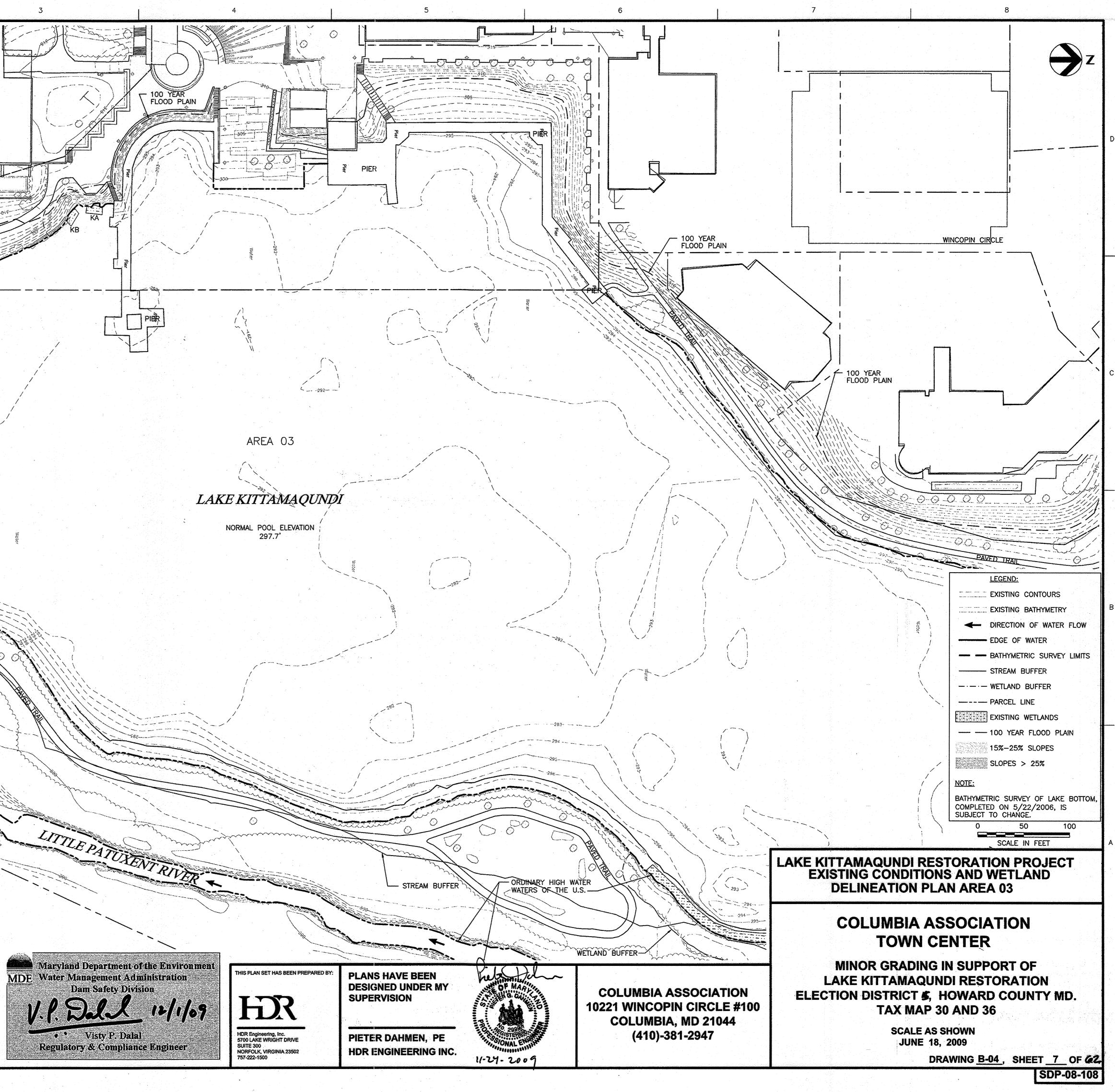


3 \_\_\_/ 100 YEAR FLOOD PLAIN 0 - ORDINARY HIGH WATER - WATERS OF THE U.S. -**STREAM BUFFE** WETLAND BUFFER-APPROVED: DEPARTMENT OF PLANNING AND ZONING Date Date Mail barnes Chief, Development Engineering Division 102/10 Kert Shenlook Chief, Division of Land Development Date mman &. Sutle 1/2/10 Director, DEP. ( Date

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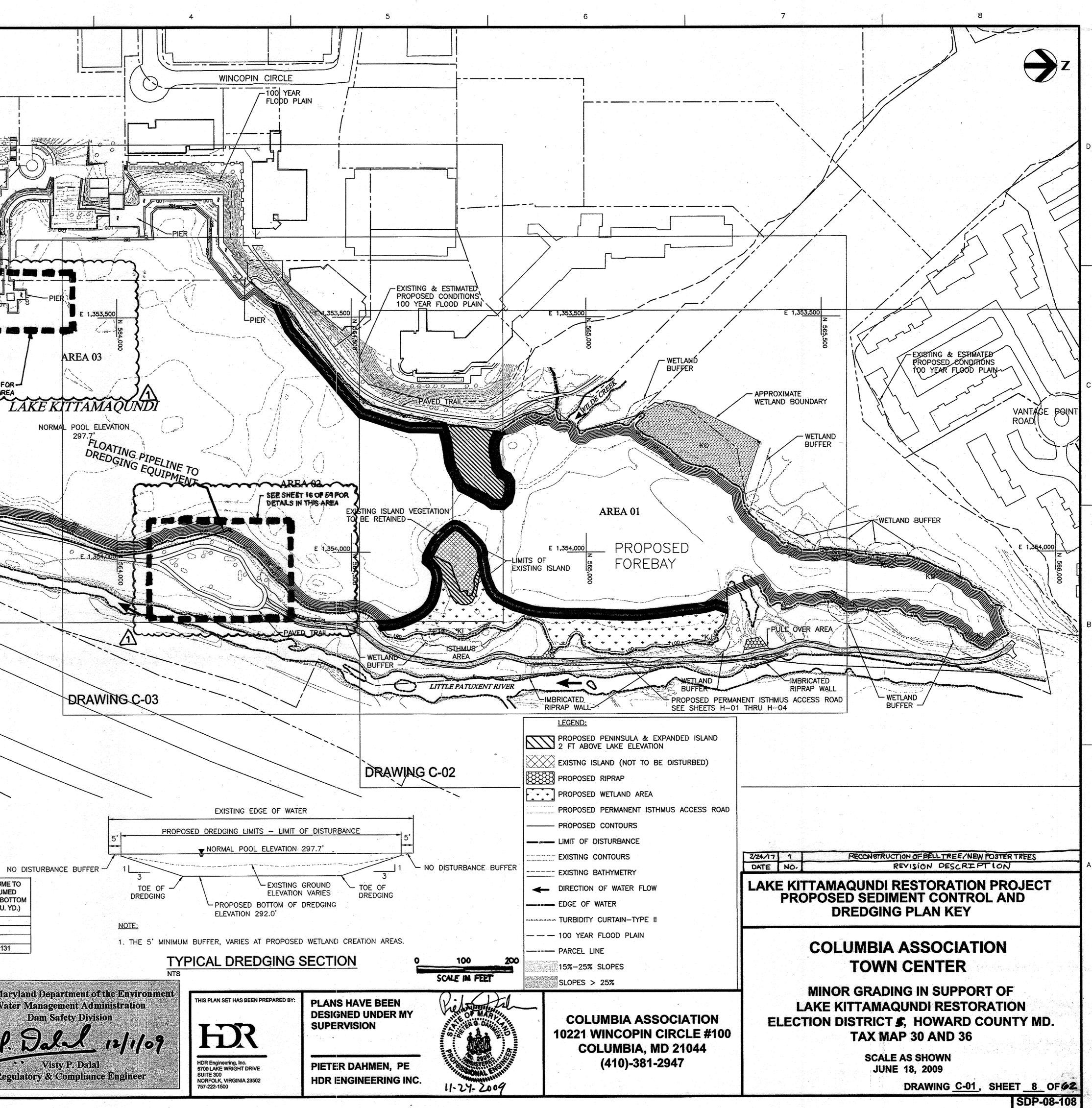


100 YEAR FLOOD PLAIN WETLAND BUFFER ()63 WETLAND BUFFE - ORDINARY HIGH WATER WATERS OF THE U.S. APPROVED: DEPARTMENT OF PLANNING AND ZONING 12/23/09 Date Malleman Chief, Development Engineering Division Vert Shenlook. 1/07/10 Chief, Division of Land Development Date ' momon &. Sutle 1/7/10 Director, DEP. Date



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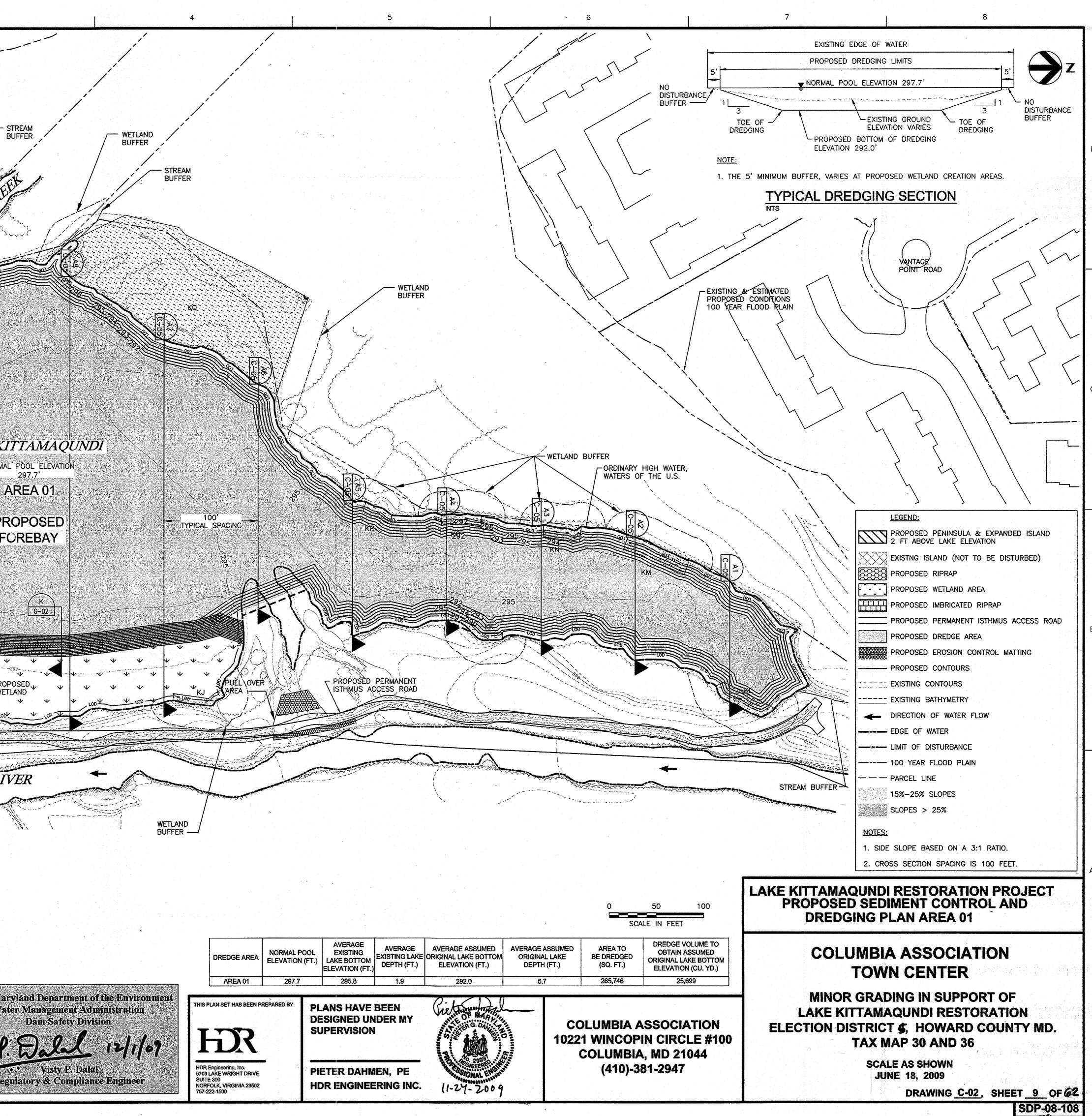
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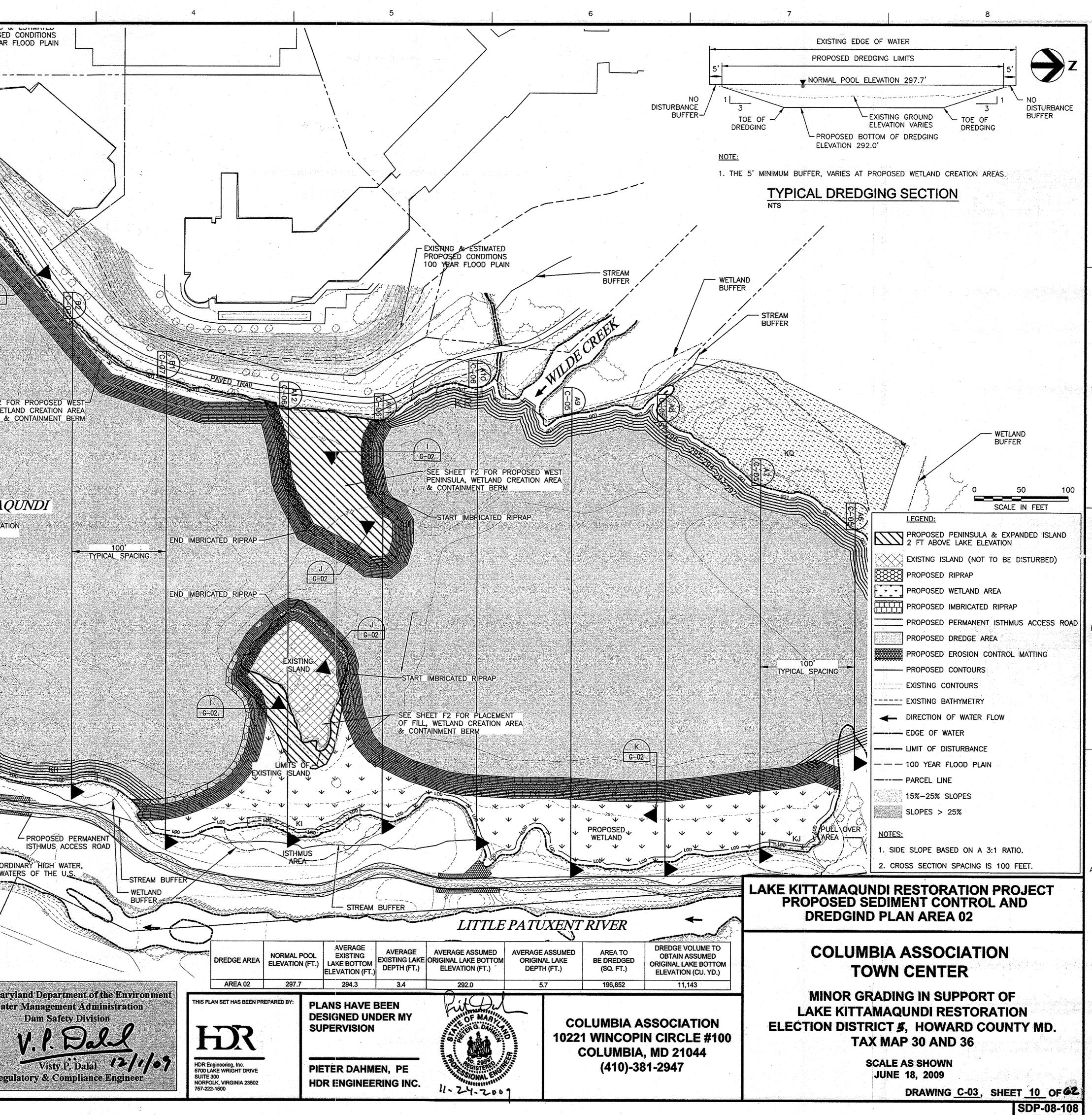
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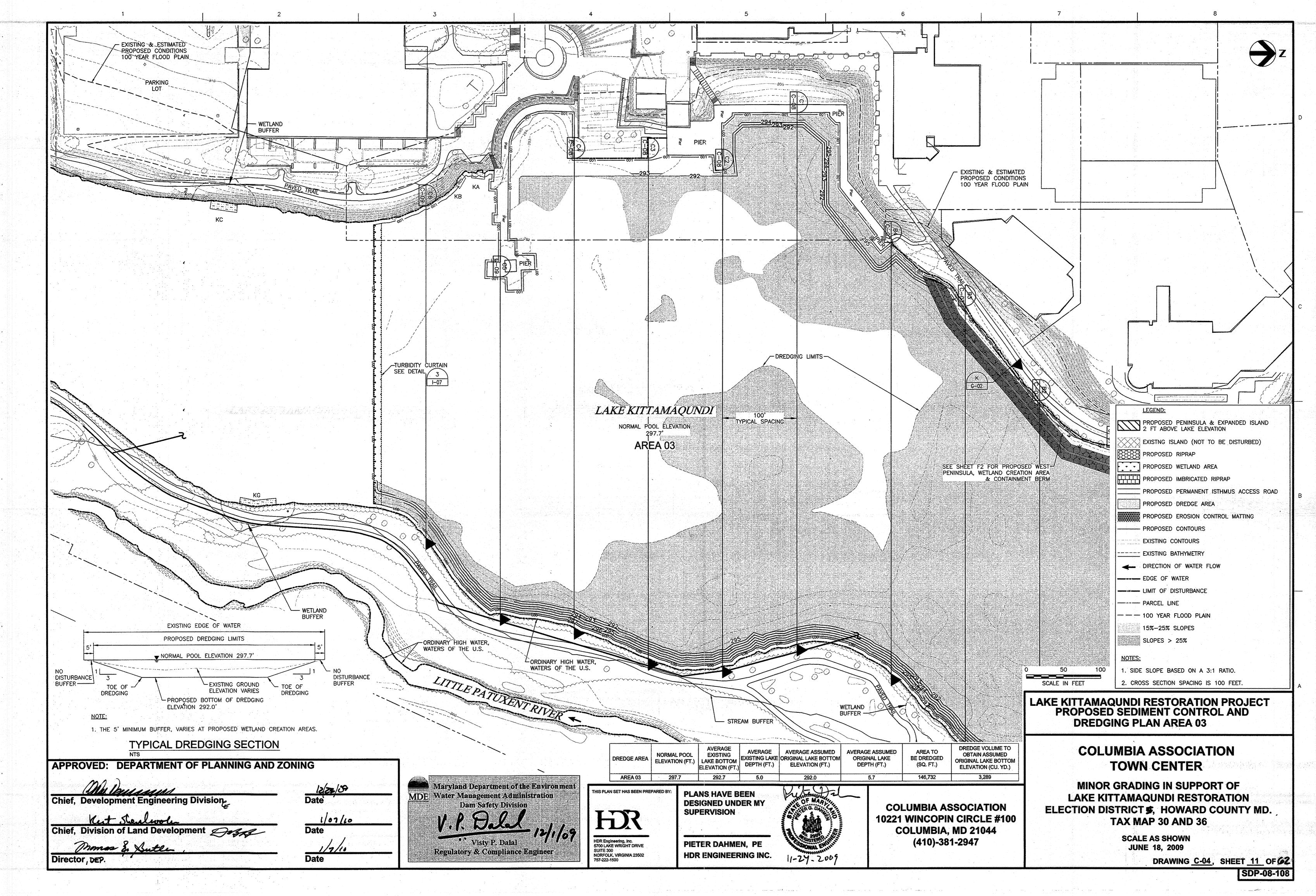
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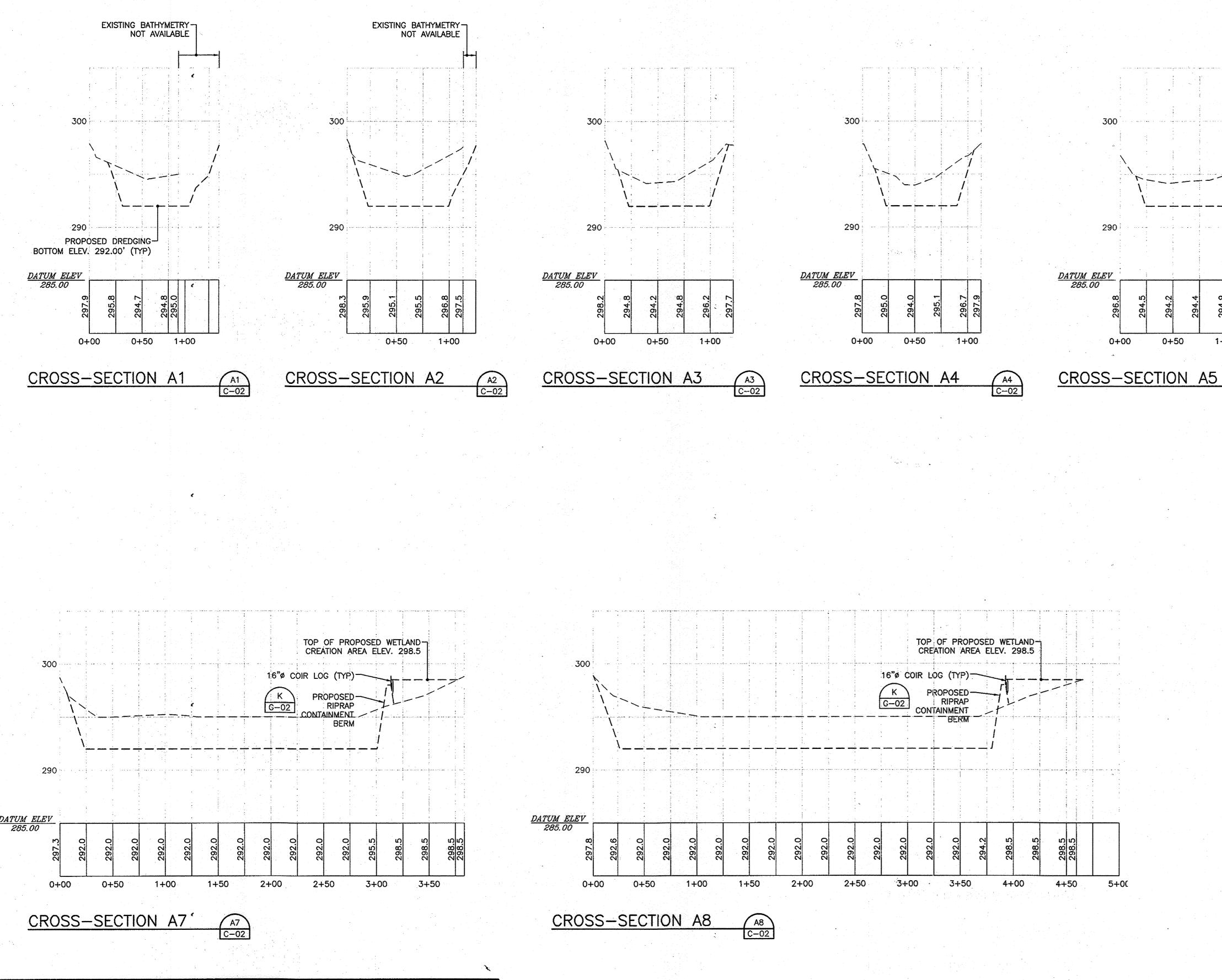


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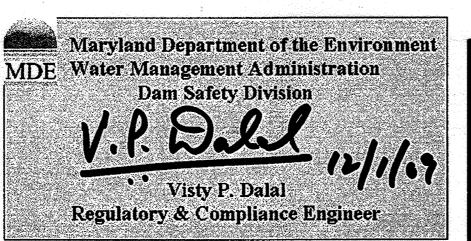




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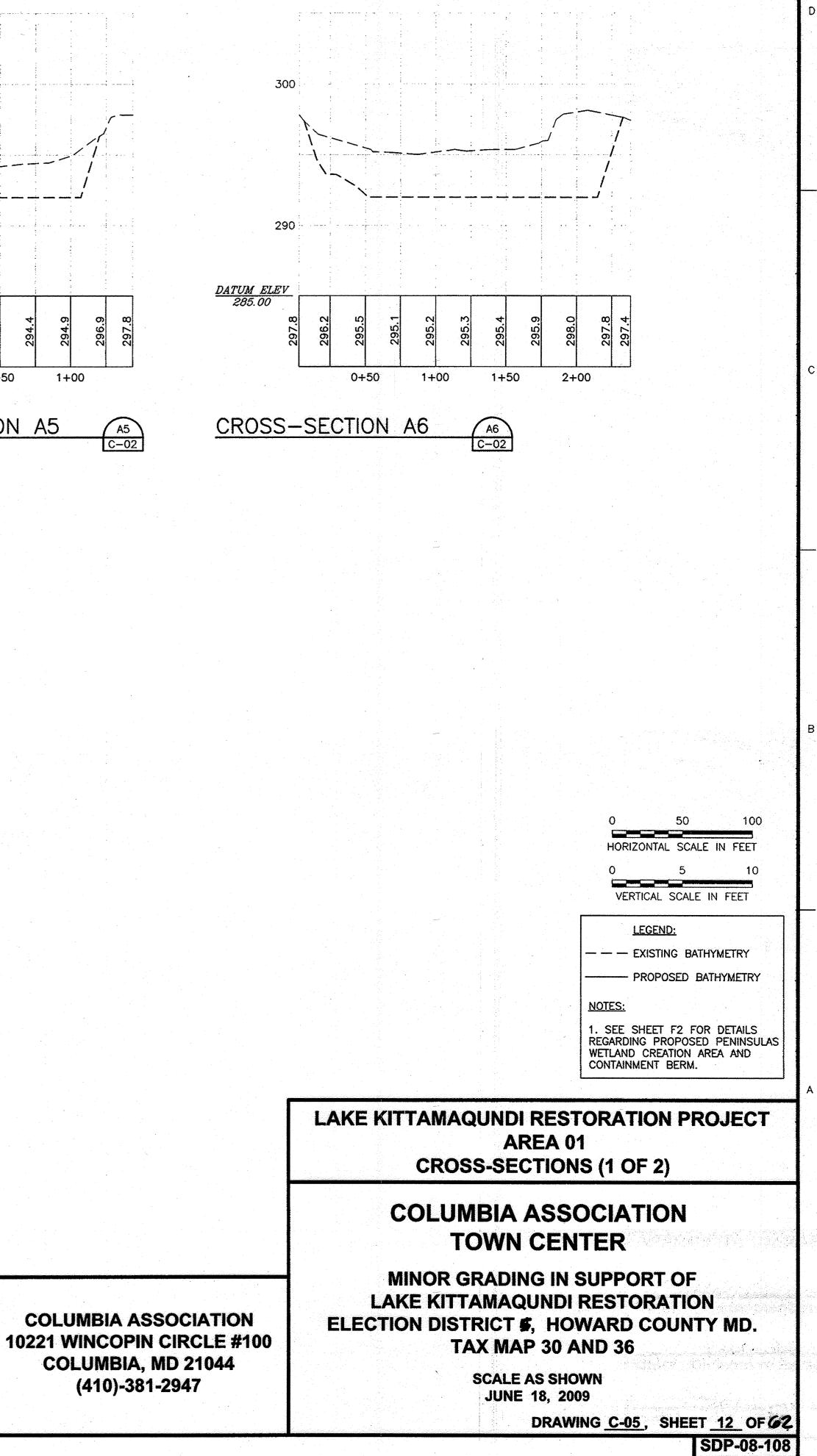


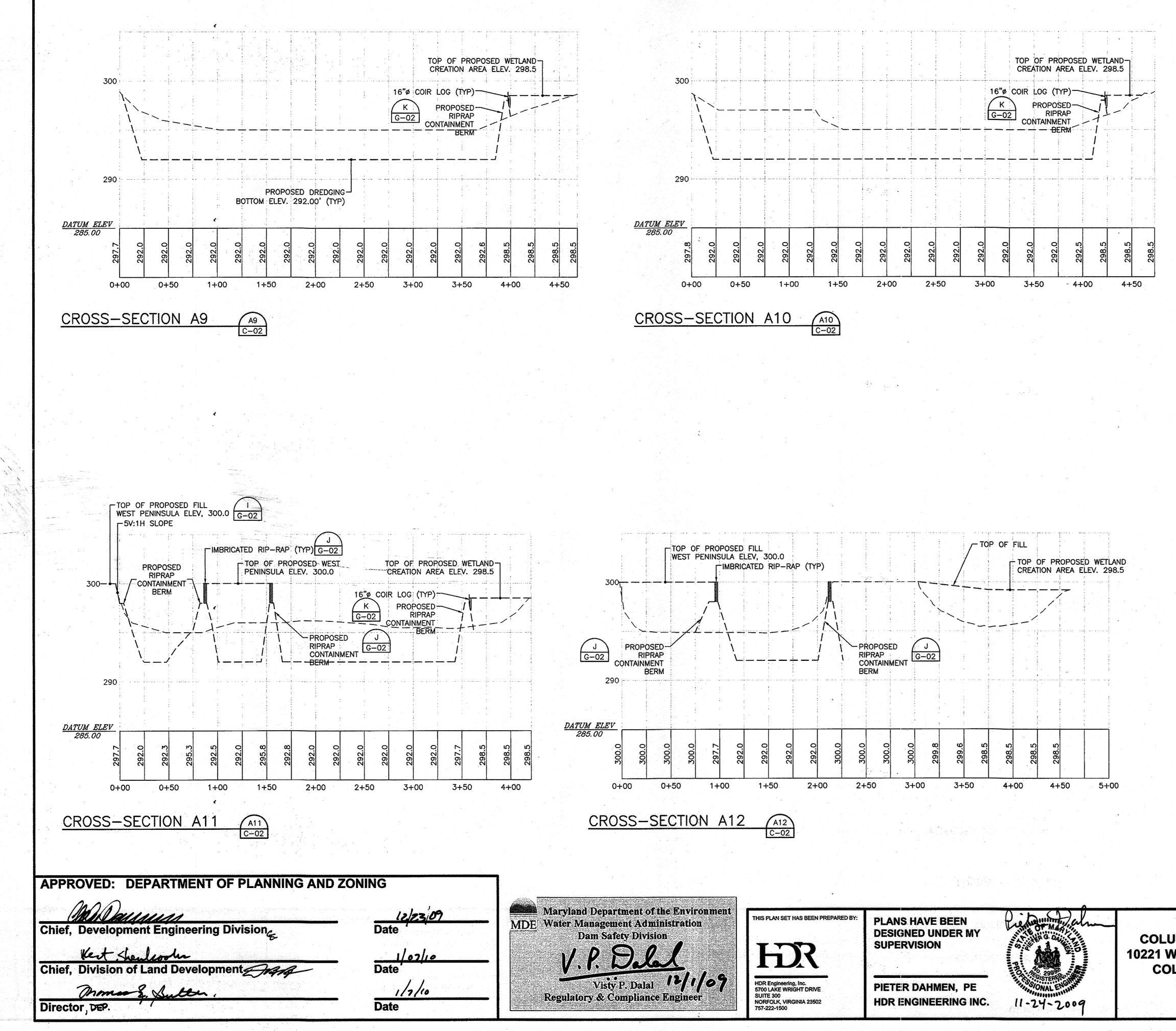


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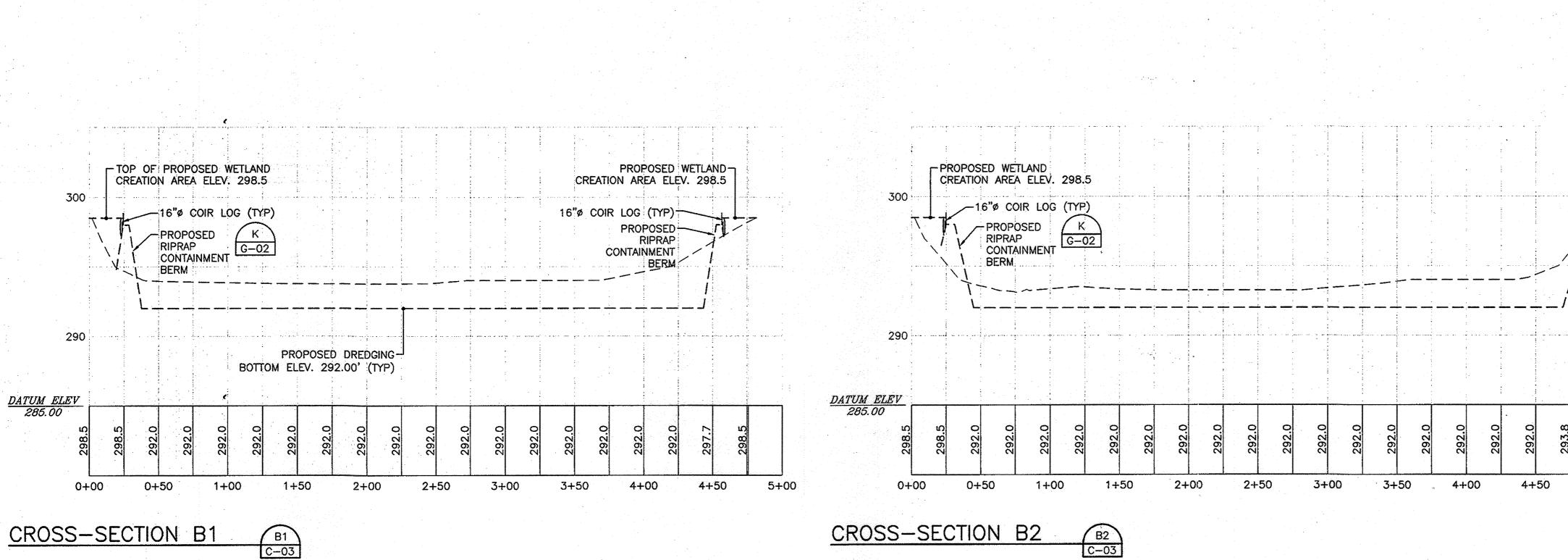
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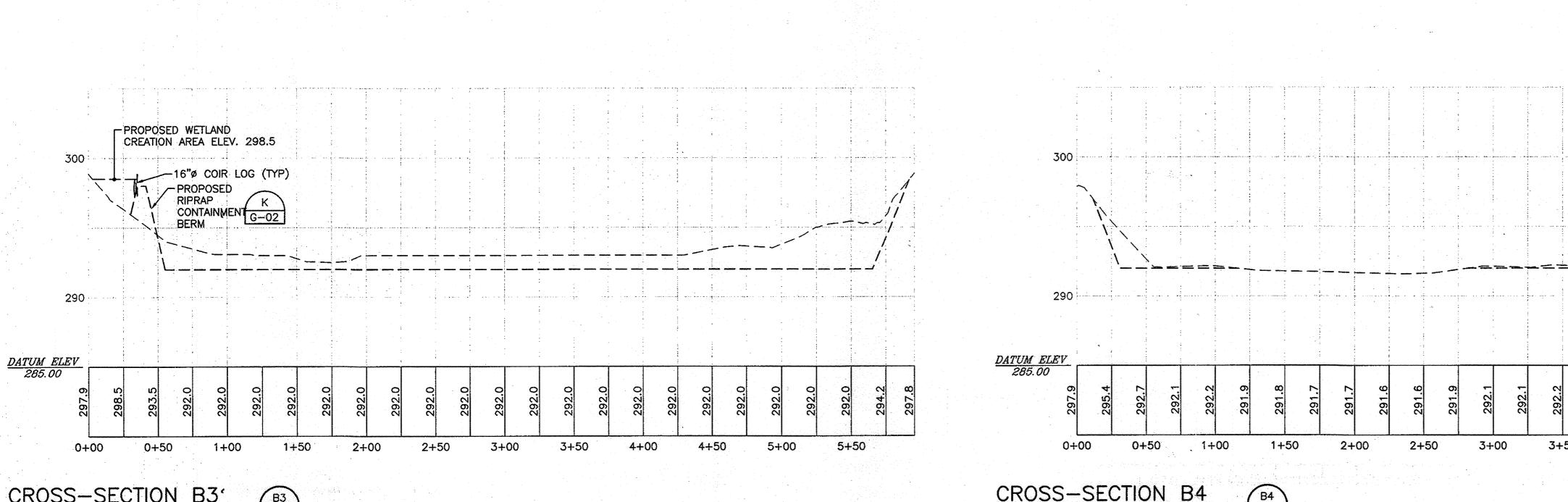


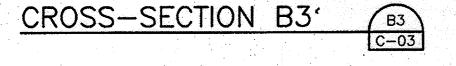




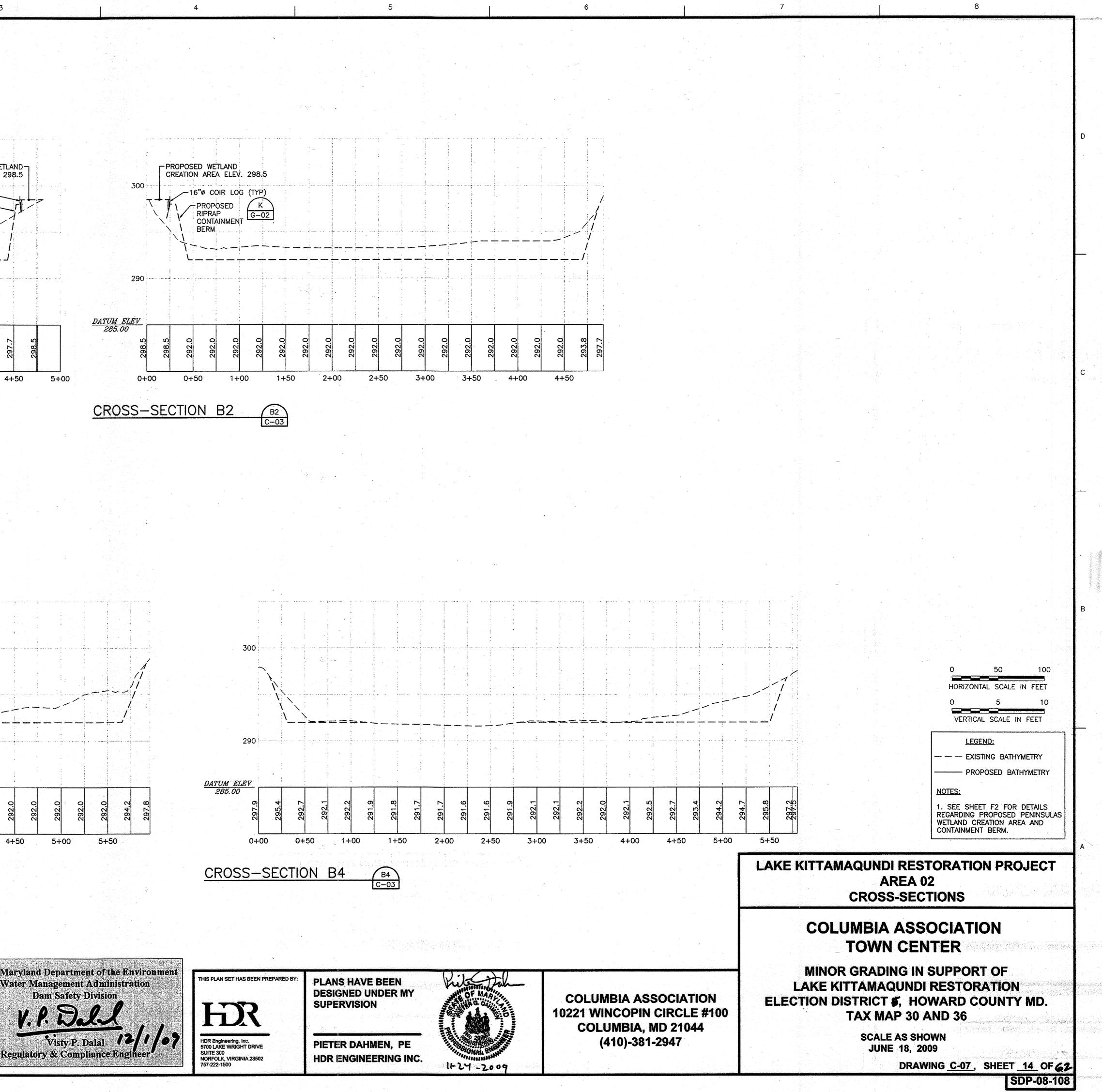
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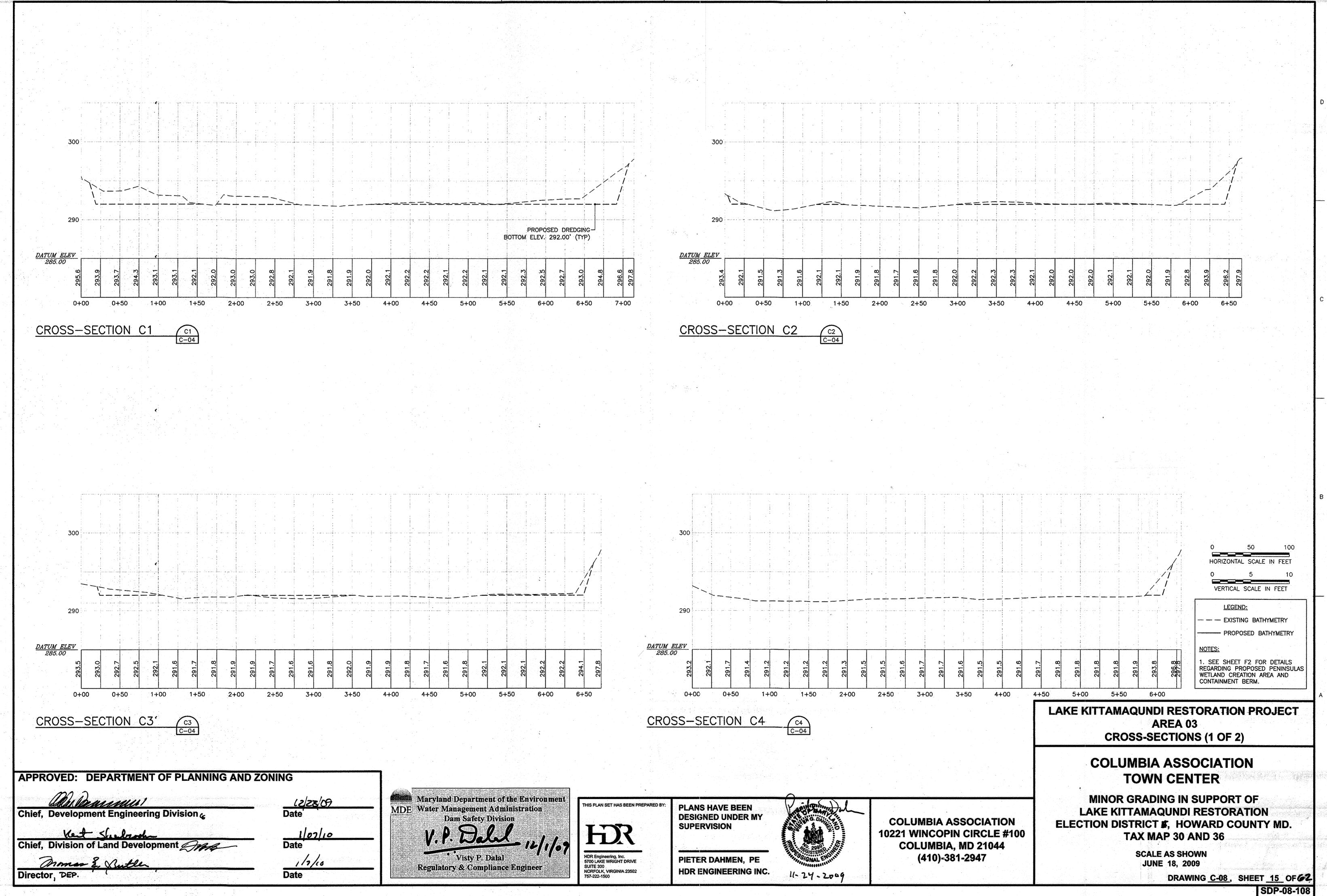


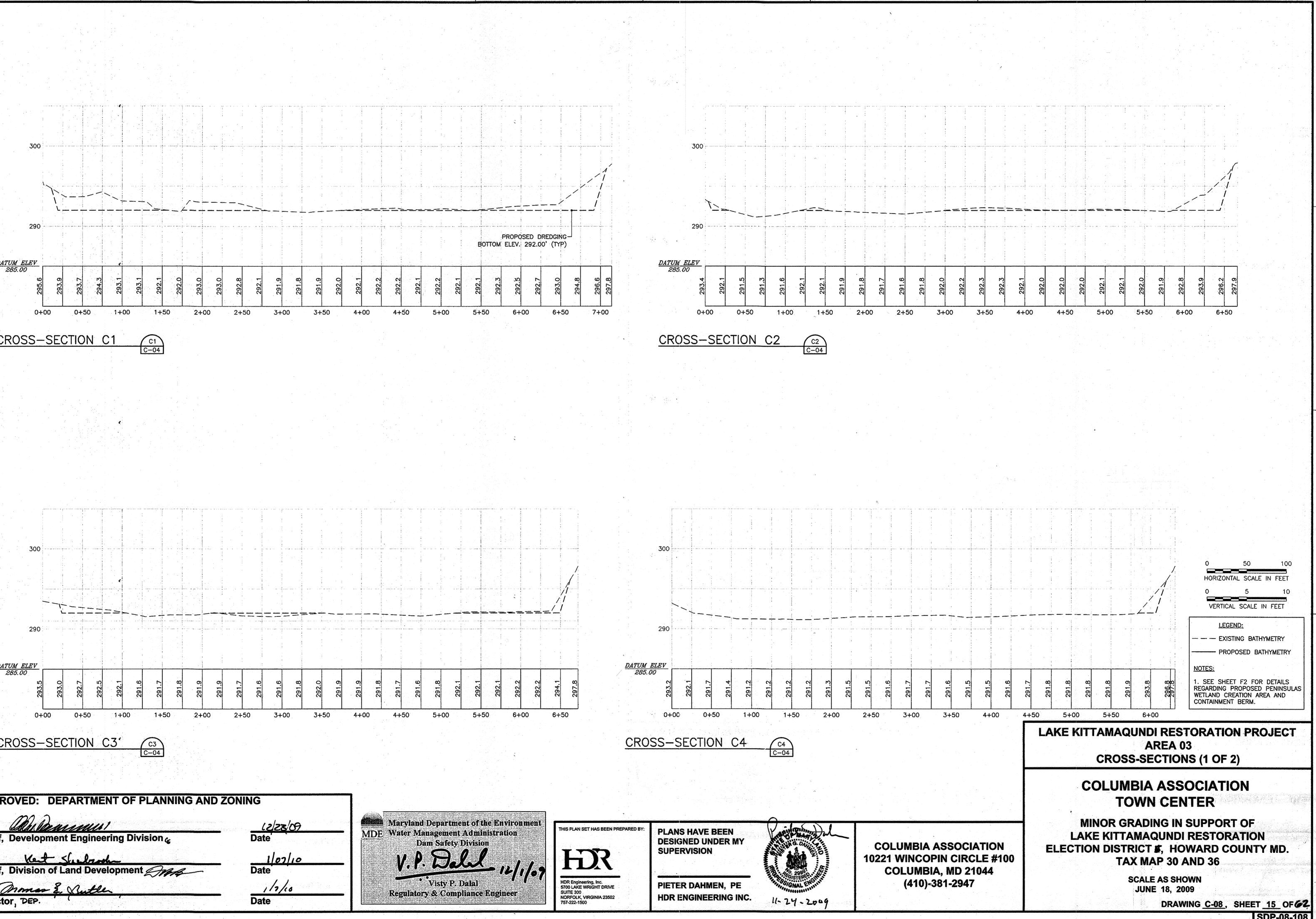




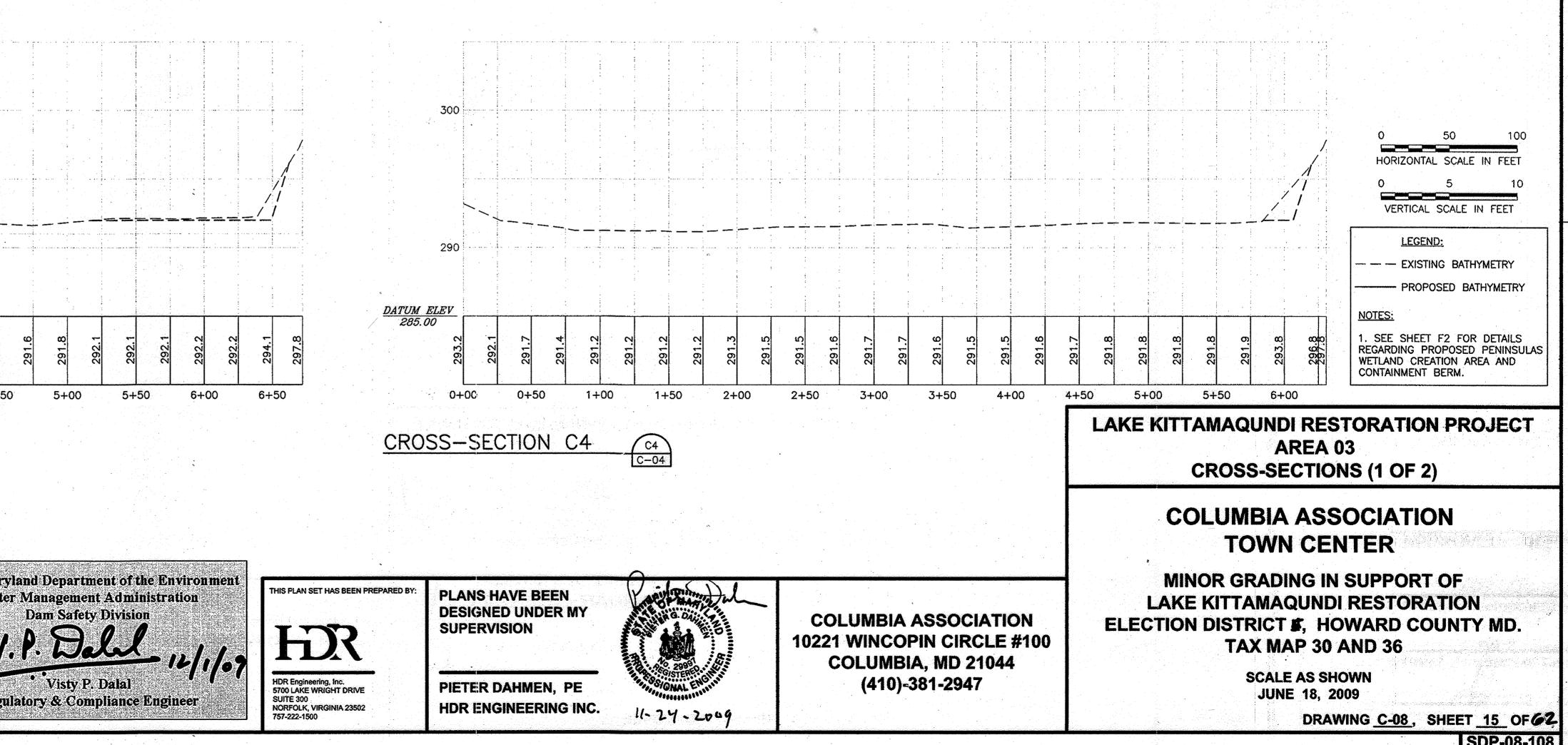
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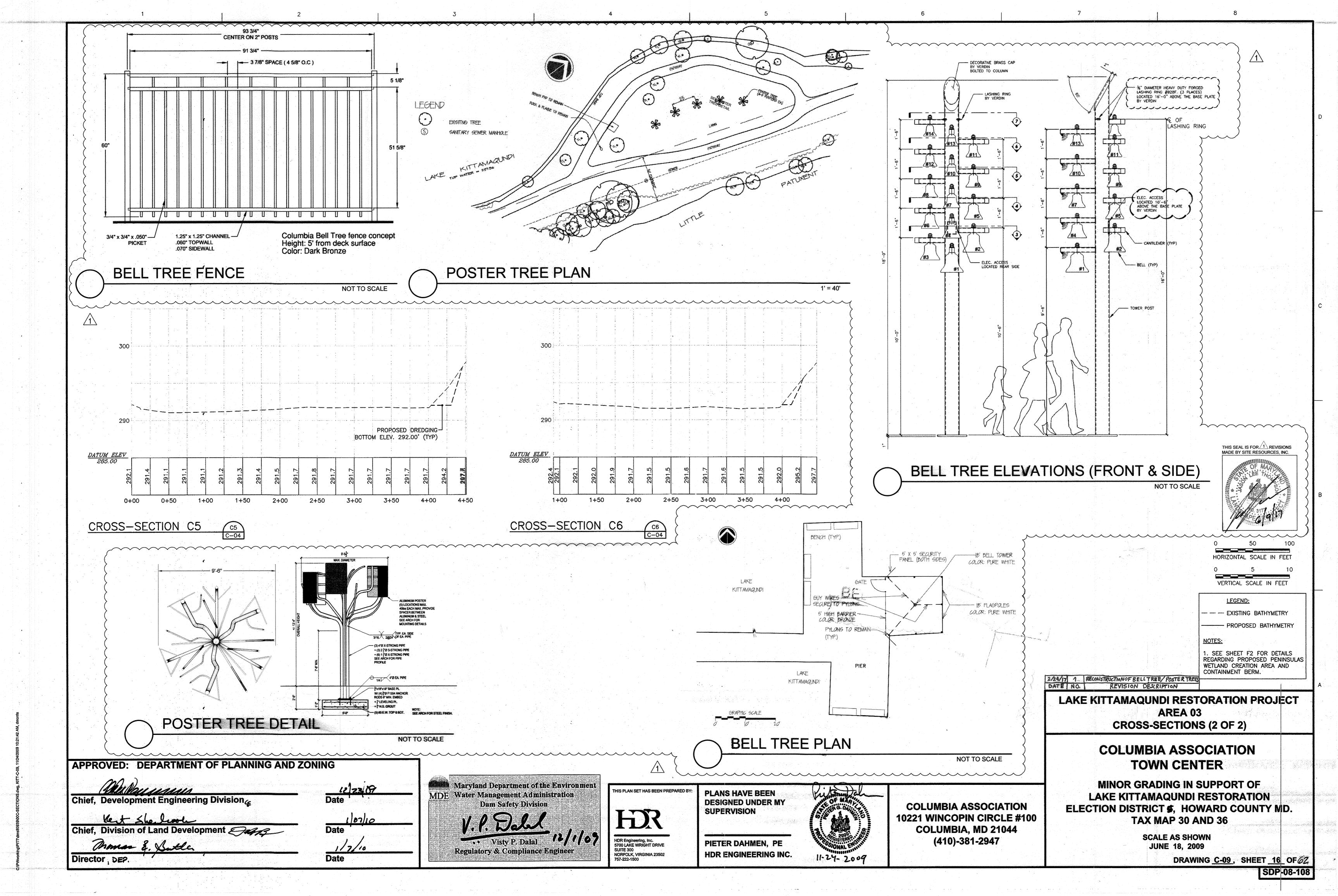




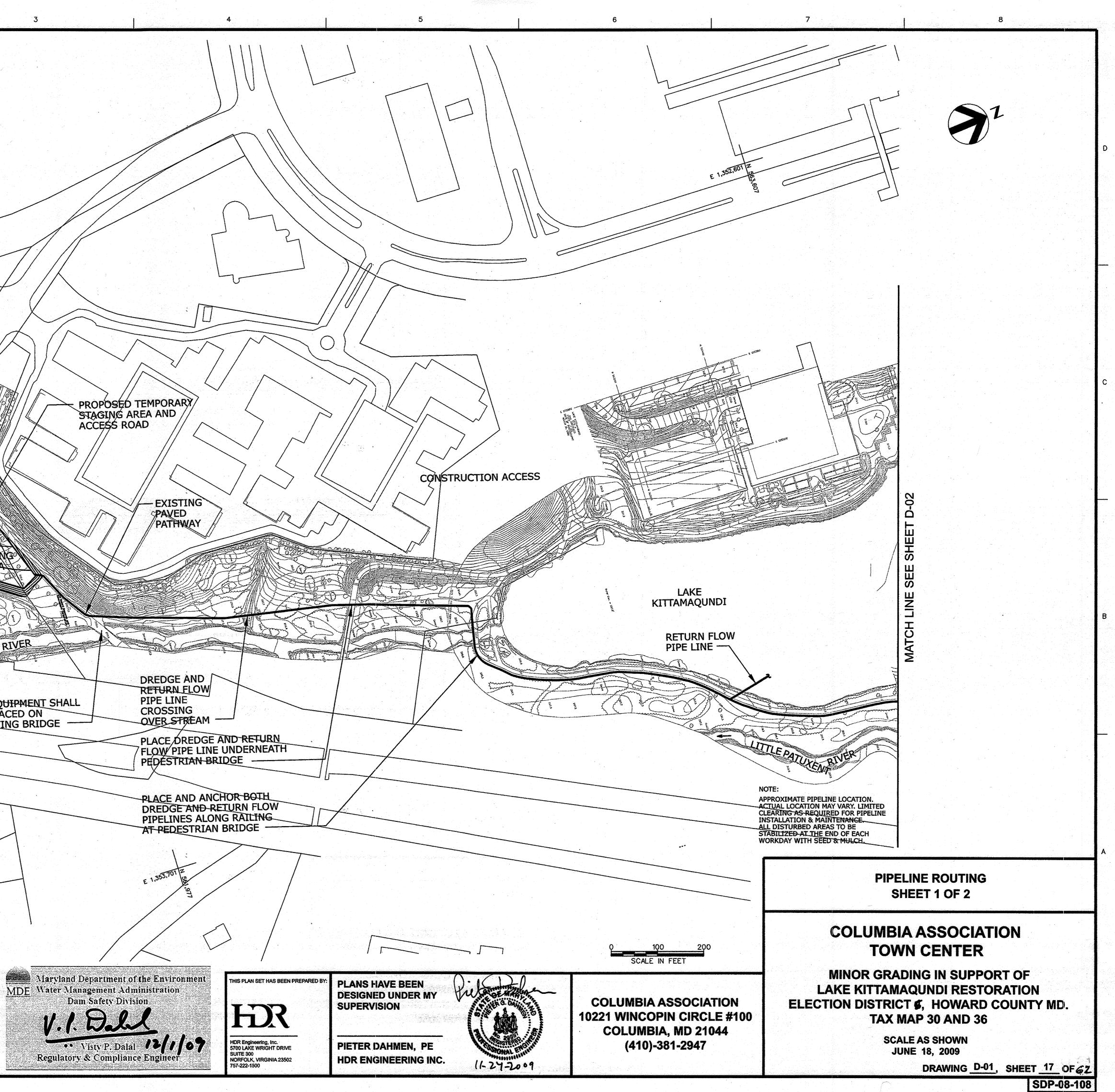


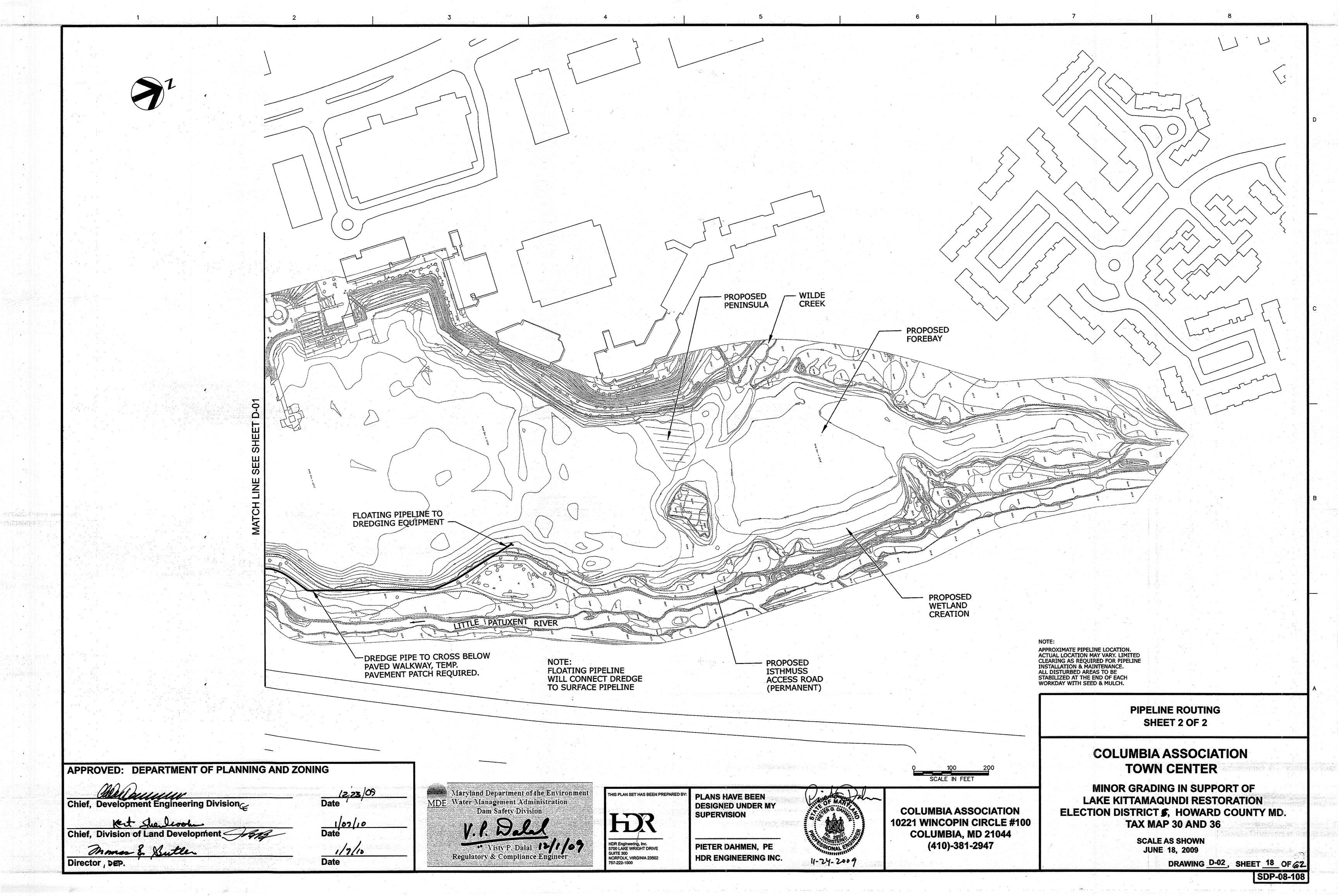
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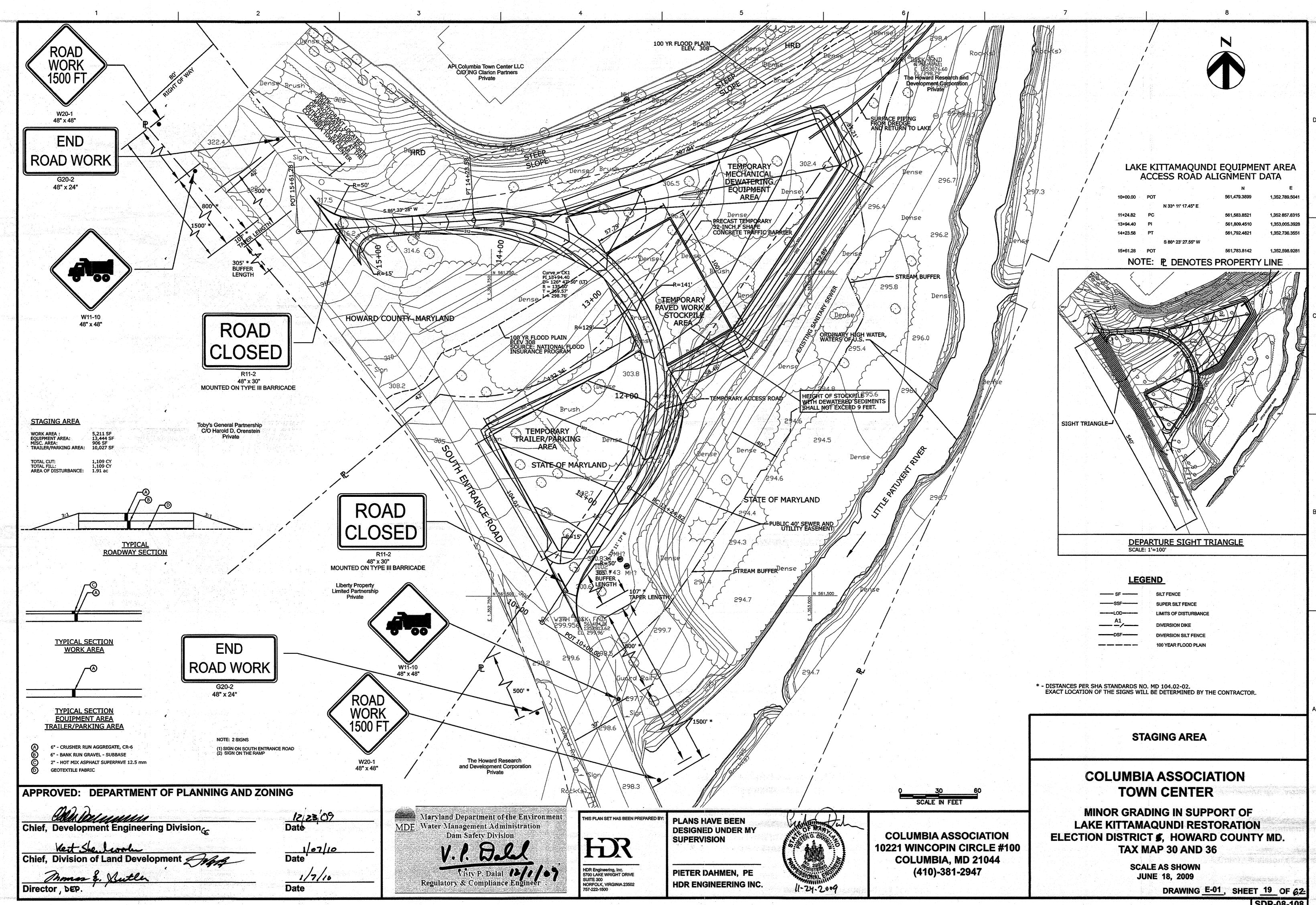




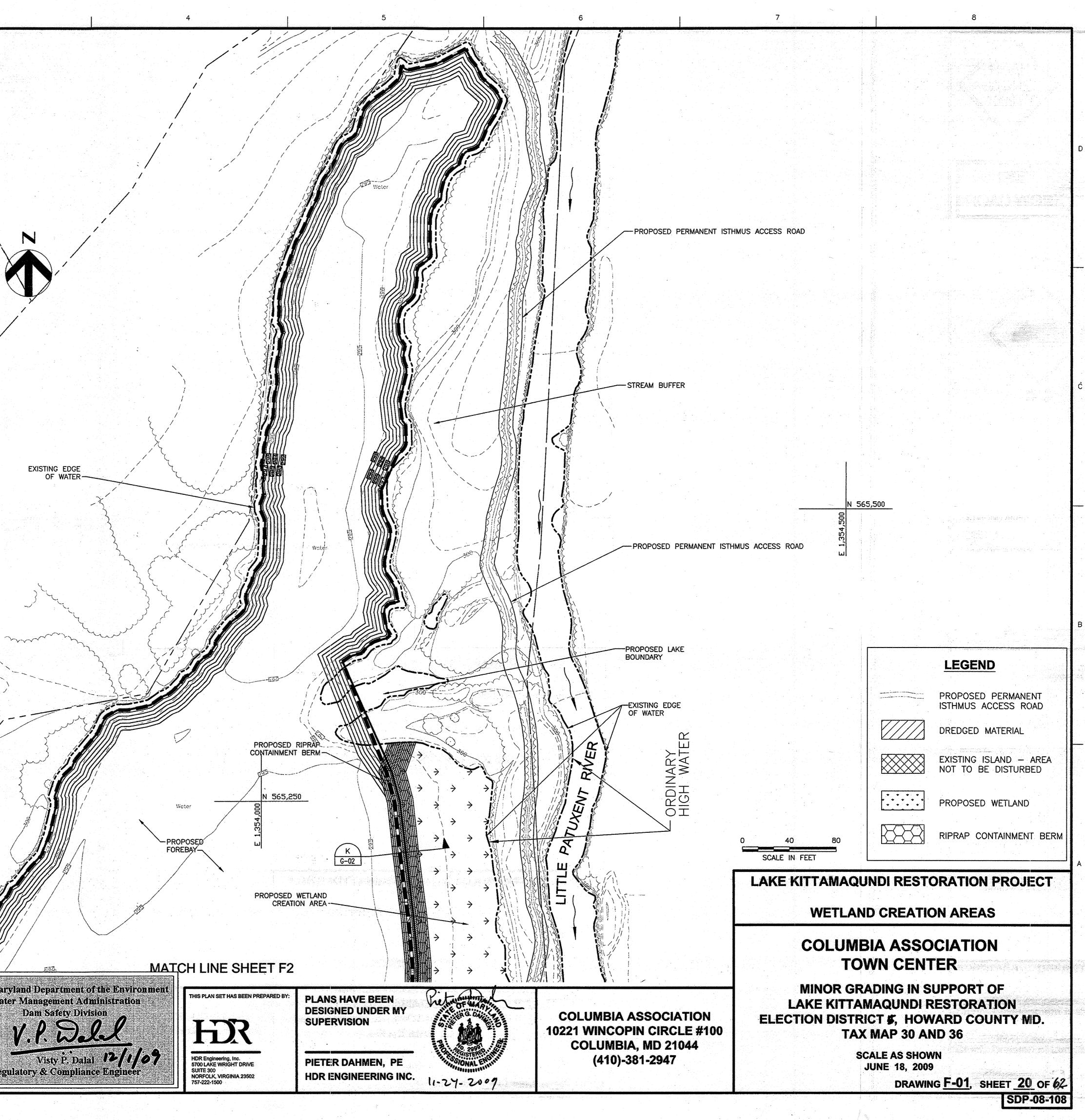
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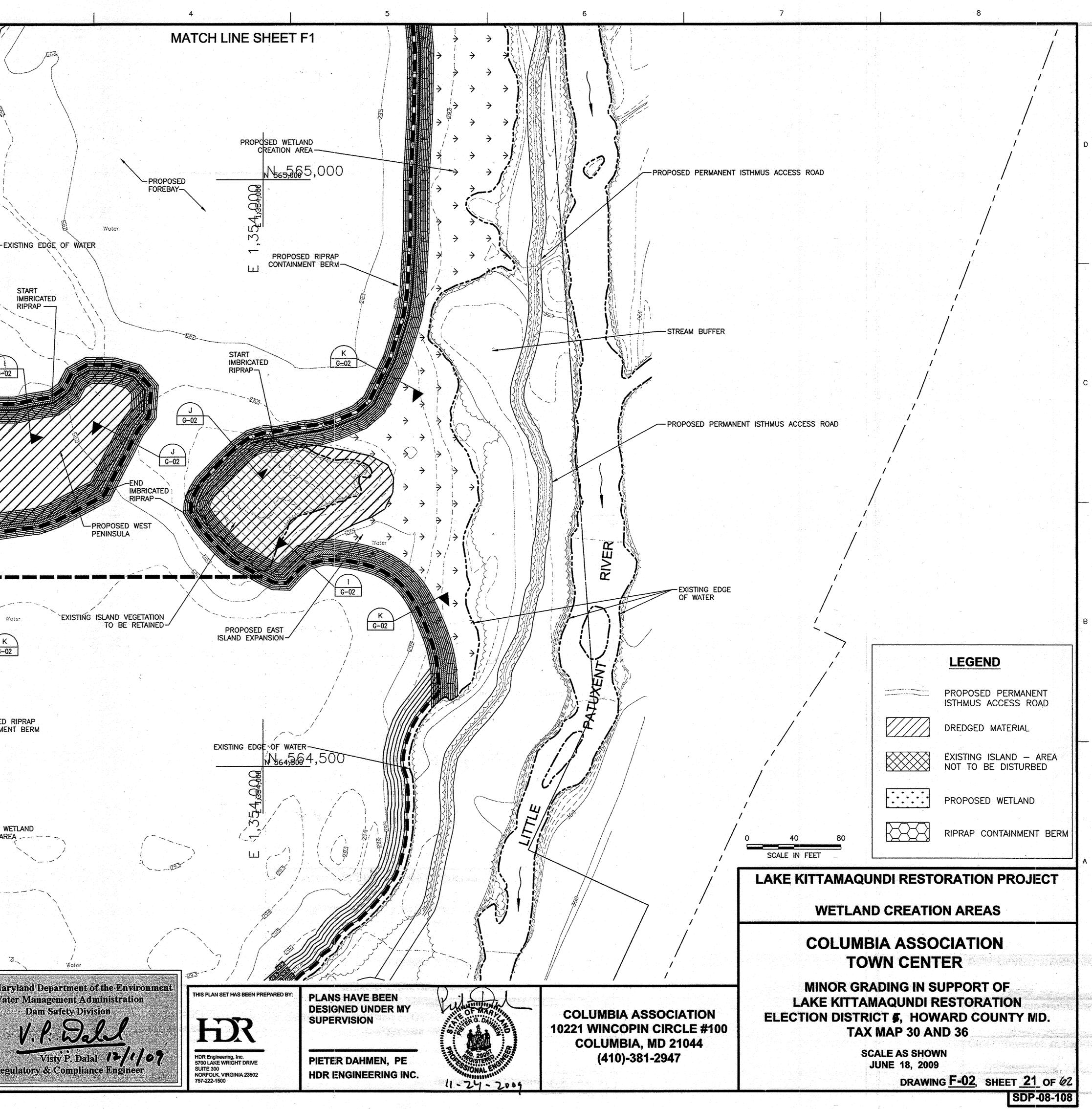




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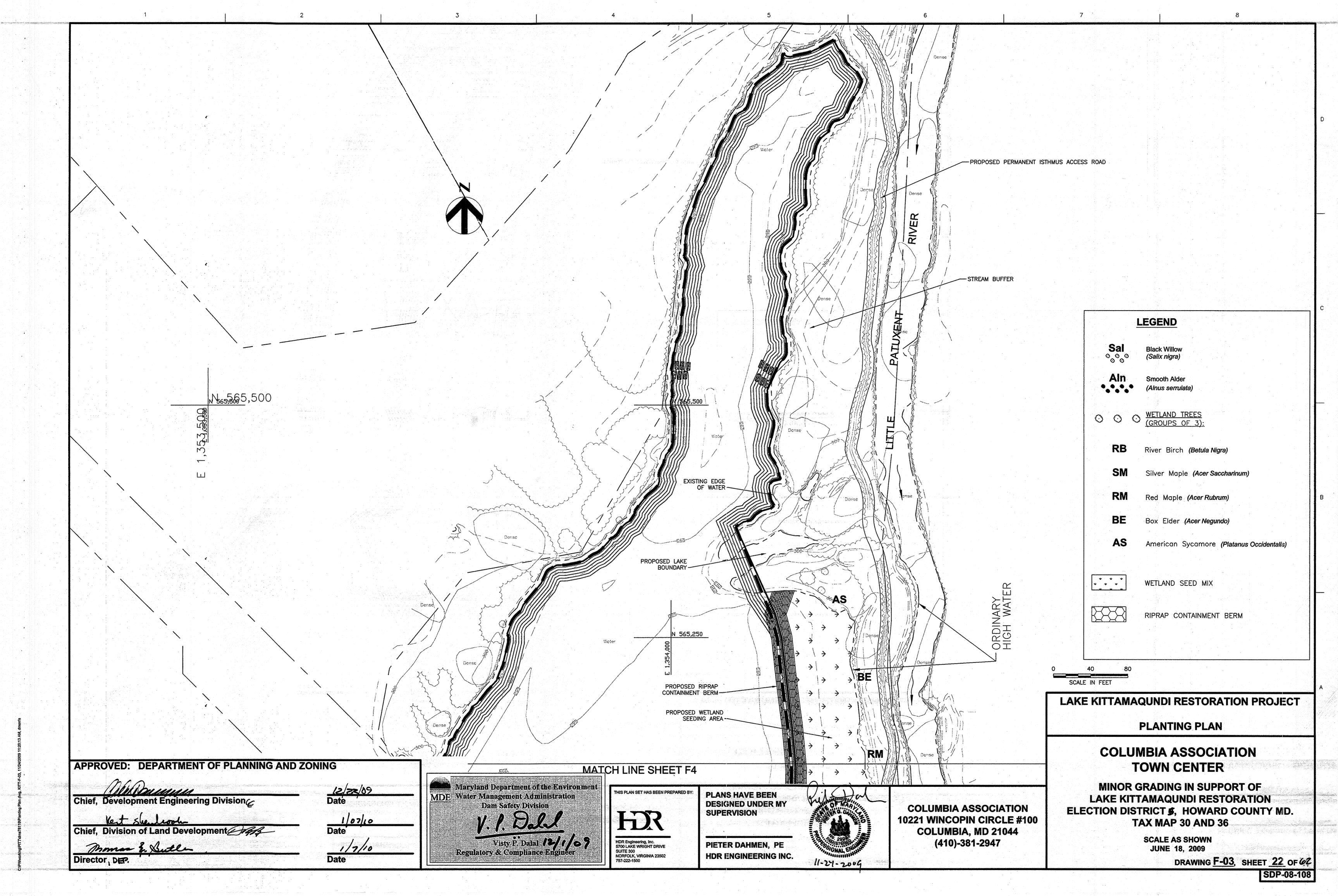


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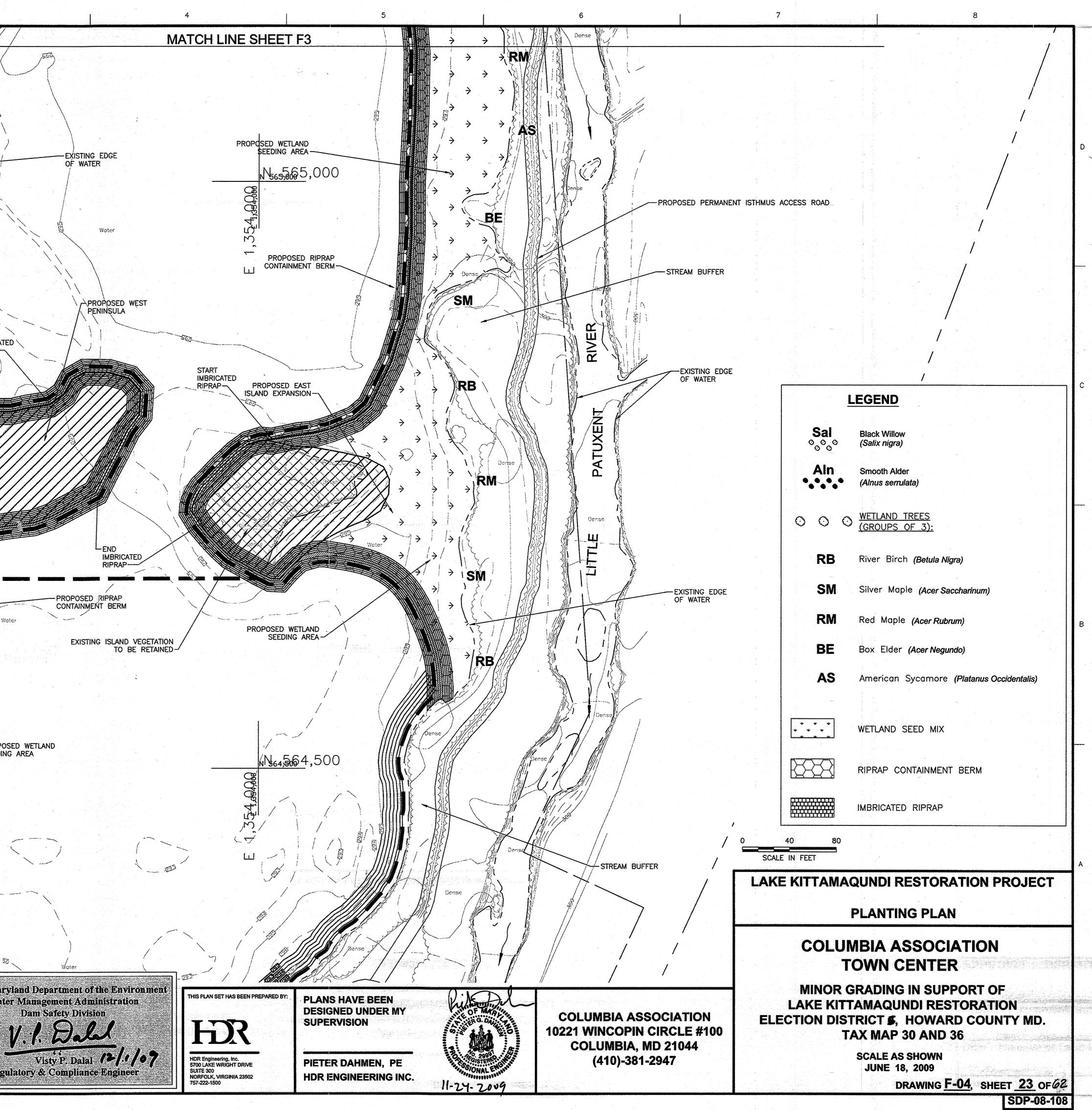
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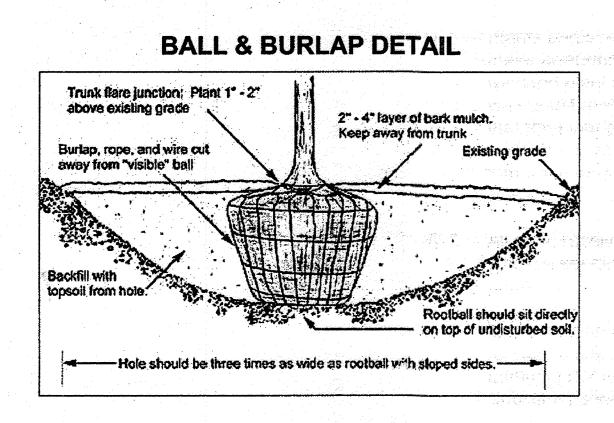
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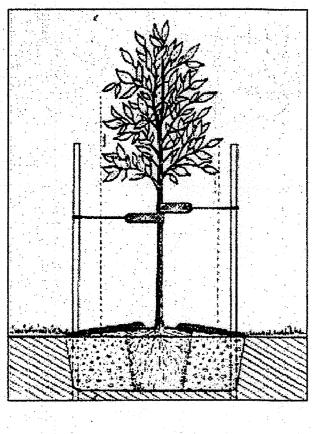
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#### PLANT STAKING DETAIL



Percentage	Scientific Name	Common Name	Quantity
15.0%	Carex vulpinoidea	Fox Sedge	2.75 lbs
15.0%	Elymus virginicus	Virginia Wild Rye	2.75 lbs
11.0%	Elymus canadensis	Canada Wild Rye	2.00 lbs
10.0%	Andropogon gerardii, WI Ecotype	WI Ecotype Big Bluestem	1.75 lbs
7.0%	Verbena hastata	Blue Vervain	1.25 lbs
6.0%	Heliopsis helianthoides	Ox Eye Sunflower	1.00 lbs
5.0%	Panicum clandestinum	Tioga Deer Tongue	1.00 lbs
4.0%	Carex crinita	Fringed (Nodding) Sedge	0.75 lbs
4.0%	Desmodium canadense	Showy Tick Trefoil	0.75 lbs
3.0%	Helenium autumnale	Common Sneezeweed	0.50 lbs
3.0%	Iris versicolor	Blue Flag	0.50 lbs
2.0%	Carex scoparia	Blunt Broom Sedge	0.25 lbs
2.0%	Carex stipata	Awl Sedge	0.25 lbs
2.0%	Carex vesicaria	Inflated Sedge	0.25 lbs
2.0%	Eupatorium perfoliatum	Boneset	0.25 lbs
2.0%	Panicum virgatum, Shelter	Shelter Switch Grass	0.25 lbs
2.0%	Verbesina alternifolia	Wingstem	0.25 lbs
2.0%	Vemonia gigantea	Giant Ironweed	0.25 lbs
1.0%	Carex squarrosa	Squarrose Sedge	0.25 lbs
1.0%	Carex tribuloides	Bristlebract Sedge	0.25 lbs
1.0%	Monarda fistulosa	Wild Bergamot	0.25 lbs

#### APPROVED: DEPARTMENT OF PLANNING AND ZONING MARCHEIMAN 12,23,09 Chief, Development Engineering Division Date Vert Sherbrook Chief, Division of Land Development Organ 1/07/10 Date momon E. Butler 1/1/10 Date Director, DEP.

#### PLANTING NOTES

Plants and seeds shall be obtained from a commercial supplier. The Contractor make arrangements with reliable sources to ensure that an adequate supply of required plant and seed material is available. A source of supply shall be subm writing to the Project Engineer prior to beginning of construction, and shall guar that the plant and seed materials are being reserved or grown for the Contracto requirement is not met, the Contractor will be responsible for the additional cost supplying larger size materials, larger container size, or substitute plants chose Project Engineer.

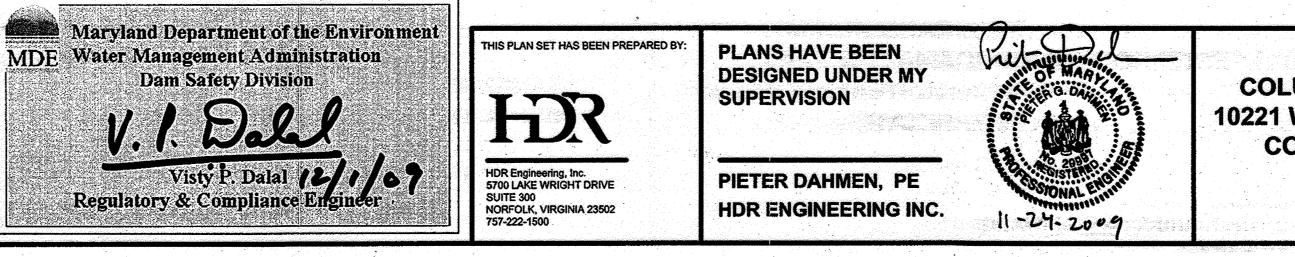
- W-2 All seed received from commercial suppliers shall be as specified in the plans. wetland seeding shall be seeded at the specified rate in pounds of Pure Live S per Acre.
- W-3 In the event that a seed specified is not commercially available, the Contractor request a substitution in writing. All requests for substitutions shall be made at months prior to seeding and be approved by the Project Environmental Inspect Substitute seed must meet the same testing requirements as the original seed
- W-4 All plant material received from commercial suppliers shall conform to the curre of the American Standard for Nursery Stock, published by the American Associ Nurserymen.

W-5 Substitutions of plant material will be allowed only under the conditions specifie Special Provision for Wetland Planting. Requests for plant material substitution submitted in writing at least two months prior to planting, and the substitution m approved by the Project Environmental Inspector.

- W-6 The Contractor is responsible for installing all plant material in the appropriate s each plant type. Trees and shrubs shall be planted during the period from Nove through March 15 (outside the growing season). The herbaceous material sha planted from April 15 to June 30. Any request for variance from these times of restrictions must be submitted in writing at least two months prior to planting an be approved by the Project Environmental Inspector.
- W-7 All plant material, unless otherwise specified, shall be uniformly shaped and har vigorous root system. The plant material shall be healthy, vigorous, and free fr defects, decay, abrasions of the bark, plant diseases, insect pest eggs, and all infestations. The plant material must be fresh and free from transplant shock or wilt. Unhealthy plant stock and plants from cold storage are unacceptable and rejected.
- W-8 All container grown stock shall have been propagated in a container large enou roots to have developed sufficiently to hold its soil when removed from the container. Container stock with poorly developed roots is unacceptable and will be rejected.

The Contractor shall verify all final grades prior to beginning planting work. If final grades differ from those depicted on the grading plan, the Contractor shall notify the Project Engineer and Project Environmental Inspector prior to planting in the area of concern.

		PLANTI	NG LIST		
Common Name	Scientific Name	Indicator Status	Container Type	Minimum Size	Quantity
Silver Maple	Acer saccharinum	FACW	Ball & Burlap	2-3" caliper	6
Red Maple	Acer rubrum	FAC	Ball & Burlap	2-3" caliper	6
Box Elder	Acer Negundo	FACW	Ball & Burlap or #7 container	1-2" caliper	6
River Birch	Betula nigra	FACW	Ball & Burlap or #7 container	2-3" caliper	6
American Sycamore	Platanus occidentalis	FACW-	Ball & Burlap or #7 container	2-3" caliper	6
Smooth Alder	Alnus serrulata	OBL	#7 container	1-2" caliper	28
Black Willow	Salix nigra	FACW+	#7 container	1-2" caliper	15



tor shall of the	W-10	After soil preparation and prior to seeding and planting, equipment will not be permitted on the wetland planting zones without prior approval from the Project Engineer.
mitted in arantee tor. If this sts of	W-11	Seeding in wetlands areas will not require lime or fertilizer. No seeding shall occur when the soil is frozen or flooded.
en by the	W-12	The Contractor shall notify the Project Engineer and Project Environmental Inspector a minimum of 48 hours prior to commencing planting or seeding operations.
. All Seed (PLS)	W-13	Shrubs ( <i>Alnus serrulata</i> and <i>Salix nigra</i> ) shall be planted in cluster arrangements along the western planting area as shown on Planting Plan Sheet 8.
r may it least 2	W-14 -	<ul> <li>Trees (Betula nigra, Fraxinus pennsylvanica, Acer rubrum, Acer saccharinum, and Platanus occidentalis) shall be planted as shown on the Planting Plan (Sheets 7 and 8).</li> </ul>
tor. specified. rent issue ciation of	W-15	The final location and orientation of all plant material, as well as the location of all planting zones, will be subject to the approval of the Project Environmental Inspector. The Contractor will be responsible for replanting or reseeding any plant material installed without the approval of the Project Environmental Inspector.
ied in the on must be must be	W-16	Each plant shall be fertilized with 20-10-5 controlled-release tablets. The formulation specified (20-10-5) is a readily available commercial formulation. Formulations vary considerably by manufacturer, and other formulations are acceptable, provided the tablets are not readily water-soluble. The selection of fertilizer and all application specifications shall be approved by the Project Environmental Inspector prior to planting. The tablets shall be buried within the planting pit near the plant's root system. Plant stock shall be fertilized at the following rates:
season for vember 15 all be f year and must		StockNo. of Tablets# 7 container3Ball & Burlap4(Approximate number of tablets equals 249. Cost to be included in other pay items.)
ave a from I forms of	W-17	During planting the Contractor shall water each plant with the following minimum quantities of water, unless otherwise directed by the Project Engineer:
or visible d will be		Trees 1 gallon per pit Shrubs 1 gallon per pit
ough for the ntainer.	W-18	The Contractor shall be required to guarantee and maintain all plant materials for a period of two consecutive years after date of acceptance of finished planting by the Project Engineer.

#### LAKE KITTAMAQUNDI RESTORATION PROJECT

#### **PLANTING DETAILS AND NOTES**

### **COLUMBIA ASSOCIATION TOWN CENTER**

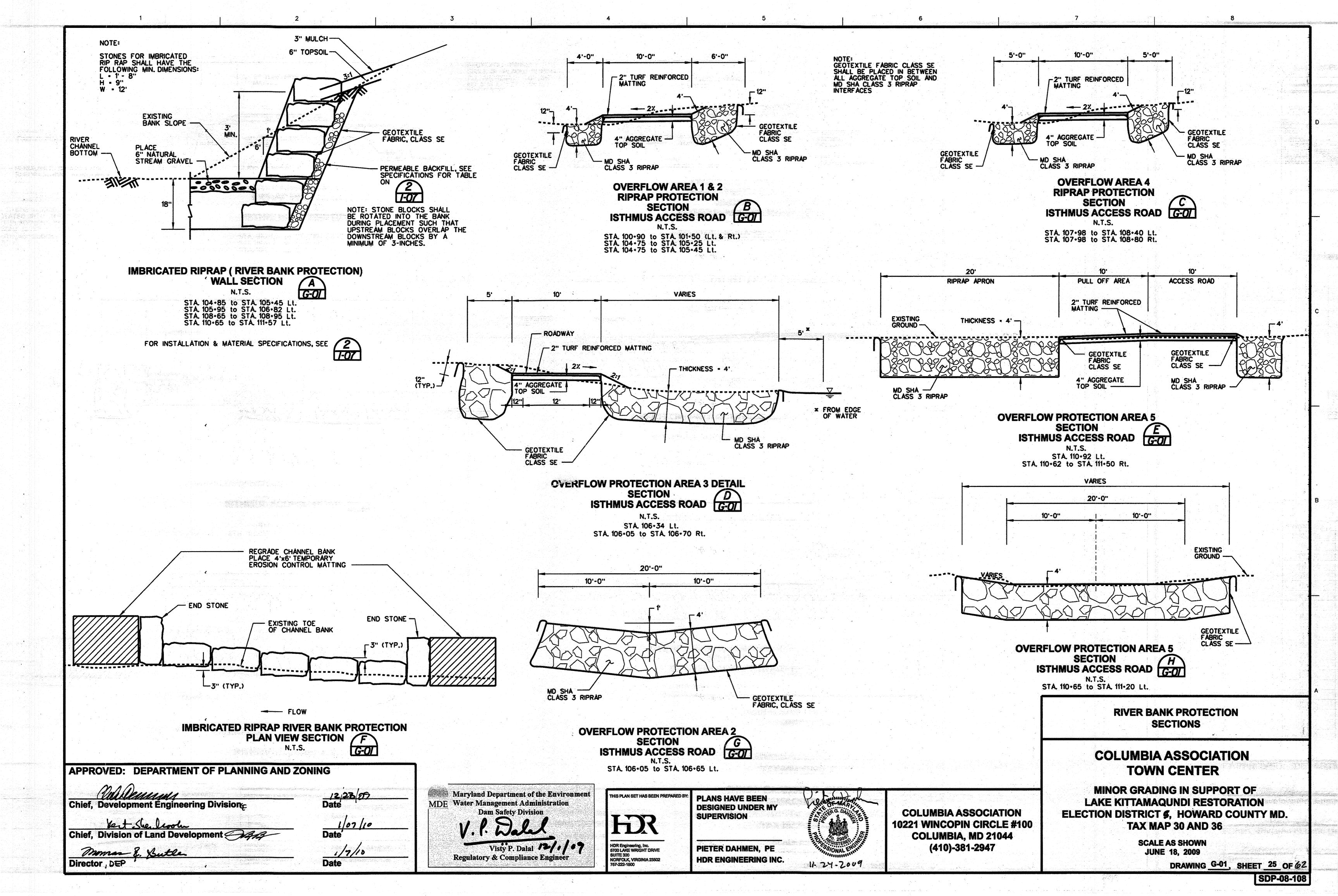
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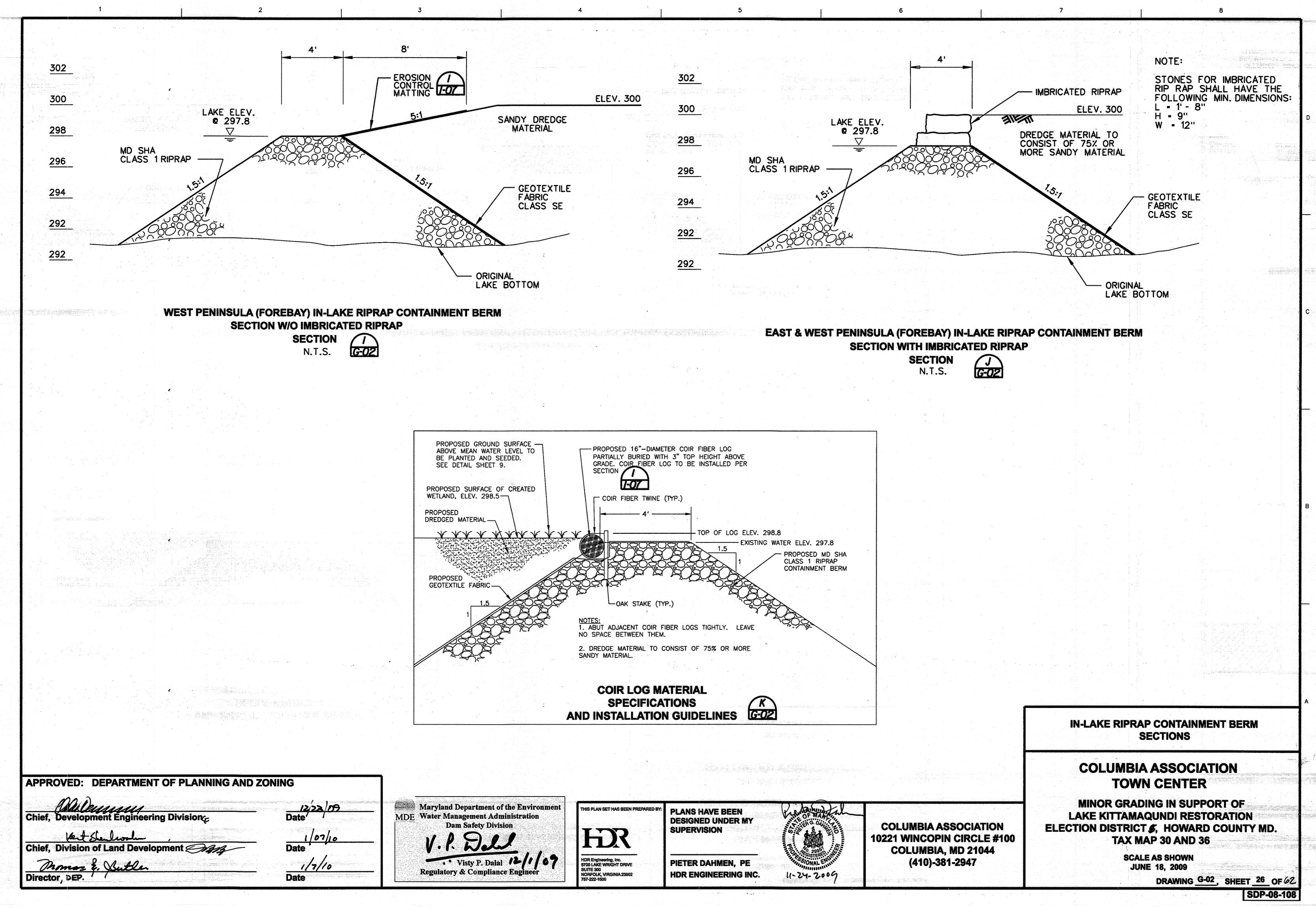
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> > DRAWING F-05, SHEET 24 OF 62

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**COLUMBIA ASSOCIATION 10221 WINCOPIN CIRCLE #100** COLUMBIA, MD 21044 (410)-381-2947

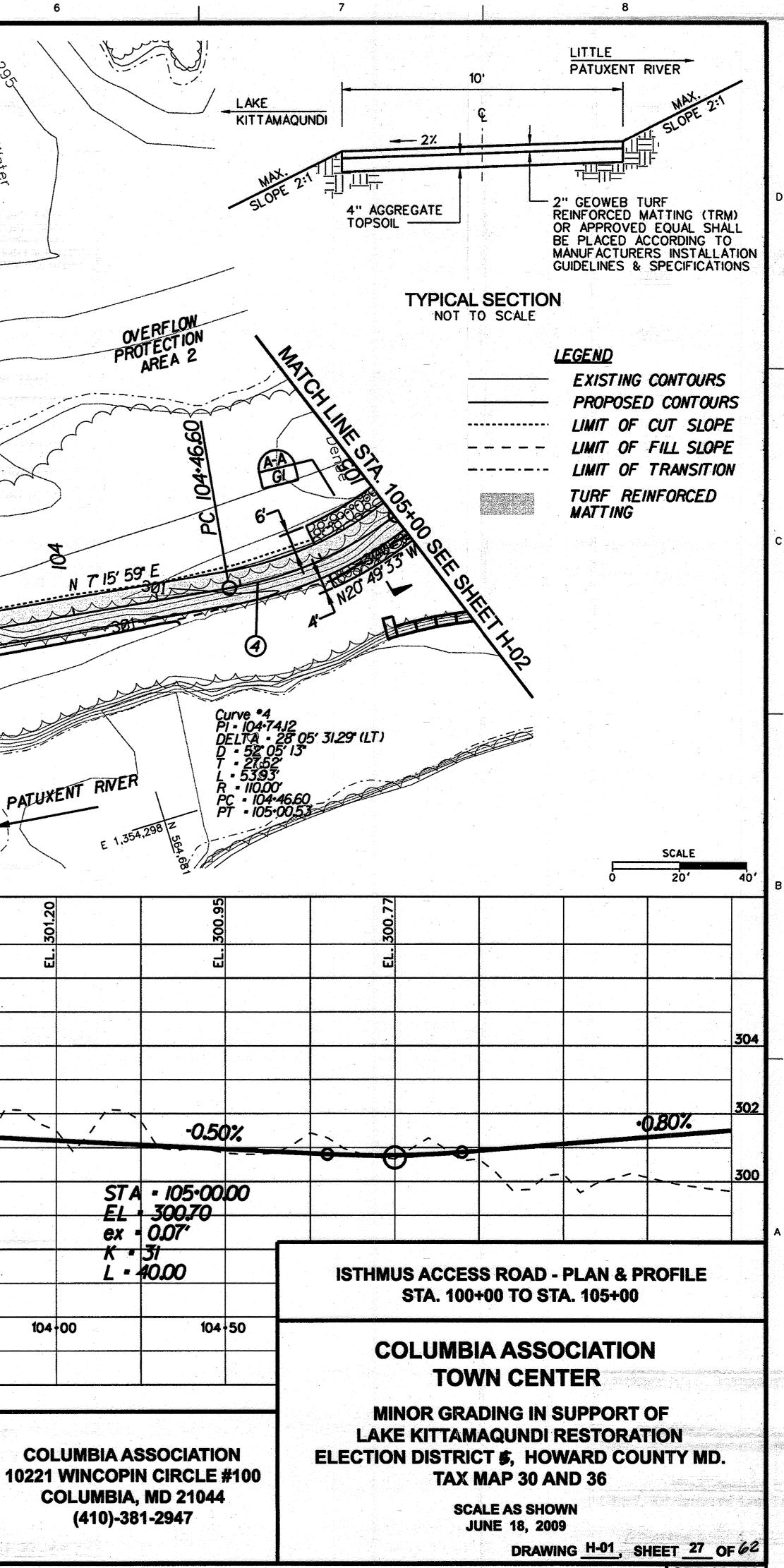


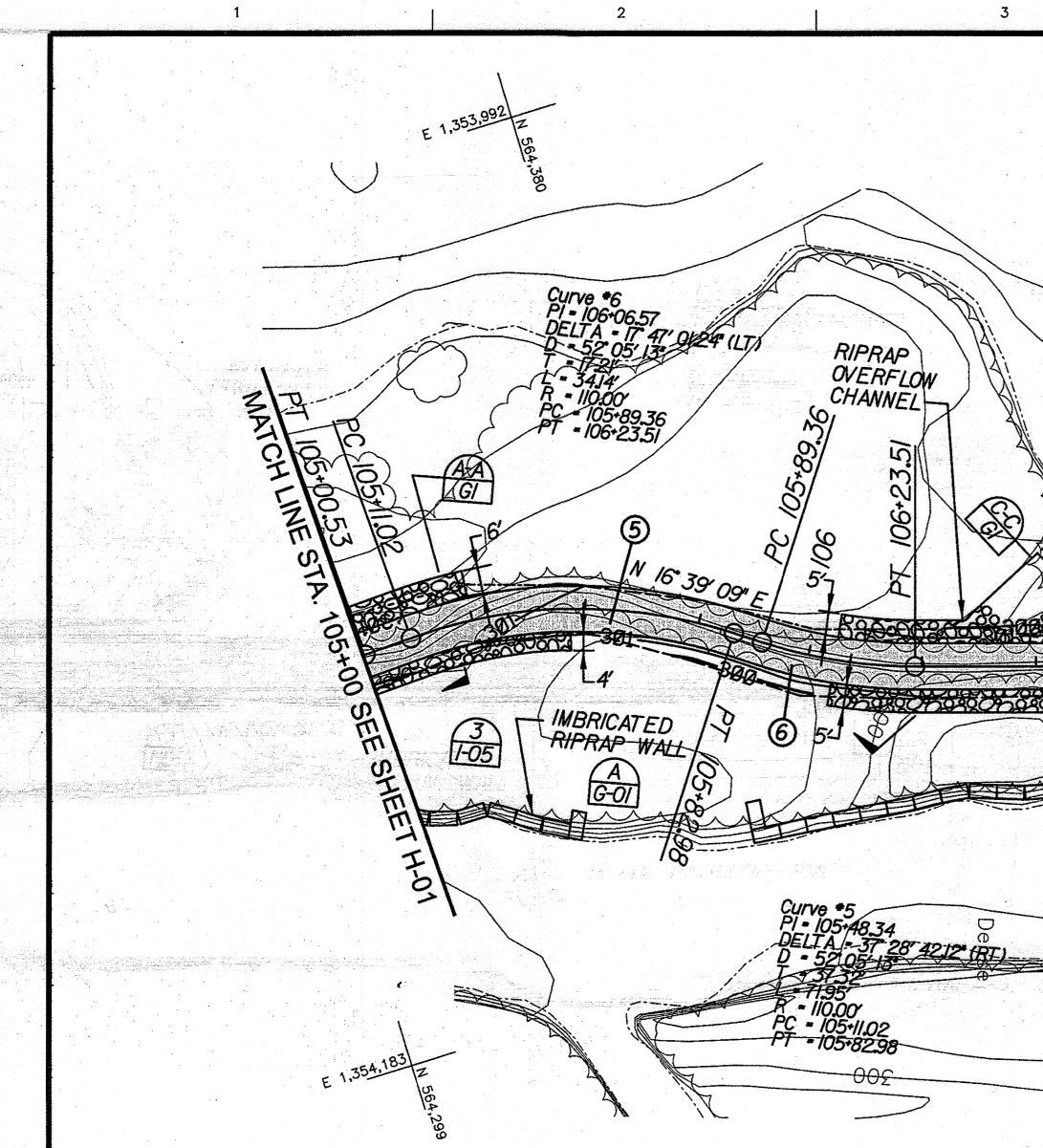


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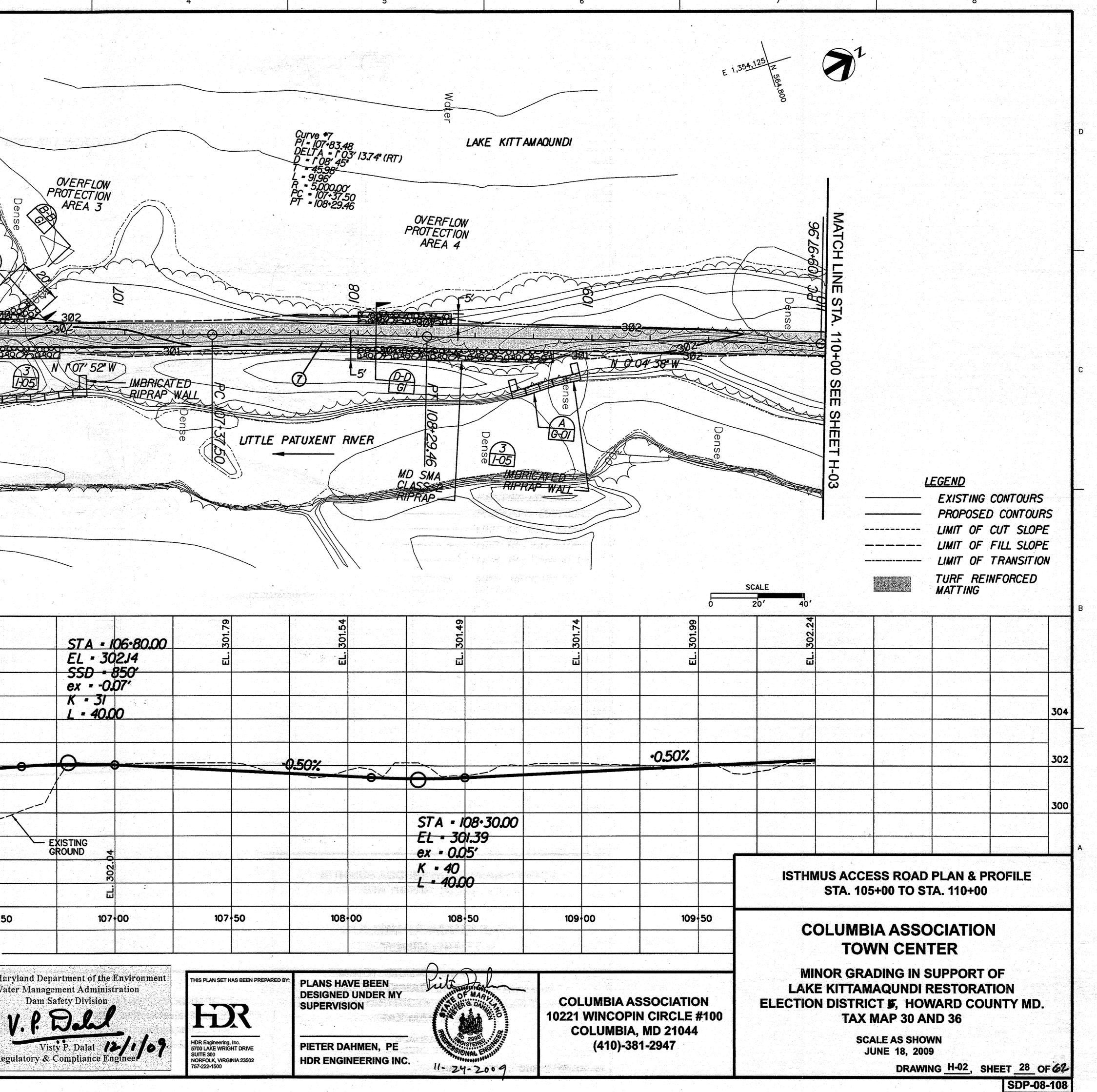




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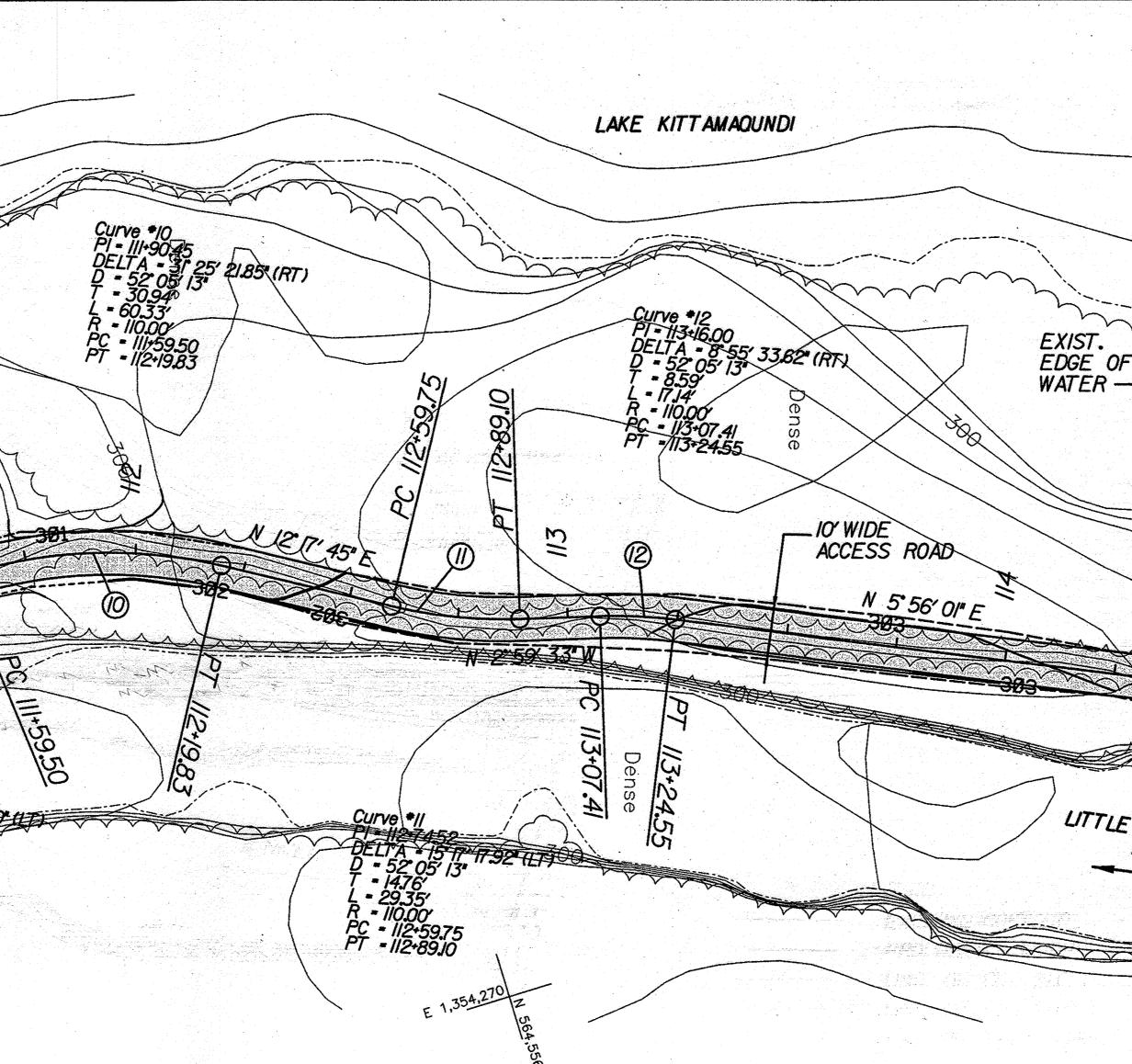
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E 1,354,008+ OVERFLOW PROTECTION AREA 5 <del>6</del>9 411-24.56 PT 111-2 8 10-01 E-E GI MATCH F-F) G RIPRAP APRON MD SHA CLASS 3 REQD. 9 PULL OVER . Z M AREA S TA C 8 3 32.53 T - 110-45.05 DELTA - 10-45 36.32 (LT) DELTA 8 17' 2210 117 REGRADE CHANNEL BANK, PLACE 4'X6' EROSION CONTROL FABRIC CLASS TT R = 1990 PC = 111+24.56 PT = 111+40.48 = 500.00 = 109+97.96 \_= 110+91.86 Ċ N

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HDR ENGINEERING INC.

11-24-2009

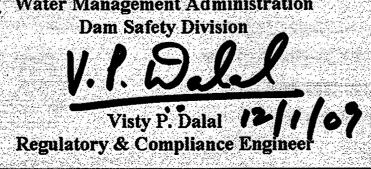
HDR Engineering, Inc. 5700 LAKE WRIGHT DRIVE SUITE 300 NORFOLK, VIRGINIA 23502 757-222-1500

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DRAWING H-03, SHEET 29 OF 62

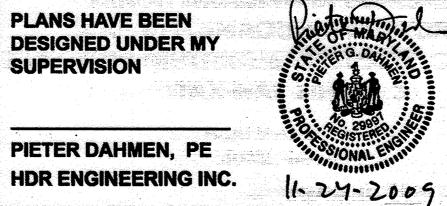
EXIST. EDGE OF WATER  $\langle \rangle$ HE. S. HE 8 TURN AROUND S 0 N 804 AAAA (4 ACCESS ROAD 229° (LT) 116-5365 STA - 115-80.00 EL - 302.87 SSD - 1129' ex - 0.12' K - 100 L = 100.00 304 -0.50% 0 1.50% 302 EXISTING GROUND ----300 STA . 115.10.00 EL • 303.22 SSD • 619 ex • -0.09 298 K • 22 • 40.00 115-50 116-00 115-00 116-50 APPROVED: DEPARTMENT OF PLANNING AND ZONING <u>/2/23/07</u> Date Chief, Development Engineering Division & Maryland Department of the Environment MDE Water Management Administration <u>||07|10</u> Date Ket Sherlinde Chief, Division of Land Development Director, DEP. 

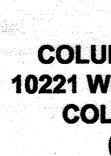




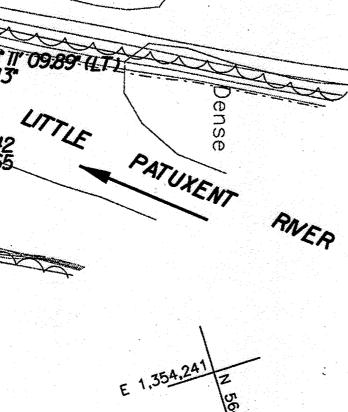
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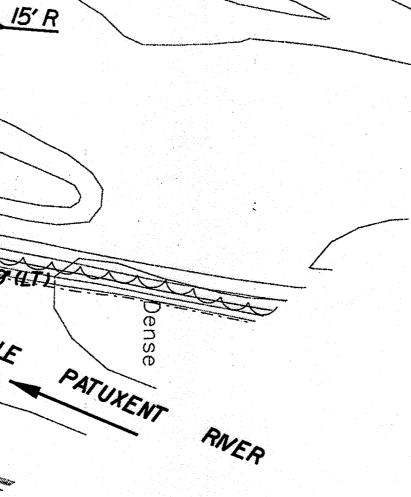
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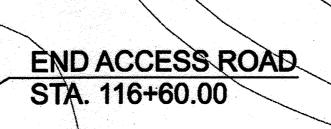


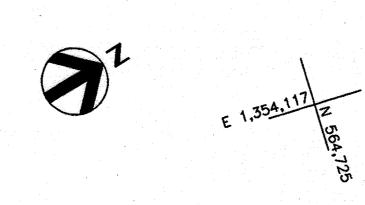


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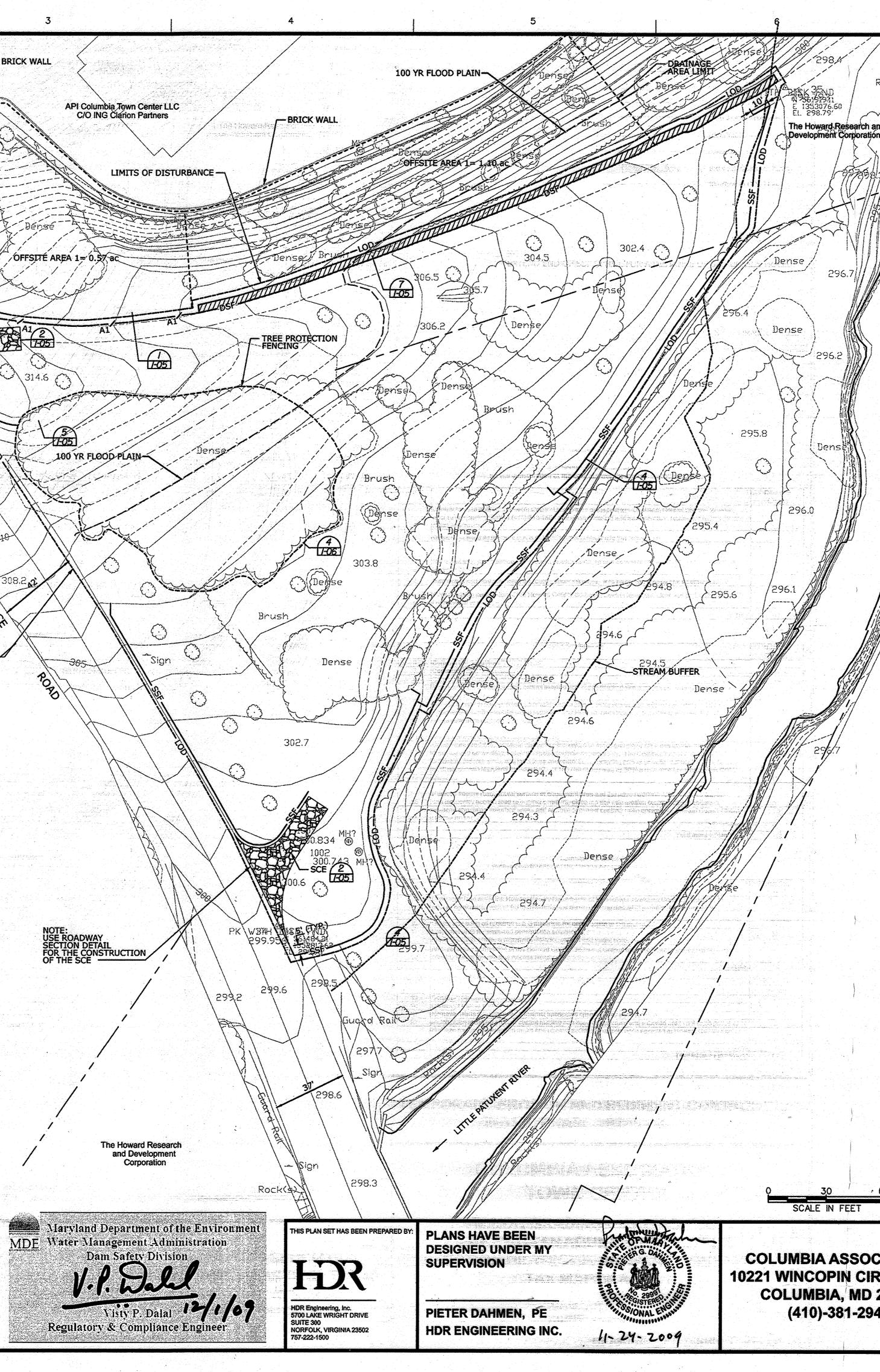




## EXISTING CONTOURS PROPOSED CONTOURS LIMIT OF CUT SLOPE LIMIT OF FILL SLOPE LIMIT OF TRANSITION TURF REINFORCED 304 302 300 **ISTHMUS ACCESS ROAD PLAN & PROFILE** STA. 110+00 TO STA. 115+00 **COLUMBIA ASSOCIATION TOWN CENTER** SCALE 20' 40' MINOR GRADING IN SUPPORT OF LAKE KITTAMAQUNDI RESTORATION **COLUMBIA ASSOCIATION** ELECTION DISTRICT 5, HOWARD COUNTY MD. **10221 WINCOPIN CIRCLE #100** TAX MAP 30 AND 36 COLUMBIA, MD 21044 SCALE AS SHOWN (410)-381-2947 JUNE 18, 2009 DRAWING H-04, SHEET 30 OF 62

LEGEND

2 -BRICK WALL ್ಷ ಪ್ರಶಸ್ತಿ ಶಾಲ್ ಕಲ್ಲಿ ಕೊಡಲಾಗಿ ಪ್ರಶಸ್ತಿ ಸಂಗ್ರಹಿಸಿದ್ದಾರೆ. ಕಲ್ಲಿ ಕೊಡಲಾಗಿ ಕಾರ್ಯವರ್ಷವಾಗಿ ಮತ್ತು ಮತ್ತು ಮತ್ತು ಮತ್ತು ಮತ್ತು ಮತ್ತು ಸಂಗ್ರಹಿಸಿದ್ದಾರೆ. ಕಲ್ಲಿ ಮತ್ತು ಮತ್ತು ಸಂಗ್ರಹಿಸಿದ್ದ ಸಂಗ್ರಹಿಸಿದ್ದ ಸಂಗ್ರಹಿಸಿದ್ದಾರೆ. ಇದು ಮತ್ತು ಮತ್ತು ಸಂಗ್ರಹಿಸಿದ್ದಾರೆ. ಇದು ಸಂಗ್ರಹಿಸಿದ್ದ Dense -----355' STAGING AREA OFFSITE AREA 1= 0.57 ac WORK AREA : 5,211 SF 13,444 SF EQUIPMENT AREA: MISC. AREA: TRAILER/PARKING AREA: 10,027 SF TOTAL CUT:1,109 CYTOTAL FILL:1,109 CYAREA OF DISTURBANCE:1.91 AC A1 [-05  $\sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1} \sum_{i=1}^{n-1} \sum_{j=1}^{n-1} \sum_{j=1}^{n-1}$ 314.6 USE ROADWAY SECTION DETAIL FOR THE CONSTRUCTION OF THE SCE 5 SOUTHER TYPICAL ROADWAY SECTION loby's General Partnership C/O Harold D. Orensteir LIMITS OF DISTURBANCE TYPICAL SECTION WORK AREA TYPICAL SECTION EQUIPMENT AREA TRAILER/PARKING AREA 6" - CRUSHER RUN AGGREGATE, CR-6 6" - BANK RUN GRAVEL - SUBBASE 2" - HOT MIX ASPHALT SUPERPAVE 12.5 mm GEOTEXTILE FABRIC Liberty Property Limited Partnership This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT ENGINEER'S CERTIFICATE "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements with the Howard Soil Conservation District." Signature of Engineer(print name below signature) 12/17/2009 Pieter Dahmen \_\_\_\_\_\_\_\_\_ DEVELOPER'S CERTIFICATE "I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project, will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District" O. Nalt 1216 09 Signature of Developer (print name below signature) Date APPROVED: DEPARTMENT OF PLANNING AND ZONING Chief, Development Engineering Division & <u>/2/23/07</u> Date Keit Sheelingh Chief, Division of Land Development Marg 107/10 Date mon &. Butle 1/7/10 Date Director, DEP.



	LEGEND	
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	A1 DIVERSION D	<b>KE</b>
		LT FENCE
		NTROL MATTING
3	NOTE: EXTEND END OF SSF UPHILL FOR A DISTANCE OF 5 ft. UNLE	SS NOTED.
	Sediment Control Sequence of Construction for the construction of the Staging Area for Dredging Lake Kittamaqundi	
ask	Phase I	Duration
•	Contractor is to notify the Howard County Department of Inspections Sediment Control Division 24-hours prior to comencing work at (410) 313-1855 and obtain Grading and MDE permits. Reference MDE Tracking Number 200863535.	(Days)
1 2	Obtain and bring all required E & S materials for construction to the project site	<u>2</u> 1
3	Clear and grub for stabilized construction entrances (SCE) and access road. Install SCE's for a minimum distance of 50 ft.	2
4	Install diversion dike, diversion silt fence, super silt fence, tree protection fencing and all other controls.	2 7
5	After receiving permission of the Howard County Sediment Control Inspector, clear and grub within limits of construction of the Staging Area	
<u> </u>	Total	5 17
ask	Phase II	Duration (Days)

pat

Task	Phase II	Duration (Days)
6	Construct Staging Area Access Road	5
7	Construct Trailer / Parking Area	5
8	Construct Equipment and Working Area	10
9	Mulch, place standard erosion control matting and seed disturbed and exposed areas not to be paved or covered with gravel	2
10	Provide a copy of the approved sediment control plan or other permit authority for the site(s) receiving dewatered dredged material to the inspector and Howard Soil Conservation District and obtain written permission from inspector to proceed.	7
11	Install Turbidity Curtain in Lake Kittamagundi	2
12	Commence dredging. Maintain diversion dike, diversion fence and super silt fence during duration of dredging and dewatering, repair perimeter controls as necessary. The Contractor shall comply with all applicable federal, state, and local laws and regulations, including project permits. Effluent leaving the site shall not exceed Maryland turbidity limits of 150 Ntu at any time or 50 Ntu as a monthly average per COMAR 26.08.02	100
13	Remove access road, gravel surface of equipment area and the paved working area. Restore staging area and temporary access road to original contours, place top soil with erosion control matting and seed.	15
14	Stabilize remaining disturbed areas and remove sediment controls upon approval of Howard County Sediment Control Inspectors	5
	<b>fóta</b> l	151
and the second	Total Initial + Final Phase	168

Sequence of Construction

Task	Phase III	Duration (Days)
15	Contractor is to notify the Howard County Department of Inspections Sediment Control Division 24-hours prior to comencing work at (410) 313-1855 and obtain Grading and MDE permits. Reference MDE Tracking Number 200863535.	2
16	Obtain and bring all required E & S materials for construction to the project site	
17	Clear and grub for stabilized construction entrances (SCE) and access road. Install SCE's for a minimum distance of 50 ft and install access road	2
18	After receiving permission of the Howard County Sediment Control Inspector, clear and grub within limits of construction of the Isthmus Access Road and overflow protection areas	5
	Total	10
Task	Phase IV	Duration (Days)
19	Construct Staging Area Access Road	20
20	Construct Riprap Overflow Area	10
21	Remove debris from channel, construct imbricated channel banks stabilization	15
22	Mulch place standard erosion control matting and seed on disturbed and exposed areas not to be paved or cov	2
23	Stabilize remaining disturbed areas and remove sediment controls upon approval of Howard County Sediment Control Inspectors	5
	Total	52
	Total Initial + Final Phase	62

#### **TEMPORARY EROSION AND SEDIMENT CONTROL PLAN INITIAL PHASE - STAGING AREA**

### **COLUMBIA ASSOCIATION TOWN CENTER**

**MINOR GRADING IN SUPPORT OF** LAKE KITTAMAQUNDI RESTORATION ELECTION DISTRICT 6, HOWARD COUNTY MD. **TAX MAP 30 AND 36** 

> SCALE AS SHOWN JUNE 18, 2009

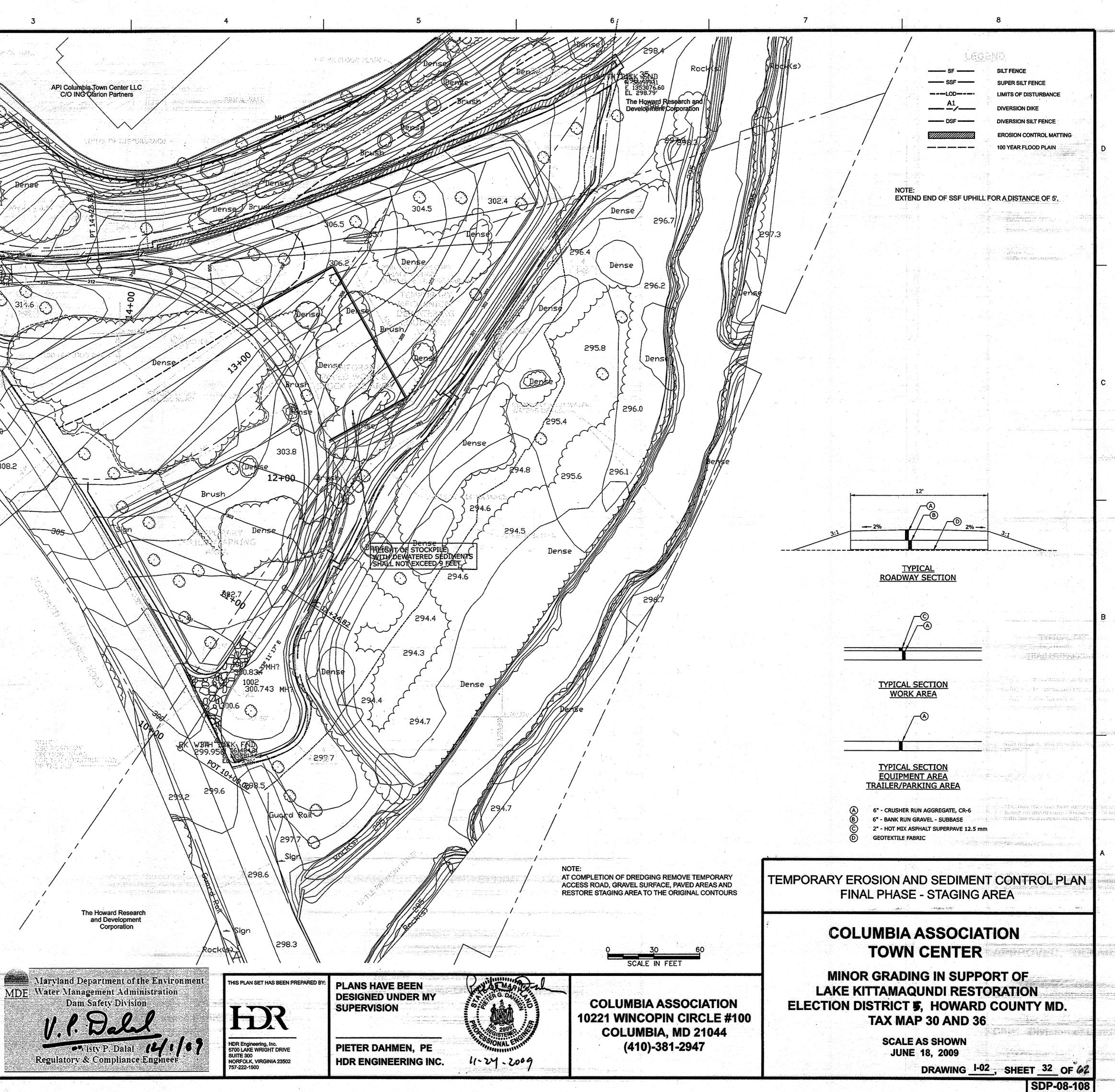
DRAWING 1-01, SHEET 31 OF 62

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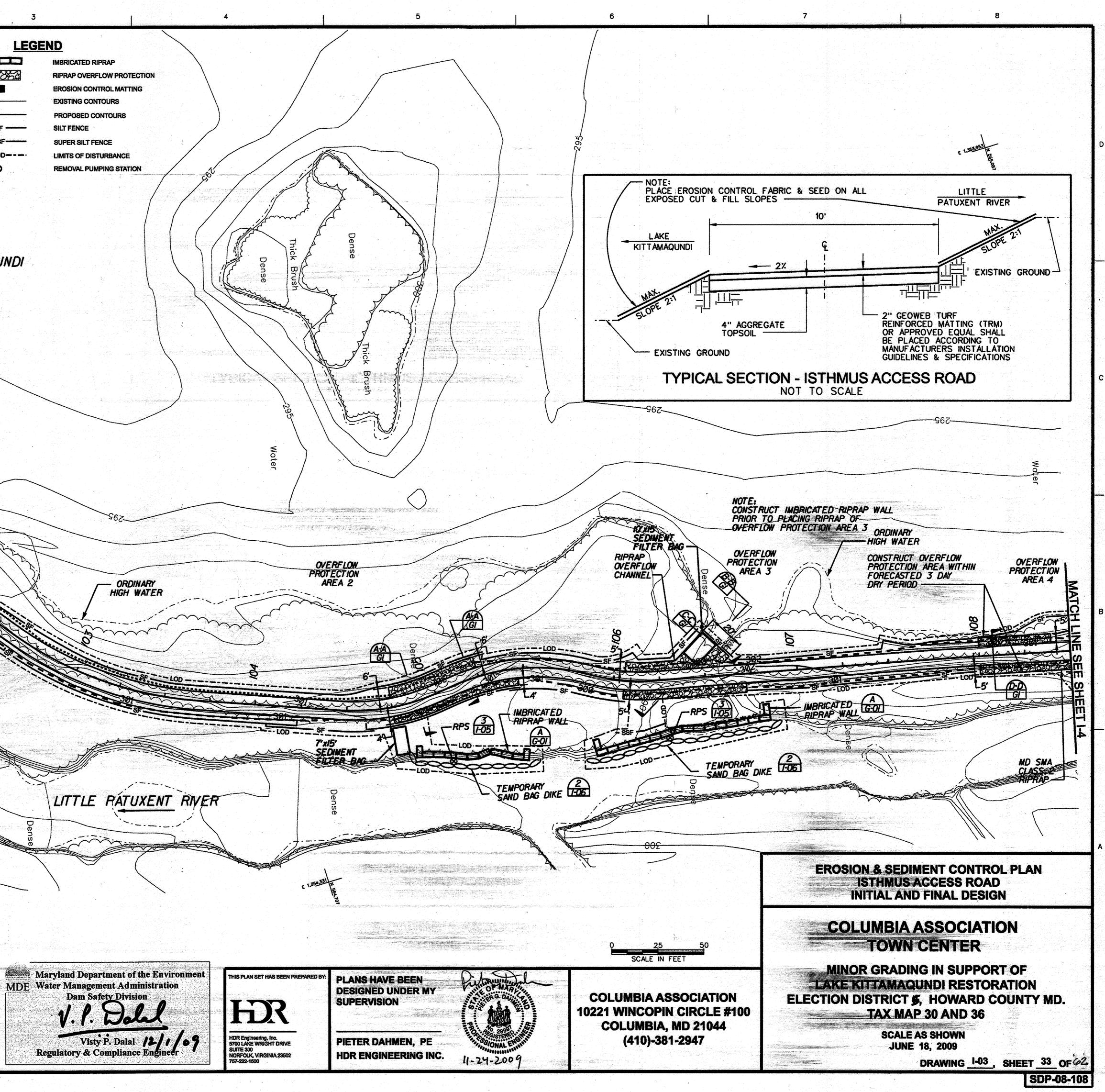
SCALE IN FEET

**COLUMBIA ASSOCIATION 10221 WINCOPIN CIRCLE #100** COLUMBIA, MD 21044 (410)-381-2947

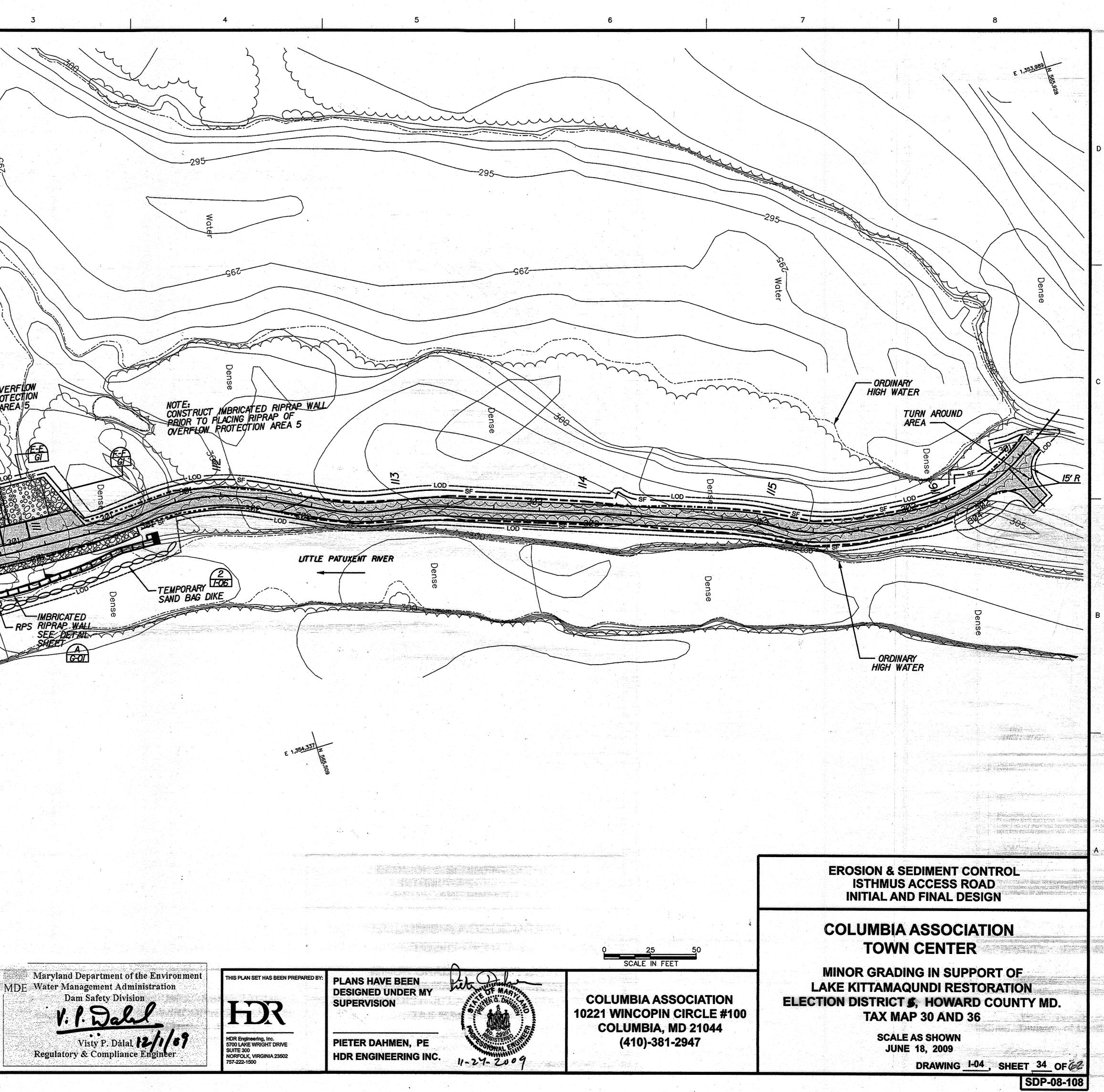
Dense 322.4 Sign N-561800 STAGING AREA 5,211 SF 13,444 SF 906 SF 10,027 SF WORK AREA : EQUIPMENT AREA: MISC. AREA: TRAILER/PARKING AREA: TOTAL CUT:1,109 CYTOTAL FILL:1,109 CYAREA OF DISTURBANCE:1.91 AC Curve = CK1 PI 13+94.40 D= 126° 47' 50" (LT) R = 135.00' T = 269.57' L = 298.76' **Toby's General Partnershi** C/O Harold D. Orenstein N 561600 Liberty Property Limited Partnership This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT ENGINEER'S CERTIFICATE "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements with the Howard Soil Conservation District." Dalman Signature of Engineer(print name below signature) Pieler Dahmen 12/17/2009 Date DEVELOPER'S CERTIFICATE "I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project, will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District" D. NOCK Signature of Developer (print name below signat 12 16 09 APPROVED: DEPARTMENT OF PLANNING AND ZONING 12/23/07 Chi Mannin Chief, Development Engineering Division & Date 107/10 Vert Shenliostin Chief, Division of Land Development Date <u>/7/10</u> Date momon & Butle Director, DEP.



LEGEND harocha LAKE KITT AM AQUNDI OVERFLOW PROTECTION AREA I × 254 F A-A The second secon A A A ORDINARY CALIFIC CALANDO HIGH WATER "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements with the Howard Soil Conservation District." Prite Duhan Ignature of Engineer(print name below signature) Piefer Dahmen 12/17/2009 Date DEVELOPER'S CERTIFICATE "I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project, will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District" D. NOODer Signature of Developer (print name below signature) Date Date APPROVED: DEPARTMENT OF PLANNING AND ZONING <u>Izza/01</u> Date Mon Bunn Chief, Development Engineering Division Vert Sherlingh Chief, Division of Land Development 01/10 Date Mongo & Sutte 1/7/10 Date Director, DER



E 1,353,97 LEGEND **IMBRICATED RIPRAP** nerion **RIPRAP OVERFLOW PROTECTION EROSION CONTROL MATTING EXISTING CONTOURS** PROPOSED CONTOURS SILT FENCE SSF ----SUPER SILT FENCE ----LOD-----LIMITS OF DISTURBANCE **REMOVAL PUMPING STATION** OVERFLOW ROTECTION REA 10 x15 SEDIMENT FILTER BAG GI - ORDINARY RIPRAP APRON HIGH WATER MD SHA REQD CLASS 3 PULL OVER X15 AREA SEDIMENT Second . FILTER BAG Z Ant en 3 1-05 SAND BAG DIKE SAKALOS - ORDINARY 2 HIGH WATER 1-06 IPRAP WALL This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT ENGINEER'S CERTIFICATE "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements with the Howard Soil Conservation District." Piete Daha Signature of Engineer(print name below signature) 12/17/2009 Picter Dahmen DEVELOPER'S CERTIFICATE "I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project, will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District" D. Naber Signature of Developer (print name below signature) Date Dennis Mattery APPROVED: DEPARTMENT OF PLANNING AND ZONING Chief, Development Engineering Division 12/28/09 Date 107/10 Heat Shelwood Chief, Division of Land Development Date mon &. Butle 1/7/10 Director, DEP. Date

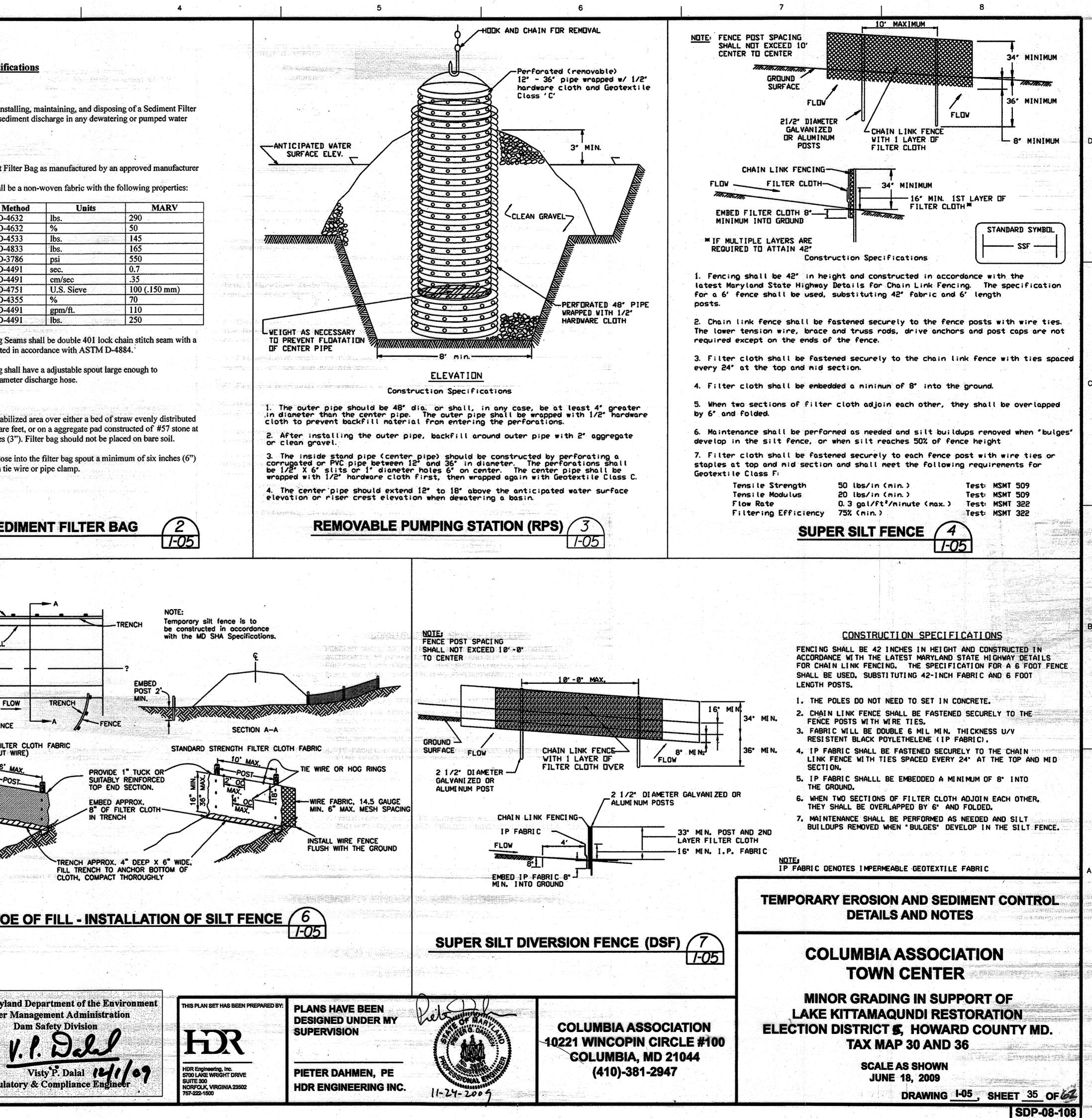


	1 2	3 4	5
	2:1 SLOPE OR FLATTER		
	a de Excavate to provide		
	GRADE LINE REQUIRED FLOW WIDTH AT DESIGN FLOW DEPTH	Sediment Filter Bag Specifications	
	CUT OR FILL CROSS SECTION	1.0 DESCRIPTION	
	POSITIVE DRAINAGE 0-DIKE HEIGHT 18" 30"	1.1 This work if furnishing, installing, maintaining, and disposing of a Sediment Filter	
	SUFFICIENT TO DRAIN b-DIKE WIDTH 24" 36"	Bag. The purpose is to control sediment discharge in any dewatering or pumped water application.	
	C-FLOW WIDTH 4' 6'	2.0 MATERIALS	ANTICIPATED WATER SURFACE ELEV.
	CUT OR FILL SLOPE	2.1 FB-3 15' x 15' Sediment Filter Bag as manufactured by an approved manufacturer	
	PLAN VIEW STANDARD SYMBOL	2.2 The geotextile fabric shall be a non-woven fabric with the following properties:	SURFACE ELEV.
	A-2 B-3 FLOW CHANNEL STABILIZATION $\rightarrow -/$	Properties Test Method Units MARV	
	GRADE 0.5% MIN. 10% MAX.	ub Tensile StrengthASTM D-4632lbs.290ub ElongationASTM D-4632%50	
	<ol> <li>Seed and cover with straw mulch.</li> <li>Seed and cover with Erosion Control Matting or line with sod.</li> </ol>	pezoid Tear ASTM D-4533 lbs. 145 neture ASTM D-4833 lbs. 165	
	3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum	Ilen BurstASTM D-3786psi550mittivityASTM D-4491sec.0.7	
	Construction Specifications	meability         ASTM D-4491         cm/sec         .35           S         ASTM D-4751         U.S. Sieve         100 (.150 mm)	
Antonia antonia (1974). Antonia antonia (1974)	1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.	Resistance (500hrs.)         ASTM D-4355         %         70           ter Flow Rate         ASTM D-4491         gpm/ft.         110	
	2. Runoff diverted from a disturbed area shall be conveyed to a sediment	m Strength ASTM D-4491 Ibs. 250	LWEIGHT AS NECESSARY
	tropping device.	2.3 The Sediment Filter Bag Seams shall be double 401 lock chain stitch seam with a 121 lbs./inch sewn strength, tested in accordance with ASTM D-4884.	TO PREVENT FLOATATION
	3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.	2.4 The Sediment Filter Bag shall have a adjustable spout large enough to	
	4. All trees, brush, stumps, obstructions, and other objectional material	accommodate a six inch (6") diameter discharge hose.	Construc
	shall be removed and disposed of so as not to interfere with the proper functioning of the dike.	3.0 CONSTRUCTION	1. The outer pipe should be 48' dia
	5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections	3.1 Unfold filter bag on a stabilized area over either a bed of straw evenly distributed at a rate of one (1) bale per square feet, or on a aggregate pad constructed of #57 stone at	in diameter than the center pipe. cloth to prevent backfill material
	or other irregularities which will impede normal flow.	a minimum depth of three inches (3"). Filter bag should not be placed on bare soil.	2. After installing the outer pipe, or clean gravel.
	6. Fill shall be compacted by earth moving equipment.	3.2 Insert discharge pump hose into the filter bag spout a minimum of six inches (6") and tightly secure the hose with tie wire or pipe clamp.	3. The inside stand pipe (center p corrugated or PVC pipe between 12" be 1/2" X 6" slits or 1" diameter h
	7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.	4.0 MAINTENANCE	wrapped with 1/2" hardware cloth fi 4. The center pipe should extend 12
	8. Inspection and maintenance must be provided periodically and after		elevation or riser crest elevation
		TEMPORARY SEDIMENT FILTER BAG	<b>REMOVABLE PUN</b>
	<i>1-05</i>	<b>1-05</b>	n se
	Construction and Material Specifications		<u> </u>
	I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set fort these specifications . Typically, the depth of topsoil to be salvaged for a given soil type can be found in representative soil profile section in the Soil Survey published by USDA—SCS in cooperation with Maryland	the in the second se the second sec	
	Agricultural Experimental Station.	FENCE NOTE:	3
	II. Topsoil Specifications - Soil to be used as topsoil must meet the following: <ol> <li>Topsoil shall be a loam, sandy loam, clay loam, silt loam, sondy clay loam, loamy sand. Other may be used if recommended by an agronomist or soil scientist and approved by the appropriate approva</li> </ol>	TRENCH Temporary silt fence is to be constructed in accorda	once
	authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less 5% by volume of cinders, stanes, slag, coarse fragments, gravel, sticks, roots, trash, or other materials lo than 1'ft" in diameter.	arger TOE OF FILL with the MD SHA Specifica	itions.
	<ul> <li>Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.</li> <li>iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be s</li> </ul>		
	at the rate of 48 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage op	Lime	
	os described in the following procedures. III. For sites having disturbed areas under ぢ acres:	FLOW TRENCH MIN.	
	i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization Section I – Vegetative Stabilization Methods and Materials.	TRENCH FENCE A FENCE SECTION	N A-A
	IV. For sites having disturbed areas over 5 acres: i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to, bring the soil into compliance with the following:	EXTRA STRENGTH FILTER CLOTH FABRIC STANDARD STRENGTH FIL	TER CLOTH FABRIC
	<ul> <li>a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less tha sufficient lime shall be perscribed to raise the pH to 6.5 or higher.</li> <li>b. Organic content of topsoil shall be not less than 1 .5 percent by weight.</li> </ul>	in 6.0,	THE WIRE OR HOG RINGS
	<ul> <li>c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.</li> <li>d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemical</li> </ul>	Dis used	
	for weed control until sufficient time has elapsed (14 days min .) to permit dissipation of phyto-toxic ma Note: Topsoil substitutes or omendments, as recommended by a qualified agronomist or soil scientist and		WIRE FABRIC, 14.5 GAUGE
	approved by the appopriate approval authority, may be used in lieu of natural topsoil. ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization	IN TRENCH	
	Section I – Vegetative Stabilization Methods and Materials.		INSTALL WIRE FENCE FLUSH WITH THE GROUND
	<ul> <li>V. Topsoil Application</li> <li>i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins,</li> </ul>	FILL TRENCH TO ANCHOR BOTTOM OF	
	<ul> <li>ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained</li> <li>4" - 8" higher in elevation .</li> <li>iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thic</li> </ul>	cknéss	
	of 4". Spreading shall be performed in such a manner that sodding or seeding con proceed with a mini ofadditional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.		
	subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seed		<u>NCE ( 6</u> [7-05]
	TOPSOILING 5		
	APPROVED: DEPARTMENT OF PLANNING AND ZONING		
	Multum 12/23 05	Maryland Department of the Environment THIS PLAN SET HAS BEEN PRE	PLANS FAVE DEEN
	Chief, Development Engineering Division <sub>é</sub> Daté	Dam Safety Division	DESIGNED UNDER MY
	Chief, Division of Land Development Coldson Date Date	<u> </u>	
		Visty P. Dalal 12/169 HDR Engineering, Inc. 5700 LAKE WRIGHT DRIVE	PIETER DAHMEN, PE
	Director, DEP.	Visty P. Dalal 12/167 Regulatory & Compliance Engineer, 1 NORFOLK, VIRGINIA 23502 757-222-1500	HDR ENGINEERING INC.

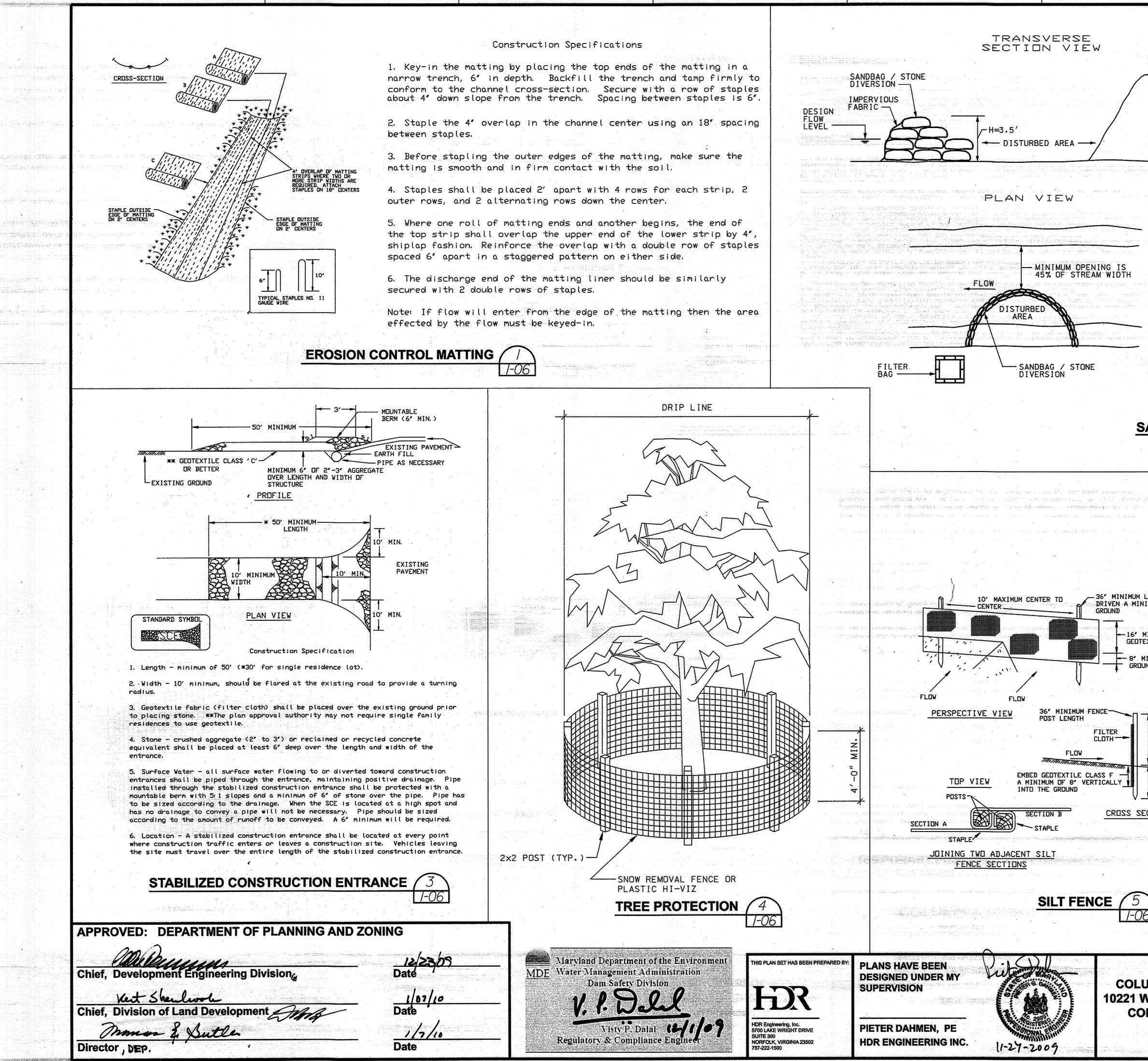
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## Class 'C' 0 0 0 0000 CLEAN GRAVEL ELEVATION tion Specifications from entering the perforations.

when dewatering a basin.



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#### **Material Specifications**

Materials for sandbag and stone stream diversions should meet the following requirements: - Riprap Riprap should be washed and have a minimum diameter of 6 inches (0, 15 - Riprop Riprop Should we make and the second state of materials which are resistant to ultra-violet - Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.). - Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

#### **Installation Guidelines**

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should proceed as follows (refer to Detail 1, 5): Detail 1.5): 1. The diversion structure should be installed from upstream to downstream. 2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach. For projects with a duration less than 2 weeks, the height of the diversion should be one half the streambank height, measured from the channel bed, plus 1 foot (0.3 meters) or bankfull height, whichever is greater. For projects of longer duration, the top of the sandbag or stone diversion should correspond to bankfull height. For diversion structures utilizing sandbags, the stream bed should be hand prepared prior to placement of the base layer of sandbags in order to ensure a water tight fit. Additionally, it may be necessary to prepare the bank in a similar fashion. similar fashion. 3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA. 4. Sediment-laden water from the construction area should be pumped to a dewatering

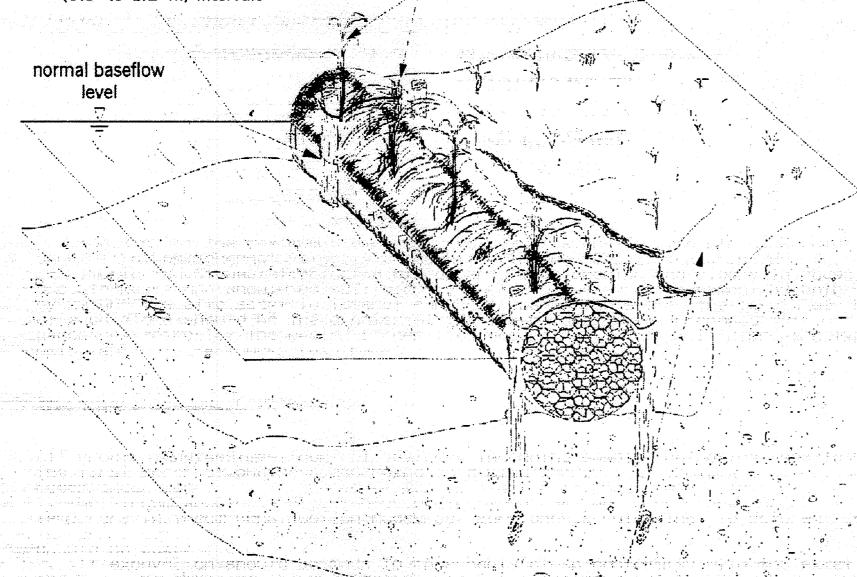
 Sediment-laden water from the construction area should be pumped to a dewatering basin.
 Sheeting on the diversion should be positioned such that the upstream portion cover the downstream portion with at least a 18-inch (0.45 meters) overlap.
 Sandbag or stone diversions should not obstruct more than 45% of the stream width. Additionally, bank stabilization measures should be placed in the construction time or if project time is expected to last more than 2 weeks.
 Prior to removal of these temporary structures, any accumulated sediment should be removed, deposited and stabilized in an approved area outside the 100-year floodplain unless authorized by the WMA.
 Sediment control devices are to remain in place until all disturbed areas are 8. Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and plan and the inspecting authority approves their remova

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#### **SANDBAG / STONE DIVERSION** 1-06

LAKE KITTAMAQUNDI RESTORATION UNCOPIN CIRCLE #100 UMBIA, MD 21044 (410)-381-2947 LUMBIA 2009 DRAWING 1-06, SHEET 36 C			RD COUNTY MD.	
	T MINOR	MBIA ASSOC OWN CENTE GRADING IN SUI TAMAQUNDI RE	R PPORT OF	
, <b>−−−</b> , <b>−−</b> , <b>−</b> , <b>−</b> , <b>−</b> , <b>−</b> , <b>−</b> ,		TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS AND NOTES		
TION STANDARD SYMBOL	system, soil Class A) (	maximum slope length and	CUSDA general classification silt fence length will be the only perimeter control	
- FENCE POST DRIVEN A MINIMUM OF 16' INTO _ THE GROUND	2:1 and steeper	20 feet	125 feet	
GROUND	3: 1 to 2: 1	40 feet	250 feet	
GROUND	5 1 to 3 1	60 feet	500 feet	
FENCE POST SECTION MINIMUM 20' ABOVE	10 1 to 5 1	100 feet	750 feet	
	50:1 to 10:1	125 feet	1,000 feet	
	Flatter than 50: 1	unlimited	unlimited	
	Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length	
IMUM DEPTH IN				
IMUM HEIGHT OF ILE CLASS F	bulges occur or when sedim		1 50% of the fabric height.	
	folded and stapled to prev 4. Silt Fence shall be ins		all event and maintained when	
NGTH FENCE POST, IM OF 16' INTO			they shall be overlapped,	
	Flow Rate Filtering Efficienc	0.3 gal ft²/ minute	(max.) Testi MSMT 322 Testi MSMT 322	
	Tensile Strength Tensile Modulus	50 lbs/in (min.) 20 lbs/in (min.)	Test: MSMT 509 Test: MSMT 509	
	2. Geotextile shall be fas or staples at top and mid- for Geotextile Class Fi		the following requirements	
	(minimum) round and shall standard T or U section we		wood. Steel posts will be 00 pond per linear foot.	
		2 11/2" x 11/2" square (m	inimum) cut, or 13/4" diameter	
		nstruction Specification		

live or dead stakes, min. 3-ft plugs recommended by a plant specialist (0.9–m) length, notched for twine and spaced at appropriately - generally at or rope and spaced at 3 to 4-ft 6 to 12-in (15 to 30-cm) intervals (0.9 to 1.2-m) intervals



slope shall be backfilled and protected with temporary erosion control measures until permanent vegetation is -----established

## **Material Specifications**

- Fiber logs: Natural fiber logs composed of biodegradable materials such as coir fiber are commercially available in 16 or 18-inch (0.40 or 0.45-meter) diameter rolls.

Plantings: Vegetative plantings should be chosen according to their adaptability to site-specific conditions and objectives by a plant specialist.
 Live stakes: Live stakes should be cut from fresh, green, healthy dormant parent plants which are adapted to the site conditions whenever possible.

## **Installation Guidelines**

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority, Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control. The recommended construction procedure for natural fiber

logs should proceed as follows (refer to Detail 2.6): 1. Natural fiber rolls should be installed so that they rest against the bottom of the waterway in ponds or lakes. In streams and rivers, the first row of fiber logs should be placed above any necessary toe stabilization measures. Natural fiber logs should not be used as the primary toe stabilization measure in streams or

logs should not be used as the primary toe stabilization measure in streams or rivers.
2. Plants should be plugged in an alternating pattern along the top of the fiber log in gaps between the coir fiber netting. Appropriate species and a spacing ranging from 6 to 12 inches (0.15 to 0.3 meters) should be selected by a plant specialist according to site characteristics such as soil properties, anticipated post-construction bank slope, water chemistry, amount of available sunlight, and expected duration of inundation during high stream flows. If water levels are too low for the fiber logs to be submerged <sup>3%</sup>/<sub>4</sub> to 2/3 of their diameter, plants should be plugged inside the soil/log interface where they will receive adequate moisture.

3. Dead or live stakes should be used to anchor the fiber logs in place. Stakes should be notched approximately 5 inches (13 centimeters) from their tops and pounded partially into the ground on either side of the bundle at a spacing of 3 to 4 feet (0.9 to 1.2 meters). Twine should be tied from the notch in one stake to the notch in the stake directly opposite. The stakes should then be driven so that the twine is secured against the top of the roll. Ideally, the top of the stake should be flush with the top of the roll.
4. The ends of adjacent logs should be laced together with twine by making a number of passes in the end netting between the logs and pulling the twine taut. Where a fiber roll does not abut another fiber roll, the end should be bent inward and buried in the bank to prevent water from intruding behind the roll and

dislodging it.

dislodging it. 5. Successive rows of fiber rolls should be offset 3 to 8 inches (8 to 20 centimeters). Additionally, to ensure that roots extend into the soil, plants should be plugged into the sides of the fiber log near the soil. The need to backfill/contour the soil behind the fiber logs and between successive lifts will depend on the specific aesthetic and physical requirements of the project. The re-contoured soil should be seeded and/or plugged with appropriate vegetative species and covered with an erosion control blanket to prevent slope erosion.

NATURAL FIBER F	ROLLS 1 1-07
APPROVED: DEPARTMENT OF PLANNING AN	ID ZONING
andering	<u>(г/гд/08</u> Date
Chief, Development Engineering Division	
Ket Stelloon Chief, Division of Land Development Angla	
Director, DEP	
Director, DEP	Date

## **Material Specifications**

Materials for imbricated riprap construction and installation should meet the following

requirements: - Filters: Synthetic filter fabric may be used cautiously based on the 1994 MD Standards and Specifications for Soil Erosion and Sediment Control. Whenever possible, however, granular filters with a minimum thickness of 6 inches (15 cm) should be used with a gradation as found in Table 2,2.

Table 2.2: Granular Filter Material Grading Specifications

Perce	nt Less Than	U.S. Standard Sieve Size
	100	2 1/2 in (64 mm)
	85 - 100	1 in (25 mm)
	60 - 100	1/2 in (13 mm)
	35 - 70	No. 10
	20 - 50	No. 40
	3 - 20	No. 200
: The mo	aximum diameter d	No. 200 or weight of stone for toe ripr

- Toe Riprap: Th toe riprap should be based upon the The hidx multi drameter of weight of stone for the riprop should be based upon the bankfull stream channel velocity as detailed in the MGWC 2.1: Riprop and Figure 2.1.
 Imbricated Stones: Imbricated riprop should be angular and blocky in shape such that they are stackable and should be sufficiently large to resist displacement by both the design storm event and the site-specific lateral earth stresses. Therefore, the length of the longest axis of each stone should be the greater of 1/3 the height of the proposed wall and the size necessary to resist the design stream flow according to MGWC 2.1: Riprop. A typical minimum axis length is 24 inches (0.6 meters).

## Installation Guidelines

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. The recommended construction procedure for imbricated riprap is as follows (refer to Detail 2.2): 1. The stream should be diverted according to a WMA recommended procedure (see Section 1, Temporary Instream Construction Measures, Maryland<sup>5</sup>32s Guidelines to Waterway Construction), and the construction area should be dewatered.

2. All excavation should be made in reasonably close conformity with the existing stream slope and bed. The slope of the cut face should be in the range of 1H:6V to 2H:6V. Loose material at the toe of the embankment should be excavated until a stable foundation is reached, usually within 2 to 3 feet (0.6 to 0.9 meters) of the surface. The subgrade should be smooth, firm, and free from protruding objects or voids that would effect the proper positioning of the first layer of stones.

3. A graded granular filter or filter fabric should be placed on the face of the cut slope to prevent the migration of fine materials through the revetment. If filter fabric is used, it should be carefully and loosely placed on the prepared slope and secured. Adjacent strips should overlap a minimum of 8 inches (0.20 meters). If the filter fabric is torn or damaged, it should be repaired or replaced.

4. The rock layers should be neatly stacked with staggered joints so that each stone rests firmly on two stones in the tier below. Additionally, smaller stones should be used to fill voids so that each rock rests solidly on the previous rock layer with minimal opportunity for movement. Upon completion of the first layer of stone, the toe trench should be filled with Class III riprap sized according to MGWC 2.1: Riprap or additional imbricated stone. Two footer stones should be used where high potential for channel incision exists. The height of the imbricated revetment is dictated by the size of the stone used, and the height should not exceed 3 times the length of the longest axis and should not be greater than 10 feet (3 meters).

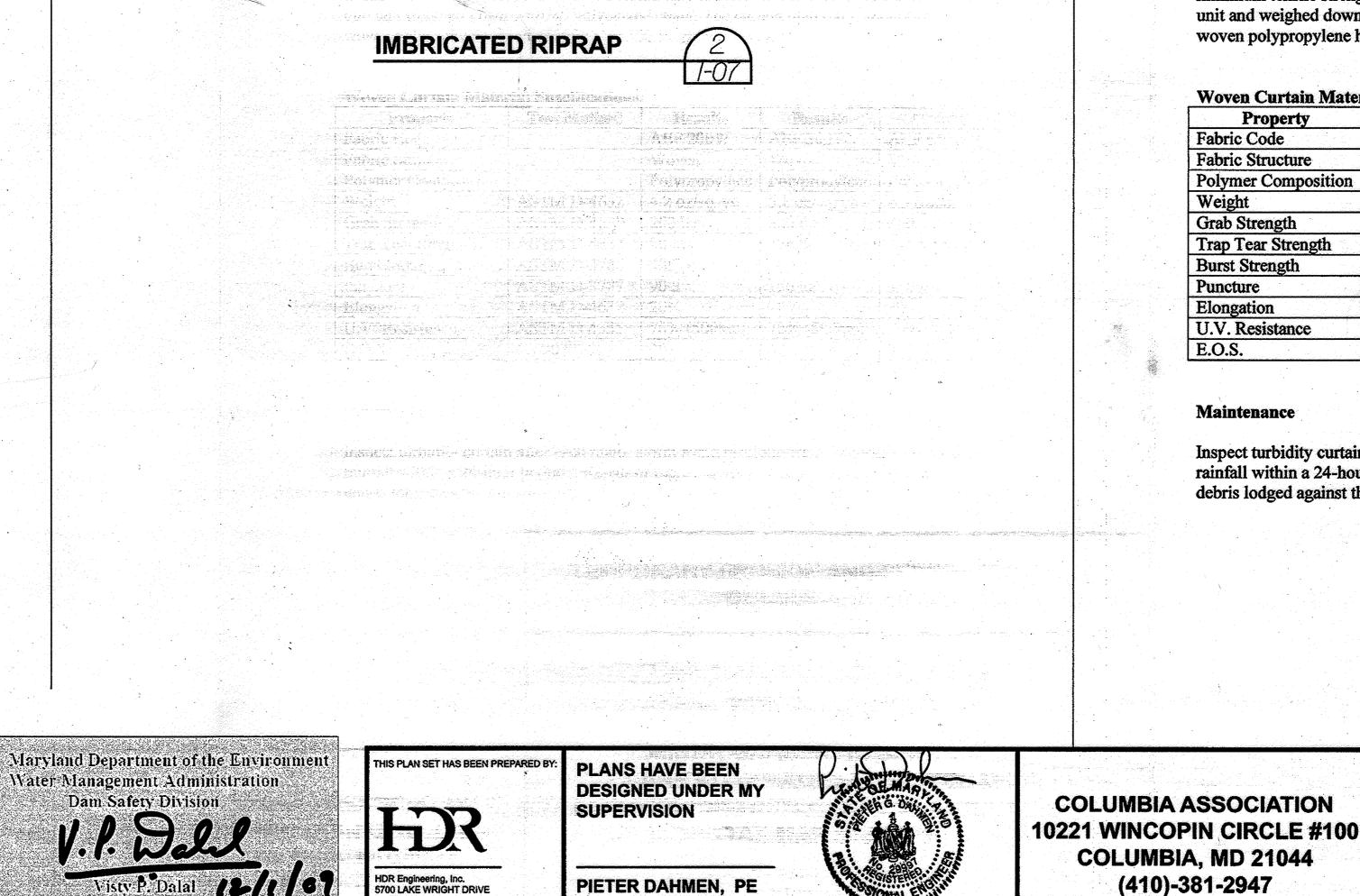
5. Placement of the granular backfill should occur concurrently with the stone placement. The backfill slope angle should be 2H:1V or flatter but should be greater than 0 degrees to facilitate drainage. Once all of the backfill is in place, it should be covered with a filter layer and a layer of topsoil sufficient to support a native vegetative cover. 6. The disturbed sections of the channel, including the slopes and stream bed, should be stabilized with methods approved by the WMA.

SUITE 300

757-222-1500

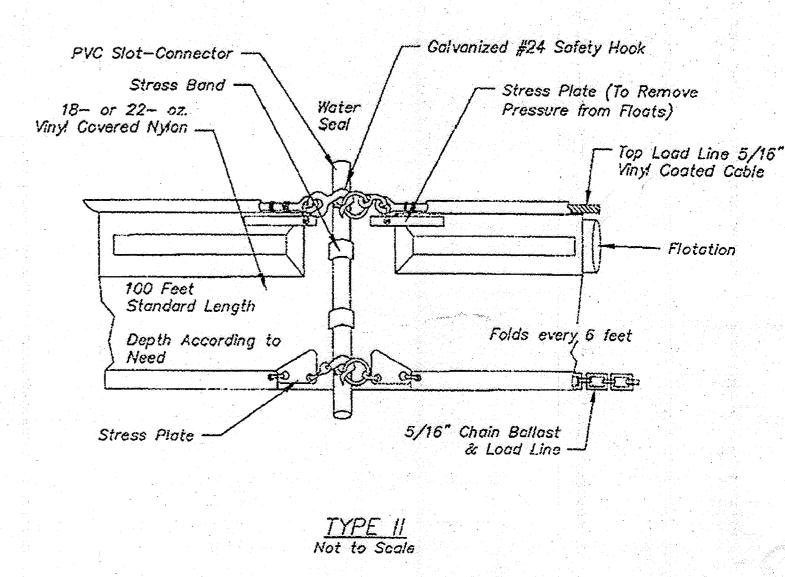
NORFOLK, VIRGINIA 23502

Regulatory & Compliance Engineer



HDR ENGINEERING INC.

11-24-2009



1. Type II is designed for use on rivers and streams, large open lakes, bays, and beaches with moderate currents and wind exposure.

2. When the curtain is no longer required as determined by the Inspector, the curtain and related components shall be removed so as to minimize turbidity. Remaining sediment shall be removed and the original depth or plan elevations restored. Any spoils must be taken to upland area and stabilized.

3. Curtain will be opened as required to accommodate passage of work boats.

## **TURBIDITY CURTAIN**

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Flotation consists of a series of expanded polyethylene logs, 6" in diameter and 55" long. The logs are enclosed in 22 oz./sq. yd. PVC coated nylon or polyester having 400 lbs. minimum tensile strength. Curtain is permanently attached to the bottom of the flotation unit and weighed down with 1/4" galvanized chain. The curtain material is monofilament woven polypropylene having 200 lb. or 300 lb. tensile strength.

Woven Curtain Mate	rial Specification:	S <b>:</b>		
Property	Test Method	Results	Results	Results
Fabric Code		AEF 200W	AEF 300W	AEF 650W
Fabric Structure		Woven	Woven	Woven
Polymer Composition		Polypropylene	Polypropylene	Polypropylene
Weight	ASTM D-4632	4.2 oz/sq. yd	5.8 oz/sq. yd	6.3 oz/sq. yd
Grab Strength	ASTM D-4632	200 lbs.	300 lbs.	390 x 250 lbs.
Trap Tear Strength	ASTM D-4533	90 lbs.	120 lbs.	115 x 65 lbs.
Burst Strength	ASTM D-3786	400 psi	600 psi	495 psi
Puncture	ASTM D-3787	90 lbs.	150 lbs.	130 lbs.
Elongation	ASTM D-4632	20%	20%	30%
U.V. Resistance	ASTM D-4335	70% (500hrs)	70% (500hrs)	70% (500hrs)
E.O.S.	CW-02215	40	40	70

## Maintenance

Inspect turbidity curtain after each major storm event resulting from 3-inches or more of rainfall within a 24-hour period. Repair or replace damaged materials and remove any debris lodged against the turbidity curtain.

## **TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS AND NOTES**

# **COLUMBIA ASSOCIATION TOWN CENTER**

**MINOR GRADING IN SUPPORT OF** LAKE KITTAMAQUNDI RESTORATION ELECTION DISTRICT 5, HOWARD COUNTY MD. **TAX MAP 30 AND 36** 

> SCALE AS SHOWN JUNE 18, 2009

DRAWING 1-07, SHEET 37 OF 62

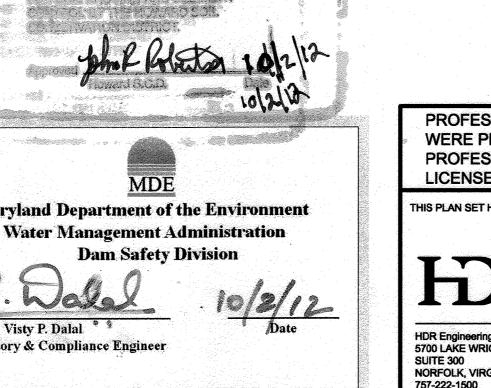
DRAWING NO.	SHEET NO.	SHEET TITLE	
-A-01 J-0	22.39	GENERAL NOTES	
<b>B-01</b> J-0	3 3.40	EXISTING CONDITIONS PLAN	
<del>C-01</del> 3-0	<b>*4.</b> 41	PROPOSED SITE PLAN	
<b>-D-01</b> J-01	5 <b>5.</b> 42	SECTIONS AND DETAILS	
<b>E-01</b> 3-0	6 <b>6.</b> 43	TEMPORARY EROSION & SECIMENT CONTROL PLAN - INITIAL PHASE	
- <b>E-02</b> J-0	77.44	TEMPORARY EROSION & SEDIMENT CONTROL PLAN - FINAL PHASE	
<b>E-03</b> J-0	98.45	TEMPORARY EROSION & SEDIMENT CONTROL - DETAILS & NOTES	
<del>F-01</del> 3-0	9-9: 46	SOIL BORING LOGS	
A			
J-01	38.	DAM REPAIR - TITLE SHEET	-
J-02	39.	DAM REPAIR - GENERAL NOTES	
J-03	40.	DAM REPAIR - EXISTING CONDITION PLAN	
J-04	41.	DAM REPAIR - PROPOSED SITE PLAN	
J-05	42.	DAM REPAIR - SECTIONS AND DETAILS	
J-06	43.	DAM REPAIR - TEMPORARY EROSION & SEDIMENT CONTROL PLAN - INITIAL PHASE	
J-07	44.	DAM REPAIR - TEMPORARY EROSION & SEDIMENT CONTROL PLAN - FINAL PHASE	

J-08 45. DAM REPAIR - TEMPORARY EROSION & SEDIMENT CONTROL - DETAILS & NOTES
------------------------------------------------------------------------------

ubdivision Name	COLUMBIA TOWN CENT	ER	Section/Area SE	ECTION I	Lot/Parcel No.	LOT 14
at # or L/F PHASE 23 PLAT BOOK 16 TOLIO 19 & 20	Grid #	Zoning NT	Tax Map No. 30 & 36	Elect Distr 4	Census Tract	605602
ater Code			Sewer Code	andar (and an	<b></b>	
PROVED:	DEPART	MENT OF	PLANNING AN	<b>D</b> ZONING		
PROVED:	ment Eng	ineering D	ivision <sub>(ک</sub>	<u>3</u> Date	8/13	

# - Lake Kittamaqundi Dam Repair Columbia, Maryland

# **Columbia Association Construction Services** Project No. 040107DK



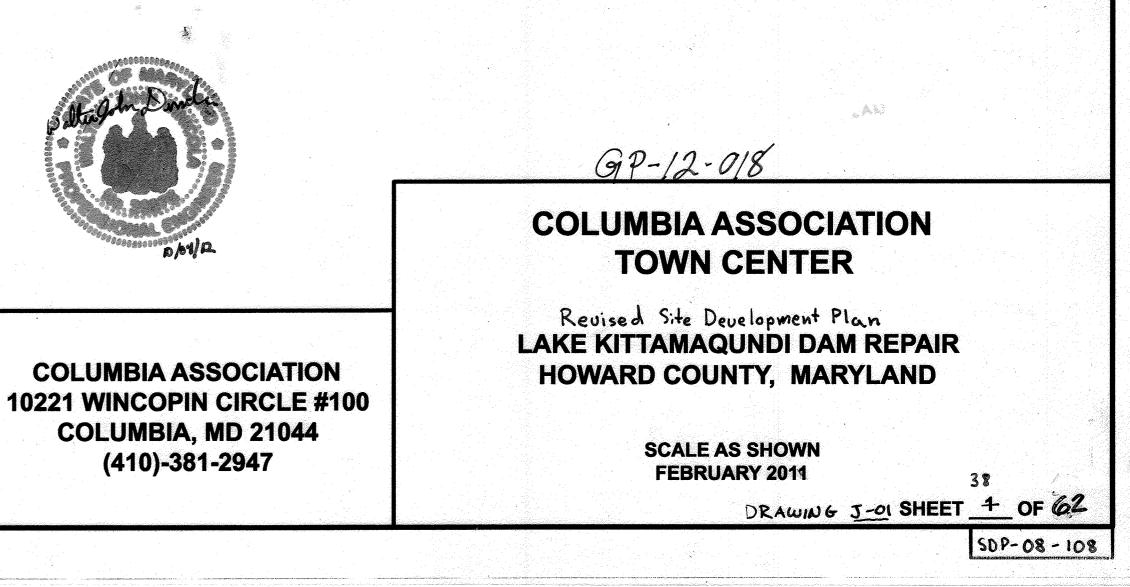
HESE DOCUMENTS WERE PREPARED OR APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 29997, EXPIRATION DATE: 01-14-2014.

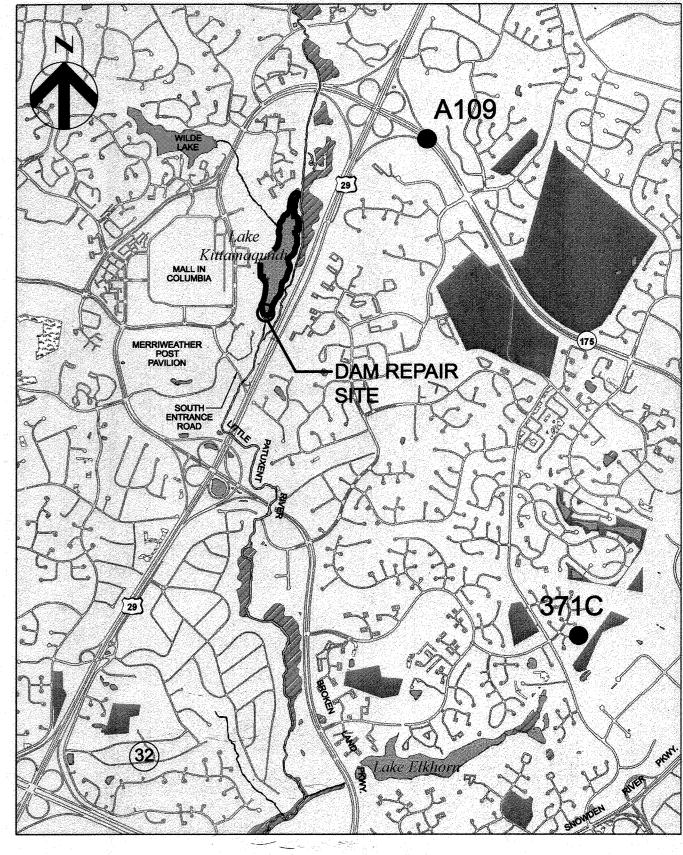


HDR Engineering, Inc. 5700 LAKE WRIGHT DRIVE NORFOLK, VIRGINIA 23502 PLANS HAVE BEEN **DESIGNED UNDER MY SUPERVISION** 

PIETER DAHMEN, PE HDR ENGINEERING INC.







LOCATION PLAN

SITE ANALYSIS	DÁTA CHAI	<b>श</b>		
a. TOTAL PROJECT AREA DAM REPAIR AREA	.039	ACRES	1,710	FT <sup>2</sup>
b. AREA OF PLAN SUBMISSION - SEE ITEM	l <b>a</b>			
C. LIMIT OF DISTURBED AREA	<u>.</u> 161	ACRES	7,040	FT 2
d. PRESENT ZONING NT				
e. NA, TEMPORARY MAINTENANCE EMPLOYEES			د المراجع مستقد المرجع المسيح مرجع المرجع المسيح	

### HOWARD COUNTY GENERAL NOTES:

All construction shall be in accordance with the latest standards and specifications of	Howard
County plus MSHA standards and specifications if applicable.	

- 2. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 24-hours prior to the start of work.
- 3. The contractor shall notify "Miss Utility" at I-800-257-7777 at least 48 hours prior to any excavation work being done.

4. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.

- 5. Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)." A minimum spacing of 20' shall be maintained between any streetlight and any tree.
- 6. All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3" long. A galvanized steel pole cap shall be mounted on top of each post.
- 7. All plan dimensions are to face of curb unless otherwise noted.
- 8. The existing topography is taken from aerial survey with (maximum two foot) contour intervals prepared by Mercado Consultants Inc. dated 5-22-06.
- 9. The coordinates shown hereon are based upon the Howard County Geodetic Control, which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. Alog, 37IC and "Harris AZ Mark" were used for this project.
- 10. No permanent increse in impervious area.
- II. Existing utilities are based on GIS mapping.
- 12. No floodplain study was prepared for this project.
- 13. Project background information (unless included in title block):
- Hydraulically dredging the upper half of the lake to its original depths.
- Pumping the dredged material to a temporary staging area on the South Entrance Road for mechanical dewaterina.
- Trucking dewatered material to an off-site licensed placement facility.
- Constructing a penninsula and wetlands in the upper portion of the lake to create a Forebay.
- Install access road on Isthmus with turf reinforced matting and placement of riprap at existing overflow areas on the Isthmus to prevent further erosion.
- Providing Imbricated riprap for erosion protection at select spots on the right bank of the Little Patuxent River.
- Restoration of all disturbed areas, including removal of gravel & paving at the staging area.
- 14. No grading, removal of vegetative cover or trees, paving or new structures shall be permitted outside the limits of disturbance in wetlands, streams, or their associated buffers, forest conservation easements, or IOO-year floodplain without DPZ approval.
- 15. This subject property is zoned NT per the February 2,2004 Comprehensive Zoning Plan and per the "Comp Lite" Zoning Amendments effective July 28, 2006.
- 16. This project is exempt from the requirements of Section 16.124 of the Howard County Code for Landscaping since disturbance resulting from project activities is temporary and no permanent structures are proposed.
- 17. This project is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation since it is part of a Planned Unit Development which had preliminary development plan approval and 50% or more of the land was recorded and substantially developed before December 31,
- 18. The Contractor shall be responsible for repairs to property damage caused by the Contractor.
- 19. Project is subject to approval by the U.S. Army Corps of Engineers, Baltimore District, the MDE Nontidal Wetlands and Waterways Division, and the MDE Dam Safety Division. Copies of the applicable permits or authorizations shall be submitted to the DPZ, Division of Land Development. MDE permit tracking number is 200863535.
- 20. The Contractor shall comply with all applicable Federal, State and Local Laws and Regulations including project permits. Effluent leaving the site shall not exceed Maryland turbidity limits of 150 Ntu at any time or 50 Ntu as a monthly average per COMAR 26.08.02.
- 21. No wetland areas landward of the ordinary high water are disturbed by the project. Wetlands within the lake (mainly nonpersistent-emergent and lacustrine unconsolidated bottom wetlands) are subject to disturbance from project activity, refer to JPA 2008-63535.MO2.

22. The Department of Planning and Zoning determined that activities in the floodplain and within 75 feet of the lake and streambank are necessary for completion of the dam repair.

<u>/2</u>\

APPROVED: DEPARTMENT OF PLANNING AND	ZONING	
Maraum,	3/1/13	
Chief, Development Engineering Division	Date	
Ket Lolische	3/8/13	
Chief, Division of Land Development	3 Date	
King Kampo in	5-12-13	Sr. Reg
Director Marsha McLaughtIN	Date	

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Department of Inspection. Licenses and Permits. Sediment Control Division prior to the start of any construction (3/3-1855).
- 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- 3. Following initial soll disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1. b) 14 days as to all other disturbed or araded areas on the project site.
- 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol I, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis: Staging Area Total Area of Site Area Disturbed Area to be roofed or paved

0.00 Acres .042 Acres Area to be veaetatively stabilized 11.09 Cu.Yds. Total Cut 11.09 Cu.Yds. Total FIII Total Dredging Values per 2006 Bathymetric Survey

Cu.Yds. Site with an approved sediment control plan and active permit, as approved by the inspector and

Site Analysis: Isthmus Area Total Area of Site Area Disturbed Area to be roofed or paved Area to be vegetatively stabilized Total Cut Total FIII Offsite waste/borrow area location: On Site

Off site waste/borrow area location:

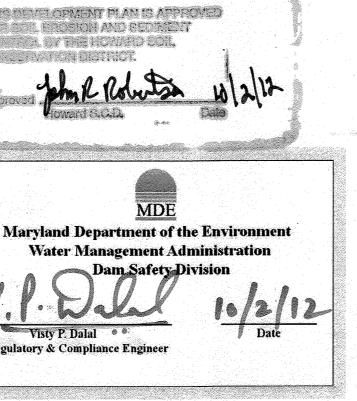
0.66 Acres 1.91 Acres 0.00 Acres 0.85 Acres 254 Cu.Yds. 252 Cu.Yds.

Howard SCD.

1.06 Acres

1.91 Acres

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of Installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.



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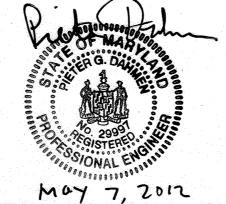
NORFOLK, VIRGINIA 23502

SUITE 300

757-222-1500

**PLANS HAVE BEEN DESIGNED UNDER MY SUPERVISION** 

PIETER DAHMEN. PE HDR ENGINEERING INC.



### HOWARD SOIL CONSERVATION DISTRICT PERMANENT SEEDING NOTES:

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq.ft.) and 600 Ibs/acre 10-10-10 fertilizer (14 Ibs/1000 sa.ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.)
- Acceptable Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq.ft.) and 1000 lbs/acre 10-1010 fertilizer (23 lbs/1000 sq.ft.) before seeding. Harrow or disk Into upper three Inches of soll.

Seeding - For the periods March I - April 30, and August I - October 15, seed with 60 Ibs/acre (1.4 Ibs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1-July 31. seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 Ibs/100() sq.ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by:

Option I -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 -- Use sod.

Option 3 — Seed: with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sa.ft.) for anchorina.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

## TEMPORARY SEEDING NOTES:

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

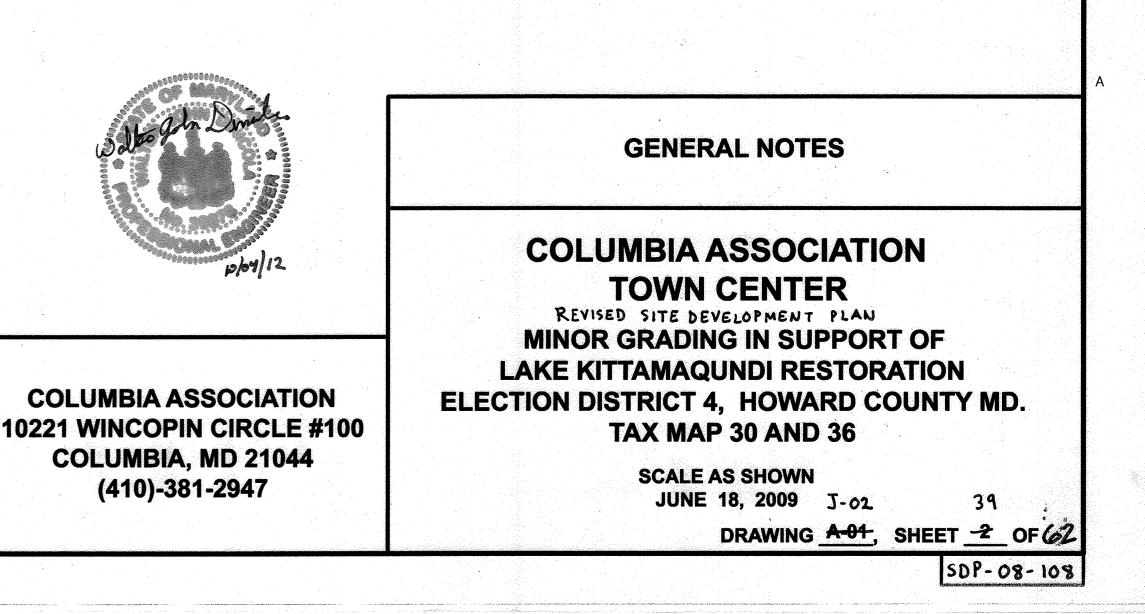
Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

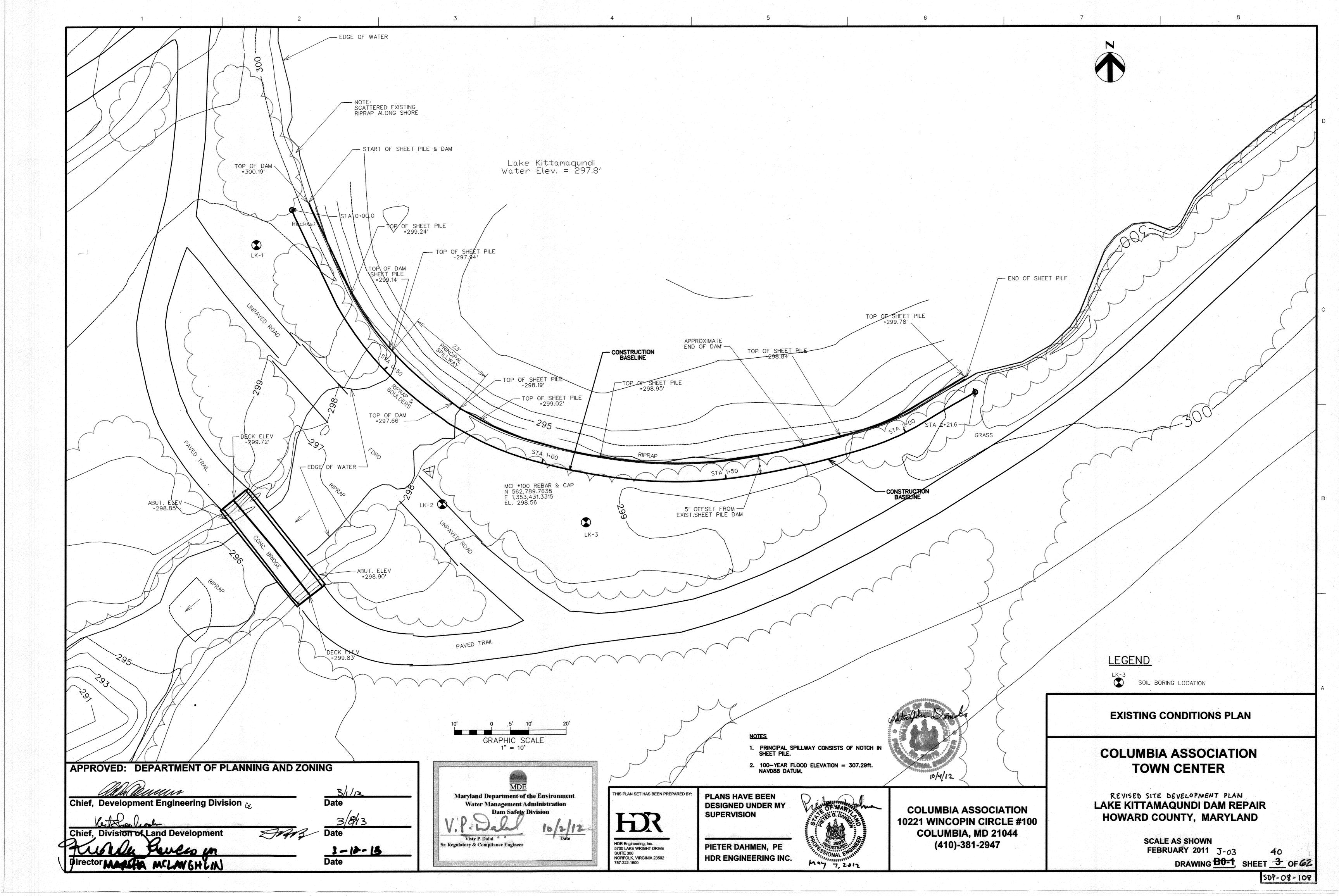
Soll Amendments: - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.).

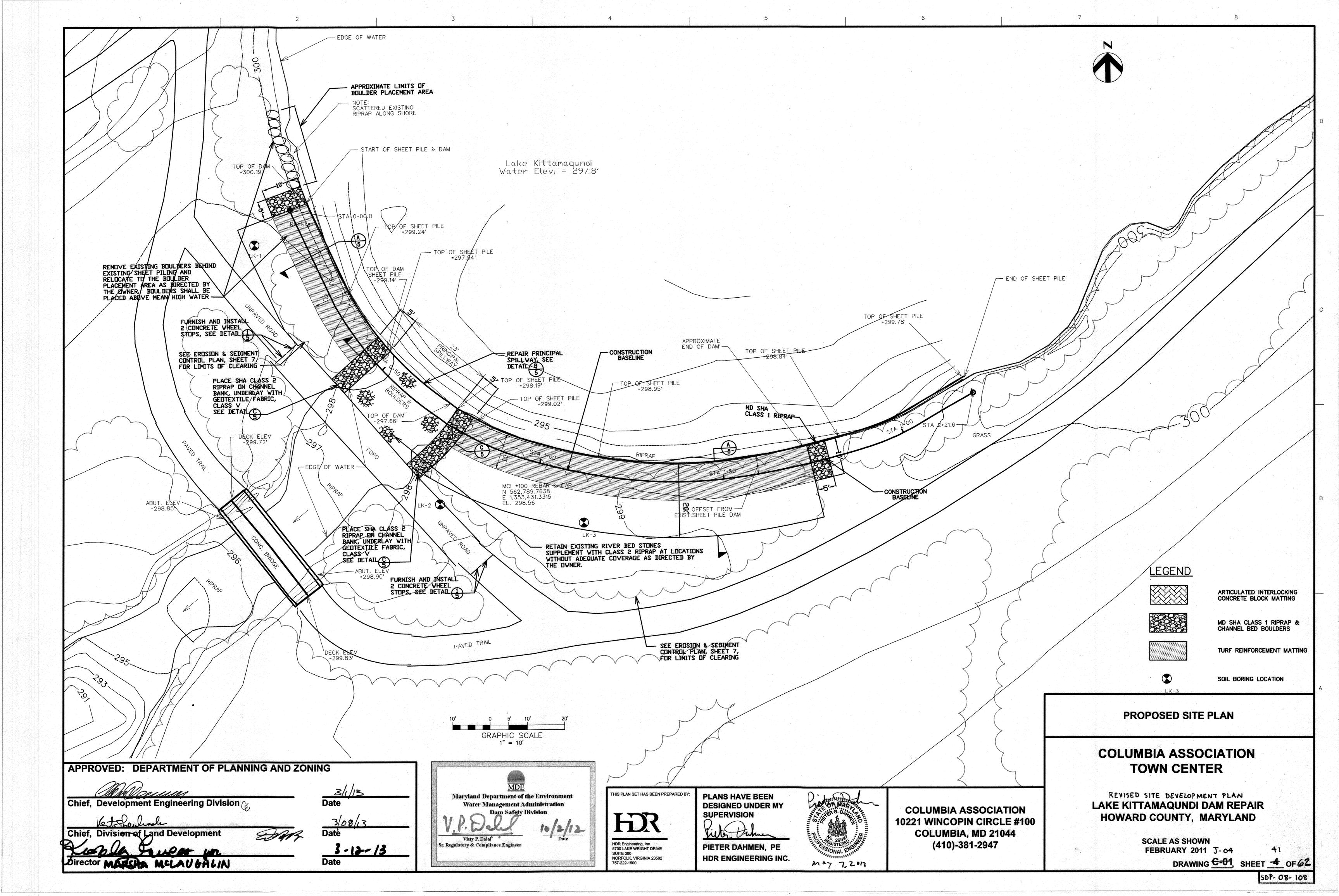
Seeding: -- For periods March I-April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq.ft.). For the period May 1-August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq.ft.). For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

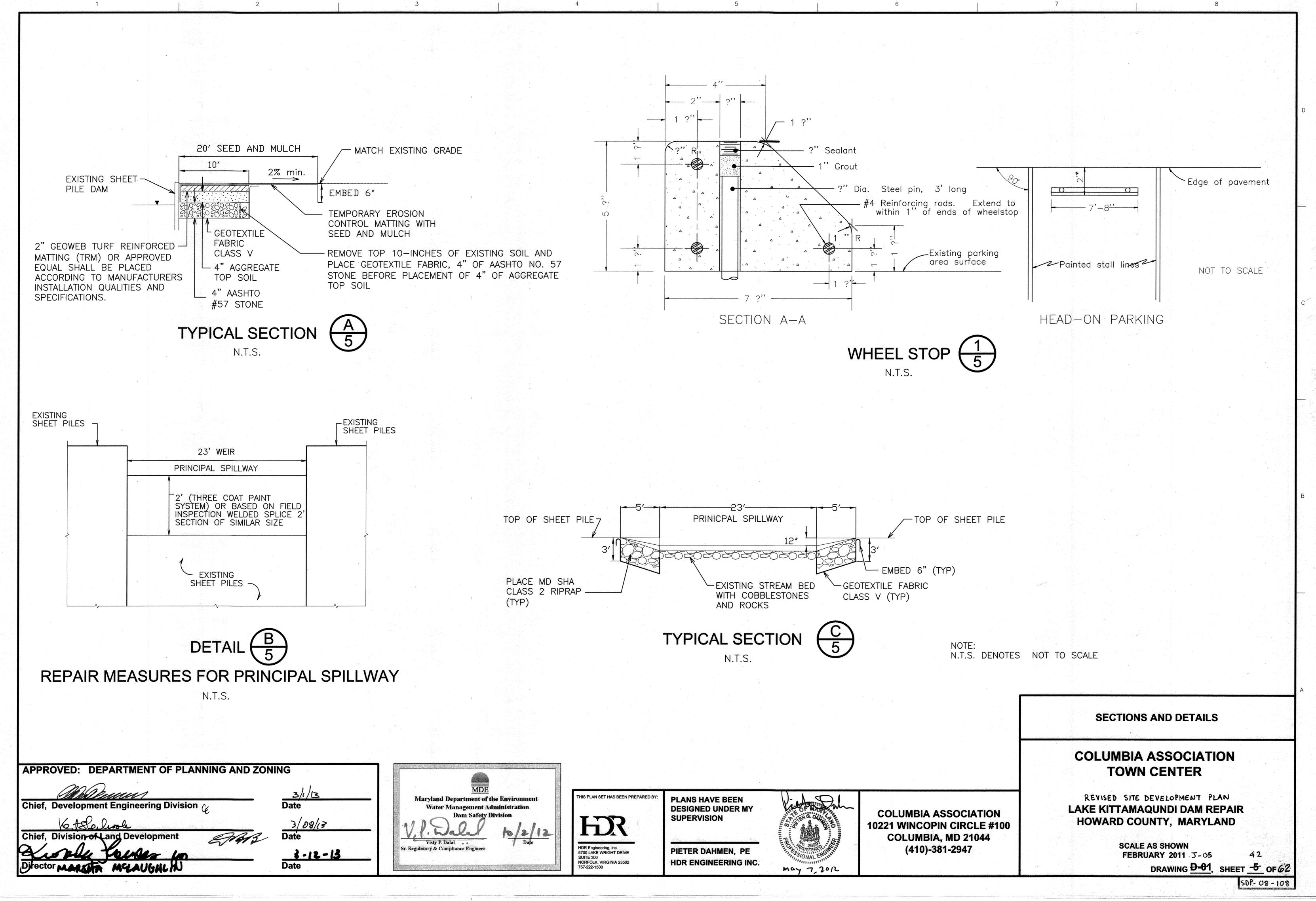
Mulching: -- Apply I-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq.ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal.per acre (5 gal/1000 sq.ft) of emulsified asphalt on flat areas. On slope 8 ft.or higher, use 348 gal.per acre (8 gal/1000 sq.ft) for anchoring.

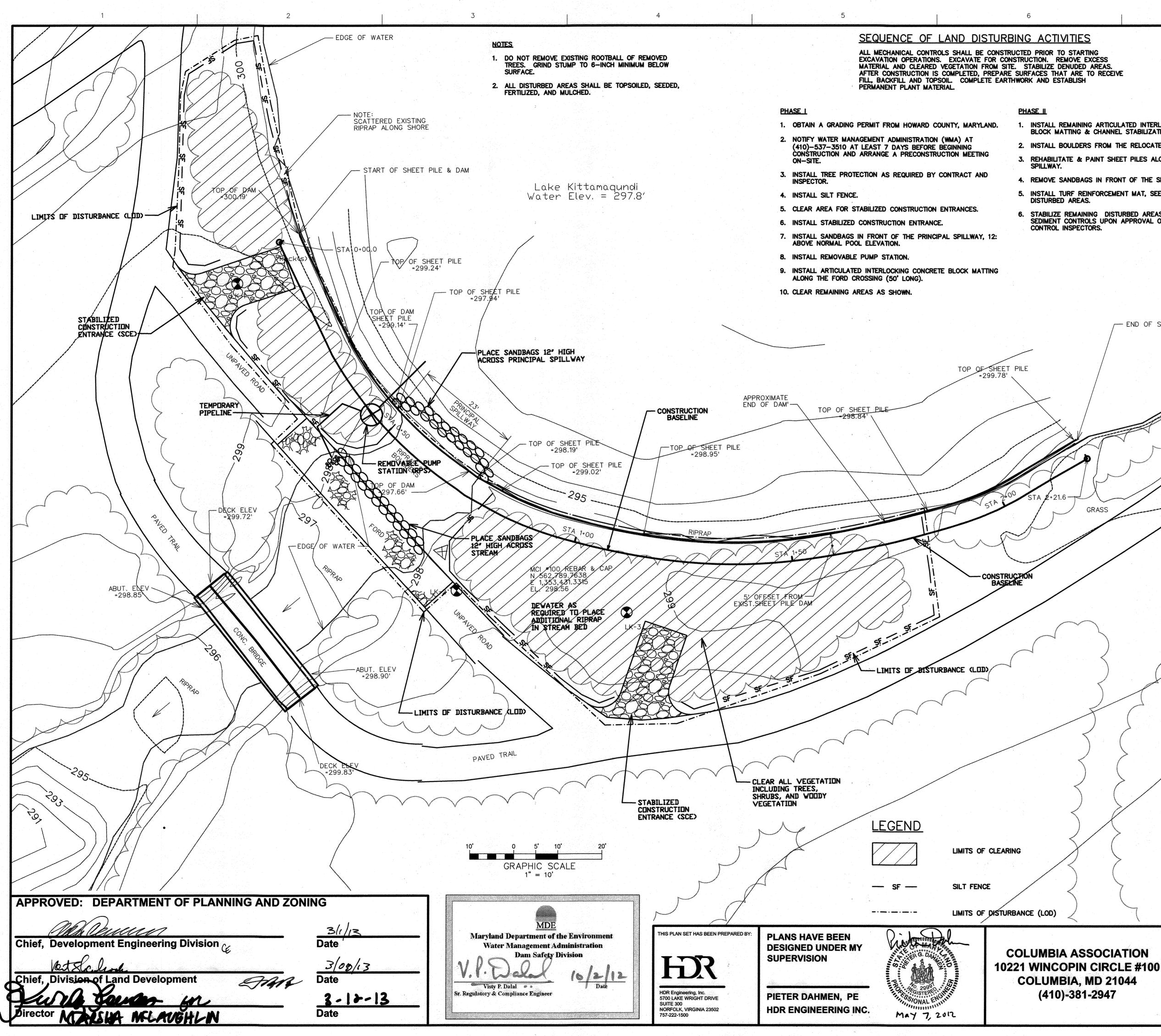
Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.











ALL MECHANICAL CONTROLS SHALL BE CONSTRUCTED PRIOR TO STARTING EXCAVATION OPERATIONS. EXCAVATE FOR CONSTRUCTION. REMOVE EXCESS MATERIAL AND CLEARED VEGETATION FROM SITE. STABILIZE DENUDED AREAS. AFTER CONSTRUCTION IS COMPLETED, PREPARE SURFACES THAT ARE TO RECEIVE FILL, BACKFILL AND TOPSOIL. COMPLETE EARTHWORK AND ESTABLISH



INSTALL REMAINING ARTICULATED INTERLOCKING CONCRETE BLOCK MATTING & CHANNEL STABILIZATION MEASURES. 2. INSTALL BOULDERS FROM THE RELOCATED AREA.

REHABILITATE & PAINT SHEET PILES ALONG PRINCIPAL

4. REMOVE SANDBAGS IN FRONT OF THE SPILLWAY.

GRASS

(410)-381-2947

5. INSTALL TURF REINFORCEMENT MAT, SEED & MULCH ALL DISTURBED AREAS.

6. STABILIZE REMAINING DISTURBED AREAS AND REMOVE SEDIMENT CONTROLS UPON APPROVAL OF WMA SEDIMENT CONTROL INSPECTORS.

- END OF SHEET PILE

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

Robertson 10/2/12

ENGINEER'S CERTIFICATE "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements with the Howard Soil Conservation District."

Walter Dimicola Signature of Engineer(print name below signature) Walter Dinicola

DEVELOPER'S CERTIFICATE "We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project, will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. Lalso authorize periodic on-site inspection by the Howard Scil Conservation District"

Signature of Developer (print name below signature) Date

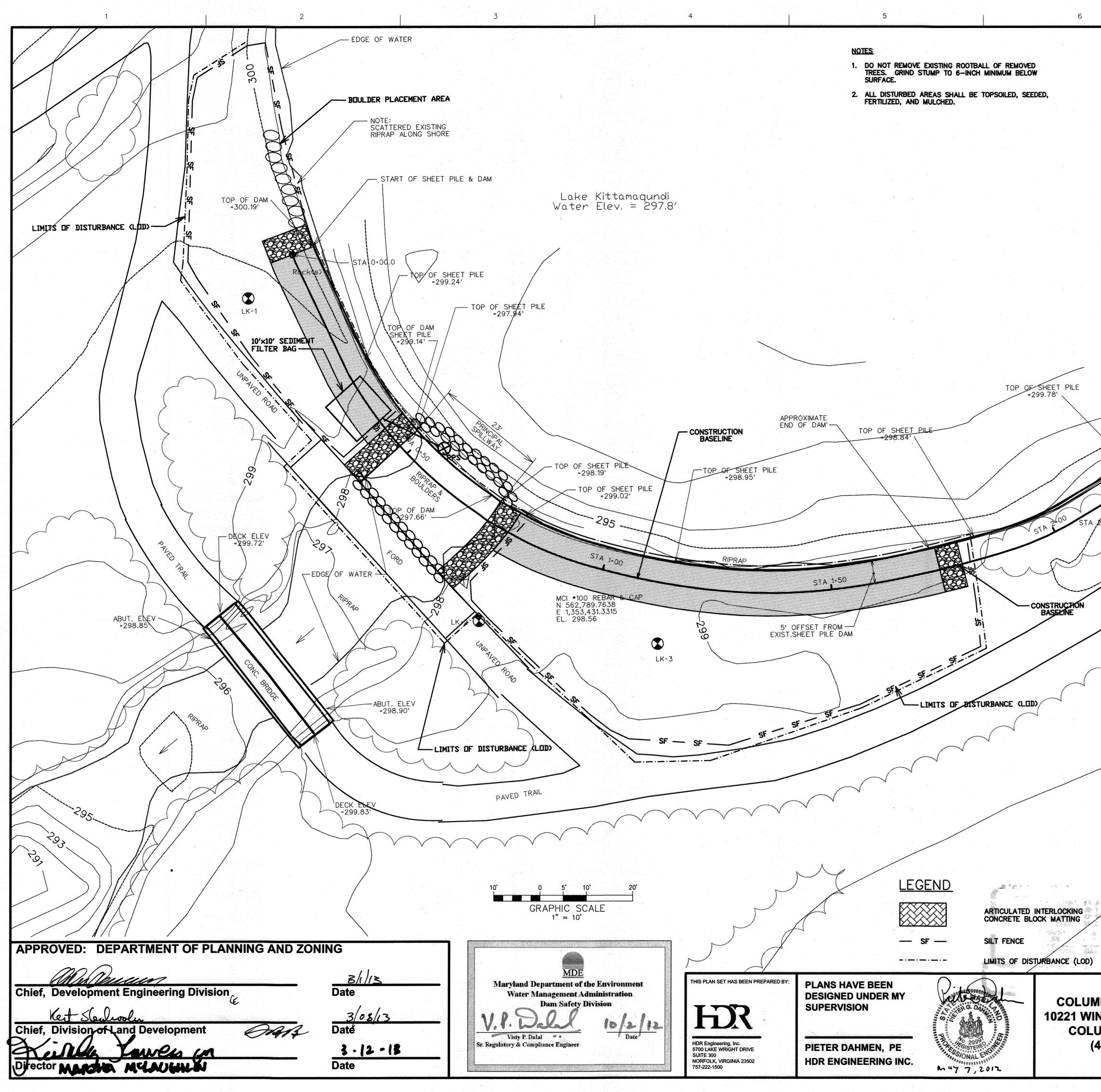
**EROSION AND SEDIMENT CONTROL PLAN INITIAL PHASE** 

3/8/13 Date

# **COLUMBIA ASSOCIATION TOWN CENTER**

REVISED SITE DEVELOPMENT PLAN LAKE KITTAMAQUNDI DAM REPAIR HOWARD COUNTY, MARYLAND

> SCALE AS SHOWN FEBRUARY 2011 J-06 43 DRAWING E-01, SHEET -6 OF 62



- END OF SHEET PILE GRASS This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT nh ta 10/2/12 ENGINEER'S CERTIFICATE "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements with the Howard Soll Conservation District." Signature of Engineer(print name below signature) Walter Dinicola DEVELOPER'S CERTIFICATE "We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project, will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District" > Math 3,8,13 Signature of Developer (print name below signature) Date **TEMPORARY EROSION AND SEDIMENT CONTROL PLAN FINAL PHASE COLUMBIA ASSOCIATION TOWN CENTER** REVISED SITE DEVELOPMENT PLAN LAKE KITTAMAQUNDI DAM REPAIR COLUMBIA ASSOCIATION HOWARD COUNTY, MARYLAND **10221 WINCOPIN CIRCLE #100** COLUMBIA, MD 21044 SCALE AS SHOWN (410)-381-2947 FEBRUARY 2011 J-07 44 DRAWING E-02, SHEET 7 OF 62 SDP-08-108

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ion Structures, Earth Dikes, Slope Silt Fence	tion Structures, Earth Dikes, Slope Silt Fence
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beit 4" - 8" higher in elevation .	lbeit 4" - 8" higher in elevation .
distributed in a 4" - 8" layer and lightly	distributed in a 4" - 8" layer and lightly
4". Spreading shall be performed in such a	4" . Spreading shall be performed in such a
roceed with a minimum of additional soil	proceed with a minimum of additional soil
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opsoiled, which have been previously	topsoiled, which have been previously
beit 4" - 8" higher in elevation,	lbeit 4" - 8" higher in elevation ,
distributed in a 4" - 8" layer and lightly	distributed in a 4" - 8" layer and lightly
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roceed with a minimum of additional soil	proceed with a minimum of additional soil
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distributed in a 4° - 8° layer and lightly	distributed in a 4° - 8° layer and lightly
4°. Spreading shall be performed in such a	4°. Spreading shall be performed in such a
roceed with a minimum ofadditional soil	proceed with a minimum of additional soil
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is excessively wet or in a condition that	l is excessively wet or in a condition that

- MOUNTABLE BERM (6" MIN.) -50' MINIMUM EXISTING PAVEMENT > ---- EARTH FILL 7/15/1/5/1/5 \*\* GEDTEXTILE CLASS 'C' - PIPE AS NECESSARY OR BETTER MINIMUM 6' DF 2'-3' AGGREGATE OVER LENGTH AND WIDTH OF -EXISTING GROUND STRUCTURE PROFILE — \* 50' MINIMUM-LENGTH MIN EXISTING PAVEMENT R MINIMU IDTH PLAN VIEW STANDARD SYMBOL SCE Construction Specification

1. Length - minimum of 50', or as shown on plans (\*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior

## Construction Specifications

3

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test	MSMT 509	
Tensile Modulus	20 lbs/in (min.)	Test	MSMT 509	
Flow Rate	0.3 gal ft²/ minute (max.)	Test	MSMT 322	
Filtering Efficiency	75% (min.)	Test	MSMT 322	

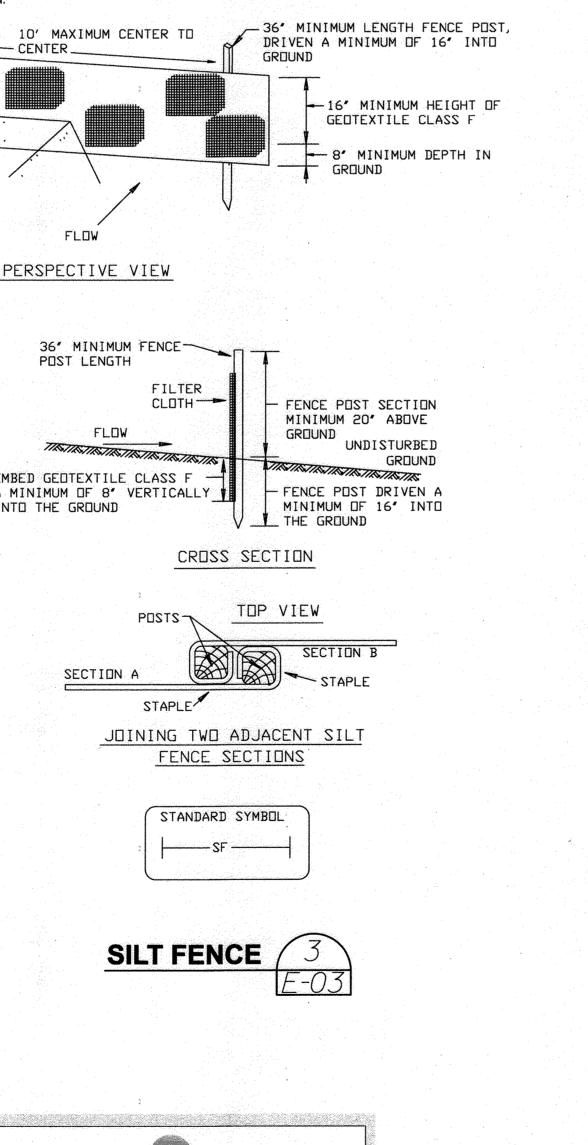
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

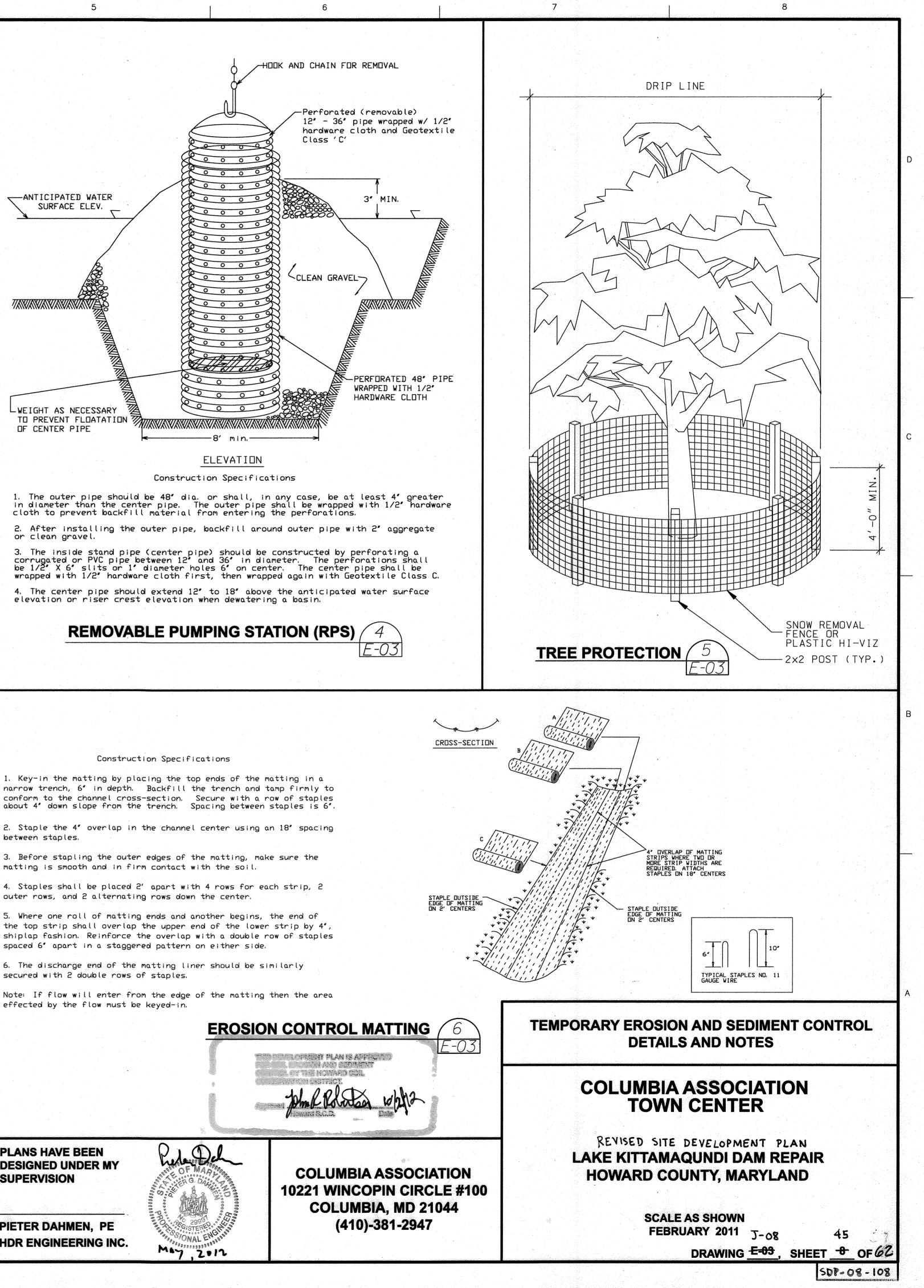
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

### Silt Fence Design Criteria

	(Maximum)	(Maximum)
Slope Steepness	Slope Length	Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
21 and steeper	20 feet	125 feet

of less than 2% slope and sandy soils (USDA general classification soil Class A) maximum slope length and silt fence length will be In these areas a silt fence may be the only perimeter control





narrow trench, 6' in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4' down slope from the trench. Spacing between staples is 6'.

between staples.

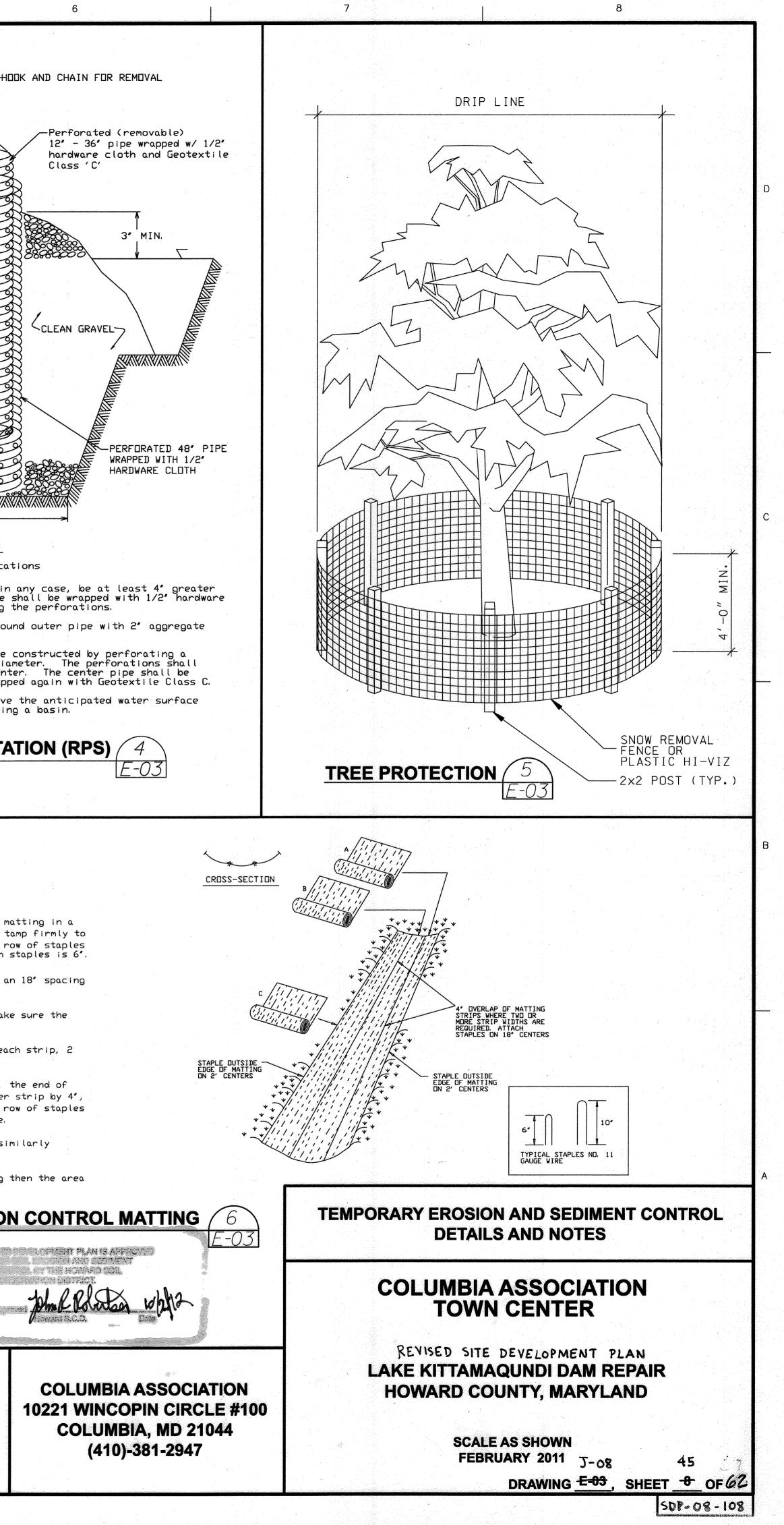
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

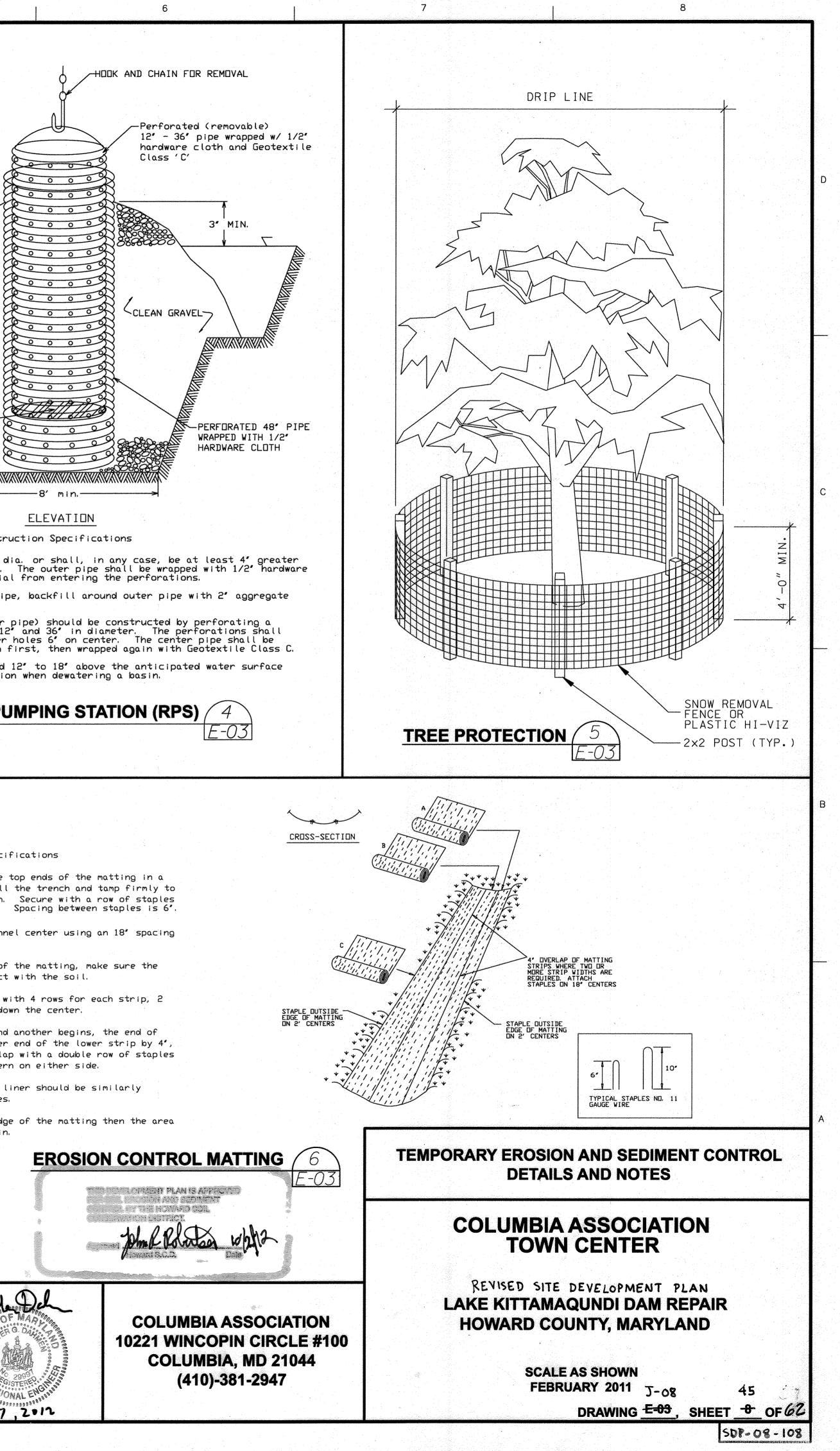
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", spaced 6' apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

effected by the flow must be keyed-in.







PROJECT **#**: 95522 PROJECT: Lake Kittamaqundi STRUCTURE: West End of Dam LK-' PAGE 1 OF OFFSET: Longitude: •W Coord. Datum: NAD 83 LOCATION: LATITUDE: •N SURFACE ELEVATION: 299.6 ft Date(s) Drilled: 11/5/08 — 11/5/08 Drilling Method(s): Hollow Stem Auger w/SPTs LAB DATA FIELD DATA ROCK SOIL SPT Method: Automatic Hammer DIP X INDEX Other Test(s): ENI Driller: Andy Bissette/F&R L ≻ Logger: Sue Young/HDR LIQUI TURE GROUND WATER 8 feet at 0 hrs NO LONG TERM MEASUREMENTS TAKEN DESCRIPTION OF STRATA LL PI 0.0 / 299.6 Topsoil TOPS 0.2 / 299.4 Red brown CLAYEY SAND, medium dense, moist, 9 micaceous SC 44 18 15.0 10 92 |) 11 Same, red brown and gray, moist 100 X 6 6 4.5 295 0.5 100 X Dark gray SILT, trace fine sand, very soft to soft, very moist, micaceous MH Lenses of red brown sandy silt below 7.5 feet 2 2 0.5 100 X 2 H 7.5 Trace small well rounded pebbles 57 25 52.5 0.75 WOH 100 X 290 12 40 Wet at 9 feet 0.25 73 🚶 - 10 10.3 / 289.3 23 10.5 Medium gray, SAND, SILT AND GRAVEL, very dense, wet (saturated) GP-GM 12.0 / 287.6 DECOMPOSED GRANITE, recovered as tan to pink silt, and rock fragments GRN - 12 -13.5 39 32 53) 285 50 Auger refusal at 15.5 feet REMARKS: RIG TYPE: CME-75 truck mounted rig. Boring tremie grouted upon completion Water entering boring when 0 hr water level taken PAGE 1 OF LK-1• 2009, Commonwealth of Virginia

APPROVED: DEPARTMENT OF PLANNING AN	3/1/13	
Chief, Development Engineering Division	Date	
Kert Shelson	3/02/13	
Chief, Division of Land Development	Date Date	
Firector MARSON MCLAUGHUN	3.12-13	S
Director MARSHA MCLAUGHLIN	Date	

and the

- 2 4							*				PROJECT #: 95522 PROJECT: Lake Kittamaqundi STRUCTURE: Center of Dam	ſ	PAGE		( — ) OF
								-			LOCATION: OFFSET: LATITUDE: *N LONGITUDE: SURFACE ELEVATION: 298.7 ft COORD. DATU	•W 4:	NAD	83	
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	(	<u>S 0 1  </u>		6	2		RO	C K	the second s	D	Drilling Method(s): Hollow Stem Auger w/SPTs SPT Method: Automatic Hammer Other Test(s):		DEX	r (x)	
DEPTH (ft)	ELEVATION (ft)	STANDARD PENETRATION TEST HAMMER BLOWS	X SOIL RECOVERY	SAMPLE LEGEND	SAMPLE INTERVAL	Core Recovery	ROCK QUALITY DESIGNATION	STRATA	JOINTS	STRATA LEGEND	Driller: Andy Bissette/F&R Logger: Sue Young/HDR GROUND WATER 4.7 feet at 0 hrs NO LONG TERM MEASUREMENTS TAKEN	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE CONTENT	
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	295	4 5 5 5 5	73 40	Ň	3						2.5 / 296.2 Brown fine SANDY CLAY, trace gravel, stiff to medium stiff, moist, micaceous CL	44	21	18.2	2.
		3 1 2 1	93	M	4.5 6						4.5 / 294.2 Brown gray CLAY, very soft to medium stiff, moist, micaceous CL		-		1.
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2 -	285	50	100		13.5 13.6						12.0 / 286.7 DECOMPOSED GRANITE, recovered as gray, tan, and brown sand, silt, and rock fragments GRN				
4											Auger refusal at 14.0 feet		-		
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MAR	KS:	RIG TYPE:	CMI	 [-7!	5 truc	k m	nount	ed ri	g.			P	AGE	1 (	OF
										d a	djacent to gravel access road	1	AUL		<u></u>

MDI Maryland Department of the Environment Water Management Administration THIS PLAN SET HAS BEEN PREPARED B PLANS HAVE BEEN Letter Malo DESIGNED UNDER MY COLUN Dam Safety Division SUPERVISION 'HJ 10221 WII 1<u>0/2/12</u> Date COLL Visty P. Dalal 🔹 🚓 HDR Engineering, Inc. 5700 LAKE WRIGHT DRIVE SUITE 300 atory & Compliance Engineer PIETER DAHMEN, PE NORFOLK, VIRGINIA 23502 757-222-1500 HDR ENGINEERING INC. May 7,2012

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•											STRUCTURE:East End of DamLOCATION:OFFSET:LATITUDE:*NLONGITUDE:	•w	'AGE	1	<u>OF 1</u>
FIELD DATA											SURFACE ELEVATION:298.5 ftCOORD. DATUDate(s)Drilled:11/5/08 - 11/5/08			83 DAT	<u>.</u>
DEPTH (ff)	ELEVATION (ft)	PENETRATION TEST 0 HAMMER BLOWS 0		SAMPLE LEGEND	SAMPLE INTERVAL		ROCK QUALITY	D	P	STRATA LEGEND	Drilling Method(s): Hollow Stem Auger w/SPTs SPT Method: Automatic Hammer Other Test(s): Driller: Andy Bissette/F&R Logger: Sue Young/HDR GROUND WATER	LIQUID LIMIT	PLASTICITY INDEX	MOISTURE CONTENT (X)	
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20	09, Comm	onwealth of t	Virginia												
	• • •										SOIL BORING LOGS				
											COLUMBIA ASSOCIATIO TOWN CENTER	Ν			
BIA ASSOCIATION COPIN CIRCLE #100 MBIA, MD 21044 10)-381-2947					REVISED SITE DEVELOPMENT PLA LAKE KITTAMAQUNDI DAM REF HOWARD COUNTY, MARYLAN SCALE AS SHOWN FEBRUARY 2011 J-09	PAII	x	46							

8

# LAKE KITTAMAQUNDI MULTIUSE TRAIL **CONSTRUCTION DRAWINGS COLUMBIA ASSOCIATION** HOWARD COUNTY, MARYLAND

## **GENERAL NOTES**

- . HORIZONTAL AND VERTICAL SURVEY CONTROLS THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS HOWARD CO. BM 30 BA AND BM 36 EA. ALL VERTICAL CONTROLS ARE BASED NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE BM 30 BA ANI
- THE EXISTING UTILITIES GRADES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. NECESSARY PRECAUTIONS SHALL BE BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS AND ANY DAMAGE TO IMMEDIATELY AT HIS OWN EXPENSE.
- 3. CONTOURS SHOWN OUTSIDE OF LIMIT OF WORK ARE BASED ON HOWARD COUNTY 2011 GIS TOPOGRA
- 4. PROPERTY LINES SHOWN ARE BASED ON HOWARD COUNTY 2012 CADASTRAL DATA.
- 5. WETLAND DELINEATION WAS PERFORMED BY BAYLAND CONSULTANTS & DESIGNERS, INC. ON JUNE 16TH 2013.
- 6. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT PERMIT TRACKING NUMBER IS 201460150
- 7. FEMA FIRM #24027C0155D EFFECTIVE NOVEMBER 6, 2013 SHOWS THAT THE PROJECT SITE IS LOCATED WITHIN ZONE A
- 8. RIPRAP SHOWN IN PLAN VIEW AND PROFILE ARE SYMBOLIC AND DO NOT REPRESENT INDIVIDUAL STONES
- 9. THE SITE IS WITHIN THE LITTLE PATUXENT RIVER WATERSHEE
- 10. FOR DETAILS, MATERIALS, AND CONSTRUCTION METHODS NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL REFER TO HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY VOLUME IV ON SITE AT ALL TIMES.
- 11. THIS PLAN IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS UNDER SUBSECTION 16.1202(b)(1)(iv) SINCE IT IS PART OF A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992.
- 12. LANDSCAPING FOR THIS PLAN IS PROVIDED BY ALTERNATIVE COMPLIANCE BASED ON EXISTING SITE CONDITIONS AND VEGETATION.
- 13. THIS PLAN IS SUBJECT TO WAIVER PETITION WP-14-079, APPROVED ON FEBRUARY 18, 2014. WP-14-079 APPROVES A WAIVER TO SUBSECTIONS 16.115(c)(2), 16.116(a)(1), AND 16.116(a)(2)(iii) WHICH IS SUBJECT TO THE FOLLOWING CONDITIONS: a. HOWARD COUNTY APPROVAL OF REDLINE REVISION NO. 3 TO SDP-08-108 b. STATE AND FEDERAL AUTHORIZATION OF REGULATED ACTIVITIES
- C. OBTAIN ALL REQUIRED PERMITS FROM THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS. d. OBTAIN ALL NECESSARY PERMISSION AND AGREEMENTS FROM THE MARYLAND STATE HIGHWAY ADMINISTRATION (SHA) FOR THE PORTIONS OF THE PATHWAY LOOP LOCATED WITHIN THE US ROUTE 29 RIGHT-OF-WAY.

## STORMWATER MANAGEMENT NOTE

STORMWATER MANAGEMENT REQUIREMENTS WILL BE PROVIDED FOR THE PROPOSED PAVED TRAIL AS SHOWN ON THIS PLAN VIA NON-ROOFTOP DISCONNECTION IN ACCORDANCE WITH THE CURRENT HOWARD COUNTY DESIGN MANUAL, VOLUME I: STORM DRAINAGE, CHAPTER 5: STORMWATER MANAGEMENT. A SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN WAS APPROVED ON JANUARY 13, 2014.

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APPROVED: DEPARTMENT OF PLANNING AND Z	ONING
Chief, Development Engineering Division Ase	<u>5, 9. /4</u> Date
Ket Shenliveli	<u>6.09.14</u>
Chief, Division of Land Development	Date
Martzierrell-	<u>6/9/17</u>
Director	Date



RD	COUNTY	ADC	MAP	COORDI
15	GRID H-	5		

MAP

LOCATION	MAP
SCALE: 1"=2000	ľ

## LEGEND

TRAVERSE POINT	$\bigtriangleup$	PROP. PATH
EX. SPOT SHOT	X ELEV	
EX. BOUNDARY		PROP. BOARD
EX. MINOR CONTOUR		
EX. MAJOR CONTOUR		PROP. IMBRIC
EX. ROAD	<u> </u>	PROP.
EX. TREELINE	$\sim\!\!\!\sim\!\!\!\sim\!\!\!\sim\!\!\!\sim\!\!\!\sim\!\!\!\sim$	CONSTRUCTION ACCESS
EX. VEGETATED BUFFER		LIMIT OF DIST
EX. WATERS OF THE U.S.	NUS	SILT FENCE
EX. 100-YR FEMA FLOODPLAIN	105	TURBIDITY CUI
EX. 15' NON-TIDAL WETLAND BUFFER		TEMPORARY A BRIDGE
EX. NON-TIDAL WETLANDS		
EX. IMBRICATED RIPRAP WALL		

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BRICATED CK WALL	
TION	
DISTURBANCE	LOD
E	SF
CURTAIN	TC
ACCESS	TB

10221 WINCOPIN CIRCLE #100

COLUMBIA, MD 21046

(410) 381 - 2947

PERMITTED USE NUMBER 20911186

1. OWNER/DEVELOPER:

- 2. OWNER/DEVELOPER IN
- 3. ENGINEER:
- 4. ENGINEER INFORMATIO
- 5. TAX MAP:
- 6. PARCEL: 7. DEED REF:
- 8. DISTRICT:
- 9. HO. COUNTY TAX ID N
- 10. USE: 11. ZONING:
- 12. PROPERTY AREA:
- 13. WATERSHED:

# **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. 21194, EXPIRATION DATE: 04/20/2016.



# PROJECT INFORMATION

	1	
NDEX	OF SHEE	ETS

	COLUMBIA ASSOCIATION CONTACT: DENNIS MATTEY	DRAWING NO.	SHEET NO.	SHEET	TITLE
COL	9450 GERWIG LANE	K-01	47	MULTIUSE TRAIL -	COVER SHEET
	COLUMBIA, MD 21046	K-02	48	MULTIUSE TRAIL -	KEY SHEET
	410-381-0591	K–03	49	MULTIUSE TRAIL -	DESIGN PLANS
	BAYLAND CONSULTANTS AND DESIGNERS, INC.	K-04	50	MULTIUSE TRAIL -	DESIGN PLANS
ON		K-05	51	MULTIUSE TRAIL -	DESIGN PLANS
	1321 MERCEDES DRIVE, SUITE A HANOVER, MARYLAND 21076	K-06	52	MULTIUSE TRAIL -	DESIGN PLANS
	PH: 410-694-9401	K-07	53	MULTIUSE TRAIL -	DESIGN PLANS
	0036	K-08	54	MULTIUSE TRAIL -	CROSS SECTIONS & DETAILS
	0210	K-09	55	MULTIUSE TRAIL -	BOARDWALK DETAILS
	03324/00191	K-10	56	MULTIUSE TRAIL -	BOARDWALK DETAILS
	15	K-11	57	MULTIUSE TRAIL -	EROSION AND SEDIMENT CONTROL PLAN
NO:	15-010657	K-12	58	MULTIUSE TRAIL -	EROSION AND SEDIMENT CONTROL PLAN
	OPEN SPACE	K-13	59	MULTIUSE TRAIL -	EROSION AND SEDIMENT
	NEW TOWN				CONTROL NOTES & DETAILS
	39.8± ACRES				

# ITE ANALYSIS

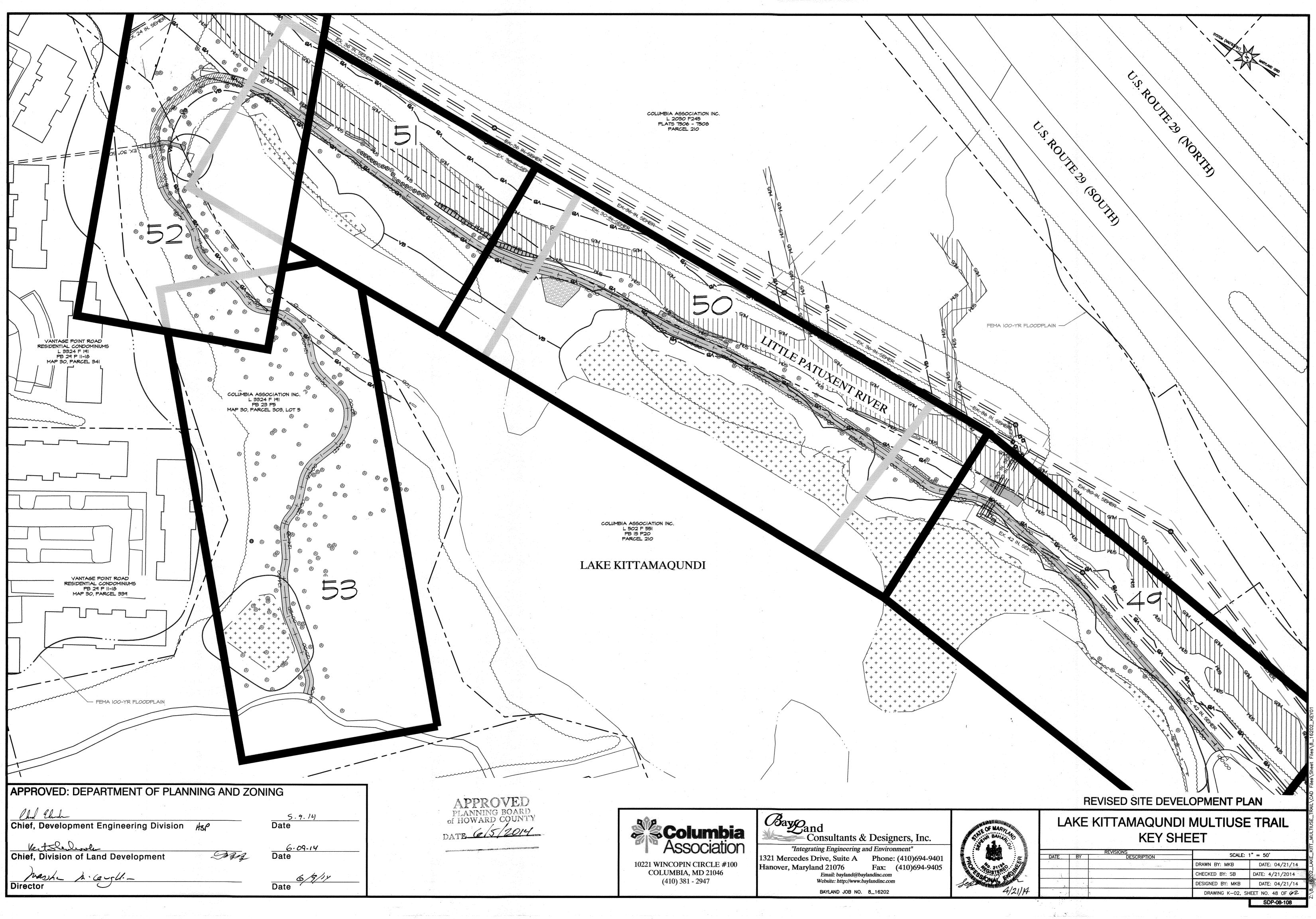
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BE STABILIZED: IMP AREA: IMPERVIOUS AREA: BILIZED CONSTRUCTION ACCESS BE VEGETATIVELY STABILIZED:	2.87 ACRES 0.00 ACRES 0.55 ACRES 0.33 ACRES 1.99 ACRES
ERVIOUS AREA:	0.88 ACRES
:	620 CY
:	0 CY

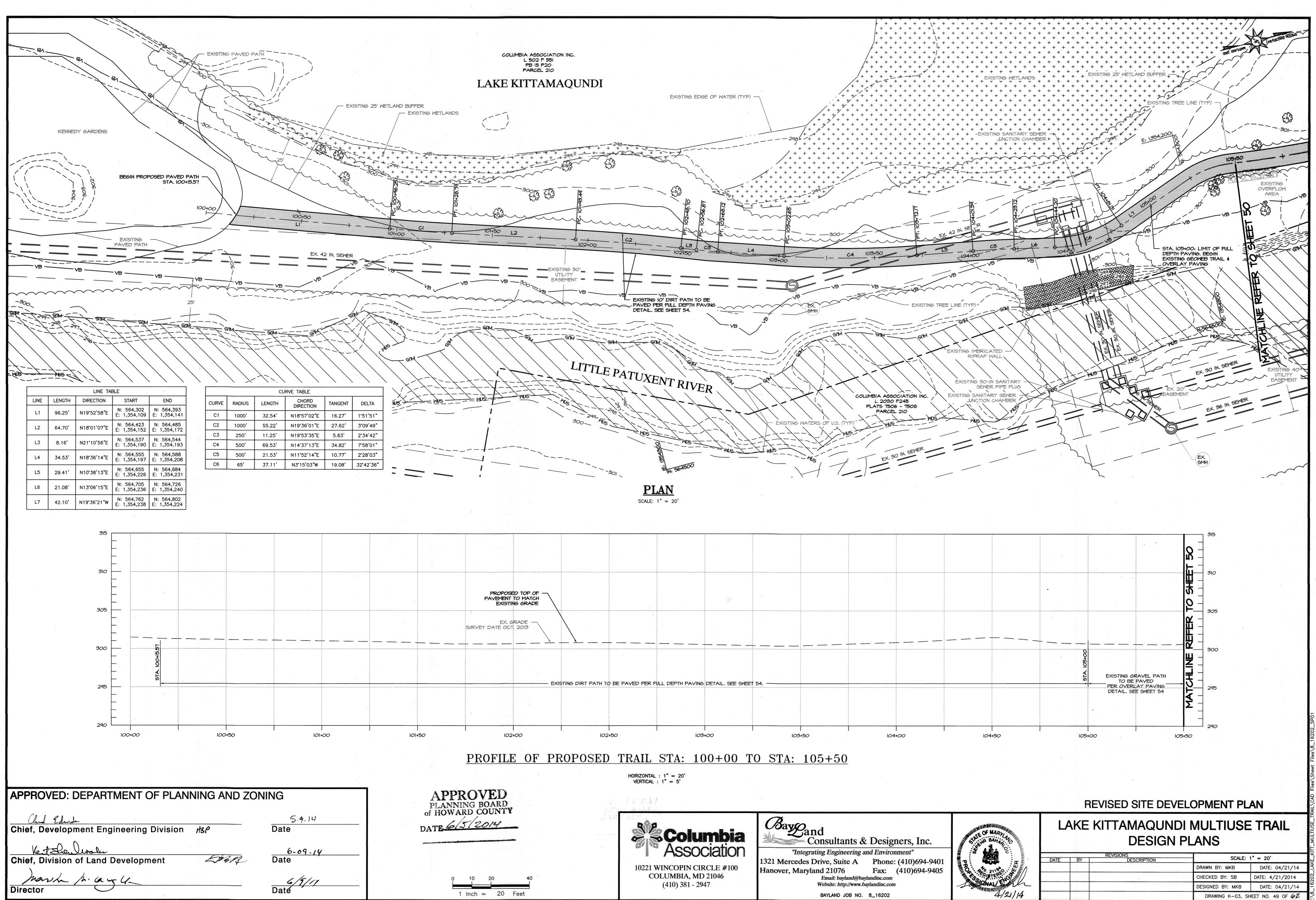
UANTITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES KES NO GUARANTEES OF ACCURACY OF QUANTITIES OR THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL ITIES ENCOUNTERED DURING CONSTRUCTION.

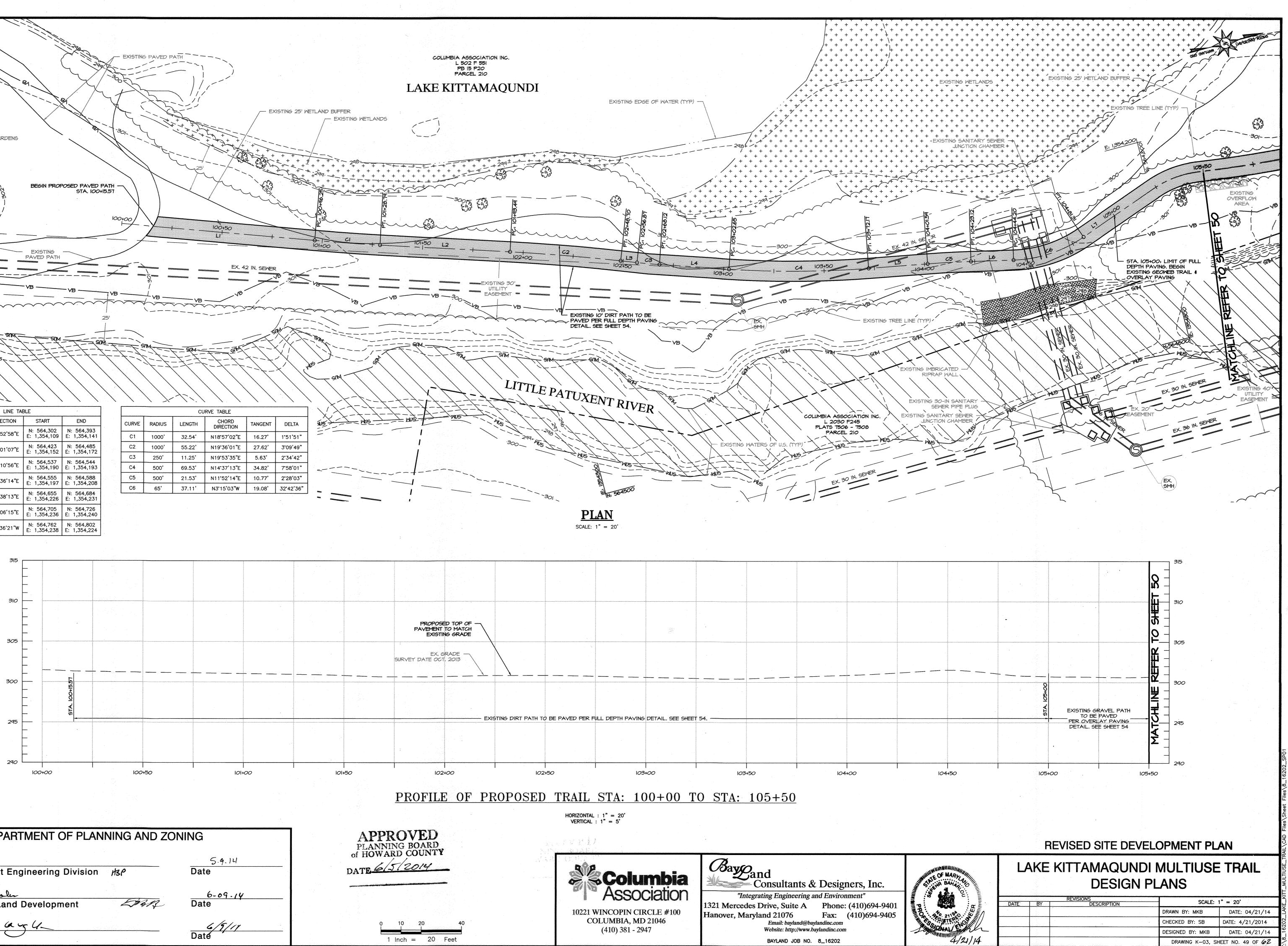
LITTLE PATUXENT RIVER

# **REVISED SITE DEVELOPMENT PLAN**

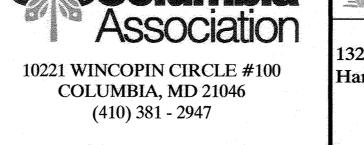
ers, Inc.	SALE BAHAD	LAKE KITTAMAQUND COVER S		ETRAIL
tent" 410)694-9401		REVISIONS DATE   BY   DESCRIPTION	SCALE: AS-SHOWN	
410)694-9405	10 ··· 20 2110 0		DRAWN BY: MKB	DATE: 04/21/14
10,074-2403	Je tomber with		CHECKED BY: SB	DATE: 4/21/2014
			DESIGNED BY: MKB	DATE: 04/21/14
	4121119		DRAWING K-01, S	SHEET NO. 47 OF 62
				SDP-08-108

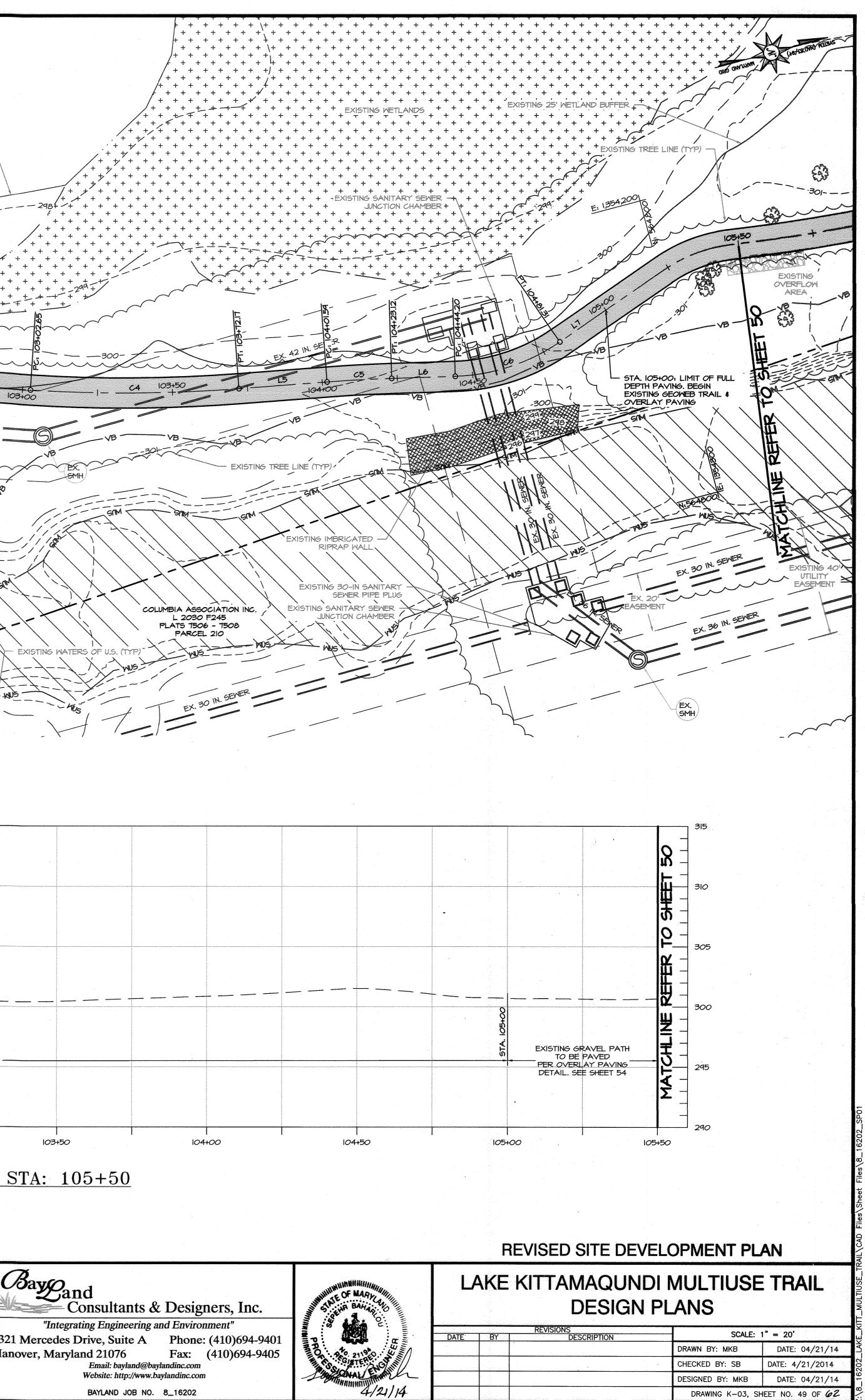


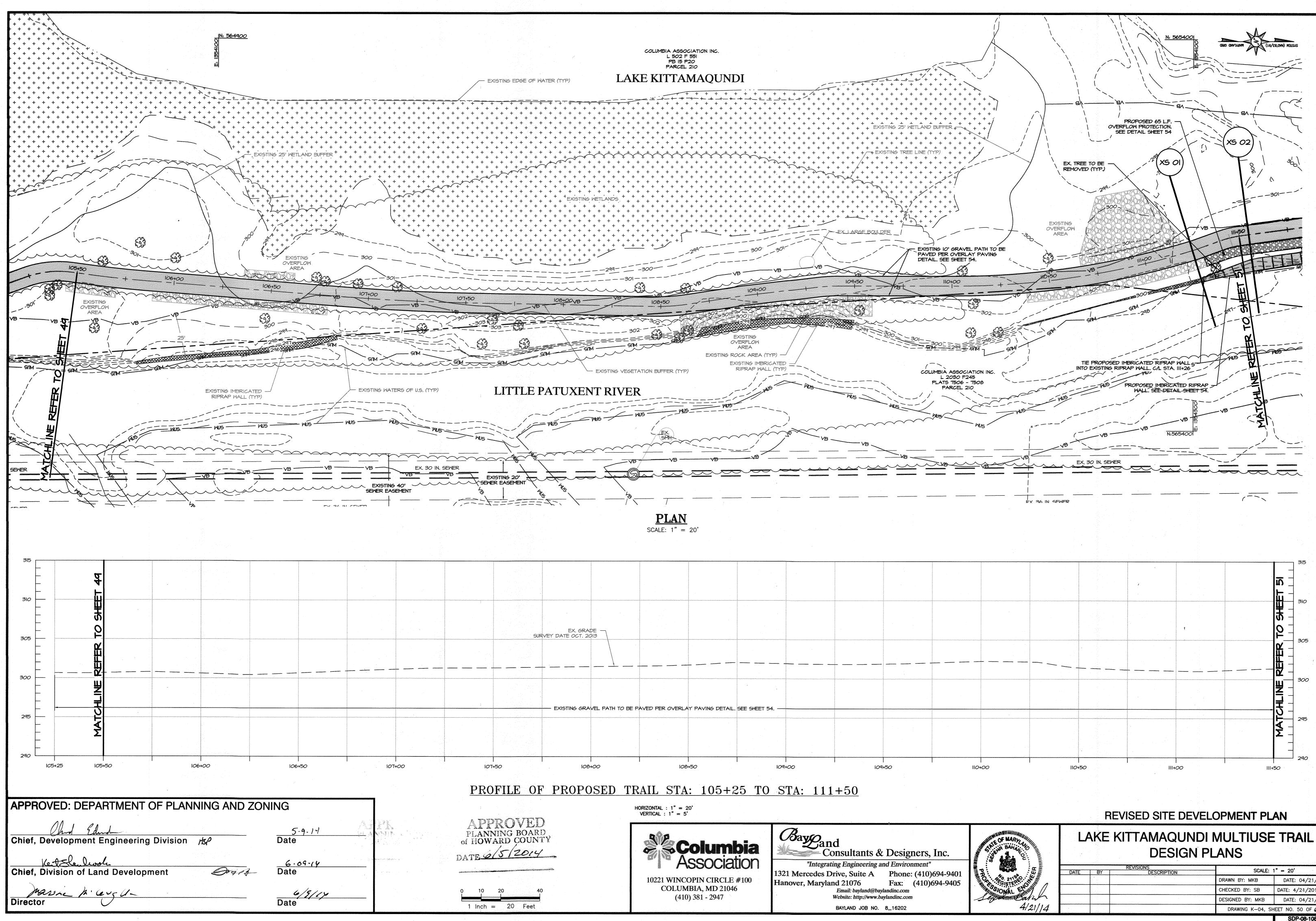




APPROVED: DEPARTMENT OF PLANNING AND ZO	NING	
Chief, Development Engineering Division H3P	5.9.14 Date	
KetShenlisolu Chief, Division of Land Development	<u>6-09-14</u> Date	
march h. a.g. U. Director	<u> </u>	

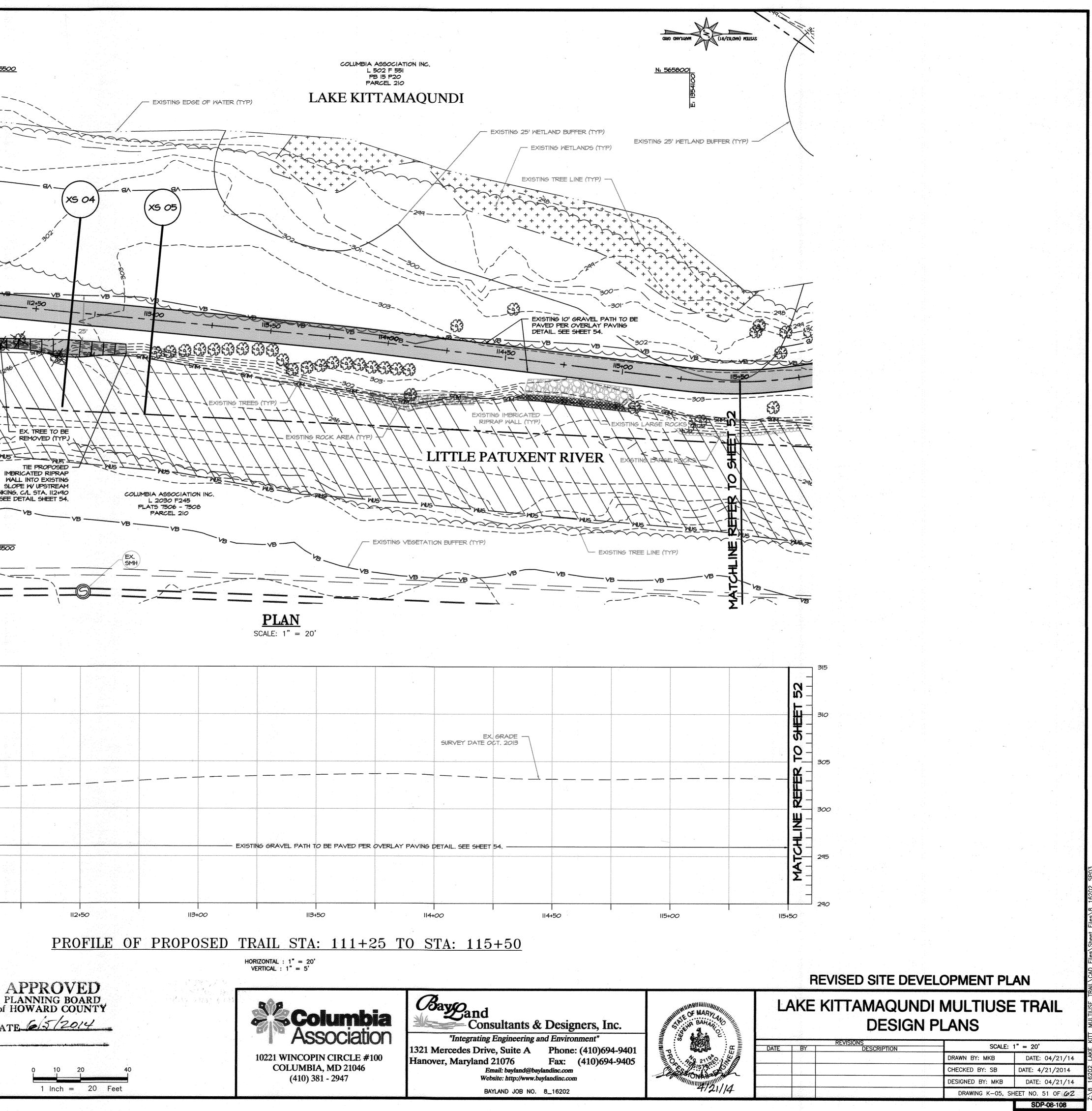


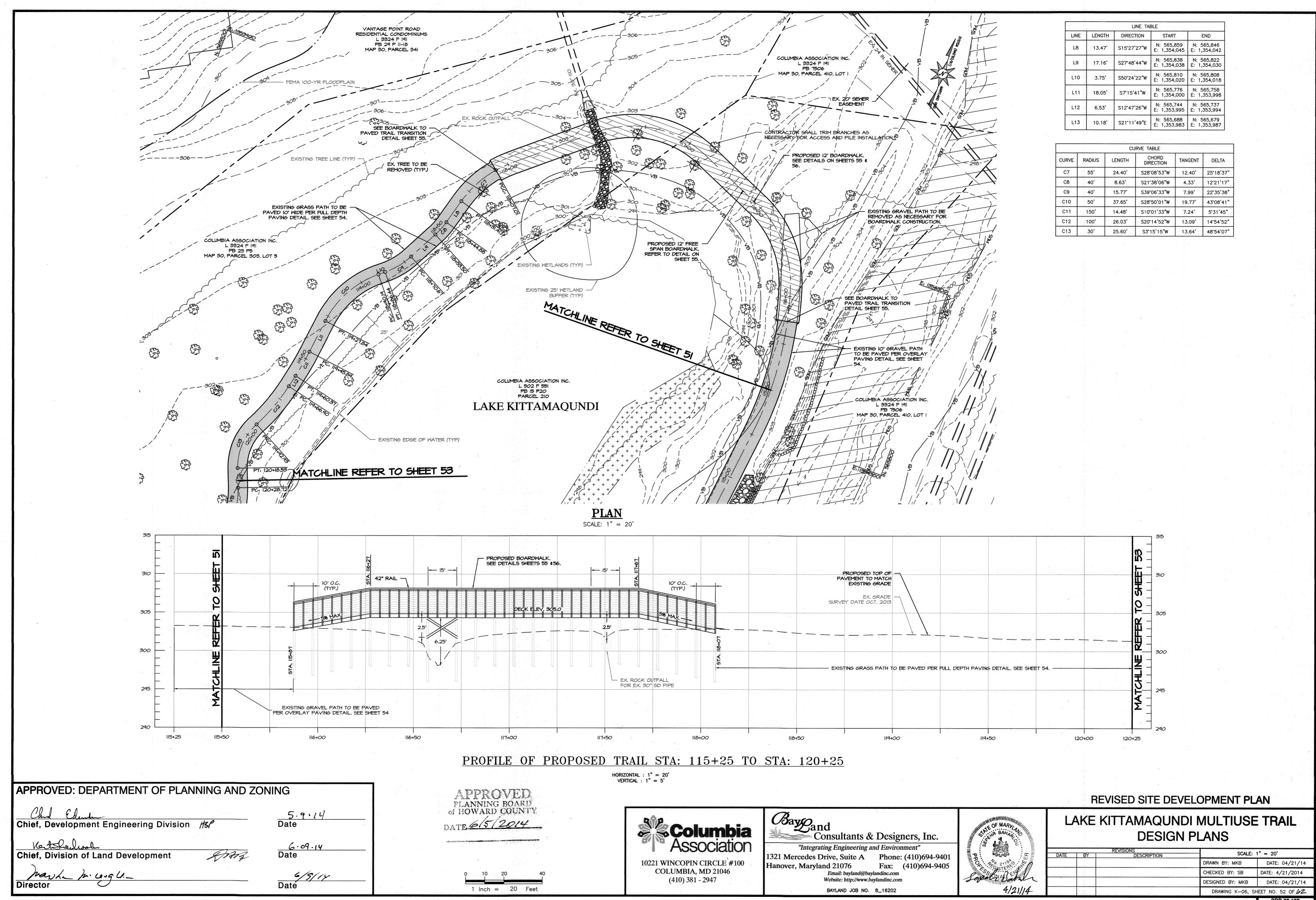




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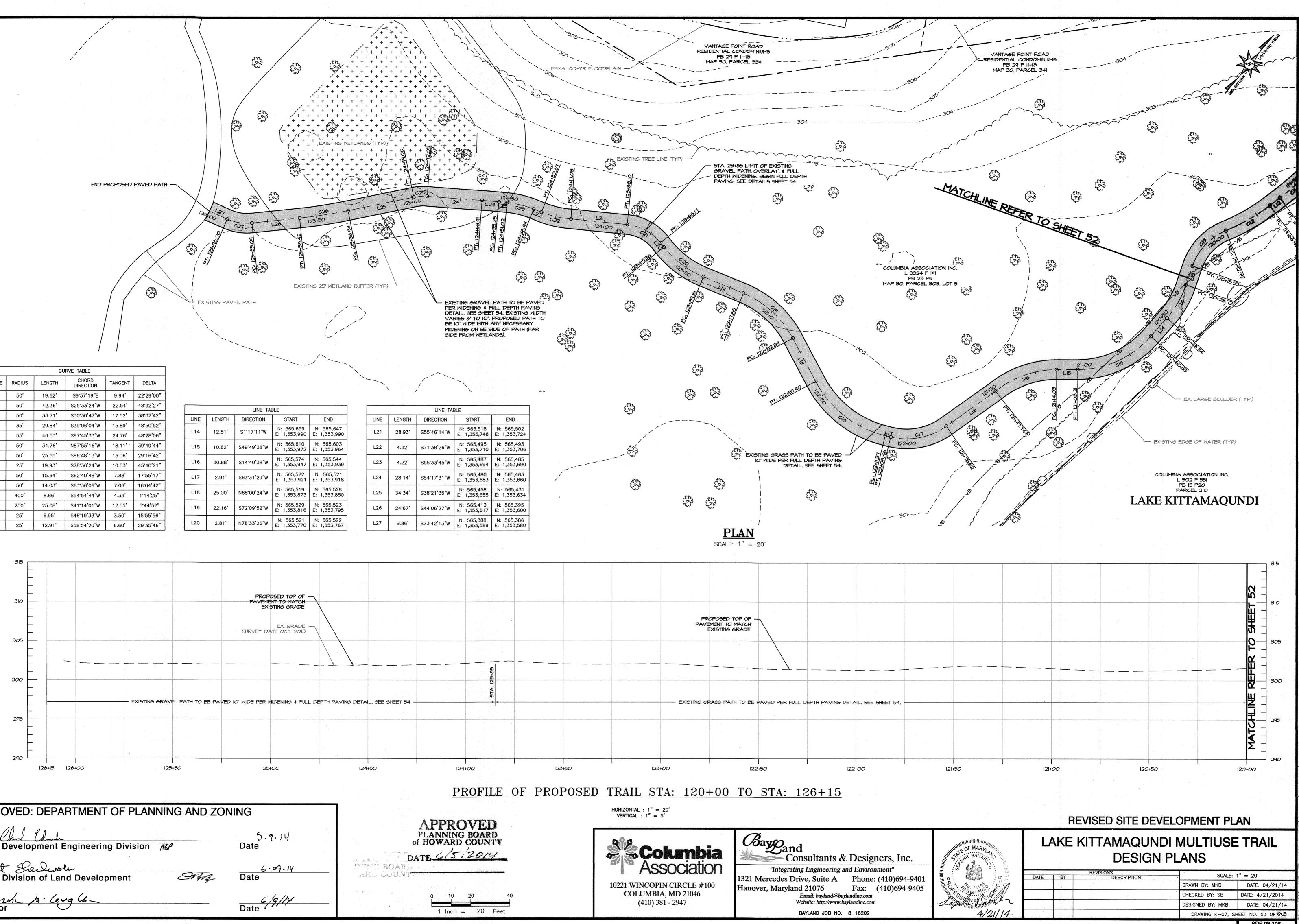
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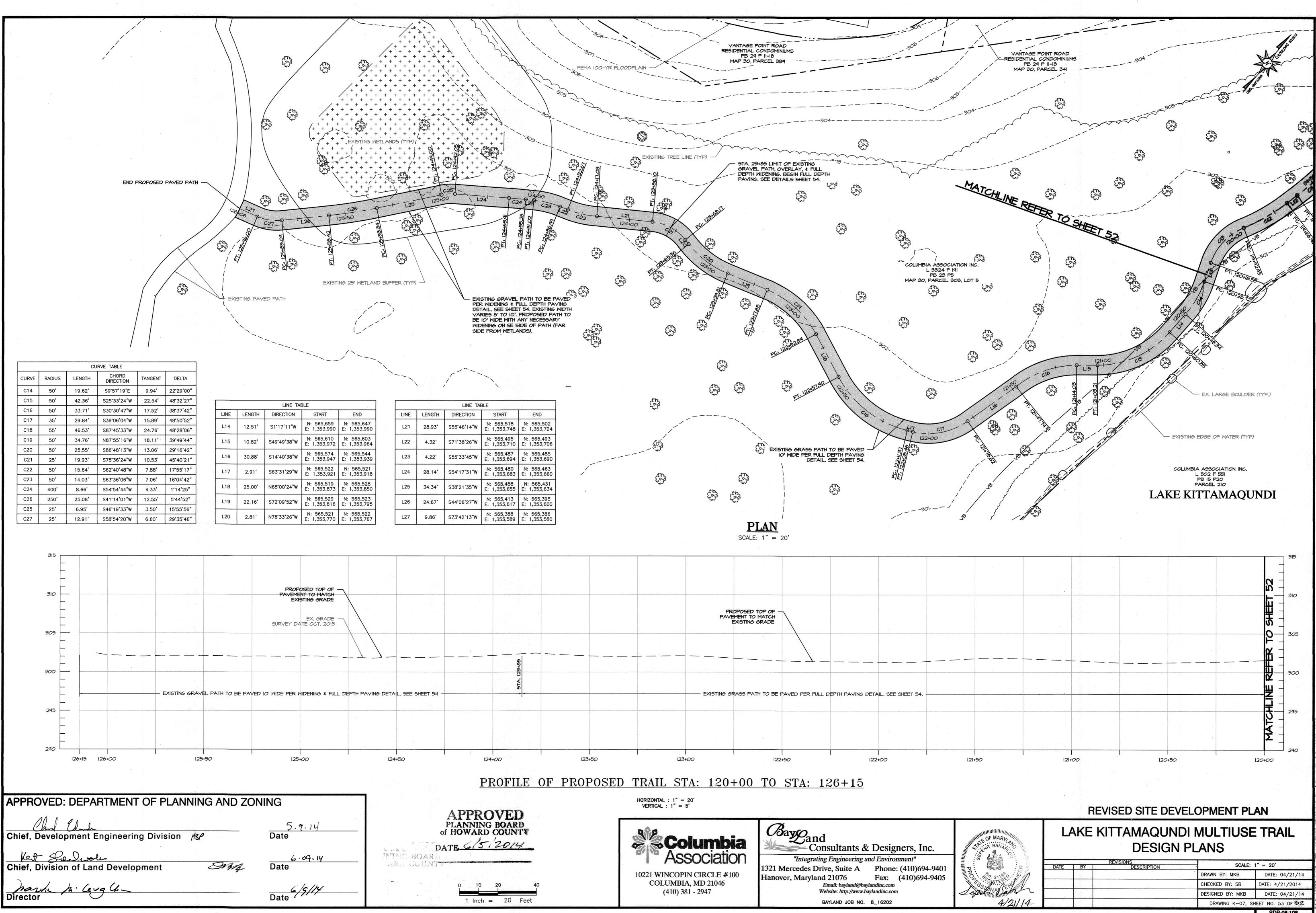
		LINE TA	BLE	
LINE	LENGTH	DIRECTION	START	END
L8	13.47'	S15•27'27"W	N: 565,859 E: 1,354,045	N: 565,846 E: 1,354,042
L9	17.16'	S27*48'44"W	N: 565,838 E: 1,354,038	N: 565,822 E: 1,354,030
L10	3.75'	S50°24'22"W	N: 565,810 E: 1,354,020	N: 565,808 E: 1,354,018
: L11	18.05'	S7 <b>'</b> 15'41 <i>"</i> W	N: 565,776 E: 1,354,000	N: 565,758 E: 1,353,998
L12	6.53 <b>'</b>	S12•47'26"W	N: 565,744 E: 1,353,995	N: 565,737 E: 1,353,994
L13	10.18'	S21*11'49"E	N: 565,688 E: 1,353,983	N: 565,679 E: 1,353,987

		CL	IRVE TABLE		
CURVE	RADIUS	LENGTH	CHORD DIRECTION	TANGENT	DELTA
C7	55'	24.40'	S28'08'53"W	12.40'	25*18'37"
C8	40'	8.63'	S21*38'06"W	4.33'	12'21'17"
Cà	40'	15.77'	S39*06'33"W	7.99'	22*35'38"
C10	50'	37.65'	S28*50'01"W	19.77'	43*08'41"
C11	150'	14.48'	S10'01'33"W	7.24'	5*31'45"
C12	100'	26.03'	S20*14'52"W	13.09'	14*54'52"
C13	30'	25.60'	S3°15'15"W	13.64'	48 <b>·</b> 54'07"

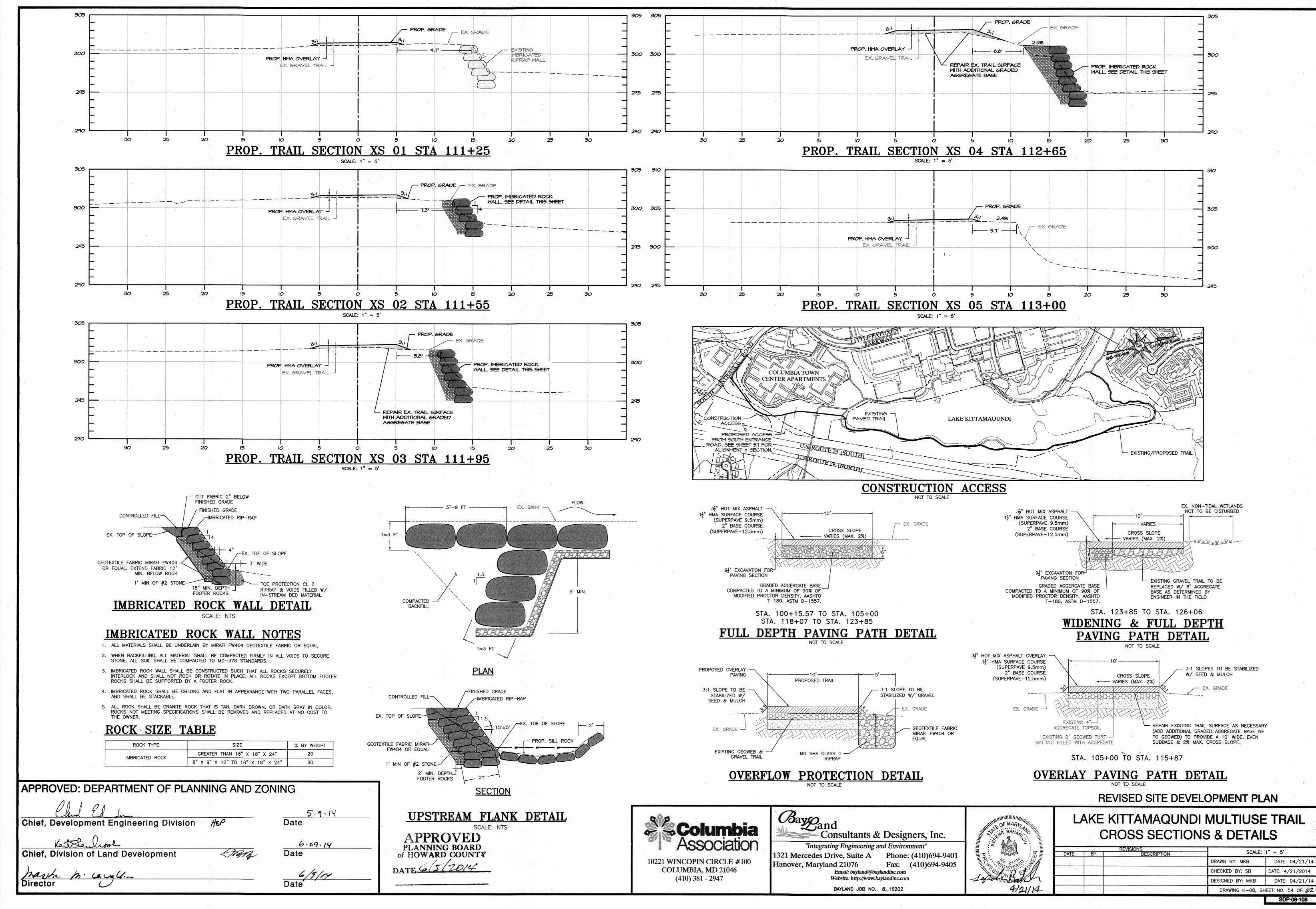


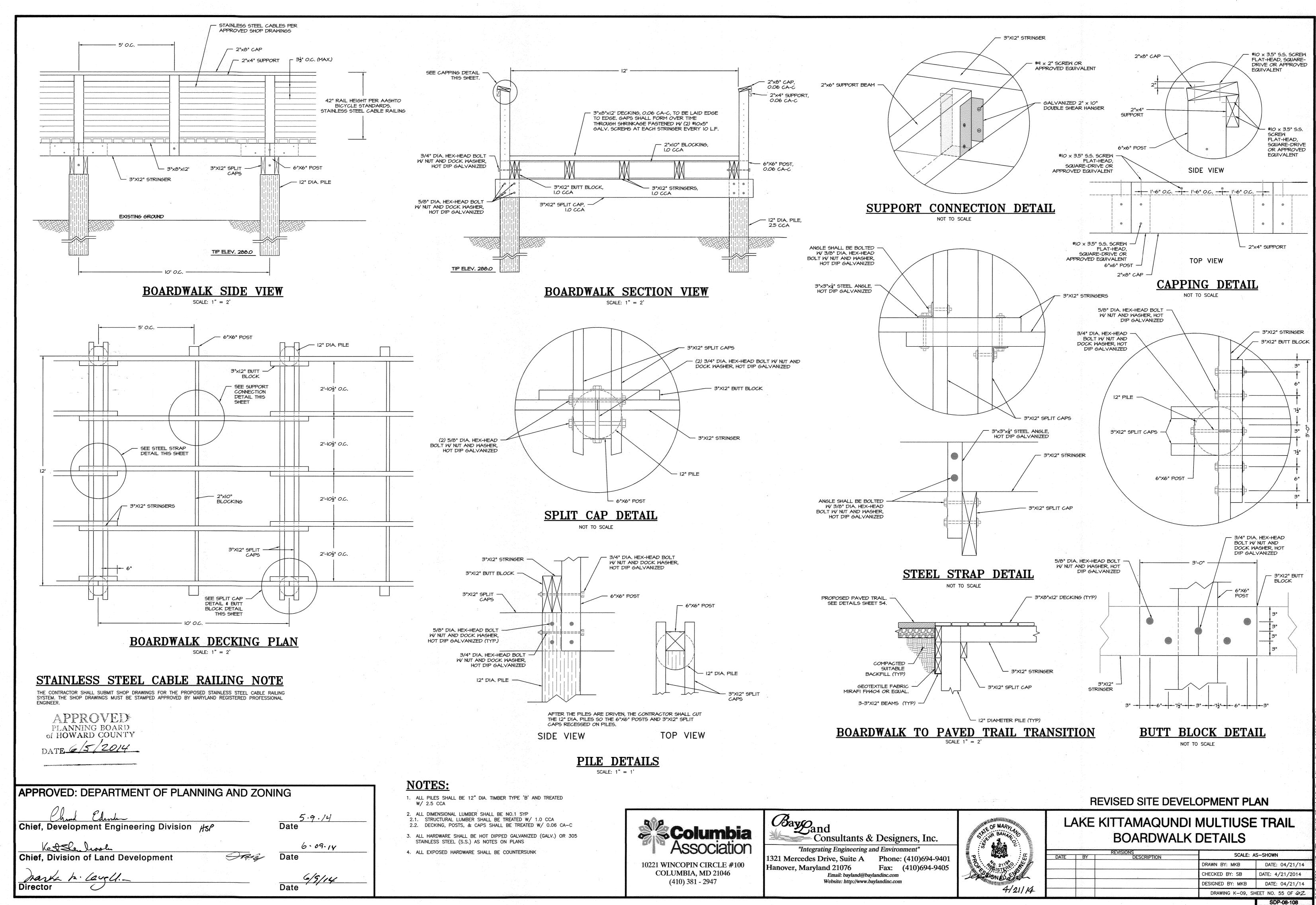
		CL	JRVE TABLE		5. 
CURVE	RADIUS	LENGTH	CHORD DIRECTION	TANGENT	DELTA
C14	50'	19.62'	S9*57'19"E	9.94'	22*29'00"
C15	50'	42.36'	S25'33'24"W	22.54'	48'32'27"
C16	50'	33.71'	\$30°30'47"W	17.52'	38'37'42"
C17	35'	29.84'	S39*06'04"W	15.89'	48*50'52"
C18	55'	46.53'	S87*45'33"W	24.76'	48*28'06"
C19	50'	34.76'	N87*55'16"W	18.11'	39 <b>*</b> 49'44"
C20	50'	25.55'	S86'48'13"W	13.06'	29'16'42"
C21	25'	19.93'	S78•36'24"W	10.53'	45*40'21"
C22	50'	15.64'	S62'40'48"W	7.88'	17*55'17"
C23	50'	14.03'	S63•36'06"W	7.06'	16°04'42"
C24	400'	8.66'	S54•54'44"W	4.33'	1•14'25"
C26	250'	25.08'	S41°14'01"W	12.55'	5*44'52"
C25	25'	6.95'	S46•19'33"W	3.50'	15°55'56"
C27	25'	12.91'	S58*54'20"W	6.60'	29'35'46"

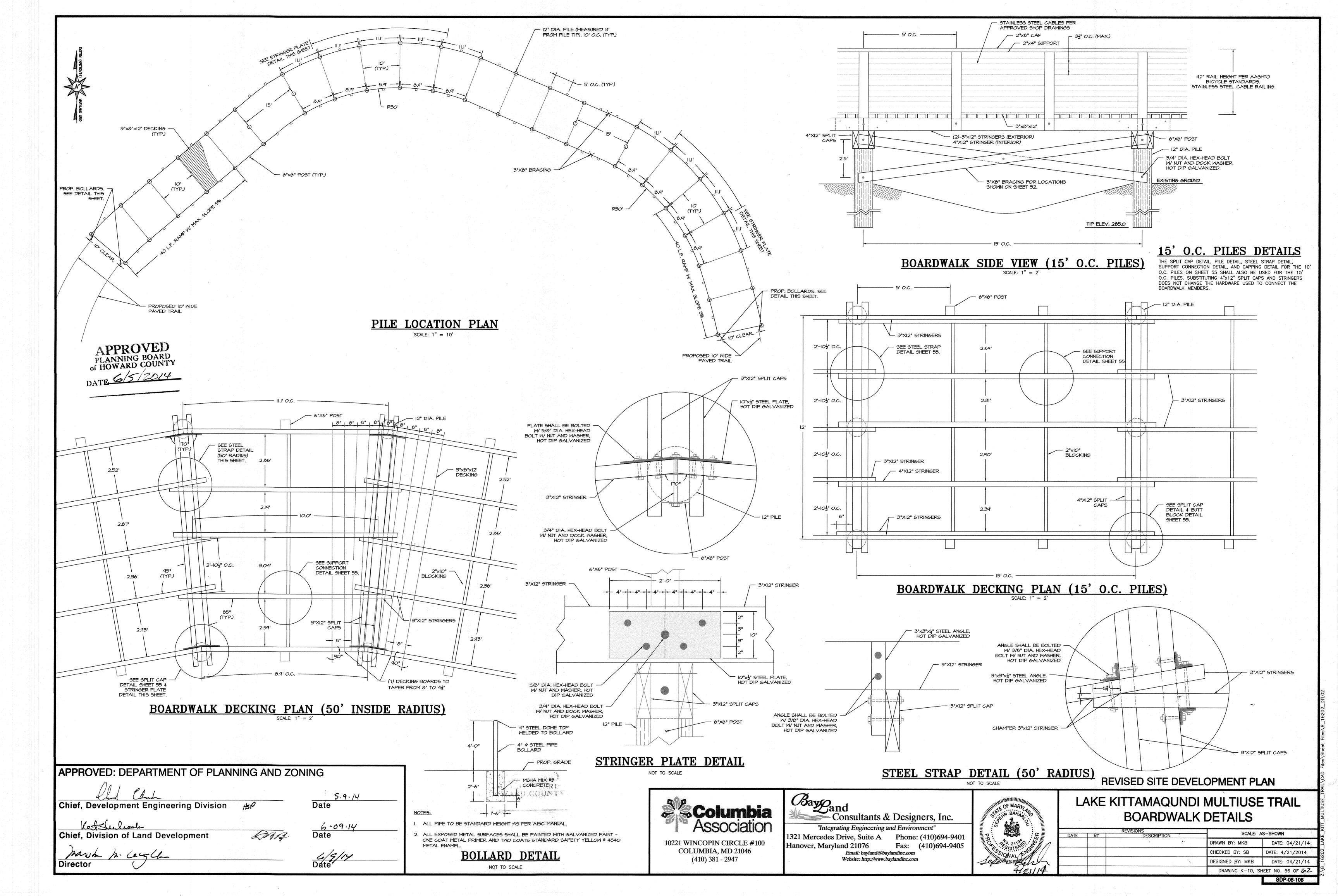
5		LINE TA	BLE	
LINE	LENGTH	DIRECTION	START	END
L14	12.51'	S1°17'11"W	N: 565,659 E: 1,353,990	N: 565,647 E: 1,353,990
L15	10.82'	S49 <b>·</b> 49'38"W	N: 565,610 E: 1,353,972	N: 565,603 E: 1,353,964
L16	30.88'	S14 <b>'</b> 40'38"W	N: 565,574 E: 1,353,947	N: 565,544 E: 1,353,939
L17	2.91'	S63*31'29"W	N: 565,522 E: 1,353,921	N: 565,521 E: 1,353,918
L18	25.00'	N68'00'24"W	N: 565,519 E: 1,353,873	N: 565,528 E: 1,353,850
L19	22.16'	S72*09'52"W	N: 565,529 E: 1,353,816	N: 565,523 E: 1,353,795
L20	2.81'	N78•33'26"W	N: 565,521 E: 1,353,770	N: 565,522 E: 1,353,767



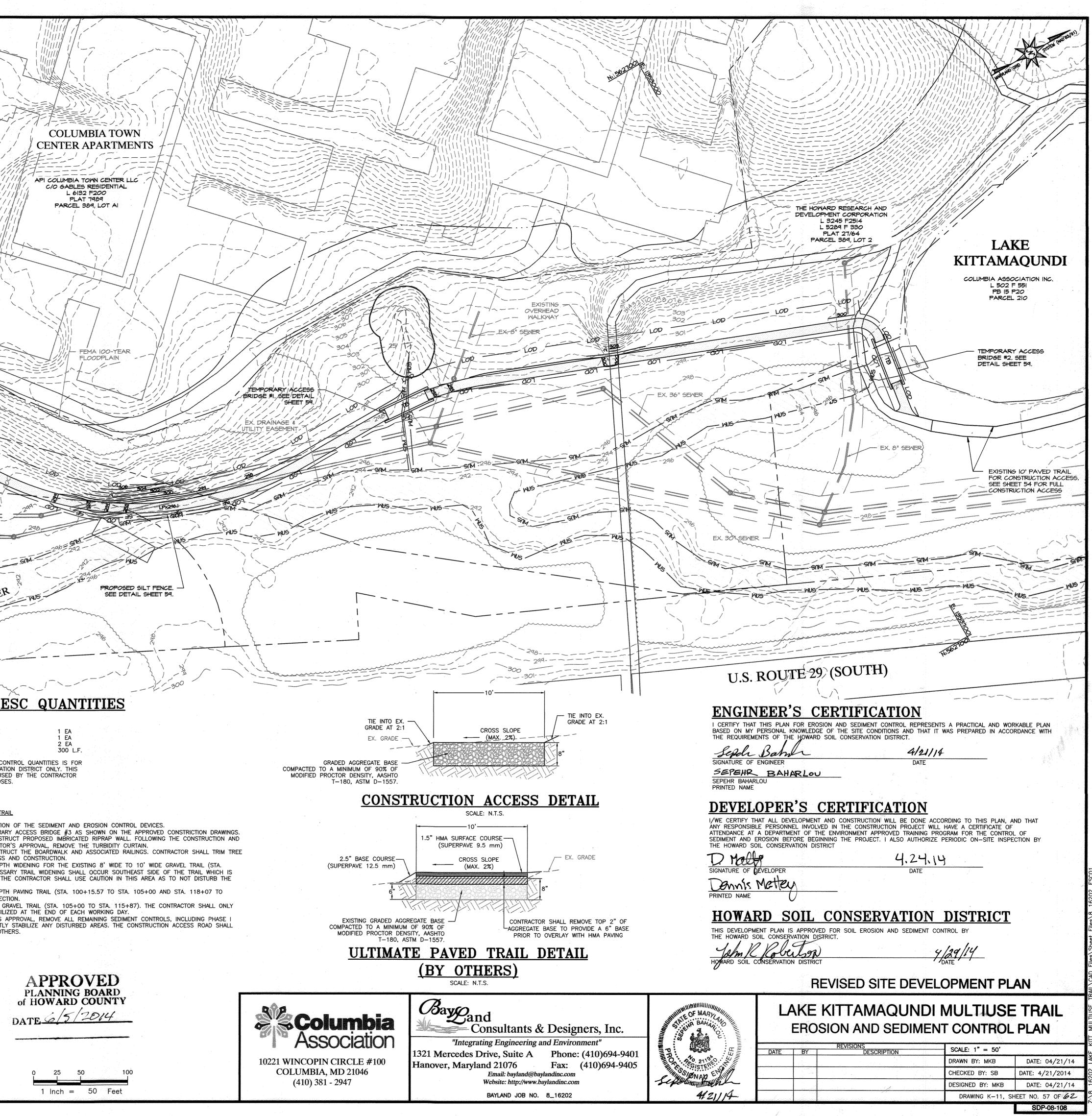
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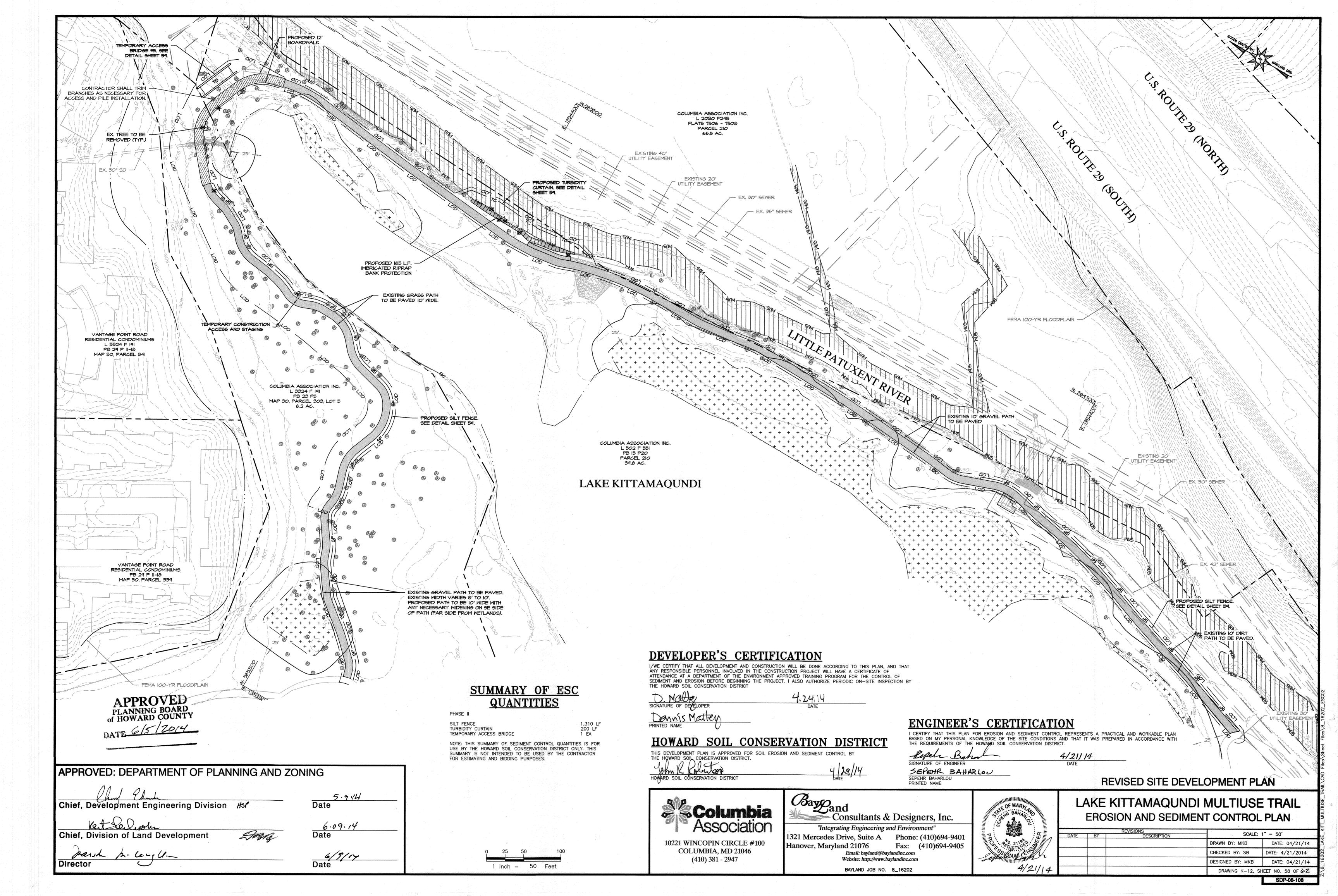






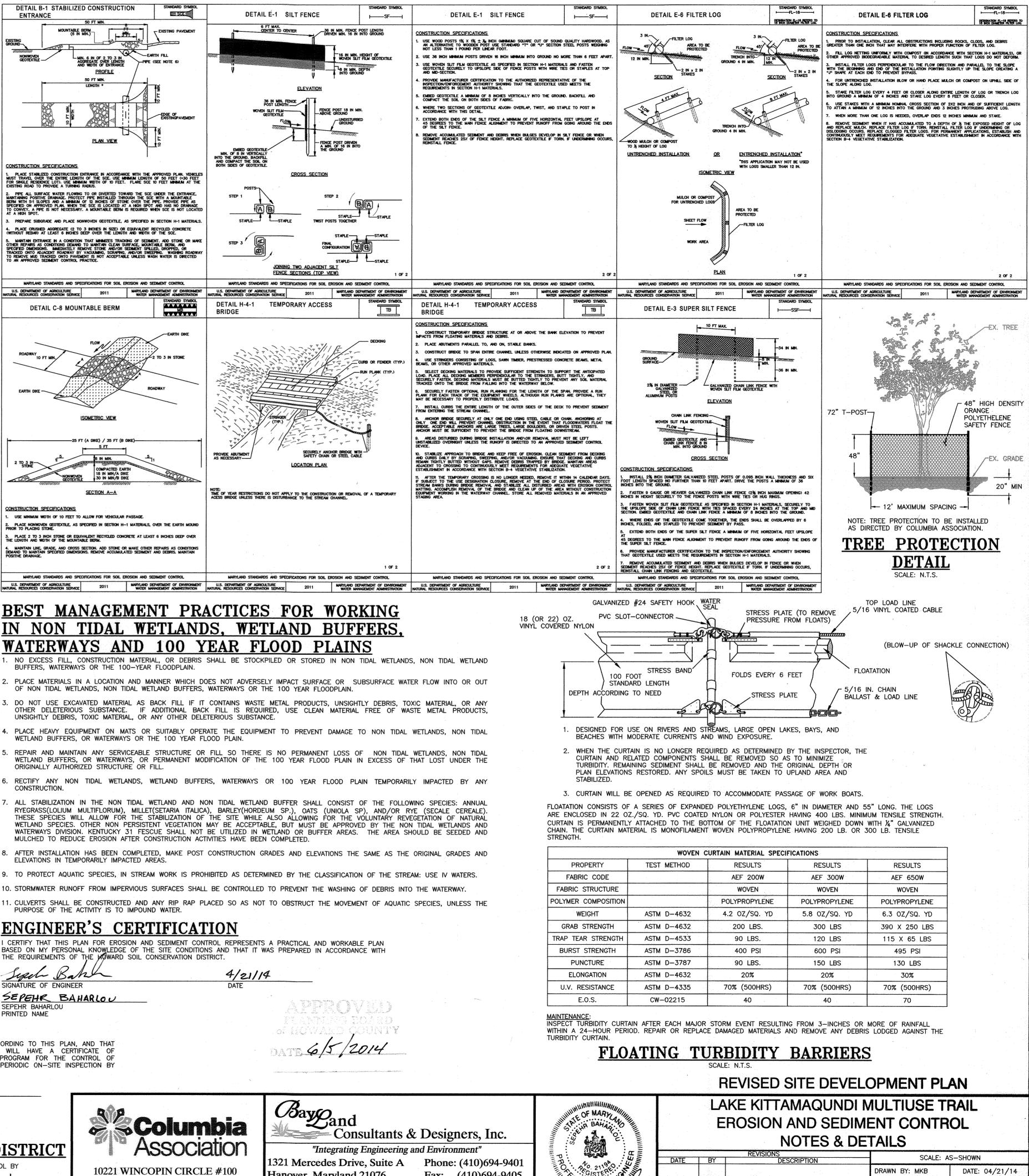
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HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES	STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING
1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION 1.	SEEDING SPECIFICATIONS a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.	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
3. FOLLOWING INITIAL SOIL DISTURBANCE OF RE-DISTURBANCE, PERMANENT OF TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR	<ul> <li>c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE</li> <li>c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE</li> </ul>
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC.B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO	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
<ol> <li>ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.</li> </ol>	INOCULANT LESS EFFECTIVE. d. SOD 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. APPLICATION APPLICATION
6. SITE ANALYSIS: TOTAL AREA OF SITE AREA DISTURBED <u>2.87</u> ACRES AREA TO BE ROOFED OR PAVED <u>0.88</u> ACRES	a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
AREA TO BE VEGETATIVELY STABILIZED       1.99       ACRES         TOTAL CUT       620       CU. YDS.         TOTAL FILL       0       CU. YDS.         OFFSITE WASTE/BORROW LOCATION	<ul> <li>a. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.</li> <li>a. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO TRACKED ON TR</li></ul>
7. ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES	<ul> <li>DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.</li> <li>CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT MARY AND STANK</li> </ul>
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.	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. DETAIL
SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING	<ul> <li>c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).</li> <li>i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT</li> </ul>
IS MADE.	EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
11. ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.	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.
ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT B. WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BE STABILIZED	iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL. MULCHING MULCH MATERIALS (IN ORDER OF PREFERENCE)
APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.	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
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION	STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS	<ul> <li>WCFM 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.</li> <li>WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.</li> </ul>
CIVEN SOIL TYPE CAN BE FOUND IN THE DEDRESENTATIVE SOIL DROFTLE SECTION IN THE SOIL	<ul> <li>WCFM 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 MUST FORM A BLOTTER-LIKE GROUND COVER ON APPLICATION HAVING MOISTURE</li> </ul>
<ul> <li>a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.</li> <li>b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT</li> </ul>	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.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.	WILL BE PHYTO-TOXIC. v. WCFM 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,
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA: 2.	ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. APPLICATION a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
	<ul> <li>a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.</li> <li>b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED 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</li> </ul>
<ul> <li>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.</li> <li>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</li> </ul>	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. ANCHORING
<ul> <li>6. TOPSOIL APPLICATION</li> <li>a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.</li> <li>b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM</li> </ul>	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: 3. DO NOT US OTHER DELI UNSIGHTLY I
IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.	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
DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.	ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR. 5. REPAIR AND 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.
SEED MIXTURE (FROM TABLE B.1) FERTILIZER RATE LIME RATE	<ul> <li>SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERR</li></ul>
NO. SPECIES APPLICATION SEEDING DATES DEPTHS $(10-20-20)$ ANNUAL $40$ $3/1 - 5/15$ $5.5''$	WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS       RYEGRASS(LG THESE SPEC)         IS STRICTLY PROHIBITED.       RECOMMENDATIONS. 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       RYEGRASS(LG THESE SPEC)
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	FEET LONG.  MULCHED TO  AFTER INSTA  ELEVATIONS
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	PERMANENT SEEDING SUMMARY         9. TO PROTECT           HARDINESS ZONE (FROM FIGURE B.3): 6b SEED MIXTURE (FROM TABLE B.3)         FERTILIZER RATE (10-20-20)         10. STORMWATER
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	NO. SPECIES APPLICATI ON RATE DATES DEEDING DEPTHS N P205 K20 LIME RATE 11. CULVERTS S PURPOSE OF
NOTES: 1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES. SEEDING	1 SWITCHGRASS CREEPING RED FESCUE BUSH 2 $-10/15$ $3/1 - \frac{1}{2} - \frac{1}{4}$ $45$ lb/ac 90 lb/ac tons/ac
RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER	LESPEDEZA 10 - 10/15 SIGNATORE OF E
PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES. 2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.	DEVELOPER'S CERTIFICATION
3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.	I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SI
APPROVED: DEPARTMENT OF PLANNING AND ZONING	THE HOWARD SOIL CONSERVATION DISTRICT D. Noter UNIT UPS OF POINT
Chief, Development Engineering DivisionHSP5Date	5.9.14 SIGNATURE OF DEVELOPER DATE
	PRINTED NAME () -09-14 HOWARD SOIL CONSERVATION DISTRIC
Chief, Division of Land Development	THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Director Date	9/17 <u>Howard soil conservation district</u> <u>4129/19</u>

			<ul> <li>Mathematical Street Stre</li></ul>	
DING S	UMMARY			
	FERTILIZE			
SEEDING DEPTHS	N	P205	K20	LIME RATE
$\frac{1}{2}^{n} - \frac{1}{4}^{n}$	(1.0 lb/	(2.0 lb/	90 lb/ac (2.0 lb/ 1000 sf)	(90 lb/



	Baygand Consultants & Designers, Inc.					
Association	"Integrating Engineering a	and Environment"				
	1321 Mercedes Drive, Suite A	Phone: (410)694-9401				
21 WINCOPIN CIRCLE #100	Hanover, Maryland 21076	Fax: (410)694-9405				
COLUMBIA, MD 21046	Email: bayland@baylandinc.com Website: http://www.baylandinc.com					
(410) 381 - 2947						
	BAYLAND JOB NO.	8_16202				

## **GENERAL NOTES (2024 REDLINE)**

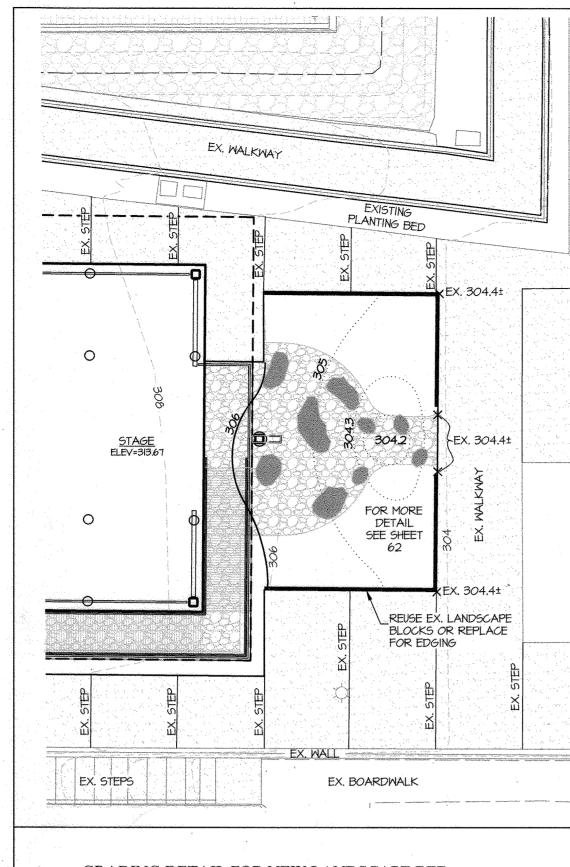
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES AT (410) 313-4900 AT LEAST FIVE (5) DAYS PRIOR TO STARTING ANY EXCAVATION WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT I-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. CONTRACTOR SHALL TEST PIT AT ALL UTILITY CROSSINGS AND REPORT THE RESULTS TO THE ENGINEER PRIOR TO CONSTRUCTION.
- PROJECT BACKGROUND: TAX MAP #36, GRID I LOCATION: ZONING: NT OPEN SPACE ELECTION DISTRICT: 5TH
- AREA OF LOT 7 : 4.4 AC. RECORDING REFERENCE: PLAT BK. 12, PLAT No. 62
- PROPOSED USE: OPEN SPACE

MAINTAINED.

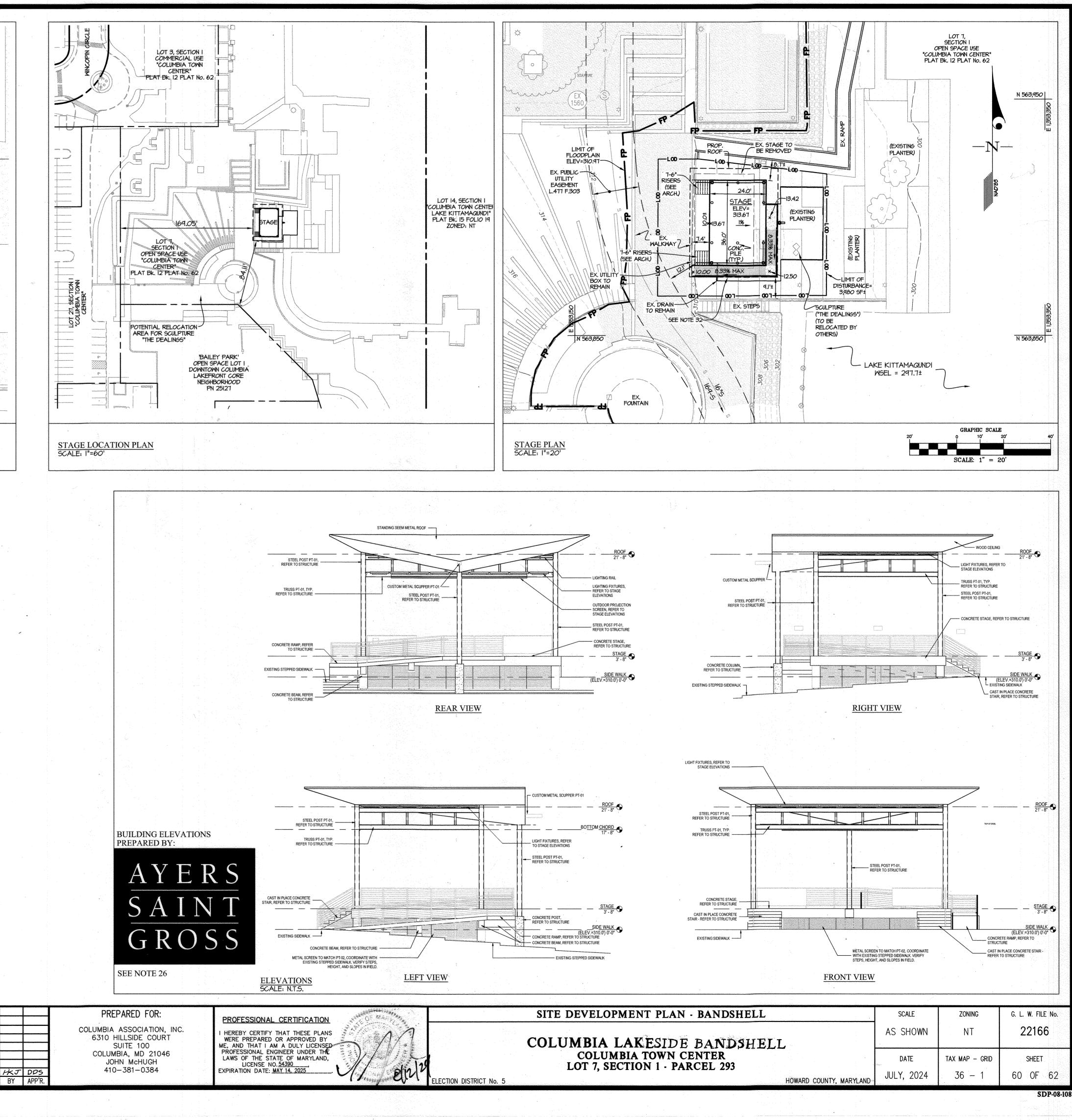
- ALL PLAN DIMENSIONS ARE TO FACE OF BUILDING AND/OR FACE OF CURB UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIALLY BETWEEN ITEMS UNLESS OTHERWISE NOTED.
- 8. SPOT ELEVATIONS SHOWN FOR CURB ARE BOTTOM OF CURB UNLESS OTHERWISE NOTED.
- EXISTING TOPOGRAPHY SHOWN ON THESE PLANS IS BASED ON A FIELD A SURVEY PERFORMED BY GLW IN OCTOBER 2023. OFFSITE TOPOGRAPHY IS FROM HOWARD COUNTY GIS ..
- 10. COORDINATES AND BEARINGS FOR THE 2024 REDLINE ARE BASED ON NAD '83
- RELATED DEPARTMENT OF PLANNING & ZONING FILE NUMBERS : FDP-4-A-5, WP-24-100
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT. NO PUBLIC WATER OR SEWER CONNECTIONS ARE PROPOSED FOR THIS STRUCTURE.
- 13. THE PROPOSED STRUCTURE WILL NOT HAVE A FIRE PROTECTION SPRINKLER SYSTEM.
- THE PROPOSED ON-SITE STORM DRAIN SYSTEM IS PRIVATELY OWNED AND
- 15. STORMWATER MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT. LIMIT OF DISTURBANCE IS LESS THAN 5,000 SF.
- 16. EXISTING UTILITIES ARE BASED ON A FIELD SURVEY AND A UTILITY LOCATION DRAWING PREPARED BY AI DATA DATED SEPTEMBER, 2023.
- THERE ARE NO KNOWN CEMETERIES, GRAVE SITES OR HISTORIC STRUCTURES LOCATED ON THE SUBJECT PROPERTY ACCORDING TO THE CEMETERY INVENTORY MAP AND HISTORIC SITES MAP.
- 18. THE SCENIC ROADS MAP DOES NOT SHOW ANY SCENIC ROADS ABUTTING THE SITE.
- 19. 100 YEAR FLOODPLAIN IS BASED ON FEMA FLOOD MAP 24027C0155D, EFFECTIVE ON 11/06/13. THE FEMA FLOODPLAIN ELEVATIONS WERE DELINEATED USING THE EXISTING FIELD SURVEYED TOPOGRAPHY.
- 20. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED MARCH, 2008.
- 21. BOUNDARY INFORMATION IS FROM BOUNDARY SURVEYS BY GLW, DATED MARCH, 2017.
- 22. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, OR 100 YEAR FLOODPLAIN AREAS, SF. UNLESS PERMITTED UNDER AN APPROVED WAIVER PETITION OR DETERMINED TO BE ESSENTIAL OR NECESSARY BY DPZ. THE ENVIRONMENTAL DISTURBANCES SHOWN ON THESE PLANS ARE COVERED BY WP-24-100 AND MDE PERMIT NO #23-NT-3264/202361675
- 23. THIS SITE IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE SECTION IN ACCORDANCE WITH SECTION 16.1202 (B)(1)(ii) (Any property owned by a Homeowners Association in a Planned Unit Development which has preliminary development plan approval and 50 percent or more of the land is recorded and substantially developed before December 31, 1992)
- 24. ALL EXTERIOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS IN SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- THE MINIMUM BUILDING SETBACKS RESTRICTIONS FROM PROPERTY LINES AND PUBLIC ROAD RIGHTS OF WAY ARE TO BE IN ACCORDANCE WITH FDP-4-A-5 AND LAKEFRONT CORE NEIGHBORHOOD DESIGN GUIDELINES.
- 26. NO PARKING REQUIREMENTS ARE IMPOSED ON ANY OF THE LAND UNDER FDP-4-A-5 DEVOTED TO OPEN SPACE USES.
- 27. THERE ARE NO STREAMS, WETLANDS OR THEIR BUFFERS WITHIN THE LIMIT OF DISTURBANCE PER A VERIFICATION DONE BY DAFT, MCCUNE, WALKER IN SEPTEMBER, 2023.
- 28. THE SCHEMATIC BUILDING ELEVATIONS INDICATE BUILDING HEIGHT, MASSING AND ARCHITECTURAL INTENT AND MAY CHANGE WITH FURTHER DESIGN DEVELOPMENT. FINAL ARCHITECTURAL DESIGN WILL BE SHOWN ON THE CONSTRUCTION DOCUMENTS AND WILL BE REVIEWED AT THE TIME OF BUILDING PERMIT.
- 29. AN APFO TRAFFIC ANALYSIS IS NOT REQUIRED FOR THE PROPOSED STAGE REPLACEMENT. THE STAGE IS BEING REPLACED WITH A SIMILAR SIZED STAGE IN THE SAME LOCATION. THE REPLACEMENT IS NOT EXPECTED TO GENERATE ANY ADDITIONAL PEAK HOUR TRIPS
- 30. TRASH COLLECTION FOR THE SITE WILL BE PRIVATELY OPERATED BY COLUMBIA ASSOCIATION.
- 31. A FLOODPLAIN STUDY FOR THIS PROJECT WAS PROVIDED BY GLW IN OCTOBER, 2023 AND APPROVED WITH THIS SDP REDLINE.
- 32. CONTRACTOR TO RECONFIGURE EXISTING IRRIGATION SYSTEM FOR NEW LANDSCAPE AREAS
- 33. ON JUNE 27, 2024 AND PURSUANT TO SECTION 16.104, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, CONSIDERED AND APPROVED WP-24-100, WITH RESPECT TO SECTION 16.115(c)(2) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO CONSTRUCT A PERMANENT STAGE WITHIN THE DESIGNATED FLOODPLAIN, SUBJECT TO THE FOLLOWING CONDITIONS:
- I. THE PROPOSED STAGE BOTTOM SHALL BE AT LEAST 2' ABOVE THE FLOODPLAIN ELEVATION. 2. THE STAGE WILL BE BUILT ON STILTS ON AN AREA OF EXISTING IMPERVIOUS
- SURFACE. 3. THE VOLUME OF THE FLOODPLAIN DISPLACED BY THE SUPPORTS OF THE STAGE
- SHOULD BE REPLACED WITHIN THE LIMIT OF DISTURBANCE OF THIS PROJECT. 4. PRIOR TO CONSTRUCTION, VERIFY WITH SCD THAT THE LIMIT OF DISTURBANCE
- FOR CONSTRUCTION IS LESS THAN 5,000 SF AND THE TOTAL CUT/FILL VOLUME IS UNDER 100 CUBIC YARDS TO EXEMPT FROM SEDIMENT AND EROSION CONTROL. MEASURES 5. THE STAGE WILL NOT IMPEDE PEDESTRIAN AND BICYCLE ACCESS AS CURRENTLY
- PERMITTED ALONG THE LAKEFRONT.
- 6. THE FLOODPLAIN DISTURBANCE APPROVED IS LIMITED TO THE AREA SHOWN ON THESE PLANS 7. A NOTE SHALL BE INCLUDED ON THIS SITE DEVELOPMENT PLAN (SDP-08-108) WITH THE FILE NUMBER, PURPOSE, DATE OF APPROVAL, AND CONDITIONS OF
- APPROVAL OF THIS ALTERNATIVE COMPLIANCE.

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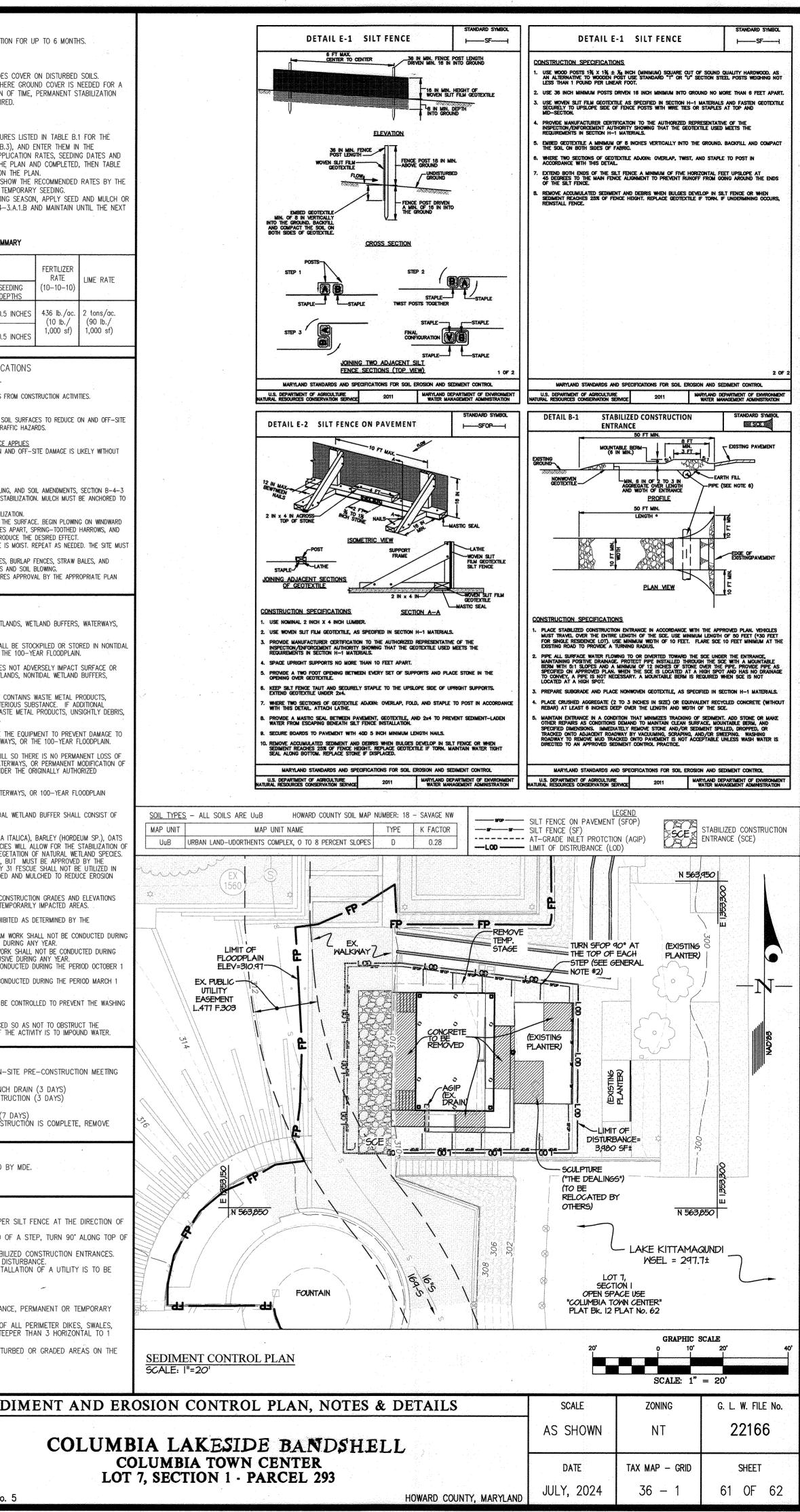
Æ			
	С. D. F.	PRESENT ZONING: NT OPENSPACE         PROPOSED USE OF SITE: OPEN SPACE         FLOOR SPACE:         LEVEL       GROSS AREA (SF)         STAGE       (24'x36') 864 SF         TOTAL       864 SF	
DESIGNED BY:			
DDS			
DRAWN BY:			
AWL			
CHECKED BY:			
DDS	09/04/24	1/4) ADDED SHEET FOR BANDSHELL WARK	, , ,
	DESIGNED BY: DDS DRAWN BY: AWL CHECKED BY:	A. B. C. D. F. SEIGNED BY: DDS DRAWN BY: AWL CHECKED BY: CHECKED BY: CHE	A. TOTAL SITE AREA (lot 7): 4.42 AC. B. LIMIT OF DISTURBED AREA: 0.09 AC. C. PRESENT ZONING: NT OPENSPACE D. PROPOSED USE OF SITE: OPEN SPACE F. FLOOR SPACE: LEVEL GROSS AREA (SF) STAGE (24'x36') 864 SF TOTAL 864 SF 7 G. PARKING REQUIRED - O SPACES. SEE NOTE 26 DDS DRAWN BY: AWL CHECKED BY:



GRADING DETAIL FOR NEW LANDSCAPE BED SCALE: |"=10'

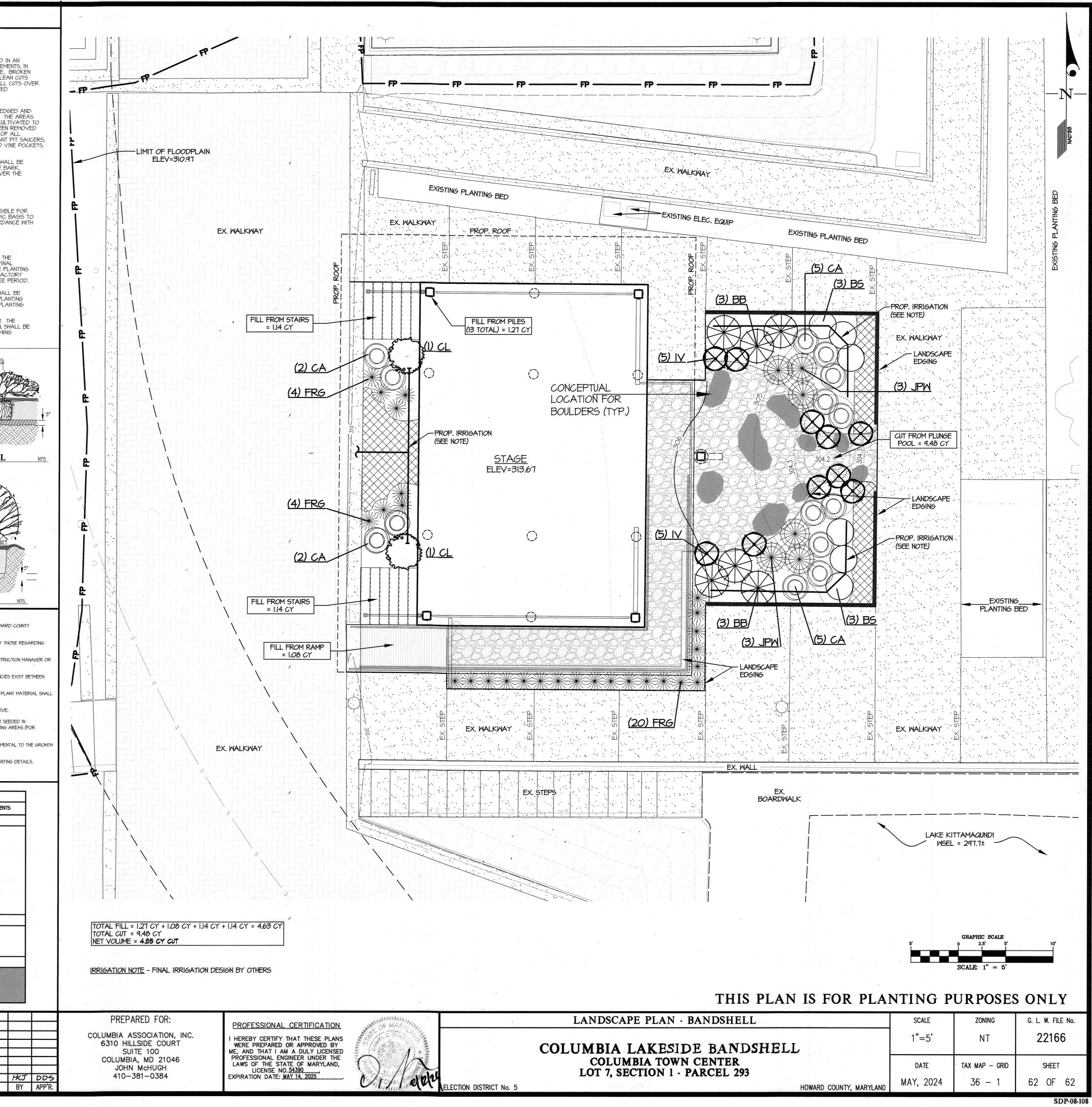


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B-4-2 STANDARD AND SPECIFICATIONS FOR SOIL	B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING	HOWARD SOIL CONSERVATION DISTRICT (HSCD)	DEFINITION	DEFINITION
PREPARATION, TOPSOILING, AND SOIL AMENDMENTS DEFINITION	and MULCHING DEFINITION	STANDARD SEDIMENT CONTROL NOTES	TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION. PURPOSE	TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.	THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.	1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE	TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.	PURPOSE. TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.
PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.	<u>PURPOSE</u> TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.	LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:	CONDITIONS WHERE PRACTICE APPLIES	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
CONDITIONS WHERE PRACTICE APPLIES	CONDITIONS WHERE PRACTICE APPLIES	A. PRIOR TO THE START OF EARTH DISTURBANCE, B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT	EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.	PRACTICES ARE REQUIRED. <u>CRITERIA</u>
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.	TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.	CONTROLS, BUT <u>BEFORE PROCEEDING</u> WITH ANY OTHER EARTH DISTURBANCE OR GRADING, C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,	<u>CRITERIA</u> A. SEED MIXTURES	SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE
CRITERIA	CRITERIA	D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL	1 GENERAL LISE	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
A. SOIL PREPARATION 1. TEMPORARY STABILIZATION	A. SEEDING	THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.	APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2, ENTER SELECTED MIXTURE(S).	B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE
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	<ol> <li>SPECIFICATIONS         <ul> <li>α. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED</li> </ul> </li> </ol>	2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE	APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN. b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES,	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 B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT
CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO	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	PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.	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:	SEEDING SEASON.
THE CONTOUR OF THE SLOPE. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.	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.	<ol> <li>FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL</li> </ol>	c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.	TEMPORARY SEEDING SUMMARY
INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.	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.	PERIMETER CONTROLS, DIKES, SWALES, DITCHÉS, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO	d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 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	HARDINESS ZONE: 6b SEED MIXTURE: FERTILIZER
2. PERMANENT STABILIZATION A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM	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.	ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.	SUMMARY. 2. TURFGRASS MIXTURES	APPLICATION         SEEDING         SEEDING         RATE         LIME         RATE           SPECIES         RATE         (Ib/ac.)         DATES         DEPTHS         (10-10-10)         Image: Rate
SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:	ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING, NOTE IT IS VERY IMPORTANT TO KEEP	<ol> <li>ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5),</li> </ol>	a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.	AND 10 A4
I. SOIL PH BETWEEN 6.0 AND 7.0. II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).	INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE. d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL	TEMPORARY SEEDING (SEC. $B-4-4$ ) AND MULCHING (SEC. $B-4-3$ ). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES	b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE	PEARL MILLET         20 lb/ac         May 16 to July 31         0.5 INCHES         (10 lb./ 1,000 sf)         (90 lb./ 1,000 sf)
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	STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.	IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. $B-4-1$ ) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. $B-4-8$ ) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP	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.	
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.	<ol> <li>APPLICATION         <ul> <li>DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.</li> </ul> </li> </ol>	SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. $B-4-6$ ).	i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT, IRRIGATION REQUIRED IN THE AREAS OF CENTRAL	STANDARDS AND SPECIFICATIONS FOR DUST CONTROL
IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.	<ul> <li>INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES</li> </ul>	5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM	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	DEFINITION CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.
V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE	ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER	THE CID. 6. SITE ANALYSIS:	TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.	TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE
ABOVE CONDITIONS. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE	TO PROVIDE GOOD SEED TO SOIL CONTACT. b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH	TOTAL AREA OF SITE 4.42± Acres	ii. 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	DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS. CONDITIONS WHERE PRACTICE APPLIES
APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE	SOIL. i. 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	AREA DISTURBED       0.09± Acres         AREA TO BE ROOFED OR PAVED       0.06± Acres	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	AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.
RESULTS OF A SOIL TEST.	PLANTING. ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE	AREA TO BE VEGETATIVELY STABILIZED: $0.03 \pm$ AcresTOTAL CUT: $9.48$ Cu. Yds.	BY WEIGHT.	<u>SPECIFICATIONS</u> 1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3
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 SURFACE SOIL BY	SEEDING RATE IN EACH DIRECTION. c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND	TOTAL FILL : $4.63$ Cu. Yds. OFF-SITE WASTE/BORROW AREA LOCATION : $N/A$	III. 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.	SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
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	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	<ol> <li>ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE</li> </ol>	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	<ol> <li>VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.</li> <li>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</li> </ol>
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.	SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.	8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE	BLENDED.	<ul> <li>SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.</li> <li>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.</li> </ul>
B. TOPSOILING	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	SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:	iv. 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	<ol> <li>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.</li> <li>CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN.</li> </ol>
TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.	HYDROSEEDING. iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT	<ul> <li>INSPECTION DATE</li> <li>INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)</li> </ul>	CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.	REVIEW AUTHORITY.
SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.	INTERRUPTION. iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.	<ul> <li>NAME AND TITLE OF INSPECTOR</li> <li>WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST</li> </ul>	NOTES:	
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	B. MULCHING	<ul> <li>RECORDED PRECIPITATION)</li> <li>BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND /OR CURRENT ACTIVITIES</li> </ul>	SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"	BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS
FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.	<ol> <li>MULCH MATERIALS (IN ORDER OF PREFERENCE)</li> <li>a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND</li> </ol>	EVIDENCE OF SEDIMENT DISCHARGES     IDENTIFICATION OF PLAN DEFICIENCIES     IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE	CHOOSE CERTIFIED MATERIAL CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF	1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
TOPSOILING IS LIMITED TO AREAS (HAVING 2:1 OR FLATTER SLOPES WHERE:	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	<ul> <li>IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS</li> <li>COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION</li> </ul>	AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE	<ol> <li>PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.</li> </ol>
VEGETATIVE GROWTH. 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.	EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD	REQUIREMENTS • PHOTOGRAPHS • MONITORING/SAMPLING	i. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES:	3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL
THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT ROWTH. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.	CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. i. WCFM 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	<ul> <li>MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED</li> <li>OTHER INSPECTION ITEMS AS REQUIRED BY THE "GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES" (NPDES, MDE).</li> </ul>	5B, 6A) <u>CENTRAL MD</u> : MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE:	BACKFILL IS REQUIRED, USE CLEAN MATERIALS FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.	UNIFORMEY SPREAD SLURRY. ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.	9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT	SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)	4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA: TOPSOIL MUST BE A LOAM. SANDY LOAM. CLAY LOAM. SILT LOAM. SANDY CLAY LOAM. OR	iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN	WHICH CAN AND SHALL BE BACK—FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.	j 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.	<ol> <li>REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED</li> </ol>
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	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	10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.	REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO	STRUCTURE OR FILL. 6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN
BY VOLUME OF CONTRASTING TEXTORED SUBSCIES AND MOST CONTAIN LESS THAN STEINENT OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.	PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS. IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION	11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. A PROJECT IS TO BE SEQUENCED SO	DIFFICULTY. k. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR	TEMPORARILY IMPACTED BY ANY CONSTRUCTION. 7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF
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.	LEVELS THAT WILL BE PHYTO-TOXIC. V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE	THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN	PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING 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	THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS
TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN	OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.	STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.	ADVERSE SITES.	(UNIOLE SP.)AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGES THAT ALLOW FOR THE STABILIZATION OF THER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE. BUT MUST BE APPROVED BY THE
LIEU OF NATURAL TOPSOIL. TOPSOIL APPLICATION	2. APPLICATION	12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.	PERMANENT SEEDING SUMMARY HARDINESS ZONE: 6b	NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM	<ul> <li>a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.</li> <li>b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO</li> </ul>	13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.	SEED MIXTURE: #9 (Tall Fescue/ Kentucky Bluegrass) FERTILIZER APPLICATION SEEDING SEEDING (10, 20, 20) LIME RATE	8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS
THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE.	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.	14: ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN	No.         SPECIES         APPLICATION RATE         SEEDING DATES         SEEDING DEPTHS         (10-20-20)         LIME RATE           9         *Certified Tall Fescue blend         Image: Certified Tall Fes	THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS. 9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE
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. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY	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.	ELEVATION. 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME	(95% by weight): Falcon IV, Penn 1901 & Rebel Exeda 6-8 lb/ Mar. 1 to May 15, 1/4 - 1.0 lb/ 1000 90 lb/ and 1000 s.f. 1/2 IN, s.f. 1000 s.f.	CLASSIFICATION OF THE STREAM: A. USE I WATERS (WITHOUT YELLOW PERCH): IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.
CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.	3. ANCHORING	PERIODS (INCLUSIVE): • USE I AND IP MARCH 1 – JUNE 15 • USE III AND IIIP OCTOBER 1 – APRIL 30	and Certified Kentucky Bluegrass blend (5% by weight):	<ul> <li>B. USE I WATERS (WITH YELLOW PERCH): IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD FEBRUARY 15 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.</li> <li>C. USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1</li> </ul>
C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS) SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES	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	• USE IV MARCH 1 - MAY 31	Courtyard, Řaven & Yankee	THORUGH APRIL 30, INCLUSIVE, DURING ANY YEAR. D. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
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	BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD: 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	16. A COPY OF THIS PLAN, THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.	* Other cultivars listed as "proven" in the most current UMD TT-77 may also be used	10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
ANALYSES. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE	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.		<ul> <li>B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).</li> <li>1. GENERAL SPECIFICATIONS</li> </ul>	11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.
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	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		a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.	SEQUENCE OF CONSTRUCTION:
THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER. 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	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,		b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL	OBTAIN GRADING PERMIT AND ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING     (1 DAY)
OXIDE PLUS MAGNESIUM OXIDÉ). 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	TERRA TAX II, TERRA 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	an a	NOT BE ACCEPTABLE. c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN	2. INSTALL SCE, SF, SFOP. INSTALL AGIP ON EX. TRENCH DRAIN (3 DAYS) 3. REMOVE EXISTING CONCRETE AS NEEDED FOR CONSTRUCTION (3 DAYS)
PASS THROUGH A #20 MESH SIEVE. 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. WHERE THE SUBSOIL IS EITHER	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	THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL	WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION. d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT	<ol> <li>CONSTRUCT STAGE (60 DAYS)</li> <li>INSTALL LANDSCAPING PER THE LANDSCAPE PLAN (7 DAYS)</li> <li>ONCE ALL AREAS HAVE BEEN STABILIZED AND CONSTRUCTION IS COMPLETE, REMOVE</li> </ol>
HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.	FEET WIDE AND 300 TO 3,000 FEET LONG.	EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	(EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST	ANY REMAINING SEDIMENT CONTROLS. (3 DAYS)
		alexander Bratchie 08/29/24	OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.	ELOODPLAIN DISTURBANCE NOTE: FLOODPLAIN DISTURBANCE HAS BEEN APPROVED BY MDE.
		HOWARD S.C.D.	2. SOD INSTALLATION a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY	AUTHORIZATION NUMBER: 23-NT-3264/202361675
				GENERAL NOTES:
		DEVELOPER'S/BUILDER'S CERTIFICATE	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.	1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
	ENGINEER'S CERTIFICATE	DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE	c. 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 SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS	<ol> <li>WHEN SILT FENCE ON PAVEMENT REACHES THE END OF A STEP, TURN 90° ALONG TOP OF STEP FOR 5'.</li> <li>SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.</li> </ol>
	" I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS,	RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT	AND THE UNDERLYING SOIL SURFACE. d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE	<ol> <li>NO STOCKPILING IS ALLOWED WITHIN THE LIMITS OF DISTURBANCE.</li> <li>ANY SEDIMENT CONTROLS INTERRUPTED BY THE INSTALLATION OF A UTILITY IS TO BE REPAIRED IMMEDIATELY.</li> </ol>
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND	(MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL	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.	STANDARD STABILIZATION NOTE:
dinde usetson 9/11/24	THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."	CONSERVATION DISTRICT AND/OR MDE."	3. SOD MAINTENANCE	FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
	9/12/24	BIGNATURE GE) DEVELOPER/BUILDER 24 DATE	a. 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.	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
Chief, Division of Land Development CAN Date	ENGINEER'S SIGNATURE DATE	Jeremy Scharfenberg	<ul> <li>AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.</li> <li>DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS</li> </ul>	B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
Chief, Development Engineering Division HSA Date	DAN SWEENEY     54390 (P.E.)       PRINTED NAME     MD REGISTRATION NO.	PRINTED NAME & TITLE	C. DO NOT MOW UNTIL THE SUD IS FIRMLY ROUTED. NO MORE THAN 1/3 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.	
	DESIGNED BY:	PRFPAR	RED FOR:	SEDIMENT AND ER
ΓΙΤΛΙ	DDS		SOCIATION, INC.	
VILV	DRAWN BY:	6310 HILLS SUIT	SIDE COURT WERE PREPARED OR APPROVED BY E 100 ME, AND THAT I AM A DULY LICENSED	COLUMI
PLANNING ENGINEERING SURVEYING	CHECKED BY:	COLUMBIA,	, MD 21046 McHUGH PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 54390	$\mathcal{A}$
3909 NATIONAL DRIVE   SUITE 250   BURTONSVILLE, MD 20866   GLWPA.COM PHONE: 301-421-4024   BALT: 410-880-1820   DC&VA: 301-989-2524   FAX: 301-421-4186	DDS 09/04/24 4 ADDED SHEET FOR BANDSHELL WORK DATE REVISION		EICENSE NO. 3430 B1-0384 EXPIRATION DATE: MAY 14, 2025	LOT
GLW 2024			Y	



SPECIFIC	CATIONS:	PLANT MA	TERIALS	AND PLANTING	HETHODS		
A. PLANT MATERIALS         THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIO: BALL BURLAP AND TRANSPLANT ALL of THE PLANT RATERIALS CALLEPTOR ON DRAVINGS AND/OR LISTED IN THE PLANT SCHEDULE.         1. PLANT NAMES         PLANT NAMEN         PLANT NAMEN         PLANT NAMEN         PLANT NAMEN         PLANT NAMEN         PLANT NAMEN         PLANT NAMENT         PLANT NAMENT         PLANT NAMENT         PLANT NAMENT         PLANT NAMENT         PLANT NAMENT NAMENT <tr< th=""><th>PLANTING SEASO THE PLANTING SE FROM MARK TO DECEMBER SE FROM MARK TO DECEMBER SE CONTINUED S NO FROST IN PLANTING MIXT THE PLANTING MIXT THE PLANTING MIXT THE PLANTING MIXT THE PLANTING MIXT SCORDANCE IS ALL PLANT MA B&amp;B) IN ACCO XCAVATION OF HE LANDSCAPE AF LANDSCAPE AF LANT MATERIA CONTRACTOR. ALL PITS, VINE PITS, CCORDANCE I ALL OCATION HE LANDSCAPE AF LANT MATERIA CONTRACTOR. ALL PITS, VINE PITS, CCORDANCE I ALL PLANT MATERIA CONTRACTOR. 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SOURCE SUITE 250   BURTONSVILLE, MD 20866   GLWPA.COM PHONE: 301-421-4024   BALT: 410-880-1820   DC&VA: 301-989-2524   FAX: 301-421-4186	DDS DRAWN BY: AWL CHECKED BY: DDS			ED SHEET FO	R BANDSHELL WOR REVISION	.K	

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DSCAFE FLAN · DANDSHELL	SUALE	ZUNING	G. L. W. FILE INO.
BIA LAKESIDE BANDSHELL	1"=5'	NT	22166
OLUMBIA TOWN CENTER 7, SECTION 1 - PARCEL 293	DATE	Tax map - grid	SHEET
HOWARD COUNTY, MARYLAND	MAY, 2024	36 – 1	62 OF 62