

SHEET INDEX table with columns for SHEET No. and DESCRIPTION. Items include Title Sheet, Building Footprint & Elevations, Site Plan, Grading and Sediment Control Plan, Erosion Control Notes and Details, etc.

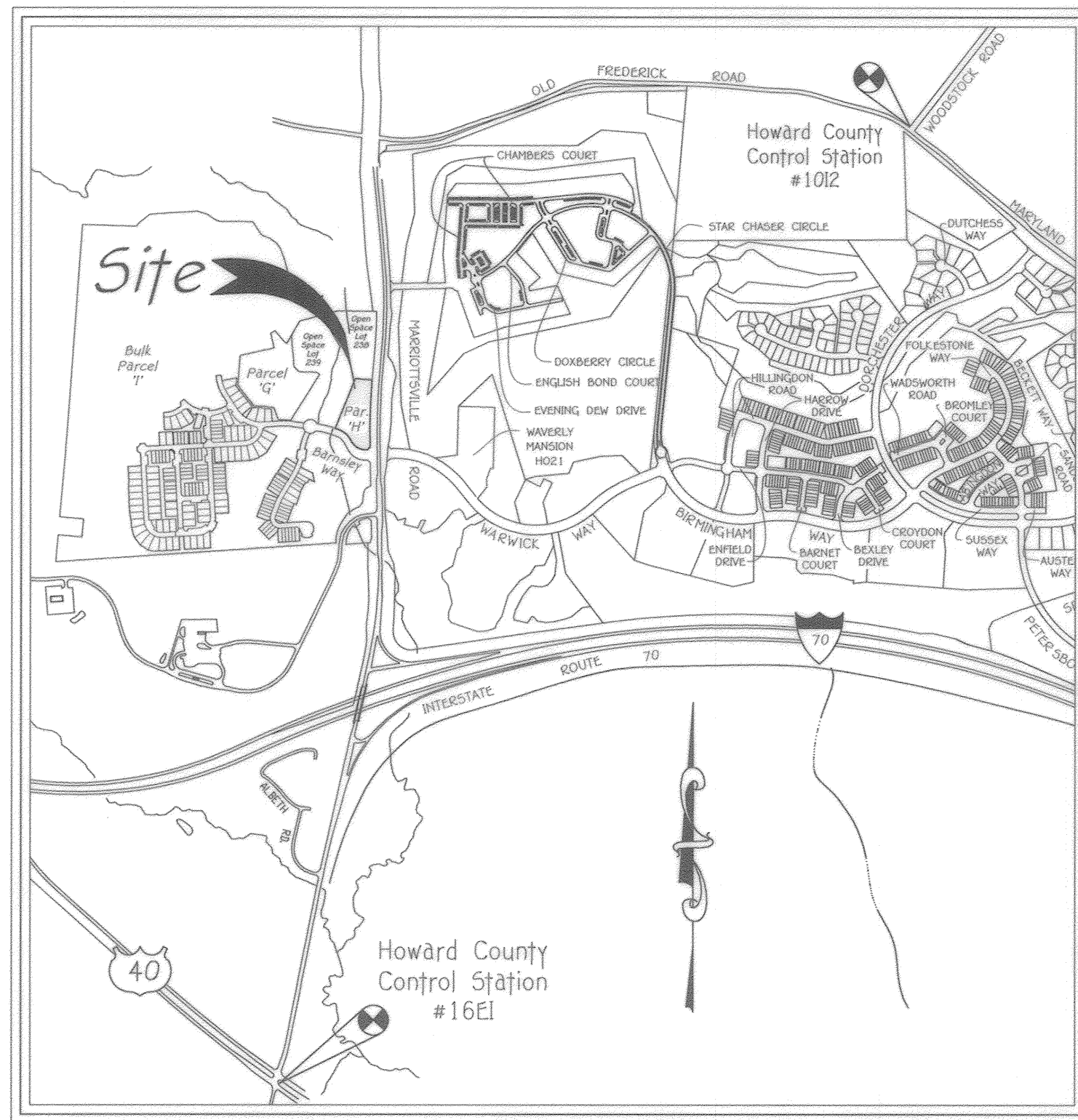
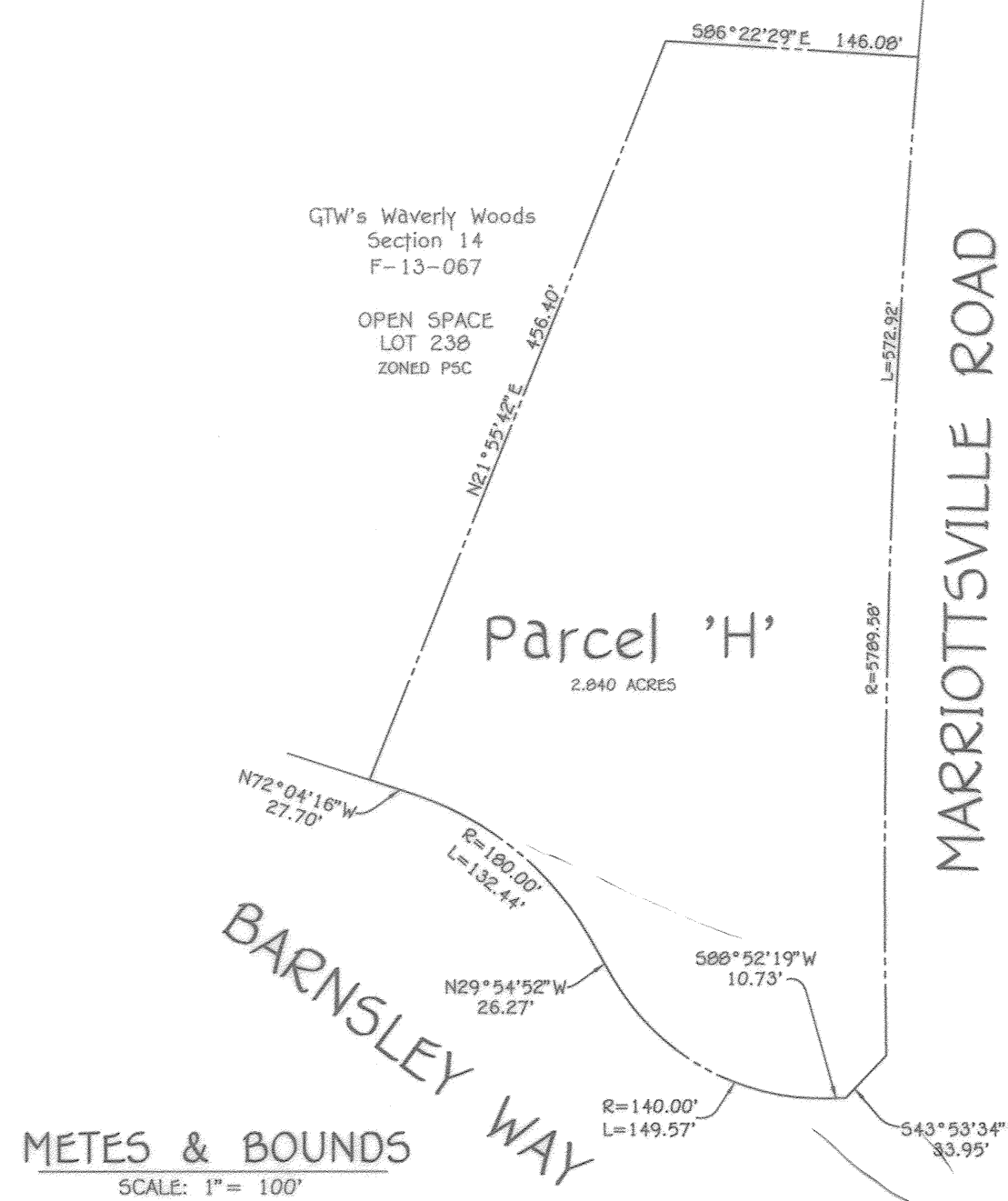
SITE DEVELOPMENT PLAN
GTW'S WAVERLY WOODS
Retail Center
PARCEL 'H'
Zoned: PEC
Tax Map No. 16 Grid No. 3 & 4
P/O Parcel No. 249

STREET SIGN CHART table with columns for STREET NAME, STATION, OFFSET, POSTED SIGN, and SIGN CODE. Signs include STOP, KEEP RIGHT, DO NOT ENTER, etc.

PARKING SPACE TABULATION table with columns for COMMERCIAL, PARKING REQUIRED, and PARKING PROVIDED. Retail: 10,900 SQ.FT., 65.4 SPACES, 66 SPACES.

NOTES: 1. ALL LOADING/DELIVERIES SHALL BE CONDUCTED IN EARLY MORNING HOURS. 2. TRASH PICK-UP WILL BE CONDUCTED IN OFF HOURS AT NIGHT OR EARLY IN THE MORNING.

LEGEND table with columns for SYMBOL and DESCRIPTION. Includes contours, spot elevation, storm drains, easements, existing trees, sewer mains, floodplains, wetland buffers, and tree lines.



Third Election District
Howard County, Maryland

STORMWATER MANAGEMENT INFORMATION table with columns for Lot/Parcel No., Facility Name & Number, Practice Type, Public, Private, HOA Maintained, and Jointly Maintained.

GENERAL NOTES

- 1. 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 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "M&S UTILITY" AT 1-800-297-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

PURPOSE NOTE: THE PURPOSE OF THIS REVISED 50P IS TO ADD A DRIVE THRU LANE AND REVISE PARKING, LANDSCAPING & STORMWATER MANAGEMENT.

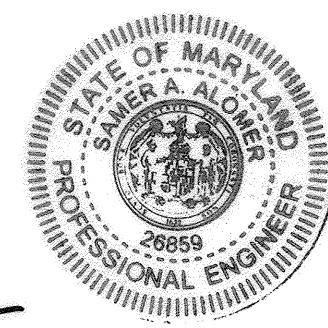
STREET ADDRESS CHART table with columns for Parcel No. and STREET ADDRESS. Parcel 'H' is located at 11100 Barnesley Way.

FISHER, COLLINS & CARTER, INC. logo and contact information: CONSULTING ENGINEERS & LAND SURVEYORS, CENTRAL SQUARE OFFICE PARK, 10772 BALTIMORE NATIONAL PIKE, ELICOTT CITY, MARYLAND 21043. (410) 461-2895

REVISION table with columns for NO., REVISION, and DATE. Includes entries for revised parking tabulation, added drive thru lane, revised parking, landscaping & S.W.M., etc.



THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET



Owner And Developer: Elicott City Land Holding, Inc. 8318 Forrest Street-Suite 200, Elicott City, Maryland 21043 (410-707-7054)

Owner And Developer: Mid-Atlantic Services, Inc. 8318 Forrest Street-Suite 200, Elicott City, Maryland 21043 (410-707-7054)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

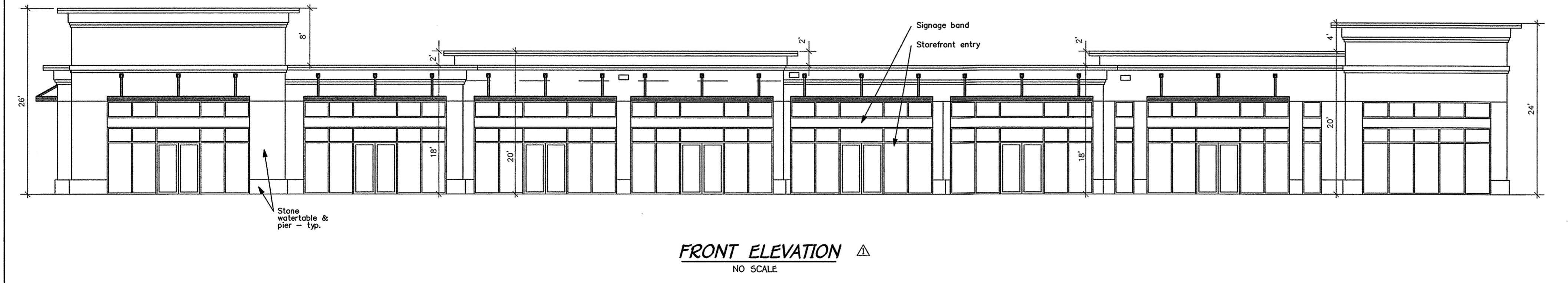
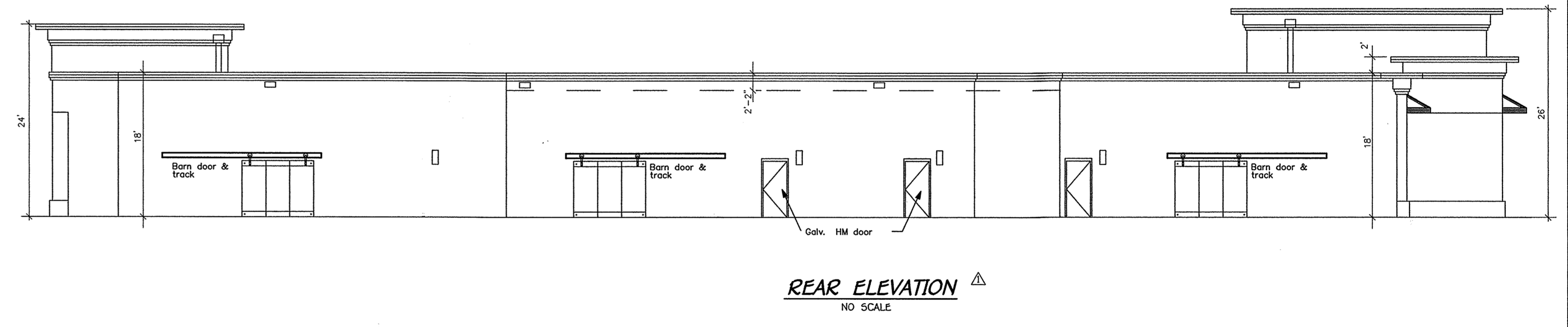
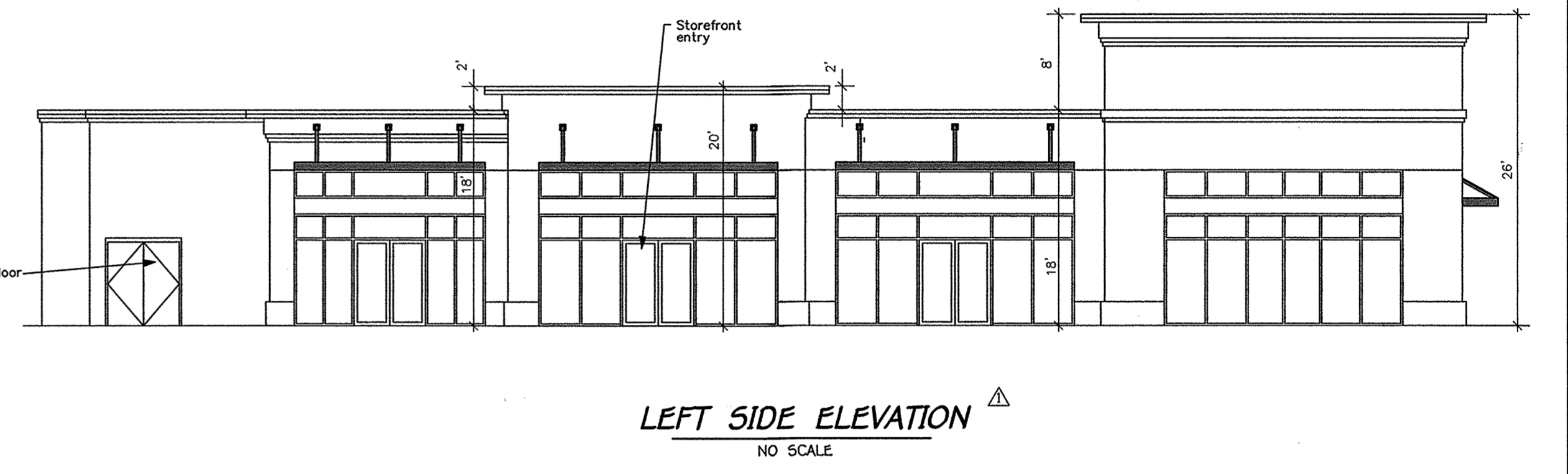
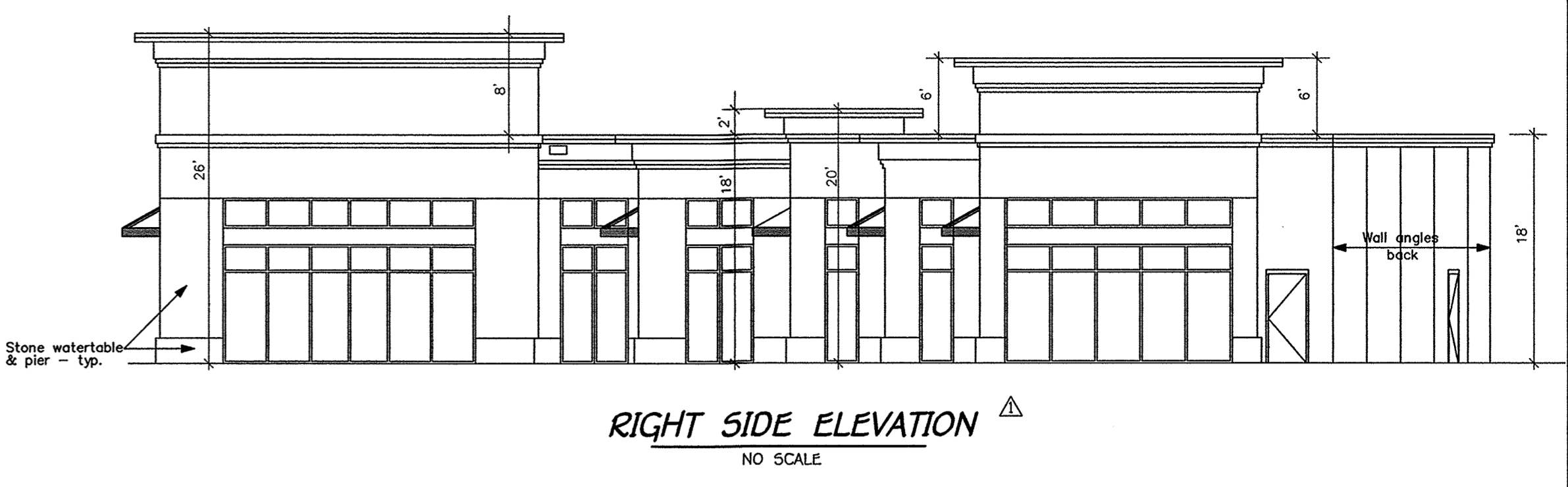
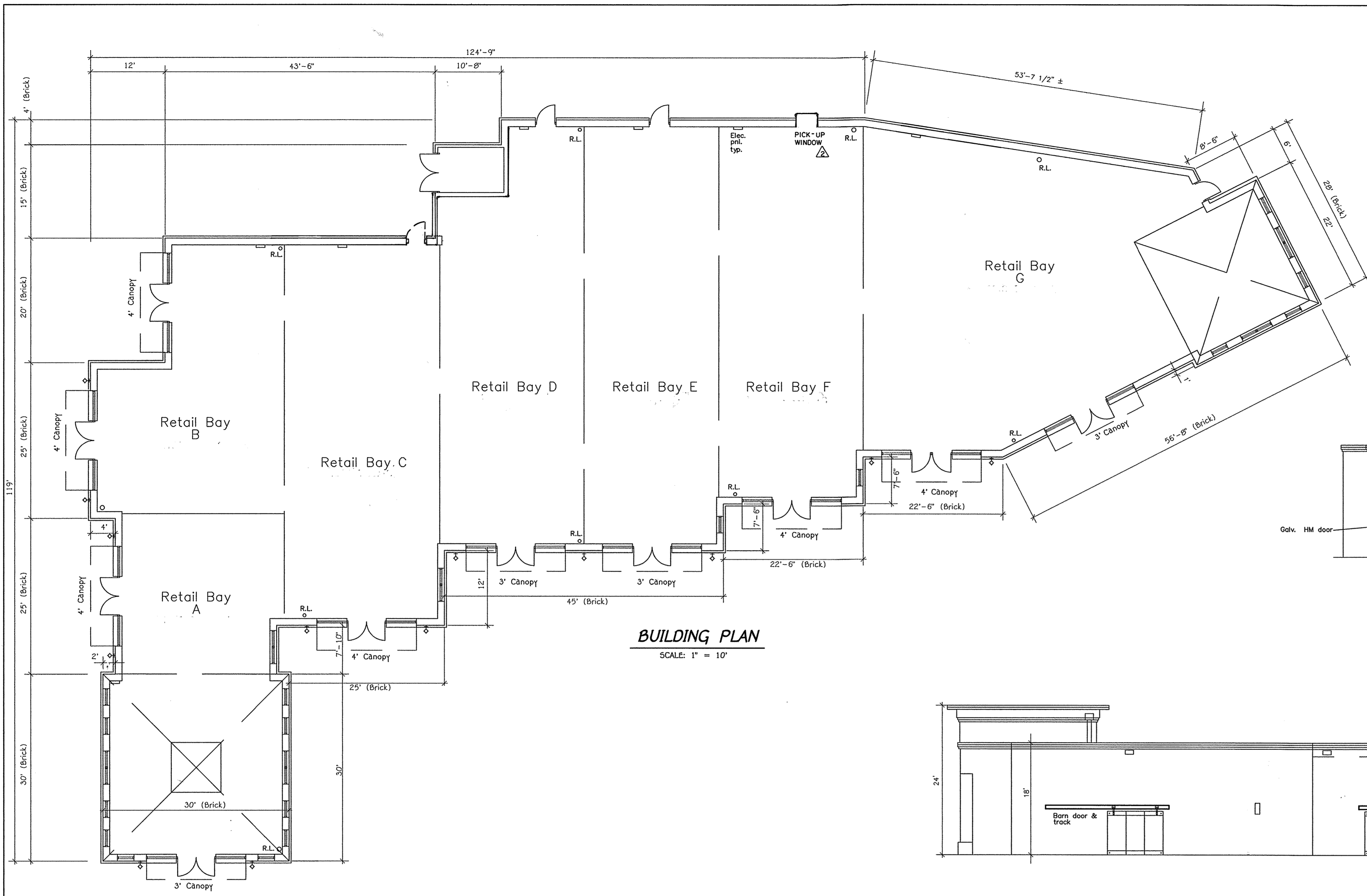
Approval signatures and dates for Division of Land Development and Department of Planning and Zoning. Includes Chief, Development Engineering Division and Director.

REVISED TITLE SHEET

GTW's Waverly Woods
Retail Center
Parcel 'H'

Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/O 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: December 17, 2020
Sheet 1 of 19

SUBDIVISION information table with columns for PLAT NO., BLOCK NO., ZONED, TAX/ZONE, ELEC. DIST., and CENSUS TR.



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2895

NO.	REVISION	DATE
1	ADDED PICK-UP WINDOW & MOVED DOORS	12/17/20
2	REVISE BUILDING ELEVATIONS	2/22/19



Owner
Waverly Woods Development Corporation
c/o Mr. Ken Warfield, Jr.
14451 Triadelphia Road, P.O. Box 30
Glenelg, Maryland 21737
(410-442-2337)

Developer
Waverly Woods Development Corporation
c/o Mr. Ken Warfield, Jr.
14451 Triadelphia Road, P.O. Box 30
Glenelg, Maryland 21737
(410-442-2337)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

West Sheldine 4-30-19
Chief, Division of Land Development Date

[Signature] 4-22-19
Chief, Development Engineering Division Date

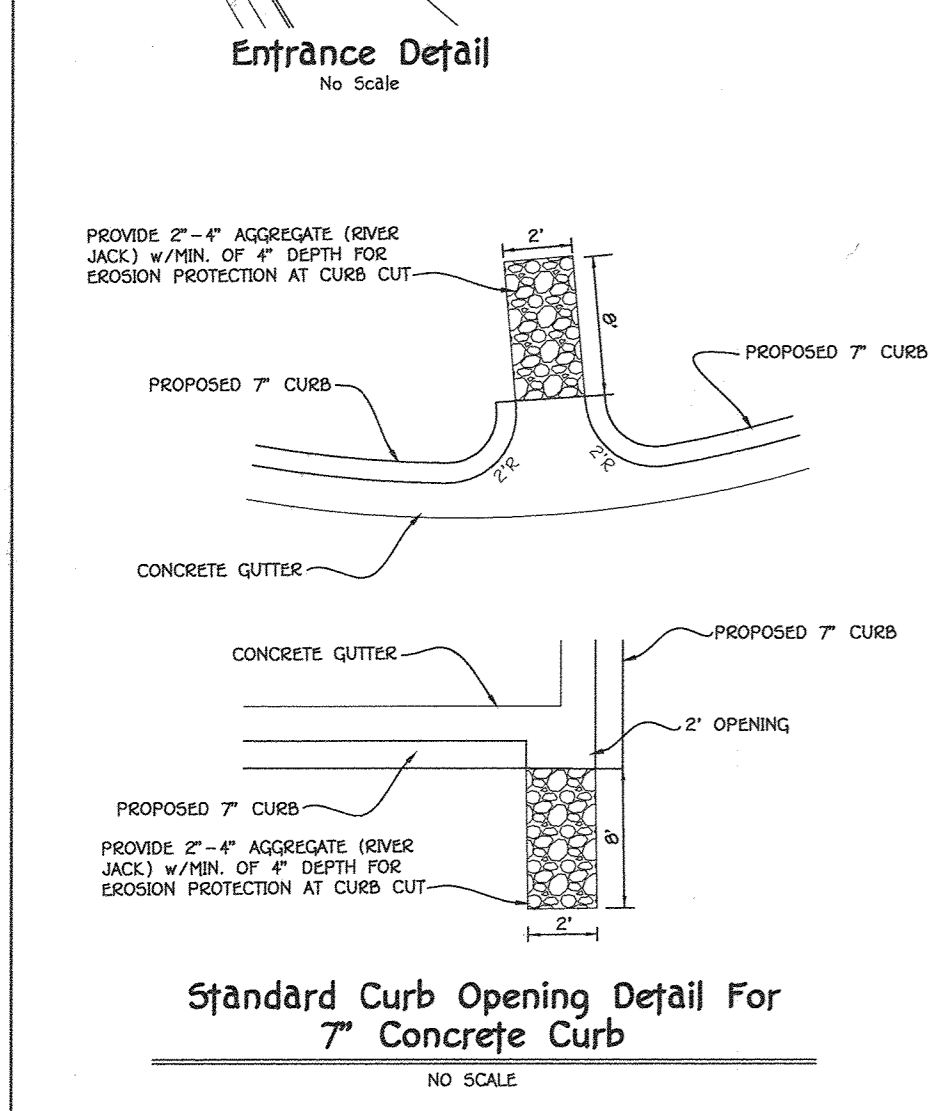
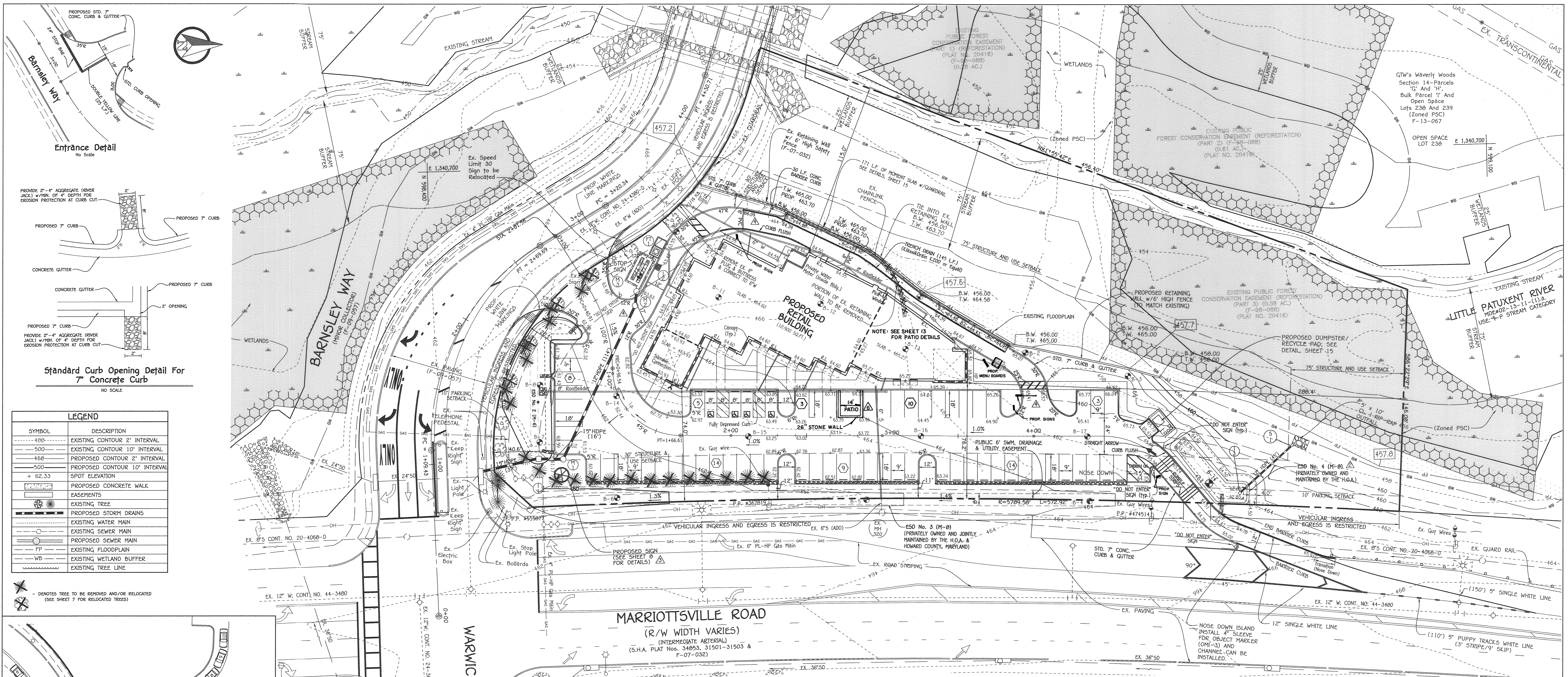
[Signature] 4-30-19
Director - Department of Planning and Zoning Date

SUBDIVISION	SECTION	PARCEL No.
GTW's Waverly Woods	14	"H"
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

REVISED BUILDING FOOTPRINT & ELEVATIONS

GTW's Waverly Woods
Retail Center
Parcel 'H'

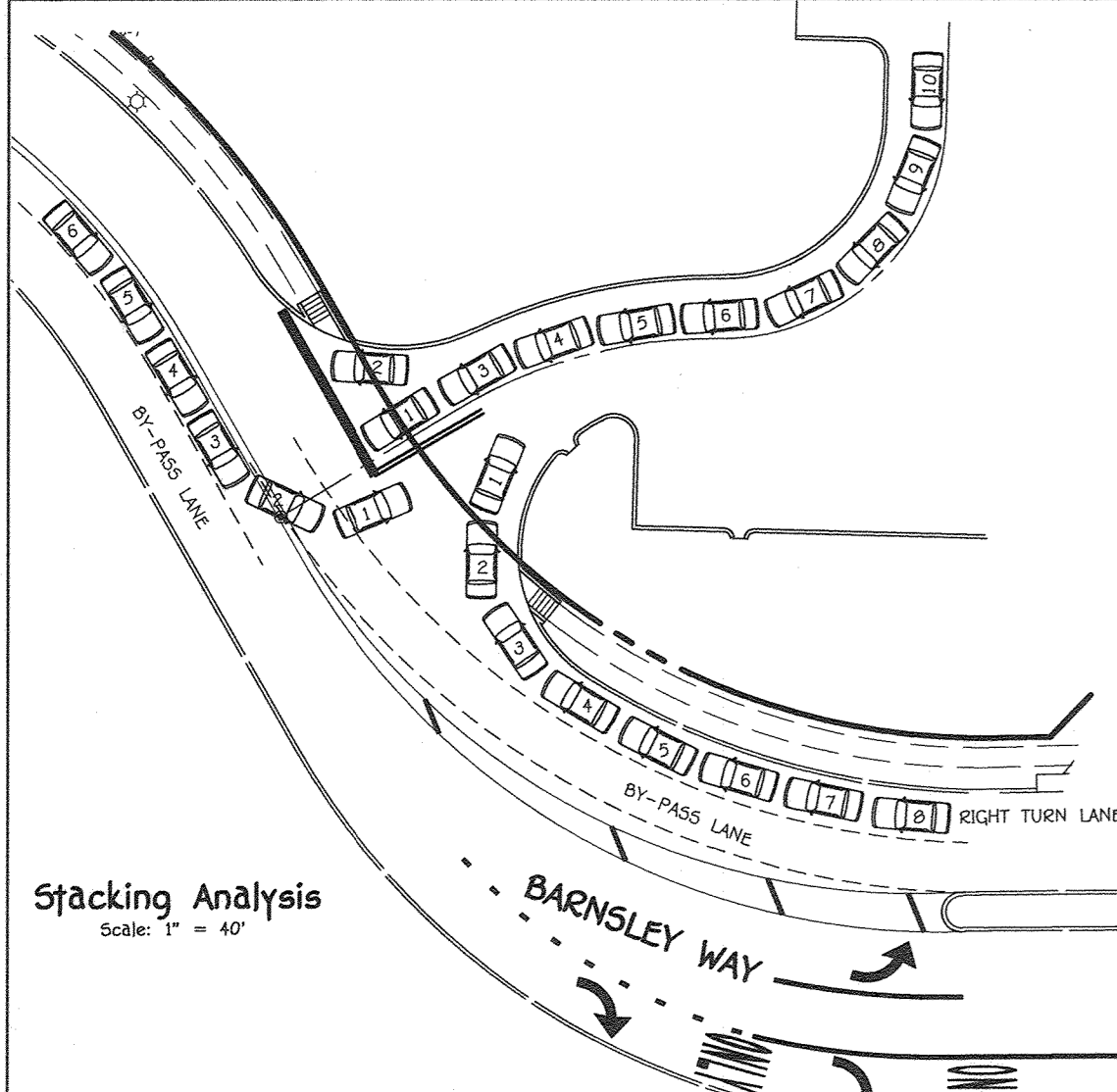
Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: February 22, 2019
Sheet 2 of 19



LEGEND

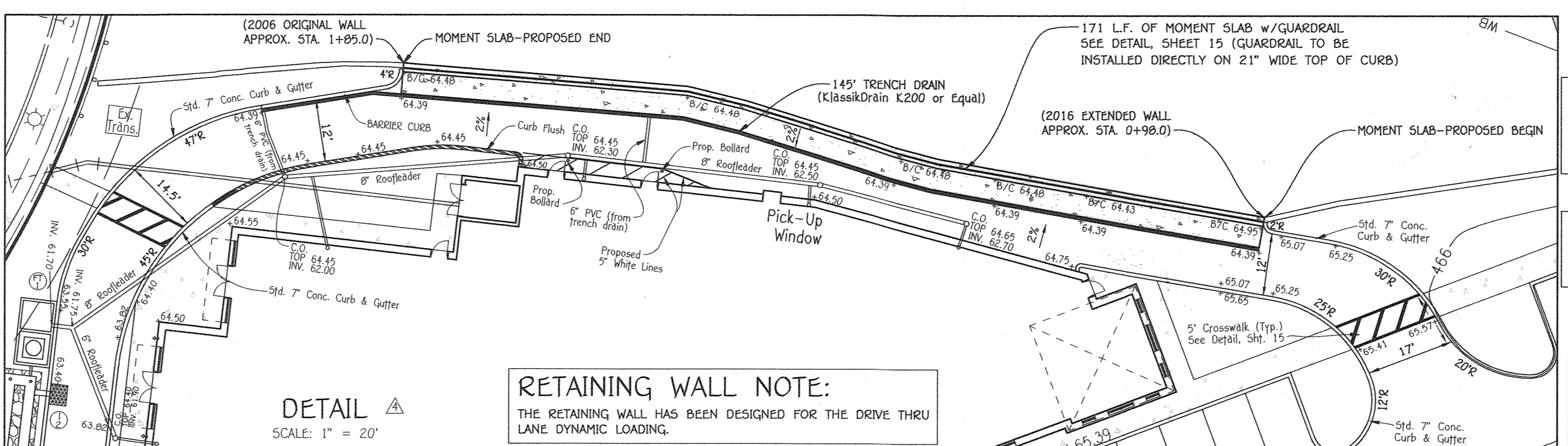
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---500---	EXISTING CONTOUR 10' INTERVAL
---468---	PROPOSED CONTOUR 2' INTERVAL
---500---	PROPOSED CONTOUR 10' INTERVAL
+ 62.33	SPOT ELEVATION
---	PROPOSED CONCRETE WALK
---	EASEMENTS
---	EXISTING TREE
---	PROPOSED STORM DRAINS
---	EXISTING WATER MAIN
---	EXISTING SEWER MAIN
---	PROPOSED SEWER MAIN
---	EXISTING FLOODPLAIN
---	EXISTING WETLAND BUFFER
---	EXISTING TREE LINE

--- DENOTES TREE TO BE REMOVED AND/OR RELOCATED (SEE SHEET 7 FOR RELOCATED TREES)



STRIPING/SIGN NOTES:

- ALL MARKINGS ARE PAINT EXCEPT FOR THE STRAIGHT ARROW (PERFORM THERMOPLASTIC)
- CALL TRAFFIC ENGINEERING AT 410-313-2430 REGARDING RUMBLE STRIP DETAILS (I.E. DEPTH, WIDTH, SPACING, ETC.) PRIOR TO INSTALLATION.
- "DO NOT ENTER" SIGNS TO BE INSTALLED AS SHOWN



PURPOSE NOTE: Δ
THE PURPOSE OF THIS REVISED SDP IS TO ADD A DRIVE THRU LANE AND REVISE PARKING, LANDSCAPING & STORMWATER MANAGEMENT.

PURPOSE NOTE: Δ
THE PURPOSE OF THIS REVISED SDP IS TO MOVE E50 No. 4 OUT OF THE PUBLIC ROAD RIGHT-OF-WAY.

PURPOSE NOTE: Δ
THE PURPOSE OF THIS REVISED SDP IS TO ADD A ONE-WAY ENTRANCE ONTO PARCEL 'H' FROM SOUTHBOUND MARRIOTTSVILLE ROAD AND STORMWATER MANAGEMENT TO SUPPORT THE ADDITIONAL IMPERVIOUS SURFACE.

NO.	REVISION	DATE
1	REMOVE 2 SPACES & ADD PATIO	12/9/21
2	ADD DUNKIN' DONUTS SIGNAGE	9/10/21
3	ADDED DRIVE THRU LANE, REVISED PARKING, LANDSCAPING & S.W.M.	12/17/20
4	ADDED SIGN LOCATION	8/18/20
5	MOVE E50 No. 4 OUT OF PUBLIC ROAD R/W	6/25/19
6	ADDED ONE WAY ENTRANCE FROM MARRIOTTSVILLE ROAD & E50 No. 4	2/22/19

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2995

STATE OF MARYLAND
PROFESSIONAL ENGINEERING
3/4/21

SCALE: 1" = 30'

Owner And Developer
Elicott City Land Holding, Inc.
8319 Forest Street - Suite 200
Elicott City, Maryland 21043
(410)-707-7054

Owner And Developer
Mid-Atlantic Services, Inc.
8319 Forest Street - Suite 200
Elicott City, Maryland 21043
(410)-707-7054

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: 4/24/21 Date

Chief, Development Engineering Division: 4/19/21 Date

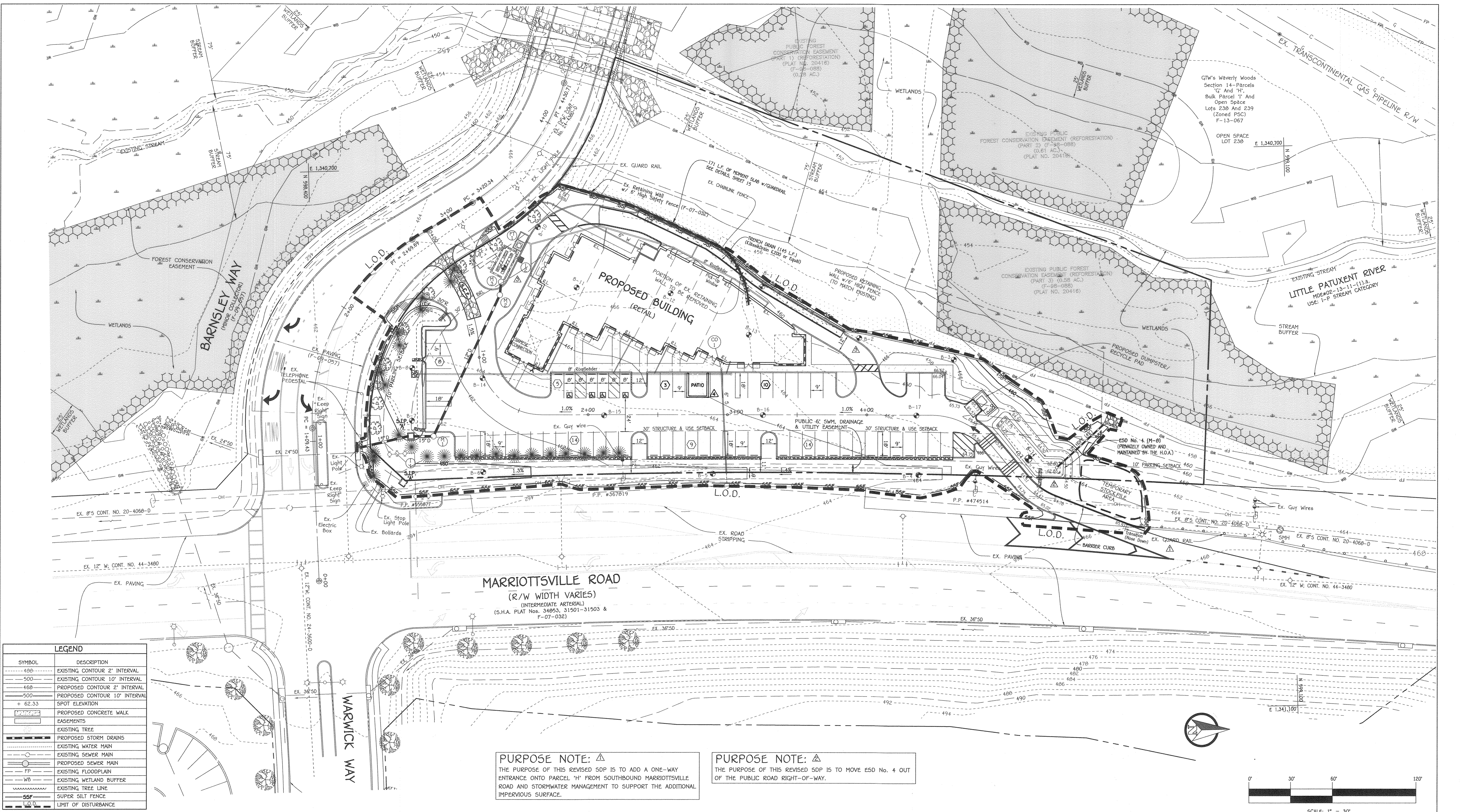
Director, Department of Planning and Zoning: 4-21-21 Date

SUBDIVISION	SECTION	PARCEL NO.
GTW's Waverly Woods	14	'H'
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

REVISED SITE DEVELOPMENT PLAN

GTW's Waverly Woods
Retail Center
Parcel 'H'

Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: February 26, 2021
Sheet 3 of 19



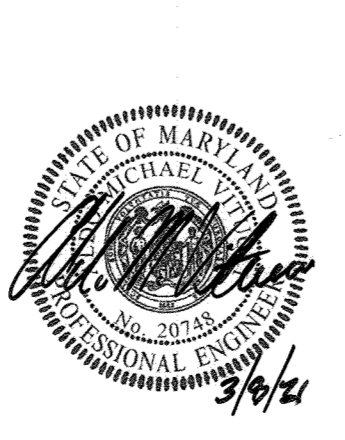
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---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
+	SPOT ELEVATION
---	PROPOSED CONCRETE WALK
---	EASEMENTS
---	EXISTING TREE
---	PROPOSED STORM DRAINS
---	EXISTING WATER MAIN
---	EXISTING SEWER MAIN
---	PROPOSED SEWER MAIN
---	EXISTING FLOODPLAIN
---	EXISTING WETLAND BUFFER
---	EXISTING TREE LINE
---	SUPER SILT FENCE
---	LIMIT OF DISTURBANCE

PURPOSE NOTE: ▲
 THE PURPOSE OF THIS REVISED SDP IS TO ADD A ONE-WAY ENTRANCE ONTO PARCEL 'H' FROM SOUTHBOUND MARRIOTTSVILLE ROAD AND STORMWATER MANAGEMENT TO SUPPORT THE ADDITIONAL IMPERVIOUS SURFACE.

PURPOSE NOTE: ▲
 THE PURPOSE OF THIS REVISED SDP IS TO MOVE ESD No. 4 OUT OF THE PUBLIC ROAD RIGHT-OF-WAY.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10275 BALDORNE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 451-2295

NO.	REVISION	DATE
1	REMOVE 2 SPACES & ADD PATIO	12/9/21
2	ADDED DRIVE THRU LANE, REVISED PARKING & S.W.M.	2/26/21
3	MOVE ESD No. 4 OUT OF PUBLIC ROAD R/W	6/25/19
4	ADDED ONE WAY ENTRANCE FROM MARRIOTTSVILLE ROAD & ESD No. 4 FOR ADDITIONAL PAVING	2/22/19

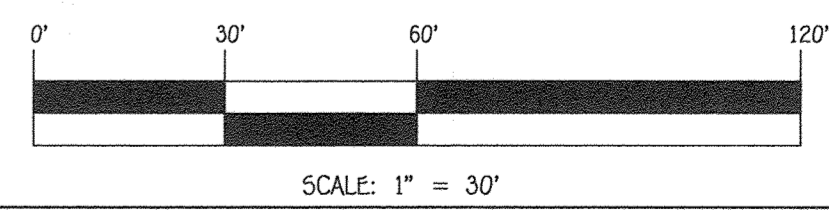


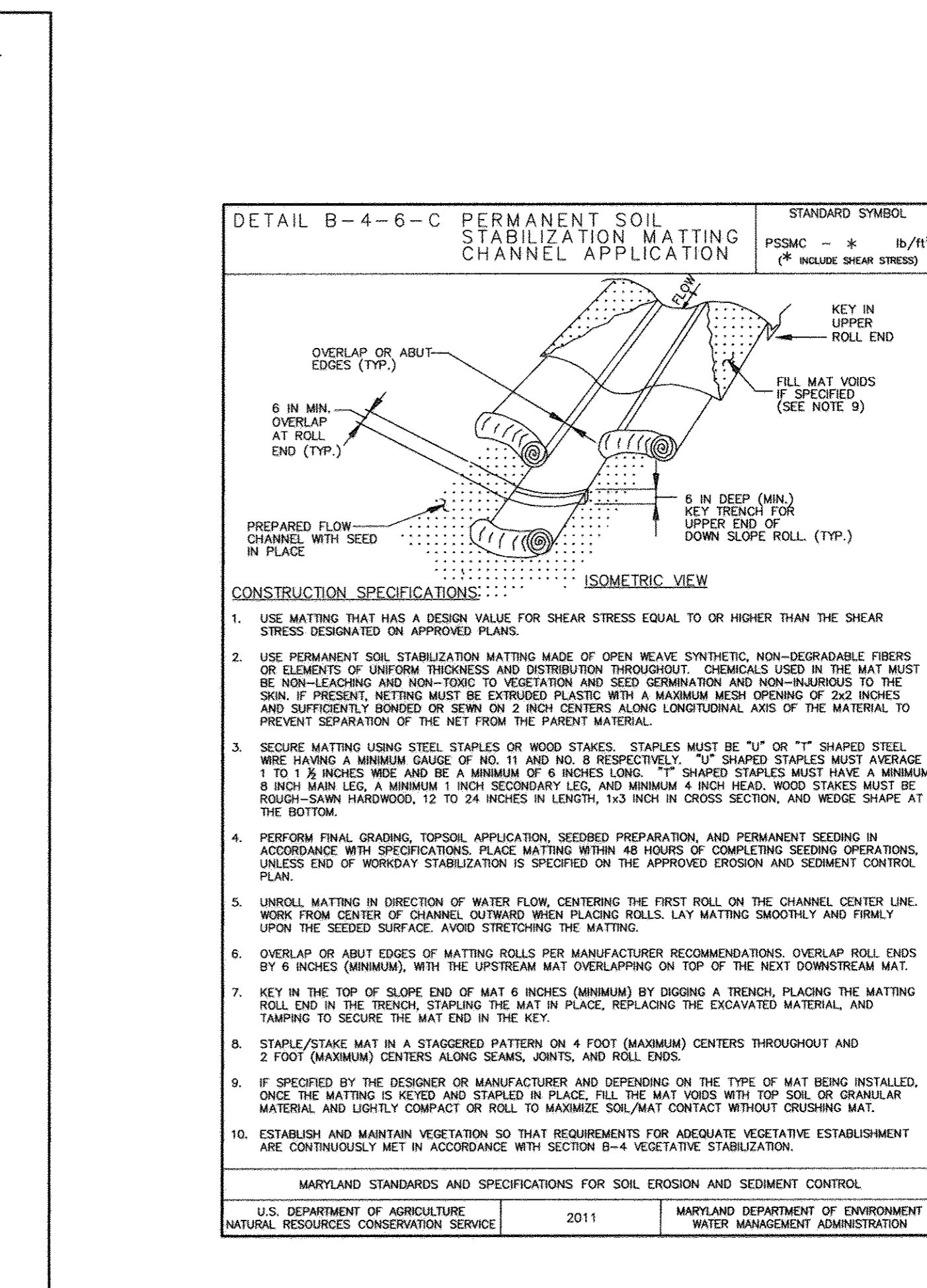
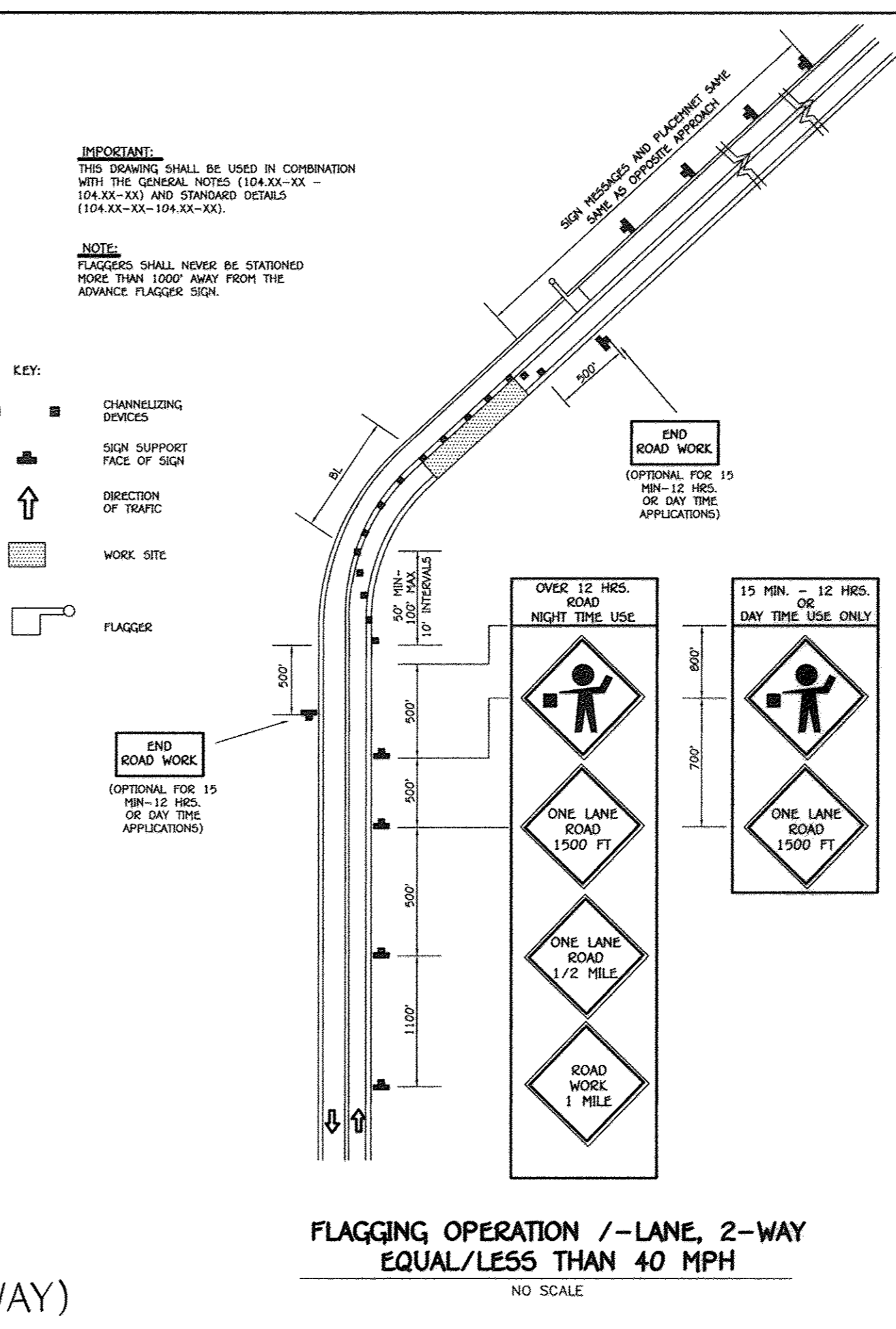
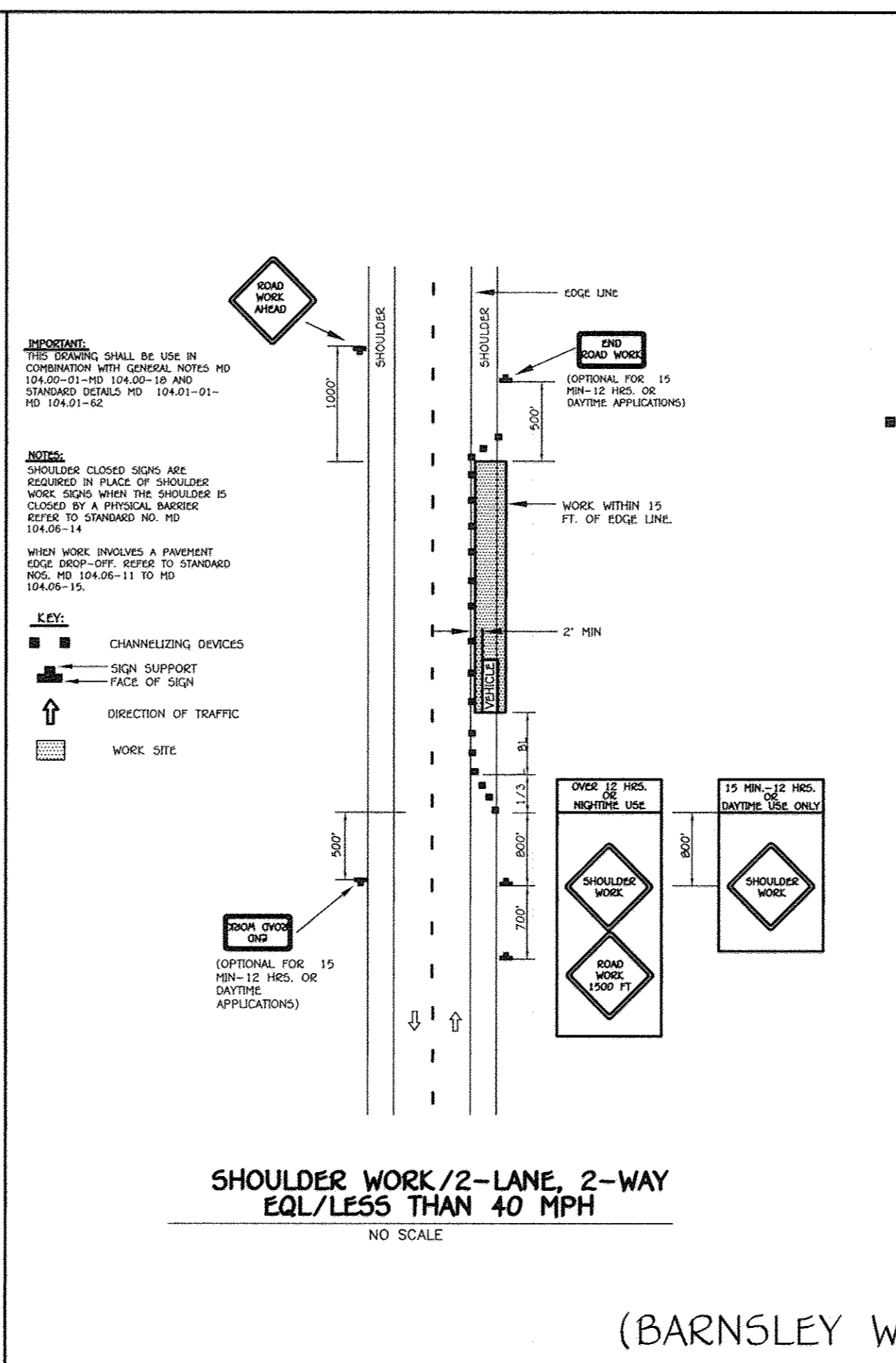
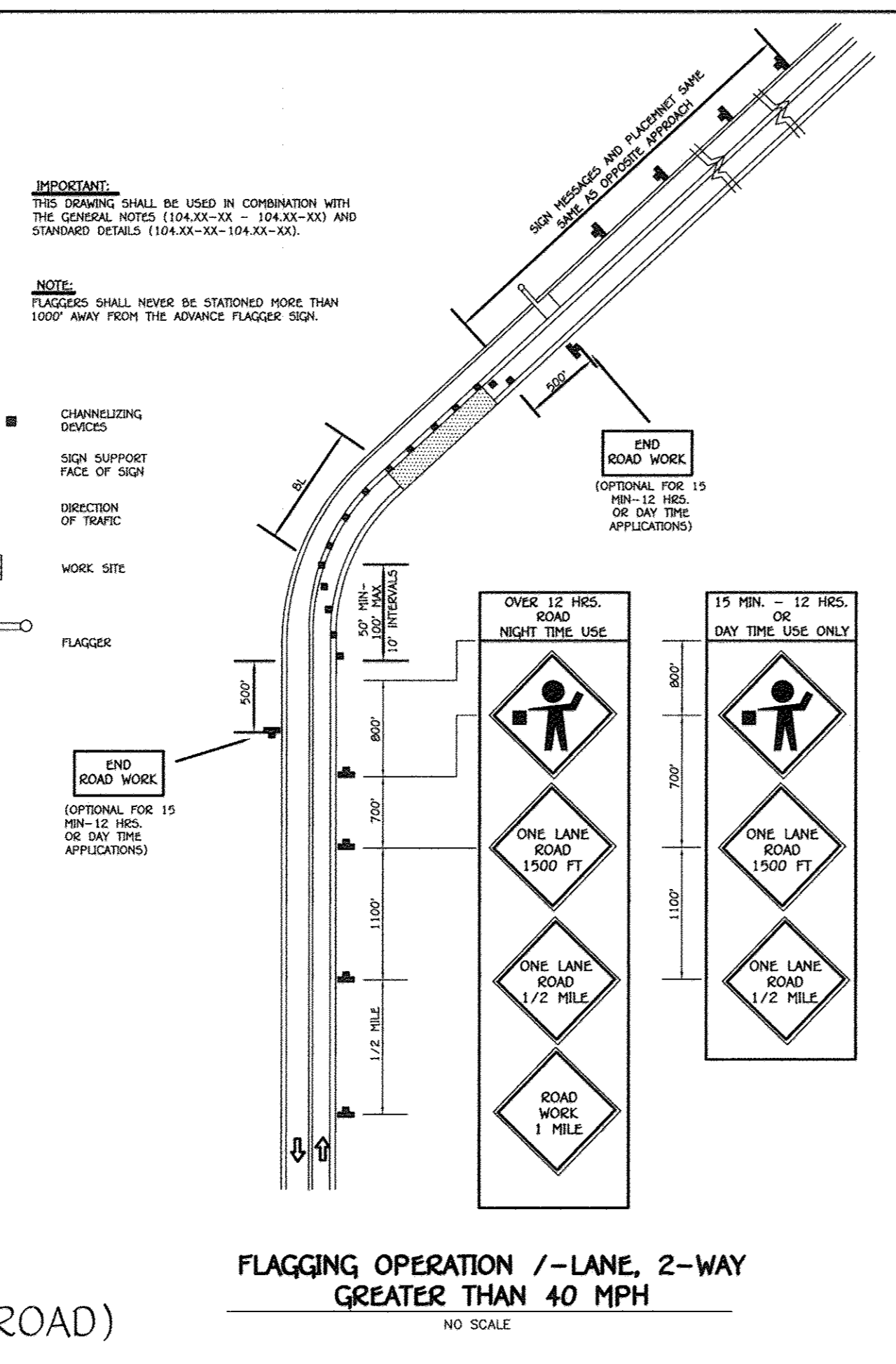
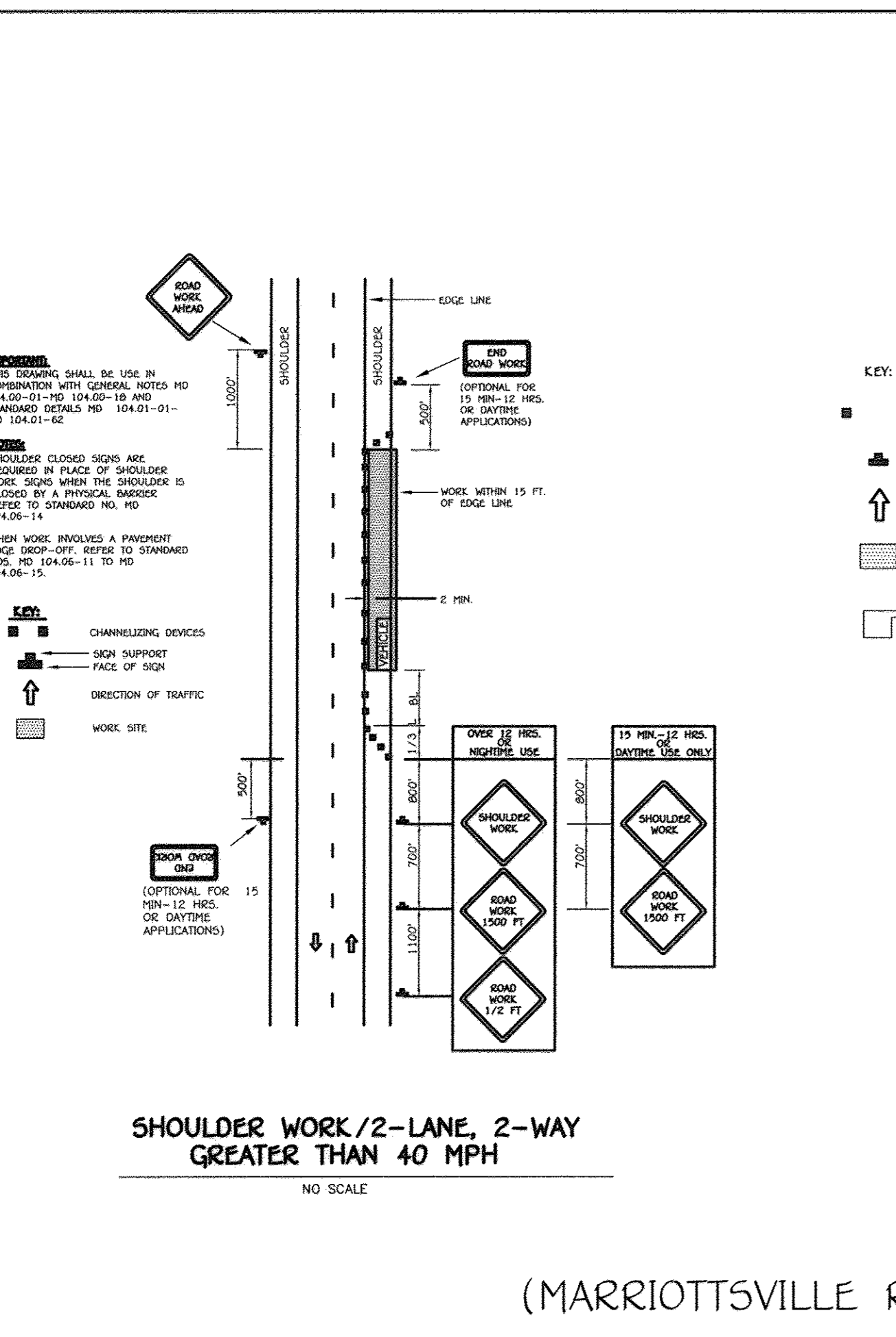
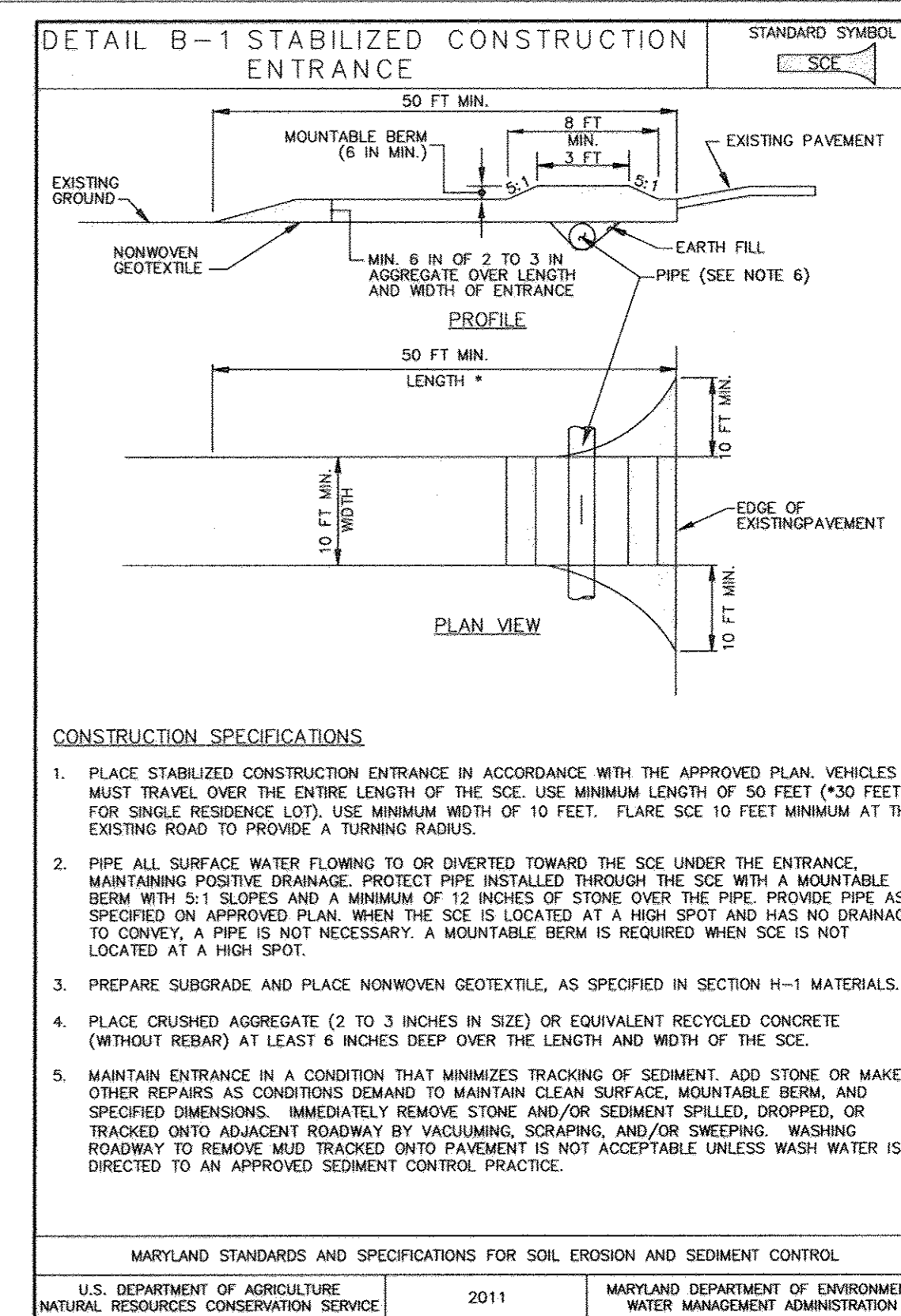
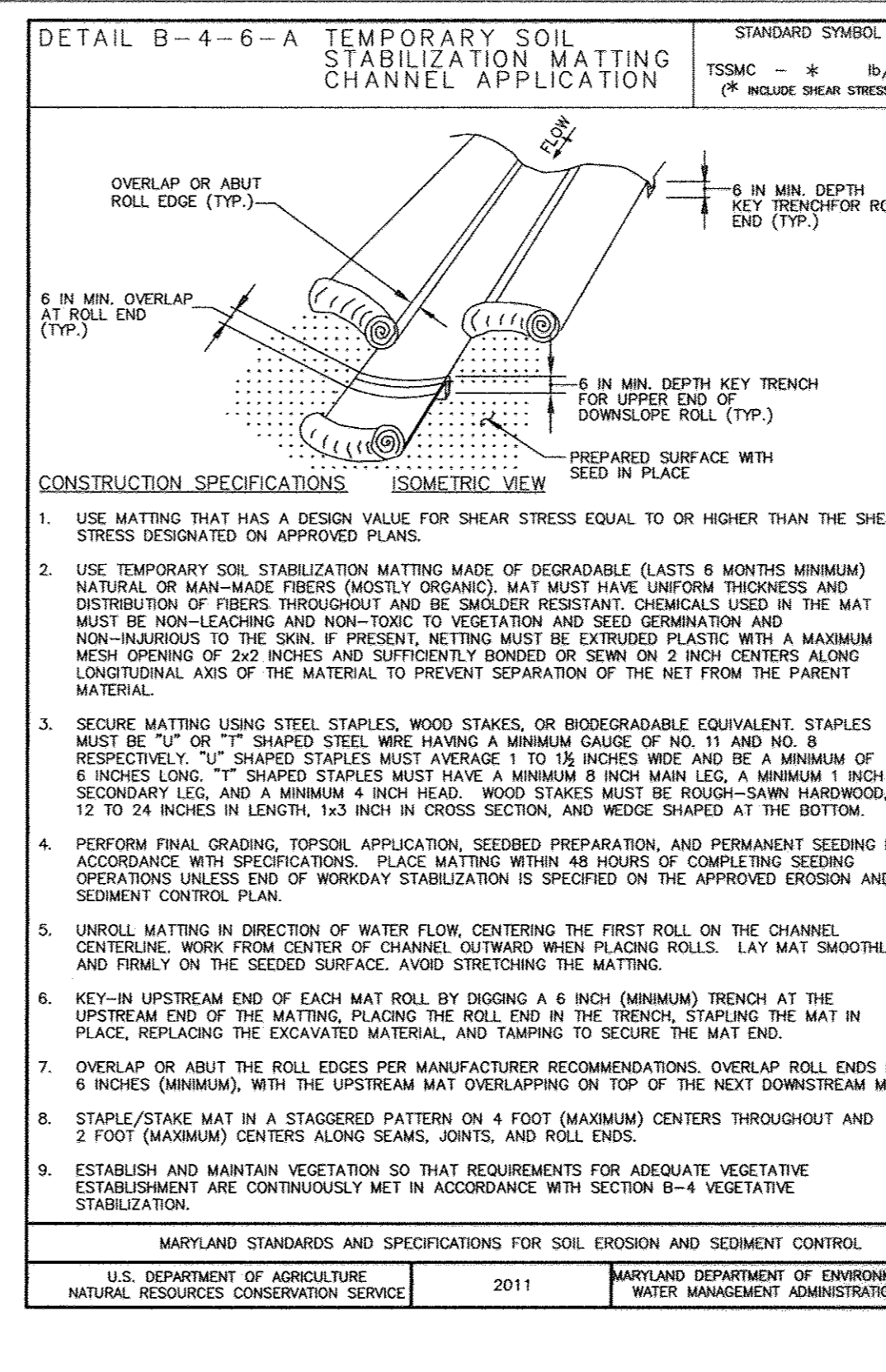
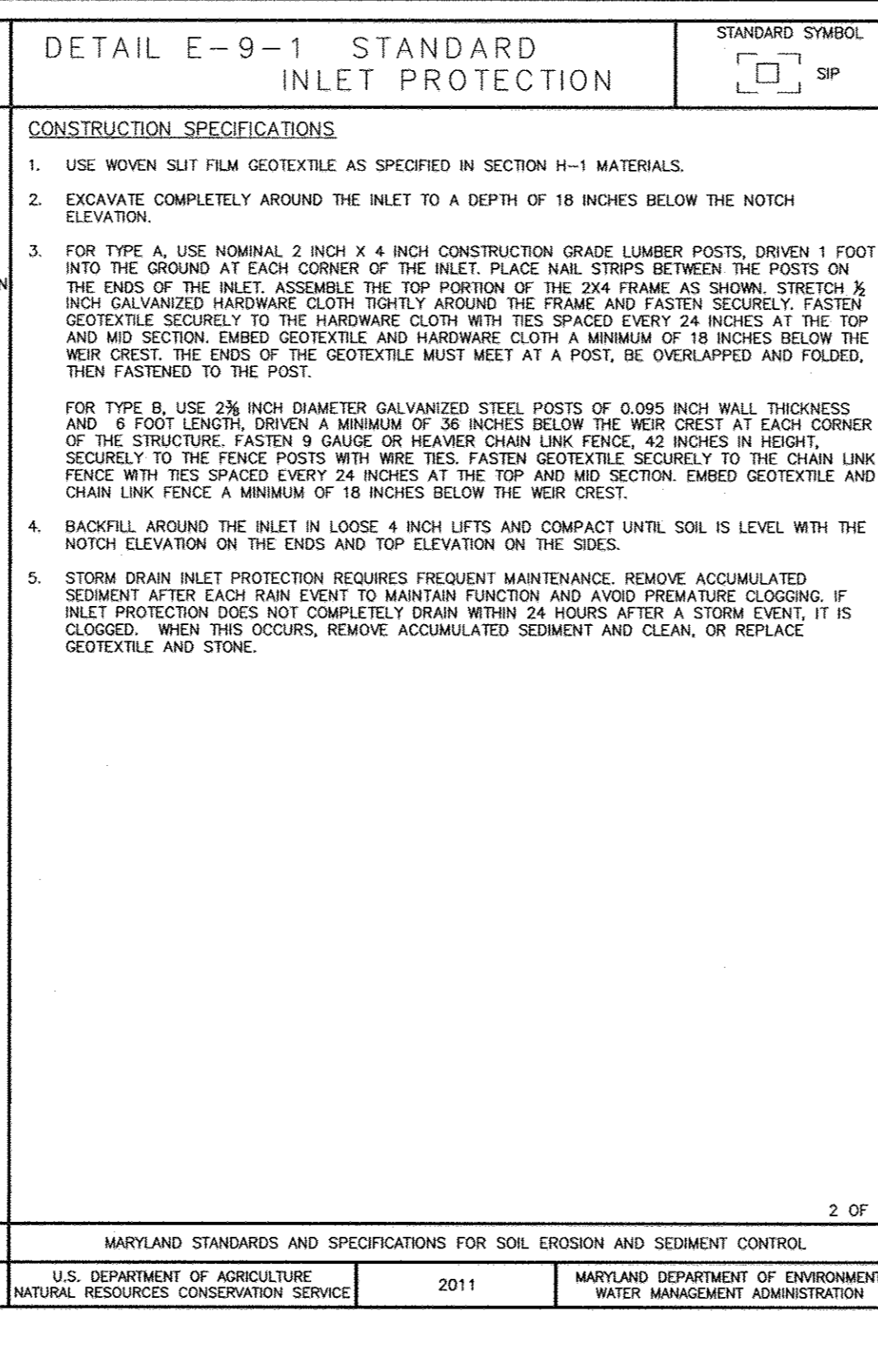
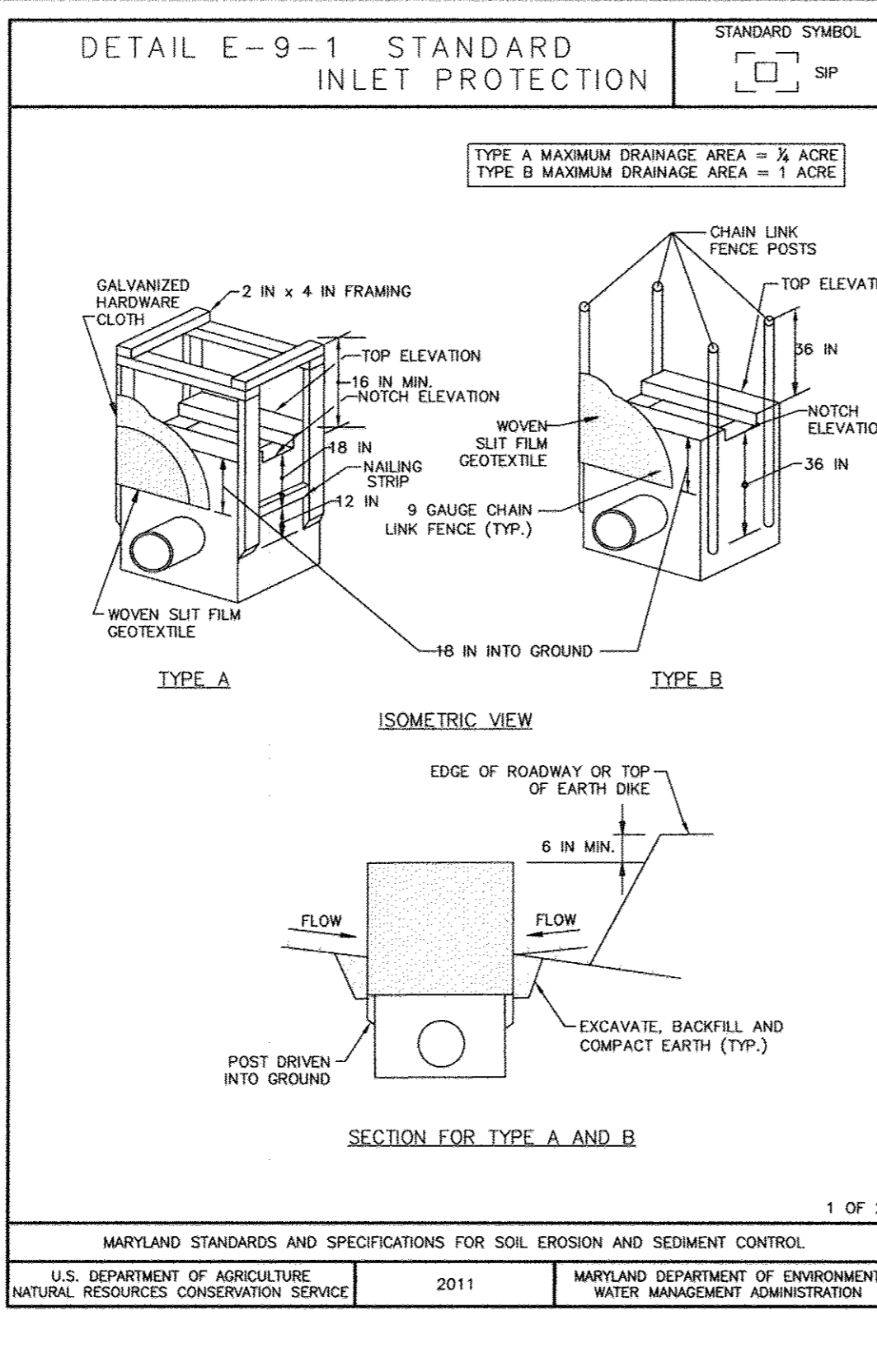
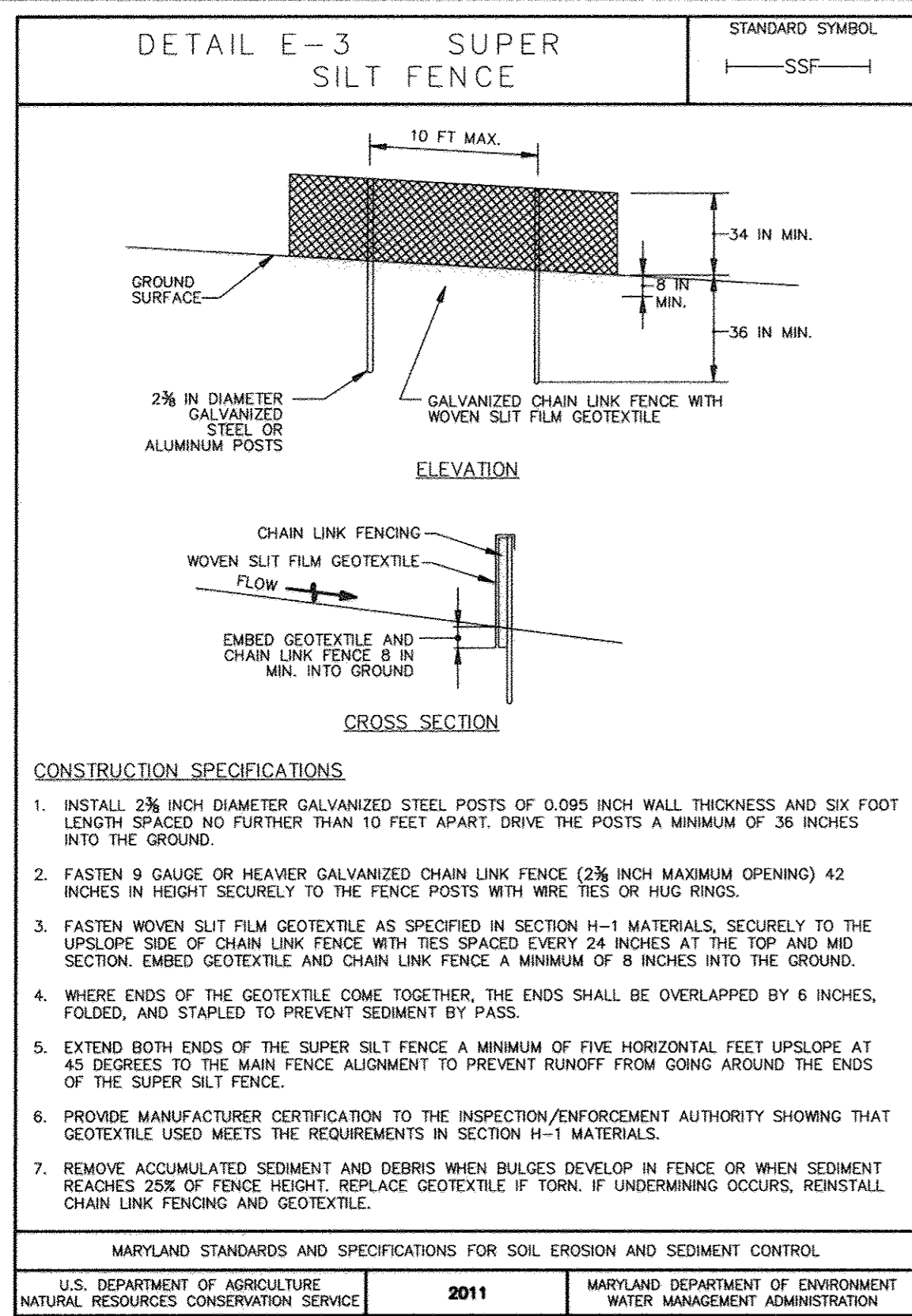
ENGINEER'S CERTIFICATE
 "I certify that the design and erosion control represents a practical and workable plan based on a review of the site conditions and that it was prepared in accordance with the Howard Soil Conservation District."
 Signature of *Michael J. Batts* (show signature) 3/9/21 Date
DEVELOPER'S 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."
 Signature of *[Signature]* Developer (print name below signature) 3/9/21 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Alexander Bratchi 03/31/21
 Howard SCD Date
Owner And Developer
 Ellicott City Land Holding, Inc.
 8318 Forest Street-Suite 200
 Ellicott City, Maryland 21043
 (410-707-7054)
Owner And Developer
 Mid-Atlantic Services, Inc.
 8318 Forest Street-Suite 200
 Ellicott City, Maryland 21043
 (410-707-7054)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 4/21/21
 Chief, Division of Land Development Date
[Signature] 4/19/21
 Chief, Development Engineering Division Date
[Signature] 4-21-21
 Director, Department of Planning and Zoning Date
 SUBDIVISION: GTW's Waverly Woods SECTION: 14 PARCEL No.: 'H'
 PLAT NO.: 24972-24973 BLOCK NO.: 3 & 4 ZONED: PEC TAX/ZONE: 16 ELEC. DIST.: 3rd CENSUS TR.: 6030.00

REVISED
 SEDIMENT & EROSION CONTROL PLAN
GTW's Waverly Woods
 Retail Center
 Parcel 'H'
 Zoned: PEC
 Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
 3rd Election District Howard County, Maryland
 Scale: As Shown
 Date: February 26, 2021
 Sheet 4 of 19





FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 8895

NO.	REVISION	DATE

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 of the Howard Soil Conservation District."
 Signature of Engineer (print name below signature) *25-18* 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."
 Signature of Developer (print name below signature) *2-5-18* Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
 Signature of District Engineer *2/21/18* Date

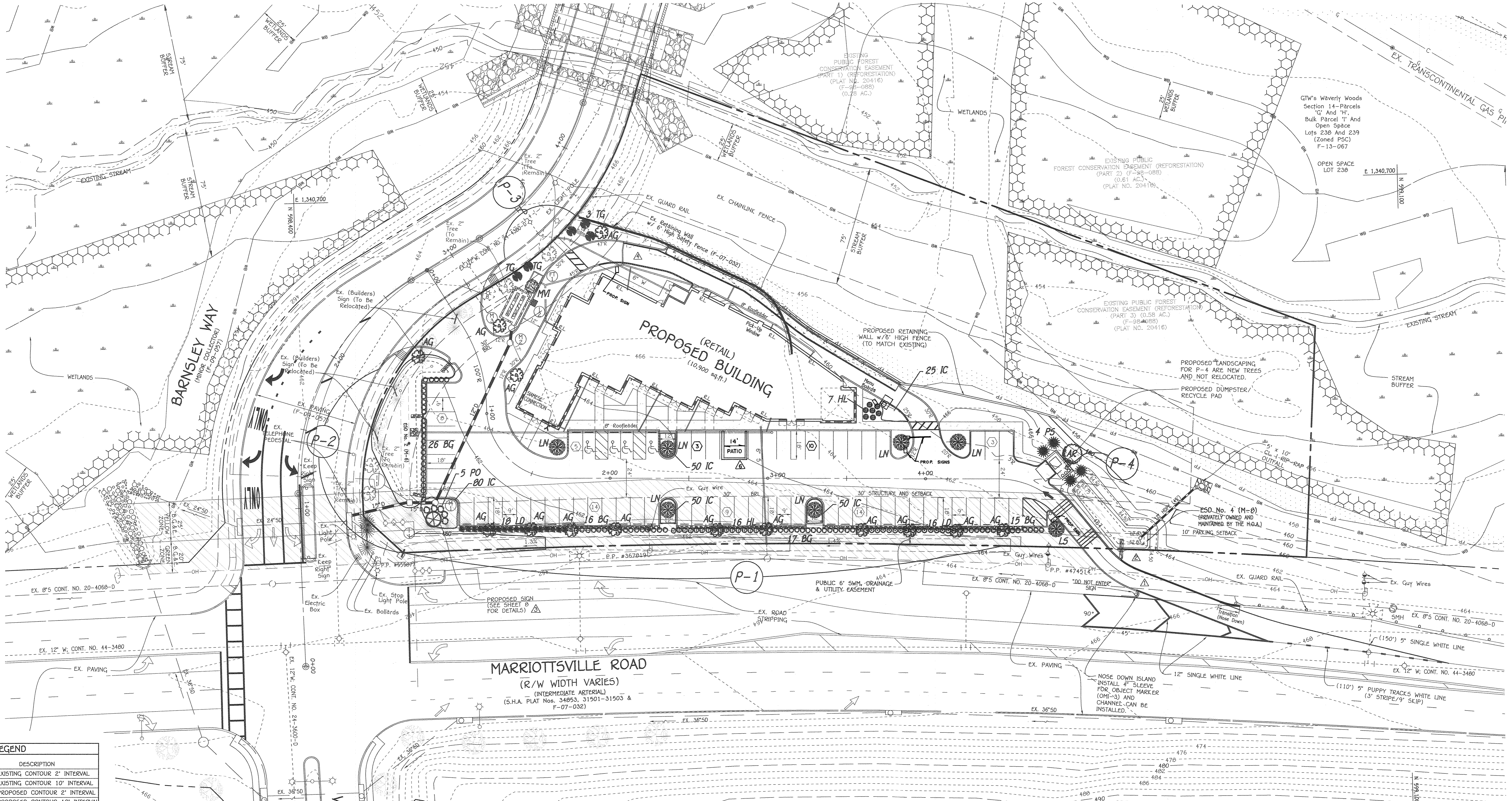
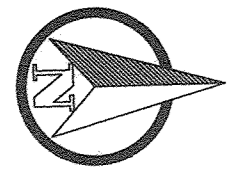
Owner
 Waverly Woods Development Corporation
 c/o Mr. Ken Warfield, Jr.
 14451 Tridelphia Road, P.O. Box 30
 Glenelg, Maryland 21737
 (410)-442-2337

Developer
 Waverly Woods Development Corporation
 c/o Mr. Ken Warfield, Jr.
 14451 Tridelphia Road, P.O. Box 30
 Glenelg, Maryland 21737
 (410)-442-2337

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Signature of Chief, Division of Land Development *3-12-18* Date
 Signature of Chief, Development Engineering Division *3-5-18* Date
 Signature of Director - Department of Planning and Zoning *3-14-18* Date

SUBDIVISION: GTW's Waverly Woods SECTION: 14 PARCEL NO.: "H"
 PLAT NO.: 2454B-24549 BLOCK NO.: 3 & 4 ZONED: PEC TAX/ZONE: 16 ELEC. DIST.: 3rd CENSUS TR.: 6030.00

SEDIMENT & EROSION CONTROL NOTES AND DETAILS AND TEMPORARY TRAFFIC CONTROL PLANS
GTW's Waverly Woods
 Retail Center
 Parcel 'H'
 Zoned: PEC
 Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
 3rd Election District Howard County, Maryland
 Scale: As Shown
 Date: February 2, 2018
 Sheet 6 Of 19



SYMBOL	DESCRIPTION
480	EXISTING CONTOUR 2' INTERVAL
500	EXISTING CONTOUR 10' INTERVAL
460	PROPOSED CONTOUR 2' INTERVAL
500	PROPOSED CONTOUR 10' INTERVAL
+ 62.33	SPOT ELEVATION
[Symbol]	PROPOSED CONCRETE WALK
[Symbol]	EASEMENTS
[Symbol]	EXISTING TREE
[Symbol]	PROPOSED STORM DRAINS
[Symbol]	EXISTING WATER MAIN
[Symbol]	EXISTING SEWER MAIN
[Symbol]	PROPOSED SEWER MAIN
[Symbol]	FP
[Symbol]	EXISTING FLOODPLAIN
[Symbol]	EXISTING WETLAND BUFFER
[Symbol]	EXISTING TREE LINE

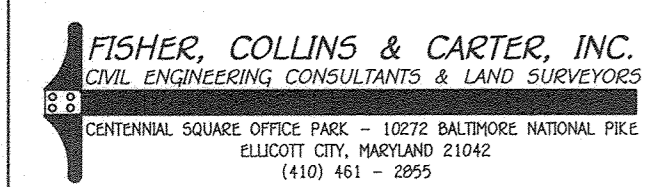
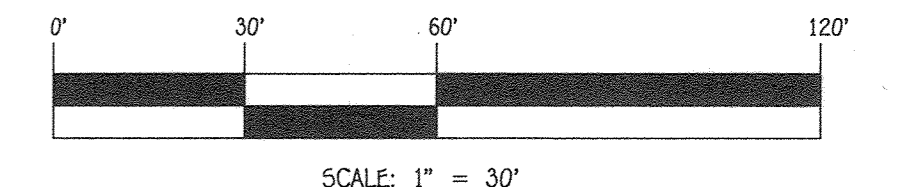
☼ DENOTES EXISTING TREE TO BE RELOCATED (TBR)
 ☼ DENOTES RELOCATED TREE

PURPOSE NOTE: ▲
 THE PURPOSE OF THIS REVISED SDP IS TO ADD A ONE-WAY ENTRANCE ONTO PARCEL 'H' FROM SOUTHBOUND MARRIOTTSVILLE ROAD AND STORMWATER MANAGEMENT TO SUPPORT THE ADDITIONAL IMPERVIOUS SURFACE.

PURPOSE NOTE: ▲
 THE PURPOSE OF THIS REVISED SDP IS TO REVISE LANDSCAPING LAYOUT & ADD SIGN LOCATION.

PURPOSE NOTE: ▲
 THE PURPOSE OF THIS REVISED SDP IS TO MOVE ESD No. 4 OUT OF THE PUBLIC ROAD RIGHT-OF-WAY.

PURPOSE NOTE: ▲
 THE PURPOSE OF THIS REVISED SDP IS TO ADD A DRIVE THRU LANE AND REVISE PARKING, LANDSCAPING & STORMWATER MANAGEMENT.



NO.	REVISION	DATE
1	REMOVE 2 SPACES & ADD PATIO	12/9/21
2	ADD NEW SIGNS	9/10/21
3	ADDED DRIVE THRU LANE, REVISED PARKING, LANDSCAPING & S.W.M.	2/26/21
4	REVISE LANDSCAPING LAYOUT & ADD SIGN	8/18/20
5	MOVE ESD No. 4 OUT OF PUBLIC ROAD R/W	6/25/19
6	ADDED ONE WAY ENTRANCE FROM MARRIOTTSVILLE ROAD & ESD No. 4 FOR ADDITIONAL PAVING	2/22/19



LANDSCAPE DEVELOPER'S CERTIFICATE
 I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Name: *[Signature]* Date: 3/9/21

Owner And Developer
 Ellicott City Land Holding, Inc.
 8318 Forrest Street-Suite 200
 Ellicott City, Maryland 21043
 (410-707-7054)

Owner And Developer
 Mid-Atlantic Services, Inc.
 8318 Forrest Street-Suite 200
 Ellicott City, Maryland 21043
 (410-707-7054)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development	<i>[Signature]</i> Date: 4/10/21
Chief, Development Engineering Division	<i>[Signature]</i> Date: 4/10/21
Director, Department of Planning and Zoning	<i>[Signature]</i> Date: 4-21-21

SUBDIVISION	SECTION	PARCEL No.
GTW's Waverly Woods	14	'H'
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

REVISED LANDSCAPE PLAN

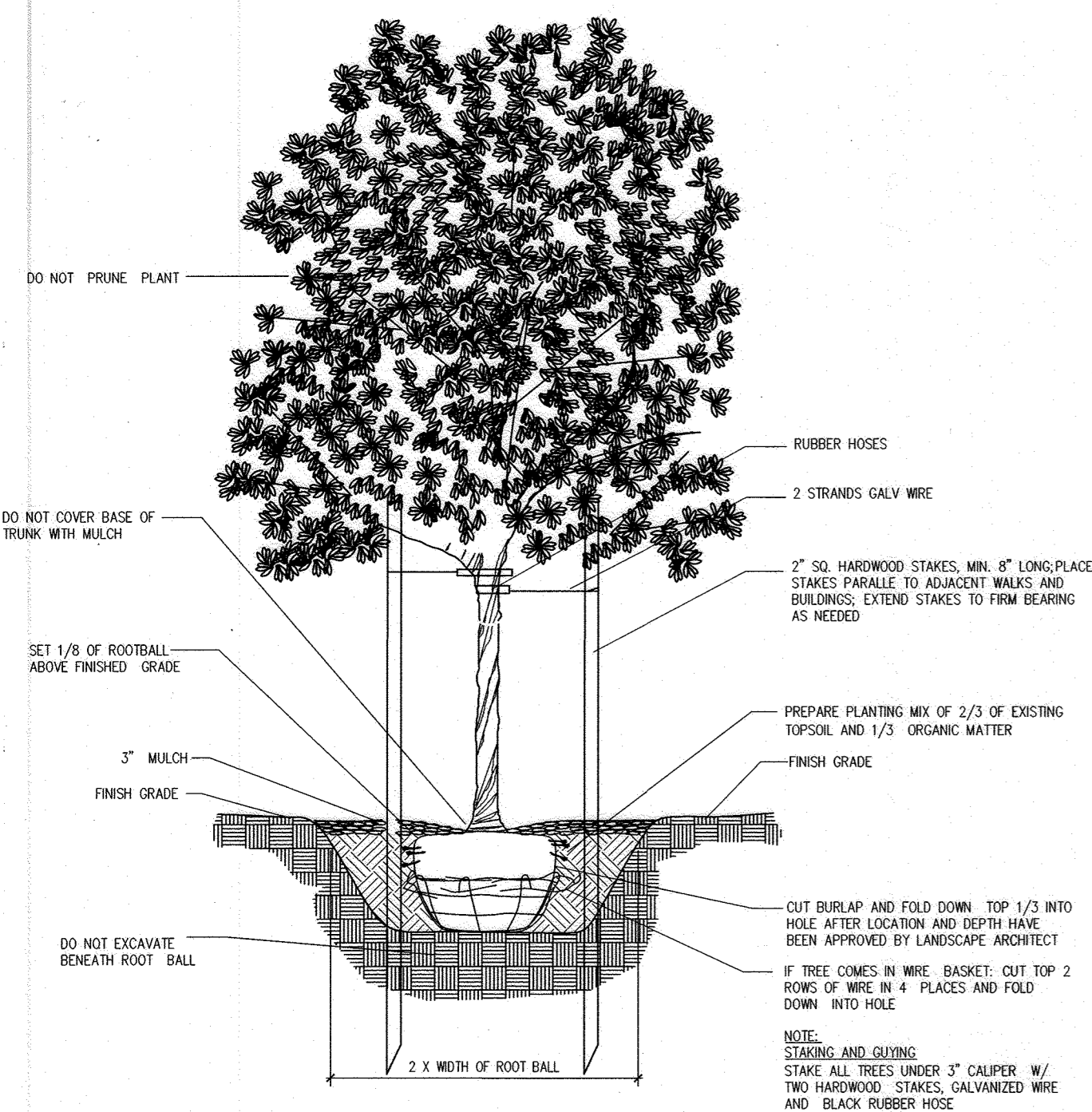
GTW's Waverly Woods

Retail Center
 Parcel 'H'

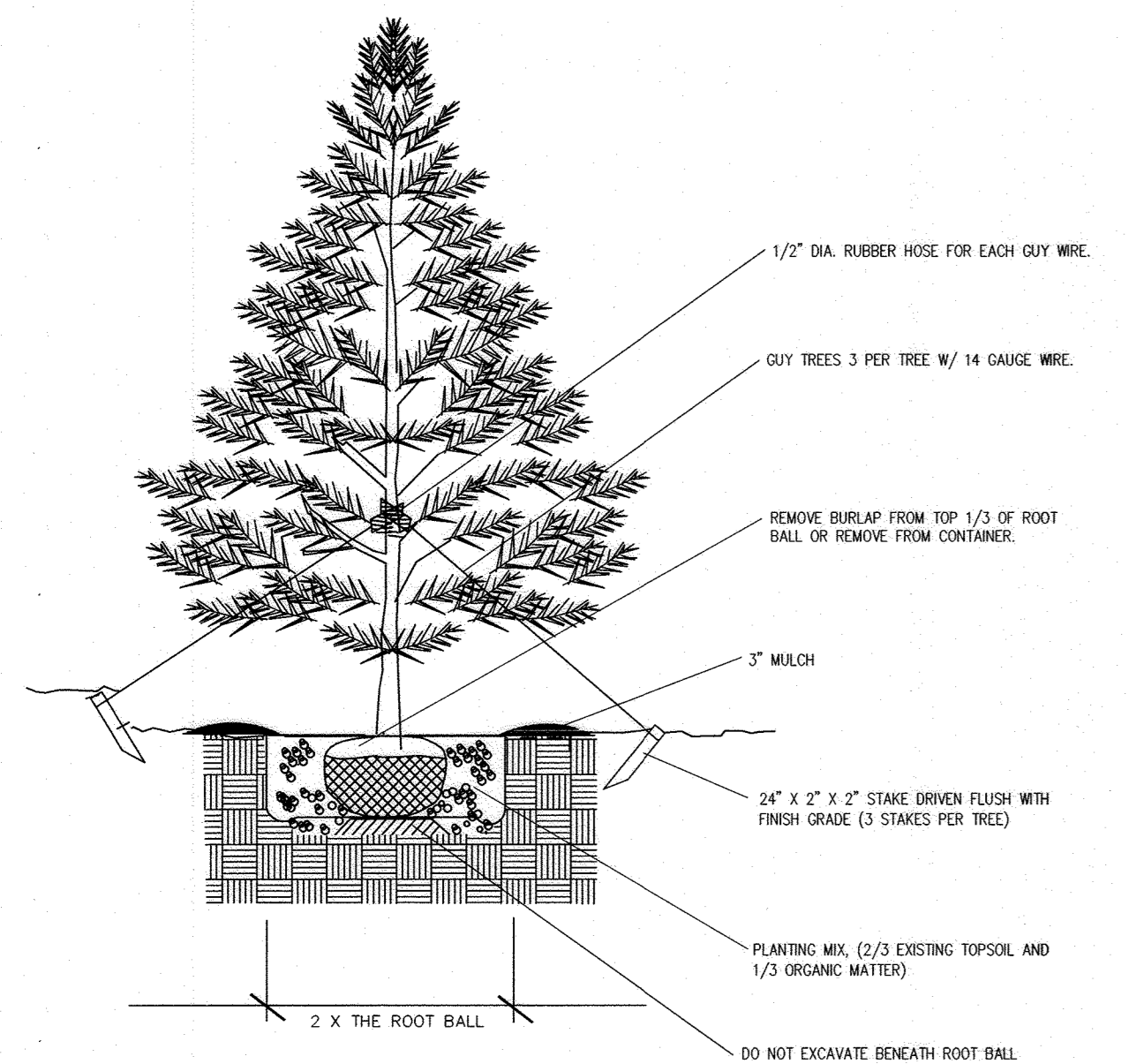
Zoned: PEC
 Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
 3rd Election District Howard County, Maryland
 Scale: As Shown
 Date: February 26, 2021
 Sheet 7 Of 19

PLANTING SPECIFICATIONS

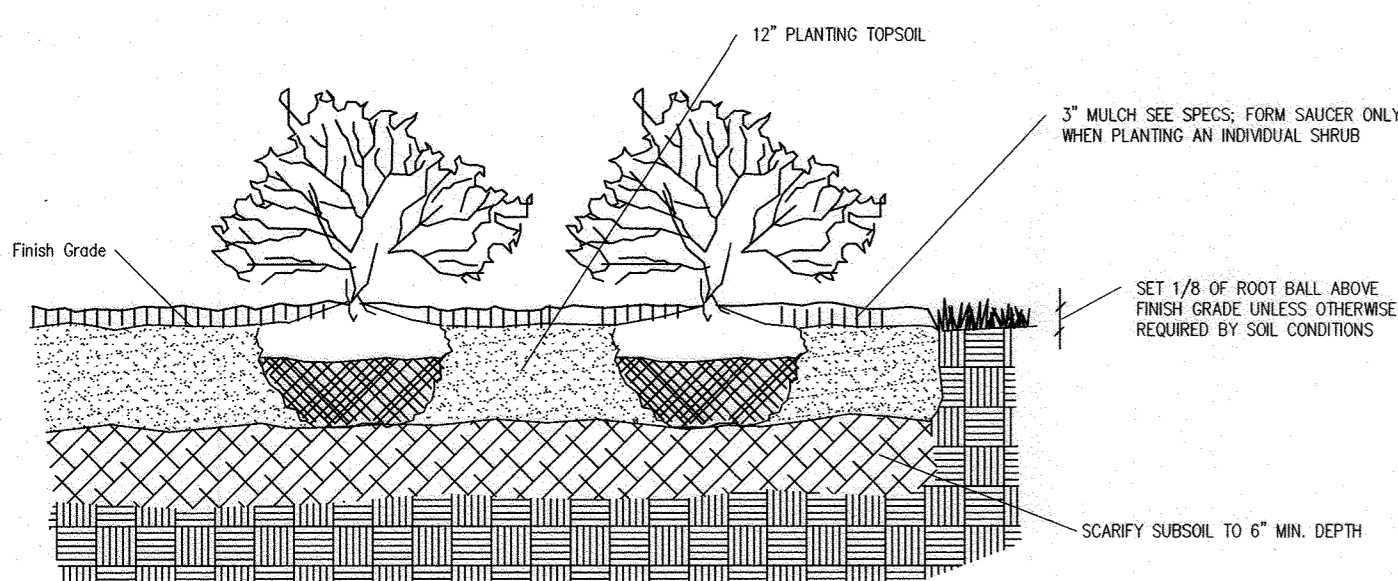
- CLEAR & GRUB ALL PLANTING AREAS AS INDICATED ON THE DRAWINGS.
- PROVIDE PROTECTION FOR TREES, SHRUBS, AND PERENNIALS/GROUND COVERS THAT ARE TO BE PRESERVED.
- CONTRACTOR SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
- ALL PLANTING SHALL BE DONE AS PER PLANTING DETAILS AND SPECIFICATIONS.
- NO CHANGES SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR LANDSCAPE ARCHITECT.
- PRIOR TO CONSTRUCTION OF PLANTING BEDS, THE CONTRACTOR SHALL STAKE OUT PLANTING BED LINES IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANTING BED LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
- INSTALL ALL REQUIRED PLANTING AND LAWN SOILS AS PER DETAILS AND SPECIFICATIONS, AND ALL SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE PLANTED IN PLANTING BEDS PREPARED AS REQUIRED BY THE DETAILS AND SPECIFICATIONS.
- MAINTAIN POSITIVE DRAINAGE OUT OF PLANTING BEDS AT A MINIMUM 2% SLOPE AND MAINTAIN POSITIVE DRAINAGE OF ALL LAWN AREAS, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL GRADES, DIMENSIONS, AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER.
- ALL PLANT BEDS SHALL BE CONTAINED WITH A SPADED EDGE UNLESS OTHERWISE NOTED ON DRAWINGS.
- IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE DRAWINGS AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE DRAWINGS SHALL APPLY. REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING.
- ALL PLANTS SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION.
- PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. PRIOR TO PLANTING, THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANT LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
- ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED OR SOODED; SEE PLAN FOR LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND MAINTAINING ALL PLANTS DURING THE WARRANTY PERIOD; REFER TO SPECIFICATIONS.



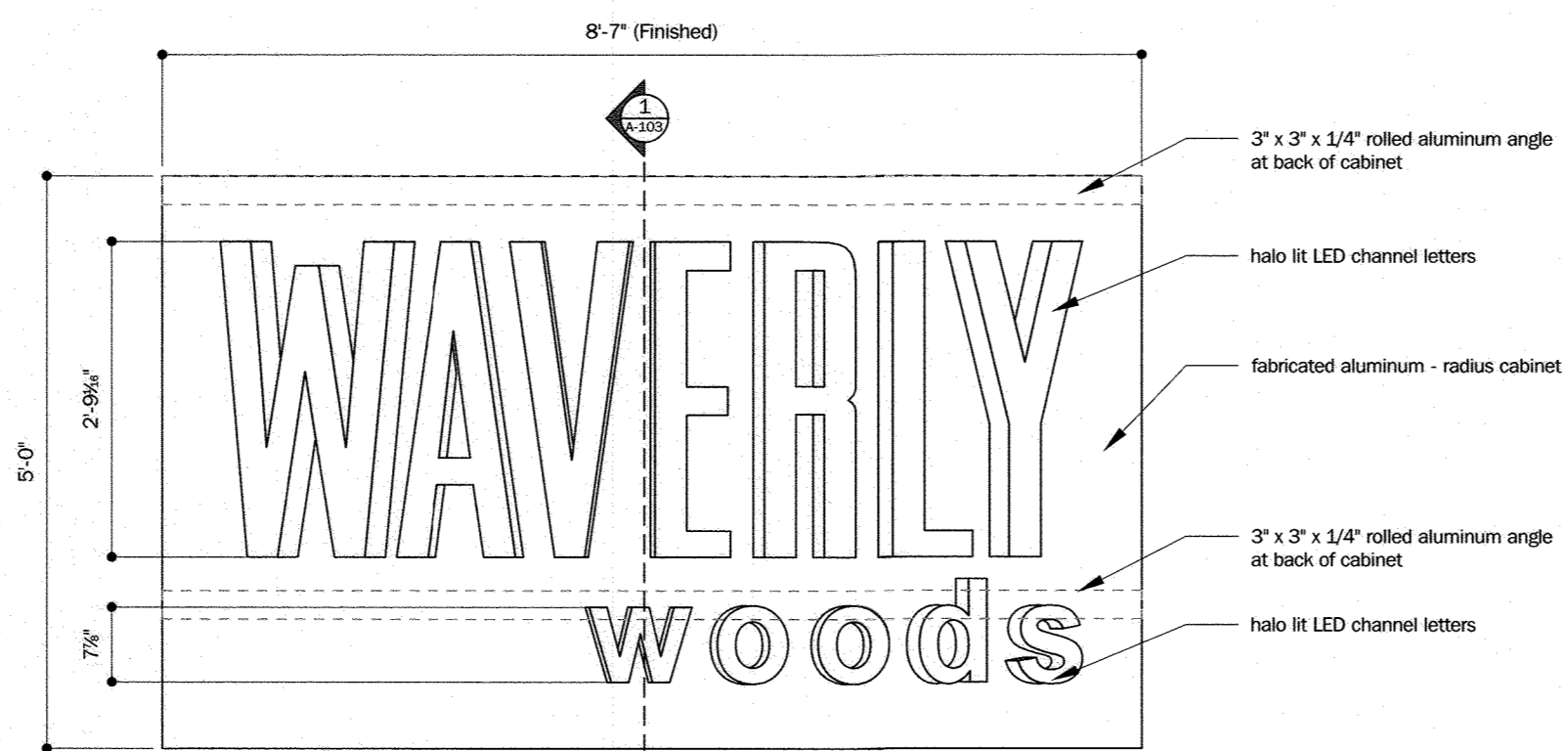
DECIDUOUS TREE - TYPICAL PLANTING DETAIL



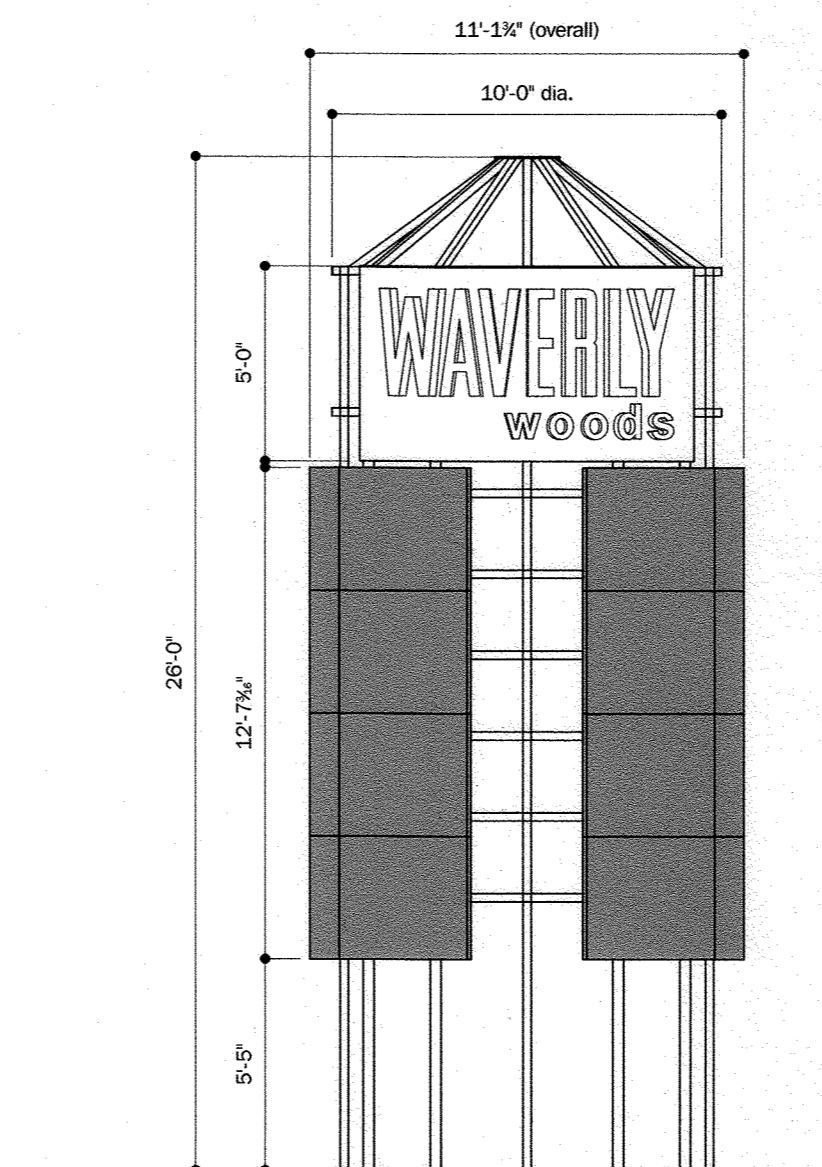
EVERGREEN TREE - TYPICAL PLANTING DETAIL



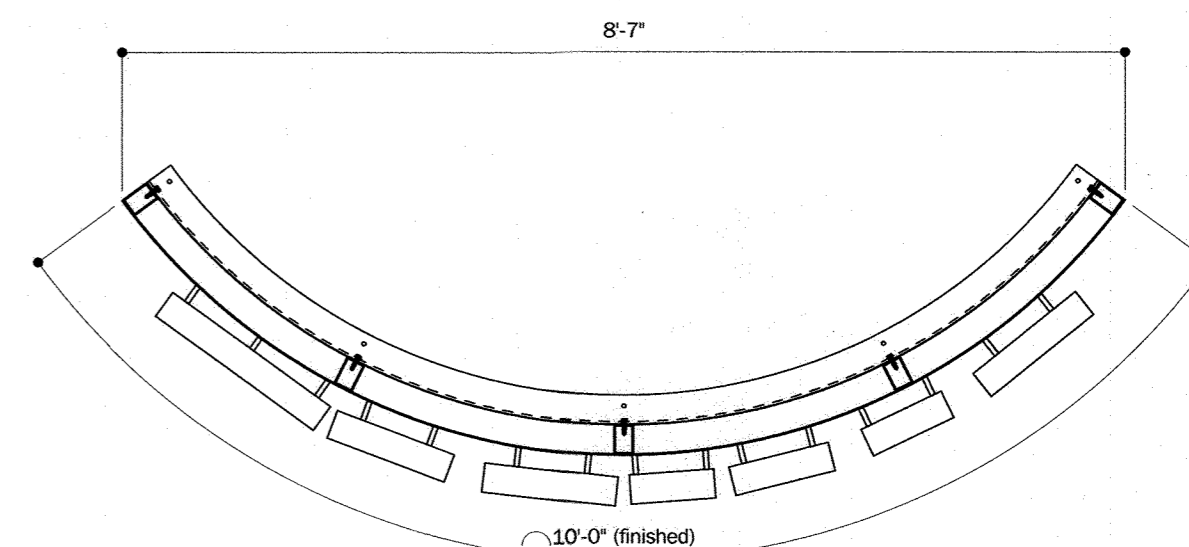
SHRUB AND HEDGEROW - TYPICAL PLANTING DETAIL



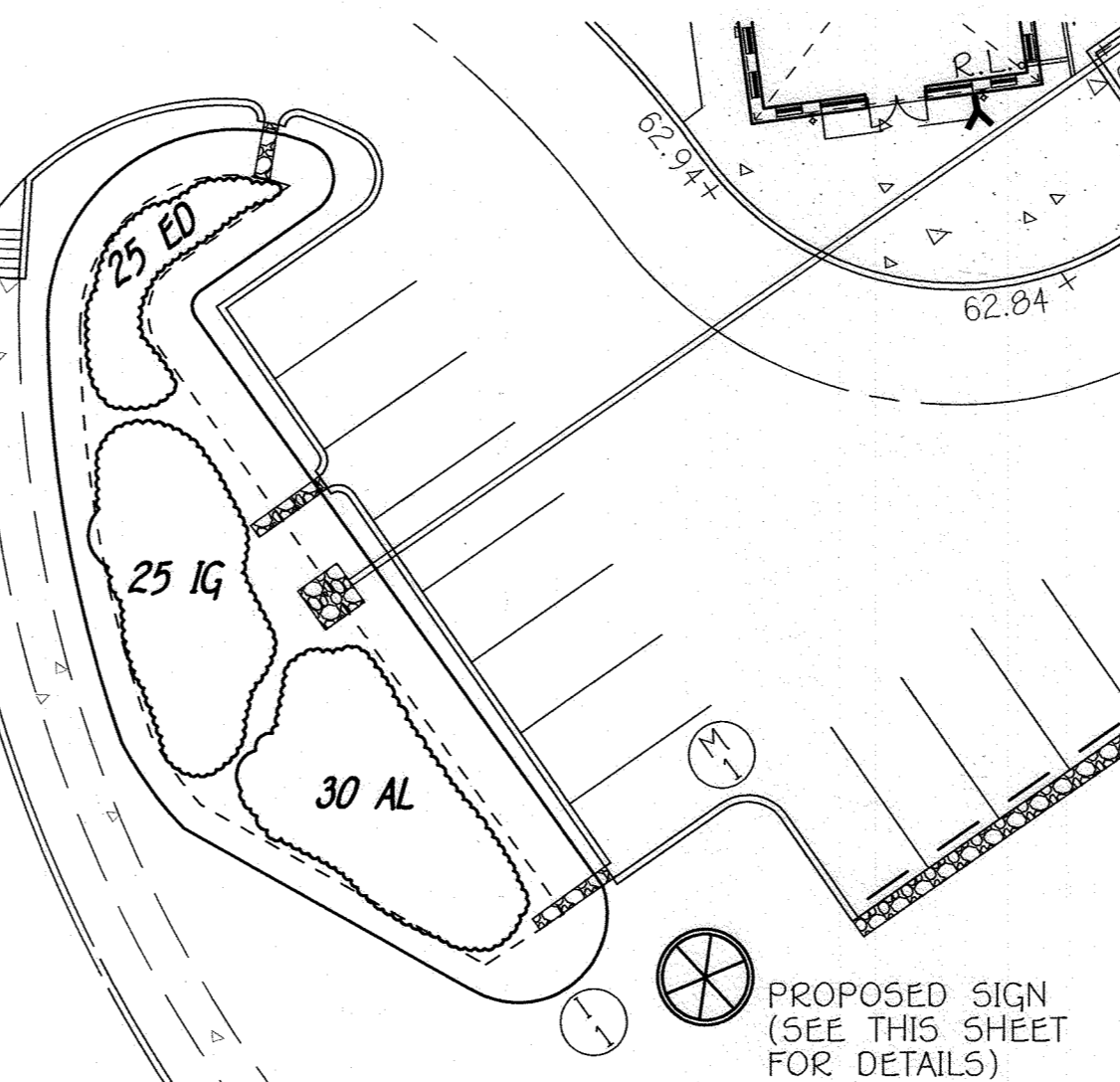
ELEVATION DETAIL
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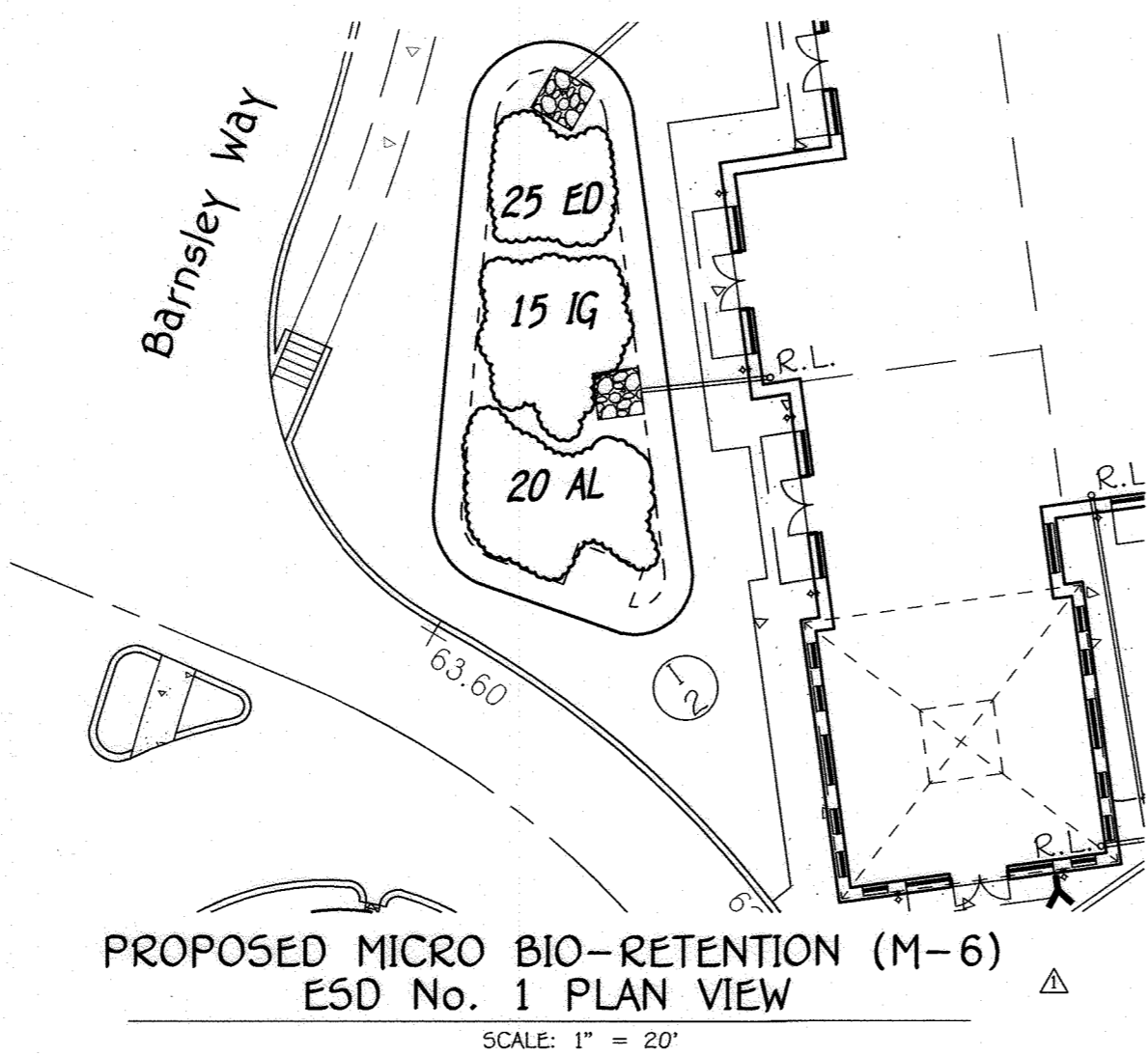
SIGN ELEVATION
NO SCALE



SIGN PLAN DETAIL
NO SCALE



**PROPOSED MICRO BIO-RETENTION (M-6)
ESD No. 2 PLAN VIEW**
SCALE: 1" = 20'



**PROPOSED MICRO BIO-RETENTION (M-6)
ESD No. 1 PLAN VIEW**
SCALE: 1" = 20'

SCHEDULE A - PERIMETER LANDSCAPING												
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL FENCE OR BERR (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO. OF PLANTS REQUIRED			NO. OF PLANTS PROVIDED			
						SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS	
P-1	PARKING TO ROAD	E	380.3'	NO	NO	10	---	95	10	---	98	# CREDIT FOR 2 SHADE TREES
P-2	PARKING TO ROAD	E	125.4'	YES (2 SHADE TREES)	NO	3	0	31	1#	0	31	# CREDIT FOR 2 SHADE TREES
P-3	NON-RES. TO ROAD	B	179.7'	YES (2 SHADE TREES)	NO	4	5	---	8#	0	---	
P-4	DUMPSTER	D	35'	NO	NO	1	4	---	1	4	---	
TOTAL						*18	*9	*126	21	4	129	

NOTE: ALL RELOCATED TREES USED IN THE "CREDIT FOR EXISTING VEGETATION" MUST BE IN GOOD HEALTH AT TIME OF PLANTING OR A NEW TREE SHALL BE PROVIDED MEETING HOWARD COUNTY'S MINIMUM TREE SIZE REQUIREMENTS.

* - DENOTES TOTAL LANDSCAPING REQUIRED BEFORE CREDIT FOR EXISTING LANDSCAPING.

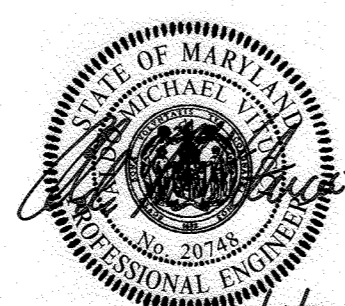
SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	71
NUMBER OF TREES REQUIRED	3.95
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	4 ---

ESD PLANTS					
QTY.	KEY	BOTANICAL NAME COMMON NAME	SIZE	CONT.	REMARKS
50	AL	Aster laevis 'Bluebird' Smooth Aster	#1	CONT.	18" O.C.
50	ED	Eupatorium D 'Little Joe' Compact Joe Pye Weed	#1	CONT.	24" O.C.
40	IG	Ilex glabra 'compacta' Inkberry Holly	24" ht.	CONT.	36" O.C.

LANDSCAPING PLANT LIST					
QTY.	KEY	BOTANICAL NAME COMMON NAME	SIZE	CONT.	REMARKS
SHADE/DECIDUOUS TREES (27)					
14	AG	ACER GINNALA AMUR MAPLE	2 1/2" - 3" CAL.	B & B	
1	AR	ACER RUBRUM RED SUNSET RED SUNSET MAPLE	2 1/2" - 3" CAL.	B & B	
7	LN	LAGERSTROEMIA 'NATCHEZ' NATCHEZ CRAPE MYRTLE (WHITE)	6'-8" HT.	B & B	MULTI-STEM
5	TG	THUJA GREEN GIANT GREEN GIANT ARBORVITAE	5'-6" HT.	B & B	
EVERGREEN TREES (4)					
4	PS	PINUS STROBUS WHITE PINE	6'-8" HT.	B & B	
SHRUBS (136)					
74	BG	BUXUS MICROPHYLLA 'WINTER GEM' WINTER GEM BOXWOOD	#3	CONT.	4' O.C.
23	HL	HYDRANGEA PANICULATA 'LITTLE LIME' LITTLE LIME HYDRANGEA	#3	CONT.	4' O.C.
34	LD	LAGERSTROEMIA 'CHERRY DAZZLE' CHERRY DAZZLE GRAPE MYRTLE	#3	CONT.	4' O.C.
5	PO	PRUNUS LAUROCERASUS OTTO LUYKEN OTTO LUYKEN CHERRY LAUREL	24"	CONT.	5' O.C.
(ADDITIONAL) GROUNDCOVER (255)					
255	IC	IMPERATA CYLINDRICA 'RED BARON' JAPANESE BLOOD GRASS	#1	CONT.	24" O.C.

NOTE: THE DEVELOPER IS PROVIDING 2 ADDITIONAL SHADE TREES, 10 SHRUBS & GROUNDCOVER.
*THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE "RESERVE" 18 SHADE TREES, 9 EVERGREEN TREES & 126 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,330.00.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2999



LANDSCAPE DEVELOPER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a letter of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Paul R. By
Name: _____ Date: 10-15-2020

Owner And Developer

Elicott City Land Holding, Inc.
8318 Forrest Street-Suite 200
Elicott City, Maryland 21043
(410)-707-7054

Owner And Developer

Mid-Atlantic Services, Inc.
8318 Forrest Street-Suite 200
Elicott City, Maryland 21043
(410)-707-7054

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development
[Signature]
Date: 11/6/20

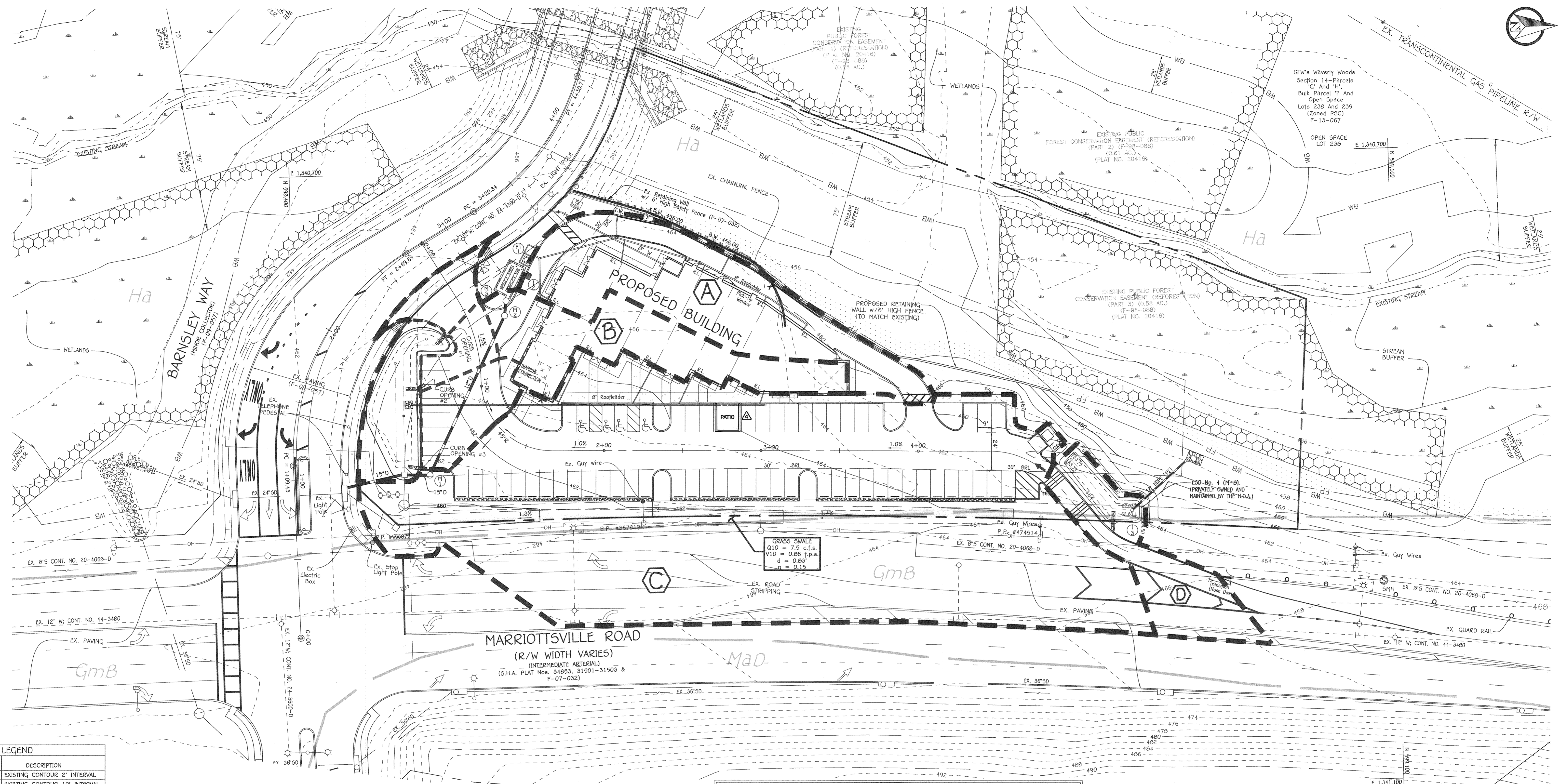
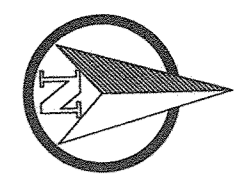
Chief, Development Engineering Division
[Signature]
Date: 10/28/20

Director - Department of Planning and Zoning
[Signature]
Date: 11-10-20

SUBDIVISION	SECTION	PARCEL No.
GTW's Waverly Woods	14	"H"
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

REVISED LANDSCAPE NOTES & DETAILS

GTW's Waverly Woods
Retail Center
Parcel 'H'
Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: April 29, 2019
Revised Date: Aug. 18, 2020
Sheet 8 Of 19



LEGEND

SYMBOL	DESCRIPTION
--- 400 ---	EXISTING CONTOUR 2' INTERVAL
--- 500 ---	EXISTING CONTOUR 10' INTERVAL
--- 460 ---	PROPOSED CONTOUR 2' INTERVAL
--- 500 ---	PROPOSED CONTOUR 10' INTERVAL
+ 62.33	SPOT ELEVATION
[Symbol]	PROPOSED CONCRETE WALK
[Symbol]	EASEMENTS
[Symbol]	EXISTING TREE
[Symbol]	PROPOSED STORM DRAINS
[Symbol]	EXISTING WATER MAIN
[Symbol]	EXISTING SEWER MAIN
[Symbol]	PROPOSED SEWER MAIN
[Symbol]	EXISTING FLOODPLAIN
[Symbol]	EXISTING WETLAND BUFFER
[Symbol]	EXISTING TREE LINE

DRAINAGE AREA DATA (CURB OPENING)

CURB OPENING #	AREA	"C"	ZONED	% IMP.
#1	1650 SF	0.95	PEC	100%
#2	1306 SF	0.95	PEC	100%
#3	2842 SF	0.94	PEC	98%

AREA=0.27 AC.†	IMP. AREA=0.21 AC.†
AREA=0.37 AC.†	IMP. AREA=0.29 AC.†
AREA=1.39 AC.†	IMP. AREA=1.11 AC.†
AREA=0.13 AC.†	IMP. AREA=0.09 AC.†

SOILS LEGEND

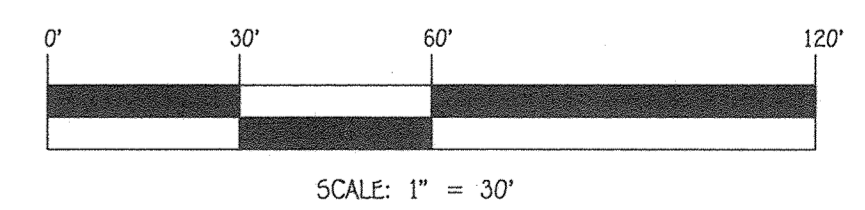
SOIL	NAME	Kw Value	CLASS
GmB	Glennville silt loam, 3 to 8 percent slopes	0.37	C
Ha	Häbora-Codorus silt loams, 0 to 3 percent slopes	0.37	D
M&D	Manor loam, 15 to 25 percent slopes	0.24	B

HOWARD COUNTY SOILS MAP No. 12.

- NOTES:**
- * Hydric soils and/or contains hydric inclusions
 - ** May contain hydric inclusions
 - † Generally only within 100-year floodplain areas

NOTE:
SEE SHEET 3 FOR CURB OPENING DETAIL.

PURPOSE NOTE: [Symbol]
THE PURPOSE OF THIS REVISED SDP IS TO ADD A DRIVE THRU LANE AND REVISE PARKING, LANDSCAPING & STORMWATER MANAGEMENT.



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2895



PURPOSE NOTE: [Symbol]
THE PURPOSE OF THIS REVISED SDP IS TO ADD A ONE-WAY ENTRANCE ONTO PARCEL 'H' FROM SOUTHBOUND MARIOTTSVILLE ROAD AND STORMWATER MANAGEMENT TO SUPPORT THE ADDITIONAL IMPERVIOUS SURFACE.

PURPOSE NOTE: [Symbol]
THE PURPOSE OF THIS REVISED SDP IS TO MOVE ESD No. 4 OUT OF THE PUBLIC ROAD RIGHT-OF-WAY.

Owner And Developer
Elicott City Land Holding, Inc.
8318 Forrest Street-Suite 200
Elicott City, Maryland 21043
(410)-707-7054

Owner And Developer
Mid-Atlantic Services, Inc.
8318 Forrest Street-Suite 200
Elicott City, Maryland 21043
(410)-707-7054

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: [Signature] 4/16/20 Date

Chief, Development Engineering Division: [Signature] 4/16/20 Date

Director, Department of Planning and Zoning: [Signature] 4-21-20 Date

SUBDIVISION: GTW's Waverly Woods SECTION: 14 PARCEL No.: 'H'

PLAT NO.: 24972-24973 BLOCK NO.: 3 & 4 ZONED: PEC TAX/ZONE: 16 ELEC. DIST.: 3rd CENSUS TR.: 6030.00

REVISED DRAINAGE AREA MAP
GTW's Waverly Woods
Retail Center
Parcel 'H'

Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: December 17, 2020
Sheet 9 Of 19

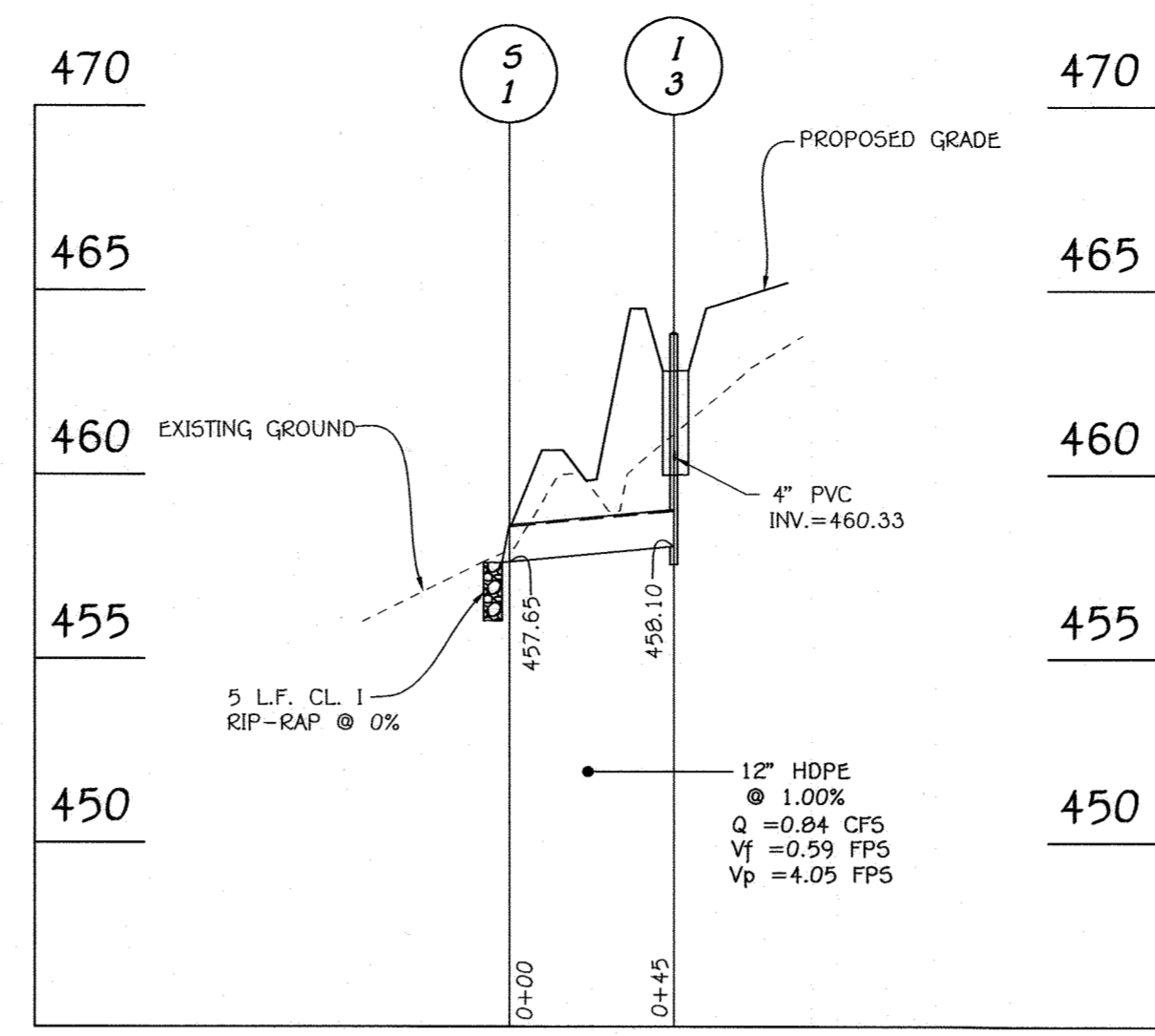
NO.	REVISION	DATE
1	REMOVE 2 PARKING SPACES & ADD PATIO	12/9/21
2	ADDED DRIVE THRU LANE AND REVISED DRAINAGE AREA 'A'	12/17/20
3	MOVE ESD No. 4 OUT OF PUBLIC ROAD R/W	6/25/19
4	ADDED ONE WAY ENTRANCE FROM MARIOTTSVILLE ROAD & ESD No. 4	2/22/19

I:\2020\04\07\Gtw\Marriottsville-Barnsley.sdp (SDP) PREPARED BY: J. BARNES, DATE: 12/18/2020 1:28:28 PM, 1:1

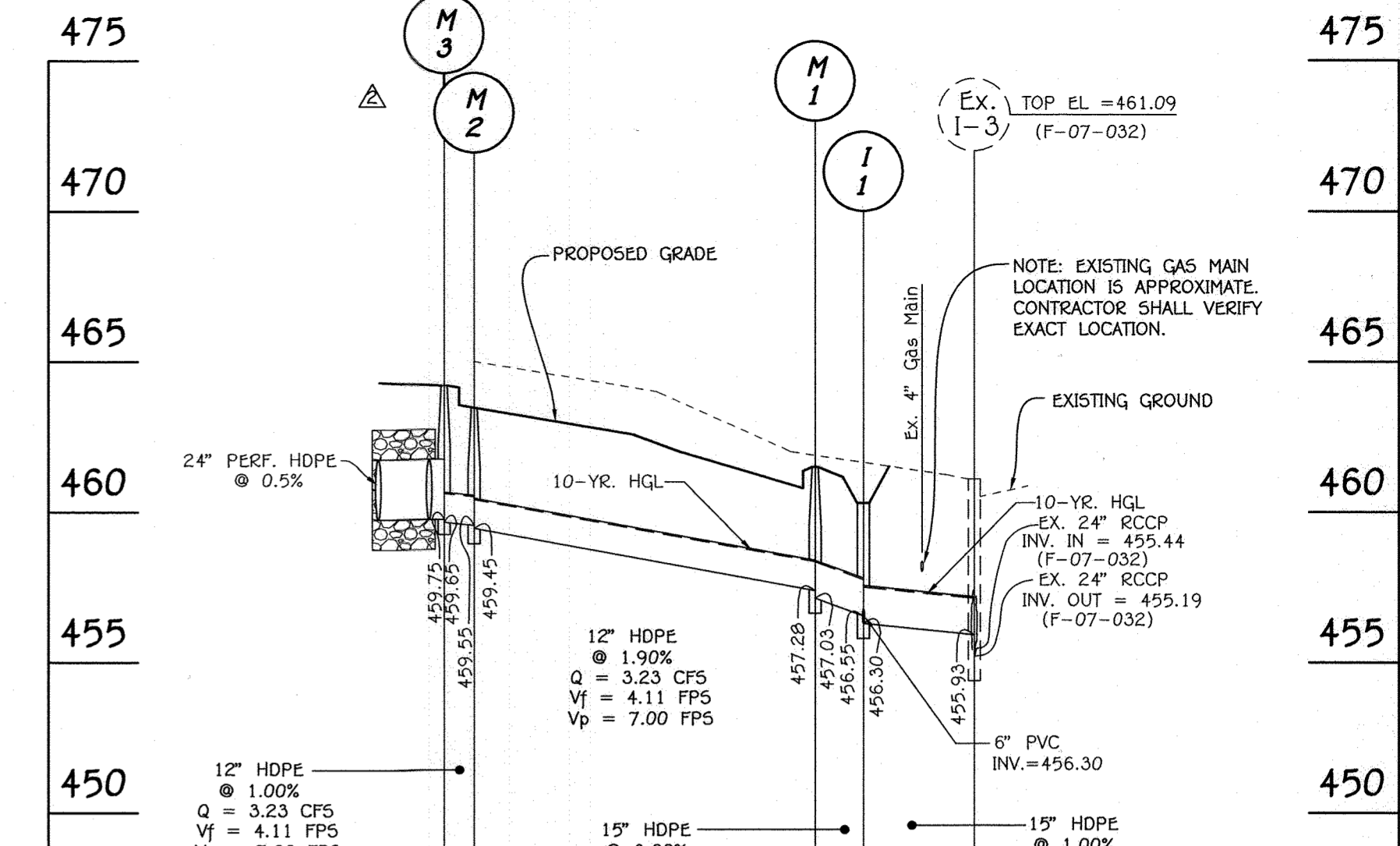
STRUCTURE SCHEDULE								
STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	LOCATION	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	459.80	456.30 (6")	456.55 (15")	N 598,469 E 1,340,891	----	----	"S" INLET	D = 4.24
I-2	* 463.40	----	460.80 (12")	N 598,547 E 1,340,769	----	----	TYPE "S" COMB.	D = 4.26
I-3	463.83	460.33 (4")	458.10 (12")	N 598,931 E 1,340,925	----	----	12" DRAIN BASIN	Nyloplast OR EQUAL
FT-1	464.13	461.70 (8")	460.30 (4")	N 598,555 E 1,340,753	----	----	FILTERRA	Contech OR EQUAL
M-1	461.50	457.28 (12")	457.03 (15")	N 598,485 E 1,340,891	----	----	4" DIA. MANHOLE	G = 5.12
M-3	464.20	459.75 (24")	459.65 (12")	N 598,536 E 1,340,781	----	----	4" DIA. MANHOLE	G = 5.12
S-1	----	457.65 (12")	----	N 598,966 E 1,340,895	----	----	FLARED END SECTION	Nyloplast OR EQUAL
M-2	463.45	459.55 (12")	459.45 (12")	N 598,537 E 1,340,790	----	----	4" DIA. MANHOLE	G = 5.12

* Denotes Top Of Grate

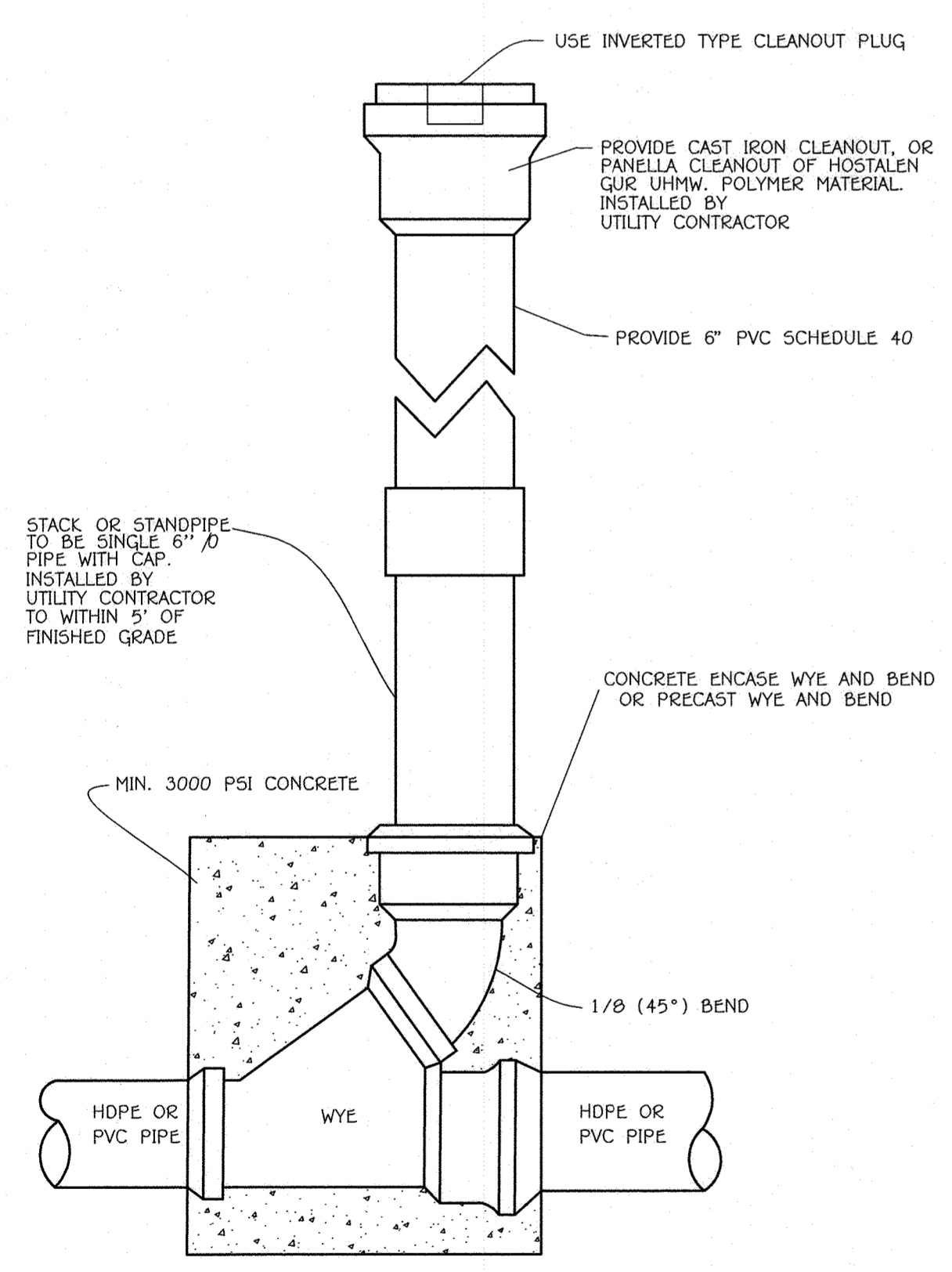
PIPE SCHEDULE		
SIZE	CLASS	LENGTH
6"	PVC, SCH. 40 (PERFORATED)	156 L.F.
6"	PVC, SCH. 40 (SOLID)	156 L.F.
8"	PVC, SCH. 40 (SOLID)	432 L.F.
12"	HDPE	159 L.F.
15"	HDPE	53 L.F.
4"	PVC, SCH. 40 (PERFORATED)	111 L.F.



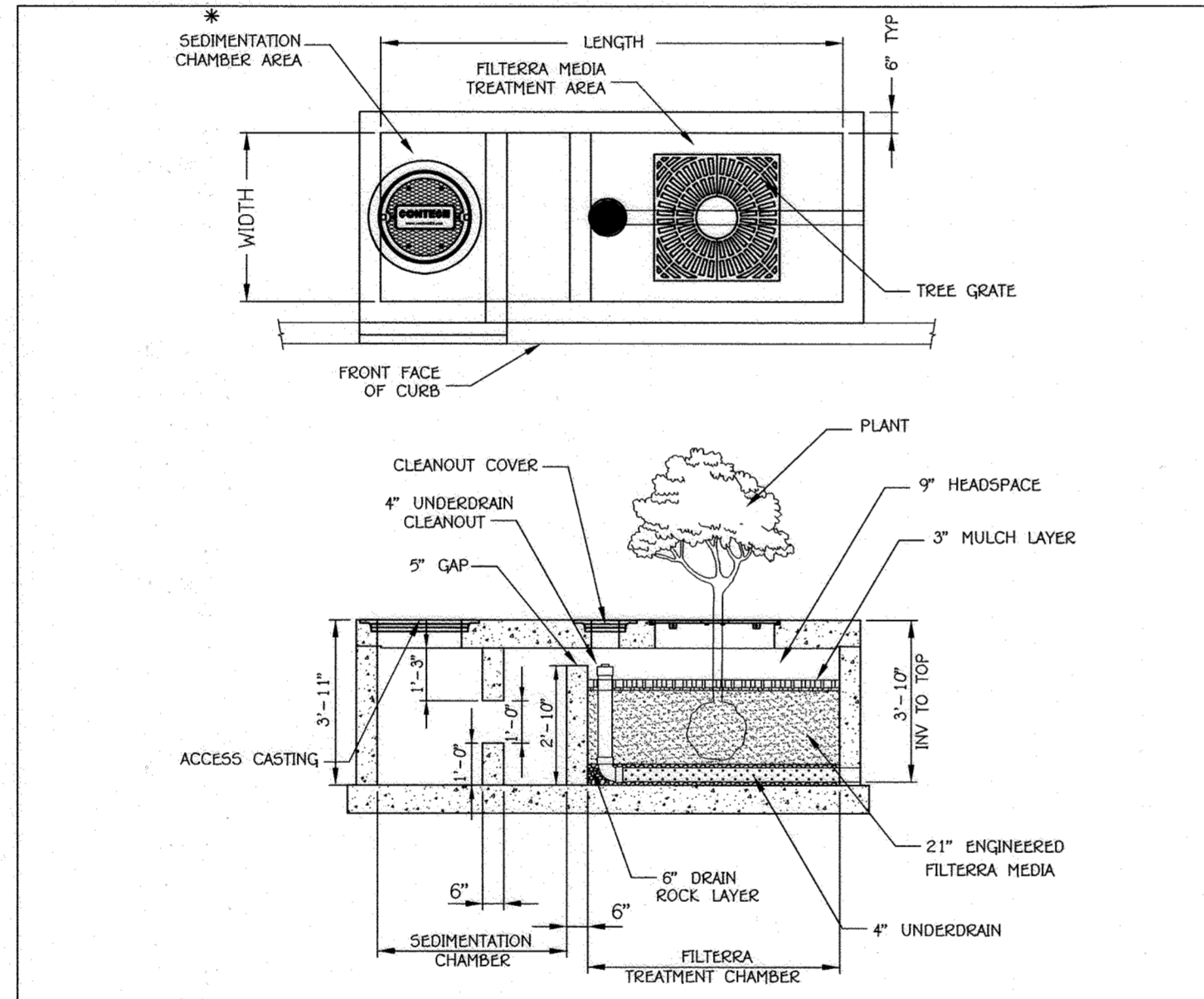
PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



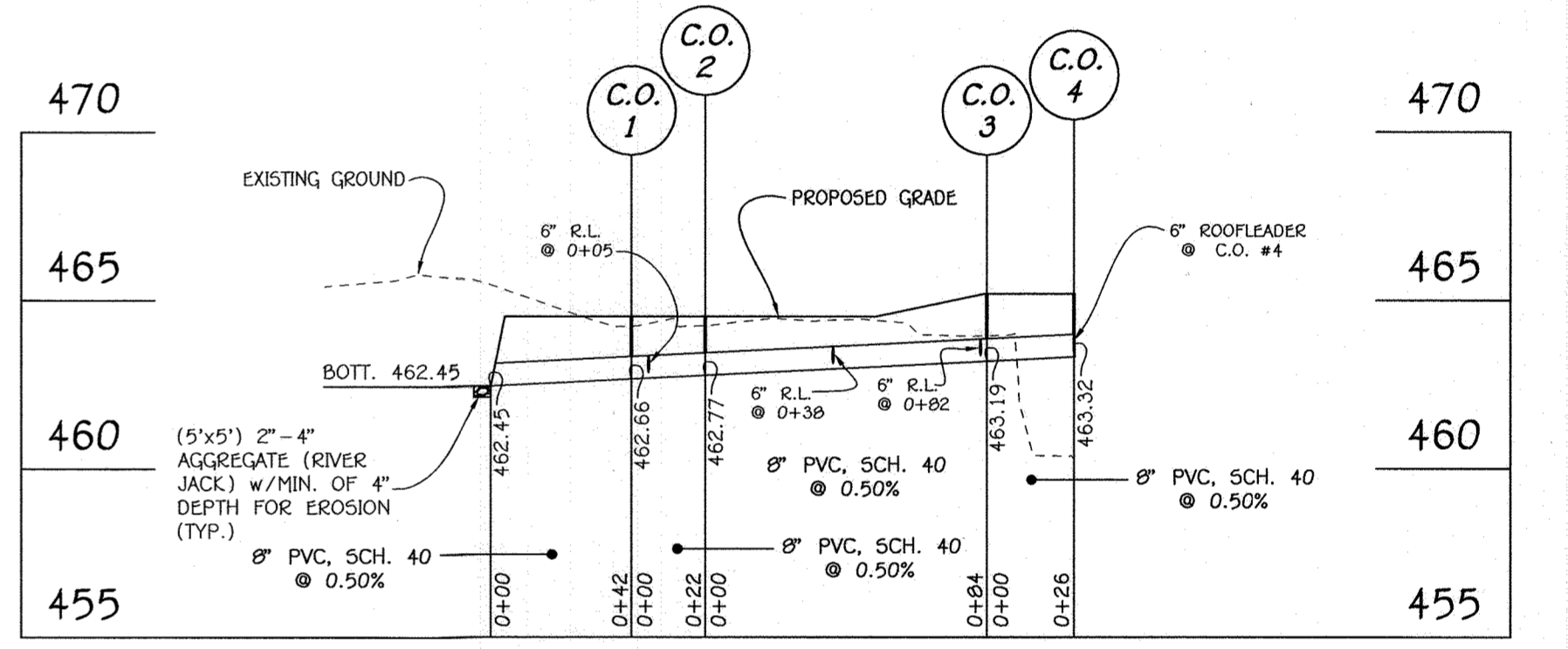
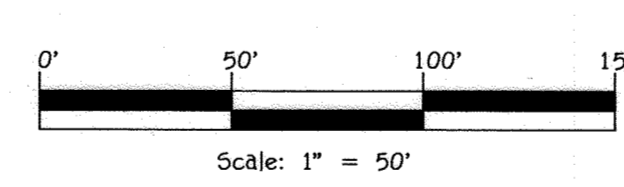
TYPICAL ROOFLEADER CLEAN-OUT
NO SCALE



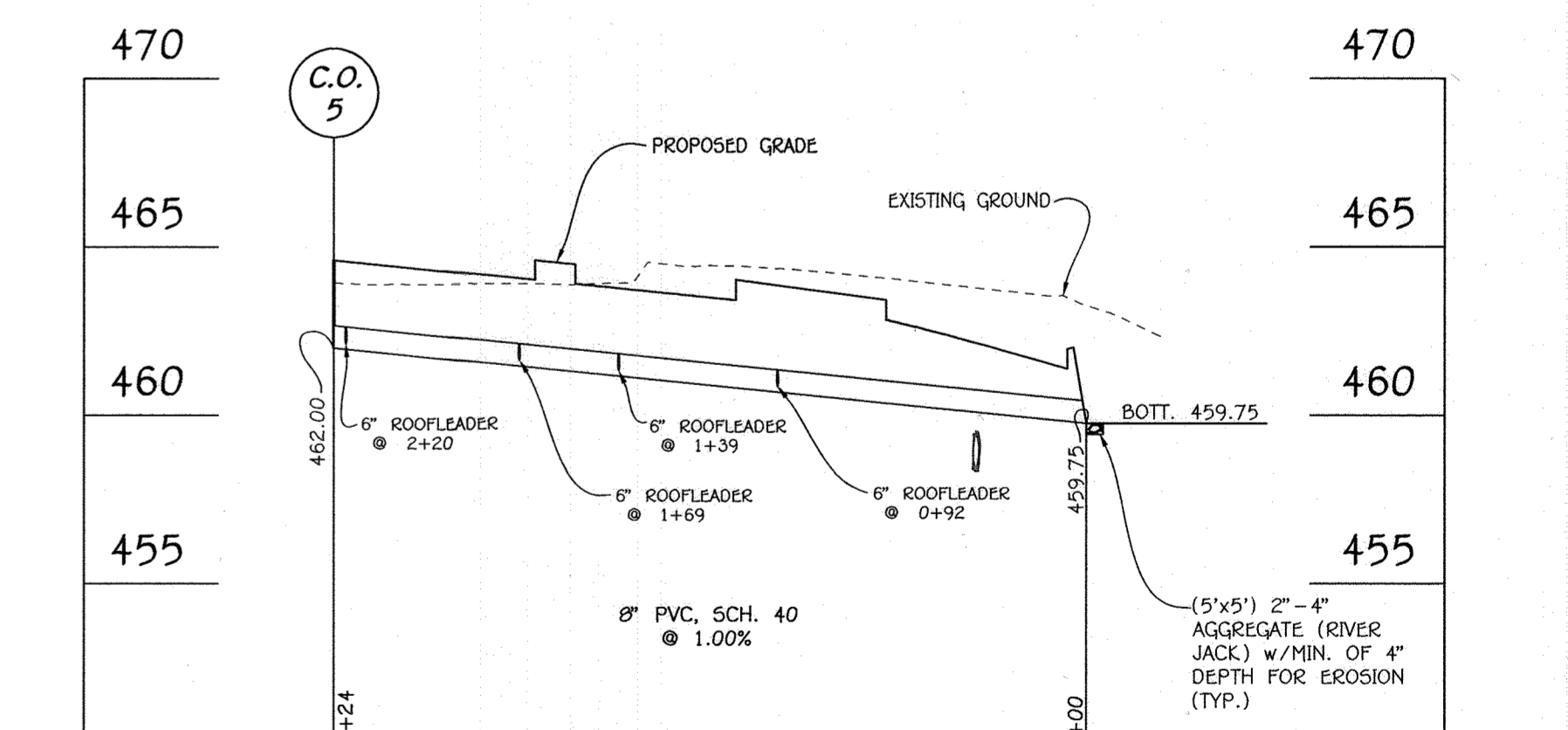
UNIT DESIGNATION	INSIDE VAULT DIMENSIONS	FILTERRA TREATMENT AREA	MAXIMUM DRAINAGE AREA TREATED (SF)	WQv STORAGE CAPACITY (CF)
FTSC 6' x 4'	12' x 4'	6' x 4'	5,216	103
FTSC 8' x 4'	16' x 4'	8' x 4'	7,141	141
FTSC 6' x 6'	12' x 6'	6' x 6'	7,847	155
FTSC 8' x 6'	16' x 6'	8' x 6'	10,734	212
FTSC 10' x 6'	19' x 6'	10' x 6'	12,638	250
FTSC 10' x 8'	20' x 8'	10' x 8'	18,178	360
FTSC 11' x 8'	22' x 8'	11' x 8'	20,000	398

NOTE:
1. MAXIMUM DRAINAGE AREA TREATED ASSUMES 25% WQv AND FILTER SURFACE AREA REQUIREMENTS ARE BOTH MET.
2. STORAGE CAPACITY ASSUMES 40% VOIDS IN UNDERDRAIN STONE AND 30% VOIDS IN MULCH AND MEDIA.
3. ALL INFORMATION IS BASED ON STANDARD 3.85' RIM TO OUTLET DEPTH. CONTACT CONTECH FOR CUSTOM SIZING IF DEPTH IS NOT 3.85'. ACCEPTABLE DEPTH IS 3.33' MIN. TO 5.00' MAX. RIM TO INVERT OUT.

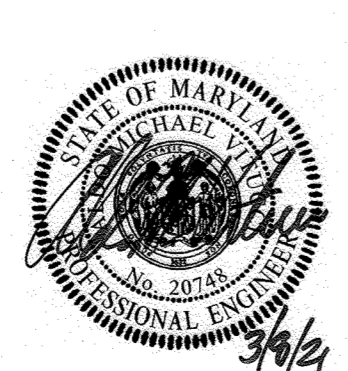
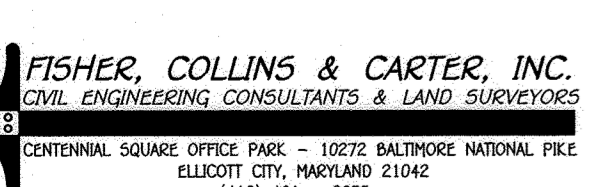
CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
FILTERRA® WITH SEDIMENTATION CHAMBER



PROFILE - ROOFDRAIN ALONG BACK OF BLDG.
SCALE HORIZ. 1" = 50'
VERT. 1" = 5'



PROFILE - ROOFDRAIN ALONG FRONT OF BLDG.
SCALE HORIZ. 1" = 50'
VERT. 1" = 5'



NO.	REVISION	DATE
1	REVISED STORM DRAIN PROFILE & ADDED FILTERRA DETAIL	12/17/20
2	ADDED STORM DRAIN PROFILE (I-3 TO S-1) & REVISED STRUCTURE SCHEDULE AND PIPE SCHEDULE	2/22/19

Owner And Developer
Ellicott City Land Holding, Inc.
8318 Forrest Street-Suite 200
Ellicott City, Maryland 21043
(410-707-7054)

Owner And Developer
Mid-Atlantic Services, Inc.
8318 Forrest Street-Suite 200
Ellicott City, Maryland 21043
(410-707-7054)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: *[Signature]* 4/21/21 Date

Chief, Development Engineering Division: *[Signature]* 4/21/21 Date

Director - Department of Planning and Zoning: *[Signature]* 4-21-21 Date

SUBDIVISION: GTW's Waverly Woods SECTION: 14 PARCEL No.: 'H'

PLAT NO.: 24973 BLOCK NO.: 3 & 4 ZONED: PEC TAX/ZONE: 16 ELEC. DIST.: 3rd CENSUS TR.: 6030.00

REVISED STORM DRAIN PROFILES
GTW's Waverly Woods
Retail Center
Parcel 'H'

Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: December 17, 2020
Sheet 10 Of 19

Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for infiltration. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorus and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide aeration for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public.

Design Constraints:

- Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility thereby reducing the possibility of clogging.
- Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bio-retention facilities; see Figure A.5 and Table A.4 for planting material guidance).
- Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.
- Test soil conditions to determine if soil amendments are necessary.
- Plants shall be installed so that access is possible for structure maintenance.
- Stabilize heavy flow areas with erosion control mats or sod.
- Temporarily divert flows from seeded areas until vegetation is established.

Bio-retention Soil Bed Characteristics

The characteristics of the soil for the bio-retention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support both communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should be less than 25% by volume (Environmental Quality Resources (EQE), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ET&B), 1993). Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification (USCS). A permeability of at least 1.0 feet per day (0.9"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, clumps, roots, or other woody material over 1" in diameter. Bush or seeds from noxious weeds (e.g., Johnson Grass, Havergrass, Hesperis, and Canada Thistle) or other noxious weeds as specified under COMAR 15.08.01.05 should not be present in the soil. Placement of the planting soil shall be 12" to 18" lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P2O5)	75 lbs. per acre, minimum
Potassium (potash - K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	10 to 25 %
Silt	30 to 55 %
Sand	35 to 60%

Mulch Layer

The mulch layer plays an important role in the performance of the bio-retention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microclimate suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well tested (topsoil or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a minimum depth of three inches. Grass clippings should not be used as a mulch material.

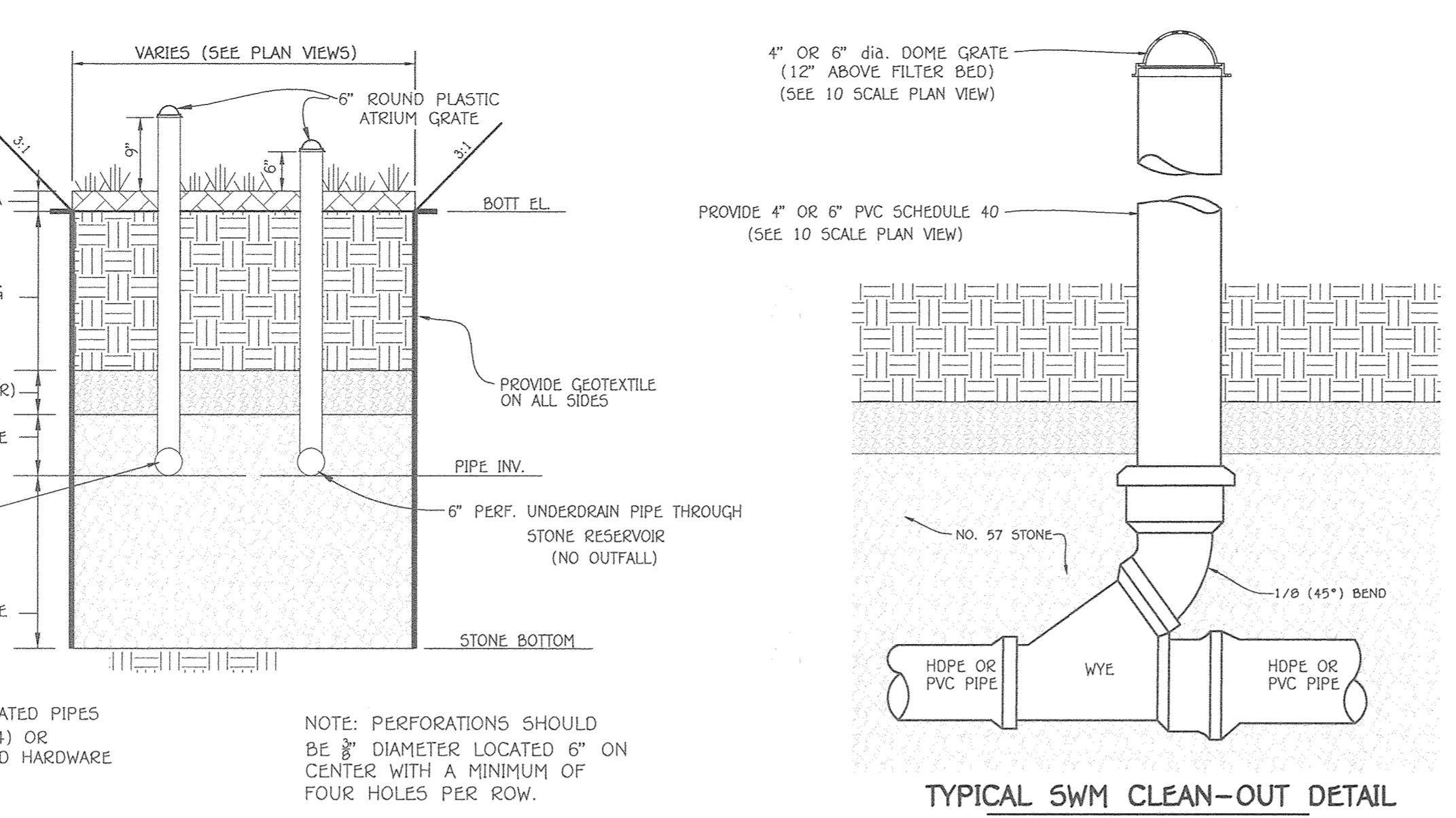
Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bio-retention facilities are intended to mimic a forested community that would be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bio-retention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

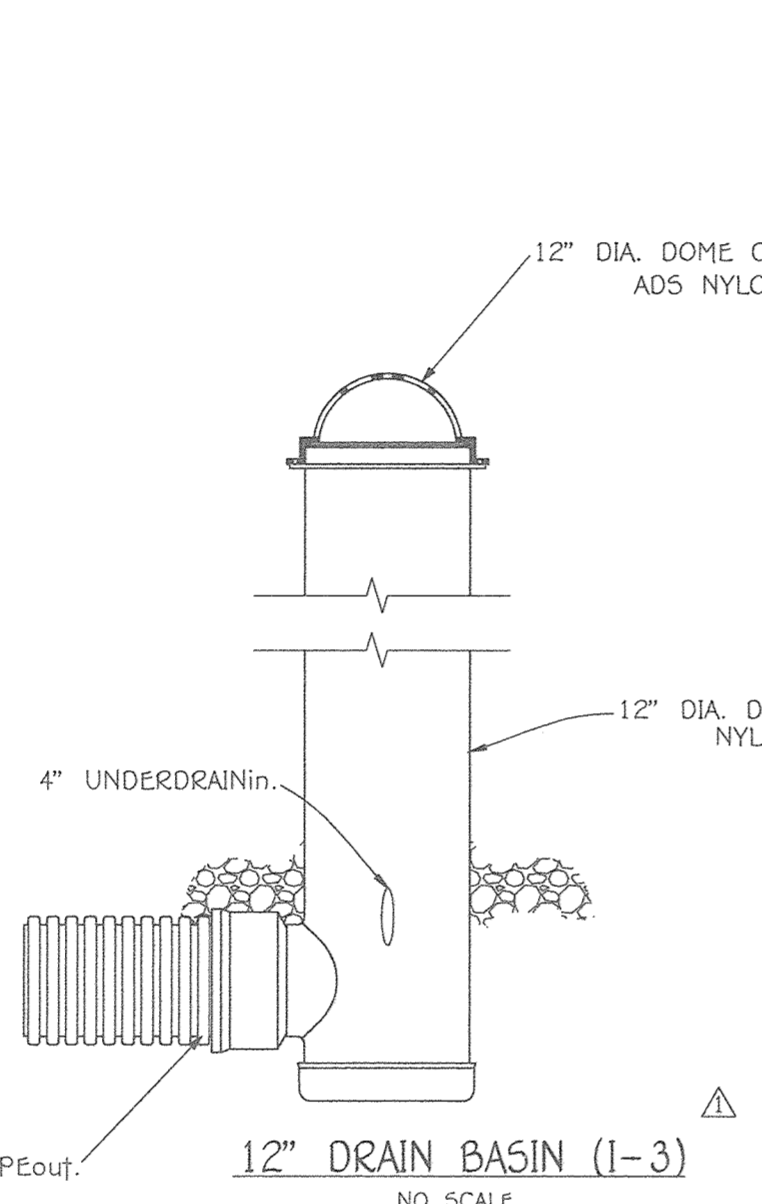
The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bio-retention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like the soil conditions, but can tolerate occasional inundation by water. The outer edge is the highest elevation and generally supports plants adapted to drier conditions. A sample of appropriate plant materials for bio-retention facilities are included in Table A.4. The list of plant material should be flexible, but should follow the general principles described in Table A.5. Consideration to take in a system, which resembles a forest, and natural plant layer, while maintaining optimal conditions for plant establishment and growth. For a more extensive bio-retention plant, consult I&A, 1993 or Olfert and Schuster, 1997.

OPERATION AND MAINTENANCE SCHEDULE FOR COMMERCIAL ASSOCIATION OWNED & MAINTAINED BIO-RETENTION AREAS (M-6)

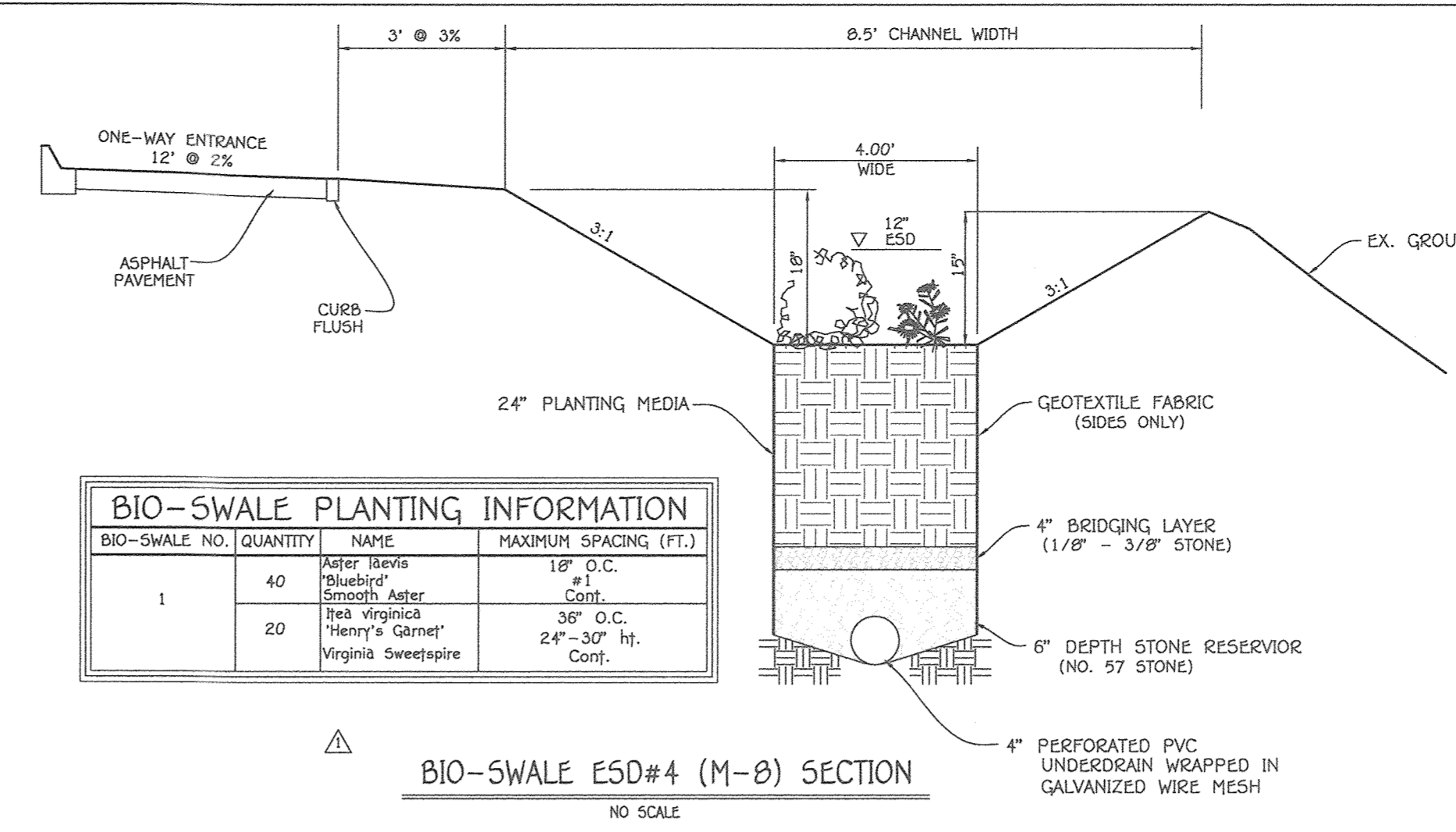
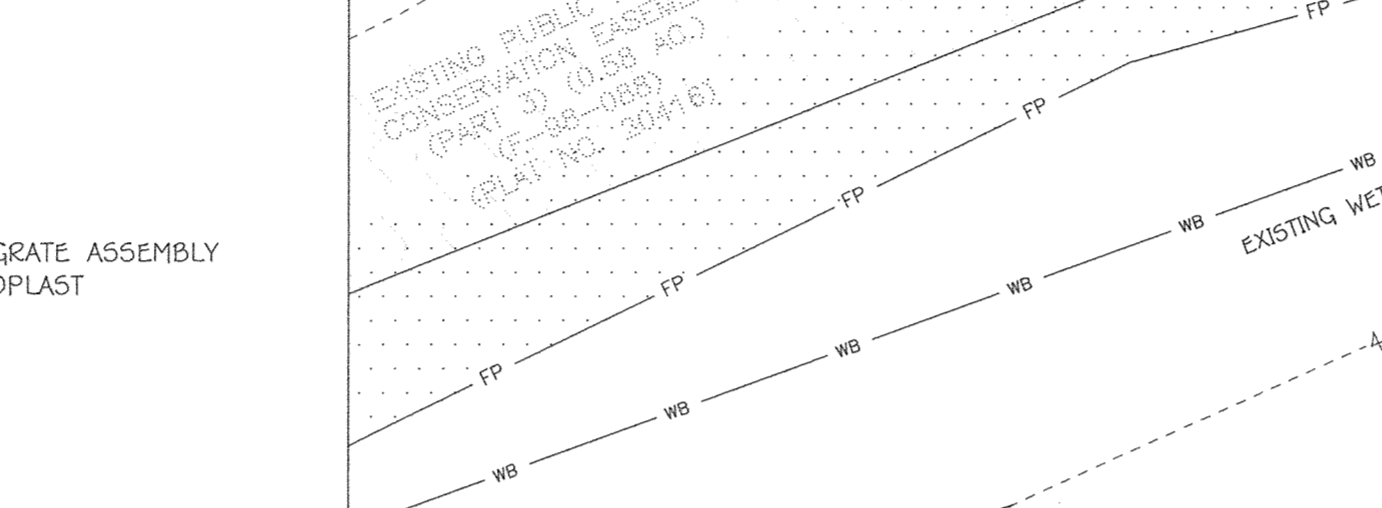
- The owner shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A.4.1 and 2.
- The owner shall perform a plant in the spring and in the fall each year. During the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material. Treat diseased trees and shrubs and replace all deficient stakes and wires.
- The owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
- The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.
- The owner shall maintain all observation wells, clean-outs and perforated underdrains.
- Filter material must be replaced when water remains on the surface of the filter bed for more than 24 hours following a 1 or 2 year storm event or more than 48 hours following a 10 year storm event.



MICRO BIO-RETENTION (M-6) SECTION

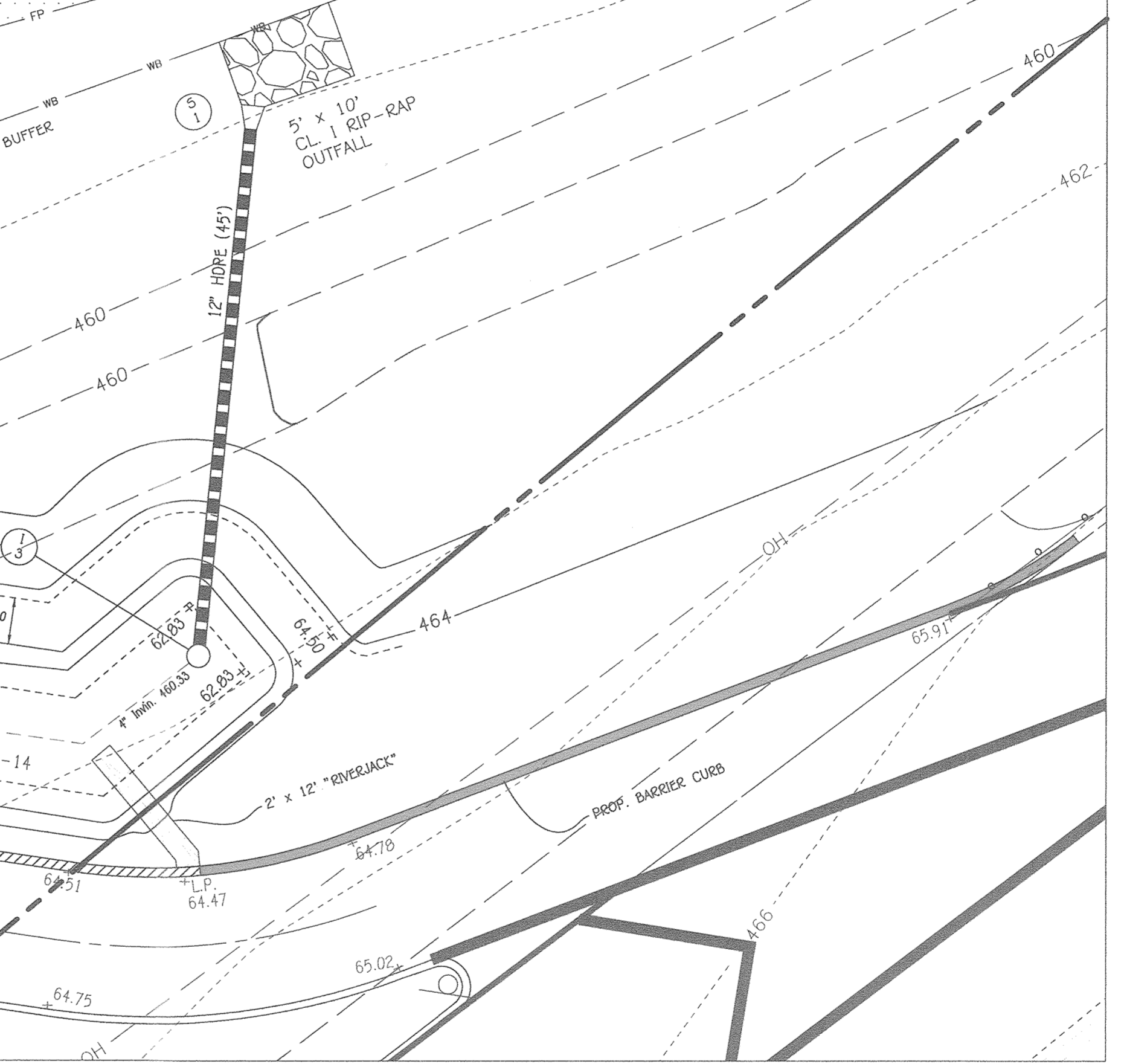


GRASS SWALE CROSS SECTION (M-8)



BIO-SWALE PLANTING INFORMATION			
BIO-SWALE NO.	QUANTITY	NAME	MAXIMUM SPACING (FT.)
1	40	Juniper Media	18" O.C.
		Blueberry	#1
		Smooth Aster	Cont.
		Red Virginia	30" O.C.
		Henry's Garnet	24"-30" ht. Cont.
		Virginia Sweetspire	Cont.

PROPOSED BIO-SWALE (M-8) ESD No. 4 PLAN VIEW

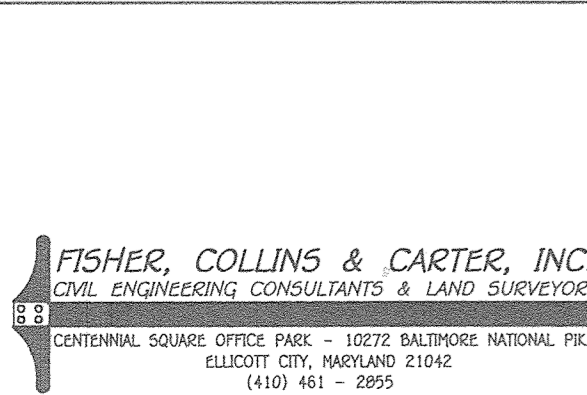
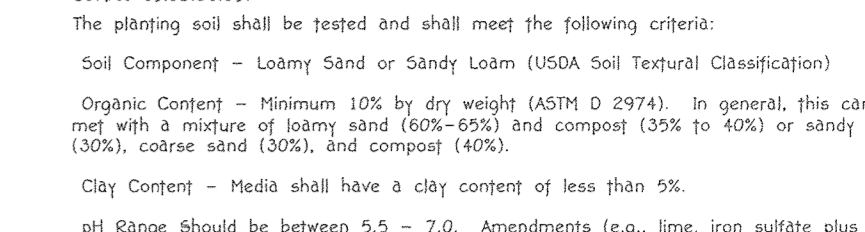


OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS GRASS SWALES AND WET SWALES, (M-8)

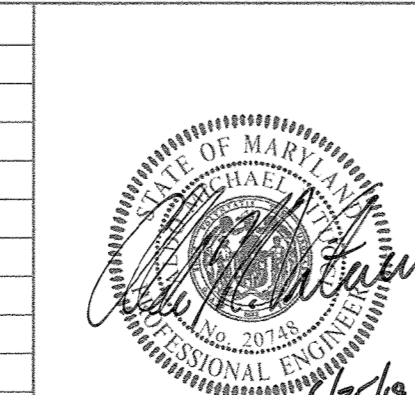
- The open channel system shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The open channel shall be mowed a minimum of as needed during the growing season to maintain a maximum grass height of less than 6 inches.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the open channel system shall be repaired as soon as it is noticed.
- Remove silt in the open channel system when it exceeds 25% of the original WQV.
- Inspect check dams twice a year for structural integrity. Restore check dams to original condition as applicable.

B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms

- Material Specifications**
- The allowable materials to be used in these practices are detailed in Table B.4.1.
- Filtering Media or Planting Soil**
- The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of rocks, clumps, roots, stumps, or other noxious weeds as specified under COMAR 15.08.01.05.
- The planting soil shall be tested and shall meet the following criteria:
 - Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
 - Organic Content - Minimum 1.0% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40% or sandy loam (50%), coarse sand (20%), and compost (10%).
 - Clay Content - Media shall have a clay content of less than 5%.
- pH Range should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.
- There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textual analysis is required from the site stockpiled topsoil. If topsoil is imported, then a textual analysis shall be performed for each location where the topsoil was excavated.
- Compaction
- It is very important to minimize compaction of both the base of bio-retention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.
- Compaction can be alleviated at the base of the bio-retention facility by using a primary tilling operation such as a chain drag, or a similar soil compaction zone. Subsoiling must be applied by the engineer. Subsoiling typically do not fill deep enough to reduce the effects of compaction from heavy equipment.
- Rototill 2 to 3 inches of sand into the base of the bio-retention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.
- When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.
- When backfilling the bio-retention facility, place soil in lifts 12 to 18". Do not use heavy equipment within the bio-retention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bio-retention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.
- Plant Material**
- Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.
- Plant Installation**
- Compost is a better organic material source, is less likely to float, and should be placed in the inner and outer face areas. Mulch should be placed in surrounding area to a uniform thickness of 2" to 3" shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bio-retention area during a storm event and are not acceptable. Shredded mulch must be well aged 16 to 12 months for acceptance.
- Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least an inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thorough water ground bed cover after installation.
- Trees shall be spaced using 2" by 2 stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.
- Grasses and legume seed shall be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.
- The topsoil specifications provide enough organic matter to adequately supply nutrients from natural origin. The primary function of the bio-retention structure is to improve water quality. Adding fertilizers, detritus, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Repeat soil fertilizer at a rate of 2 pounds per 1000 square feet.
- Underdrains**
- Underdrains should meet the following criteria:
 - Pipe - Should be 4" or 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
 - Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" x 4" galvanized hardware cloth.
 - Gravel - The gravel layer (No. 57 stone preferred) shall be at least 6" thick above and below the underdrain.
 - The main collector pipe shall be at a minimum 0.5% slope.
 - A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
 - A 4" layer of pea gravel (1/8" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".
 - The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).
 - Miscellaneous
 - These practices may not be constructed until all contributing drainage area has been stabilized.



NO.	REVISION	DATE
1	MOVE ESD No. 4 OUT OF PUBLIC ROAD R/W	6/25/19
2	ADDED ESD No. PLAN VIEW & DETAILS	2/22/19

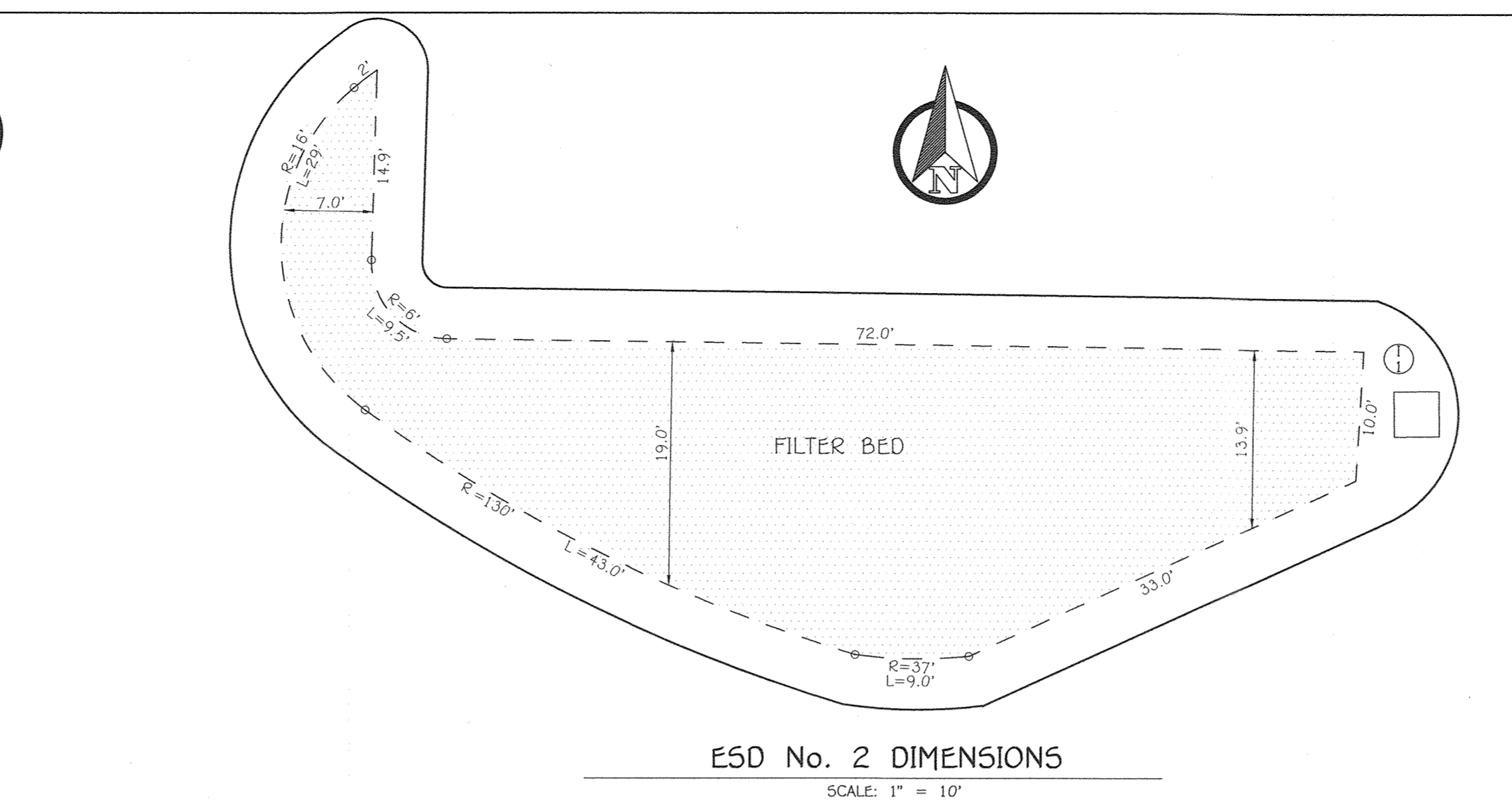
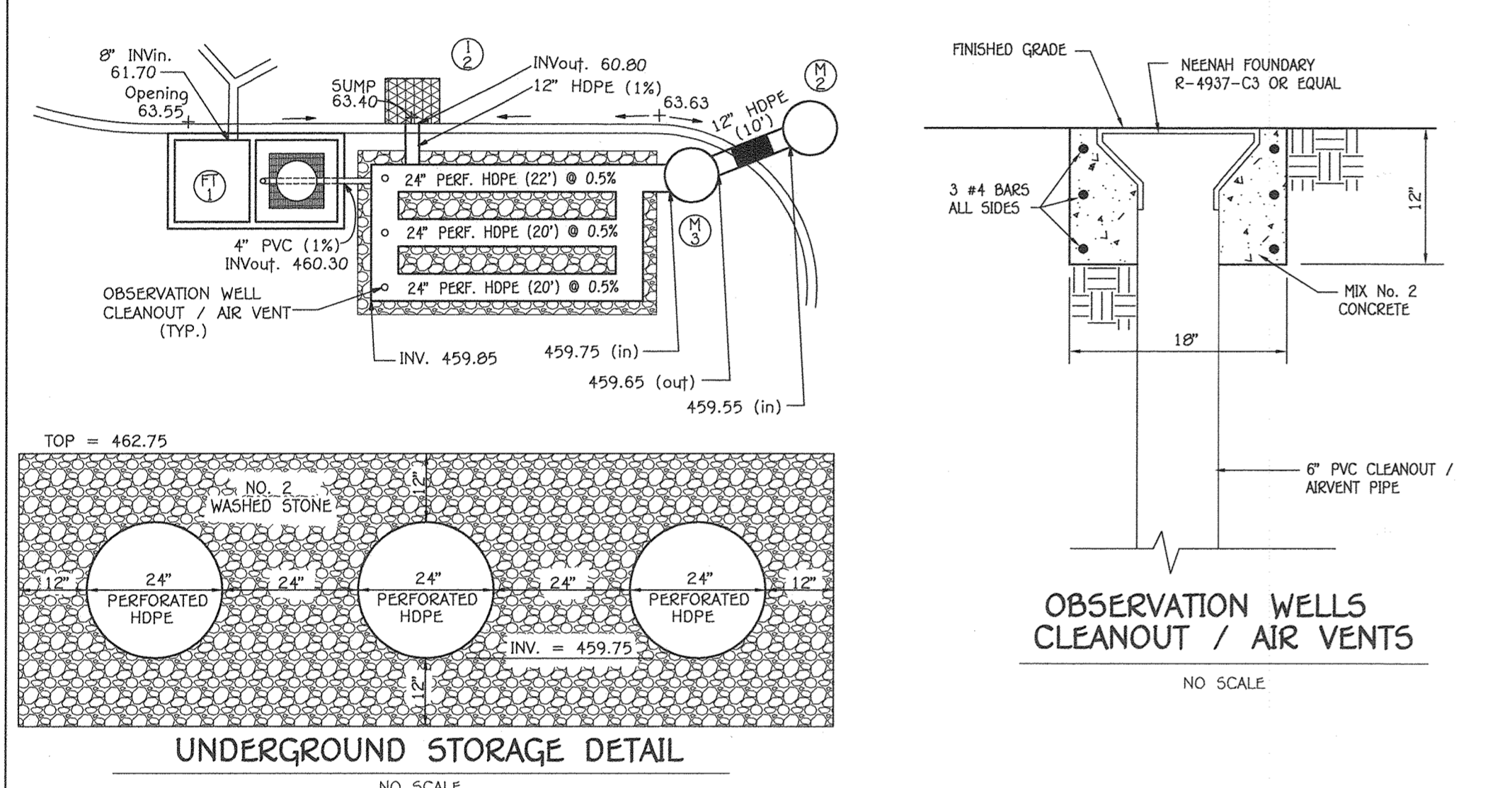
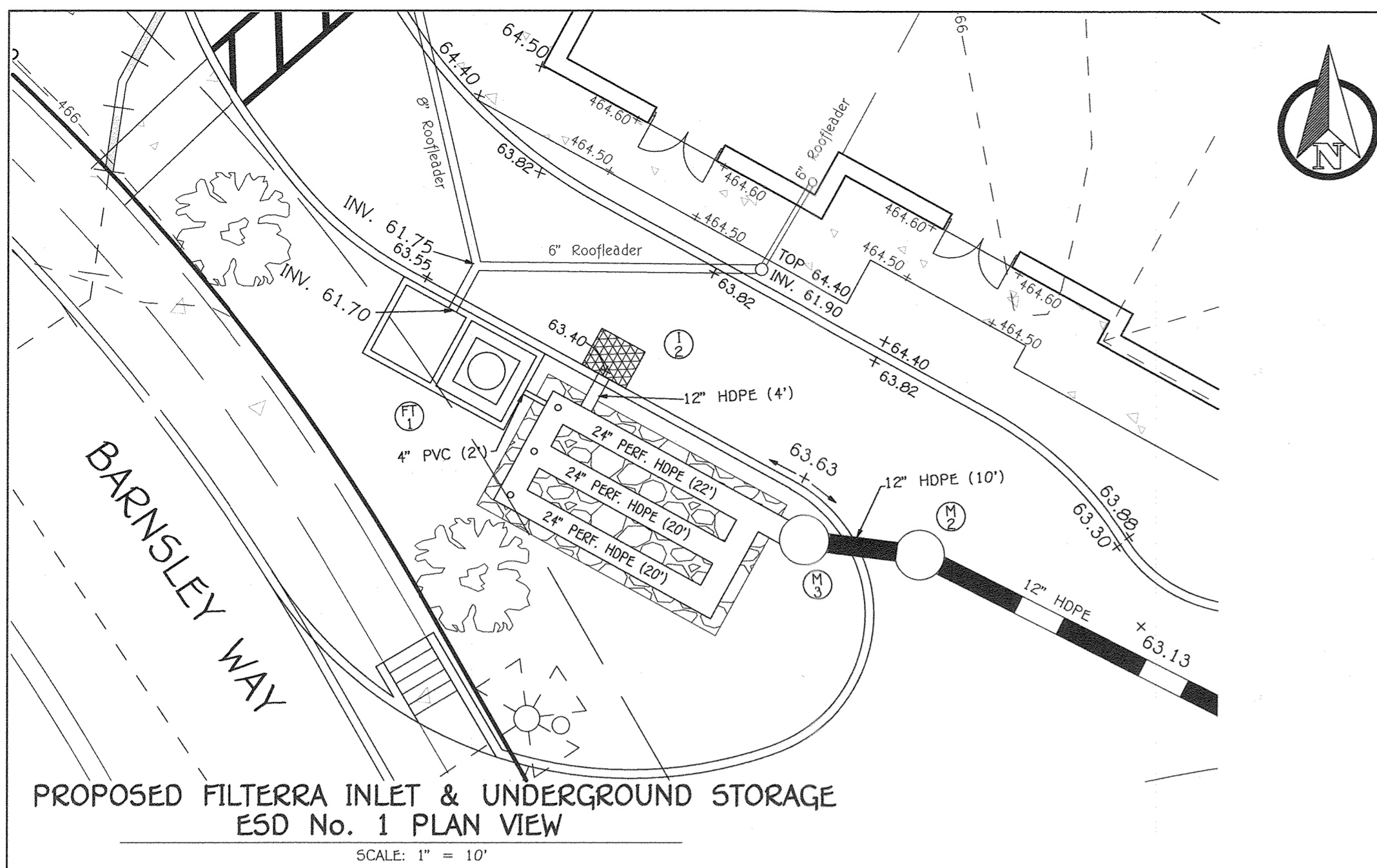


DESIGN DATA	DESIGN DATA
Q1 = 1.83 c.f.s.	Q10 = 7.50 c.f.s.
V10 = 0.90 f.p.s.	V10 = 1.45 f.p.s.
Slope = 1.34%	Slope = 1.34%
n = 0.07	n = 0.07

Owner And Developer	Owner And Developer
Elicott City Land Holding, Inc. 8319 Forrest Street-Suite 200 Elicott City, Maryland 21043 (410)-707-7054	Mid-Atlantic Services, Inc. 8319 Forrest Street-Suite 200 Elicott City, Maryland 21043 (410)-707-7054

APPROVED:	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
<i>Kent Slesch</i> Chief, Division of Land Development	8/12/19 Date
<i>W.D. Clarke</i> Chief, Development Engineering Division	8-2-19 Date
<i>Valdine G. Jones</i> Director - Department of Planning and Zoning	8/12/19 Date
SUBDIVISION	SECTION
GTW's Waverly Woods	14
PLAT NO.	BLOCK NO.
24972-24973	3 & 4
ZONED	TAX/ZONE
PEC	16
ELEC. DIST.	CENSUS TR.
3rd	6030.00

REVISED	STORMWATER MANAGEMENT DETAILS
GTW's Waverly Woods	
Retail Center	
Parcel 'H'	
Zoned: PEC	
Tax Map No.: 16	Grid No.: 3 & 4
3rd Election District	Parcel No.: P/O 249
Scale: As Shown	
Date: June 25, 2019	
Sheet 11 Of 19	



FILTRERRA STANDARD PLAN NOTES

Construction & Installation

A. Each unit shall be constructed at the locations and elevations according to the sizes shown on the approved drawings. Any modifications to the elevation or location shall be at the direction of and approved by the Engineer.

B. If the Filterra® is stored before installation, the top slab must be placed on the box using the 2x4 wood provided, to prevent any contamination from the site. All internal fittings supplied (if any), must be left in place as per the delivery.

C. The unit shall be placed on a compacted sub-grade with a minimum 6-inch gravel base matching the final grade of the curb line in the area of the unit. The unit is to be placed such that the unit and top slab match the grade of the curb in the area of the unit. Compact undisturbed sub-grade materials to 95% of maximum density at ±1-2% of optimum moisture. Unsuitable material below sub-grade shall be replaced to the site engineer's approval.

D. Outlet connections shall be aligned and sealed to meet the approved drawings with modifications necessary to meet site conditions and local regulations.

E. Once the unit is set, the bypass wooden forms and protective mesh cover must be left intact. Remove only the temporary wooden shipping blocks between the box and top slab. The top lid should be sealed onto the box section before backfilling, using a non-shrink grout, butyl rubber or similar waterproof seal. The boards on top of the lid and boards sealed in the unit's throat must NOT be removed. The Supplier (Americast) or its authorized dealer will remove these sections at the time of activation. Backfilling should be performed in a careful manner, bringing the appropriate fill material up in 6" lifts on all sides. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of Filterra® unit shall conform to ASTM specification CP91 "Standard Practice for Installation of Underground Precast Utility Structures", unless directed otherwise in contract documents.

F. The contractor is responsible for inlet protection/sediment control and cleaning around each Filterra® unit.

G. Curb and gutter construction (where present) shall ensure that the flow-line of the Filterra® units is at a greater elevation than the flow-line of the bypass structure or relief (drop inlet, curb cut or similar). Failure to comply with this guideline may cause failure and/or damage to the Filterra® environmental device.

H. Each Filterra® unit must receive adequate irrigation to ensure survival of the living system during periods of drier weather. This may be achieved through a piped system, gutter flow or through the tree grate.

Activation

A. Activation of the Filterra® unit is performed ONLY by the Supplier. Purchaser is responsible for Filterra® inlet protection and subsequent clean out cost. This process cannot commence until the project site is fully stabilized and cleaned (full landscaping, grass cover, final paving and street sweeping completed), negating the chance of construction materials contaminating the Filterra® system. Care shall be taken during construction not to damage the protective throat and top plates.

B. Activation includes installation of plant(s) and mulch layers as necessary.

Included Maintenance

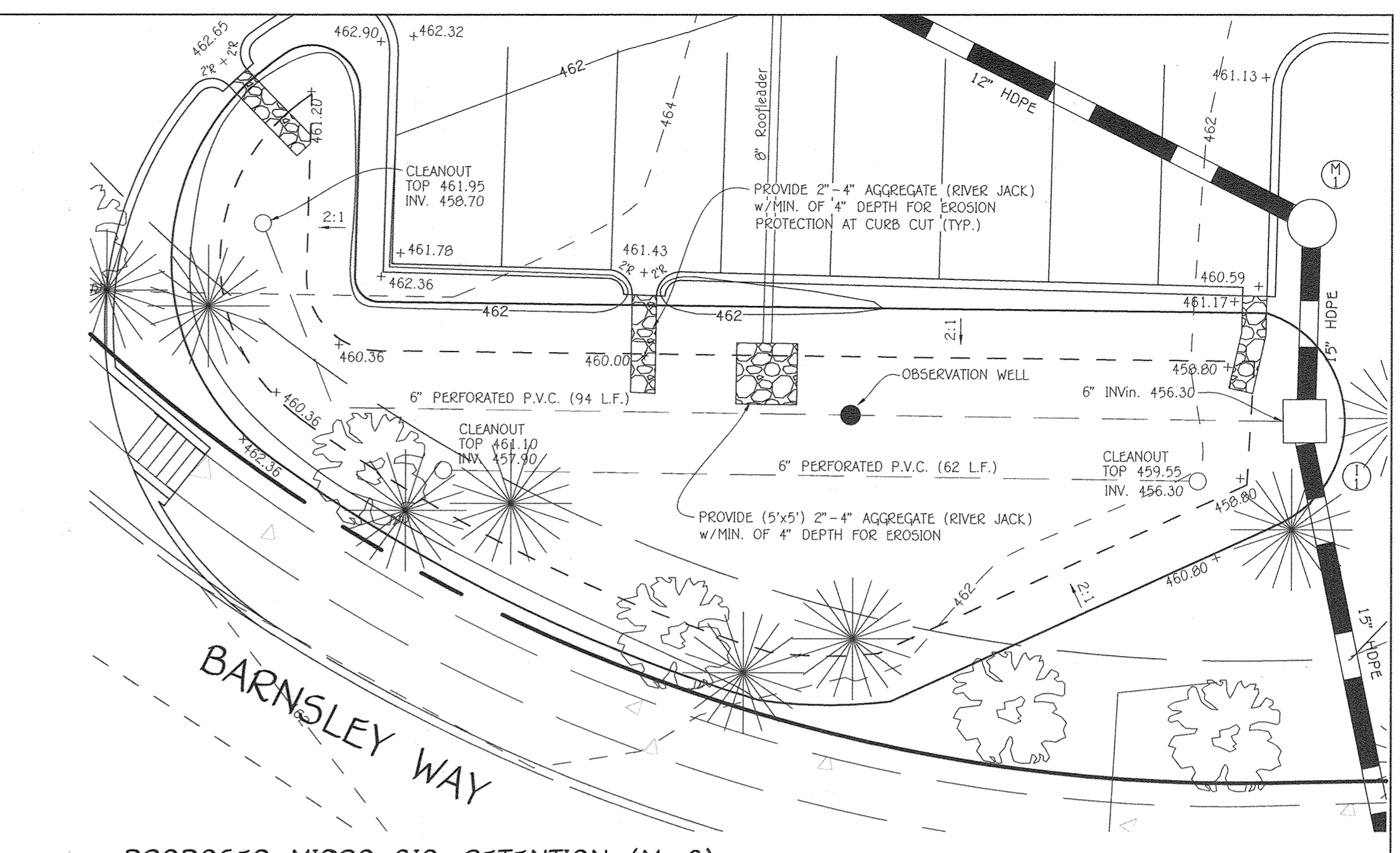
A. Each correctly installed Filterra® unit is to be maintained by the Supplier, or a Supplier approved contractor for a minimum period of 1 year. The cost of this service is to be included in the price of each Filterra® unit. Extended maintenance contracts are available at extra cost upon request.

B. Annual included maintenance consists of a maximum of (2) scheduled visits. The visits are scheduled seasonally; the spring visit aims to clean up after winter loads that may include salts and sands. The fall visit helps the system by removing excessive leaf litter.

C. Each Included Maintenance visit consists of the following tasks:

1. Filterra® unit inspection
2. Foreign debris, silt, mulch & trash removal
3. Filter media evaluation and recharge as necessary
4. Plant health evaluation and pruning or replacement as necessary
5. Replacement of mulch
6. Disposal of all maintenance refuse items
7. Maintenance records updated and stored (reports available upon request)

D. The beginning and ending date of Supplier's obligation to maintain the installed system shall be determined by the Supplier at the time the system is activated. Owners must promptly notify the Supplier of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology.



DESIGN GUIDELINES FOR USING FILTRERRA

1. Do not place in a sump condition. The Standard Filterra® cannot be used as a stand alone inlet - it will need effective bypass during higher intensity rainfall events. For sump conditions please contact Filterra®.
2. For proper trash collection ensure a minimum 4" and maximum 6" Filterra® throat opening depth and use Drawing FLP-5 (p.25) as a detail on the project plans.
3. Do not direct surface flow to the standard Filterra® in a "head-on" configuration. Refer to Guidelines GUI-A (p.13) and GUI-2 (p.18) for grading design that encourages flow to enter a Filterra® in a cross linear flow (left-to-right or right-to-left) in the gutter in front of the throat, as per a wet curb which prevents system damage. During extreme storm events the excess flow should continue past the Filterra® to a bypass inlet or other means of relief. Guideline GUI-3, Parking Lot Corners, shows common situations (p.19).
4. To calculate which size Filterra® is required, use Table 1, Filterra® Quick Sizing Table, appropriate to the project's geographical region and target treatment regime (p.12). The entire contributing drainage area to the Filterra should be considered and the minimum allowable C factors noted. The maximum contributing drainage area will vary with site conditions, for further information relating to sizing please contact Filterra.
5. To ensure correct installation, include the Standard Filterra® Plan Notes (p.26-27) on your Filterra® detail project sheet, as well as detailed drawings FLP-2 and GGT-5 (p.24,25).
6. Positive drainage of each Filterra® unit's effluent treatment pipe is required to prevent free standing water from accumulating in the system or underlain. This could occur due to tidal influences or improper connection of Filterra's effluent pipe to a bypass structure or other outfall.

FILTRERRA: Operation and Maintenance

• Annual maintenance consists of a maximum of (2) scheduled visits. The visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands. The fall visit helps the system by removing excessive leaf litter.

• Each maintenance inspection consists of the following tasks:

1. Filterra® unit inspection
2. Foreign debris, silt, mulch and trash removal
3. Filter media evaluation and recharge as necessary
4. Plant health evaluation and pruning or replacement as necessary
5. Replacement of mulch
6. Disposal of all maintenance refuse items
7. Maintenance records updated and stored
8. Maintenance of the underground pipes associated with the Filterra.

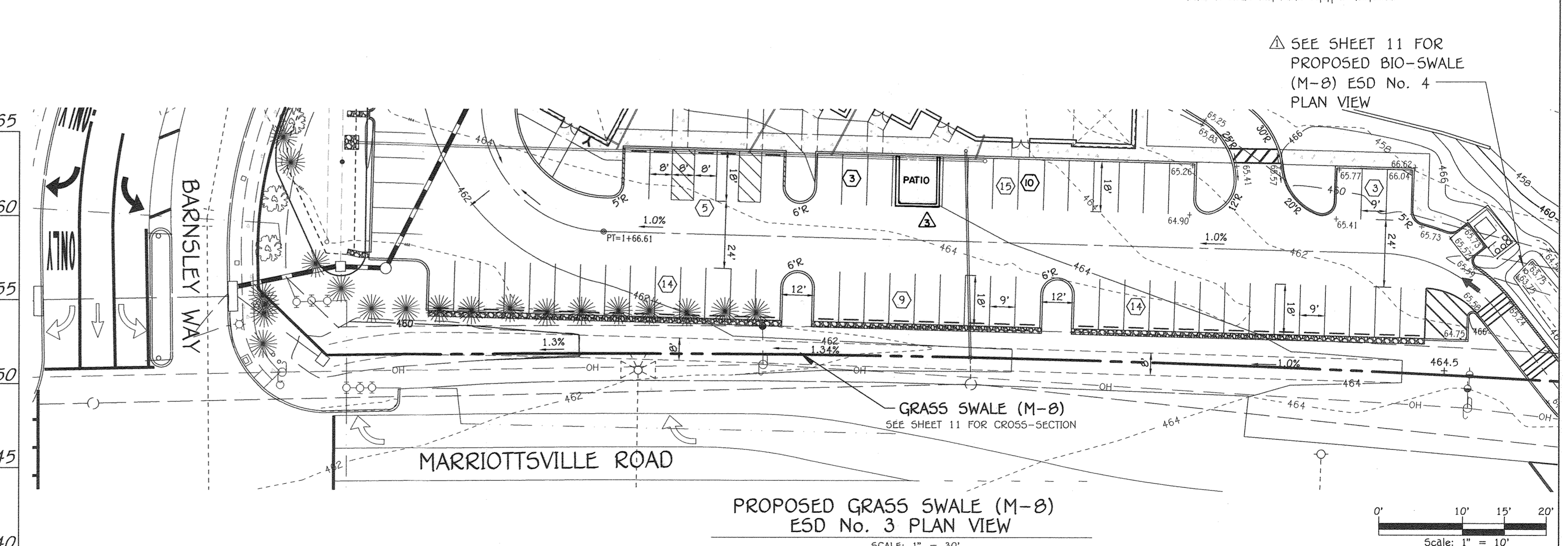
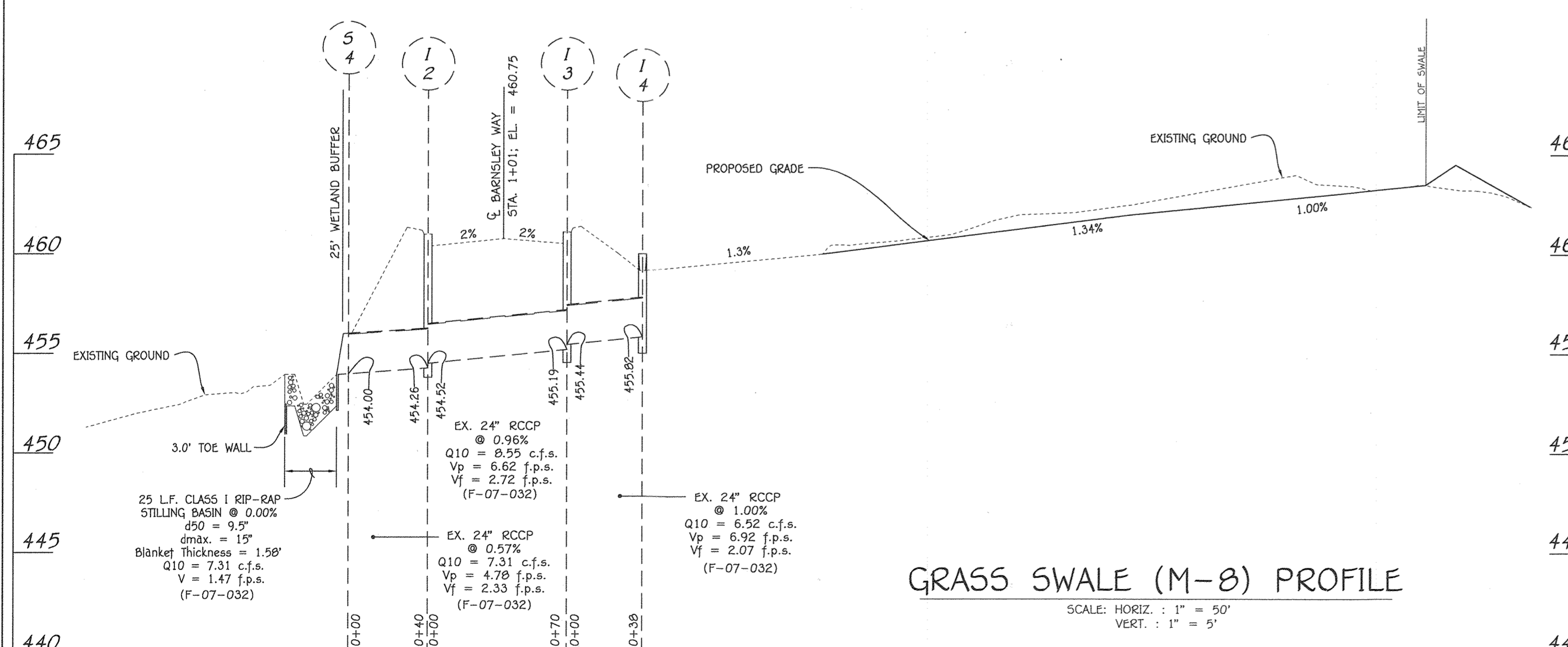
UNDERGROUND S.W.M.: Operation and Maintenance

H.O.A. Routine Maintenance Responsibilities:

1. The Underground S.W.M. Facility Shall be Inspected Annually And After Major Storms. Inspections Should be Performed During Wet Weather To Determine If The Facility is Functioning Properly.
2. Maintenance Of The 24-inch Pipes Shall be Performed By Flushing The System Through The Clean-outs Provided And By Vacuuming At Manhole M-3. The 12" Pipe Out Of M-3 Of The Underground S.W.M. Facility Shall be Temporarily Blocked During Said Maintenance Operation.
3. Disposal Of Material Shall be In Accordance With Similar B.m.p. That Range From Disposal In A Sanitary Landfill To Incineration In A Licensed Facility. Petroleum Waste Products Should be Removed By A Licensed Waste Management Company.

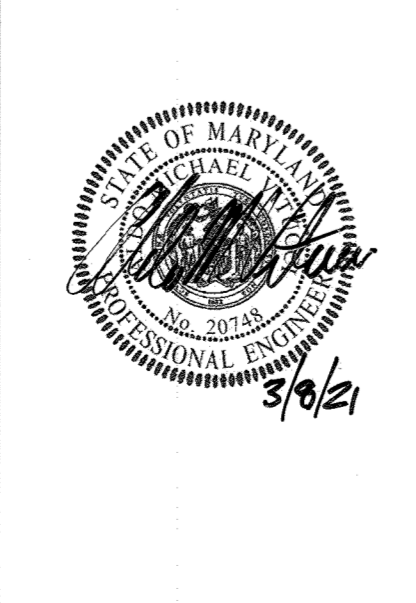
H.O.A. Non-routine Maintenance:

1. Structural Components Of The Underground Facility Such As The Manholes, Pipes And Orifices Shall be Repaired Upon Detection Of Any Damage. The Components Should be Inspected During Routine Maintenance Operations. Inspection Reports Shall be kept Until The Next Subsequent Inspection.
2. Problems Identified During Inspection Will be Promptly Corrected. Major Problems Shall Also be Brought To The Attention Of The Howard County Dept. Of Public Works To Insure That Public Safety is Maintained.



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 WALTHAM NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2899

NO.	REVISION	DATE
1	REMOVE 2 SPACES & ADD PATIO	12/9/21
2	ADDED DRIVE THRU LANE, REVISED PARKING, LANDSCAPING & S.W.M.	12/17/20
3	ADDED ONE WAY ENTRANCE FROM MARRIOTTVILLE ROAD & ESD No. 4	2/22/19



Owner And Developer
 Ellicott City Land Holding, Inc.
 8318 Forrest Street-Suite 200
 Ellicott City, Maryland 21043
 (410)-707-7054

Owner And Developer
 Mid-Atlantic Services, Inc.
 8318 Forrest Street-Suite 200
 Ellicott City, Maryland 21043
 (410)-707-7054

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: *[Signature]* Date: 4/14/21

Chief, Development Engineering Division: *[Signature]* Date: 4-14-21

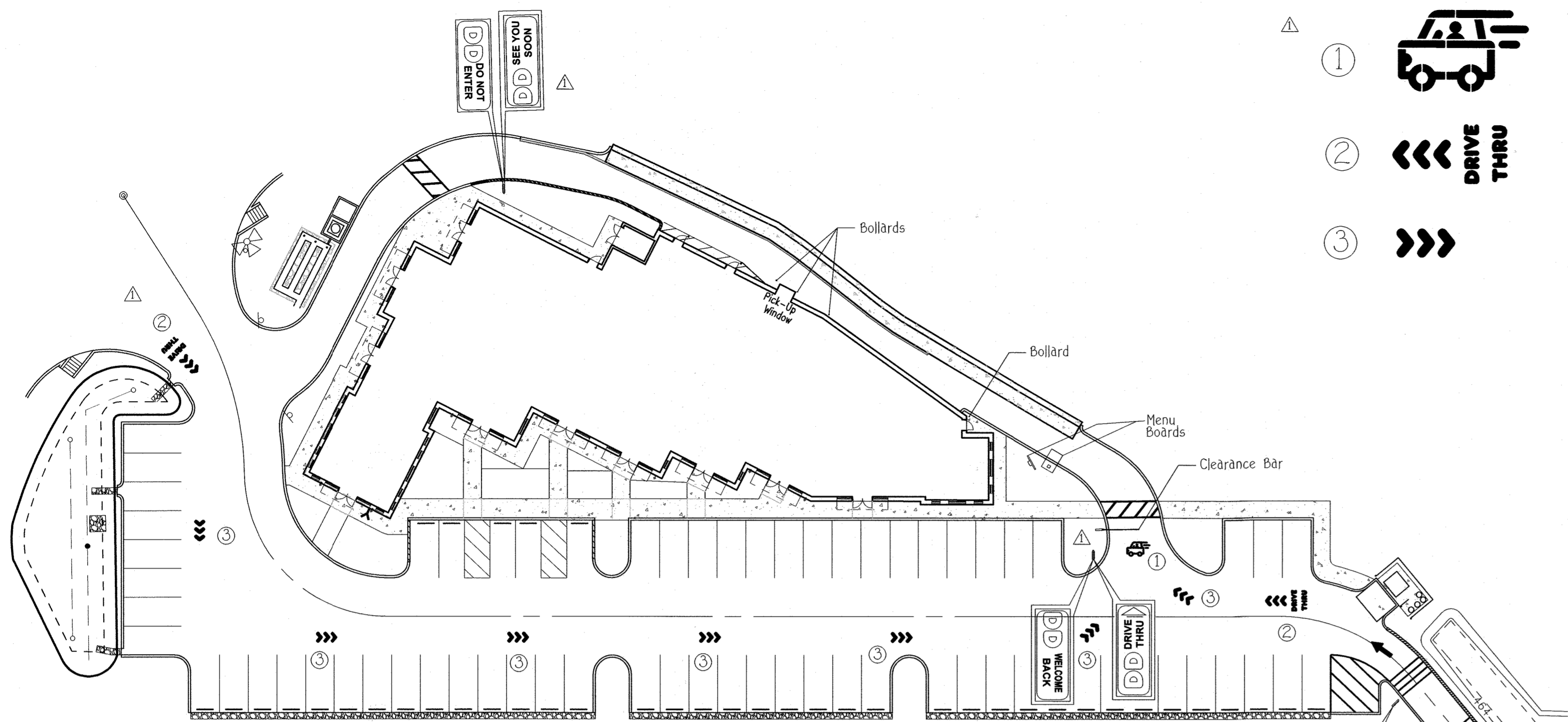
Director, Department of Planning and Zoning: *[Signature]* Date: 4-21-21

PLAT NO.	BLOCK NO.	ZONED	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24972-24973	3 & 4	PEC	16	3rd	60300.00

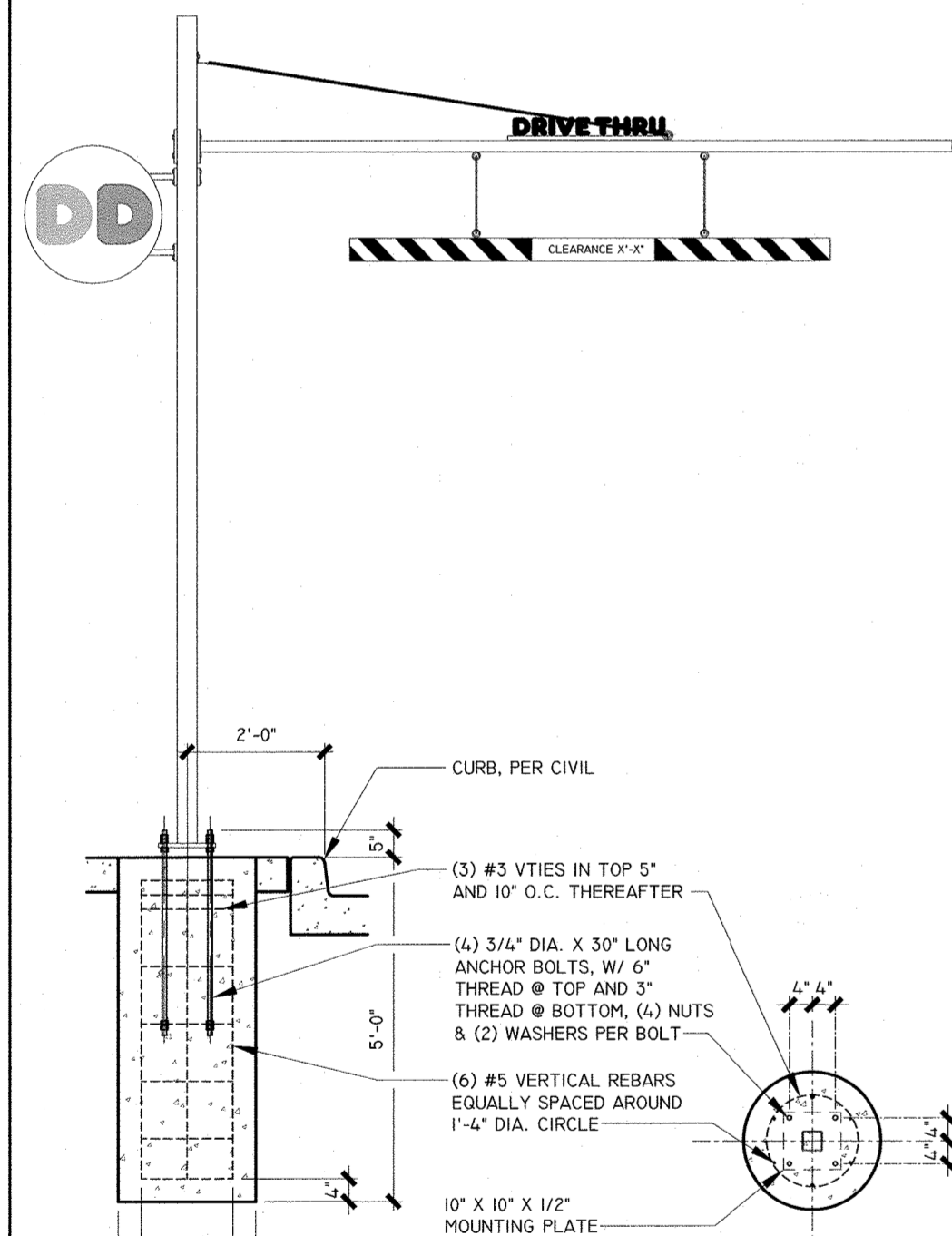
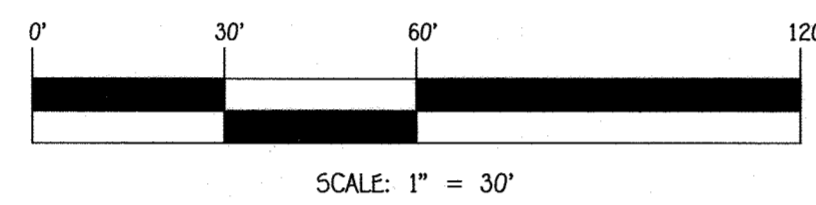
REVISED STORMWATER MANAGEMENT PLAN VIEWS
GTW's Waverly Woods
 Retail Center
 Parcel 'H'

Zoned: PEC
 Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
 3rd Election District Howard County, Maryland
 Scale: As Shown
 Date: October 30, 2020
 Sheet 12 Of 19

SDP-16-074

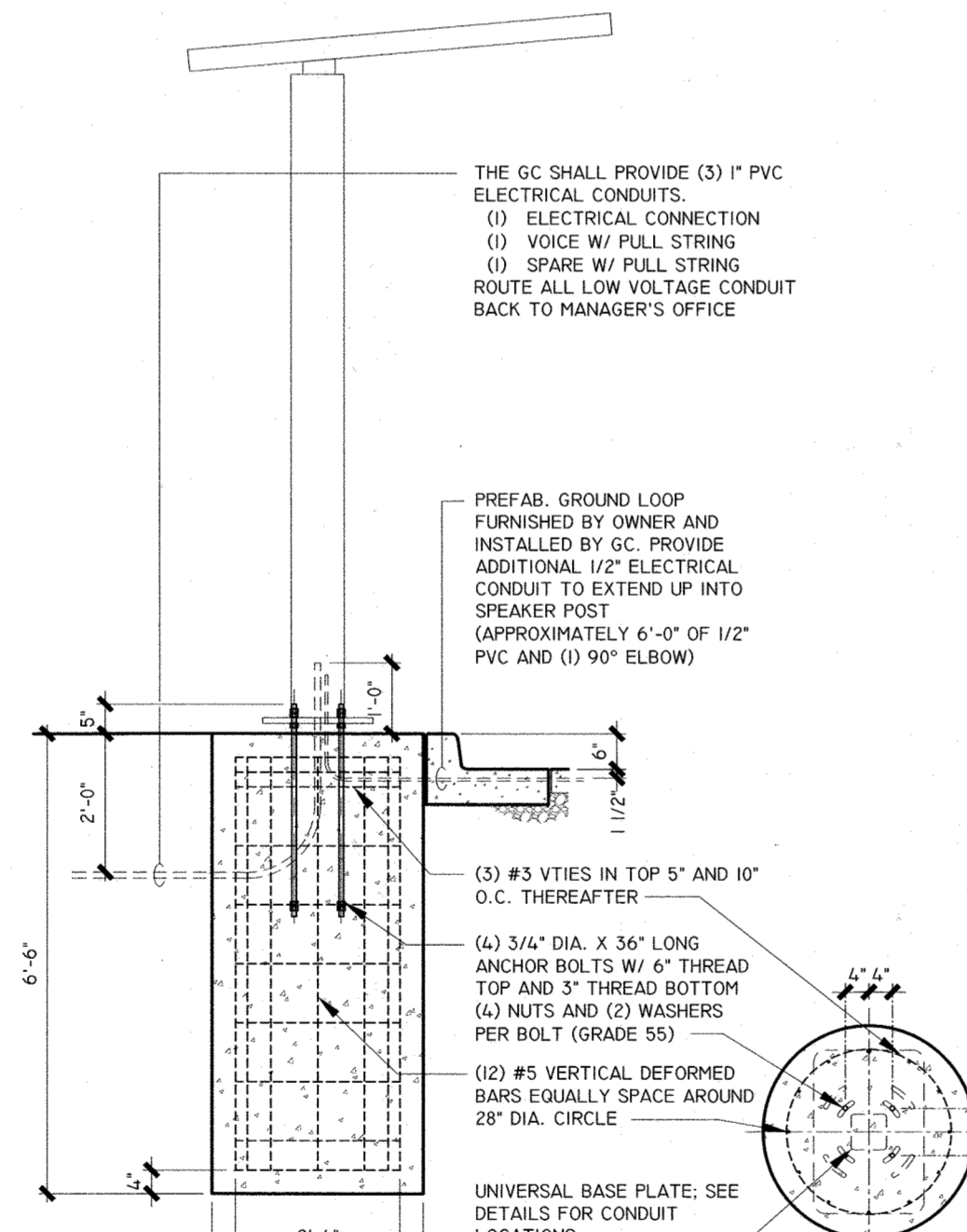


Dunkin' Donuts Striping & Signage Detail



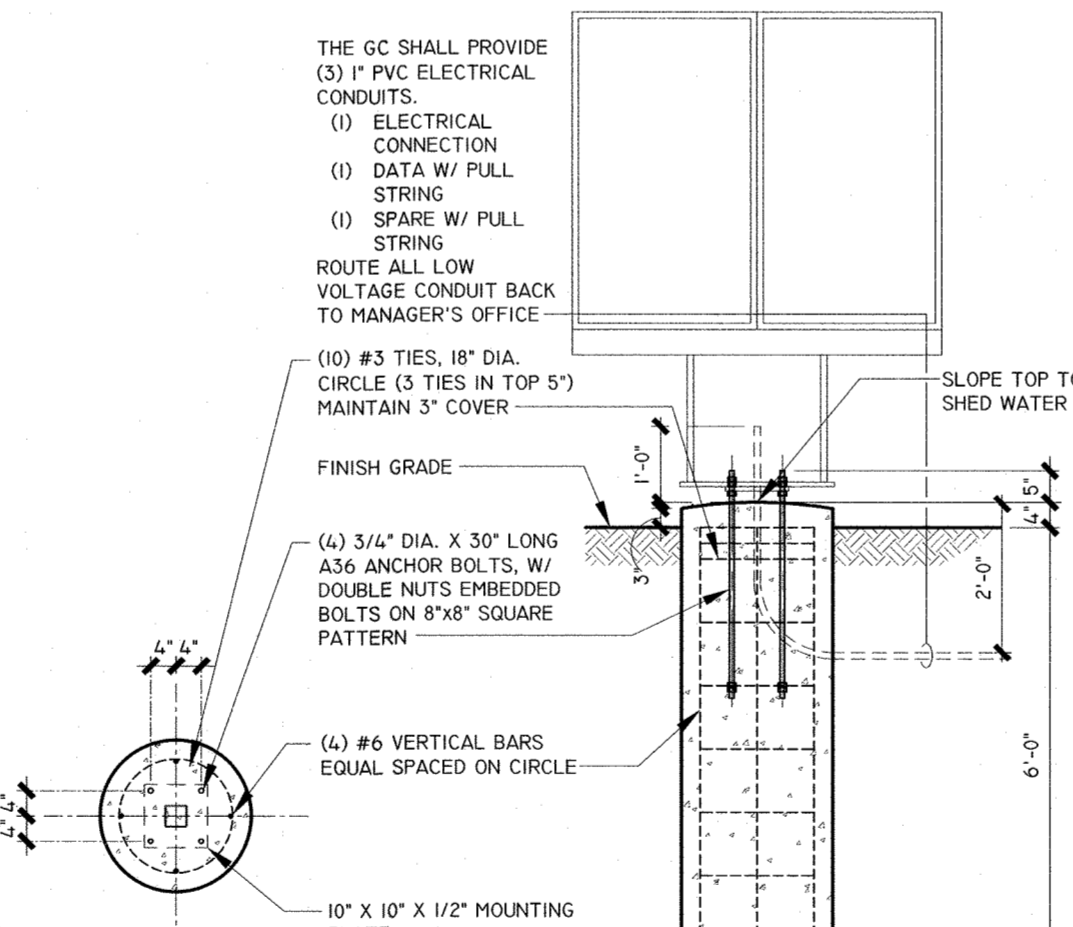
CLEARANCE BAR - FOOTING DETAIL

FOOTING NOTES:
0.58 CU. YDS. TOTAL CONCRETE SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
REINFORCING STEEL SHALL HAVE A MIN YIELD STRENGTH OF 60,000 PSI. RECOMMENDED MIN. CURE TIME OF 7 DAYS BEFORE SIGN INSTALLATION.



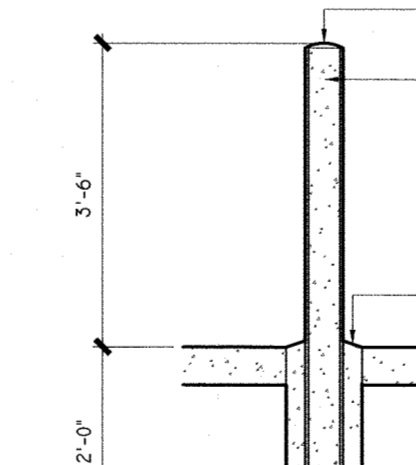
ILLUMINATED D/T CANOPY W/O MENU BOARDS - FOOTING DETAIL

FOOTING NOTES:
1.70 CU. YDS. TOTAL CONCRETE SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
REINFORCING STEEL SHALL HAVE A MIN YIELD STRENGTH OF 60,000 PSI. RECOMMENDED MIN. CURE TIME OF 7 DAYS BEFORE SIGN INSTALLATION.

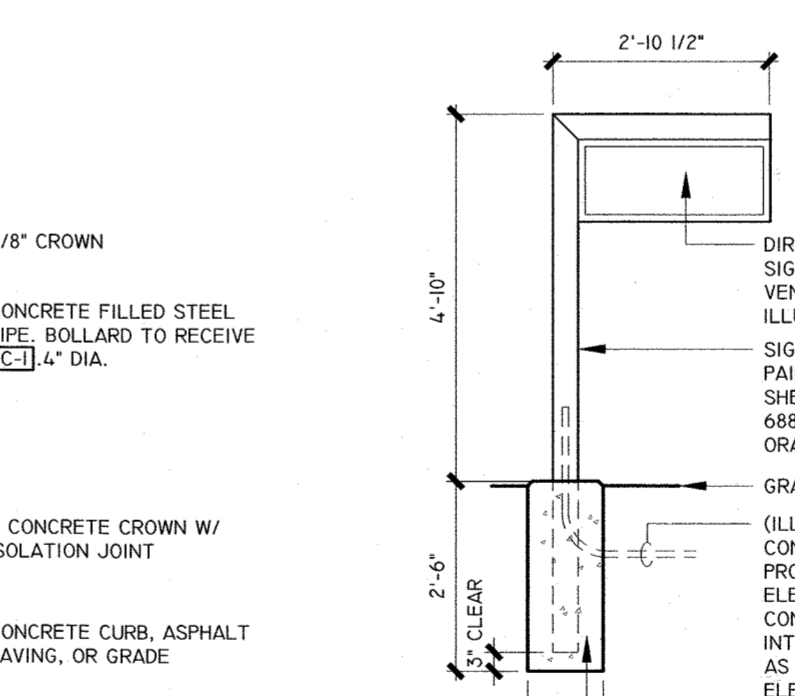


D/T MENU BOARD - FOOTING DETAIL

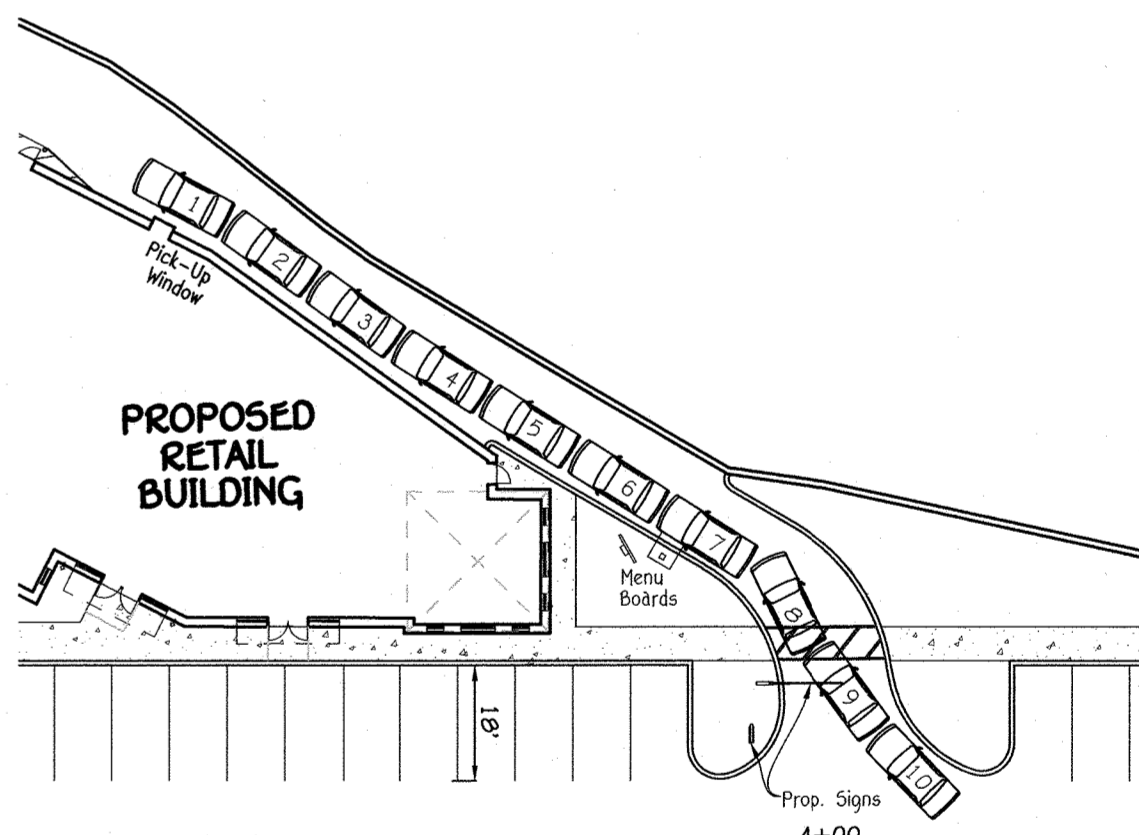
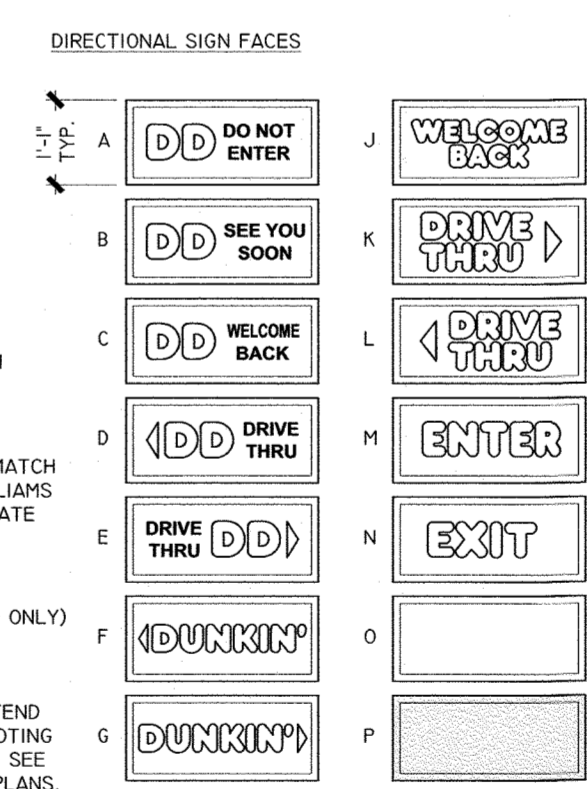
FOOTING NOTES:
0.70 CU. YDS. TOTAL CONCRETE SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS FOR CLASS 5 SOIL.



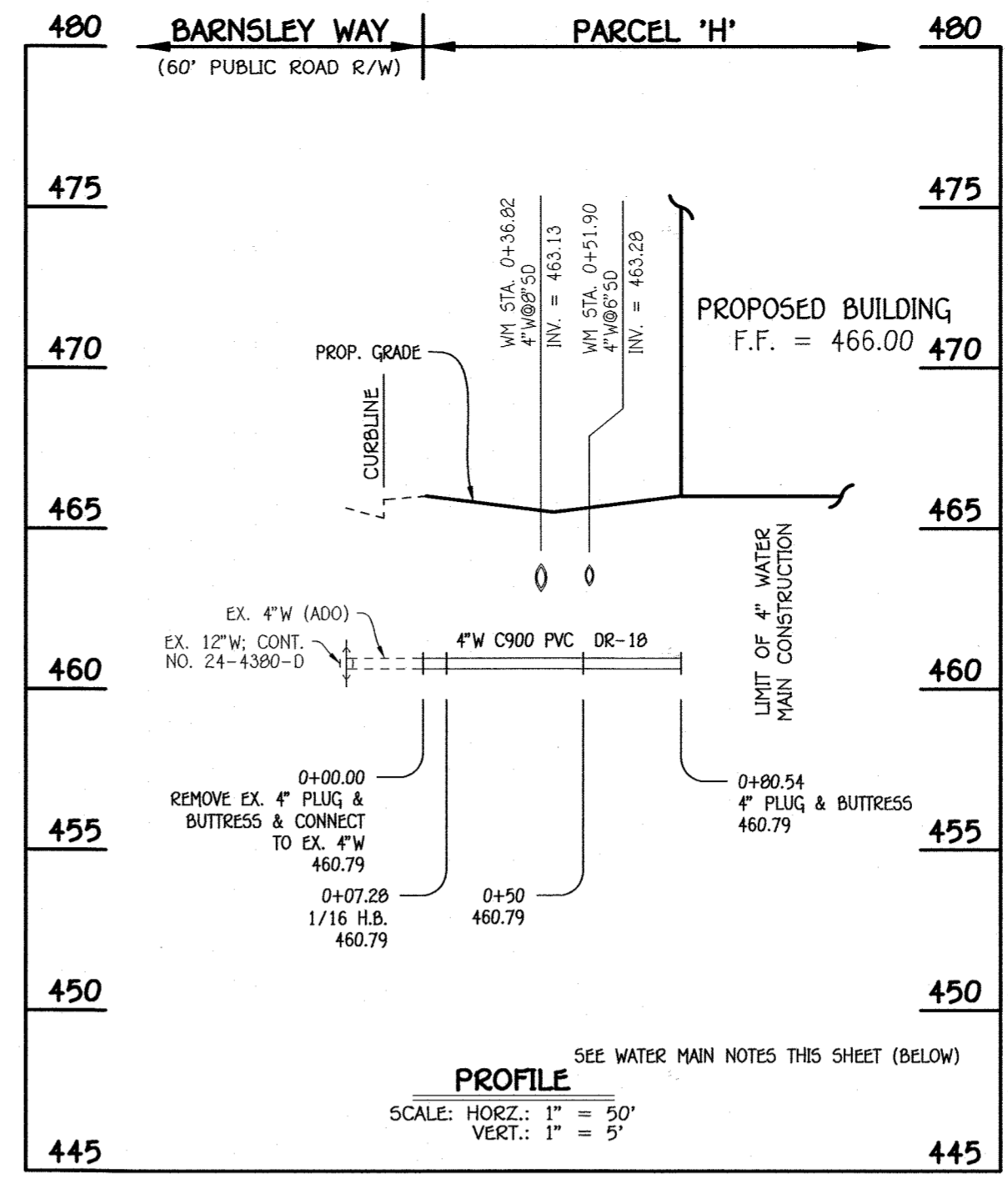
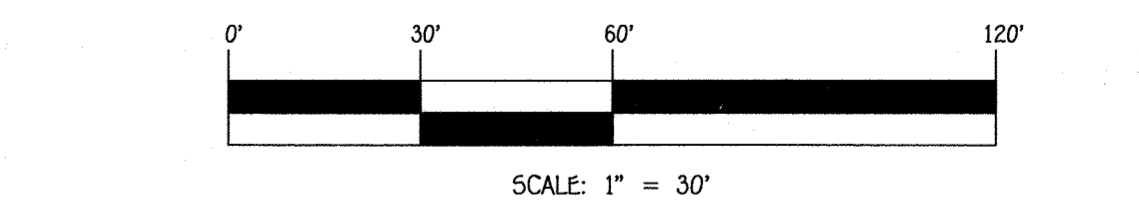
BOLLARD DETAIL



DIRECTIONAL SIGN DETAIL



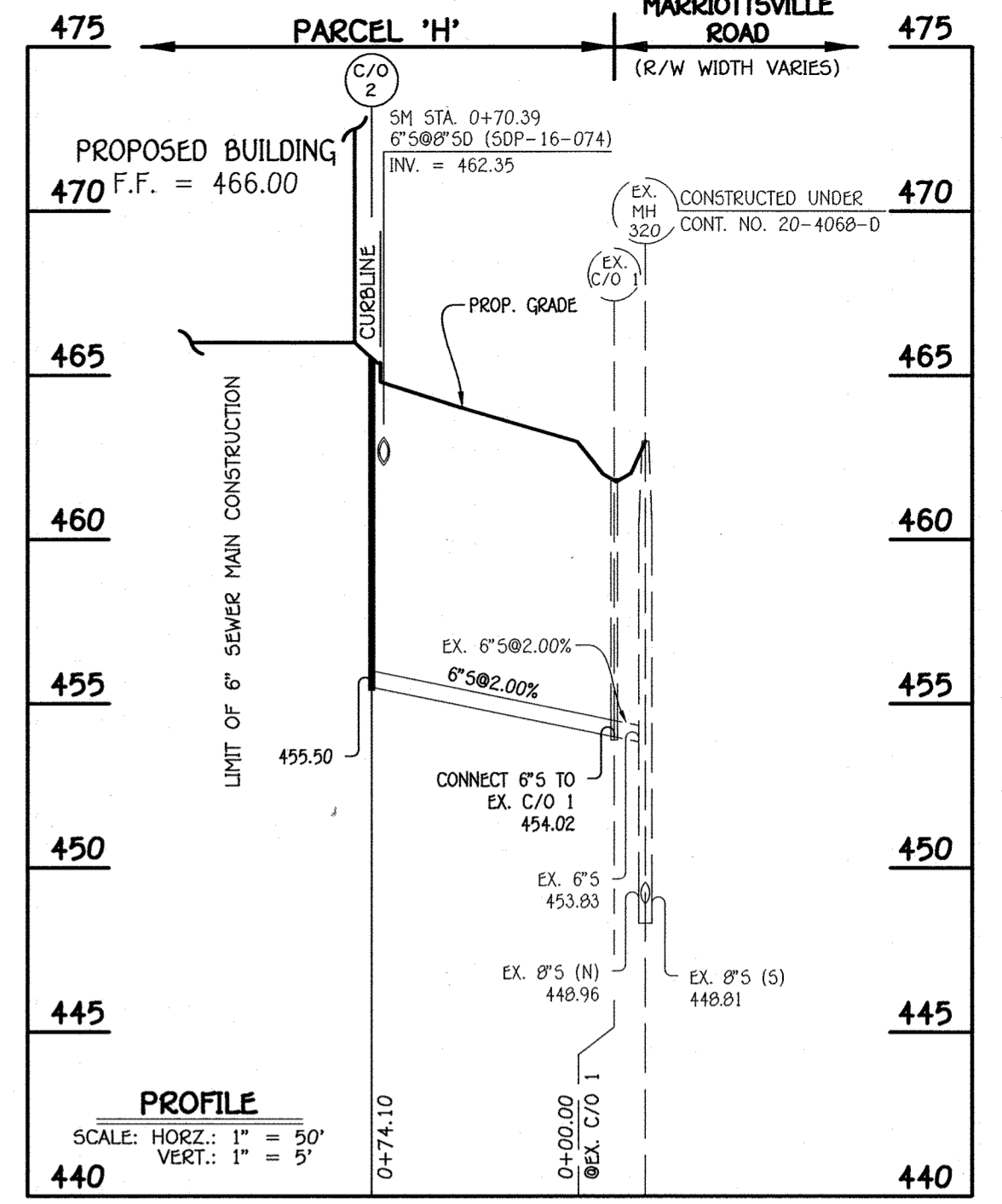
Stacking Analysis (Drive-Thru)



4" WATER MAIN

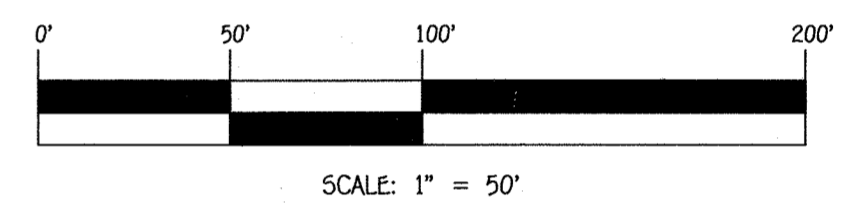
WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
4" WATER MAIN			
0+00.00	EX. 4" PLUG & BUTTRESS	598565.82	1340725.96
0+07.28	1/16 H.B.	598573.02	1340727.02
0+20.46	4" PLUG & BUTTRESS	598637.25	1340762.08

- WATER MAIN NOTES:**
- ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE, DR-18.
 - ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
 - DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.



6" SEWER MAIN

CLEAN-OUT TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
EX. C/O 1	598694.35	1340922.86	462.50
C/O 2	598692.59	1340848.78	465.53



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2095

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
2/29/21

NO.	ADDED NEW DUNKIN' DONUTS SIGNS & DRIVE THRU STACKING DETAIL	REVISION	DATE
1	ADDED NEW DUNKIN' DONUTS SIGNS & DRIVE THRU STACKING DETAIL		9/10/21

Owner And Developer
Elicott City Land Holding, Inc.
8319 Forrest Street - Suite 200
Elicott City, Maryland 21043
(410-707-7054)

Owner And Developer
Mid-Atlantic Services, Inc.
8319 Forrest Street - Suite 200
Elicott City, Maryland 21043
(410-707-7054)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: *[Signature]* Date: 10/4/21

Chief, Development Engineering Division: *[Signature]* Date: 10-4-21

Director, Department of Planning and Zoning: *[Signature]* Date: 10-4-21

SUBDIVISION	SECTION	PARCEL NO.
GTW's Waverly Woods	14	'H'

PLAT NO.	BLOCK NO.	ZONED	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24972-24973	3 & 4	PEC	16	3rd	6030.00

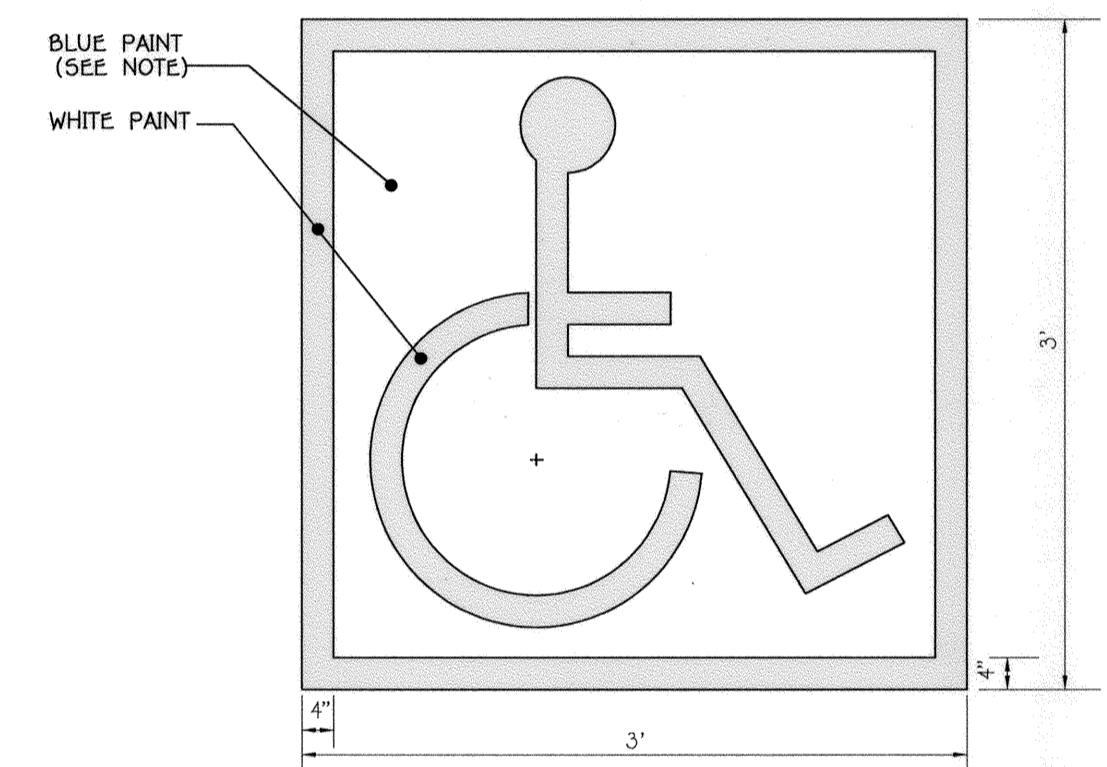
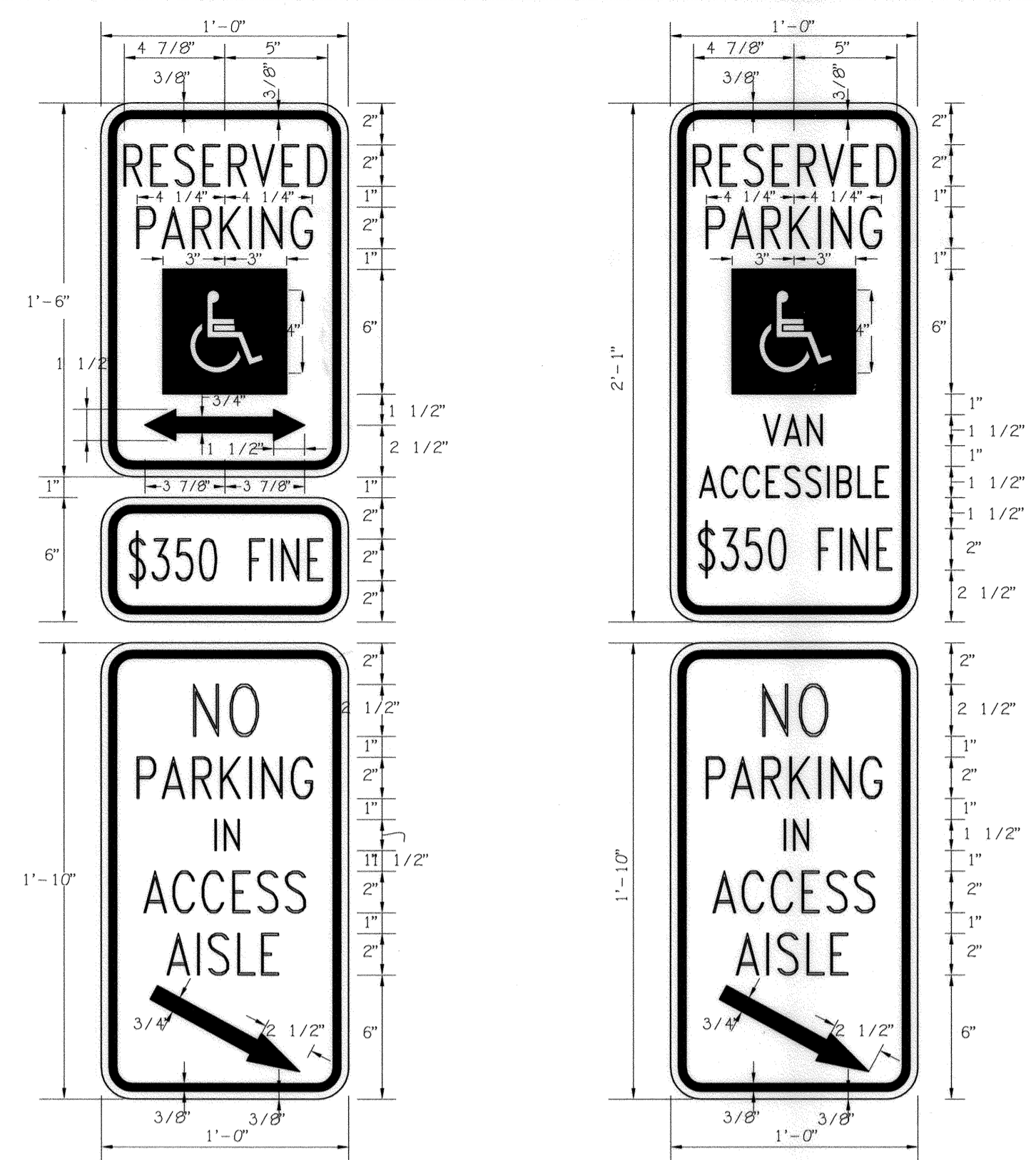
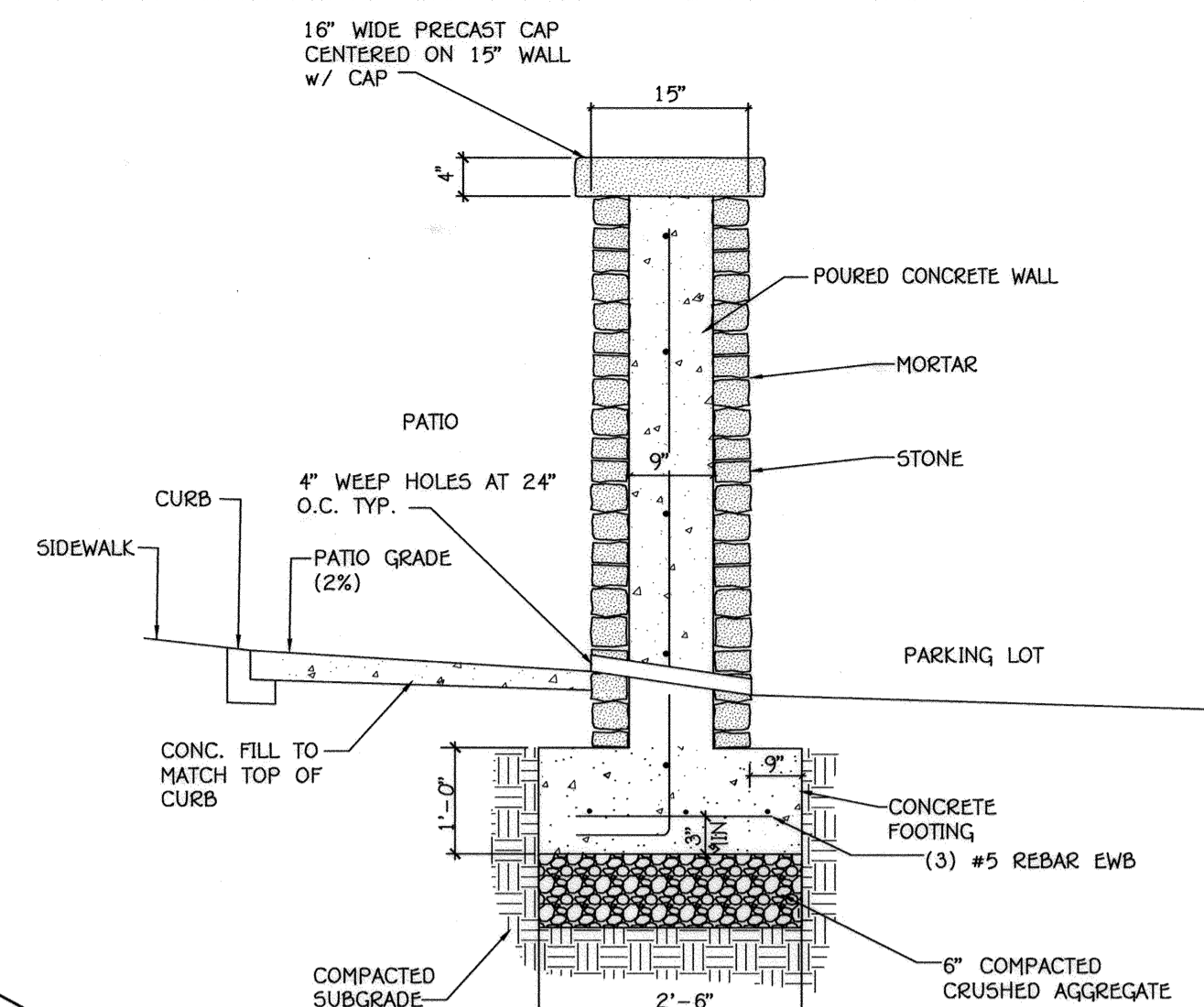
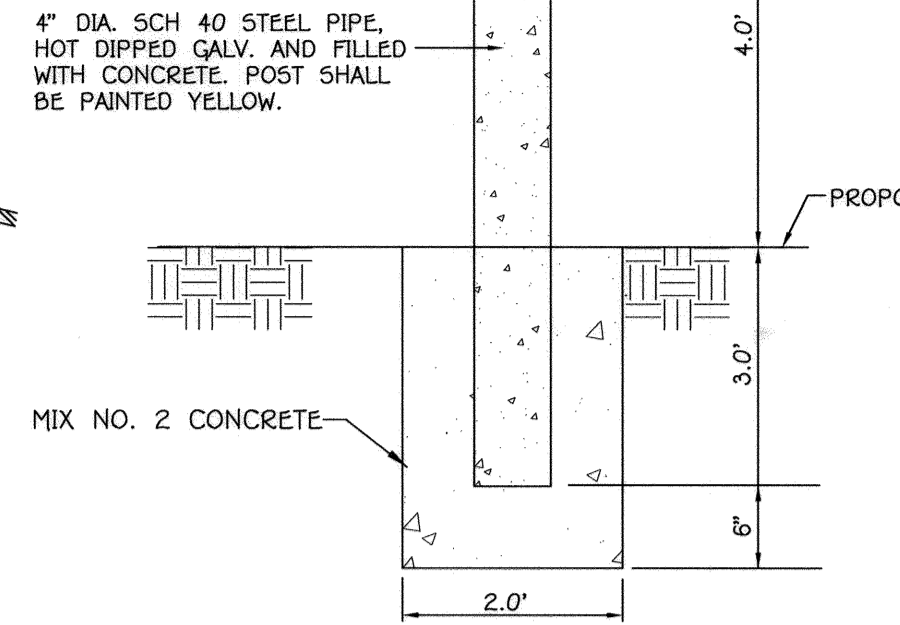
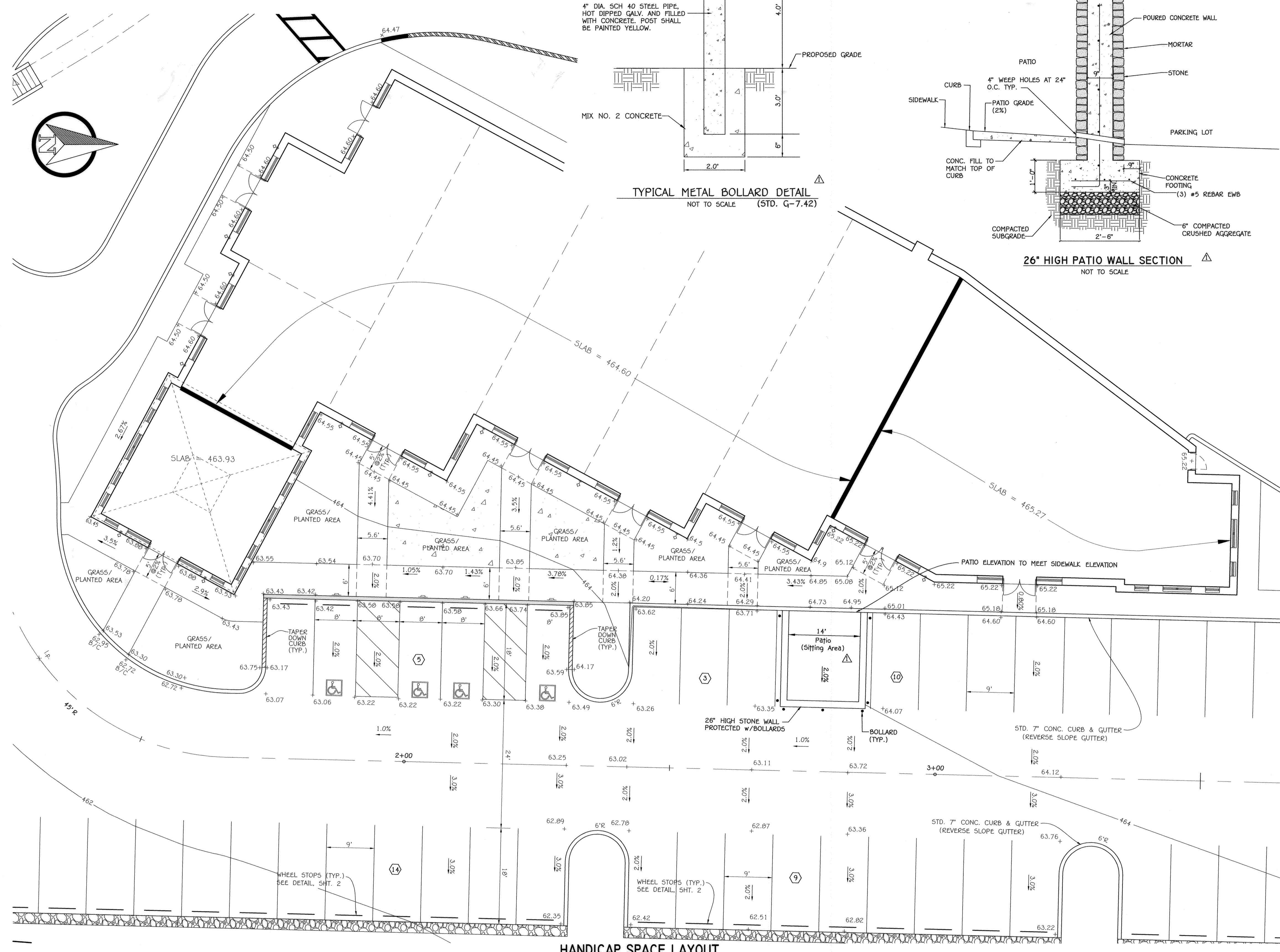
REVISED

PRIVATE WATER & SEWER PROFILES AND DUNKIN' DONUTS STRIPING & SIGNAGE DETAILS

GTW's Waverly Woods
Retail Center
Parcel 'H'

Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/O 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: February 26, 2021
Sheet 14 Of 19

PURPOSE NOTE: Δ
 THE PURPOSE OF THIS REVISED PLAN IS TO REMOVE 2
 PARKING SPACES AND ADD A 14' WIDE PATIO (SITTING
 AREA).



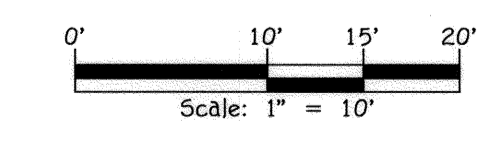
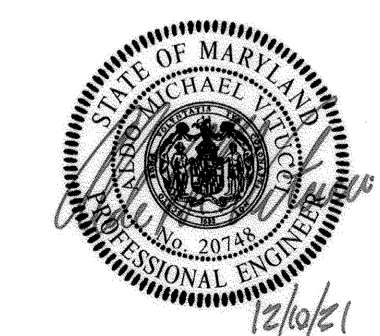
NOTE:
 SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND (WHITE ON BLUE;
 COLOR NO. 105909 IN FED. STANDARD 5952-DOUBLE COAT TYP.)

HANDICAP SPACE STENCIL LAYOUT
 NO SCALE

- GENERAL NOTES:**
- SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-B.
 - ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE IMPROVEMENT PLAN.
 - SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP OF SIGNS 9'-1\"/>

HANDICAP SPACE LAYOUT
 SCALE: 1" = 10'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALDPOKE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2999



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 (410-707-7054)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development *[Signature]* 7/5/22 Date

Chief, Development Engineering Division *[Signature]* 6-28-22 Date

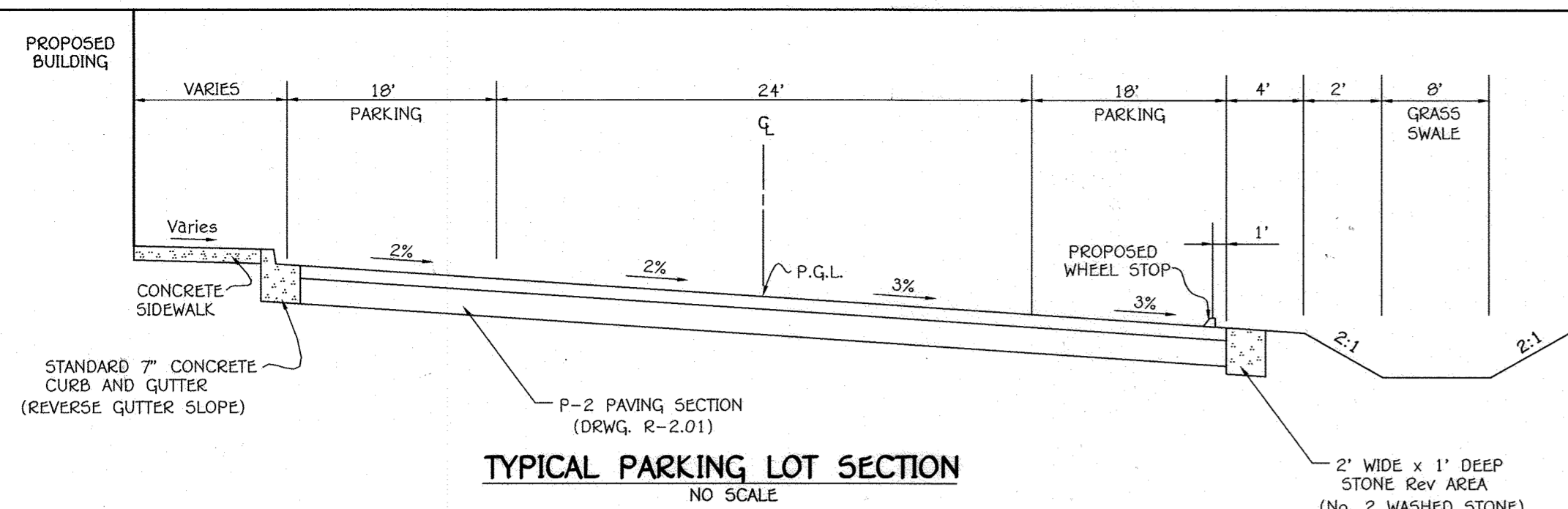
Director Department of Planning and Zoning *[Signature]* 7/5/22 Date

SUBDIVISION	SECTION	PARCEL No.
GTW's Waverly Woods	14	"H"
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

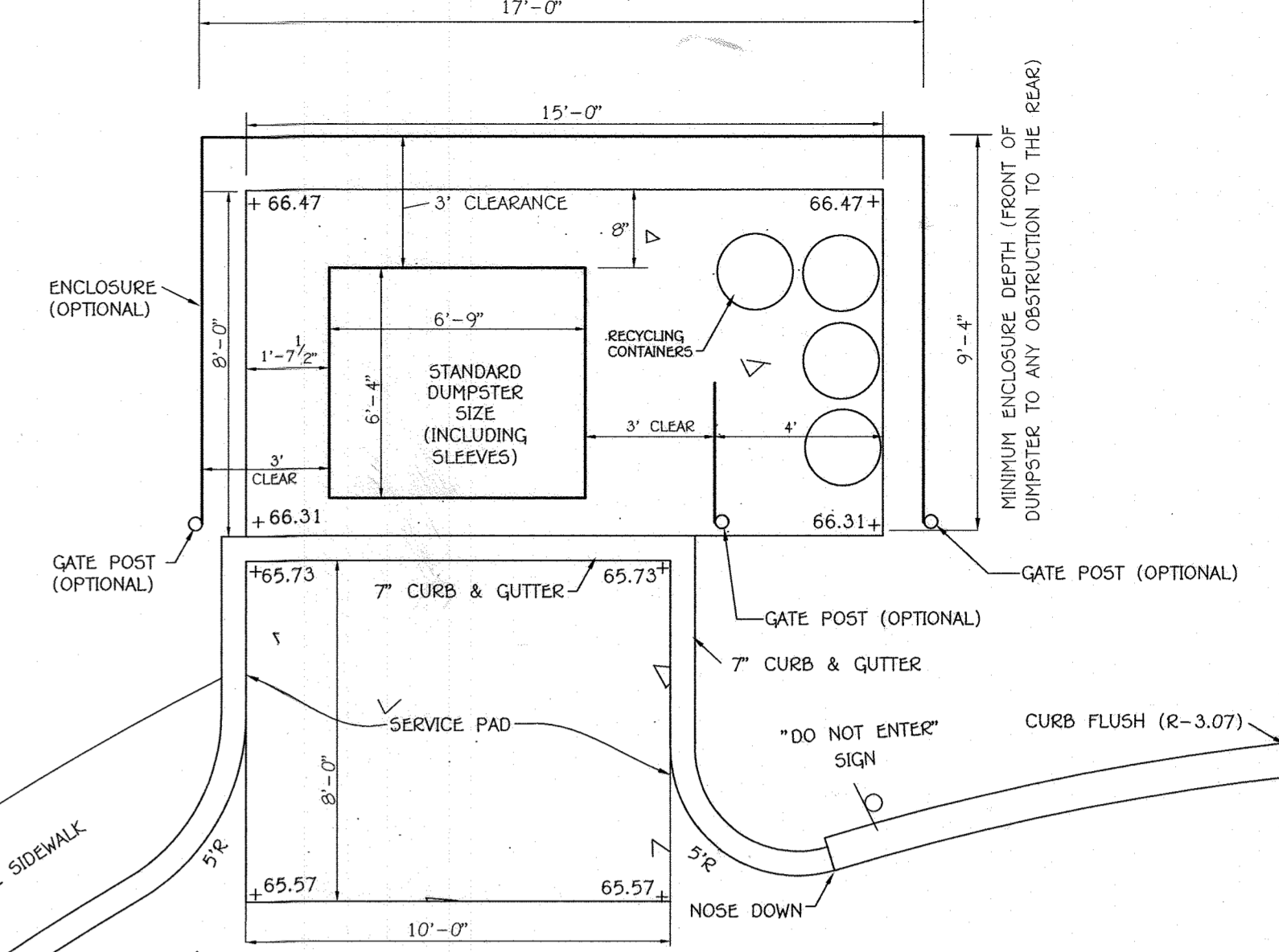
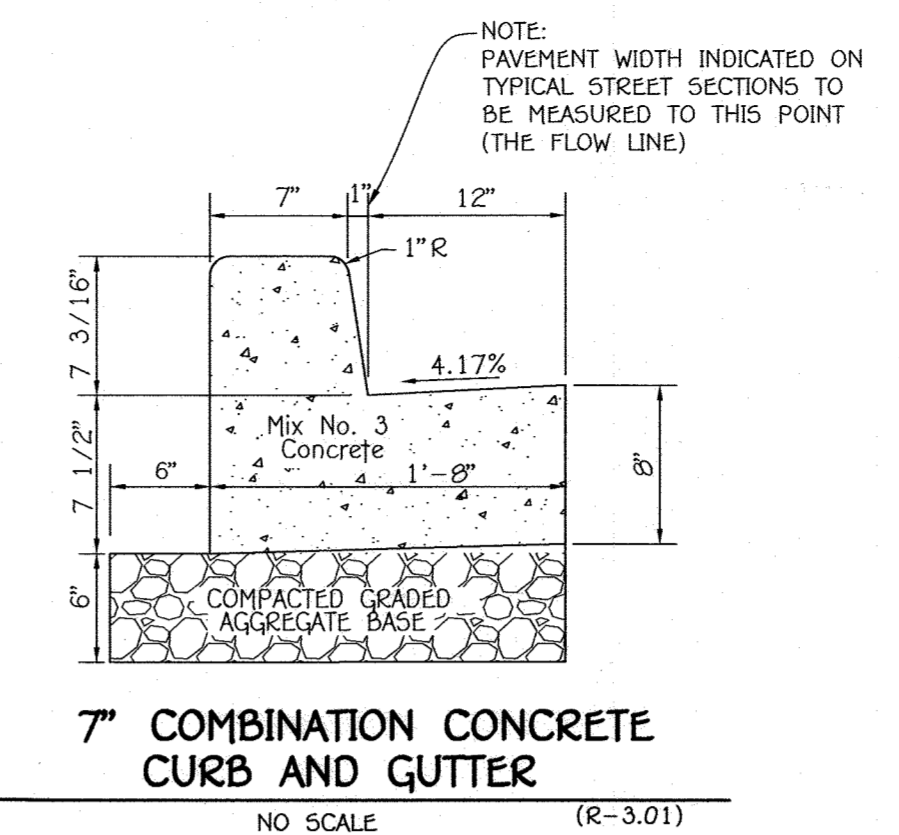
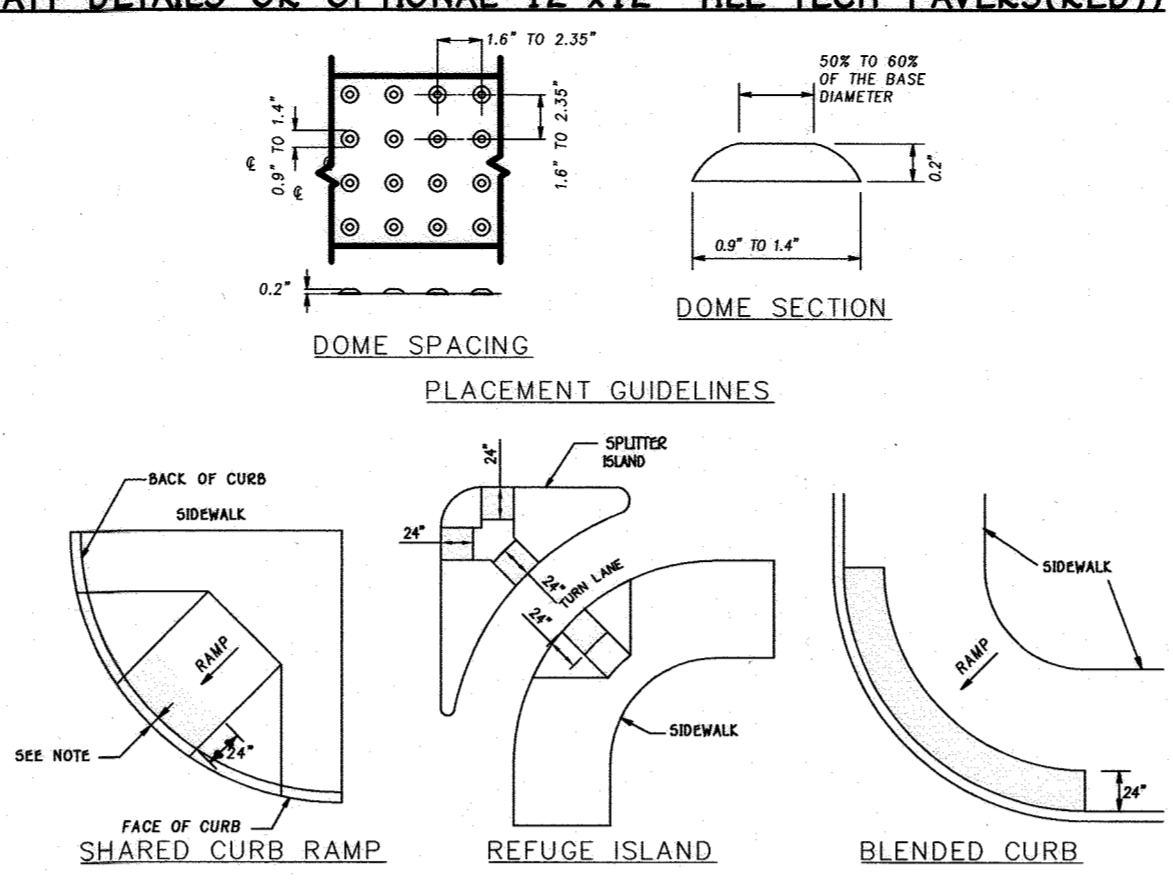
REVISED HANDICAP PLAN & DETAILS
GTW's Waverly Woods
 Retail Center
 Parcel 'H'

Zoned: PEC
 Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
 3rd Election District Howard County, Maryland
 Scale: As Shown
 Date: February 26, 2021
 Revised Date: December 9, 2021
 Sheet 13 Of 19

I:\2004\0407\dwg\Marriottville-Barnesley site (may 2015)\Engineering dwgs (SDP)\REVISED PARKING2. 2021\04\07 Sheet 13 Handicap plan.dwg, 12/9/2021 1:08:21 PM, Downstairs 11500 (Temporary).pc3, 11



(MATT DETAILS OR OPTIONAL 12"x12" TILE TECH PAVERS(RED))



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)						
		3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7	
P-2	PARKING DRIVE ASILES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)		MIN HMA WITH GAB		HMA WITH CONSTANT GAB		
		HMA SUPERPAVE FINAL SURFACE		1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE		1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE		2.0	2.0	2.0	3.5	2.0
		GRADED AGGREGATE BASE (GAB)		8.0	4.0	3.0	4.0	4.0

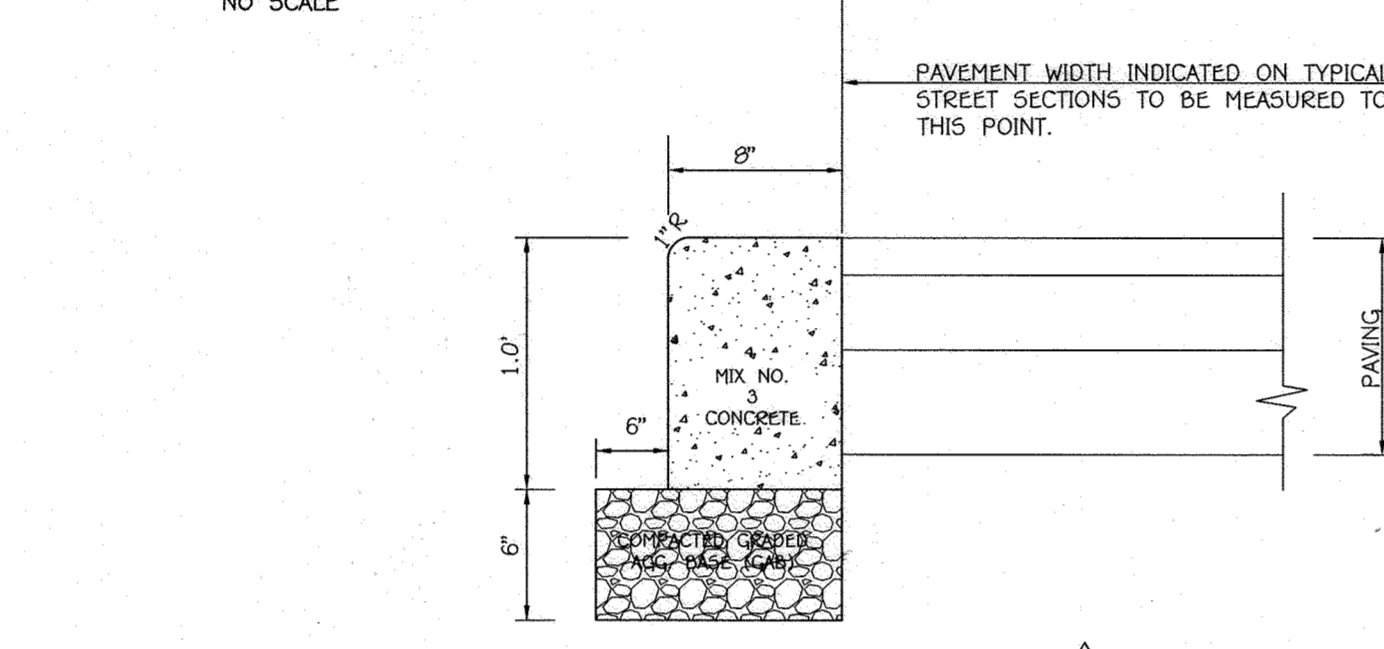
MOMENT SLAB STRUCTURAL NOTES:

- CONSTRUCTION TO COMPLY WITH CURRENT IBC AND LOCAL CODES AND ALL PROJECT REQUIREMENTS. ARRANGE FOR REQ'D INSPECTIONS DURING CONSTRUCTION (REF. CIVIL).
- GEOMETRY SHOWN IS BASED ON INFORMATION PROVIDED BY OTHERS. VERIFY CRITICAL DIMENSIONS. RESOLVE ANY DISCREPANCY BEFORE PROCEEDING. COORDINATE CONCRETE CONSTRUCTION WITH OTHER SITE WORK ON CIVIL PLANS.
- MINIMUM DESIGN LOADS PER IBC:
DEAD, (COMPONENT WEIGHT)
LIVE, 250 PSF. ROADWAYS, 100 PSF. SIDEWALKS AND LANDSCAPE. GROUND SNOW LOAD 25 PSF.
- WIND DESIGN CRITERIA ARE AS FOLLOWS:
BASIC WIND SPEED = 115 MPH
IMPORTANCE FACTOR = 1. WIND EXPOSURE = B
FREESTANDING WALL, CF=1.45, qz = 20.4 PSF
- SEISMIC DESIGN CRITERIA ARE AS FOLLOWS:
IMPORTANCE, I=1 USE GROUP = CATEGORY II
MAPPED SPECTRAL RESPONSE ACC. SS = 0.129, S1 = 0.053
SITE CLASS = D
SPECTRAL RESPONSE COEFFICIENTS SDS = 0.138, S01 = 0.085
SEISMIC DESIGN CATEGORY = CATEGORY B
BASIC SEISMIC FORCE RESISTING SYSTEM O.D. REINF. CONC. MEMBER SEISMIC RESPONSE COEFFICIENT CS = 0.069
RESPONSE MODIFICATION FACTOR, R = 2
DESIGN BASE SHEAR = 0.069 X W LBS.
ANALYSIS = EQUIVALENT LATERAL FORCE.
- SUITABLE SUBSOIL ASSUMED (GEOGRID-REINFORCED MSE WALL BACKFILL) TO BE FIELD VERIFIED BY THE GEOTECHNICAL ENGINEER (OR THEIR QUALIFIED REPRESENTATIVE). AVOID DAMAGING THE GEOGRID LAYERS. REPAIR AND RESTORE ANY DISTURBANCE OR DAMAGE TO MSE WALL, RETAINED SOIL, AND GEOGRID.

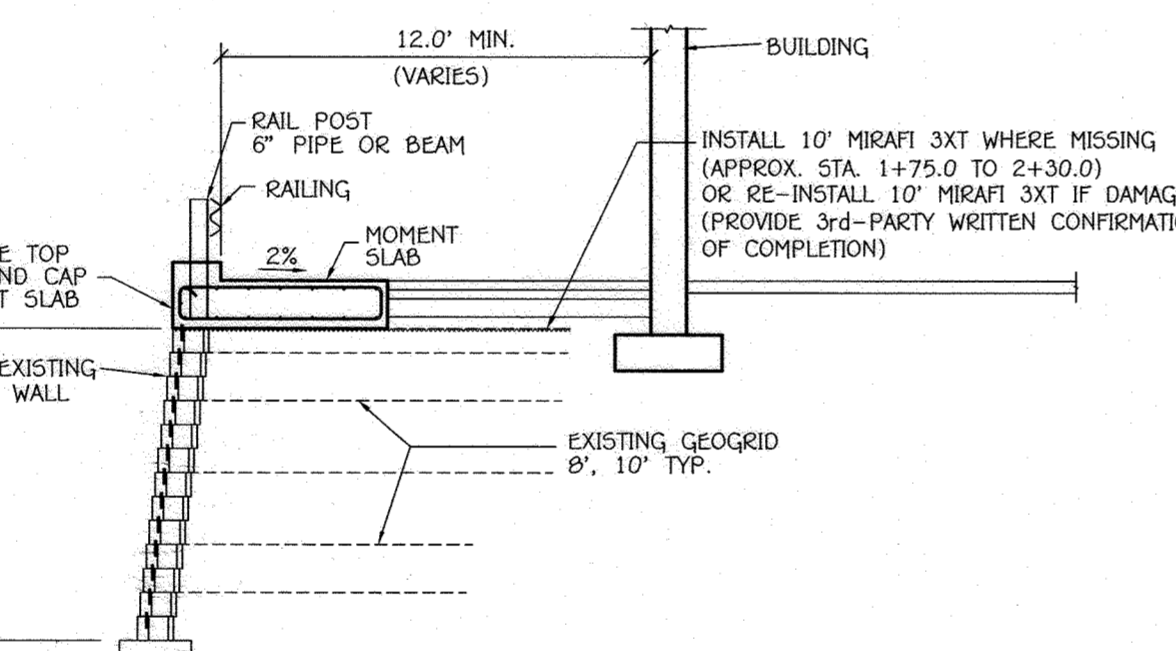
ASSUMED MINIMUM CONDITIONS ARE:
1500 PSF SOIL BEARING PRESSURE
WALL BACKFILL SH OR BETTER FHT 30 DEG. MIN. WT 120 PCF. COMPACTED TO MIN. 95% OF MAX. DRY DENSITY (STD PROCTOR), AND DRY SOIL CONDITIONS.

IF THE ASSUMED MINIMUM CONDITIONS ARE NOT AVAILABLE, IMPROVE AS NEEDED, OR OBTAIN ENGINEERING ADVICE.
- CONCRETE:
FC 4500 PSL MIN. W/C 0.40 MAX. AIR ENTRAINED 5.5% ±1.5%. NO CHLORIDES IN CONCRETE.
CHAMFER EXPOSED EDGES 3/4" x 3/4" TYP.
THIRD-PARTY MONITORING BY A QUALIFIED FIRM. MAINTAIN MINIMUM REINF. COVER W/CENTRALIZERS OR SIM. VIBRATE TO CONSOLIDATE POURED CONCRETE.
MAKE AND TEST FOR STRENGTH A SET OF 6 4X8 CYLINDERS FOR EACH DAY AND NOT LESS THAN ONE SET PER 50 YD-3.
REPLACE DEFECTIVE CONCRETE.
MAINTAIN OPTIMUM CONDITIONS FOR CURING (OR CURE IN FORMS). BOND NEW CONCRETE TO EXISTING CONCRETE BY PRE-WETTING TO A SATURATED, SURFACE-DAMP CONDITION OR USE A LATEX BONDING AGENT.
PLACE CONTROL JOINTS AT 20' INTERVALS AS INDICATED. KEEP APPROVED MIX DESIGNS AT SITE FOR INSPECTOR REVIEW.
- REINF. STEEL:
ASTM A615 GR 60. (PROVIDE MAT'L CERTS. TO OWNERS Q/A)
LAP SPLICES IN CONCRETE: #6=24" #5=20" #4=16" U.N.O.
REINFORCING CONCRETE COVER:
3" "CAST AGAINST EARTH" AND
2" "EXPOSED TO EARTH OR WEATHER" U.N.O.
- FENCE AND RAILING TO MEET OR EXCEED THE IBC'S GEOMETRY AND LOAD REQUIREMENTS, BY OTHERS.
- WORKMANSHIP:
MEET OWNER'S REQUIREMENTS FOR APPEARANCE.
PROVIDE CONTROL JOINTS SPACED APPROX. 25' C/C. AT COLD JOINTS AND MATING SURFACES, EXISTING SURFACE TO BE DAMP-SATURATED, OR APPLY LATEX-TYPE BONDING AGENT PER MFG. INSTRUCTIONS.
- QUALIFICATIONS AND QA/QC:
PROVIDE MATERIAL RECORDS (MILL CERTS, BATCH TICKETS, FOR SOURCE AND TRACEABILITY), TEST RECORDS (CYLINDER BREAKS, FOR STRENGTH), AND INSPECTION REPORTS.

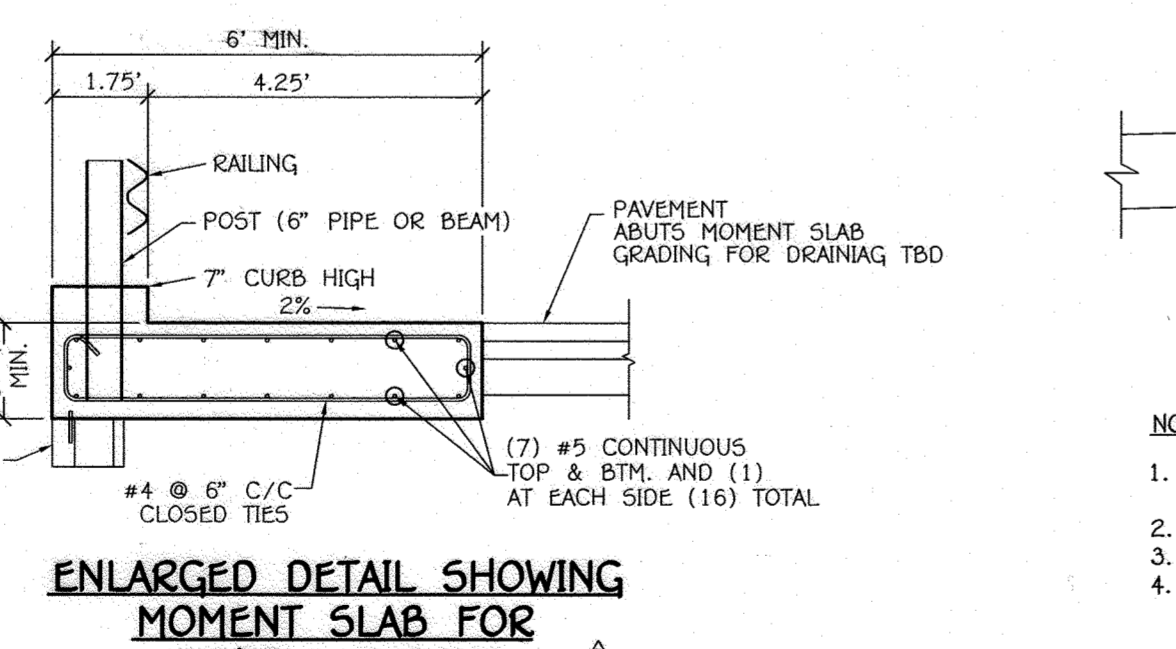
P-2 PAVING SECTION



CURB FLUSH (R-3.07)
NO SCALE



SECTION SHOWING MOMENT SLAB FOR VEHICLE RAILING AT WALL
NO SCALE

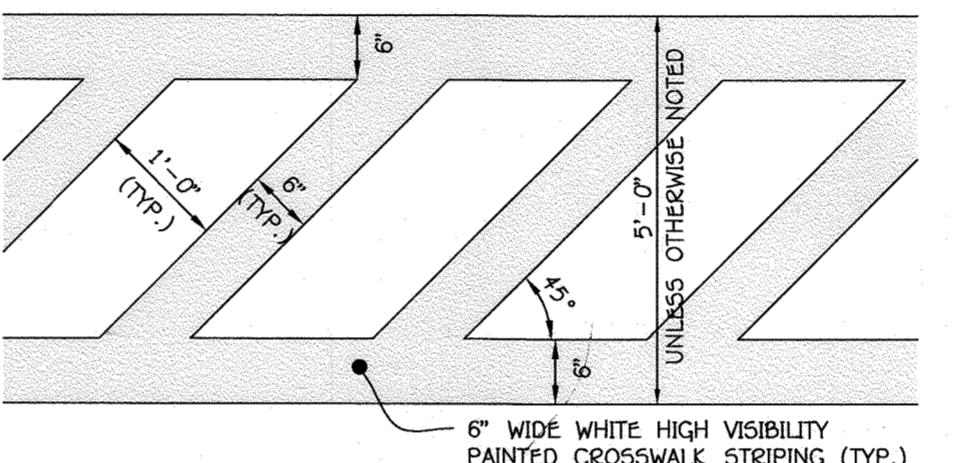
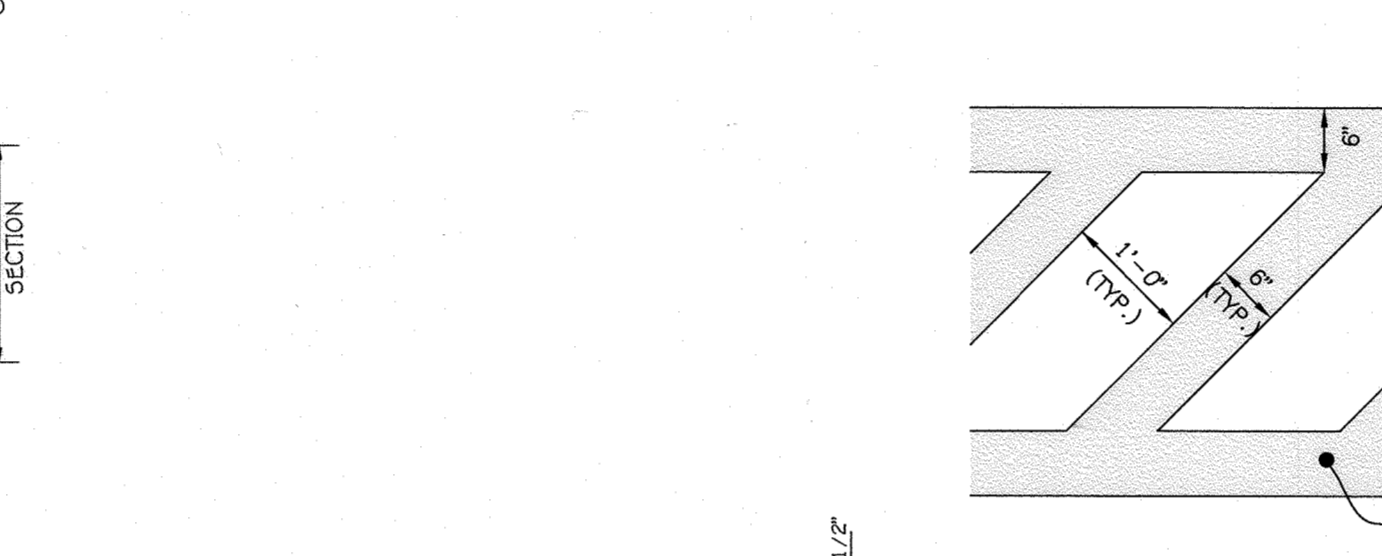


ENLARGED DETAIL SHOWING MOMENT SLAB FOR VEHICLE RAILING AT WALL
NO SCALE

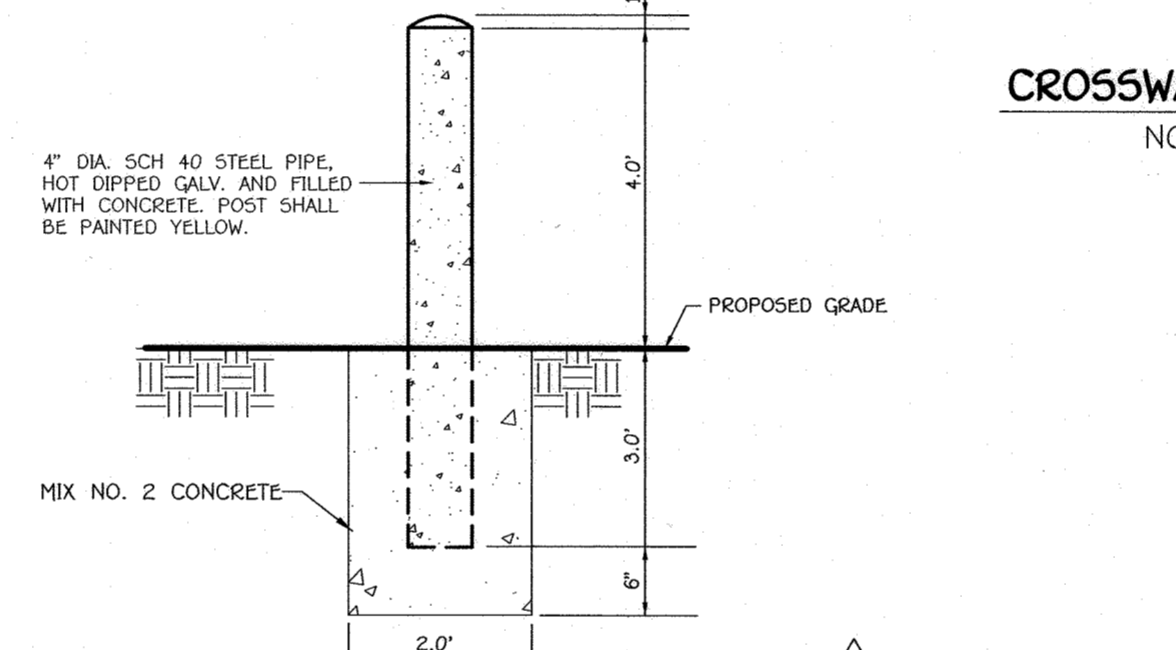
MOMENT SLAB TYP. SEC. REINFORCING AND STRUCT. DTLS.
NO SCALE

- NOTES**
- THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 TO 8 INCHES FROM THE FACE OF CURB.
 - FOR SEWEED APPLICATIONS DETECTABLE WARNING SHALL BE PLACED SUCH THAT THE DOMES CLOSEST TO THE BACK OF CURB ARE NO LESS THAN 0.5' AND NO MORE THAN 3.0' FROM THE BACK OF CURB. TRUNCATED DOME SURFACES SHALL BE FABRICATED TO PROVIDE FULL DOMES ONLY.
 - DETECTABLE WARNING SURFACE SHALL BE PAID FOR IN ACCORDANCE WITH SECTION 611 OF THE SPECIFICATIONS.
 - DETECTABLE WARNING SURFACES ARE REQUIRED AT STREET CROSSING & SIGNALIZED INTERSECTIONS.

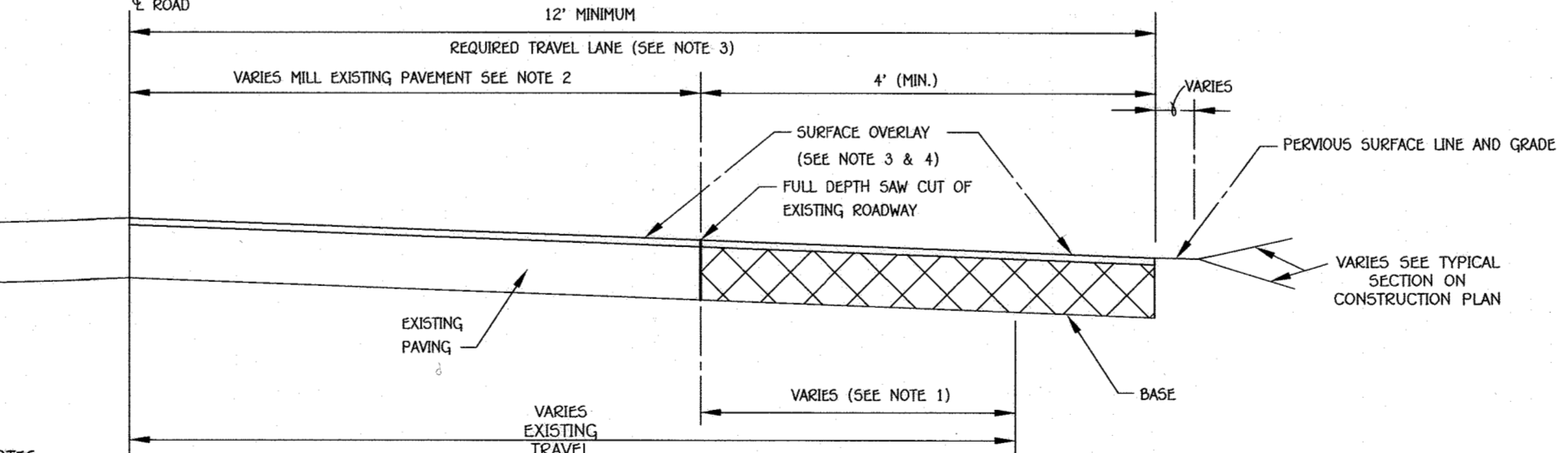
DETECTABLE WARNING SURFACE GUIDELINES



CROSSWALK DETAIL
NO SCALE

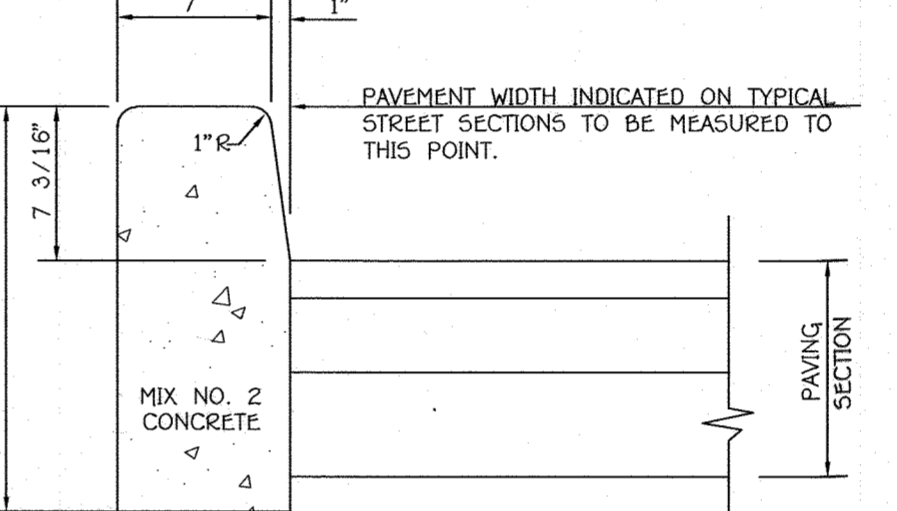


TYPICAL METAL BOLLARD DETAIL
NO SCALE (STD. G-7.42)

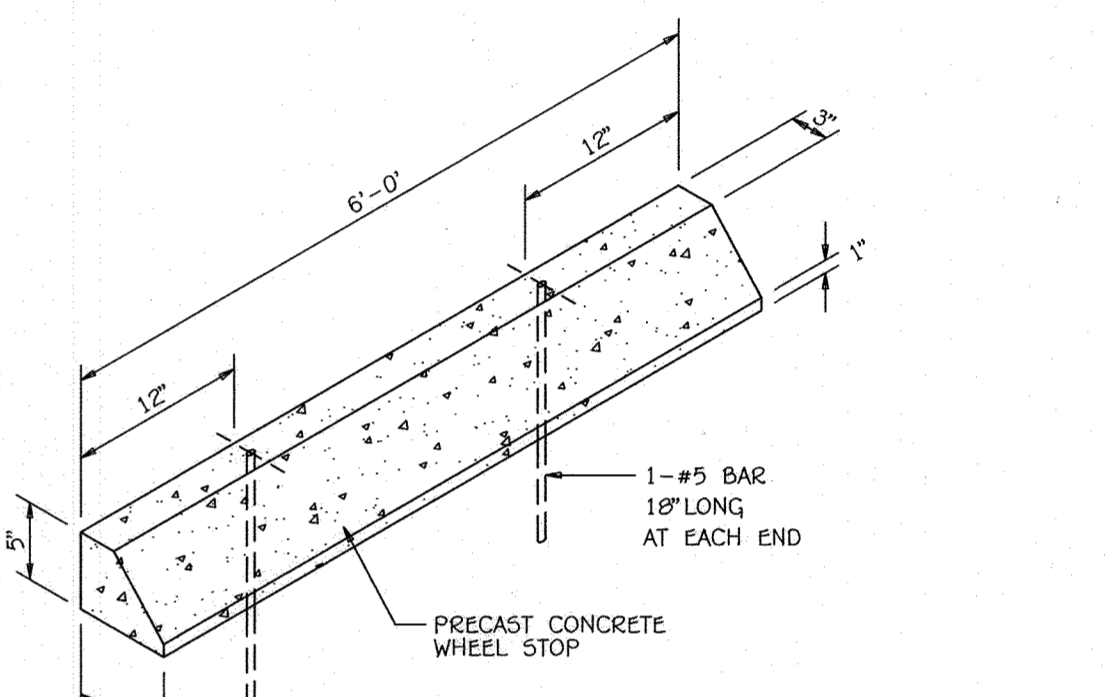


- NOTES**
- WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE A MINIMUM OF 1" FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4" OF WIDENING FROM FACE OF GUTTER PAN.
 - THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED AT DEPTH OF 1 1/2" (MINIMUM).
 - THE RESURFACING SHALL BE PLACED TO THE CENTERLINE OF THE ROADWAY.
 - RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION.

EXISTING ROADWAY WIDENING STRIP (R-1.08)
NO SCALE

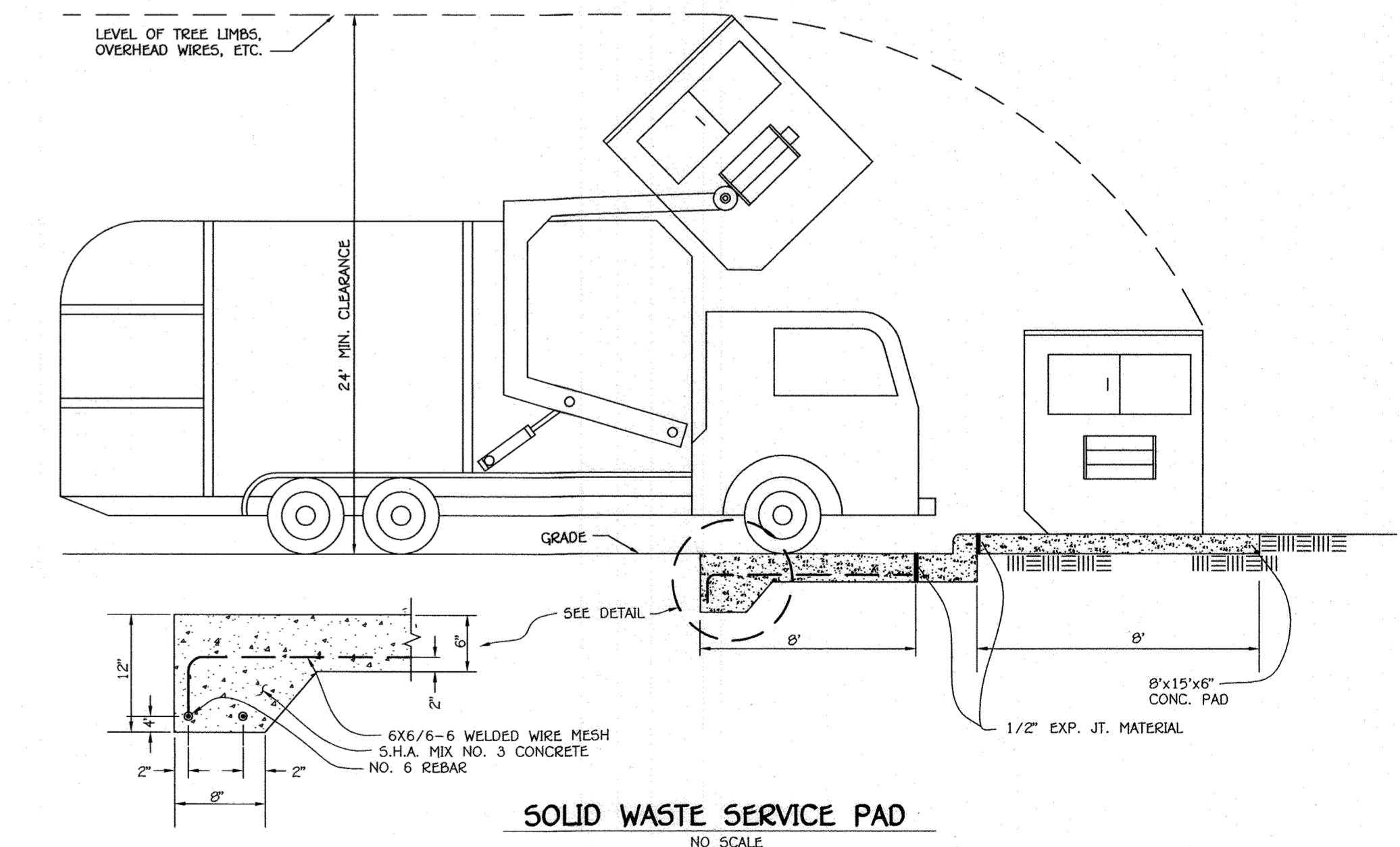


STANDARD BARRIER CURB
NO SCALE (R-3.03)



- NOTES**
- WHEEL STOP FORM SIZES MAY VARY DEPENDING ON MANUFACTURER
 - CONCRETE STRENGTH SHALL BE 4000 P.S.I. AIR ENTRAINED

WHEEL STOP DETAIL
NO SCALE



SOLID WASTE SERVICE PAD
NO SCALE



ADDED CROSSWALK DETAIL, BOLLARD DETAIL, MOMENT SLAB DETAILS & BARRIER CURB DETAIL	2/26/21
REVISE DUMPSTER PAD DETAIL & ADD CURB FLUSH DETAIL	2/22/19
NO. REVISION	DATE

Owner And Developer
Ellicott City Land Holding, Inc.
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Ellicott City, Maryland 21043
(410)-707-7054

Owner And Developer
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(410)-707-7054

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development
Date: 4/21/21

Chief, Development Engineering Division
Date: 4/19/21

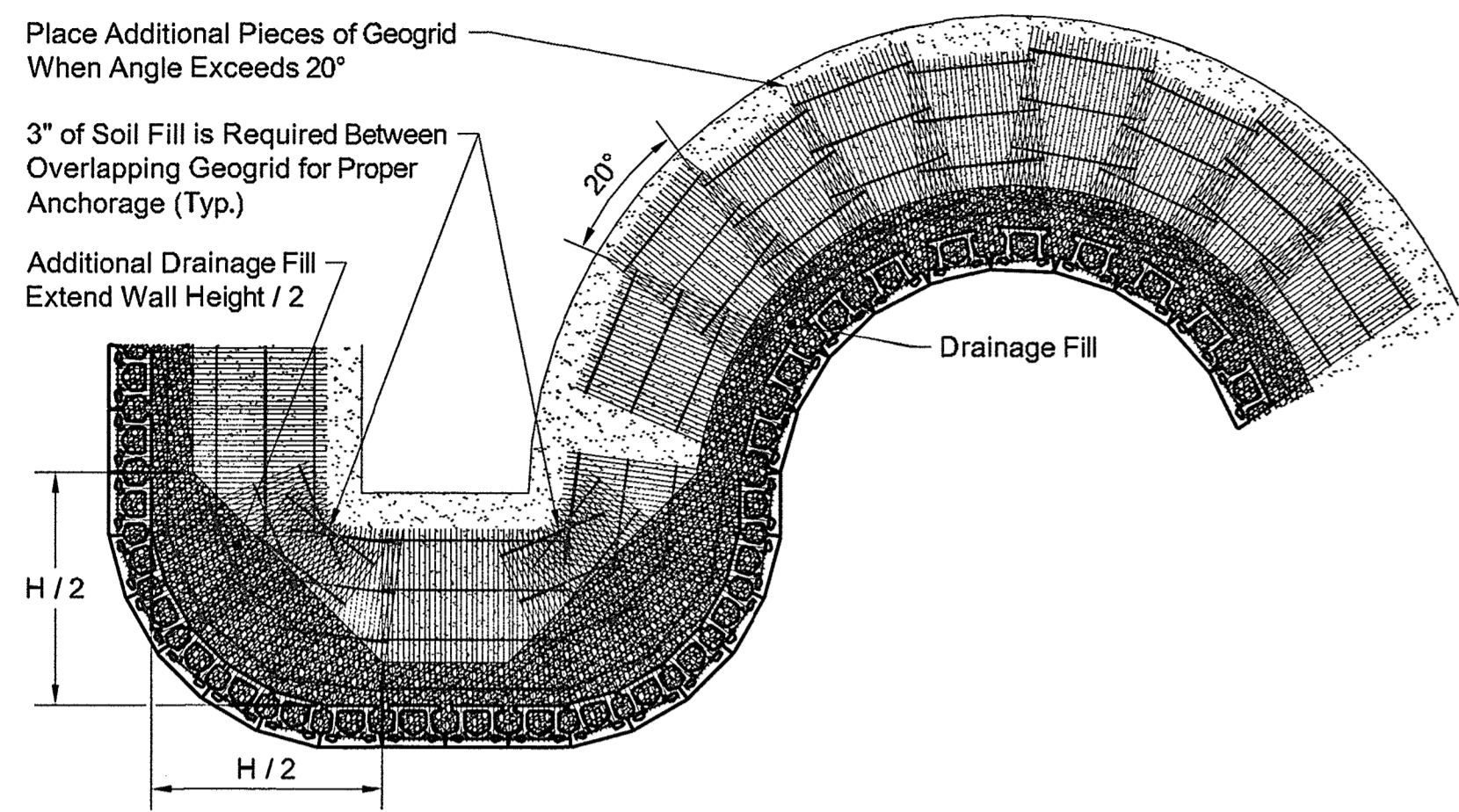
Director, Department of Planning and Zoning
Date: 4-21-21

SUBDIVISION	SECTION	PARCEL NO.
GTW's Waverly Woods	14	'H'
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

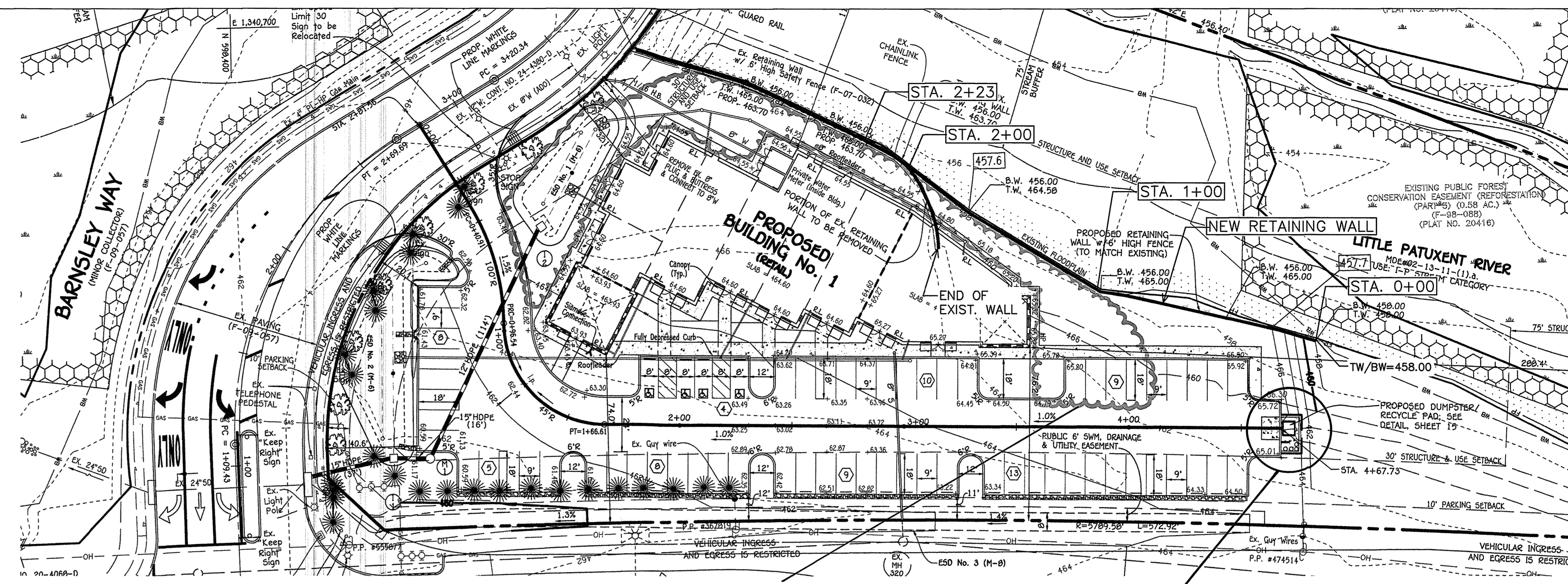
REVISED ROADWAY DETAILS

GTW's Waverly Woods
Retail Center
Parcel 'H'

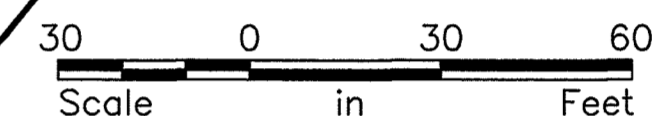
Zone: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: February 26, 2021
Sheet 15 of 19



GEOGRID INSTALLATION ON BENDS
N.T.S.



WALL LOCATION PLAN
1" = 30'



SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

1.01 DESCRIPTION

- A. WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTION OF A MODULAR RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS.
- B. WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
- C. WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

1.02 DELIVERY, STORAGE AND HANDLING

- A. CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAS BEEN RECEIVED.
- B. CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOB SITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.

PART 2: PRODUCTS

2.01 MODULAR CONCRETE RETAINING WALL UNITS

- A. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:

FACE COLOR - COLOR MAY BE SPECIFIED BY THE OWNER.
FACE FINISH - SCULPTURED ROCK FACE IN ANGULAR TRI-PLANNER OR FLAT CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.

- B. BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND CURVED ALIGNMENTS.

EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.

- B. MODULAR CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.

- C. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH APPROPRIATE REFERENCES:

COMPRESSIVE STRENGTH = 3000 PSI MINIMUM;
ABSORPTION = 8% MAXIMUM (6% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES;

DIMENSIONAL TOLERANCES = ±1/8" FROM NOMINAL UNIT DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE; ±1/16"

UNIT HEIGHT - TOP AND BOTTOM PLANES; UNIT SIZE - 8" (H) X 16" (W) X 12" (D) MINIMUM;

UNIT WEIGHT - 75 LBS/UNIT MINIMUM FOR STANDARD WEIGHT AGGREGATES;

INTER-UNIT SHEAR STRENGTH - 1000 PLF MINIMUM AT 2 PSI NORMAL PRESSURE; AT 2 PSI NORMAL FORCE.

GEOGRID/UNIT PEAK CONNECTION STRENGTH - 1000 PLF MINIMUM

- D. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING CONSTRUCTION REQUIREMENTS:

VERTICAL SETBACK = 1/8" PER COURSE (NEAR VERTICAL) OR 1" PER COURSE PER THE DESIGN; ALIGNMENT AND GRID POSITIONING MECHANISM - FIBERGLASS PINS, TWO PER UNIT MINIMUM;
MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE 1/2 INCH.

2.02 SHEAR CONNECTORS

- A. SHEAR CONNECTORS SHALL BE 1/2 INCH DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN-PROTRUDED FIBERGLASS REINFORCEMENT RODS OR EQUIVALENT TO PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTALLY ADJACENT UNITS. STRENGTH OF SHEAR CONNECTORS BETWEEN VERTICAL ADJACENT UNITS SHALL BE APPLICABLE OVER A DESIGN TEMPERATURE OF 10 DEGREES F TO + 100 DEGREES F. B. SHEAR CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.

2.03 BASE LEVELING PAD MATERIAL

- A. MATERIAL SHALL CONSIST OF A COMPACTED #57 CRUSHED STONE BASE AS SHOWN ON THE CONSTRUCTION DRAWINGS.

2.04 UNIT DRAINAGE FILL

- A. UNIT DRAINAGE FILL SHALL CONSIST OF #57 CRUSHED STONE

2.05 REINFORCED BACKFILL

- A. REINFORCED BACKFILL SHALL BE TYPE SM, BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422 AND MEET OTHER PROPERTIES SHOWN ON THE PLAN:

SIEVE SIZE	PERCENT PASSING
2 INCH	100-75
3/4 INCH	100-75
NO. 40	0-60
NO. 200	0-35

PLASTICITY INDEX (PI) <10 AND LIQUID LIMIT <35 PER ASTM D-4318.

- B. MATERIAL CAN BE SITE EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. UNSUITABLE SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS) SHALL NOT BE USED IN THE REINFORCED SOIL MASS.

2.06 GEOGRID SOIL REINFORCEMENT

- A. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL REINFORCEMENT APPLICATIONS AND SHALL BE

MANUFACTURED FROM HIGH TENACITY POLYESTER YARN.

2.07 DRAINAGE PIPE

- A. THE DRAINAGE PIPE SHALL BE PERFORATED CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-1248.

PART 3 EXECUTION

3.01 EXCAVATION

- A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE EXCAVATION. PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS.

3.02 BASE LEVELING PAD

- A. LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 6 INCHES AND EXTEND LATERALLY A MINIMUM OF 6" IN FRONT AND BEHIND THE MODULAR WALL UNIT.
- B. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.

3.03 MODULAR UNIT INSTALLATION

- A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.
- B. PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- C. INSTALL SHEARCONNECTING DEVICES PER MANUFACTURER'S RECOMMENDATIONS.
- D. PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL. FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE BACKFILL.
- E. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED THREE COURSES.

3.04 STRUCTURAL GEOGRID INSTALLATION

- A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.
- B. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE MODULAR WALL UNITS. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.
- D. GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS

THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS BETWEEN ADJACENT PIECES OF GEOGRID ARE NOT PERMITTED.

3.05 REINFORCED BACKFILL PLACEMENT

- A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE.
- B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES WHERE HAND COMPACTION IS USED, OR 8 - 10 INCHES WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY AS REQUIRED.
- C. REINFORCED BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE + 3% TO - 3% OF OPTIMUM.
- D. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET FROM THE TAIL OF THE MODULAR CONCRETE UNIT.
- E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.
- F. RUBBER Tired EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.
- G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

3.06 CAP INSTALLATION

- A. CAP UNITS SHALL BE GLUED TO UNDERLYING UNITS WITH AN ALL-WEATHER ADHESIVE RECOMMENDED BY THE MANUFACTURER.

3.07 FIELD QUALITY CONTROL

- A. THE OWNER SHALL ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION.
- B. AS A MINIMUM, QUALITY ASSURANCE TESTING SHOULD INCLUDE FOUNDATION SOIL INSPECTION, SOIL AND BACKFILL TESTING, VERIFICATION OF DESIGN PARAMETERS, AND OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS AND SPECIFICATIONS.

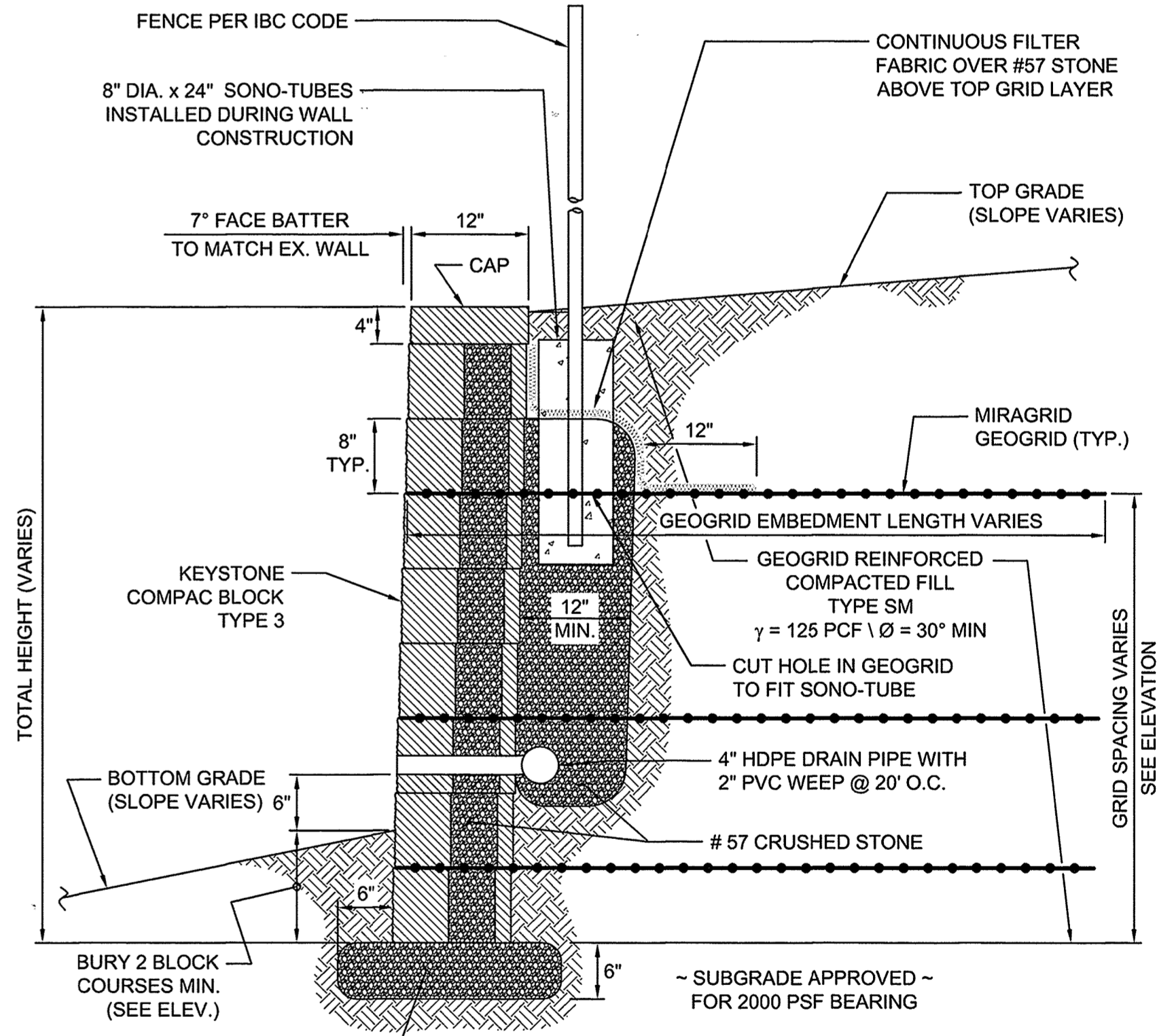
SEE SHEET 3 FOR DRIVE THRU LANE

SEE SHEET 3 FOR REVISED DUMPSTER LOCATION AND ONE-WAY ENTRANCE FROM MARRITTSVILLE ROAD

HOWARD COUNTY NOTES:

1. NO TREES SHALL BE PLANTED WITHIN 10 FEET OF THE TOP OF THE RETAINING WALL.
2. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
3. THE REQUIRED BEARING PRESSURE BENEATH THE WALL SYSTEM SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION MUST BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO START OF CONSTRUCTION. THE REQUIRED BEARING TEST SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399.
4. THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH 8' LIFT MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
5. WALLS SHALL NOT BE CONSTRUCTED ON UNCERTIFIED FILL MATERIALS.
6. WALLS SHALL NOT BE CONSTRUCTED WITHIN A HOWARD COUNTY RIGHT-OF-WAY OR EASEMENT.

NOTE: THIS SHEET IS FOR RETAINING WALL INFORMATION ONLY



TYPICAL WALL SECTION
N.T.S.

HILLIS-CARNES
ENGINEERING ASSOCIATES

10975 Guilford Road, Suite A Annapolis Junction, Maryland
(410) 880-4788 WWW.HCEA.COM Fax: (410) 880-4098
HCEA PROJECT: 16489-B



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 14434, EXPIRATION DATE: 05/13/19.

NO.	REVISION	DATE
1	ADDED DRIVE THRU NOTE	12/17/20
2	ADDED NOTE FOR ONE-WAY ENTRANCE	2/22/19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 3-12-18
Chief, Division of Land Development Date

[Signature] 3-5-18
Chief, Development Engineering Division Date

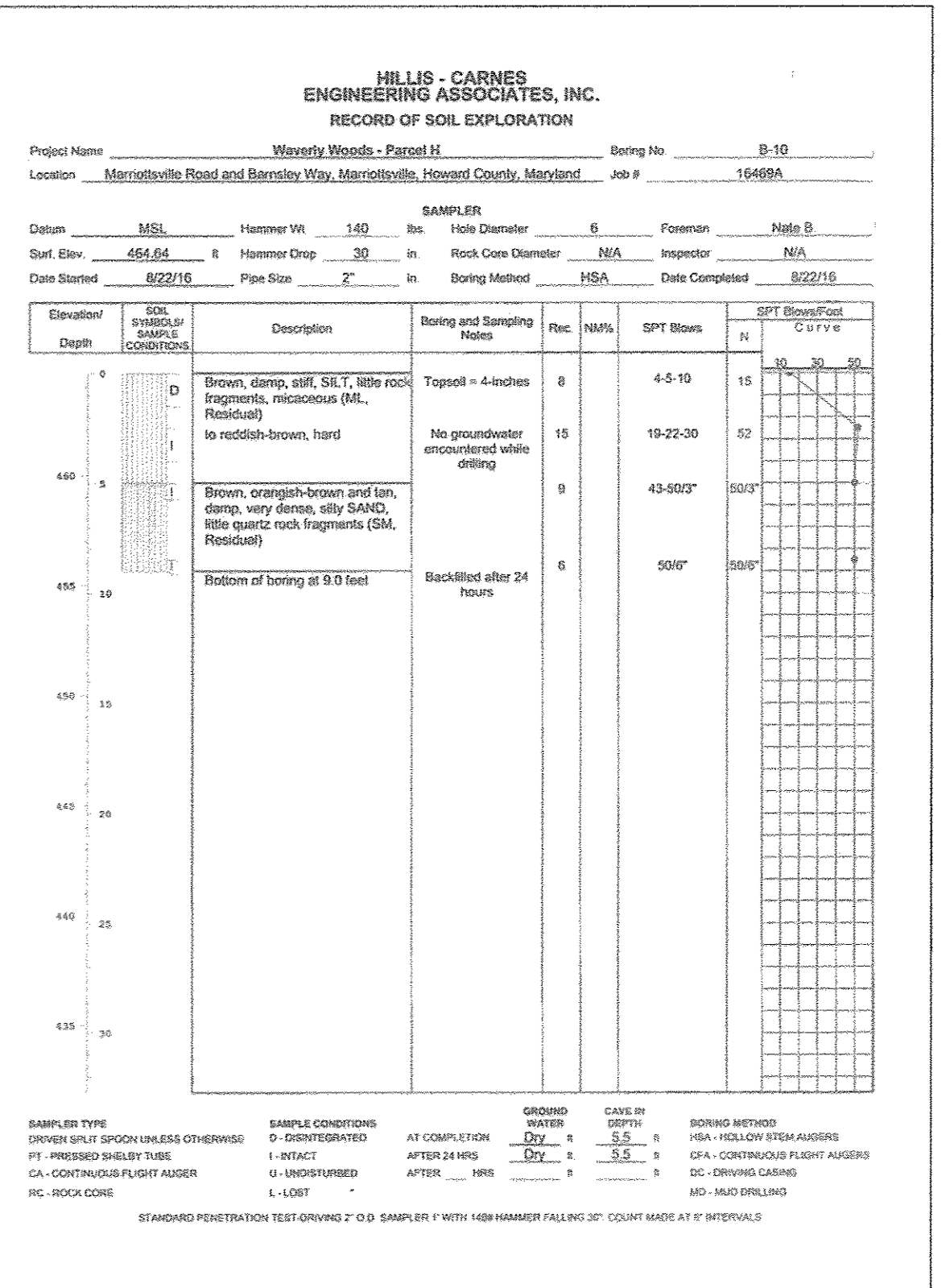
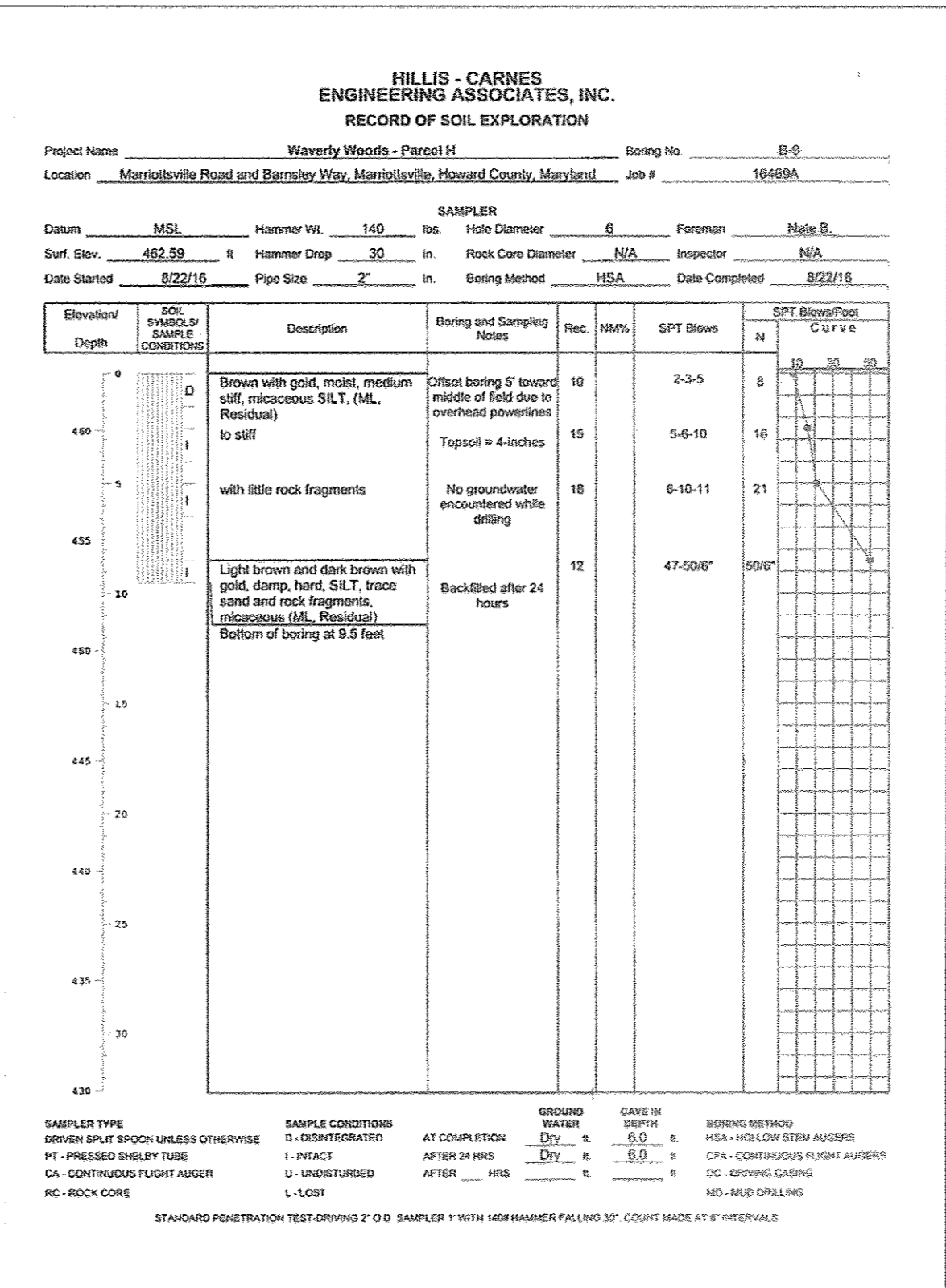
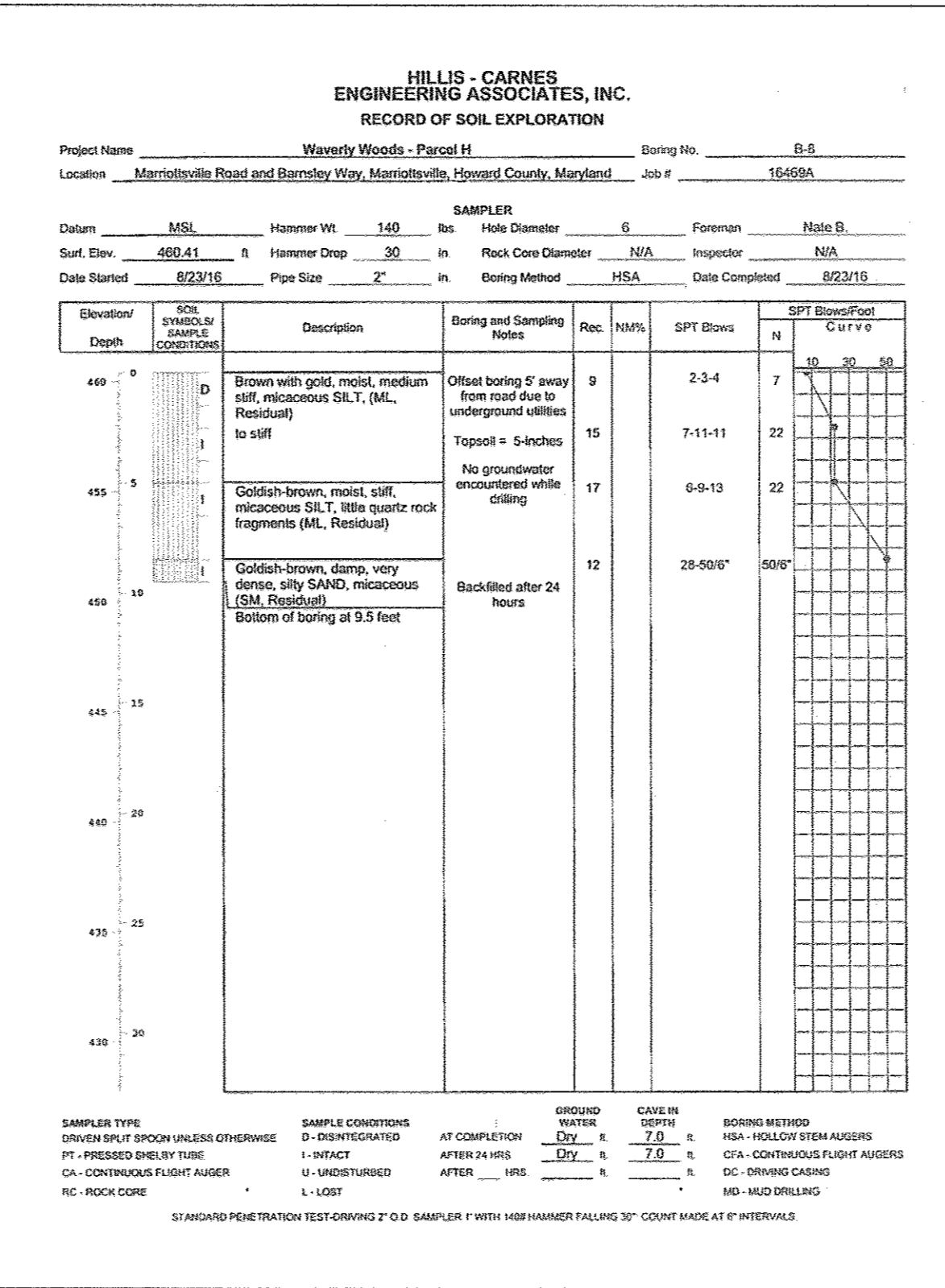
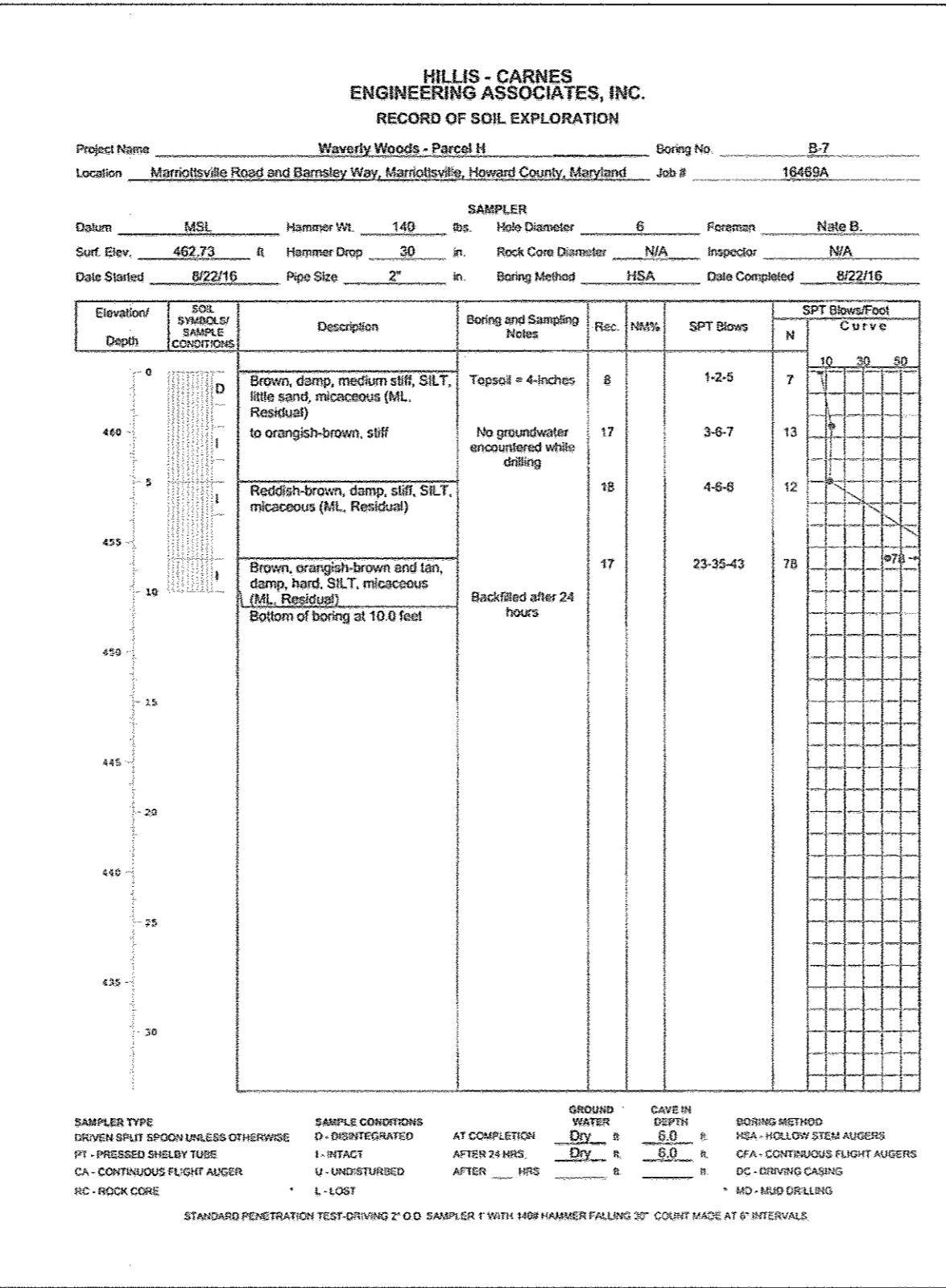
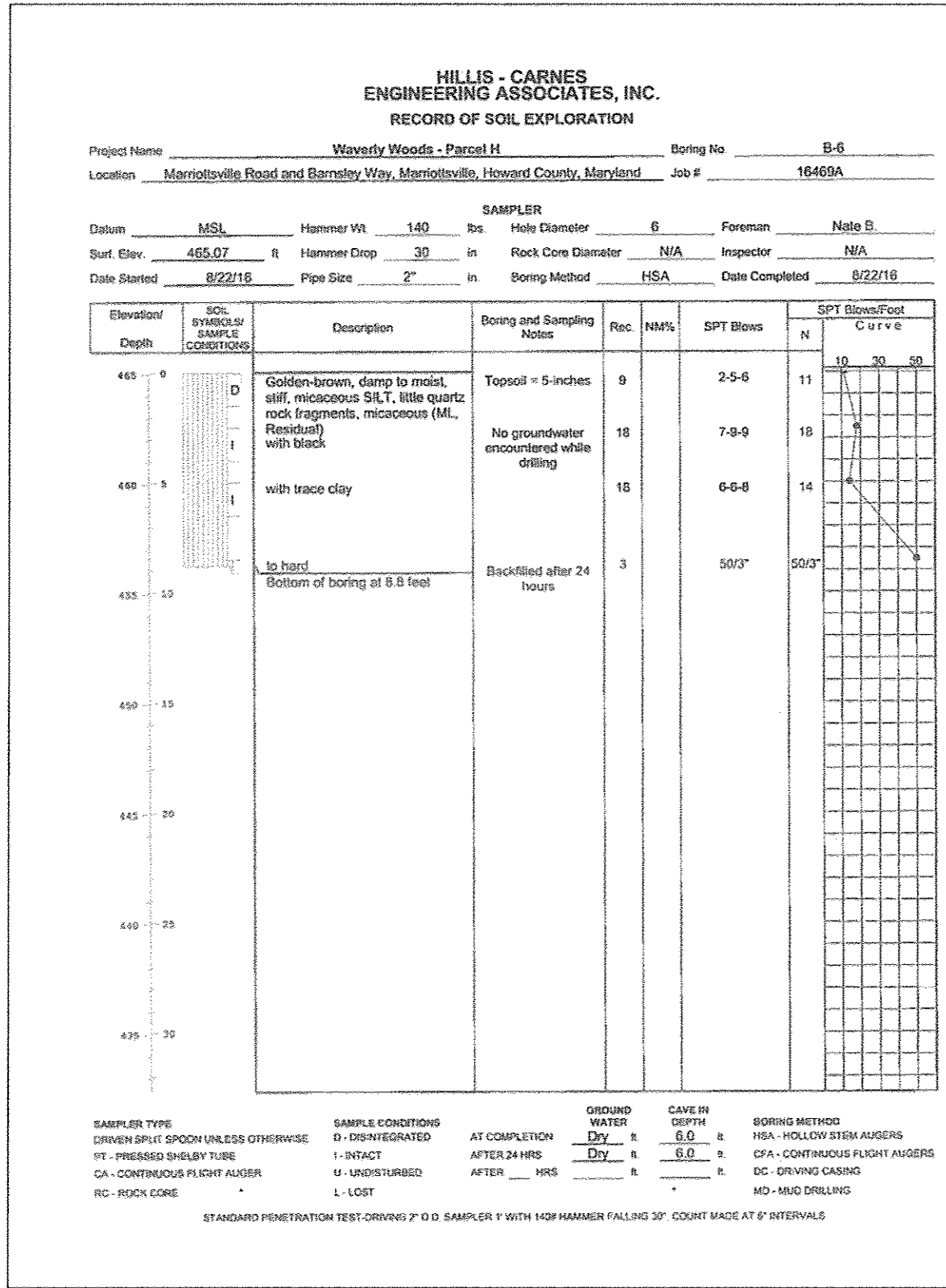
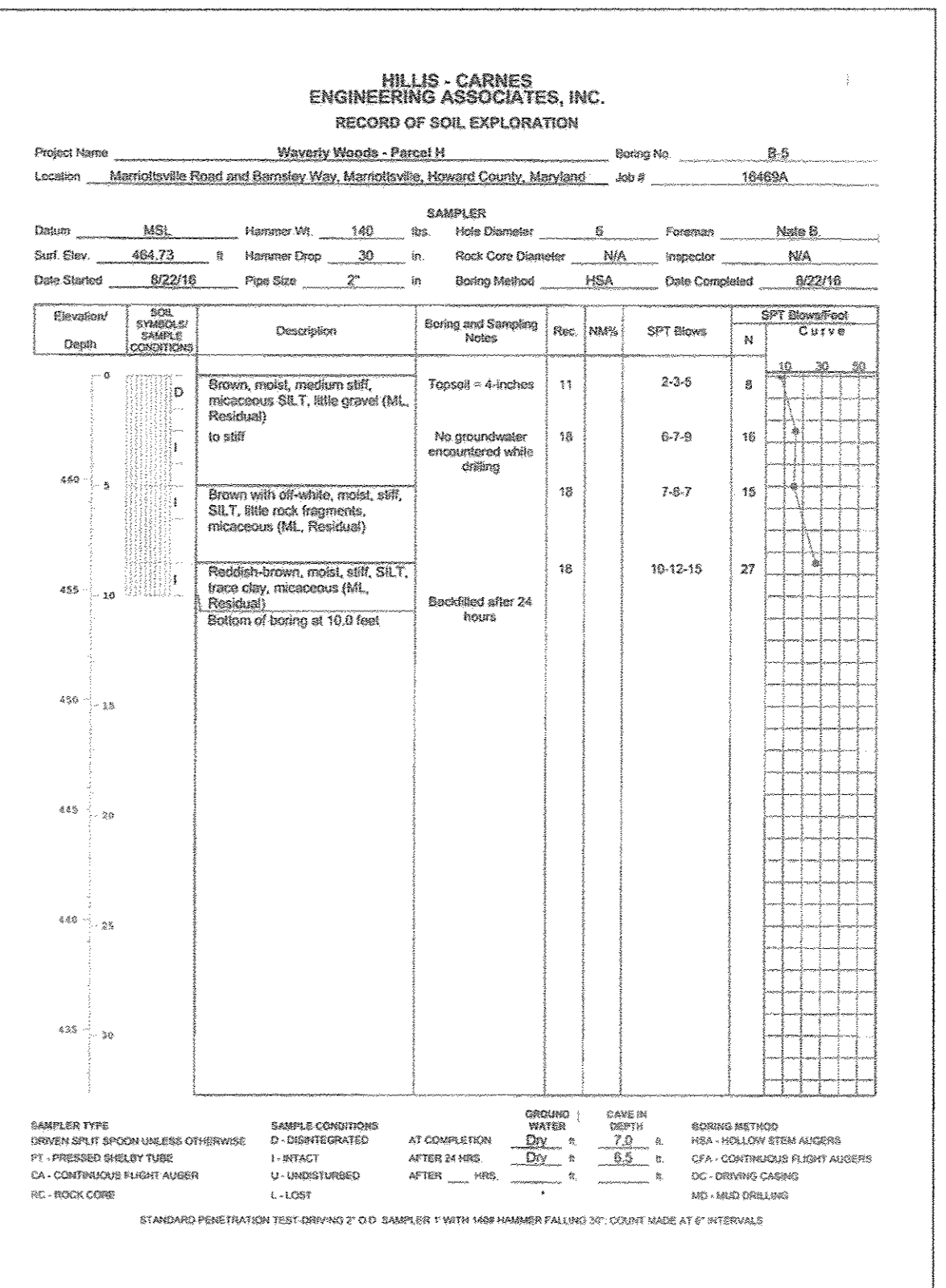
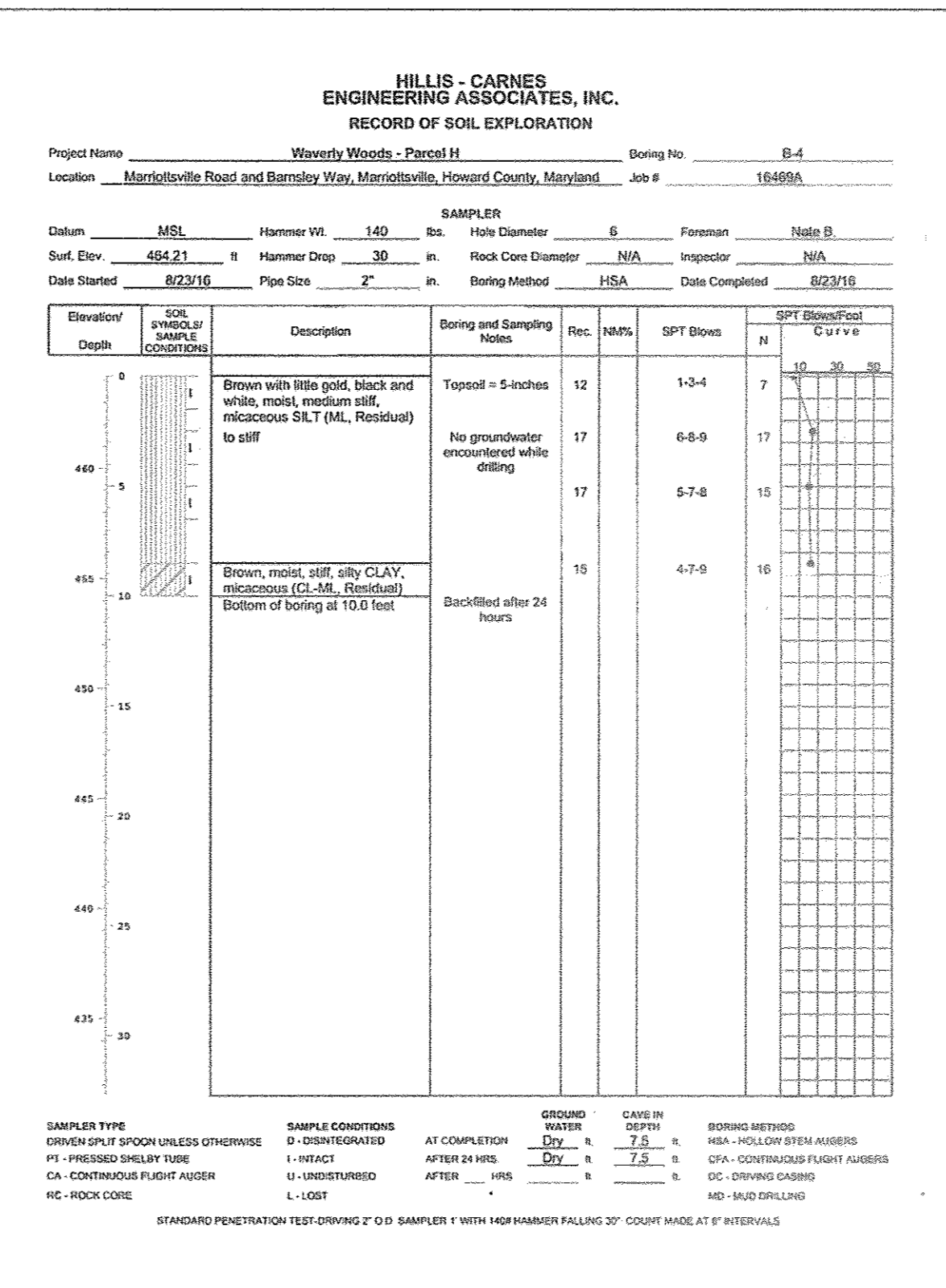
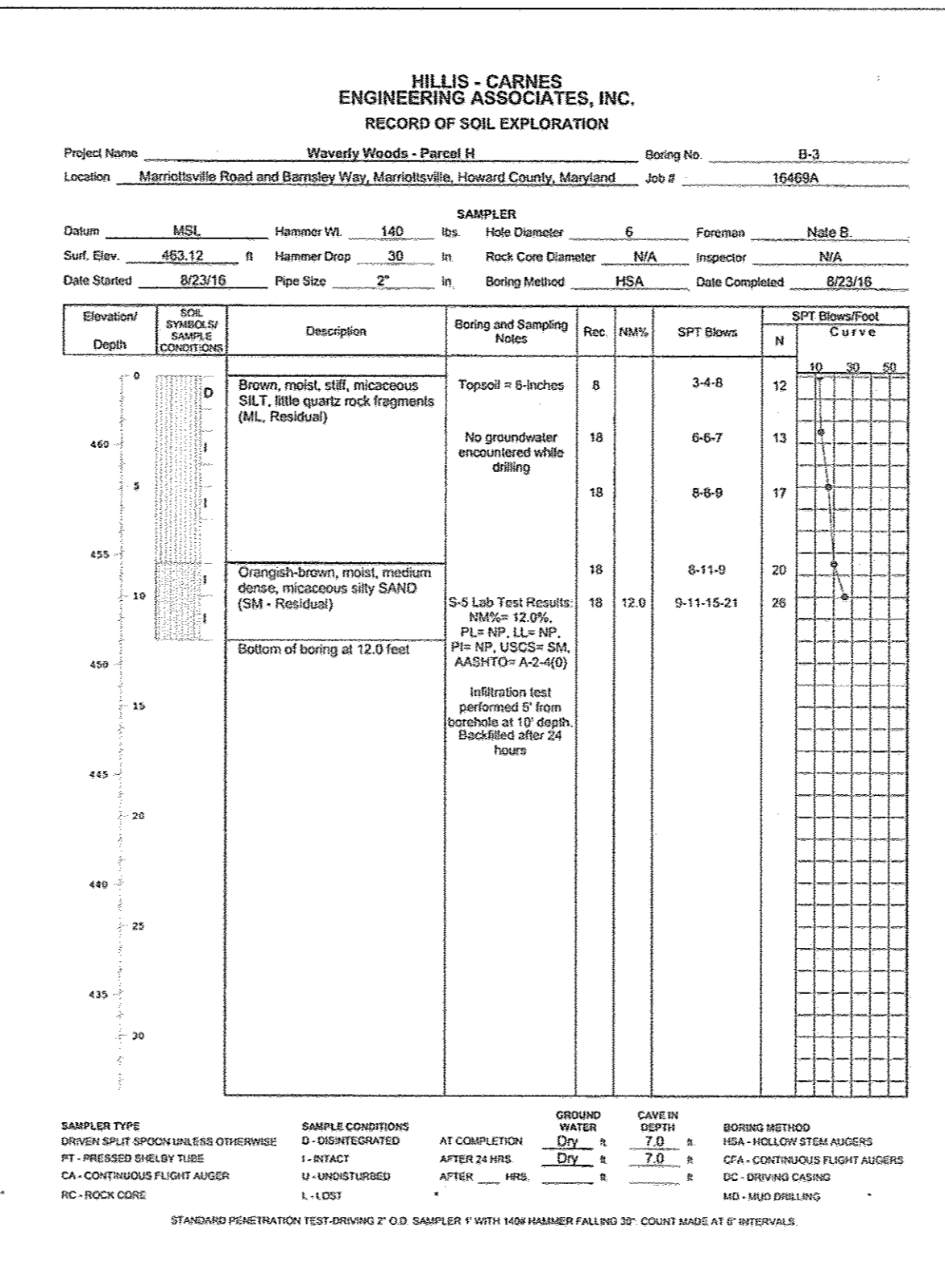
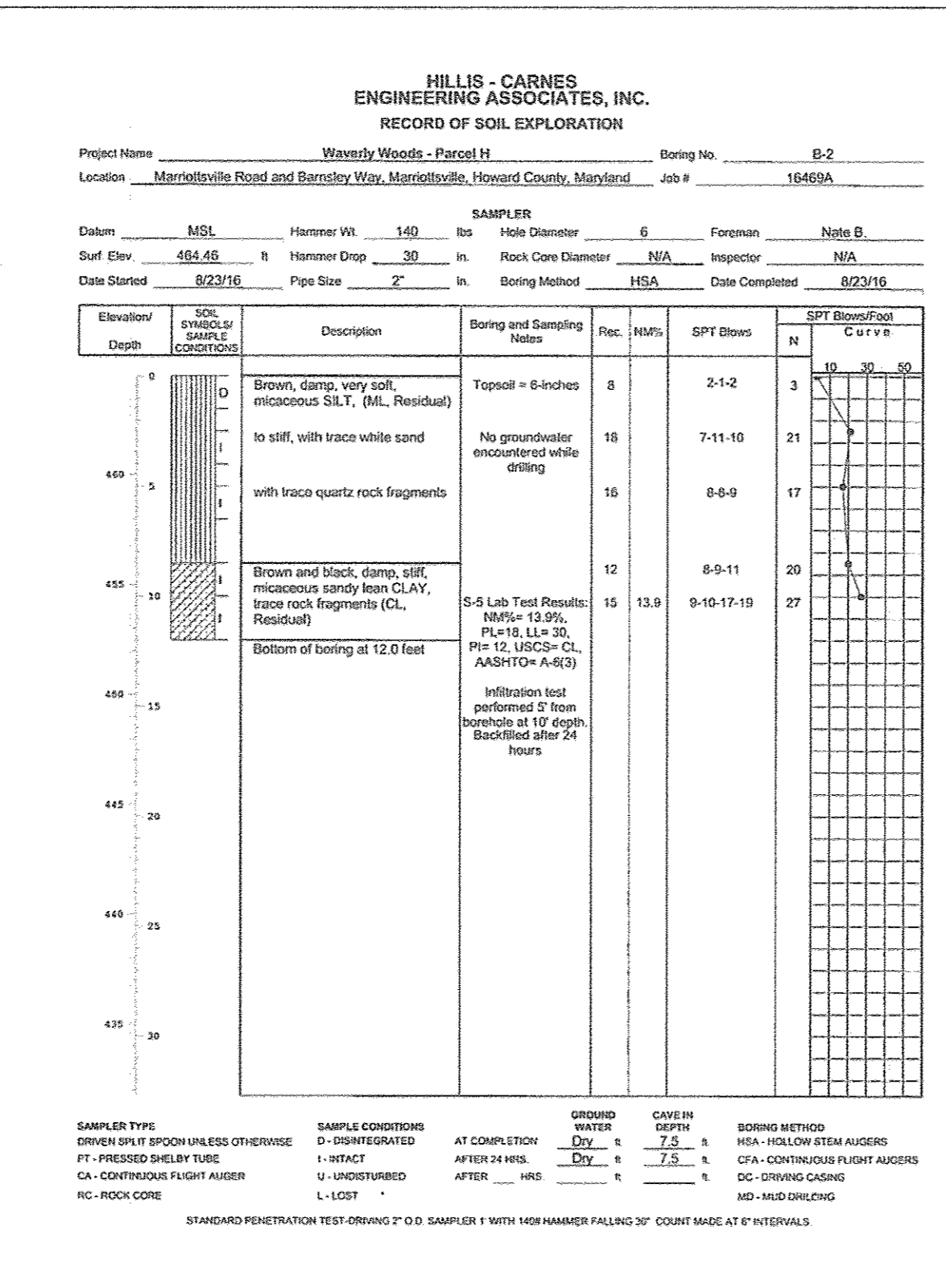
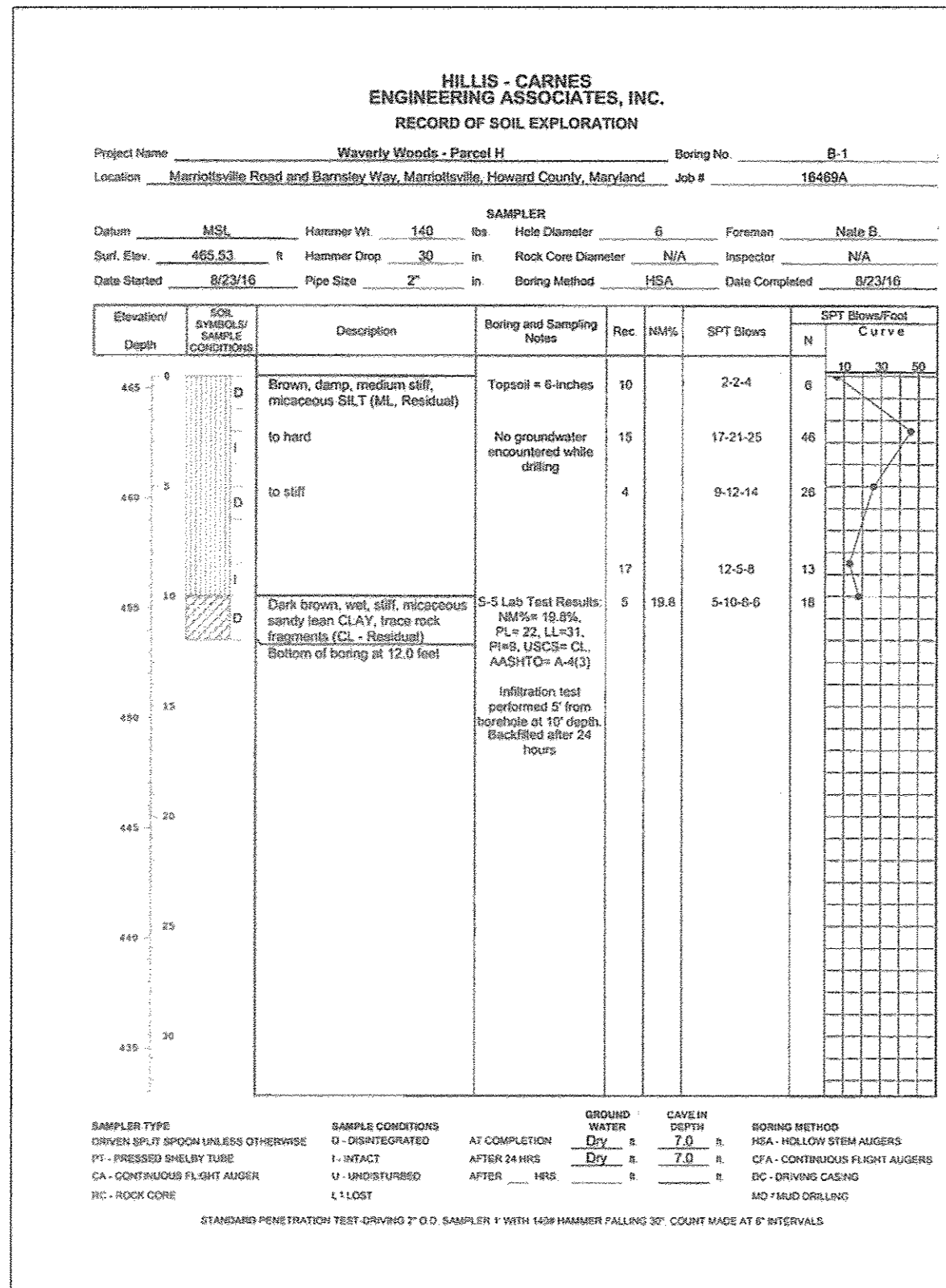
[Signature] 3-14-18
Director - Department of Planning and Zoning Date

SUBDIVISION	SECTION	PARCEL No.
GTW's Waverly Woods	14	'H'
PLAT NO.	BLOCK NO.	ZONED
24972-24973	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

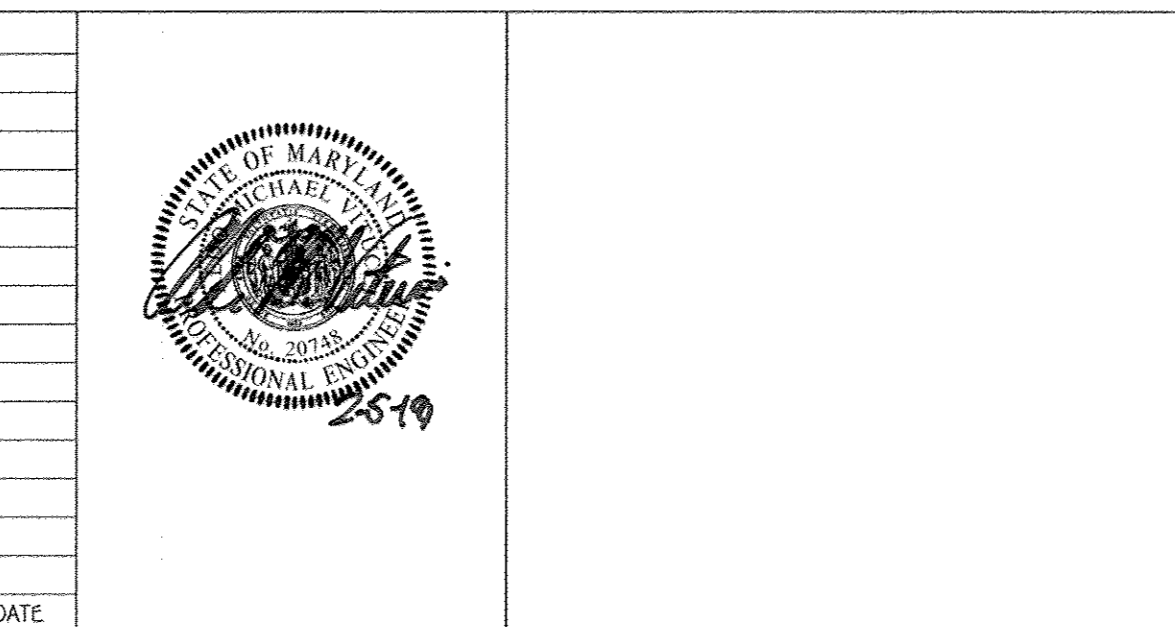
RETAINING WALL CONSTRUCTION DETAILS

GTW's Waverly Woods Parcel 'H'

Zoned: PEC
Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
3rd Election District Howard County, Maryland
Scale: As Shown
Date: February 2, 2018
Sheet 16 Of 19



NO.	REVISION	DATE



Owner
Waverly Woods Development Corporation
c/o Mr. Ken Warfield, Jr.
14451 Triadelphia Road, P.O. Box 30
Glenelg, Maryland 21737
(410-442-2337)

Developer
Waverly Woods Development Corporation
c/o Mr. Ken Warfield, Jr.
14451 Triadelphia Road, P.O. Box 30
Glenelg, Maryland 21737
(410-442-2337)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

J. Matthew Fikes
Chief, Division of Land Development
Date: 3-12-18

John Schuch
Chief, Development Engineering Division
Date: 3-5-18

William J. ...
Director - Department of Planning and Zoning
Date: 3-14-18

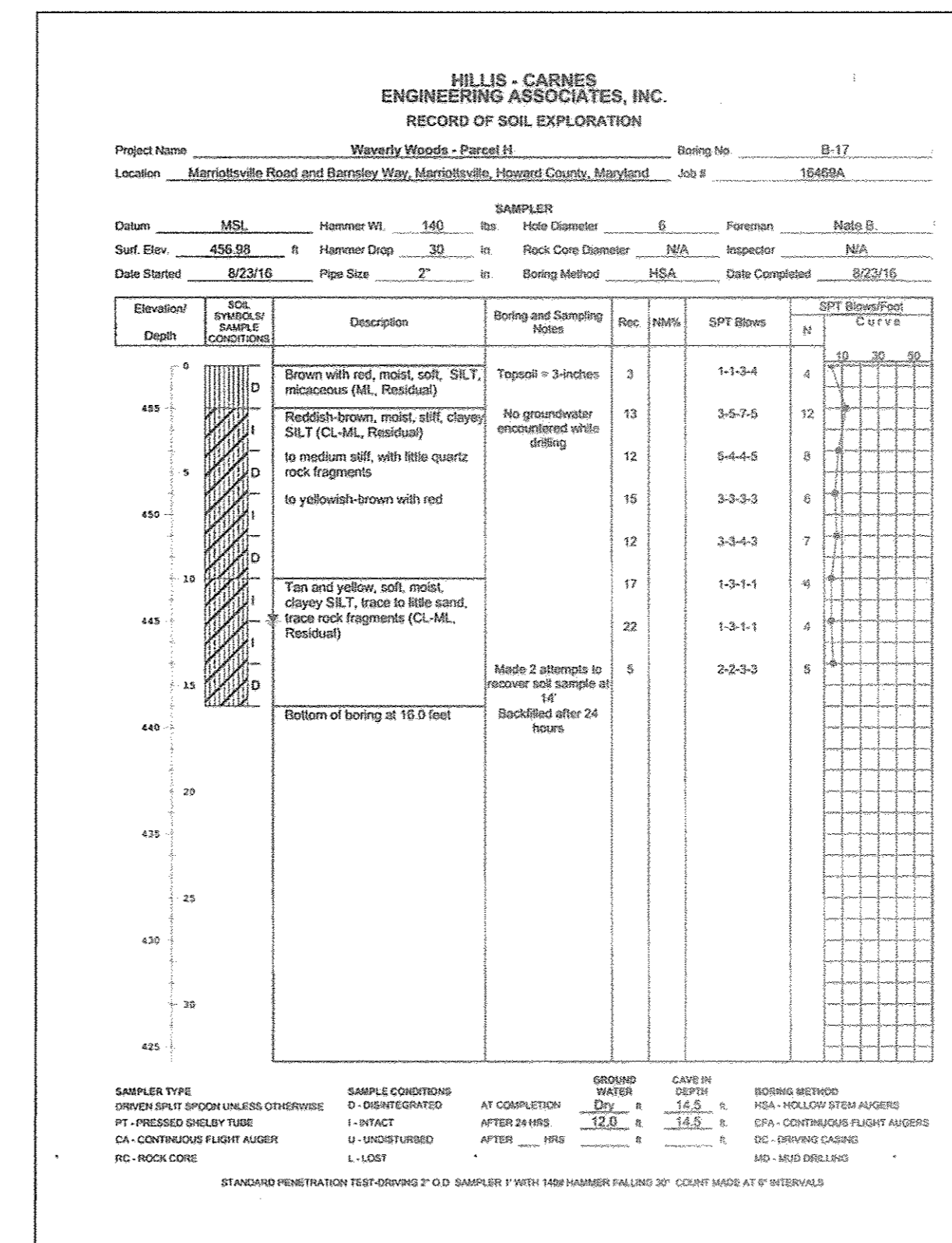
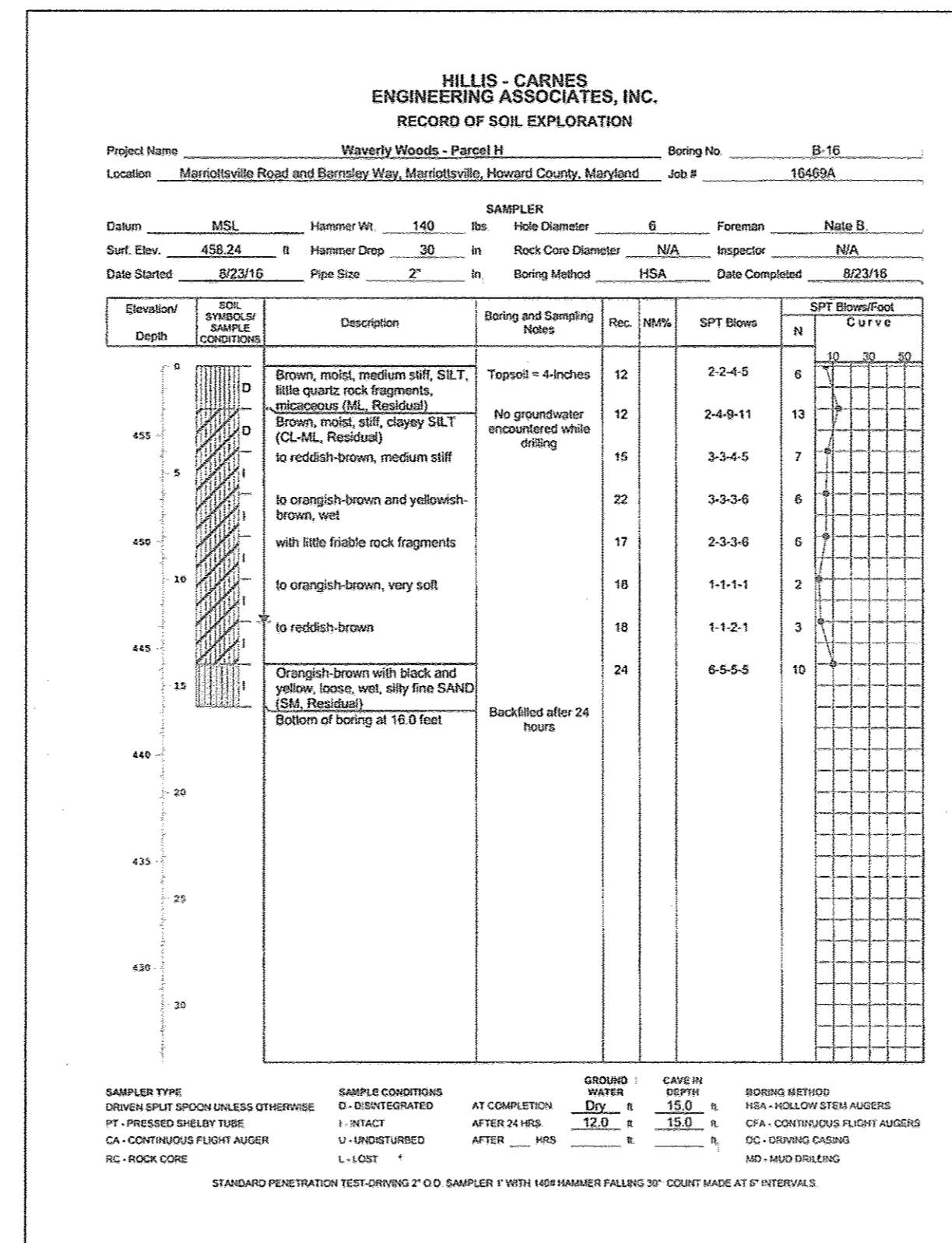
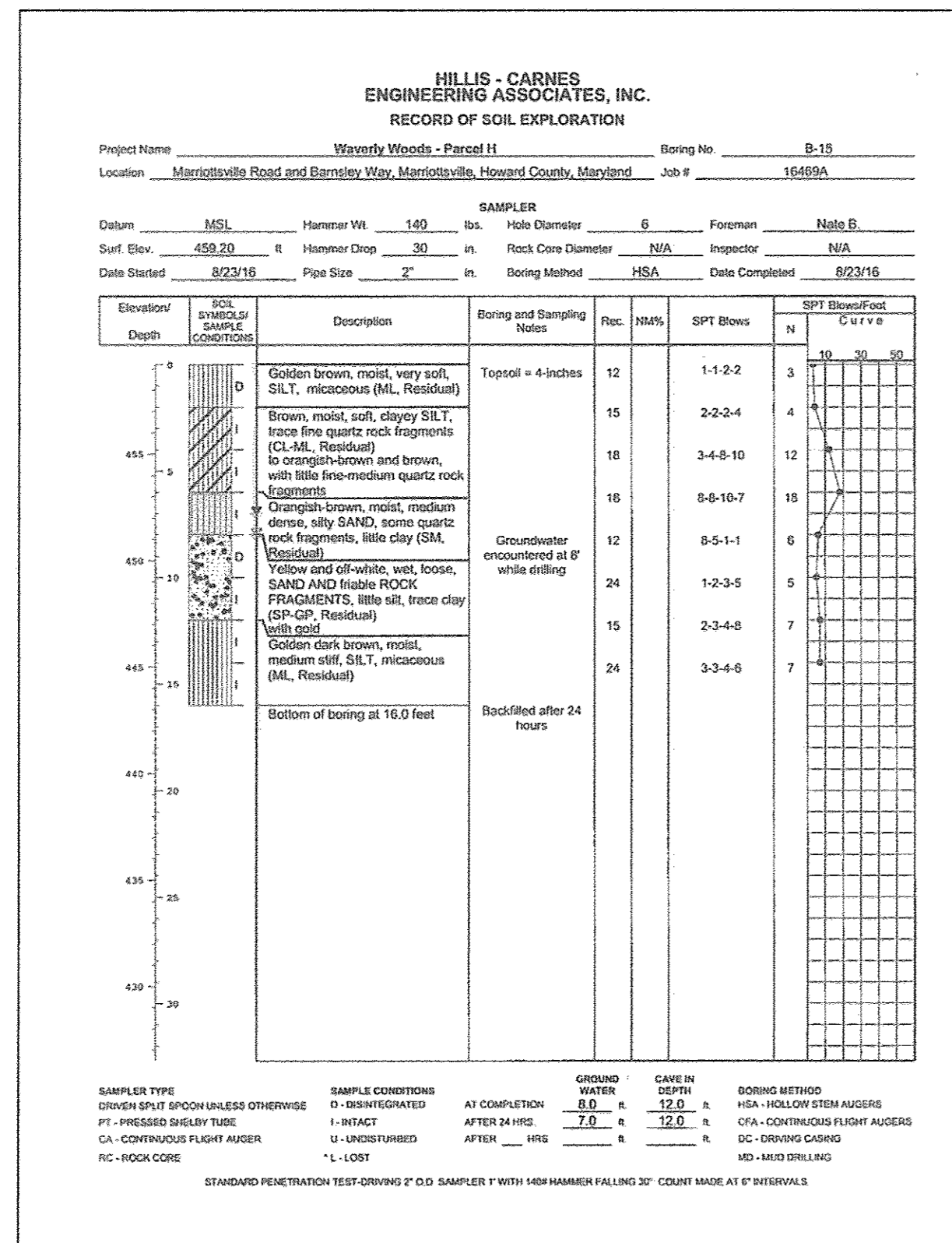
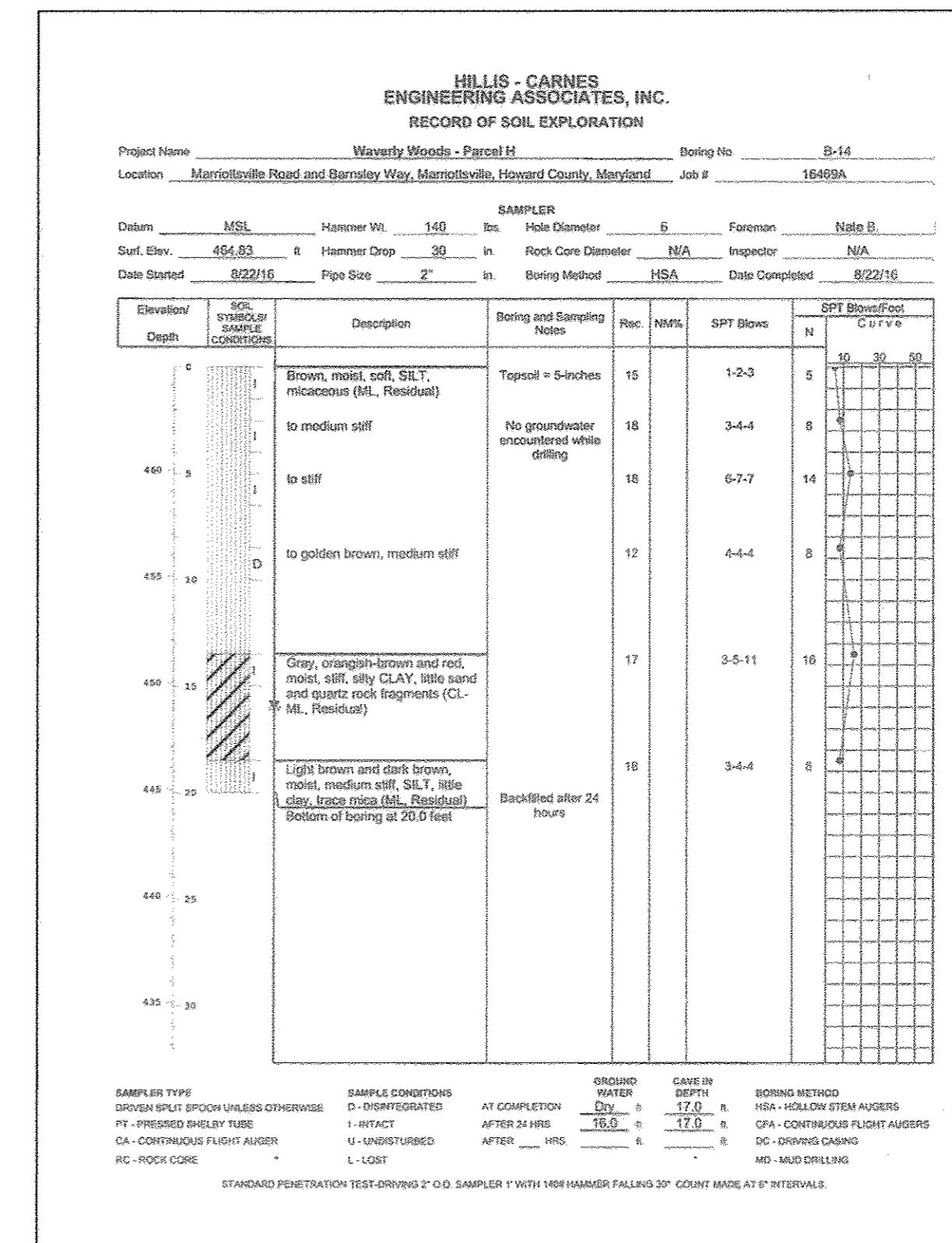
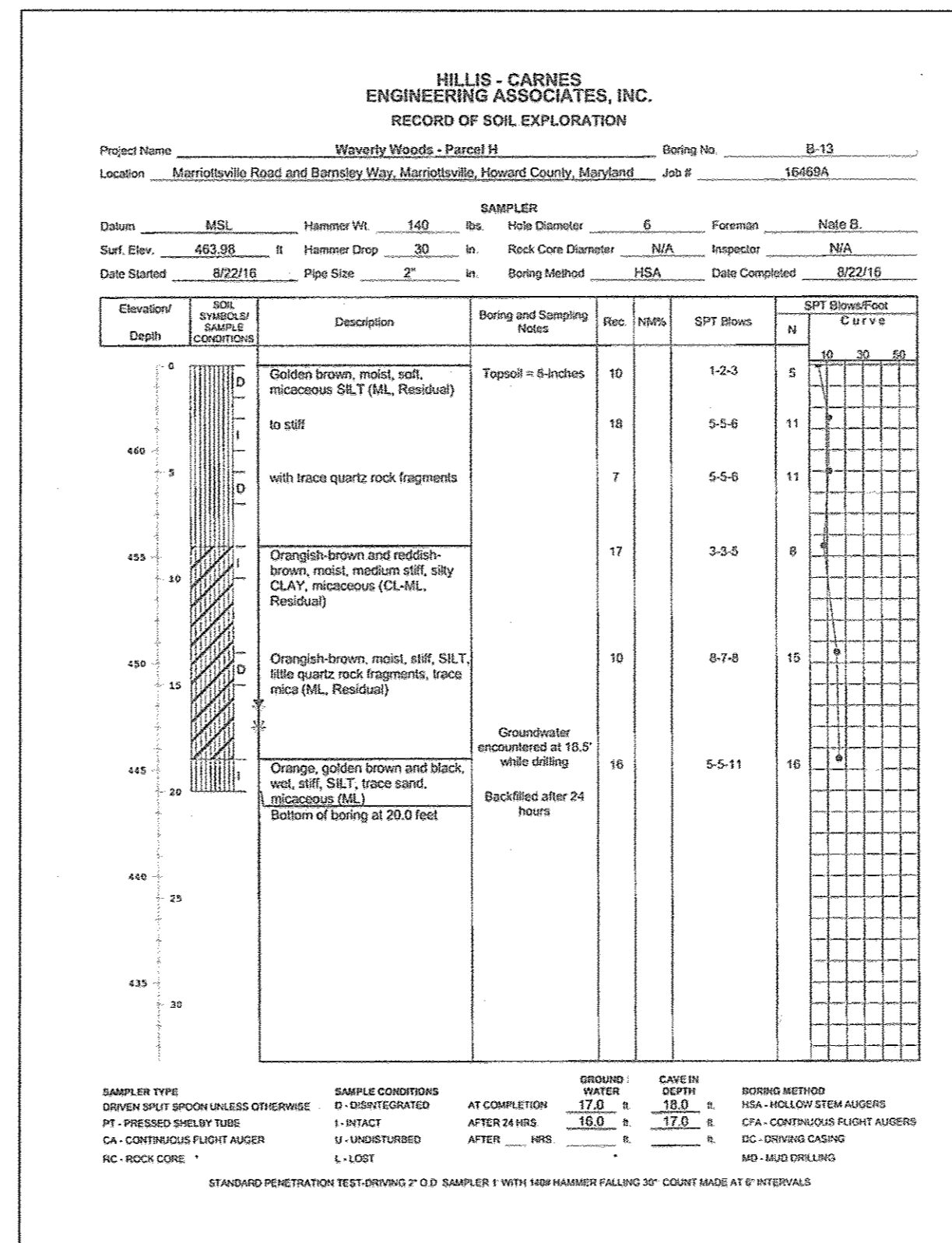
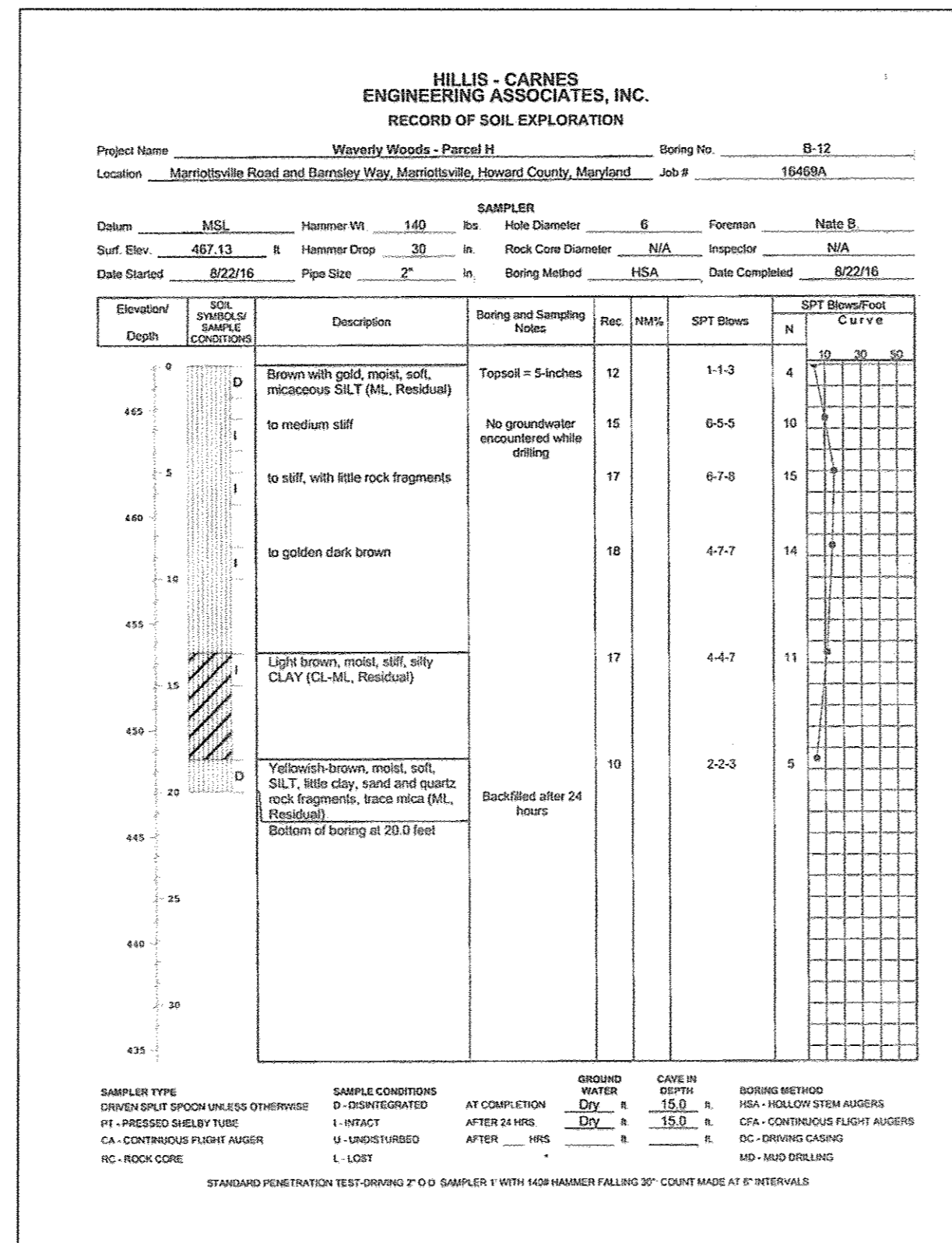
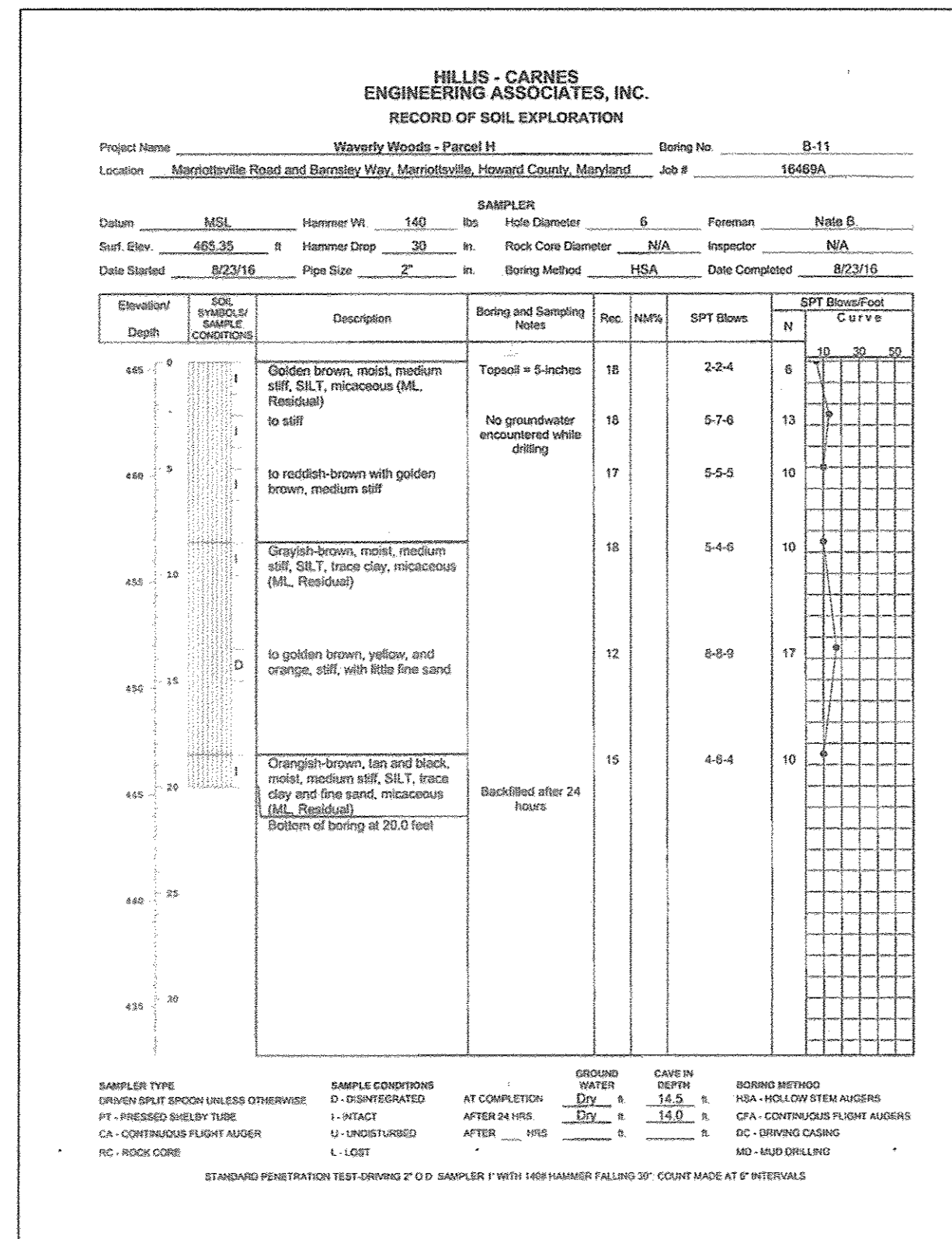
SUBDIVISION: GTW's Waverly Woods
SECTION: 14
PARCEL No.: 'H'

PLAT NO. 24548-24549
BLOCK NO. 3 & 4
ZONED: PEC
TAX/ZONE: 16
ELEC. DIST.: 3rd
CENSUS TR.: 6030.00

SOIL BORING PROFILES
GTW's Waverly Woods
Retail Center
Parcel 'H'

Zoned: PEC
Grid No.: 3 & 4
Parcel No.: P/o 249
3rd Election District
Howard County, Maryland
Scale: As Shown
Date: February 2, 2018
Sheet 18 of 19

1:2004/04/17/ing/Maryland/Manothville-Barnaby site (may 2013) Engineering dwg (SDP) Revised Entrance 7:21:17/04/17 Short 18-19 Soil boring profiles.dwg, C:\L_3DP-16-074_22/2018 11:06:24 AM, 1:1



NO.	REVISION	DATE



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10722 BALDWIN NATIONAL PARK
 ELICOTT CITY, MARYLAND 21046
 (410) 461-2995

Owner
 Waverly Woods Development Corporation
 c/o Mr. Ken Warfield, Jr.
 14451 Triadelphia Road, P.O. Box 30
 Glenelg, Maryland 21737
 (410) 442-2337

Developer
 Waverly Woods Development Corporation
 c/o Mr. Ken Warfield, Jr.
 14451 Triadelphia Road, P.O. Box 30
 Glenelg, Maryland 21737
 (410) 442-2337

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

J. M...
 Chief, Division of Land Development 3-12-18 Date

[Signature]
 Chief, Development Engineering Division 3-5-18 Date

[Signature]
 Director - Department of Planning and Zoning 3-14-18 Date

SUBDIVISION	SECTION	PARCEL No.
GTW's Waverly Woods	14	H
PLAT NO.	BLOCK NO.	ZONED
2454B-2454A	3 & 4	PEC
TAX/ZONE	ELEC. DIST.	CENSUS TR.
16	3rd	6030.00

SOIL BORING PROFILES

GTW's Waverly Woods
 Retail Center
 Parcel 'H'

Zoned: PEC
 Tax Map No.: 16 Grid No.: 3 & 4 Parcel No.: P/o 249
 3rd Election District Howard County, Maryland
 Scale: As Shown
 Date: February 2, 2018
 Sheet 19 Of 19

I:\2016\04\07\Eng\Marlottsville-Barnsey-Way-Parcel-H-19-Soil-Boring-Profile-Avg-C-19-SDP-16-071-2-2018-11-27-25-AM-11