

SHEET INDEX table with columns for SHEET NUMBER and DESCRIPTION. Rows include Title Sheet, Site Development Plan, Sediment and Erosion Control Plan, etc.

SITE DEVELOPMENT PLAN
SAPARIYA PROPERTY
LOTS 1 AND 2

SPECIMEN TREE LIST table with columns for Key, Species, Size (DBH), CRZ (Ft Rad), Comment, Status, and IMPACTED AREA.

SWM PRACTICE CHART table with columns for LOT No. Address, FACILITY NAME & NUMBER, PRACTICE TYPE (QUANTITY), PUBLIC, PRIVATE, HOA MAINTAINS, and HISC.

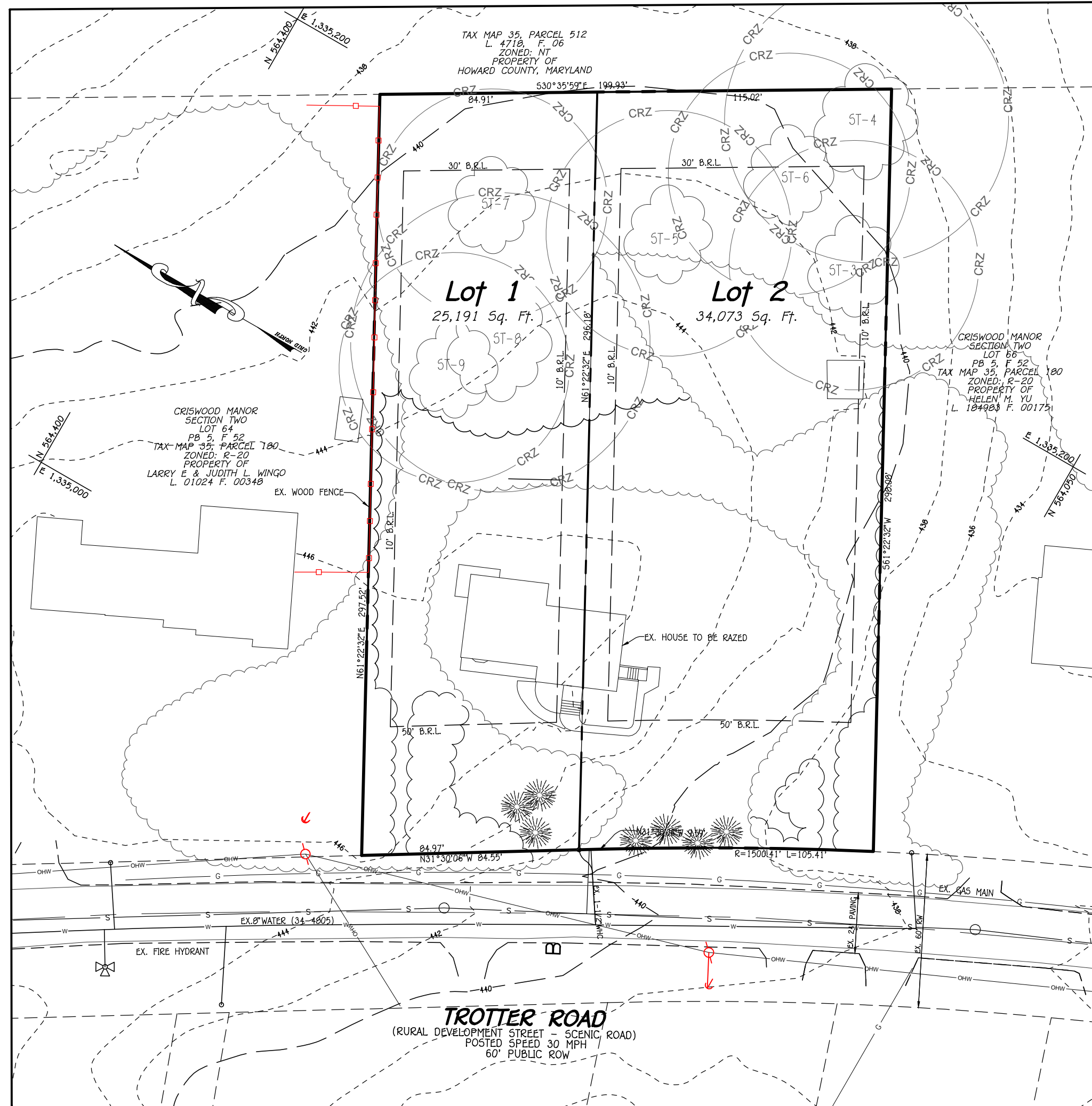
STORMWATER MANAGEMENT INFORMATION table with columns for PARCEL ID, FACILITY NAME & NUMBER, PRACTICE TYPE (QUANTITY), PUBLIC, PRIVATE, HOA MAINTAINED, and OWNER MAINTAINED.

STORMWATER MANAGEMENT PRACTICES table with columns for AREA ID, PERMEABLE PAVING, DISCONNECTION OF ROOFTOP RUNOFF, etc.

STORMWATER MANAGEMENT SUMMARY table with columns for AREA ID, DRAINAGE AREA AC., % IMPERVIOUS, etc.

ESDV REQUIRED = 2,142 Cu.Ft.
ESDV PROVIDED = 2,471 Cu.Ft.
WEIGHTED Pe REQUIRED = 1.87
Pe PROVIDED = 2.17

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING TABULATION table with columns for Total Number of Lots/Units Proposed, etc.



EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 40'

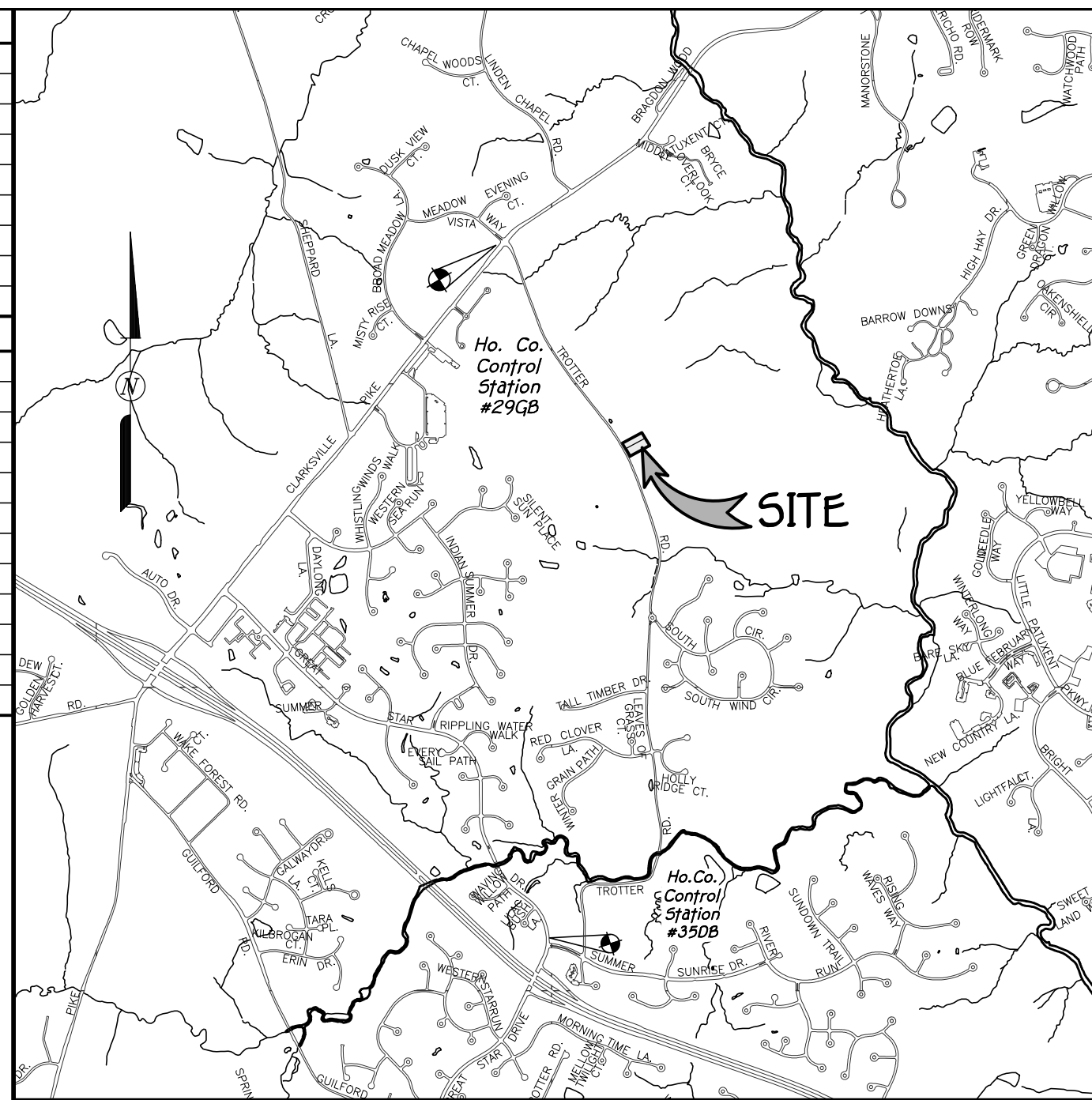
GENERAL NOTES:

- 38. IN ACCORDANCE WITH SECTION 16.132 (4), THE PROPERTY OWNER SHALL NOT BE REQUIRED TO CONSTRUCT OR PROVIDE FOR CONSTRUCTION OF IMPROVEMENTS TO COUNTY MAINTAINED SCENIC ROADS...
39. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)...

LEGEND - PROP. CONDITIONS and LEGEND - EX. CONDITIONS tables listing symbols for proposed and existing contours, elevations, concrete walk, macadam paving, etc.

SITE ANALYSIS DATA CHART

- A. TOTAL AREA OF PROPERTY = 59,264 SQ.FT. OR 1.36 AC.+
B. LIMIT OF DISTURBED AREA = 38,359 SQ.FT. OR 0.88 AC.+
C. PRESENT ZONING DESIGNATION = R-20



VICINITY MAP

SCALE: 1" = 2000'

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.

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS. CENTRAL SQUARE OFFICE, PARK - 10272 BALTIMORE NATIONAL PIKE, ELLSWORTH CTR., MARYLAND 21042.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.

Paul G. Cavanaugh 11/6/2023
PAUL GERARD CAVANAUGH DATE

Table with columns for DATE, DESCRIPTION, REVISION BLOCK, APPROVED: DEPARTMENT OF PLANNING AND ZONING, etc.

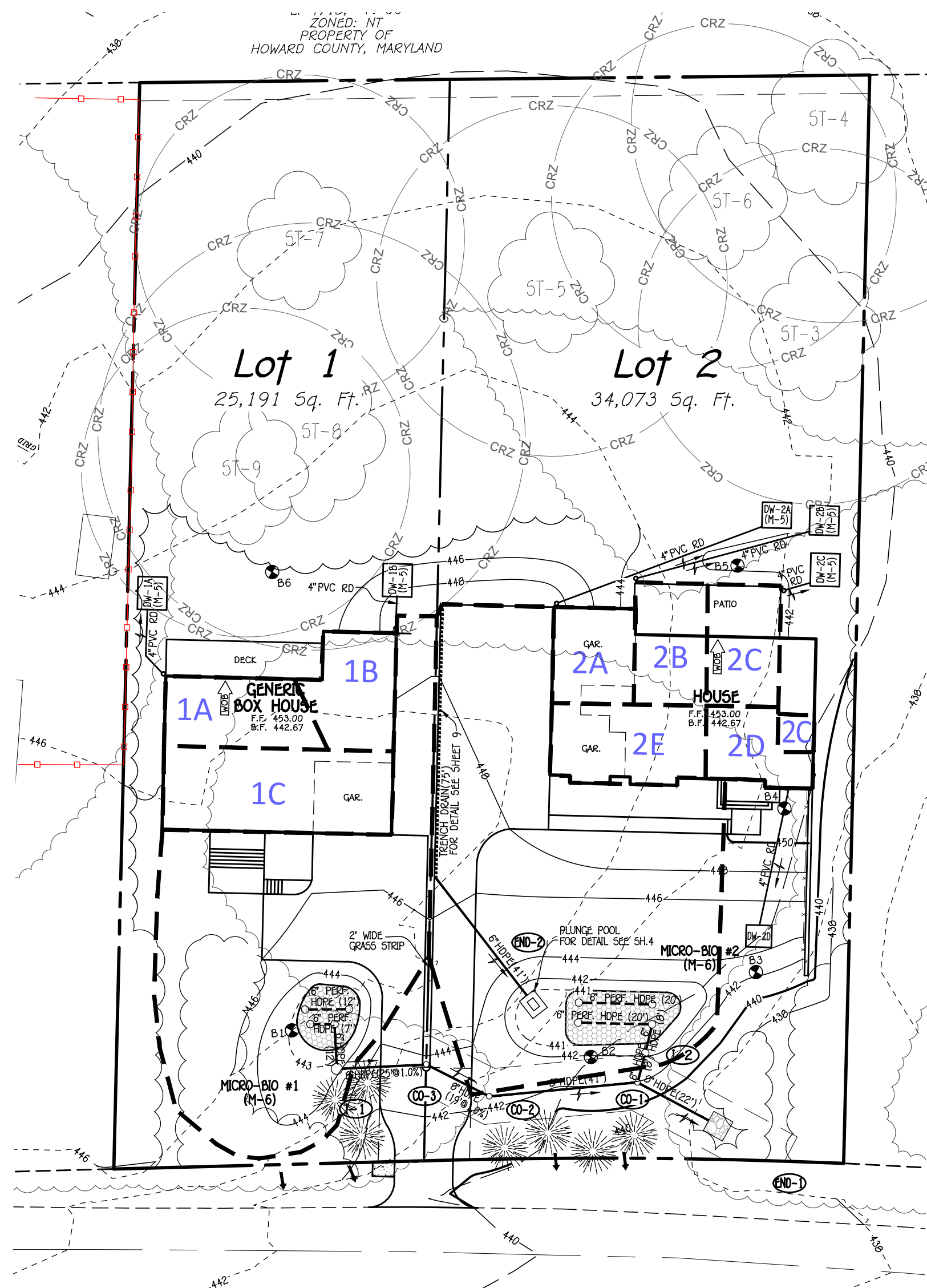
OWNER/DEVELOPER
DIVYESH SAPARIYA, SOHILRAJ SAPARIYA AND HITESH ANKOLA
5669 TROTTER ROAD
CLARKSVILLE, MARYLAND 21029
PH# 301-275-0762



ADDRESS CHART table with columns for PARCEL NO., LOT NO., STREET ADDRESS, PROJECT, SECTION/AREA, PARCEL, etc.

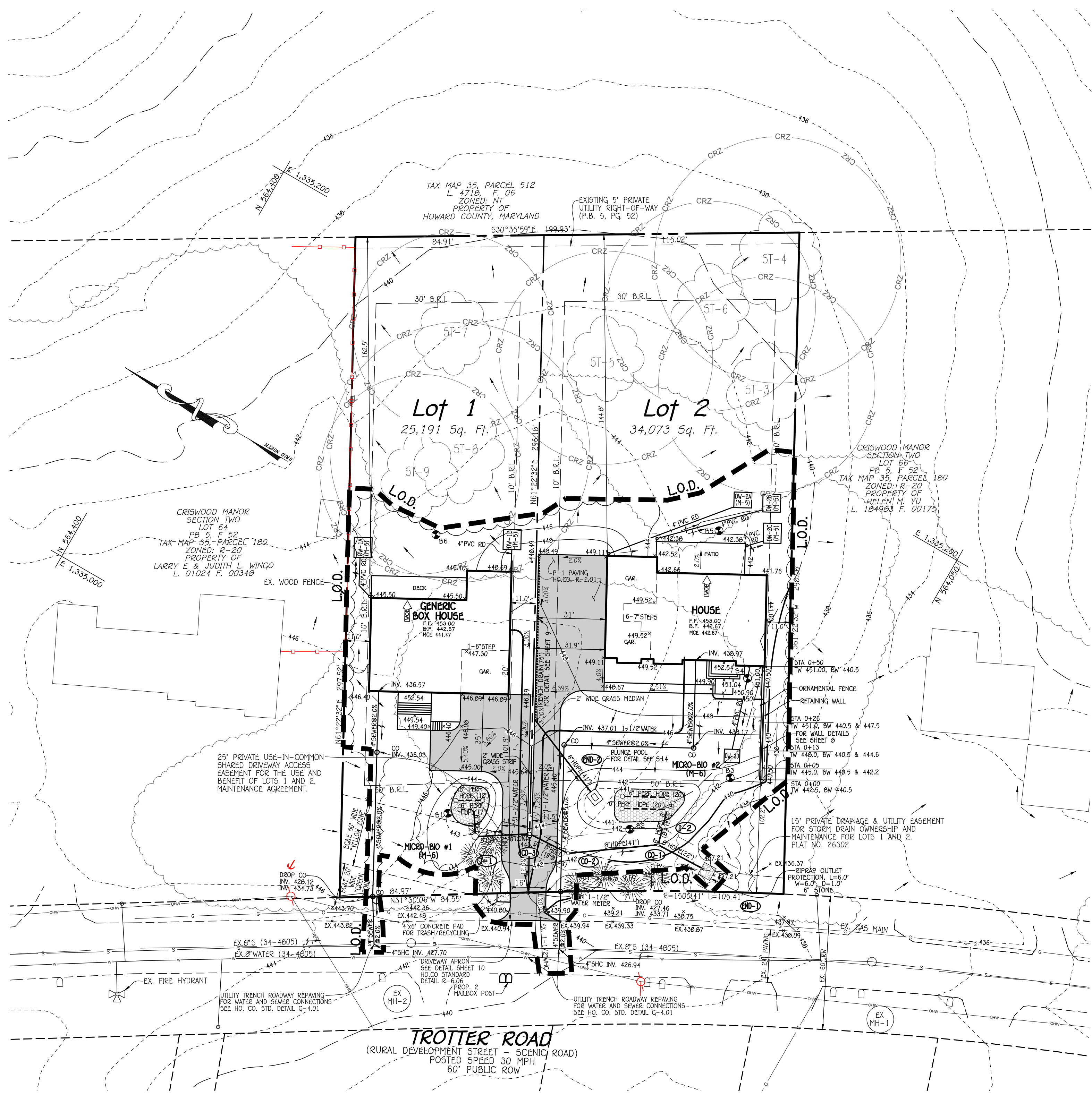
TITLE SHEET table with columns for PARCEL NO., LOT NO., STREET ADDRESS, PROJECT, SECTION/AREA, PARCEL, etc.

LEGEND - EX. CONDITIONS		LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
--- 446 ---	EXISTING CONTOUR 2' INTERVAL	--- 446 ---	PROPOSED CONTOUR 2' INTERVAL
--- 440 ---	EXISTING CONTOUR 10' INTERVAL	--- 440 ---	PROPOSED CONTOUR 10' INTERVAL
S S	EXISTING SAN. SEWER LINE	+ 445.51	PROPOSED SPOT ELEVATION
W W	EXISTING WATER LINE	[Symbol]	PROPOSED CONCRETE WALK
OHE	EXISTING OVERHEAD ELECTRIC LINE	[Symbol]	PROPOSED MACADAM PAVING
G	EXISTING GAS LINE	4" S	PROPOSED PRIVATE SEWER
[Symbol]	EXISTING TREES	1-1/2" W	PROPOSED PRIVATE WATER
[Symbol]	EXISTING PROPERTY LINE	8" HDPE	PROPOSED STORMDRAIN
[Symbol]	EXISTING RIGHT OF WAY LINE	[Symbol]	OVER FLOW PATH
[Symbol]	EXISTING WOODEN FENCE	[Symbol]	

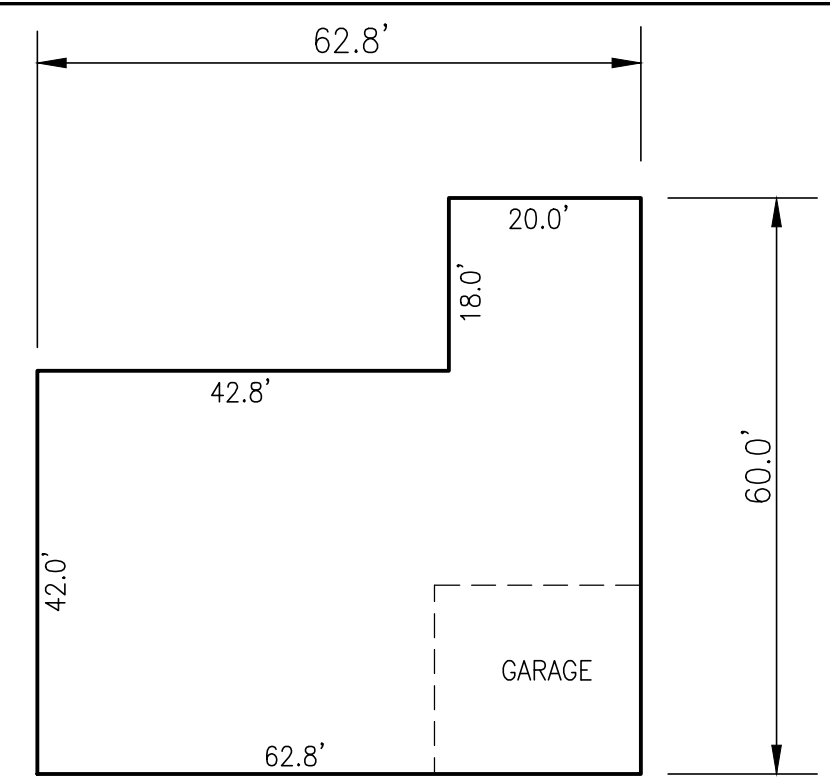


DRAINAGE AREA MAP
SCALE: 1" = 30'
0' 30' 60' 90'

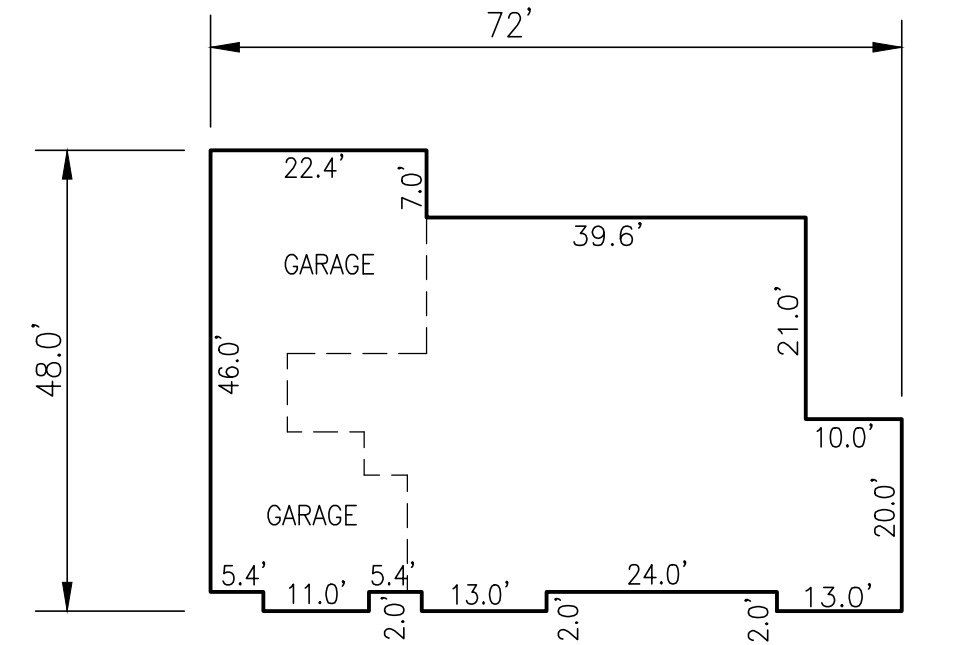
LOT NOS.	AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	Pe REQUIRED	Pe PROVIDED	Rev REQUIRED CU.FT.	Rev PROVIDED CU.FT.	REMARKS
1	ROOF	266	996	1.8"	1.8"	47	388	2 DRYWELLS (M-5)
1	DRIVEWAY AND ROOF	677						MICRO BIORETENTION (M-6)
2	ROOF	359	1,475	1.8"	2.5"	58	632	4 DRYWELLS (M-5)
2	DRIVEWAY AND ROOF	682						MICRO BIORETENTION (M-6)
TOTAL SITE		2,142	2,471	1.8"	2.1"	105	1,020	



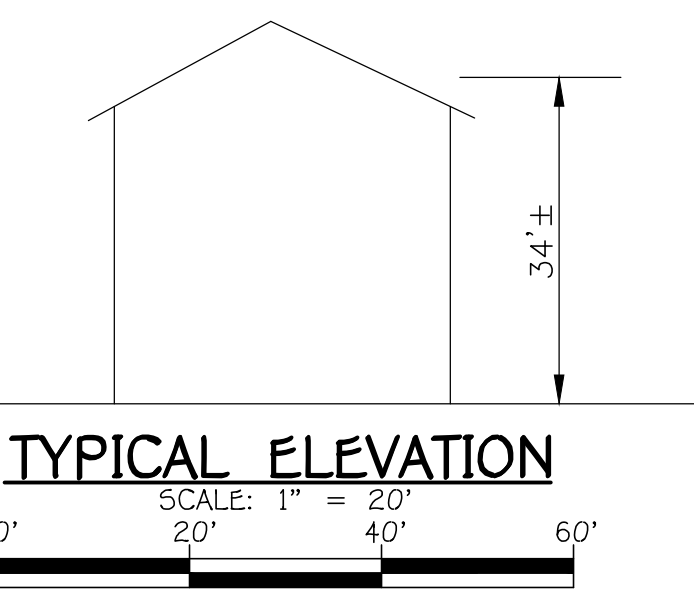
SITE PLAN
SCALE: 1" = 30'
0' 30' 60' 90'



LOT 1 HOUSE BOX
SCALE: 1" = 20'



LOT 2 HOUSE BOX
SCALE: 1" = 20'



TYPICAL ELEVATION
SCALE: 1" = 20'
0' 20' 40' 60'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENAL SQUARE OFFICE, PARC. 10272, BALTIMORE NATIONAL FIRE
BALDWIN CITY, MARYLAND 21042
(410) 461-2099

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

Paul G. Cavanaugh 11/6/2023
PAUL GERARD CAVANAUGH DATE

DATE	DESCRIPTION	REVISION BLOCK
12/3/2023	APPROVED: DEPARTMENT OF PLANNING AND ZONING	<i>Lynda Eisenberg</i>
11/29/2023	Director - Department of Planning and Zoning	
12/3/2023	Chief, Division of Land Use Planning	
	Chief, Development	

OWNER/DEVELOPER
DIVYESH SAPARIYA,
SOHILRAJ SAPARIYA AND
HITESH ANKOLA
5669 TROTTER ROAD
CLARKSVILLE, MARYLAND 21029
PH# 301-275-0762



ADDRESS CHART	
PARCEL NO.	LOT NO. STREET ADDRESS
0180	1 5669 TROTTER ROAD
	2 5673 TROTTER ROAD

PROJECT	SECTION/AREA	PARCEL
SAPARIYA PROPERTY	5/2	0180

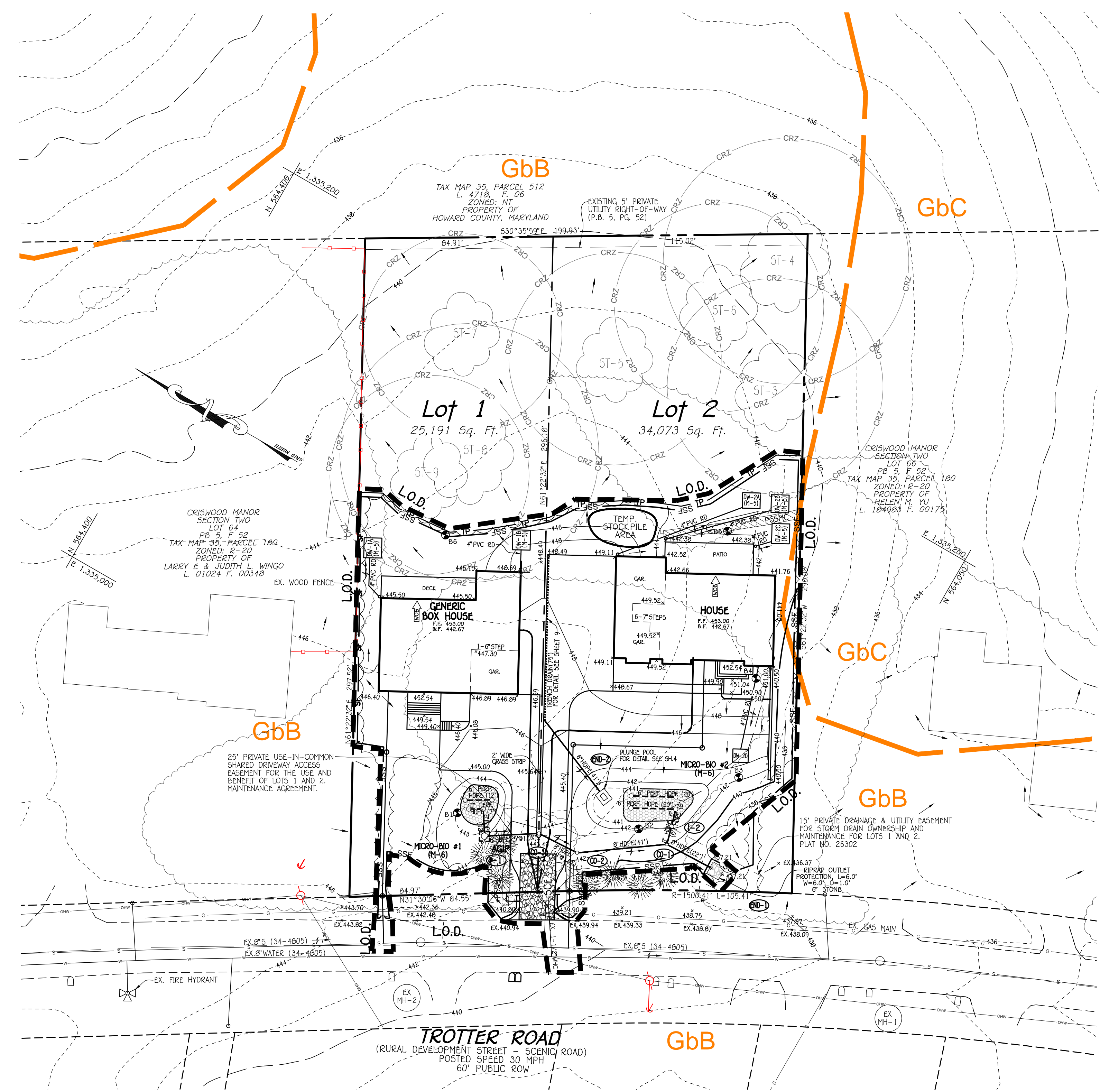
PLAT NOS.	GRID NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
26302	2	R-20	35	FIFTH	605505

WATER CODE	SEWER CODE
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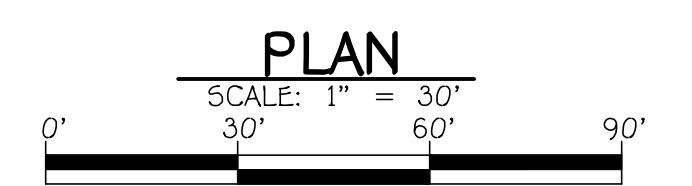
SITE DEVELOPMENT PLAN
SAPARIYA PROPERTY
LOTS 1 AND 2
5669 TROTTER ROAD
A RESUBDIVISION OF CRISWOOD MANOR
SECTION TWO - LOT 65
PLAT BOOK 5, PAGE 52
ZONED: R-20
TAX MAP: 35 GRID: 2 PARCEL: 0180
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: NOVEMBER, 2023
SHEET 2 OF 10
SCALE: AS SHOWN

SOILS LEGEND			
SOIL	NAME	CLASS	K VALUE
GbB	Gladstone loam, 3 to 8 percent slopes	B	.32
GbC	Gladstone loam, 8 to 15 percent slopes	B	.32

HOWARD COUNTY WEBSOILS SURVEY 09/15/20



LEGEND - EX. CONDITIONS		LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
--- 446 ---	EXISTING CONTOUR 2' INTERVAL	--- 446 ---	PROPOSED CONTOUR 2' INTERVAL
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[Tree Symbol]	EXISTING TREES	1-1/2" W	PROPOSED PRIVATE WATER
---	EXISTING PROPERTY LINE	8" HDPE	PROPOSED STORMDRAIN
---	EXISTING RIGHT OF WAY LINE		
---	EXISTING WOODEN FENCE		



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 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE: PARK - 10572 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2299

ENGINEER'S CERTIFICATE
 "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 Paul G. Cavanaugh 11/6/2023
 SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE
 "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."
 Divyesh Sapariya 11/6/2023
 SIGNATURE OF DEVELOPER DATE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."
 Paul G. Cavanaugh 11/6/2023
 PAUL GERARD CAVANAUGH DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Alexander Bratchie 11/29/2023
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Director - Department of Planning and Zoning 12/3/2023
 Linda Esenberg Date
 Chief, Division of Land Management 11/29/2023
 Chief, Development 12/3/2023
 Date

OWNER/DEVELOPER
 DIVYESH SAPARIYA,
 SOHILRAJ SAPARIYA AND
 HITESH ANKOLA
 5669 TROTTER ROAD
 CLARKSVILLE, MARYLAND 21029
 PH# 301-275-0762

ADDRESS CHART

PARCEL NO.	LOT NO.	STREET ADDRESS
0180	1	5669 TROTTER ROAD
	2	5673 TROTTER ROAD

PROJECT	SECTION/AREA	PARCEL
SAPARIYA PROPERTY	5/2	0180

PLAT NOS.	GRID NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
26302	2	R-20	35	FIFTH	605505

WATER CODE --- SEWER CODE ---

SEDIMENT AND EROSION CONTROL PLAN

SAPARIYA PROPERTY
 LOTS 1 AND 2
 5669 TROTTER ROAD
 A RESUBDIVISION OF CRISWOOD MANOR
 SECTION TWO - LOT 65
 PLAT BOOK 5, PAGE 52

ZONED: R-20
 TAX MAP: 35 GRID: 2 PARCEL: 0180
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DATE: NOVEMBER, 2023
 SHEET 3 OF 10
 SCALE: AS SHOWN

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. Soil Preparation**
 - 1. Temporary Stabilization
 - a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged around but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
 - b. Apply fertilizer and lime as prescribed on the plans.

- 2. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable equipment.
 - a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - i. Soil pH between 6.0 and 7.0.
 - ii. Soluble salts less than 500 parts per million (ppm).
 - iii. Soil contains less than 40 percent clay (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception if loess/lasas will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - iv. Soil contains 1.5 percent minimum organic matter by weight.
 - v. Soil contains sufficient pore space to permit adequate root penetration.

- 3. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - a. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

- 4. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means.
 - a. Smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions need not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- B. Topsoiling**
 - 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
 - 2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 - 3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.
 - 4. Areas having slopes steeper than 2:1 require special consideration and design.
 - 5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textures, grades, subsoils, nor contain less than 5 percent by volume of sanders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - 6. Topsoil Application
 - a. Erosion and sediment control practices must be maintained when applying topsoil.
 - b. Uniformly distribute topsoil in a 5 to 6 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that noxious weeds (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
 - c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

- C. Soil Amendments (Fertilizer and Lime Specifications)**
 - 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for technical analyses.
 - 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
 - 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding which cannot be applied to calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
 - 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
 - 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

- TEMPORARY SEEDING NOTES (B-4-4)**
 - 1. Definition
 - a. Purpose
 - To stabilize disturbed soils with vegetation for up to 6 months.
 - To use fast growing vegetation that provides cover on disturbed soils.
 - Conditions Where Practice Applies
 - Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.
 - Criteria
 - 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate plant Hardness Zone (from Figure B.3).
 - 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
 - 3. Runoff from the stockpile area must drain to a suitable sediment control practice.
 - 4. Access the stockpile area from the upgrate side.
 - 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
 - 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
 - 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
 - 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Permanent Seeding Summary				N	P ₂ O ₅	K ₂ O	Lime Rate
Hardness Zone (from Figure B.3):	Seed Mixture (from Table B.3):	Seeding Dates	Seeding Depth				
a	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth			
b	TALL FESCUE	100	Mar. - 1 May 15 Aug. 1 - Oct. 15	1/4 - 1/2 in.	45 lbs. per 1,000 sq. ft.	90 lb/ac (2 lb/1,000 sq. ft.)	2 tons/ac (100 lb/1,000 sq. ft.)

STANDARD STABILIZATION NOTE			
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:			
a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND			
b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.			

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA (B-4-B)			
Definition			
Purpose			
Conditions Where Practice Applies			
Criteria			

Temporary Seeding Summary				N	P ₂ O ₅	K ₂ O	Lime Rate
Hardness Zone (from Figure B.3):	Seed Mixture (from Table B.1):	Seeding Dates	Seeding Depth				
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth				
BARLEY	96	3/1 - 5/15 8/15 - 10/15	1"	436 lb/ac	2 tons/ac		
OATS	72	3/1 - 5/15 8/15 - 10/15	1"	190 lb/1,000 sq. ft.			
RYE	112	3/1 - 5/15 8/15 - 10/15	1"				

PERMANENT SEEDING NOTES (B-4-5)

- A. Seed Mixtures**
 - 1. General Use
 - a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 - c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1,000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

- 2. Turfgrass Mixtures
 - a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will require a medium to high level of maintenance.
 - b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - ii. Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1,000 square feet.
 - iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass Lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky Bluegrass Cultivars 10 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1,000 square feet.

- Notes:
 - Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"
 - Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

- 3. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)
 - d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

- 4. If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1 1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.
 - e. If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1 1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA (B-4-B)			
Definition			
Purpose			
Conditions Where Practice Applies			
Criteria			

- 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
- 3. Runoff from the stockpile area must drain to a suitable sediment control practice.
- 4. Access the stockpile area from the upgrate side.
- 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
- 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

- SEQUENCE OF CONSTRUCTION**
 - 1. OBTAIN GRADING PERMITS. (2 WEEKS)
 - 2. NOTIFY "MAYNUTILITY" AT LEAST 48 HOURS BEFORE ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTOR ON SITE AT 410-313-1010 AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
 - 3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER SILT FENCE AS SHOWN ON THE PLANS. (3 DAYS)
 - 4. GRADE SITE FOR THE PRIVATE DRIVEWAY AND BUILDING PADS. OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING. (1 WEEK)
 - 5. BEGIN HOUSE FOUNDATION AND HOUSE CONSTRUCTION. (7 MONTHS)
 - 6. INSTALL WATER HOUSE CONNECTIONS AND SEWER HOUSE CONNECTIONS AS SHOWN ON THE PLANS. (1 WEEK)
 - 7. INSTALL MICRO-BIODETENTION FACILITY OUTFALL INCLUDING I-1 AND I-2. INSTALL INLET PROTECTION.
 - 8. OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED. INSTALL BASE COURSE PAVING. (1 WEEK)
 - 9. CONSTRUCT RETAINING WALL AND DRYNELLS. INSTALL FINAL PAVING COURSE. (6 MONTHS)
 - 10. OBTAIN APPROVAL OF THE SEDIMENT CONTROL INSPECTOR. THE CONSTRUCTION OF THE BIO-RETENTION FACILITY CAN BE INSTALLED ALONG WITH THE REMAINING STORM DRAIN. (2 WEEKS)
 - 11. OBTAIN APPROVAL OF THE SEDIMENT CONTROL INSPECTOR. REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMAINING DISTURBED AREAS ON-SITE WITH PERMANENT SEEDING OR ARTIFICIAL SOODING (1 WEEK)

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

- 1. General Use
 - a. The application of seed and mulch to establish vegetative cover.
 - To protect disturbed soils from erosion during and at the end of construction.
 - Conditions Where Practice Applies
 - To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

- A. Seeding**
 - 1. Specifications
 - a. All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - d. Soil or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weedcontrol until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

- 2. Application
 - a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - i. Outfucking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
 - ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P 0 (phosphorus), 200 pounds per acre; K 0 (potassium), 200 pounds per acre.
 - ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - iii. Mix seed and fertilizer on site and seed immediately and without interruption.
 - iv. When hydroseeding do not incorporate seed into the soil.

- B. Mulching**
 - 1. Mulch Materials (in order of preference)
 - a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
 - b. Wood Cellulose Fiber Mulch (WCFM): Consisting of specially prepared wood cellulose processed into uniform fibrous physical state
 - i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - ii. WCFM, including dyes, must contain no germination or growth inhibiting factors.
 - iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a cohesive green cover, on application, having moisture absorption and percolation properties and must cover and hold gross seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
 - v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent dry basis.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- 1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1095 AFTER THE FUTURE LOO AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING SITES:
 - a. PRIOR TO THE START OF EARTH DISTURBANCE, BEFORE PROCEEDING.
 - b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT ANY OTHER EARTH WITH DISTURBANCE OR EROSION.
 - c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT, D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
 - OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERE TO.
- 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL STOCKPILES (SEC. B-4-B) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATING (SEC. B-4-6).
- 5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
- 6. SITE ANALYSIS:
 - TOTAL AREA OF SITE: 1.36 ACRES
 - AREA TO BE DISTURBED: 0.8 ACRES
 - AREA TO BE RECOVERED OR PAVED: 0.5 ACRES
 - AREA TO BE VEGETATIVELY STABILIZED: 0.5 ACRES
 - TOTAL CUT: 599 CU. YDS.
 - TOTAL FILL: 695 CU. YDS.
 - WATER AROUND AREA LOCATION: SITE UNDER ACTIVE GRADING PERMIT
- 7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID, THE SITE AND A11 CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
 - INSPECTION DATE
 - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (EG. COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLAN DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROL DEFICIENCIES THAT REQUIRE MAINTENANCE
 - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER MANAGEMENT WITH CONSTRUCTION NOTICES (NPDES, MDE).
- 9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- 10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
- 11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM AREA OF 20 AC. PER GRADING UNIT) AT A TIME, WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT IS STABILIZED AND APPROVED BY THE HSCD. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- 12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION UNTIL FINAL GRADE.
- 14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBERICATED AT 25° MINIMUM INTERVALS, WITH LOWER ENDS CURVED UPHILL BY 2" IN ELEVATION.
- 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):
 - USE 1 AND IF MARCH - JUNE
 - USE 2 AND IF MARCH - APRIL
 - USE 3 AND IF MARCH 1 - APRIL 30
 - USE 4 MARCH 1 - MAY 31
- 16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

B.4.C SPECIFICATIONS FOR BIORETENTION, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- 1. MATERIAL SPECIFICATIONS
 - a. THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
 - b. FILTERING MEDIA OR PLANTING SOIL:
 - i. 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 USED WITH THE HSCD-BIORETENTION 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 BERBERIS GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
 - ii. 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 10% 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 (30%), AND COMPOST (40%).
 - CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
 - pH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMMONIUMS (EG. LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE pH.
 - iii. 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 TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
 - c. COMPACTION
 - i. IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL, WHEN POSSIBLE. USE EXCAVATION HOUS TO REMOVE ORIGINAL SOIL IF PRACTICES ARE EXCAVATED USING A LOADER. THE CONTRACTOR SHOULD USE WIDE TRACK OR H85H 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.
 - ii. COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL FLOW RIPPER, OR SUBSOLEUR. THESE TILLING OPERATIONS ARE TO REFRACATURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
 - iii. ROTOTILL TO 3 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
 - d. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE TO 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.
 - e. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR DOZER/LOADER WITH MESH TRACKS.
- 2. PLANT MATERIAL RECOMMENDED PLANT MATERIAL FOR BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- 3. PLANT INSTALLATION
 - a. COMPOST IS A BETTER ORGANIC MATERIAL SOURCE. IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INNER AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTABLE. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED MULCH MUST BE WELL KEPT (6 TO 12 MONTHS) FOR ACCEPTANCE.
 - b. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED 50 1/8 TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING FIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
 - c. TREES SHALL BE BRACED 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.
 - d. GRASSES AND LEGUME SEED SHOULD 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.
- 4. THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFRAITS, OR AT A MINIMUM, IMPURES THIS GOAL. ONLY GAO. ONLY FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2.5 POUNDS PER 1000 SQUARE FEET.
- 5. UNDERDRAINS
 - a. UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
 - PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIDGE PLASTIC PIPE (ASTM F756, TYPE F5 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 CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
 - GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" 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.
 - b. A 4" LAYER OF PEA GRAVEL (1/4" 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 2". THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES

SCHEDULE A PERIMETER LANDSCAPE EDGE						
PERIMETER	P1	P2	P3	P4	MITIGATION	TOTALS
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTY	ADJACENT TO PERIMETER PROPERTY	ADJACENT TO PERIMETER PROPERTY	2:1 REPLACEMENT FOR REMOVAL OF THREE SPECIMEN TREES PER THE CONDITIONS OF WF-22-031	
LANDSCAPE TYPE	NONE	A	A	A		
LINEAR FEET OF PERIMETER	200 LF	298 LF	200 LF	298 LF		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, 99 LF.	YES, 200 LF.	YES, 79 LF.		378 LF.
CREDIT FOR WALL, FENCE OR BERN (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	NO	NO	NO	NO		
NUMBER OF PLANTS REQUIRED						
SHADE TREES	0	4	0	4	6	14
EVERGREEN TREES	0	0	0	0	0	0
NUMBER OF PLANTS PROVIDED						
SHADE TREES	0	4	0	3	6	13
SMALL ORNAMENTAL EVERGREEN TREES	0	0	0	2	0	2
SHRUBS	0	0	0	0	0	0

* 2:1 SUBSTITUTION DUE TO THE PRESENCE OF OVERHEAD WIRES

TRASH/RECYCLE PAD LANDSCAPING	
LINEAR FEET OF PERIMETER	LOTS 1-2 PAD: 14 LF.
NUMBER OF SHRUBS PROVIDED:	5

NOTES: 1. THE TRASH/RECYCLE PAD LANDSCAPING WILL BE MAINTAINED BY THE USERS OF THE PRIVATE USE-IN-COMMON MAINTENANCE AGREEMENT.
2. THE LANDSCAPING SHALL BE INSTALLED AROUND THE PERIMETER OF THE PAD EXCLUDING THE SIDE ADJACENT TO THE PUBLIC ROAD RIGHT-OF-WAY.

OVERALL LANDSCAPING PLANT LIST

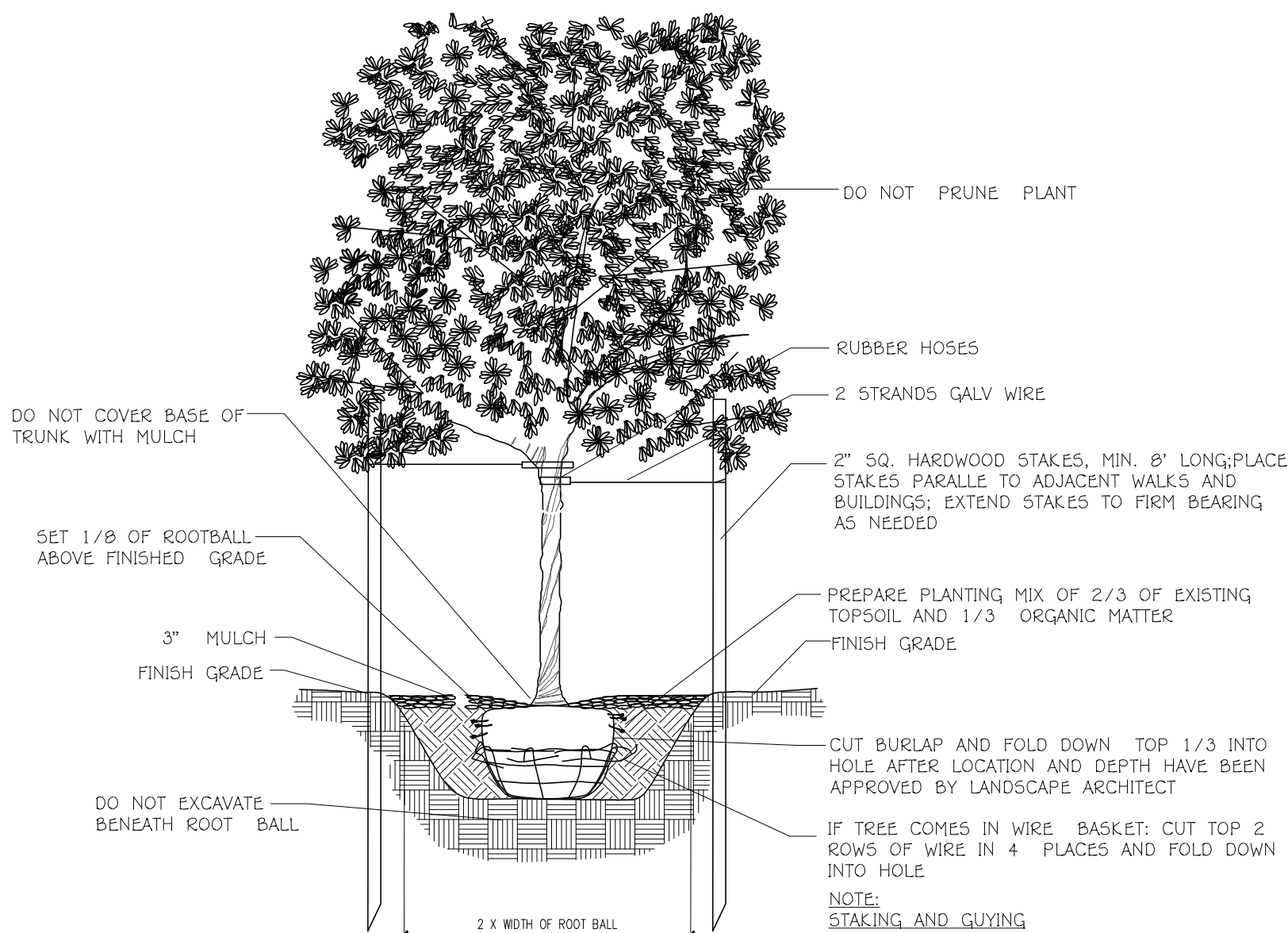
QTY.	KEY	NAME	SIZE
7		ACER RUBRUM (OCTOBER GLOK MAPLE) AR	2 1/2" - 3" CALIPER FULL CROWN, B&B
6		QUERCUS RUBRA (NORTHERN RED OAK) OR 4" SPECIMEN TREE REPLACEMENTS	2 1/2" - 3" CALIPER FULL CROWN, B&B
2		CORNUS FLORIDA FLOWERING DOGWOOD	8" - 10" HGT.
5		PRUNUS LAUROCERASUS (CHERRY LAUREL) GR	18" - 24" SPREAD
7		ILEX OPACA AMERICAN HOLLY	5" - 6" HGT.
3		CORNUS FLORIDA 'RUBRA' (RED FLOWERING DOGWOOD)	8" - 10" HGT.
3		PRUNUS SEROTINATA 'KWANZAN' (KWANZAN CHERRY)	1 1/2" - 2" CALIPER FULL CROWN, B&B

LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING SAN. SEWER LINE
---	EXISTING STORM DRAIN LINE
---	EXISTING WATER LINE
---	EXISTING UNDERGROUND ELECTRIC LINE
---	EXISTING CABLE/TV LINE
---	EXISTING OVERHEAD ELECTRIC LINE
---	EXISTING GAS LINE
---	EXISTING FENCE
---	EXISTING RIGHT OF WAY LINE
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	EXISTING PROPERTY LINE
---	PROPOSED CONCRETE WALK
---	PROPOSED PRIVATE SEWER
---	PROPOSED PRIVATE WATER
---	PROPOSED STORMDRAIN
---	EXISTING TREES

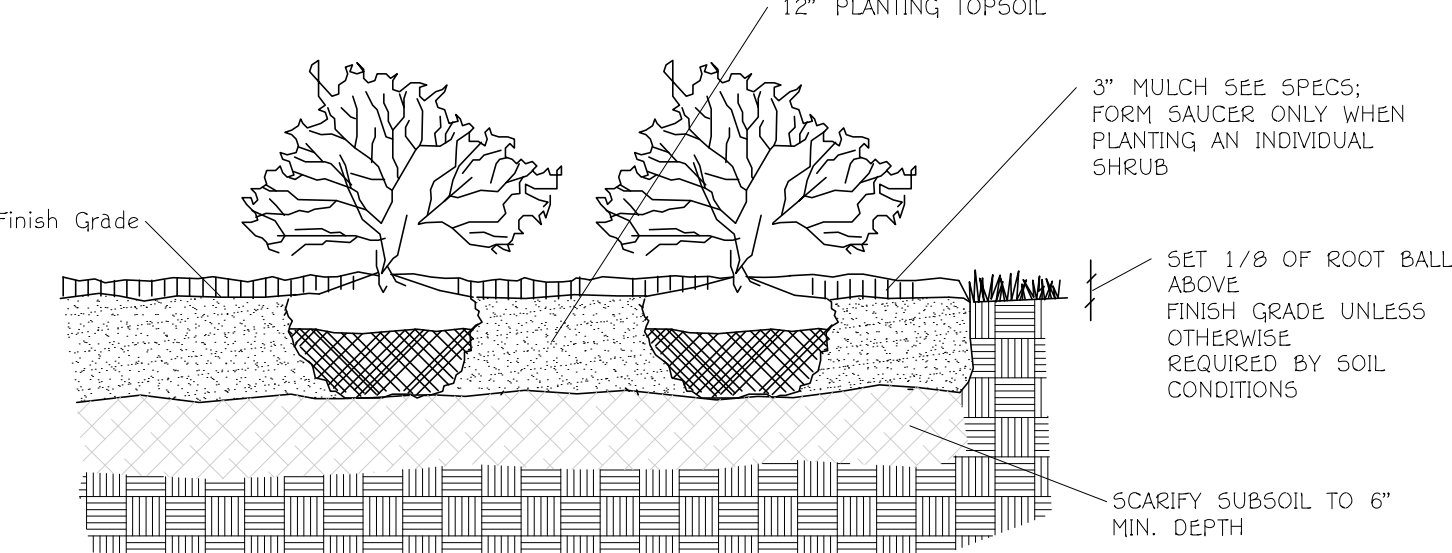
- NOTES**
- THE PERIMETER, STREET TREE, AND INTERNAL LANDSCAPE OBLIGATION IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY IN THE AMOUNT OF \$16,200.00 (\$3,150.00 FOR EACH LOT) BASED ON (1) 3 SHADE TREES @ \$300/SHADE TREE, (1) 5 ORNAMENTAL AND EVERGREEN TREES @ \$150/ORNAMENTAL OR EVERGREEN TREE, AND (5) SHRUBS @ \$30/SHRUB SHALL BE BONDED AS PART OF THE GRADING PERMIT.
 - AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL IN ADDITION NO SUBSTITUTIONS OR REDUCTION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
 - THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERRNS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
 - FOR ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, BE REMOVED OR DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR IF THE TREE IS LISTED AS A PROHIBITED OR INVASIVE SPECIES ON THE DPZ TREE LIST IT SHOULD BE REPLACED WITH A RECOMMENDED TREE SPECIES WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.

PLANTING SPECIFICATIONS

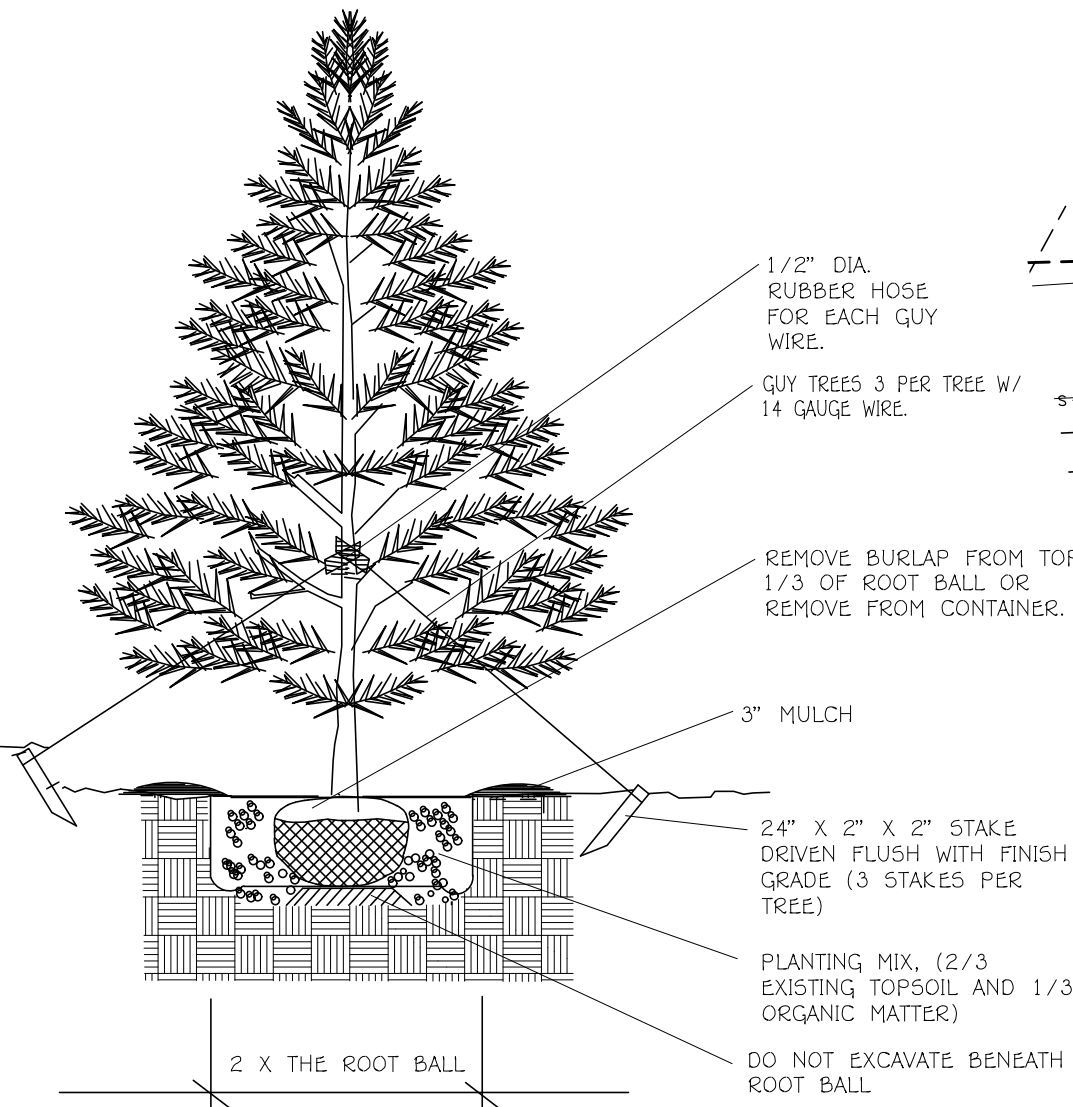
- CLEAR & GRUB ALL PLANTING AREAS AS INDICATED ON THE DRAWINGS.
- PROVIDE PROTECTION FOR TREES, SHRUBS, AND PERENNIALS/GROUND COVERS THAT ARE TO BE PRESERVED.
- CONTRACTOR SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
- ALL PLANTING 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 SOALS 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.



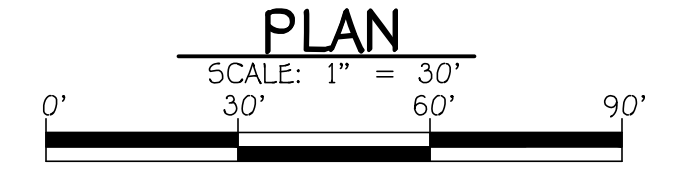
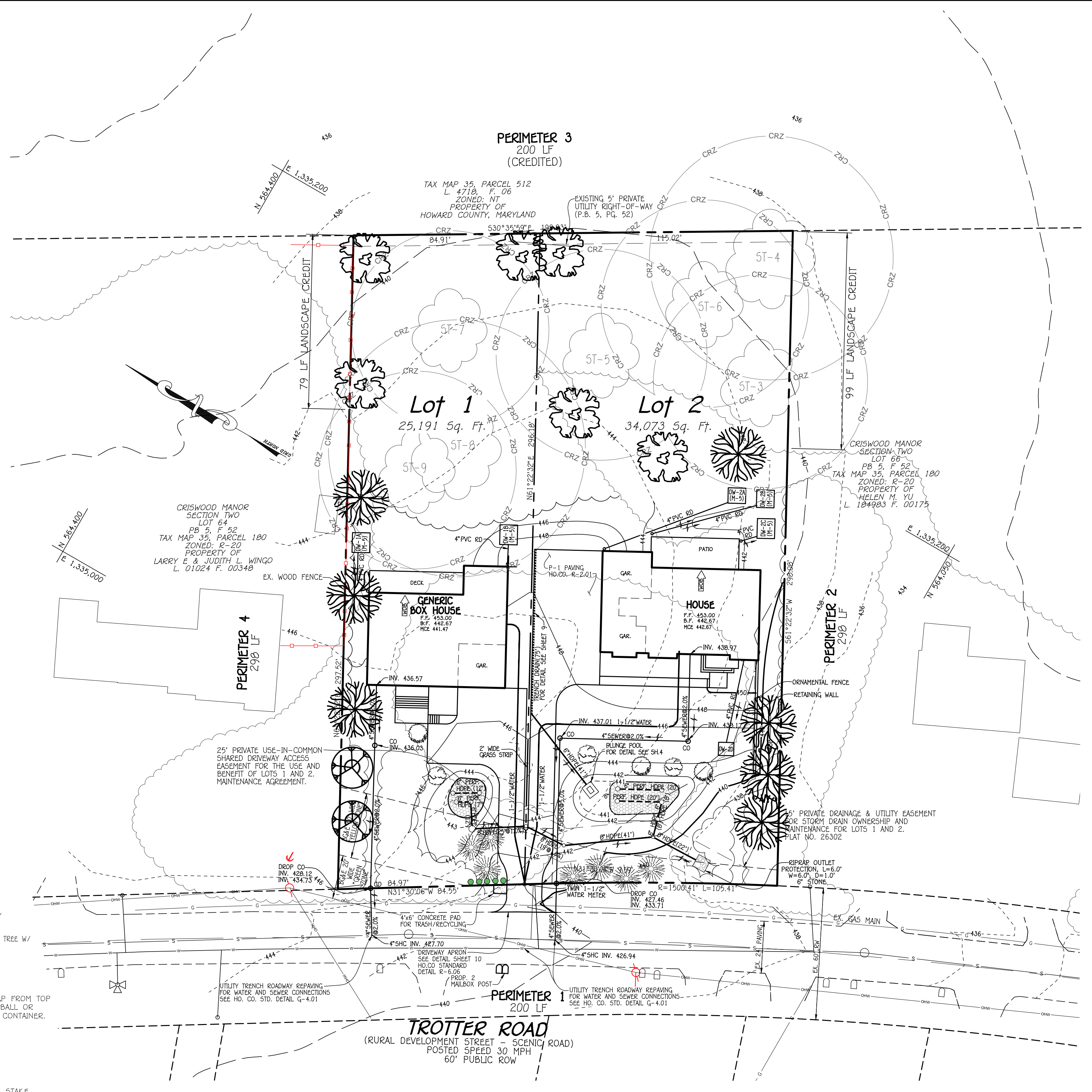
DECIDUOUS TREE - TYPICAL PLANTING DETAIL



SHRUB AND HEDGEROW - TYPICAL PLANTING DETAIL



EVERGREEN TREE - TYPICAL PLANTING DETAIL



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(410) 461-2295

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

Paul G. Cavanaugh 11/6/2023
PAUL GERARD CAVANAUGH DATE

DEVELOPER'S / BUILDER'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.

Divyesh Sapariya 11/6/2023
NAME DATE

DATE	DESCRIPTION
12/3/2023	APPROVED: DEPARTMENT OF PLANNING AND ZONING
11/29/2023	Director - Department of Planning and Zoning
12/3/2023	Chief, Division of Land Use Management
	Chief, Development and Planning Division

OWNER/DEVELOPER

DIVYESH SAPARIYA,
SOHILRAJ SAPARIYA AND
HITESH ANKOLA
5669 TROTTER ROAD
CLARKSVILLE, MARYLAND 21029
PH# 301-275-0762



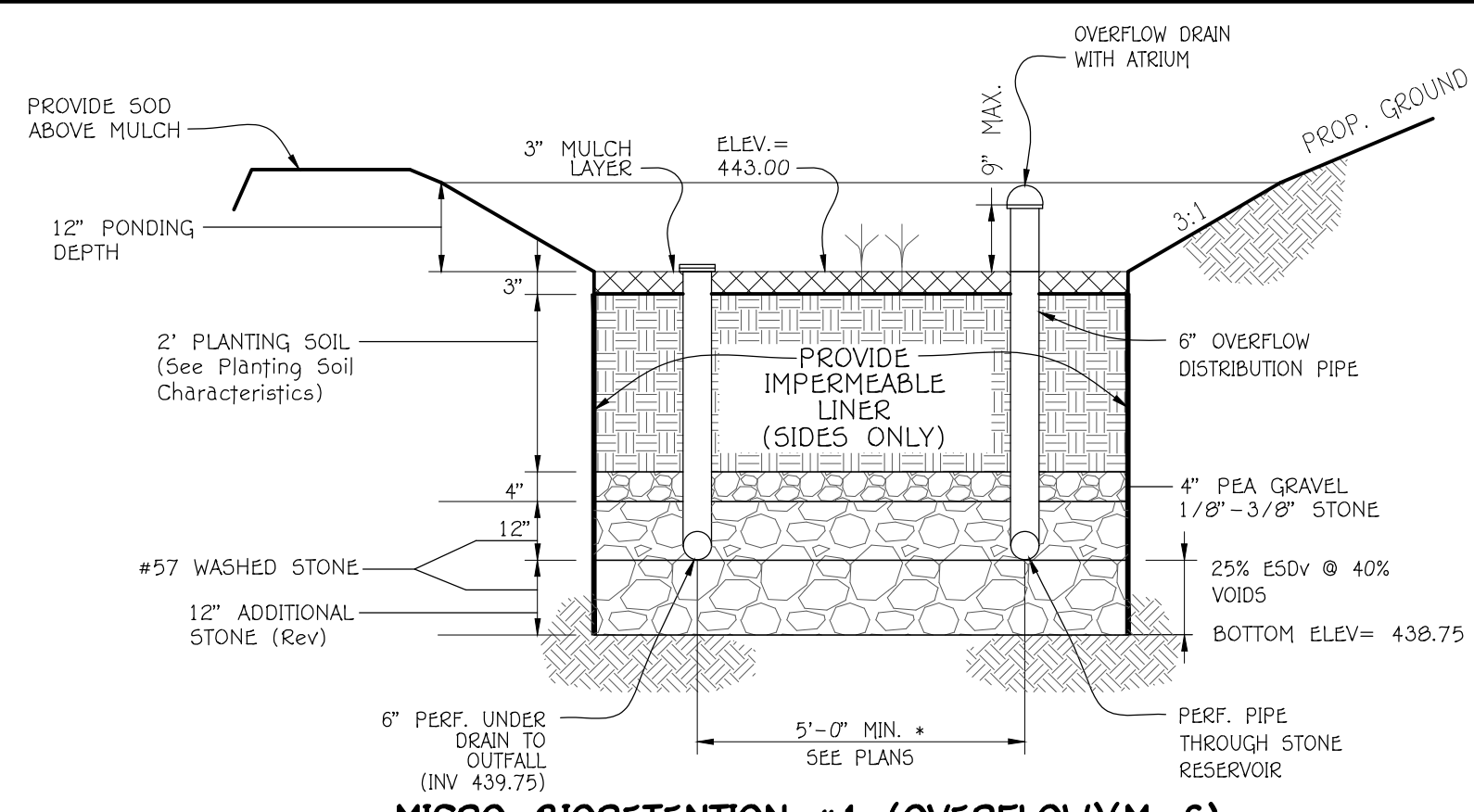
ADDRESS CHART			
PARCEL NO.	LOT NO.	STREET ADDRESS	
0180	1	5669 TROTTER ROAD	
	2	5673 TROTTER ROAD	

PROJECT	SECTION/AREA	PARCEL
SAPARIYA PROPERTY	5/2	0180

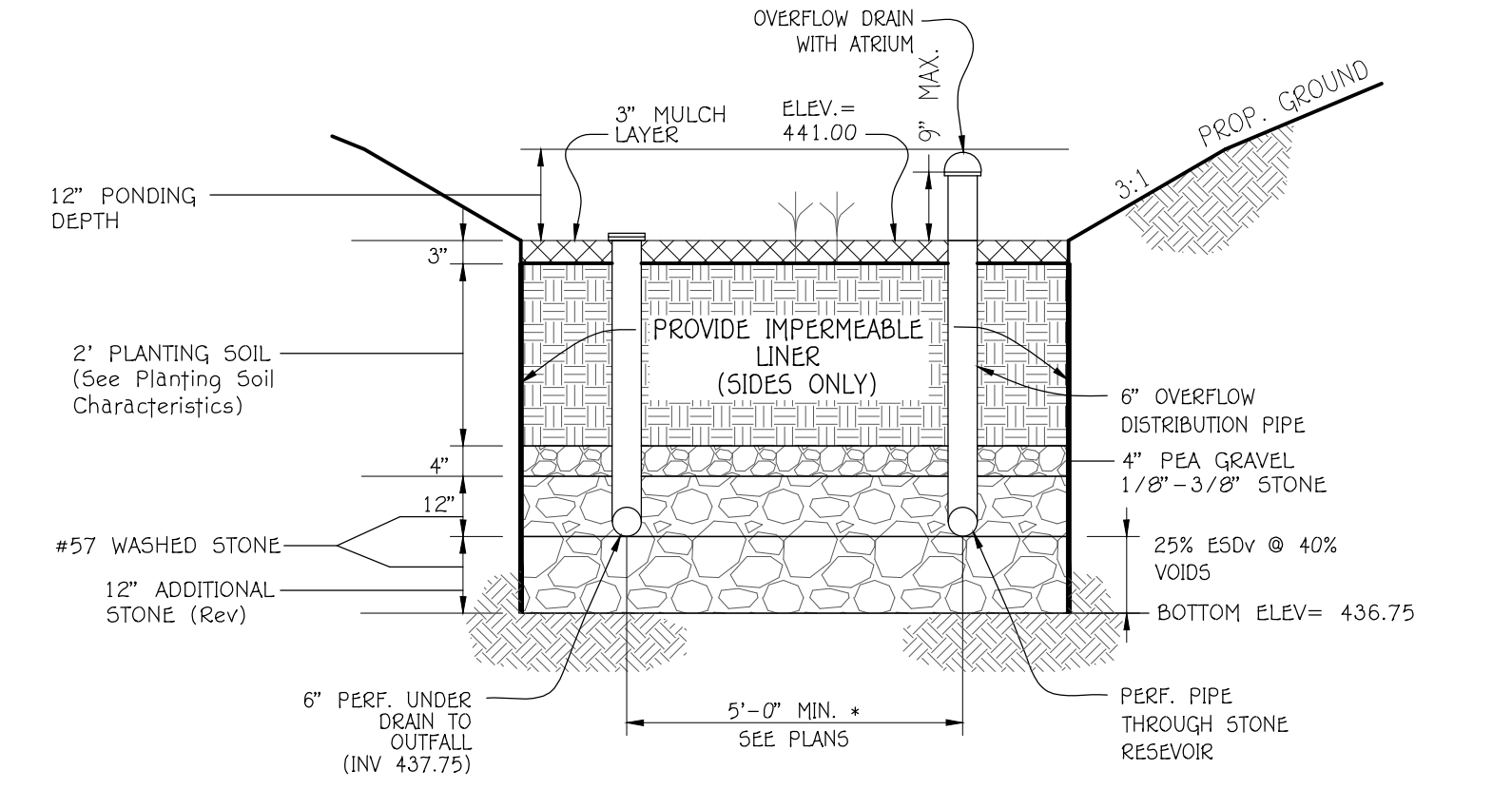
PLAT NOS.	GRID NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
26302	2	R-20	35	FIFTH	605505

WATER CODE	SEWER CODE
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LANDSCAPE PLAN, DETAILS AND NOTES
SAPARIYA PROPERTY
LOTS 1 AND 2
5669 TROTTER ROAD
A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65
PLAT BOOK 5, PAGE 52
ZONED: R-20
TAX MAP: 35 GRID: 2 PARCEL: 0180
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: NOVEMBER, 2023
SHEET 6 OF 10
SCALE: AS SHOWN

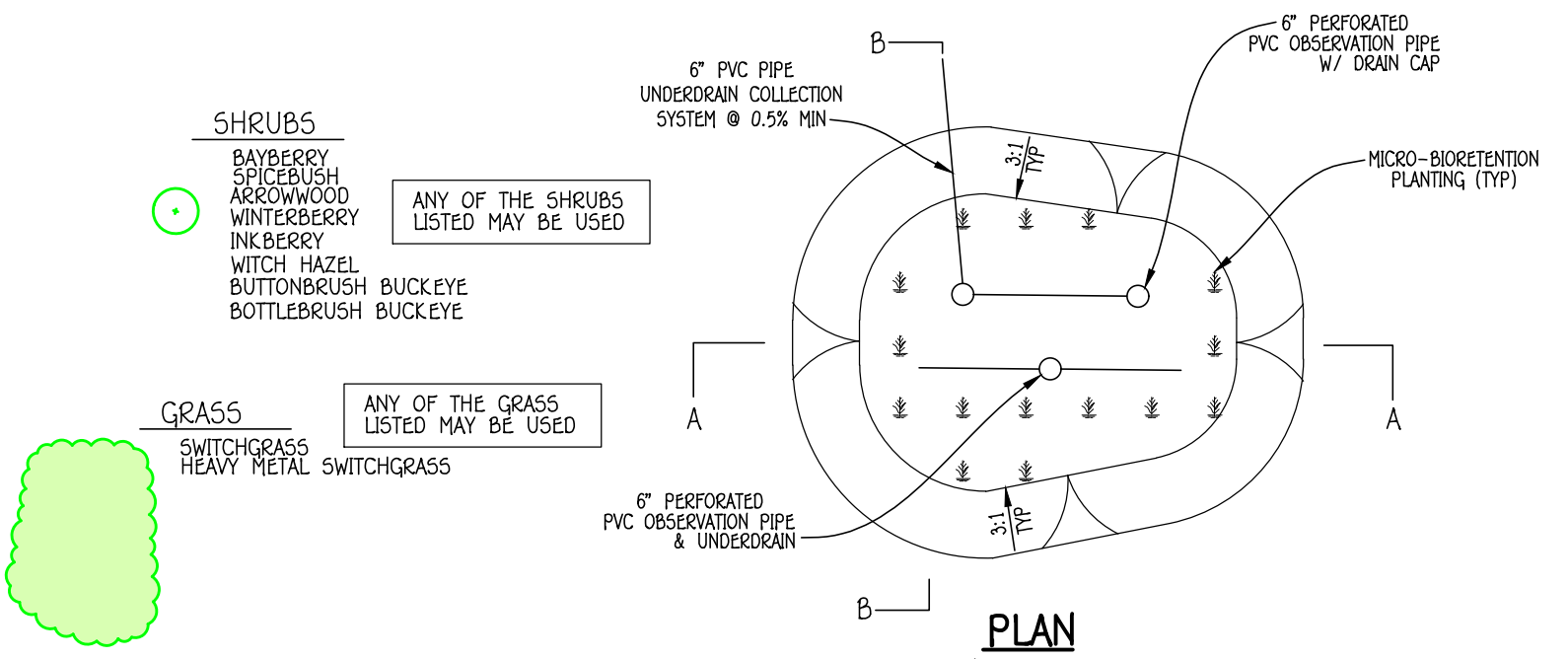


MICRO-BIORETENTION #1 (OVERFLOW)(M-6)
NO SCALE



MICRO-BIORETENTION #2 (OVERFLOW)(M-6)
NO SCALE

- MICRO-BIORETENTION NOTES**
- ONLY THE SIDES OF THE MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO-BIORETENTION WILL CAUSE THE MICRO-BIORETENTION TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
 - WRAP THE PERFORATED MICRO-BIORETENTION UNDER DRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.
 - PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLAN)

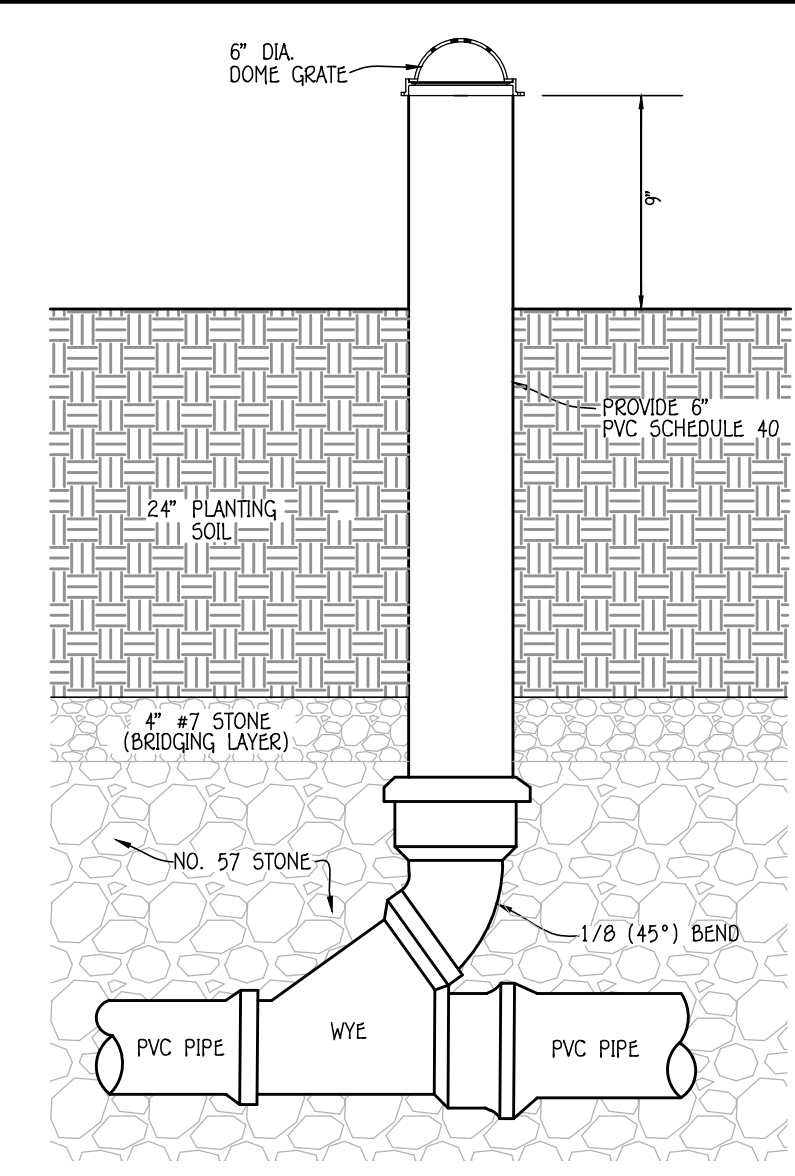


PLAN
NOT TO SCALE

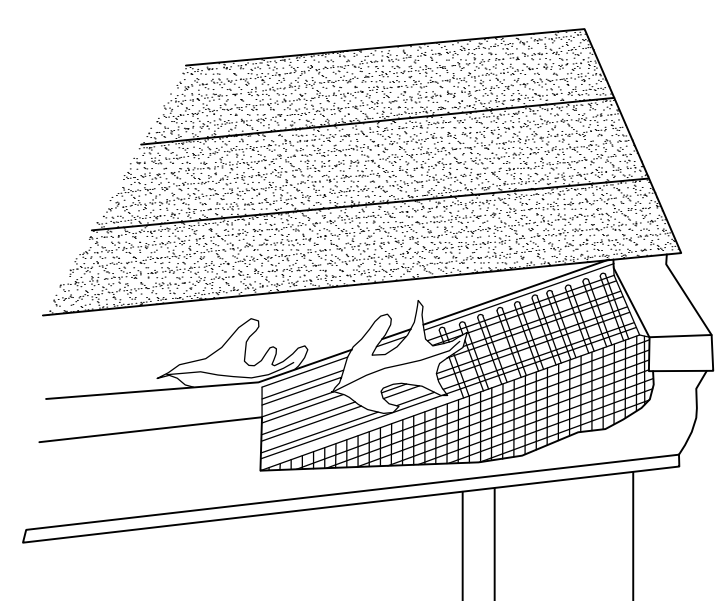
- MICRO-BIORETENTION NOTES**
- ONLY THE SIDES OF THE MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO-BIORETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
 - WRAP THE PERFORATED MBR UNDER DRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.
 - PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLAN)

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION 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.



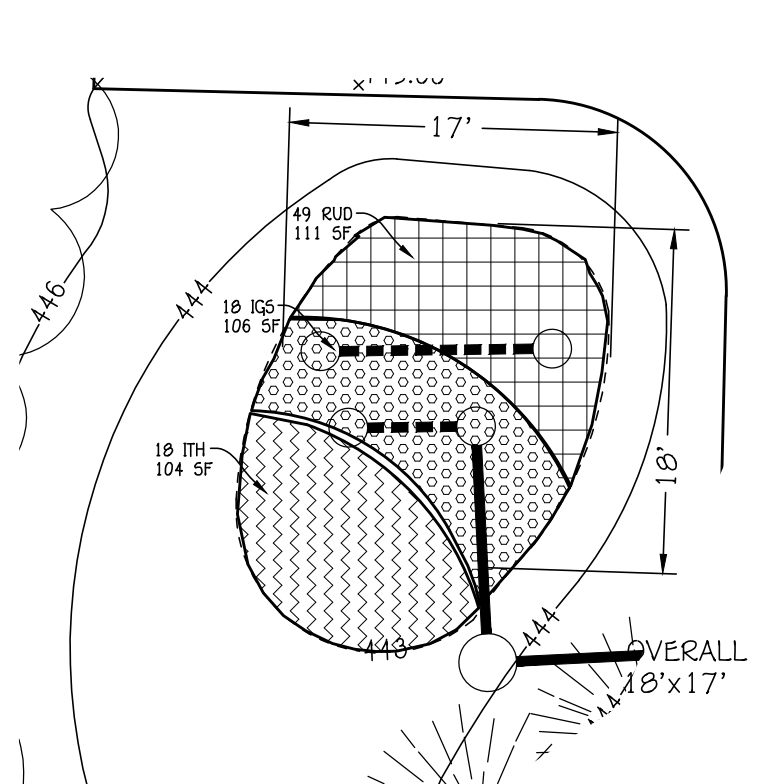
TYPICAL CLEAN-OUT DETAIL



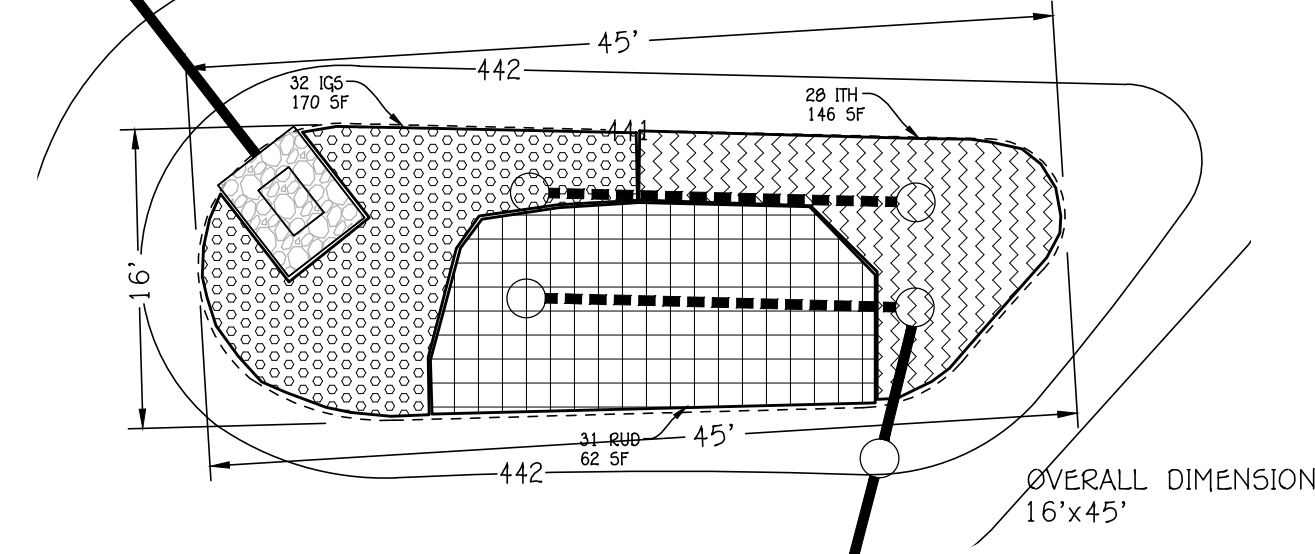
GUTTER DRAIN FILTER DETAIL
NOT TO SCALE

*A GUTTER GUARD OR A SUITABLE EQUIVALENT SHALL BE USED FOR EACH DOWNSPOUT DIRECTED TO A DRYWELL.

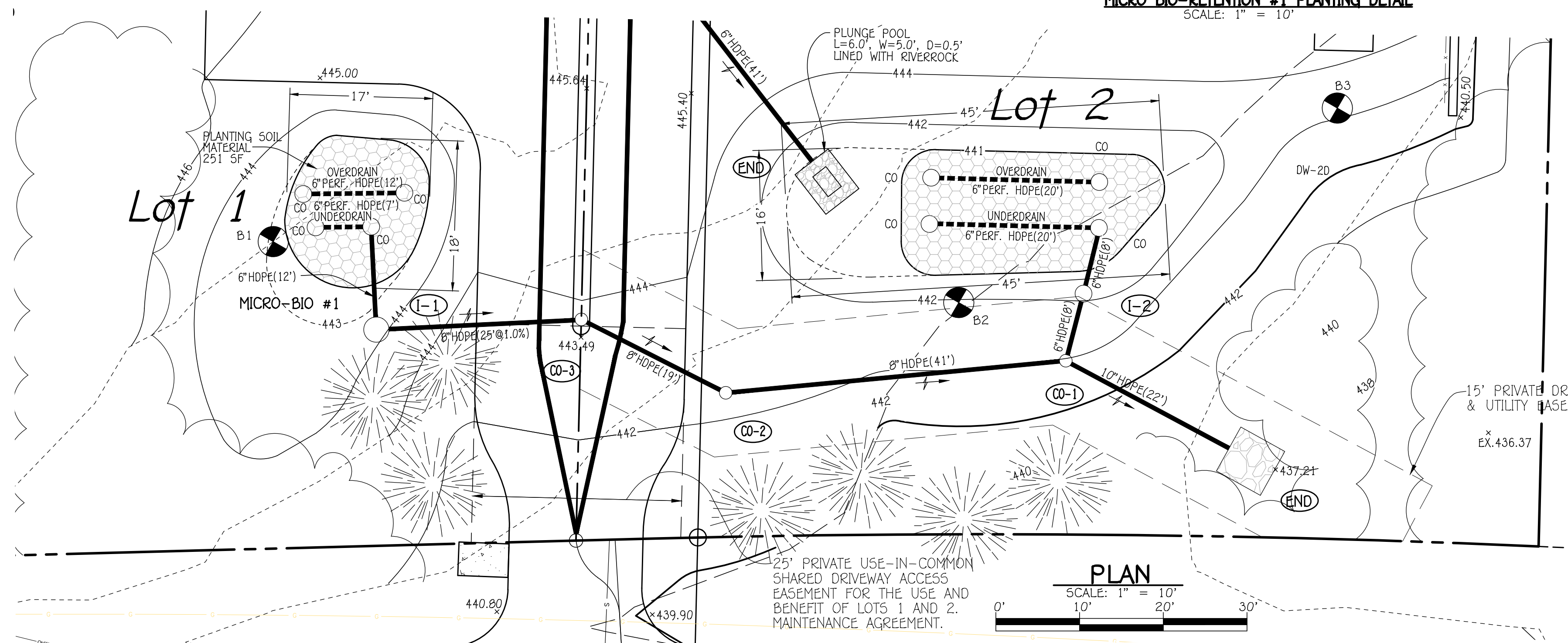
MICRO-BIORETENTION PLANT MATERIAL					
QTY.	SYM.	BOTANICAL/COMMON NAME	SIZE	CONT.	REMARKS
80	RUD	RUDBECKIA FULGIDA ORANGE CONEFLOWER	24" HT.	CONT.	18" O.C. MIN.
50	IGS	ILEX GLABRA 'SHAMROCK' INKBERRY	24"-30" HT.	CONT.	30" O.C./MALE CULTIVAR
46	ITH	ITEA VIRGINICA 'LITTLE HENRY' DWARF VIRGINIA SWEETSPIRE	18" - 24" HT.	3 GAL.	30" O.C. MIN.



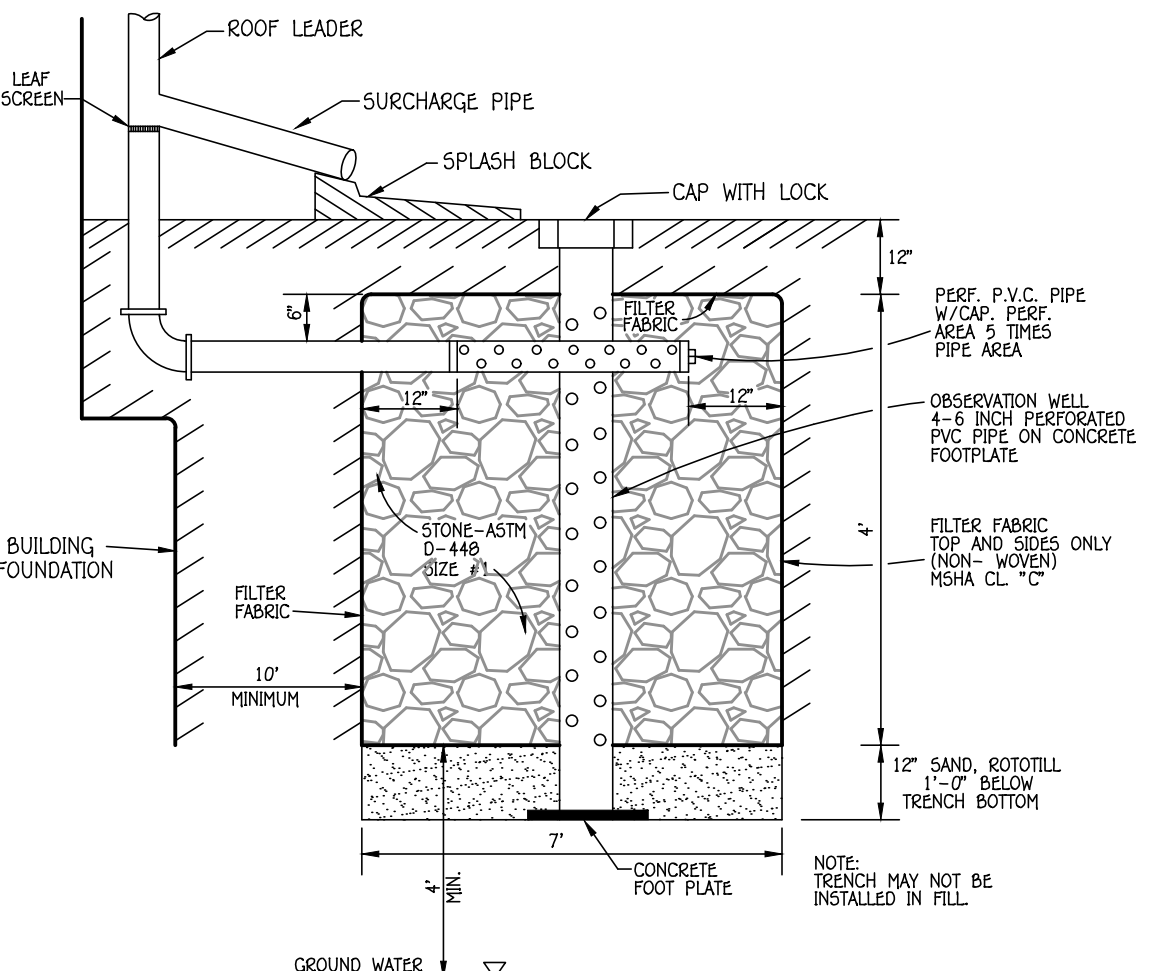
MICRO BIO-RETENTION #1 PLANTING DETAIL
SCALE: 1" = 10"



MICRO BIO-RETENTION #2 PLANTING DETAIL
SCALE: 1" = 10"



PLAN
SCALE: 1" = 10"



DRYWELL (M-5)
NO SCALE

DRYWELL CHART						
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L x W x D
LOT 1	DW-1A	763 SQ. FT.	118 C.F.	144 C.F.	100%*	9' x 8' x 5'
LOT 1	DW-1B	700 SQ. FT.	108 C.F.	144 C.F.	100%*	9' x 8' x 5'
LOT 2	DW-2A	587 SQ. FT.	84 C.F.	112 C.F.	100%*	8' x 7' x 5'
LOT 2	DW-2B	662 SQ. FT.	95 C.F.	128 C.F.	100%*	8' x 8' x 5'
LOT 2	DW-2C	764 SQ. FT.	109 C.F.	144 C.F.	100%*	9' x 7' x 5'
LOT 2	DW-2D	497 SQ. FT.	71 C.F.	84 C.F.	100%*	7' x 6' x 5'

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

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BALDWIN CITY, MARYLAND 21042
(410) 461-2095

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Paul G. Cavanaugh 11/6/2023
PAUL GERARD CAVANAUGH DATE

DATE	DESCRIPTION	REVISION BLOCK
12/3/2023	APPROVED: DEPARTMENT OF PLANNING AND ZONING	
11/29/2023	Director - Department of Planning and Zoning	
12/3/2023	Chief, Division of Land Development	
	Chief, Development Engineering Division	

OWNER/DEVELOPER
DIVYESH SAPARIYA,
SOHILRAJ SAPARIYA AND
HITESH ANKOLA
5669 TROTTER ROAD
CLARKSVILLE, MARYLAND 21029
PH# 301-275-0762



ADDRESS CHART			
PARCEL NO.	LOT NO.	STREET ADDRESS	
0180	1	5669 TROTTER ROAD	
	2	5673 TROTTER ROAD	

PROJECT	SECTION/AREA	PARCEL
SAPARIYA PROPERTY	5/2	0180

PLAT NOS.	GRID NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
26302	2	R-20	35	FIFTH	605505

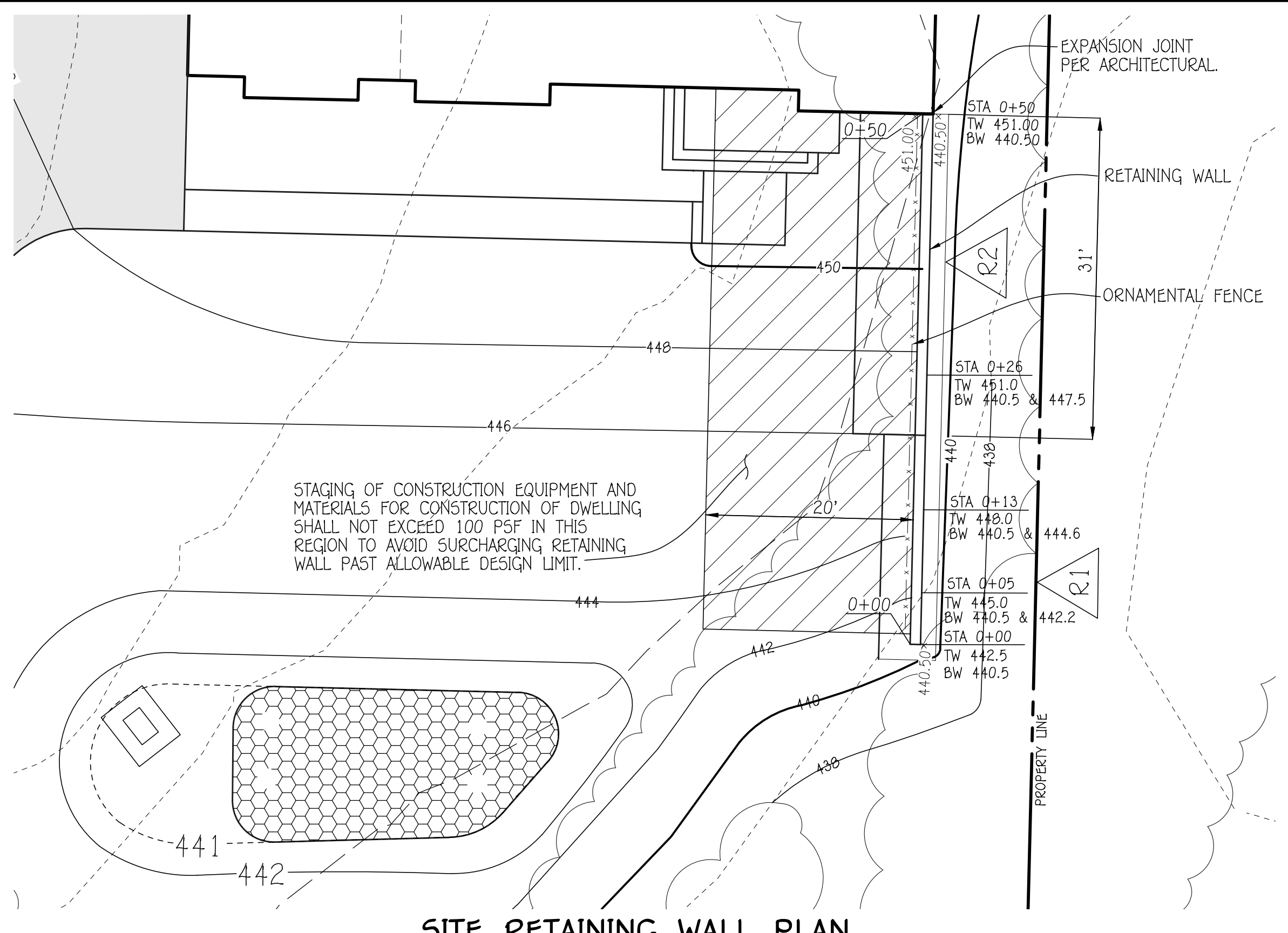
STORMWATER MANAGEMENT DETAILS AND LANDSCAPING
SAPARIYA PROPERTY
LOTS 1 AND 2
5669 TROTTER ROAD
A RESUBDIVISION OF CRISWOOD MANOR
SECTION TWO - LOT 65
PLAT BOOK 5, PAGE 52
ZONED: R-20
TAX MAP: 35 GRID: 2 PARCEL: 0180
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: NOVEMBER, 2023
SHEET 7 OF 10
SCALE: AS SHOWN

GENERAL NOTES

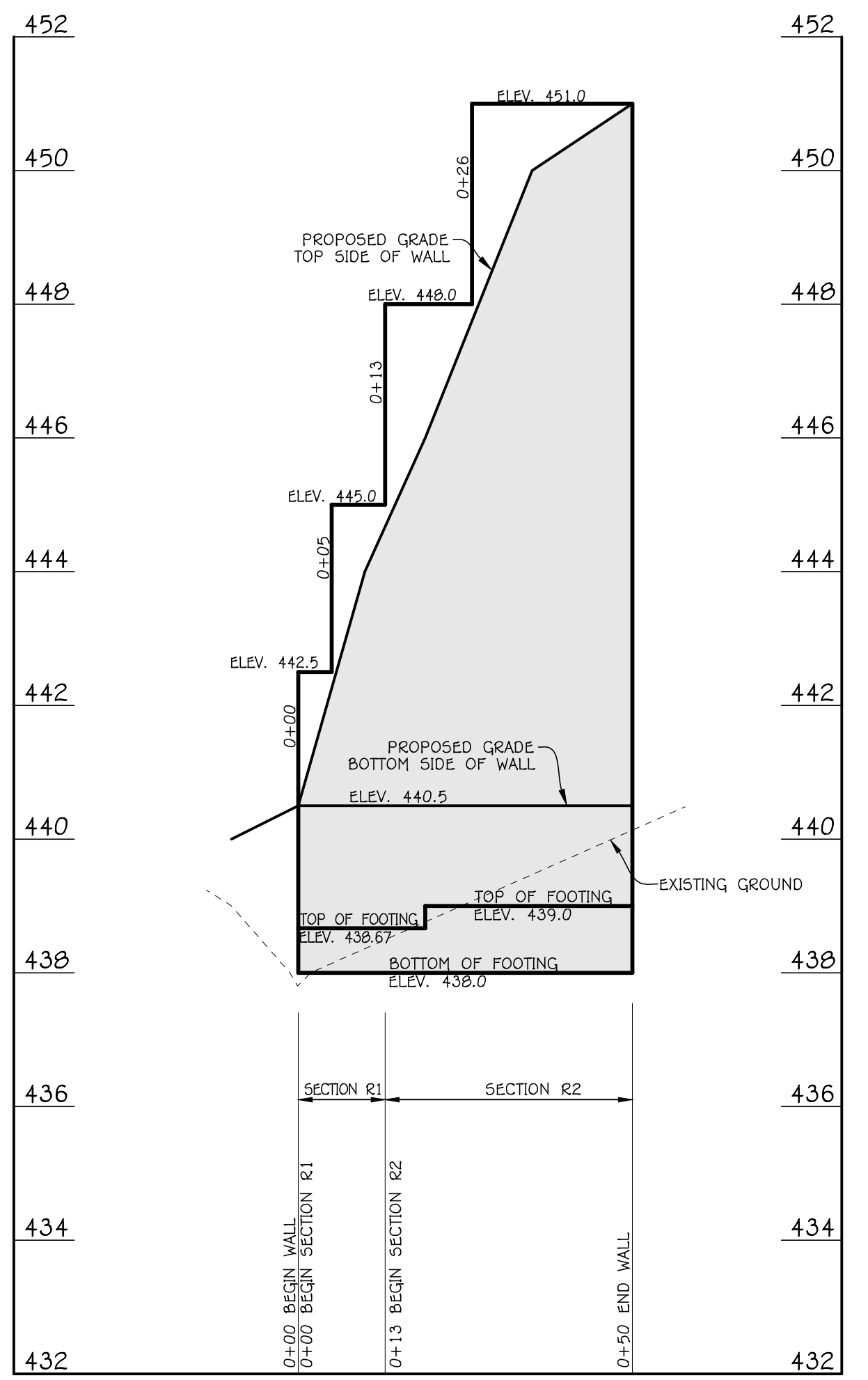
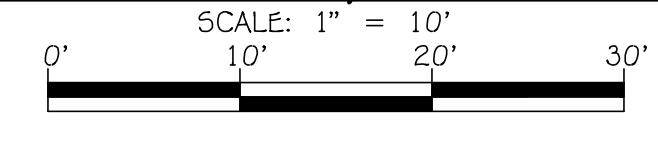
- 1. BUILDING CODE
THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2018. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THIS CODE, ITS LATEST ADOPTED AMENDMENTS AND LOCAL REQUIREMENTS.
2. SUBMITTALS
A. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS, FOR REVIEW AND APPROVAL:
a. REINFORCING STEEL FOR CAST-IN-PLACE CONCRETE
b. THE FOLLOWING ITEMS REQUIRE SUBMITTAL OF SHOP AND ERECTION DRAWINGS AND STRUCTURAL CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THIS PROJECT FOR REVIEW AND APPROVAL:
a. EXCAVATION SUPPORT, SHEETING, OR BENCHING WHERE SOILS REQUIRE SUCH BY VIRTUE OF OSHA REQUIREMENTS (ALL EXCAVATIONS GREATER THAN 5' REQUIRE SPECIFIC TRENCHING CONSIDERATIONS) OR SOIL CONDITIONS
b. CONCRETE MIX DESIGNS
c. SUBMITTALS ISSUED TO THE DESIGN TEAM FOR REVIEW SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL, CERTIFYING THAT ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS, ETC. HAVE BEEN VERIFIED AND EACH SHEET HAS BEEN REVIEWED FOR COMPLETENESS, COORDINATION BETWEEN TRADES, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. FURTHER, STRUCTURAL SHOP DRAWINGS WILL ONLY BE REVIEWED ONCE ANY REQUIRED CALCULATION PACKAGES FOR THAT WORK HAS BEEN ISSUED ALONG WITH A SIGNED AND SEALED LETTER BY THE CONTRACTOR'S ENGINEER CERTIFYING THAT THE SHOP DRAWINGS HAVE PROPERLY INCORPORATED THEIR DESIGN, IN ACCORDANCE WITH THE 2010 AISC CODE OF STANDARD PRACTICE-SECTION 3.1.2 (OPTION 3), OTHERWISE THE SUBMITTAL PACKAGE WILL BE REJECTED.
3. SPECIAL INSPECTIONS: AS PER IBC CHAPTER 17, THE FOLLOWING ITEMS ARE SUBJECT TO SPECIAL INSPECTION BY AN INDEPENDENT INSPECTION AND/OR TESTING AGENCY HIRED BY THE OWNER AND APPROVED BY THE ARCHITECT AND BUILDING OFFICIAL. OWNER/SPECIAL INSPECTOR SHALL PROVIDE SPECIAL INSPECTION REPORTS WITHIN 5 DAYS OF PERFORMING THE INSPECTION AND IMMEDIATELY NOTIFY THE ENGINEER.
A. CONCRETE CONSTRUCTION (1705.3)
B. SOILS (1705.6)
4. DESIGN LOADS:
A. GRAVITY SURCHARGE LOAD- YARD 100 PSF
5. THE CONTRACTOR SHALL CHECK THE BUILDING LOCATION WITH REGARD TO PROPERTY LINE, AND VERIFY ALL EXISTING CONDITIONS BEFORE EXCAVATION AND SHOP DRAWING PREPARATION. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
6. IN CASE OF CONTRADICTION BETWEEN THE DRAWINGS, THE SPECIFICATIONS, AND THE CODES, OR IF ANY CHANGE IS REQUIRED, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY. NO CHANGE SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
7. THE STABILITY OF STRUCTURE, ADJACENT STRUCTURES IMPACTED BY THE WORK, AND SITE SAFETY ARE THE CONTRACTOR'S RESPONSIBILITY UNTIL CONSTRUCTION IS COMPLETE AND THE STRUCTURE HAS REACHED ITS FINAL CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY BRACING, ERECTION PIECES, CONSTRUCTION SUPPORTS, FALL PROTECTION, DEBRIS CATCHES, TEMPORARY SHORING, ETC. AS REQUIRED TO SAFEGUARD THE SITE THROUGHOUT THE COURSE OF CONSTRUCTION.
8. THE CONTRACTOR SHALL VERIFY THAT ANY CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN CAPACITY OF THE STRUCTURE.

CAST-IN-PLACE CONCRETE

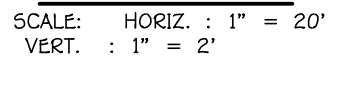
- 1. GENERAL
A. ALL CONCRETE WORK SHALL CONFORM TO REQUIREMENTS OF THE A.C.I. BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE (318-14 ULTIMATE STRENGTH DESIGN).
B. 28 DAY MINIMUM COMPRESSIVE STRENGTH AND RELATED PROPERTIES FOR CONCRETE SHALL BE AS FOLLOWS:
F'c MAX W/C RATIO MAX DENSITY
FOOTINGS 4,500PSI 0.40 NWC (145 PCF)
C. CONCRETE COVERING OF REINFORCING STEEL (INCLUDING TIES AND STIRRUPS) SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS:
2" FOUNDATION WALL, FOOTING & GRADE BEAM FACES NOT CAST AGAINST EARTH
3" CONCRETE CAST AGAINST EARTH
D. ALL CONCRETE, INCLUDING FOUNDATIONS, EXPOSED TO WEATHER AND/OR OUTSIDE THE BUILDING ENVELOPE SHALL BE AIR ENTRAINED, 6%±1.5% BY VOLUME FOR 3/4" COARSE AGGREGATE. AIR ENTRAINING ADMIXTURE TO COMPLY WITH ASTM C260.
E. ALL PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I.
F. ALL NORMAL WEIGHT CONCRETE AGGREGATE SHALL CONFORM TO ASTM C33.
G. MAXIMUM CONCRETE SLUMP SHALL BE 4" FOR CONCRETE NOT RECEIVING HIGH-RANGE WATER REDUCING ADMIXTURES.
H. ALL BARS MARKED CONTINUOUS SHALL BE LAPPED AT SPLICES AND CORNERS IN ACCORDANCE WITH THE SCHEDULE SHOWN ON THESE DRAWINGS, EXCEPT AS OTHERWISE SHOWN OR REQUIRED.
I. WELDING OF REINFORCEMENT IS PROHIBITED U.O.N.
J. ALL REINFORCING BARS SHALL BE OF NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60 (Fy = 60,000 PSI)
K. VERTICAL CONSTRUCTION JOINTS USING APPROVED BULKHEADS MAY BE MADE WITHIN THE MIDDLE THIRD OF BEAM, WALL, OR SLAB SPANS WHERE STOP IN CONCRETE WORK IS NECESSARY. A PLAN SHOWING PROPOSED JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY AS SHOWN ON DRAWINGS. CONSTRUCTION JOINTS SHALL CONFORM TO ACI 318, SECTION 6.4. ALL REINFORCING STEEL SHALL BE CONTINUOUS THROUGH JOINTS U.O.N. FOR ALL CONSTRUCTION JOINTS BELOW WATER TABLE. PROVIDE WATERSTOPS.
L. ALL HORIZONTAL JOINTS IN CONCRETE POURS (WHERE SHOWN ON STRUCTURAL DRAWINGS OR EXPLICITLY APPROVED BY THE ENGINEER IN WRITING) SHALL BE RAKED TO 1/2" AMPLITUDE WHILE CONCRETE IS FRESH.
M. ALL CONCRETE SHALL BE MIXED, TRANSPORTED AND PLACED IN ACCORDANCE WITH ACI STANDARDS 318 AND 304.
N. ALL REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE TO ACI 315.
O. TEST CYLINDERS SHALL BE TAKEN FROM THE MIXER IN ACCORDANCE WITH ASTM C172 AND THE PROJECT SPECIFICATIONS.
P. STONE AGGREGATE USED IN CONCRETE MIX SHALL BE FREE OF MATERIALS WITH HARMFUL REACTIVITY TO ALKALI IN CEMENT.
Q. THE MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) CONTENT IN CONCRETE FROM ALL INGREDIENTS SHALL BE LESS THAN 0.06% OF WEIGHT OF CEMENT, PER ASTM C1218.
2. CONCRETE FOR FOUNDATIONS
A. ALL VERTICAL SURFACES OF CONCRETE SHALL BE FORMED FOR WALLS, FOOTINGS, AND GRADE BEAMS.
B. CONTRACTOR SHALL PROVIDE A MINIMUM AREA OF STEEL REINFORCEMENT EQUAL TO .0018 TIMES THE GROSS CONCRETE AREA IN CONCRETE SLABS AND FOOTINGS, EXCEPT WHERE CONCRETE IS PRESTRESSED. PROVIDE MINIMUM BONDED REINFORCEMENT FOR PRESTRESSED CONCRETE IN ACCORDANCE WITH ACI 318 - SECTION 18.9. FOR WALLS, PROVIDE MINIMUM REINFORCING IN ACCORDANCE WITH ACI 318 - SECTION 14.3.



SITE RETAINING WALL PLAN



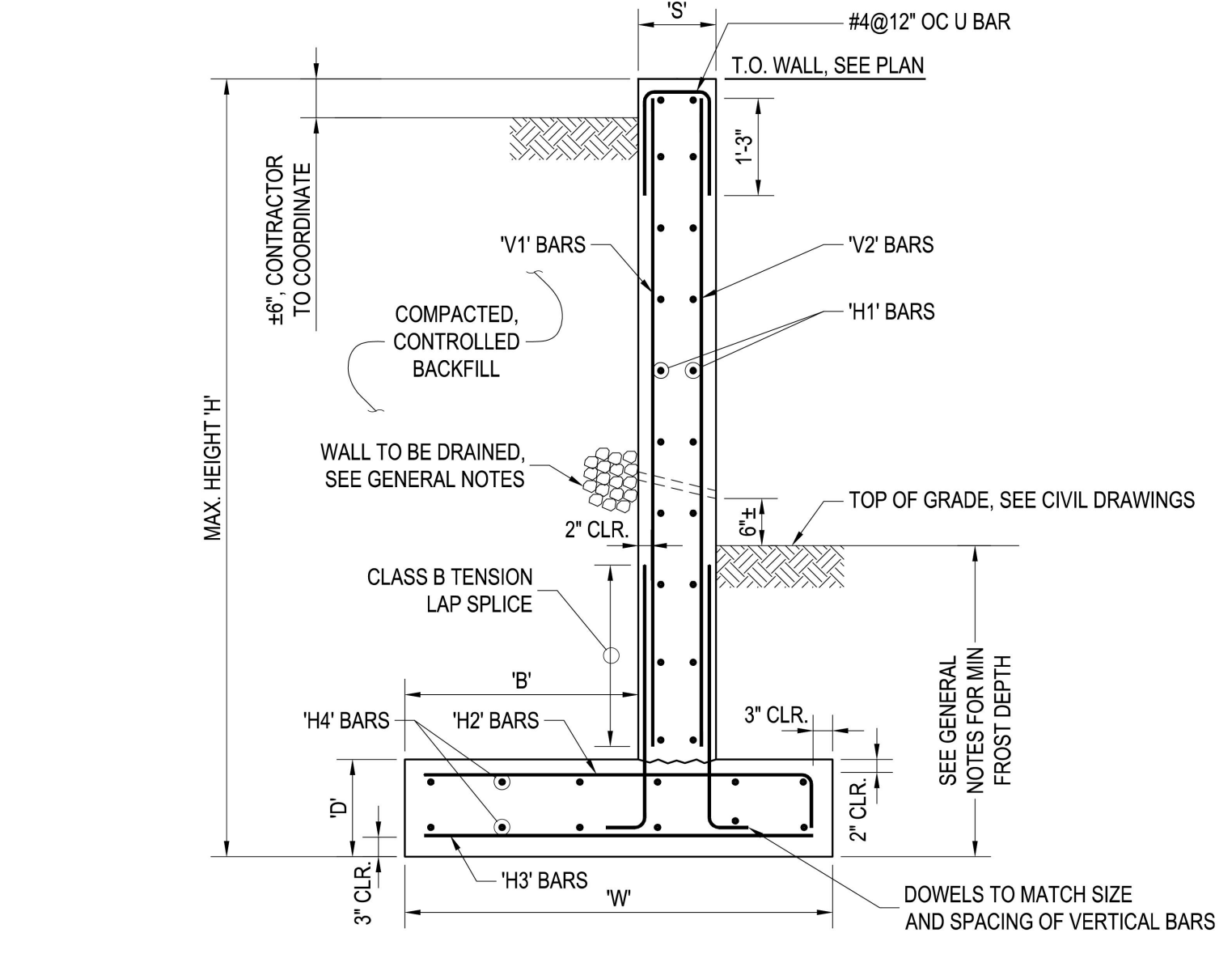
WALL PROFILE



FOUNDATION NOTES

- 1. GENERAL
A. FOUNDATIONS HAVE BEEN DESIGNED TO AN ALLOWABLE SOIL BEARING PRESSURE OF 3,500 PSF, BASED ON A SOILS REPORT ISSUED BY HARDIN-KIGHT ASSOCIATES, INC. DATED FEBRUARY 18, 2021. THIS CAPACITY SHALL BE VERIFIED BY A REGISTERED SOILS ENGINEER. SHOULD CONDITIONS VARY FROM THOSE ASSUMED, THE ARCHITECT SHALL BE NOTIFIED BEFORE CONTINUATION OF WORK.
B. ALL FOOTINGS SHALL BE PLACED DIRECTLY ON COMPETENT NATURAL, GRANULAR SOILS OR ENGINEERED CERTIFIED COMPACTED FILL OVER COMPETENT NATURAL SOILS.
C. ALL FILL SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS (MAXIMUM) COMPACTED WITH VIBRATORY ROLLERS. FILL MATERIAL SHALL BE TESTED BY MODIFIED PROCTOR DENSITY METHOD (ASTM D1557) AND MUST QUALIFY AS SELECT, WITH LESS THAN 10% PASSING THROUGH THE NO. 200 SIEVE. SOIL SHALL BE PLACED WITH MOISTURE CONTENT AND ENERGY TO PROVIDE 92% OF MAXIMUM DRY DENSITY BELOW SLABS ON GRADE AND 95% BELOW FOOTINGS. IN PLACE DENSITY TESTS SHALL BE TAKEN FOR EACH 10,000 s.f. IN EACH LIFT. FOR ACCEPTANCE OF SOIL, AVERAGE OF DENSITY TESTS MUST EXCEED THE SPECIFIED COMPACTION. NO TESTS SHALL BE PERMITTED TO FALL BELOW 88% COMPACTION BELOW SLABS ON GRADE OR 90% COMPACTION BELOW FOOTINGS.
D. ALL FOUNDATION WALLS AND RETAINING WALLS SHALL BE DRAINED. SEE SOILS REPORT MENTIONED IN NOTE 'A' ABOVE FOR REQUIREMENTS.
2. SHALLOW FOUNDATIONS
A. ALL EXTERIOR FOOTINGS SHALL BE PLACED A MINIMUM OF 2'-6" BELOW FINAL GRADE WHEN BEARING ON SOIL.
B. WHERE NECESSARY, FOOTING STEPS SHALL BE CONSTRUCTED AT MAXIMUM SLOPE OF 1 VERTICAL TO 2 HORIZONTAL.
C. EXCAVATIONS SHALL BE DEWATERED TO ALLOW INSTALLATION OF FOOTINGS IN DRY ATMOSPHERE.
D. DIFFERENTIAL BACKFILL AGAINST FOUNDATION WALLS SHALL NOT EXCEED FOUR FEET UNTIL TOP BRACING SLAB OR FRAMEWORK HAS BEEN IN PLACE FOR A MINIMUM OF THREE DAYS. CANTILEVERED RETAINING WALLS MAY BE BACKFILLED AFTER 14 DAYS FROM CONCRETE PLACEMENT, BUT IN NO CASE SHALL DIFFERENTIAL OF BACKFILL, ON OPPOSITE SIDES OF THE WALL, EXCEED THE FINAL DESIGN DIFFERENTIAL.
E. ALL BOTTOM OF FOOTING ELEVATIONS ARE SUBJECT TO CHANGE UPON INSPECTION OF SOIL CONDITION. ELEVATION OF ADJACENT FOOTING BOTTOMS SHALL NOT EXCEED A MAXIMUM SLOPE OF:
2.1.1. 1H:1V FOR COHESIVE SOILS WITH AN UNCONFINED COMPRESSIVE STRENGTH GREATER THAN 0.5 TSF
2.1.2. 1 1/2H:1V FOR COHESIVE SOILS WITH AN UNCONFINED COMPRESSIVE STRENGTH OF 0.5 TSF OR LESS.
F. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHERE BOTTOM OF FOOTING ELEVATION IS CHANGED AND OBTAIN REVISED DESIGN OF THE FOUNDATION AND RETAINING WALLS AS REQUIRED.

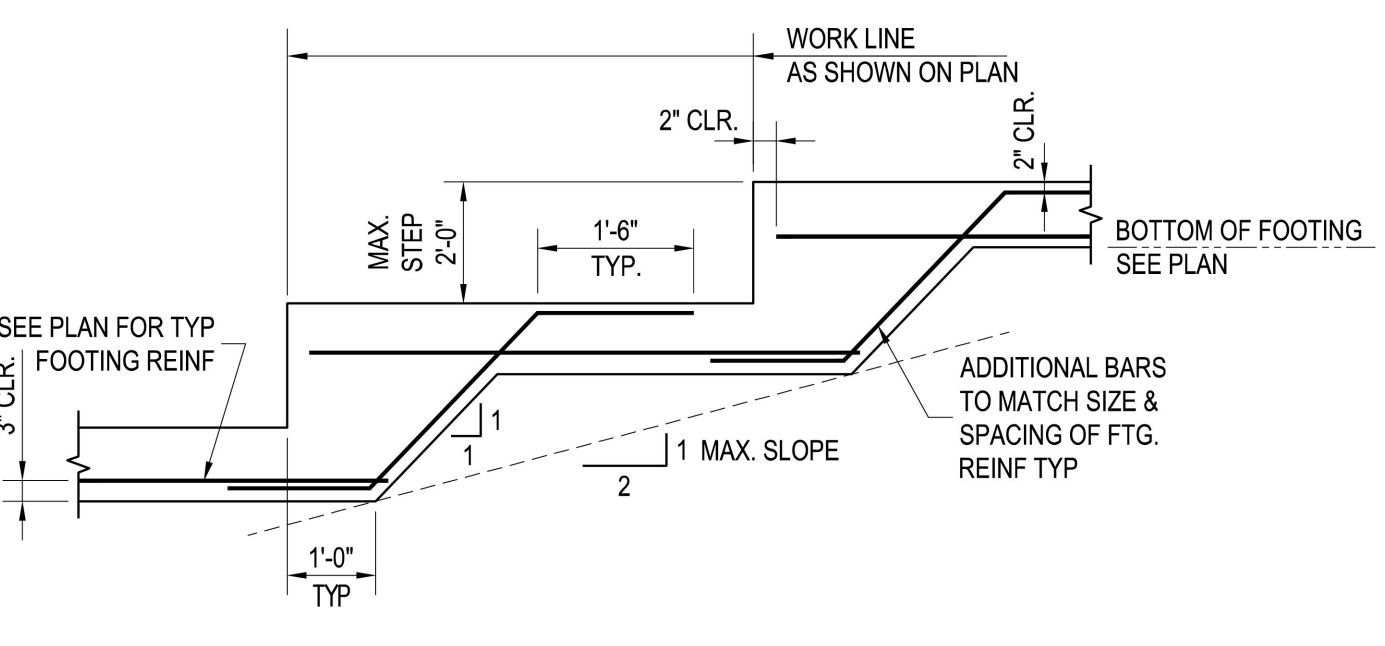
Table with 4 columns: BAR SIZE, CONCRETE STRENGTH (f'c, PSI), TENSION, COMPRESSION. Includes a note about splice lengths and hook factors.



RETAINING WALL SCHEDULE table with columns: SECTION NUMBER, WIDTH 'W', HEEL 'B', FTG. 'D', STEM 'S', 'V1' BARS, 'V2' BARS, 'H1' BARS, 'H2' BARS, 'H3' BARS, 'H4' BARS, MAX. HEIGHT 'H'.

A TYP. RETAINING WALL DETAIL & SCHEDULE

- NOTES:
1. ELEVATION OF BOTTOM OF WALL FOOTINGS ARE INDICATED ON PLAN THUS: (000.00).
2. REINFORCED CONCRETE RETAINING WALLS ARE INDICATED ON PLAN THUS: [Symbol] REFER TO RETAINING WALL SCHEDULE SHOWN IN DETAIL A.
3. TOP OF WALL ELEVATION TO BE WITHIN 6" ABOVE OR BELOW FINISHED GRADE ELEVATION, REFER TO CIVIL DRAWINGS. CONTRACTOR TO STEP TOP OF WALL, AS REQUIRED.
4. EQUIPMENT AND MATERIALS ARE NOT TO BE STAGED IN A MANNER THAT THE LOADING WOULD EXCEED 100 PSF IN REGION SHOWN ON PLAN THUS: [Symbol]



B TYP. STEPPED FOOTING DETAIL

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

McLaren ENGINEERING GROUP applied ingenuity McLaren Technical Services, Inc.

Professional Engineer Seal for Paul Gerard Cavanaugh, State of Maryland, License No. 33582.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

Paul G. Cavanaugh 11/6/2023 PAUL GERARD CAVANAUGH DATE

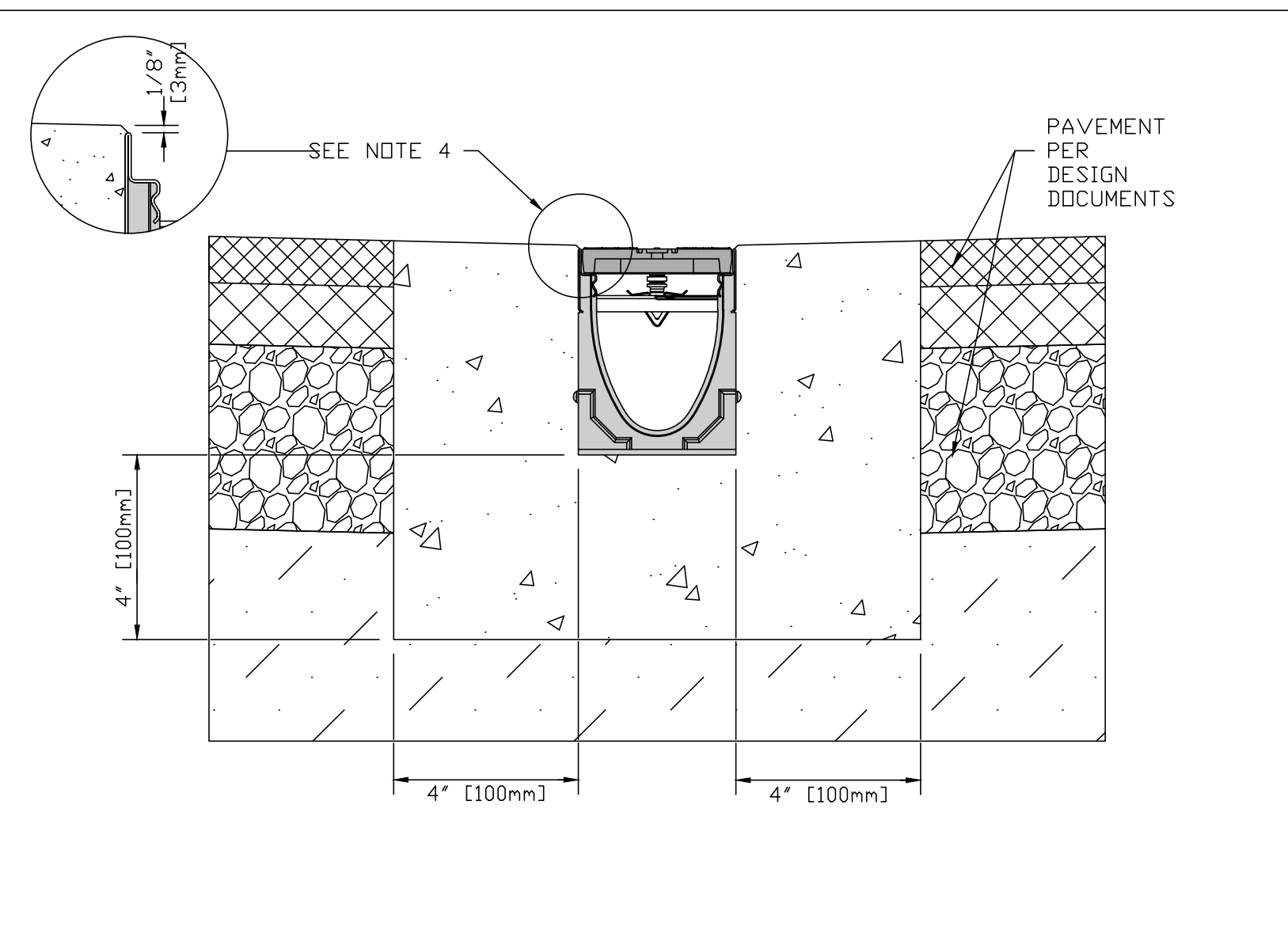
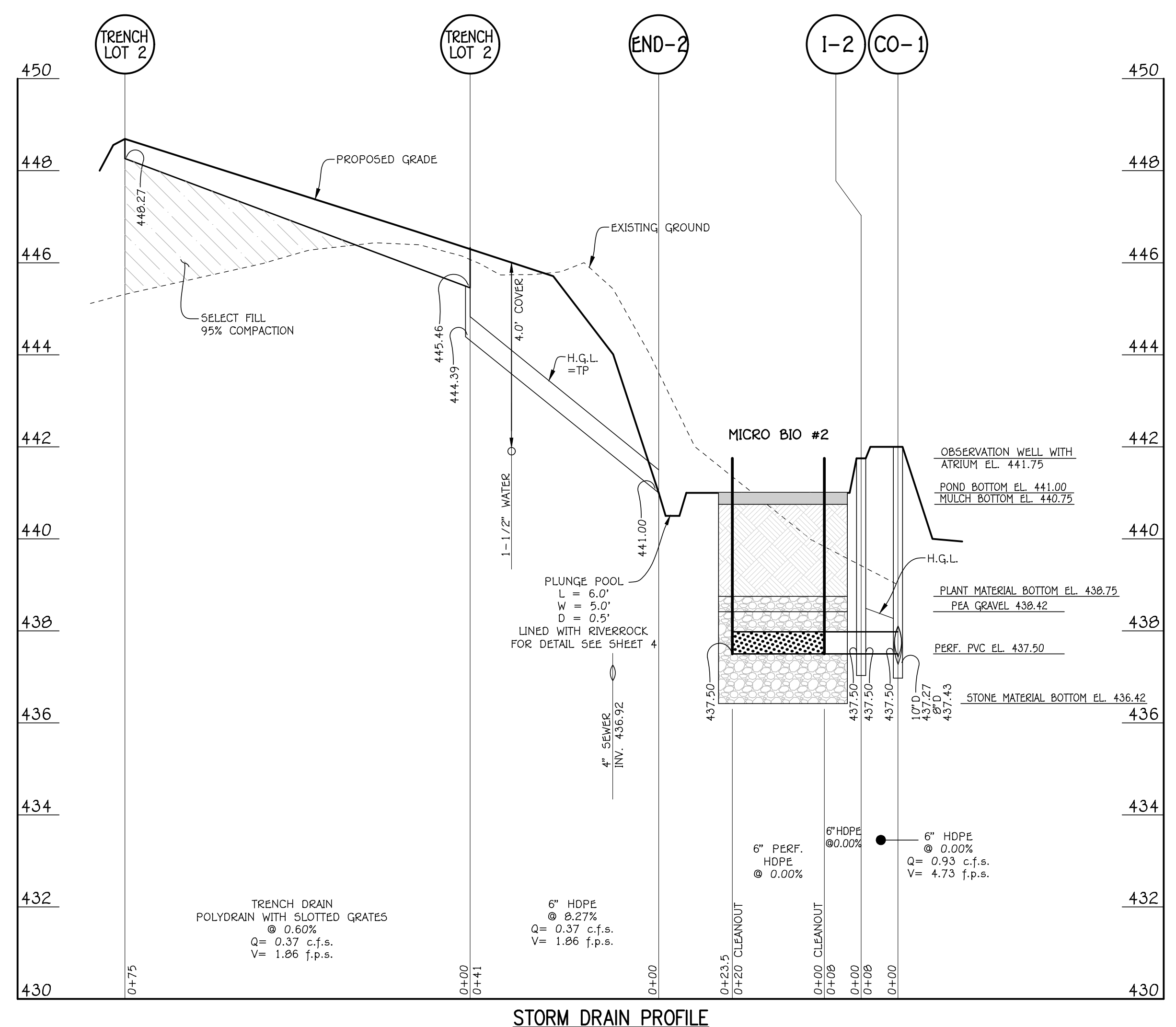
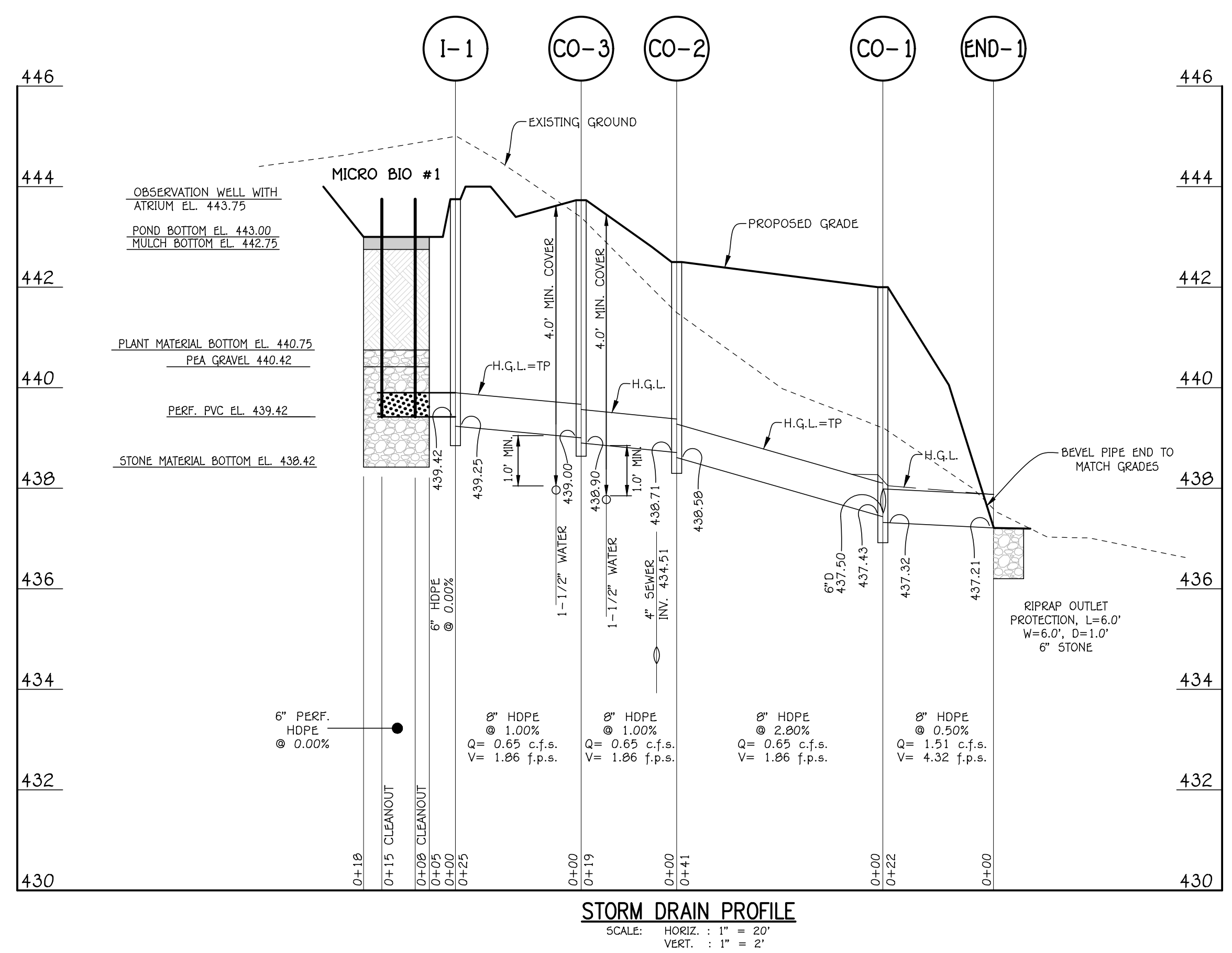
Table with columns: DATE, DESCRIPTION, REVISION BLOCK. Includes signatures and dates for approval.

OWNER/DEVELOPER DIVYESH SAPARIYA, SOHILRAJ SAPARIYA AND HITESH ANKOLA 5669 TROTTER ROAD CLARKSVILLE, MARYLAND 21029 PH# 301-275-0762

Professional Engineer Seal for Lydia Eisenberg, State of Maryland, License No. 33582.

ADDRESS CHART table with columns: PARCEL NO., LOT NO., STREET ADDRESS. Includes project information and codes.

SITE RETAINING WALL, DETAILS AND NOTES SAPARIYA PROPERTY LOTS 1 AND 2 5669 TROTTER ROAD A RESUBDIVISION OF CRISWOOD MANOR SECTION TWO - LOT 65



SPECIFICATION CLAUSE
K100 KLASIKRAIN 'QUICKLOK' LOAD CLASS A

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K100 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:
 COMPRESSIVE STRENGTH: 14,000 PSI
 FLEXURAL STRENGTH: 4,000 PSI
 TENSILE STRENGTH: 1,500 PSI
 WATER ABSORPTION: 0.07%
 FROST PROOF: YES
 DILUTE ACID AND ALKALI RESISTANT: YES
 B117 SALT SPRAY TEST COMPLIANT: YES

THE SYSTEM SHALL BE 4" (100mm) NOMINAL INTERNAL WIDTH WITH A 5.1" (130mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'QUICKLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

- NOTES:**
- IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE REQUIRED.
 - MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
 - EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. ENGINEERING ADVICE MAY BE REQUIRED.
 - THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" (3mm) ABOVE THE TOP OF THE CHANNEL EDGE. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
 - REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

PIPE SCHEDULE

SIZE	CLASS	LENGTH
6"	HOPE	63 L.F.
6"	PERF. PVC	59 L.F.
8"	HOPE	107 L.F.

STRUCTURE SCHEDULE

STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	INTERIOR WIDTH	TYPE	REMARKS
I-1	PRIVATE	443.75 *	439.42 (6")	439.25 (8")	N 564,175.60 E 1,334,983.80	24"	NYLOPLAST DRAIN BASIN	PERFORATED GRATE
I-2	PRIVATE	443.75 *	439.75 (6")	440.25 (8")	N 564,104.61 E 1,335,029.77	24"	NYLOPLAST DRAIN BASIN	PERFORATED GRATE
CO-3	PRIVATE	443.73	439.00 (8")	438.90 (8")	N 564,155.00 E 1,334,997.11	8"	NYLOPLAST DRAIN BASIN	REMOVABLE CAP
CO-2	PRIVATE	442.50	438.71 (8")	438.58 (8")	N 564,135.68 E 1,334,998.14	8"	NYLOPLAST DRAIN BASIN	REMOVABLE CAP
CO-1	PRIVATE	442.00	437.43 (8"), 437.50 (6")	437.32 (8")	N 564,102.43 E 1,335,021.77	8"	NYLOPLAST DRAIN BASIN	REMOVABLE CAP
END-2	PRIVATE	-	-	441.00 (6")	N 564,140.57 E 1,335,027.23	6"	BEVEL PIPE END TO MATCH GRADES	-
END-1	PRIVATE	-	-	437.21 (10")	N 564,080.30 E 1,335,022.48	10"	BEVEL PIPE END TO MATCH GRADES	-
TRENCH DRAIN - 1	PRIVATE	SEE PLAN	-	445.46 (6")	N 564,178.13 E 1,335,042.61 N 564,214.03 E 1,335,108.44	6"	POLYDRAIN TRENCH DRAIN	LOAD CLASS LIGHT TRAFFIC

* - DENOTES GRATE ELEVATION



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

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Paul G. Cavanaugh
PAUL GERARD CAVANAUGH
11/6/2023
DATE

DATE	DESCRIPTION	REVISION BLOCK
12/3/2023	APPROVED: DEPARTMENT OF PLANNING AND ZONING	
11/29/2023	Director - Department of Planning and Zoning	
12/3/2023	Chief, Division of Land Development	
	Chief, Development Engineering	

OWNER/DEVELOPER
DIVYESH SAPARIYA,
SOHILRAJ SAPARIYA AND
HITESH ANKOLA
5669 TROTTER ROAD
CLARKSVILLE, MARYLAND 21029
PH# 301-275-0762



ADDRESS CHART

PARCEL NO.	LOT NO.	STREET ADDRESS
0180	1	5669 TROTTER ROAD
	2	5673 TROTTER ROAD

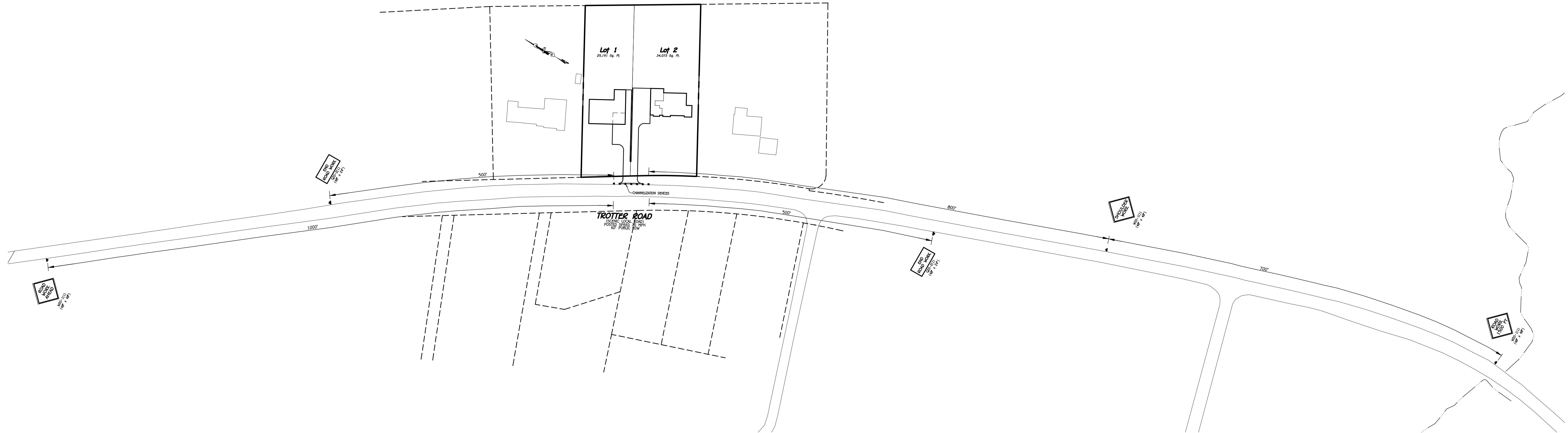
PROJECT
SAPARIYA PROPERTY

SECTION/AREA	PARCEL
5/2	0180

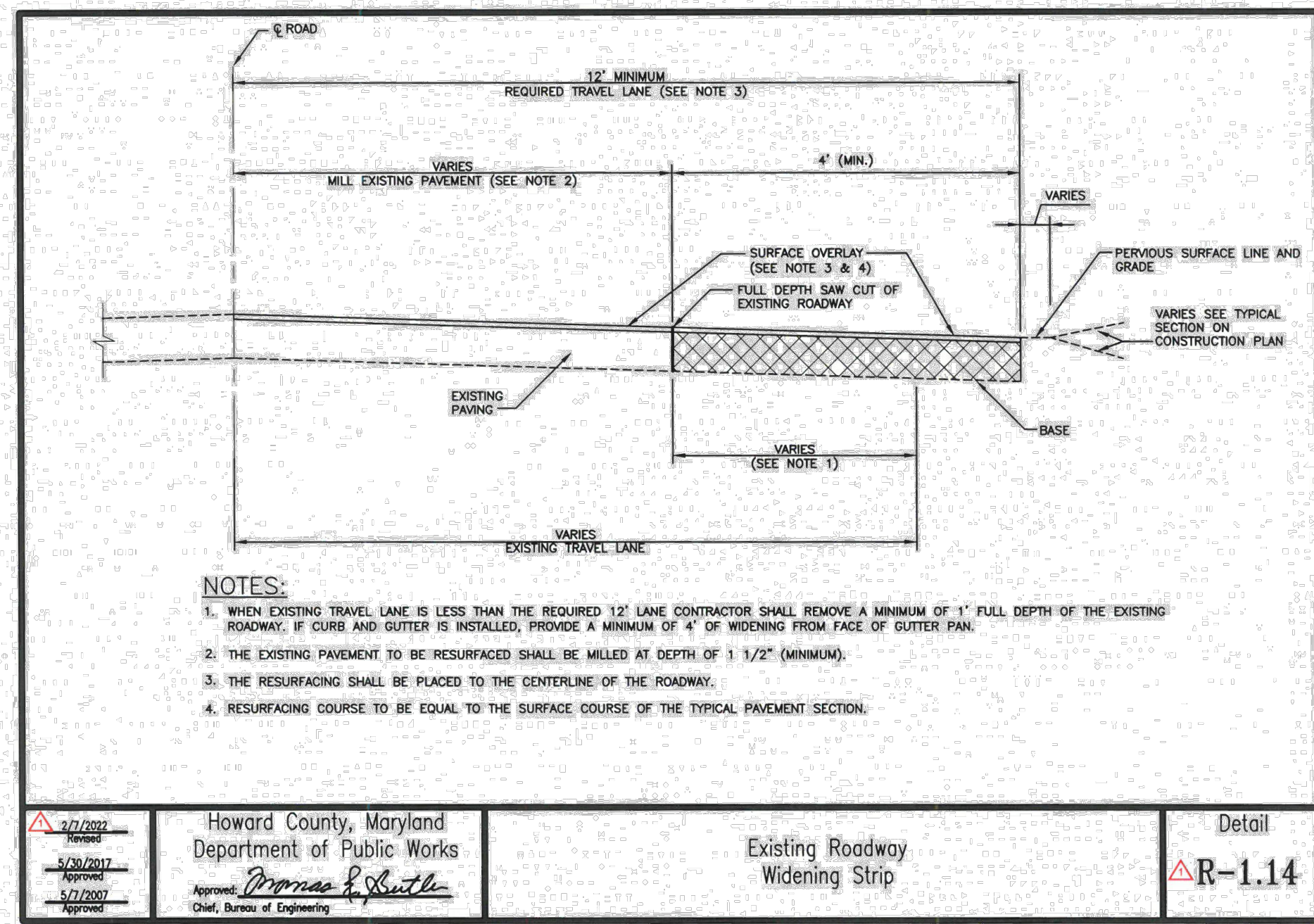
PLAT NOS.	GRID NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
26302	2	R-20	35	FIFTH	605505

WATER CODE: --- SEWER CODE: ---

PROFILES
SAPARIYA PROPERTY
5669 TROTTER ROAD
A RESUBDIVISION OF CRISWOOD MANOR
SECTION TWO - LOT 65
PLAT BOOK 5, PAGE 52
ZONED: R-20
TAX MAP: 35 GRID: 2 PARCEL: 0180
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: NOVEMBER, 2023
SHEET 9 OF 10
SCALE: AS SHOWN

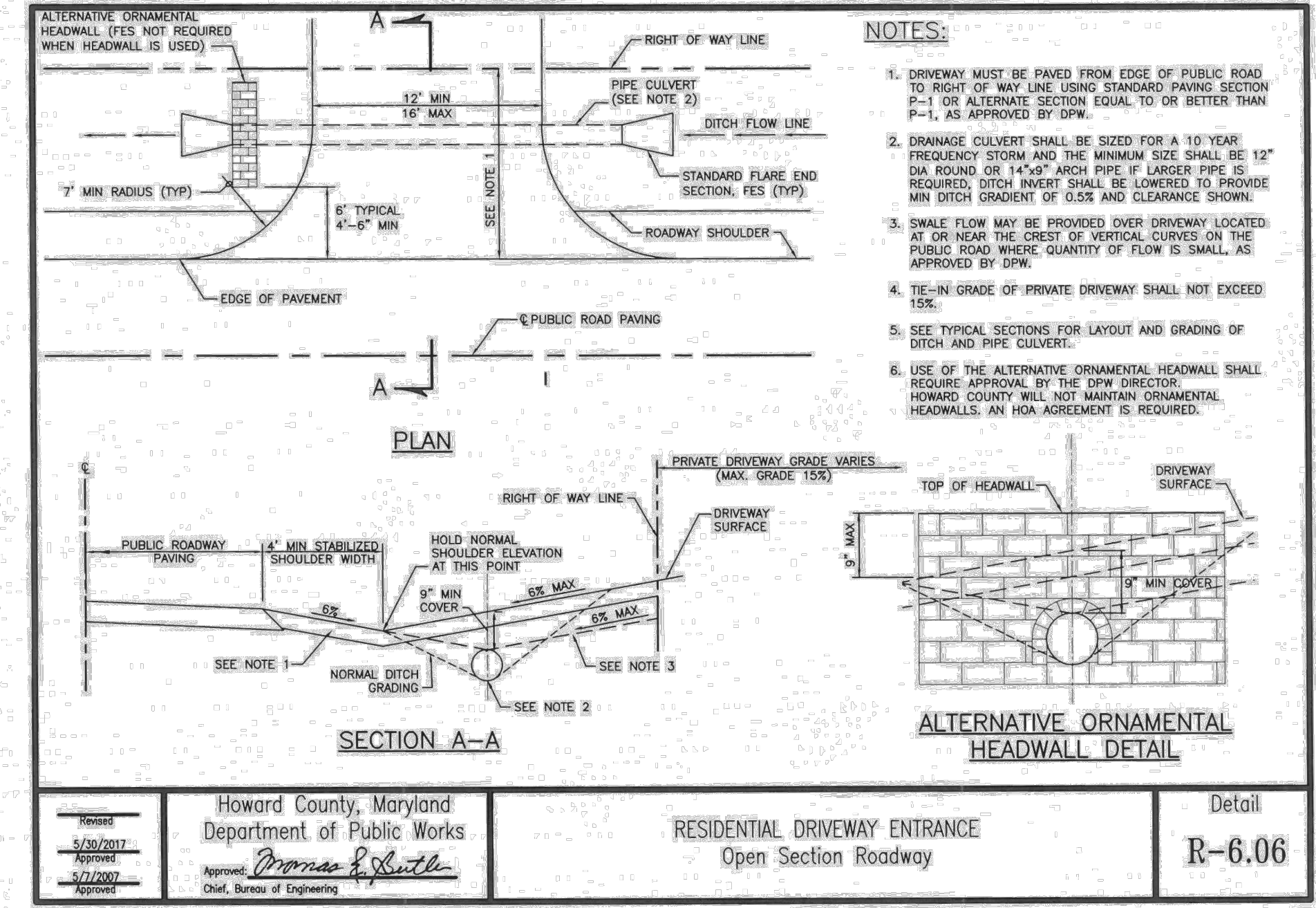


TRAFFIC CONTROL PLAN
SCALE: 1" = 80'
0' 80' 160' 240'



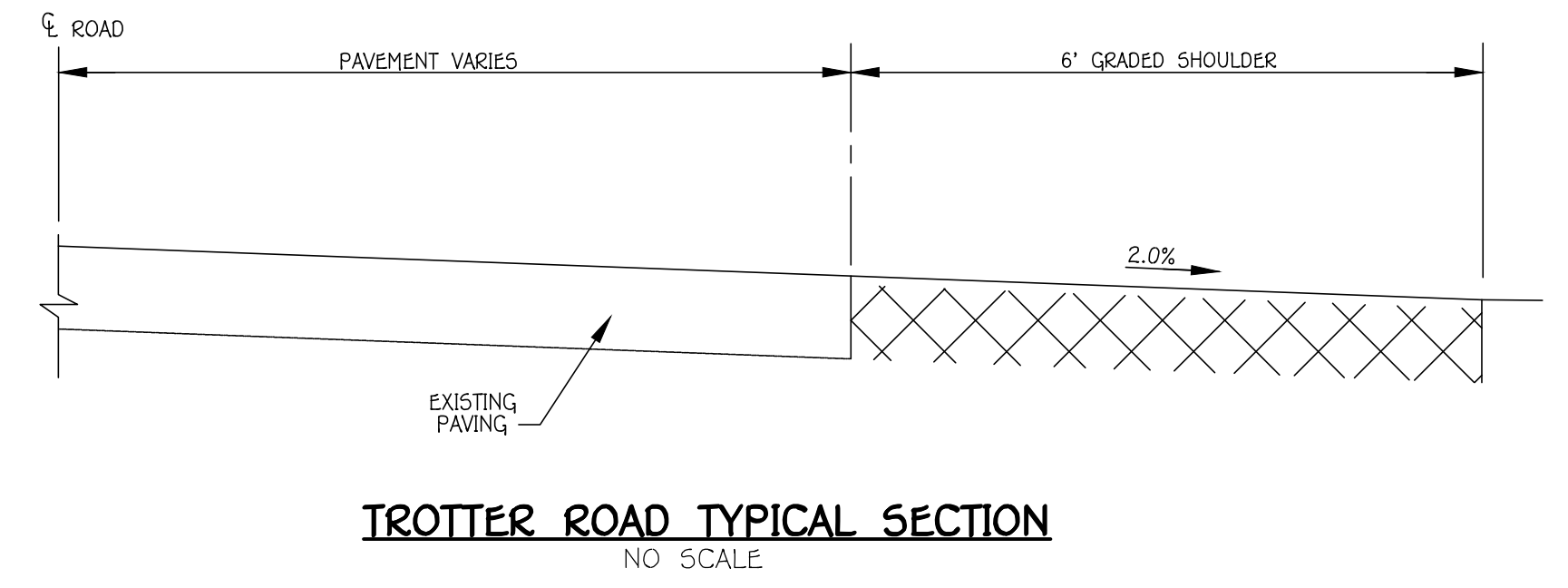
- NOTES:**
- WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE A MINIMUM OF 1" FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4" OF WIDENING FROM FACE OF GUTTER PAN.
 - THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED 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.

Howard County, Maryland
Department of Public Works
Existing Roadway Widening Strip
Detail
R-1.14
Approved: *Paul G. Cavanaugh*
Chief, Bureau of Engineering



- NOTES:**
- DRIVEWAY MUST BE PAVED FROM EDGE OF PUBLIC ROAD TO RIGHT OF WAY LINE USING STANDARD PAVING SECTION P-1 OR ALTERNATE SECTION EQUAL TO OR BETTER THAN P-1, AS APPROVED BY DPW.
 - DRAINAGE CULVERT SHALL BE SIZED FOR A 10 YEAR FREQUENCY STORM AND THE MINIMUM SIZE SHALL BE 12" DIA ROUND OR 14.5" ARCH PIPE IF LARGER PIPE IS REQUIRED; DITCH INVERT SHALL BE LOWERED TO PROVIDE MIN DITCH SLOPE OF 0.5% AND CLEARANCE SHOWN.
 - SWALE FLOW MAY BE PROVIDED OVER DRIVEWAY LOCATED AT OR NEAR THE CREST OF VERTICAL CURVES ON THE PUBLIC ROAD WHERE QUANTITY OF FLOW IS SMALL, AS APPROVED BY DPW.
 - THE IN-GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 15%.
 - SEE TYPICAL SECTIONS FOR LAYOUT AND GRADING OF DITCH AND PIPE CULVERT.
 - USE OF THE ALTERNATIVE ORNAMENTAL HEADWALL SHALL REQUIRE APPROVAL BY THE DPW DIRECTOR. HOWARD COUNTY WILL NOT MAINTAIN ORNAMENTAL HEADWALLS; AN HOA AGREEMENT IS REQUIRED.

Howard County, Maryland
Department of Public Works
RESIDENTIAL DRIVEWAY ENTRANCE
Open Section Roadway
Detail
R-6.06
Approved: *Paul G. Cavanaugh*
Chief, Bureau of Engineering



TROTTER ROAD TYPICAL SECTION
NO SCALE

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-1	PARKING BAYS: RESIDENTIAL AND NON-RESIDENTIAL	PAVEMENT MATERIAL (INCHES)		MIN HMA WITH GAB		HMA WITH CONSTANT GAB	
	PARKING DRIVE ASILES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE N/A	N/A	N/A	N/A	N/A	N/A
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0
	GRADED AGGREGATE BASE (GAB)	0.5	7.0	5.0	4.0	4.0	4.0

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Paul G. Cavanaugh
PAUL GERARD CAVANAUGH
DATE: 11/6/2023

DATE	DESCRIPTION	REVISION BLOCK
12/3/2023	APPROVED: DEPARTMENT OF ENGINEERING AND ZONING	<i>Linda Eisenberg</i> Date: 12/3/2023
11/29/2023	Director - Department of Engineering and Zoning	<i>Linda Eisenberg</i> Date: 11/29/2023
12/3/2023	Chief, Division of Land Development	<i>Paul G. Cavanaugh</i> Date: 12/3/2023
	Chief, Development	<i>Paul G. Cavanaugh</i> Date:

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PROJECT		SECTION/AREA	PARCEL		
SAPARIYA PROPERTY		5/2	0180		
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26302	2	R-20	35	FIFTH	605505
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TRAFFIC CONTROL PLAN
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