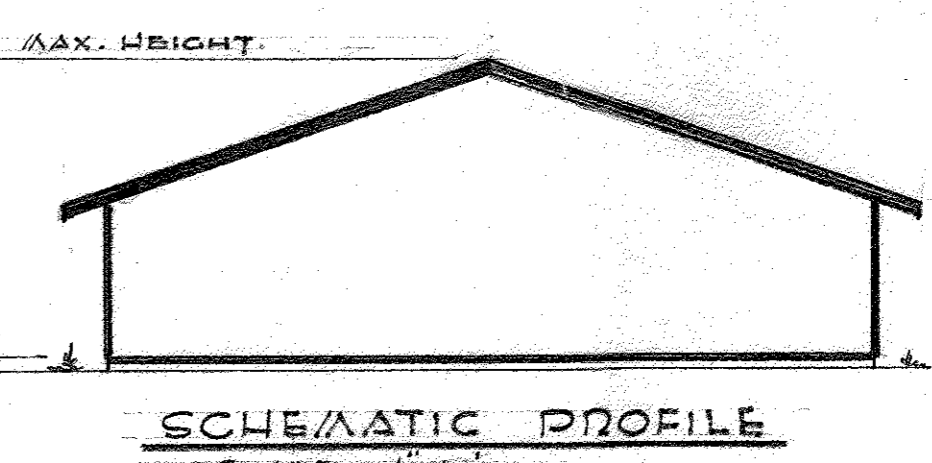
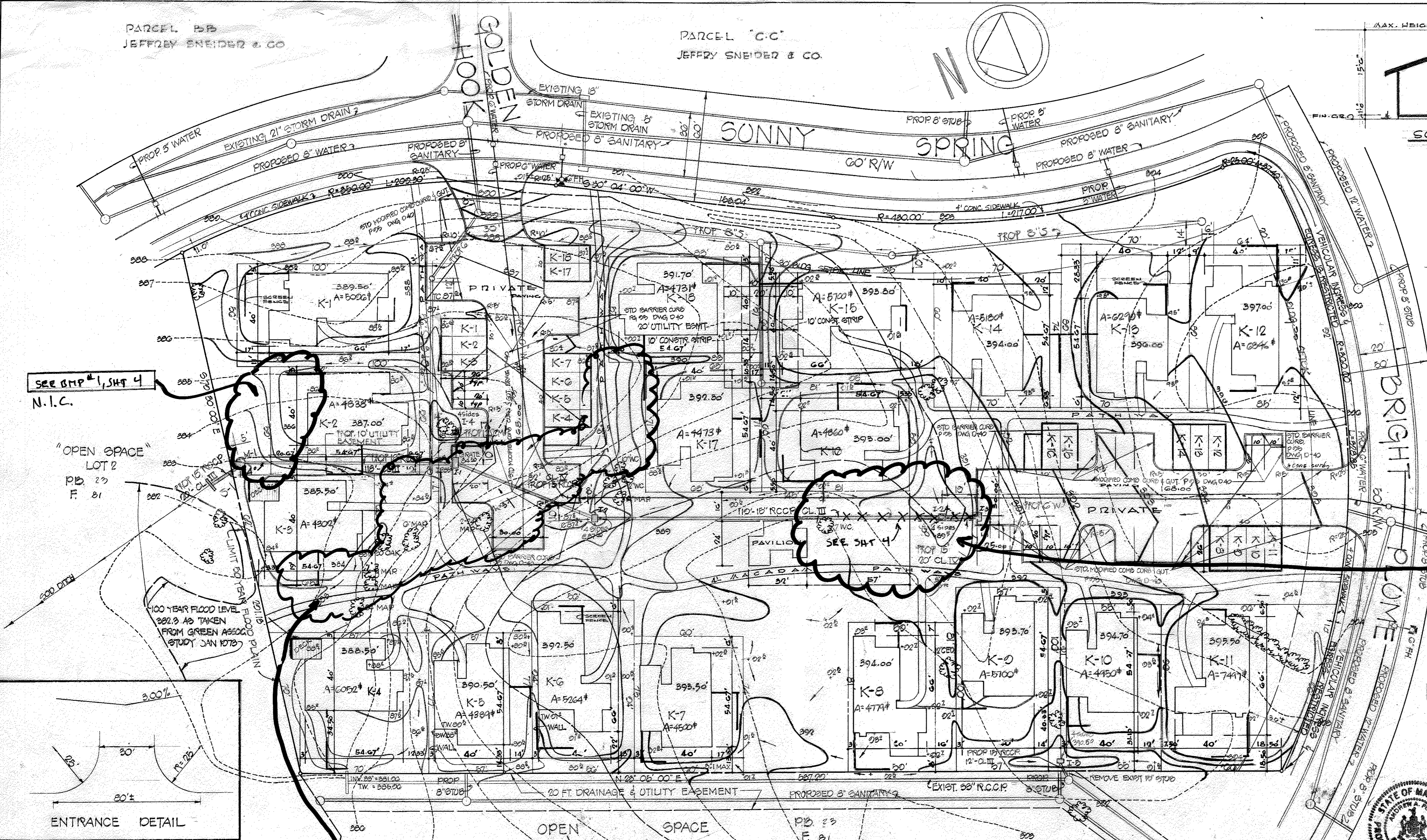
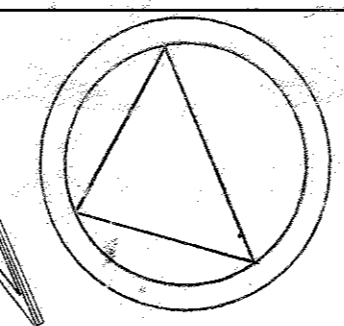
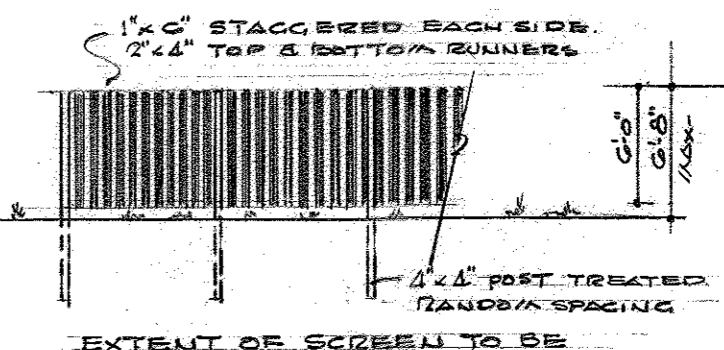


PARCEL B-B
JEFFREY SNEIDER & CO

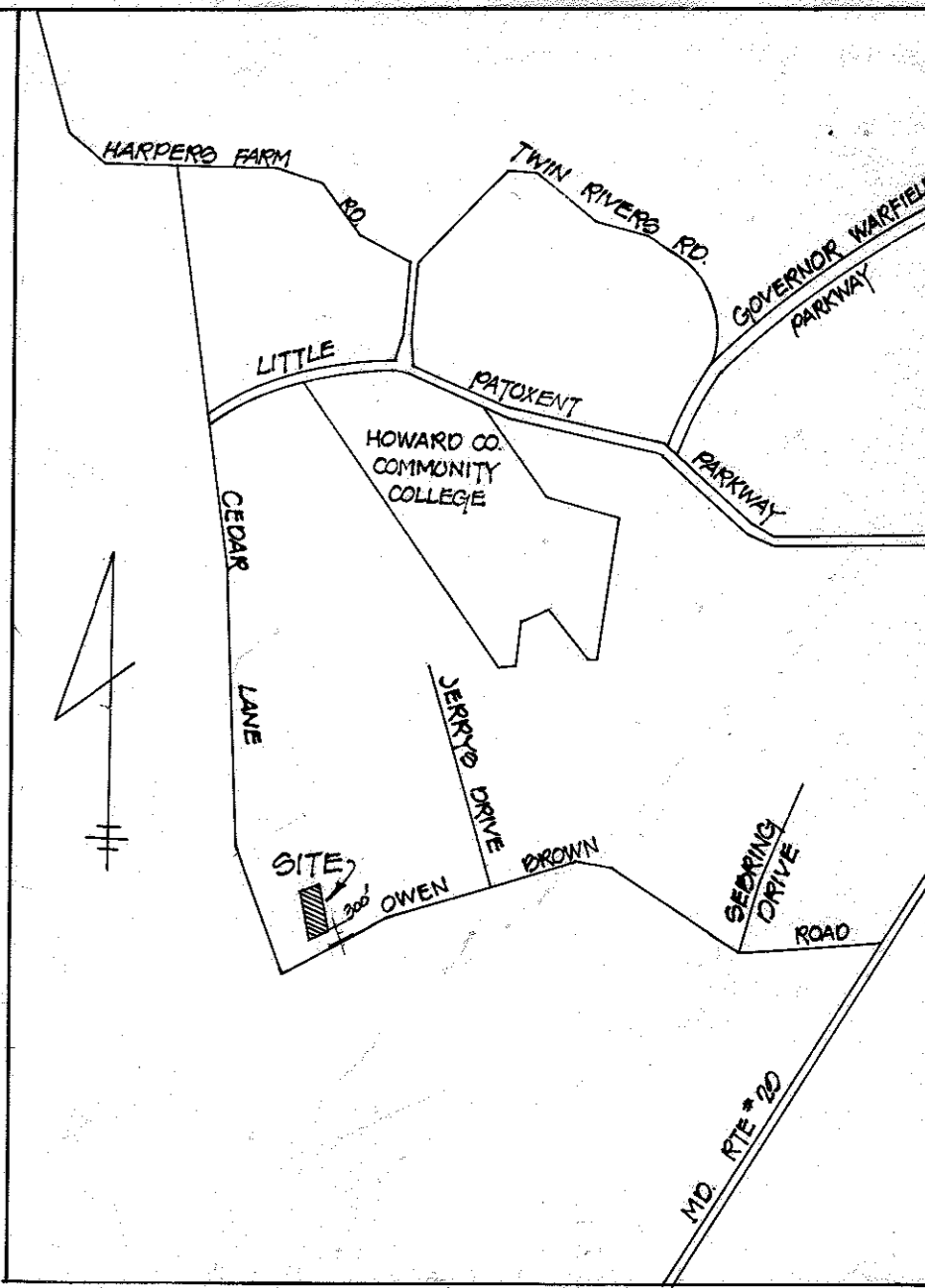
PARCEL C-C
JEFFREY SNEIDER & CO



SCHEMATIC PROFILE
SCALE 1"=10'



SCREEN FENCE
SCALE 1"=10'



VICINITY MAP
SCALE 1"=2000'

PARCEL J'
RESEARCH HOMES

DENSITY CALCULATIONS

MEDIUM DENSITY	
RESIDENTIAL LOTS	2.100 AC
RIGHT OF WAY	AC
CARPORT LOTS	0.103 AC
TOTAL	4.203 AC
TOTAL NO. PARKING SPACES	24
TOTAL NO. OF RESIDENTIAL LOTS	13
TOTAL NO. OF CARPORT SPACES	13
TOTAL NO. OF SPACES (COMMUNITY OWNED & CARPORT LOTS)	42
% COVERAGE OF BUILDING ON EACH LOT	35%
% COVERAGE OF BUILDINGS ON ENTIRE TRACT	10%

APPROVED
DIVISION OF LAND DEVELOPMENT
AND TRANSPORTATION PLANNING
HOWARD COUNTY, MARYLAND
DATE 3/29/74



REVIEWED FOR _____ S.C.D.
NAME _____
AND MEETS TECHNICAL REQUIREMENTS
SIGNATURE _____ DATE _____
OS SOIL CONSERVATION SERVICE
THIS DEVELOPMENT PLAN IS APPROVED
FOR SOIL EROSION AND SEDIMENT CONTROL
BY THE HOWARD SOIL CONSERVATION DISTRICT
APPROVED _____ DATE _____
HOWARD S.C.D.

SITE DEVELOPMENT PLAN

LOTS K-1 TO K-13

A REBUDIVISION OF

'PARCEL K'
SECT-1 AREA-1
"HICKORY RIDGE"

VILLAGE OF HICKORY RIDGE

5th ELECTION DISTRICT HOWARD COUNTY MARYLAND
TAX MAP: NO. 35 SCALE 1"=30' MARCH 8, 1973

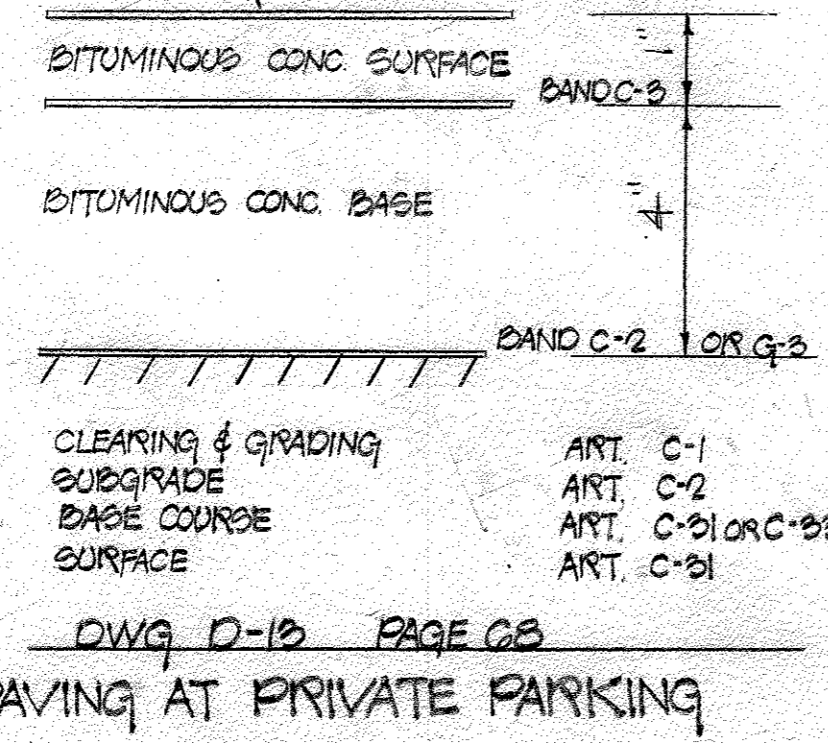
REVISOR 12/27/2016 ADD SWM REVISED DEC 4, 1973
REVISED JAN 5, 1974
REVISED 3/9/74
REVISED 3/21/74
S.H. 1 of 7

INDEX OF SHEETS

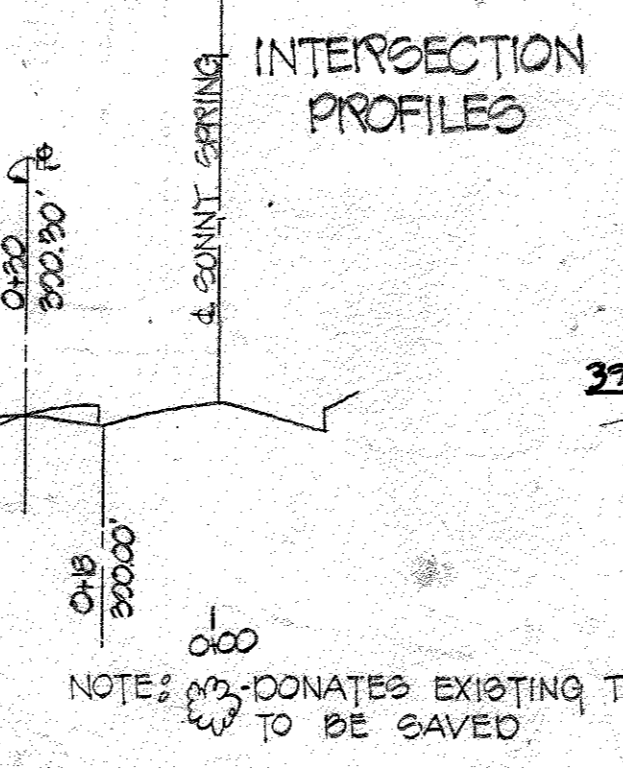
DWG NO.	DESCRIPTION
1	- SITE DEVELOPMENT PLAN
2	- STORM DRAIN PLAN & PROFILE
3	- DRAINAGE AREA MAP
1	- WATER & SEWER COVER SHEET
2	- WATER & SEWER PLAN & PROFILE
4	- SWM PLAN & BMP #3
5	- SWM PROFILES & DETAILS (BMP #3) A
6	- SWM NOTES & DETAILS (BMP #3) B
7	- PLANTING PLANS & FB DETAIL (BMP #3) B

APPROVED FOR PUBLIC WATER AND PUBLIC SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER 4/24/74
DATE
APPROVED: Thomas G. Hemphill 5-3-74
PLANNING DIRECTOR DATE
A. Clausen 5/3/74
CHIEF DIV OF LAND DEVELOPMENT DATE
APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM
DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Wills - A. Altman 4/11/74
DIRECTOR DATE
D. N. McElhand 4/9/74
CHIEF BUREAU OF HIGHWAYS DATE

GENERAL NOTES
1. PRESENT ZONING - SINGLE FAMILY MEDIUM DENSITY
2. PROPOSED ZONING - SINGLE FAMILY MEDIUM DENSITY
3. ALL BUILDING RESTRICTION LINES SHALL BE IN ACCORDANCE WITH THE FINAL DEVELOPMENT PLAN PHASE 100
4. ALL MATERIAL AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
5. BASE WILL BE PRIMED IN ACCORDANCE WITH SECTION C-20-3 AS PROVIDED IN THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
6. TACK COAT IS REQUIRED IN ACCORDANCE WITH SECTION C-21-4 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS. ROAD CODE 1 & 4



NOTES
* CORING SHOWN IS STANDARD 7" CONC CURB & GUTTER SHOWN ON DRAWING D-40 HOWARD CO STANDARD DETAILS



FIELD RUN
TOPOGRAPHICAL SURVEY
SITE INFORMATION TAKEN FROM SURVEY BY:
MALCOLM E. HODKINS ASSOC. INC.
CIVIL ENGINEERS & LAND SURVEYORS
JOSEPH SQUARE, COLUMBIA, MD.

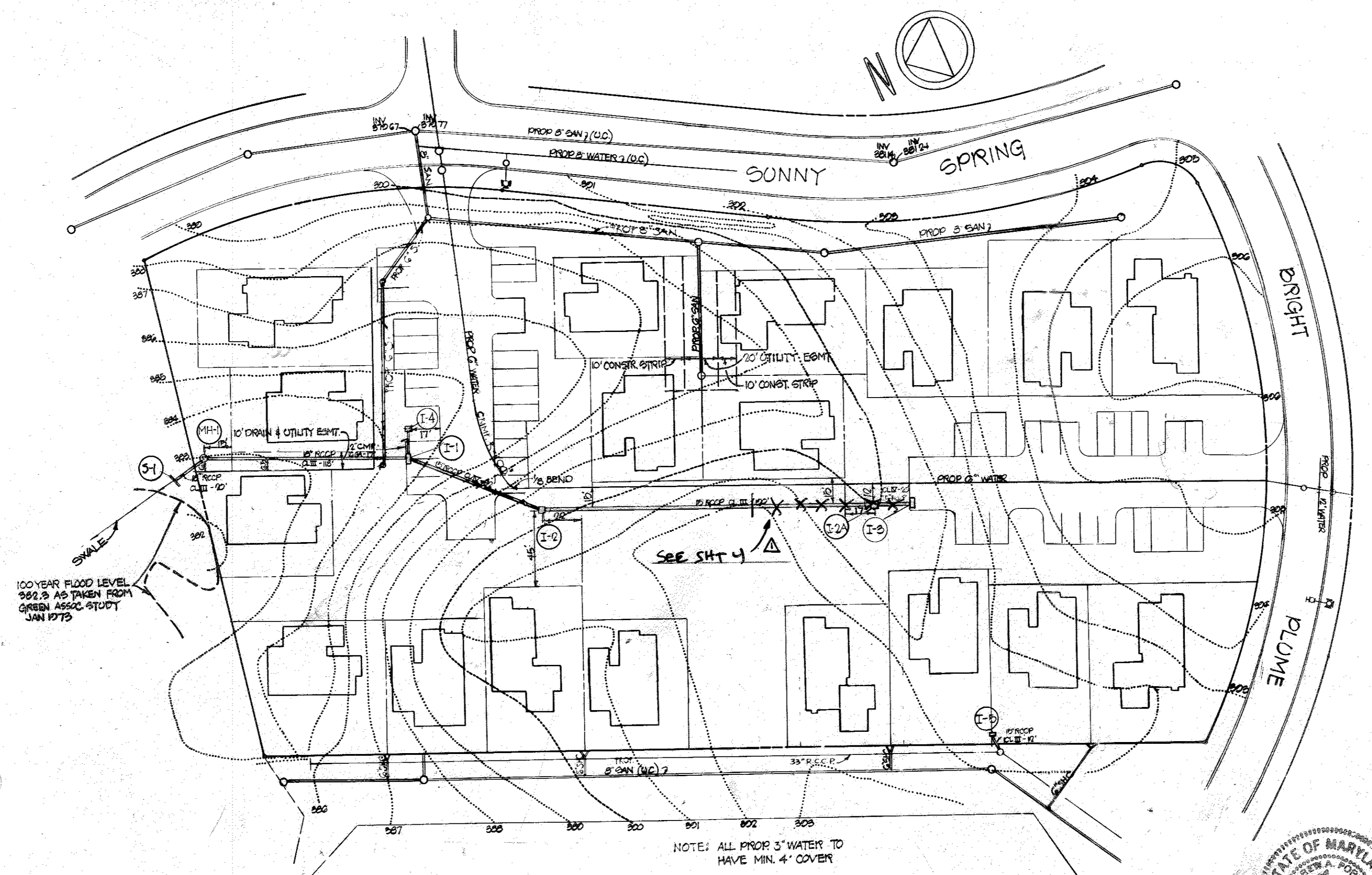
PROFESSIONAL ENGINEER
I, CERTIFY THAT THE PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
SIGNATURE: [Signature] DATE: 3/13/73

DEVELOPER
I, CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
SIGNATURE: [Signature] DATE: 3/15/73

HOWARD SOIL CONSERVATION DISTRICT
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
DISTRICT CONSERVATIONIST 5-20-74
DATE
Robert J. [Signature] 5-20-74
DATE
HOWARD SOIL CONSERVATION DISTRICT

john n. bowers, inc.
builders
columbia, maryland 21043

date
dwg. no.
1 of 7
revisions



PLAN
SCALE 1"=50'

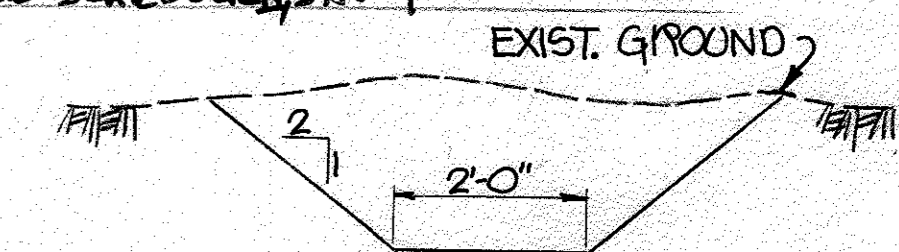


APPROVED
DIVISION OF LAND DEVELOPMENT
AND TRANSPORTATION PLANNING
HOWARD COUNTY, MARYLAND
DATE 3/20/74
JAC

STRUCTURE SCHEDULE I^a

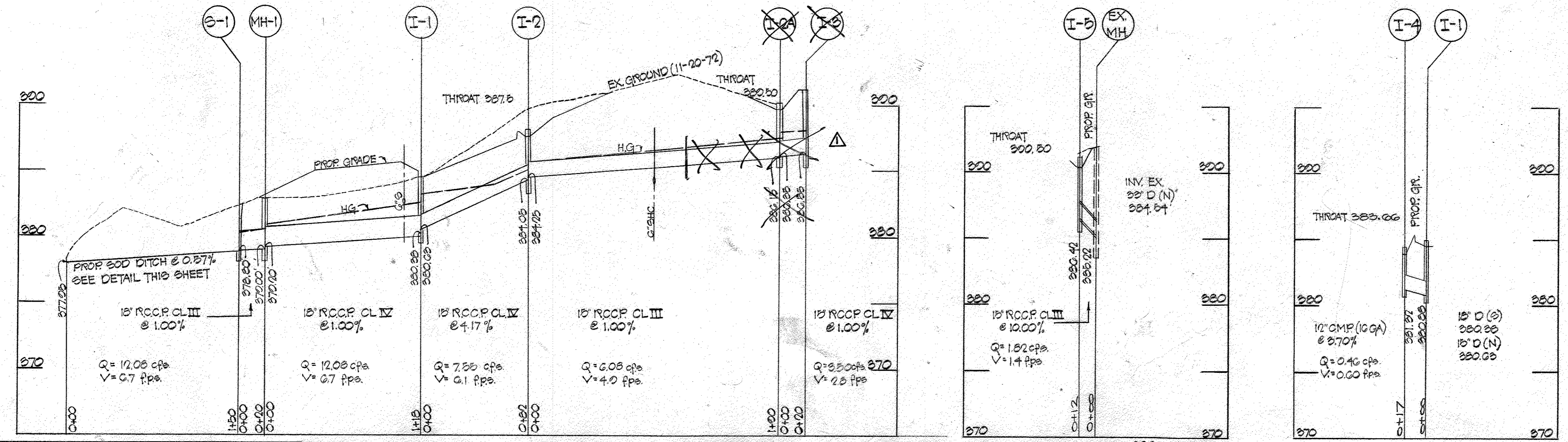
NUMBER	TYPE	INVERT OUT	TOP ELEV.	
MH-1	SHALLOW MH.	379.00	383.50	
I-3	SINGLE 'S' COMP.	386.33	391.23	Δ
I-2A	C-INLET	388.15	390.34	THROAT 389.50 Δ
I-2	C-INLET	384.05	388.34	THROAT 387.50
I-1	SINGLE 'S' COMP.	380.38	385.34	
I-4	C-INLET	381.32	384.50	THROAT 383.66
S-1	C-ENDWALL	378.80	381.10	
I-5	C-INLET	386.42	391.33	THROAT 390.50

^a SEE STRUCTURE SCHEDULE I, SHT 4 Δ



DITCH DETAIL
NO SCALE

REVIEWED FOR _____ SCD
NAME _____
AND MEETS TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
SIGNATURE _____ DATE _____
US SOIL CONSERVATION SERVICE APPROVED _____ DATE _____
HOWARD SCD



PROFESSIONAL ENGINEER
I CERTIFY THAT THE PLAN FOR EROSION AND SEDIMENT 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: *Joseph Square*
DATE: 3-18-74

DEVELOPER
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
SIGNATURE: *John N. Bowers, Inc.*
DATE: 3/15/74

HOWARD SOIL CONSERVATION DISTRICT
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
DISTRICT CONSERVATIONIST _____ DATE _____
See Sheet #1 for approval
HOWARD SOIL CONSERVATION DISTRICT

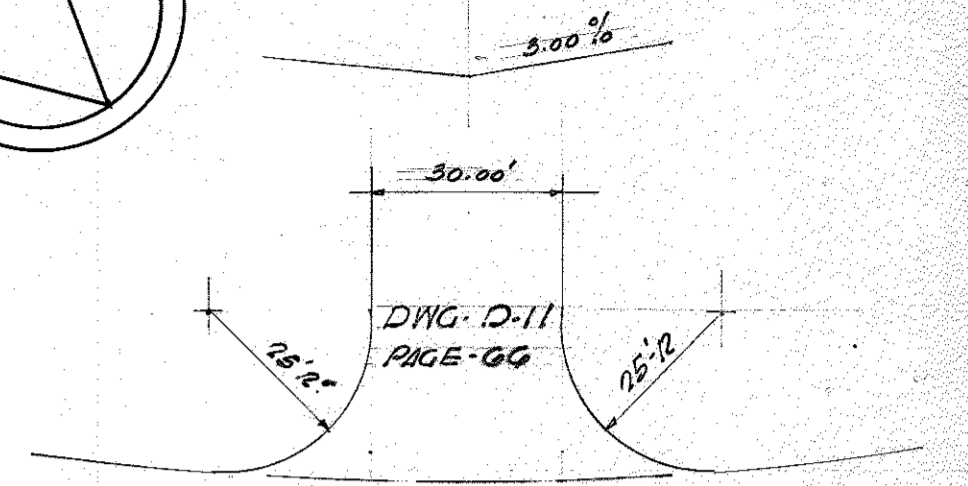
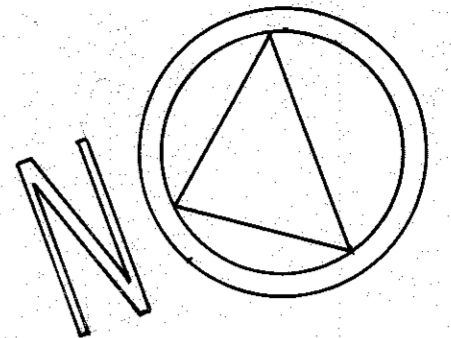
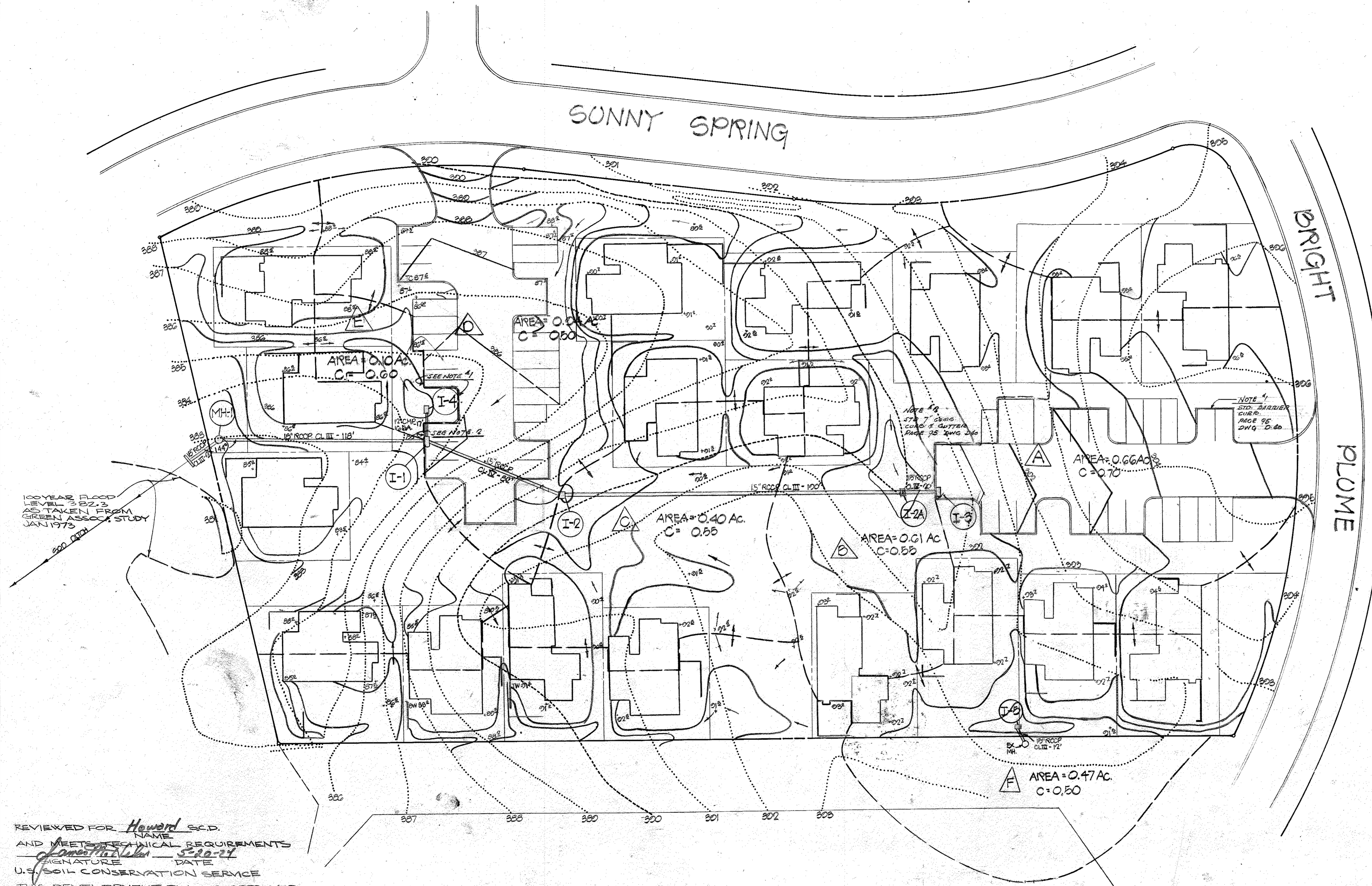
APPROVED: *Thomas G. Hanig*
PLANNING DIRECTOR
DATE: 5-3-74
APPROVED: *William A. Altman*
DIRECTOR
DATE: 4/19/74
CHIEF BUREAU OF HIGHWAYS

APPROVED: *ADD SWM 12/27/2016*

ENGINEER
HUDKINS ASSOCIATES INC.
JOSEPH SQUARE
COLUMBIA, MARYLAND
21043
DATE: 1-21-74

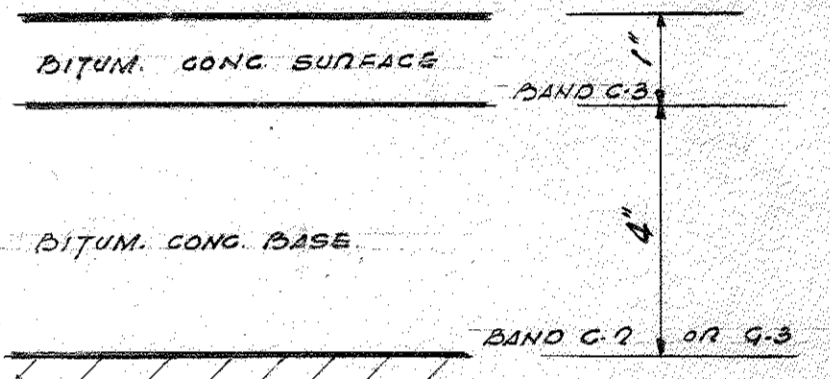
OWNER AND DEVELOPER
JOHN N. BOWERS, INC.
SUITE 230
10632 LITTLE PATUXENT
FARMWAY
COLUMBIA, MARYLAND
21043
DESIGNED BY: BILLINGSLEY
DRAWN BY: KREMPER
CHECKED BY: MOSKUNAS

**PLAN AND PROFILE
DRAINAGE AREA MAP**
A RESUBDIVISION OF PARCEL K, SECT. 1
AREA 1
"HICKORY RIDGE"
5TH ELECTION DISTRICT HOWARD COUNTY, MD.
SCALE: AS SHOWN
DRAWING NO. 12 OF 37
VERT. 1"=5'
HORIZ. 1"=50'



ENTRANCE DETAILS

SCALE: 1"=30'



CLEARING & GRADING ARTICLE C-1
 SUBCOURSE ARTICLE C-2
 SURFACE ARTICLE C-3
 DWG. D-13 PAGE 68

PAVING AT PRIVATE PARKING

APPROVED
 DIVISION OF LAND DEVELOPMENT
 AND TRANSPORTATION PLANNING
 HOWARD COUNTY, MARYLAND
 DATE 3/20/74
 JNC

REVIEWED FOR Howard S.C.D.
 NAME
 AND MEETS TECHNICAL REQUIREMENTS
 SIGNATURE James H. Fisher DATE 5-20-74
 U.S. SOIL CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED
 FOR SOIL EROSION AND SEDIMENT CONTROL
 BY THE HOWARD SOIL CONSERVATION DISTRICT
 APPROVED Robert W. Jackson DATE 5-20-74
 HOWARD S.C.D.

ENGINEER
 HUDKINS ASSOCIATES INC.
 101 SHELL BUILDING
 200 E. JOFFA ROAD
 TOWSON, MD. 21204
 OWNER AND DEVELOPER
 JOHN N. BOYERS, INC.
 SUITE 236
 10632 LITTLE PATUXENT
 PARKWAY
 COLUMBIA, MARYLAND
 21043

DESIGNED BY: BILLINGSOLEY
 DRAWN BY: KREMPEL
 CHECKED BY: MOBYN/18
 DATE 1-21-74



APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER James H. Fisher DATE 5-3-74
 APPROVED James H. Fisher DATE 5-3-74
 PLANNING DIRECTOR
John C. Dawson DATE 5/3/74
 CHIEF DIV OF LAND DEVELOPMENT
 APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM
 DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William B. Altman DATE 5/11/74
 DIRECTOR
J. H. McManus DATE 5/11/74
 CHIEF BUREAU OF HIGHWAYS

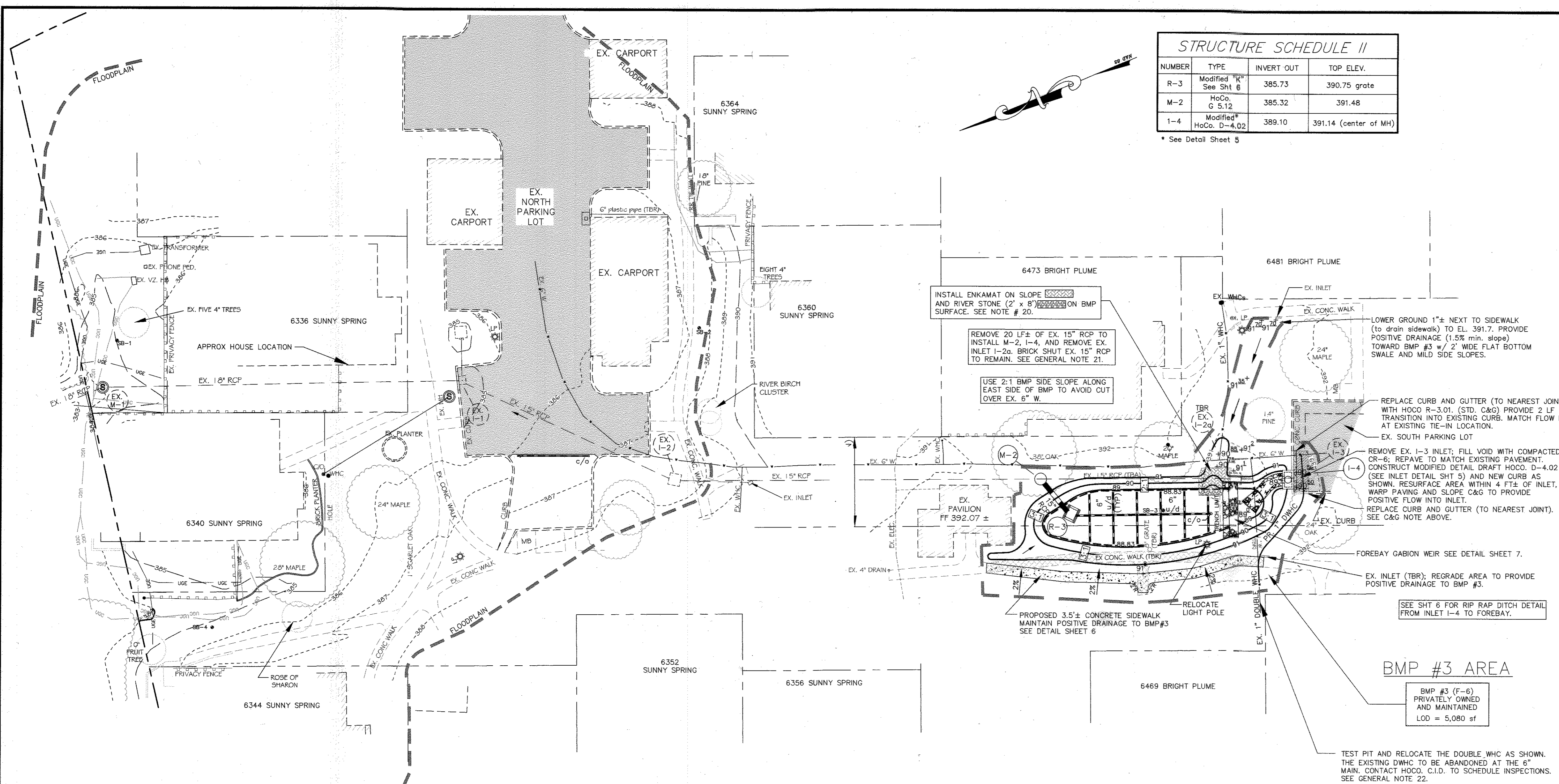
PLAN OF
 DRAINAGE AREA MAP
 PARCEL-K, SECT. I
 AREA-1
 "HICKORY RIDGE"
 5TH ELECTION DISTRICT HOWARD COUNTY, MD.
 SHEET OF SCALE: AS SHOWN

DRAWING NO. 83 OF 87 SCALE 1"=30'

PROFESSIONAL ENGINEER
 I CERTIFY THAT THE PLAN FOR EROSION AND SEDIMENT 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 James H. Fisher DATE 3/13/74

DEVELOPER
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY, DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT
 SIGNATURE John N. Boyers DATE 3/15/74

HOWARD SOIL CONSERVATION DISTRICT
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 DISTRICT CONSERVATIONIST DATE
 See Sheet #1 for approval
 HOWARD SOIL CONSERVATION DISTRICT DATE



STRUCTURE SCHEDULE II

NUMBER	TYPE	INVERT OUT	TOP ELEV.
R-3	Modified R ⁺ See Sht 6	385.73	390.75 grate
M-2	HoCo. G 5.12	385.32	391.48
I-4	Modified HoCo. D-4.02	389.10	391.14 (center of MH)

* See Detail Sheet 5

- GENERAL NOTES**
- STORMWATER MANAGEMENT HAS BEEN PROVIDED WITH ONE (1) BIORETENTION (F-6) FACILITY, aka BEST MANAGEMENT PRACTICE (BMP). PLEASE REFER TO THE STORMWATER MANAGEMENT REPORT PREPARED BY CIVIL DESIGN SERVICES, LC DATED JANUARY 31, 2014, REVISED NOVEMBER 16, 2016.
 - THE TOPOGRAPHIC SURVEY WAS PERFORMED BY SHANABERGER & LANE (ELLCOTT CITY, MD) IN NOVEMBER, 2013. THE HORIZONTAL AND VERTICAL DATUMS ARE ASSUMED. CONTACT SHANABERGER & LANE (410.461.9563) FOR CONTROL POINT ELEVATIONS AND LOCATIONS.
 - ALL CONSTRUCTION SHALL MEET THE LATEST EDITION OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS, AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S CURRENT STORMWATER DESIGN MANUAL, OR AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONSULT THE ENGINEER SHOULD THERE BE ANY DISCREPANCIES. SEE BIORETENTION FACILITY SPECIFICATIONS ON SHEET 5.
 - THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1.800.257.7777 AT LEAST 72 HOURS AND THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410.313.1880) FIVE (5) WORKING DAYS BEFORE BEGINNING CONSTRUCTION.
 - THE UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL TEST PIT ALL KNOWN EXISTING UTILITIES TO VERIFY, INVERTS, SIZE, SHAPE, LOCATION, AND TYPE PRIOR TO PERFORMING CONSTRUCTION. ANY UTILITY DAMAGED DUE TO CONSTRUCTION MUST BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION/STANDARDS OF THE UTILITY OWNER.
 - KNOWN FIELD CONNECTION ELEVATIONS AND CROSSINGS SHALL BE FIELD-VERIFIED BEFORE BEGINNING CONSTRUCTION. TEST PITS SHALL INCLUDE, BUT NOT LIMITED TO, M-2 IN BMP #3. CONTACT THE ENGINEER IF THERE ARE CONFLICTS AND/OR ELEVATION DISCREPANCIES.
 - VERIFY THE EXISTING 6" WATER MAIN LOCATION ADJACENT TO BMP #3 AND NOTIFY ENGINEER IF CLOSING TO BMP #3 THAN THAT SHOWN. THE CONTRACTOR SHALL AVOID GRADING ANY CLOSER TO THE EXISTING 6" WATERMAIN THAN SHOWN. THE BIORETENTION TRENCH SHALL BE CONSTRUCTED IMMEDIATELY AFTER THE EXCAVATION TO MINIMIZE "OPEN" EXCAVATION TIME.
 - THE CONTRACTOR SHALL RELOCATE (OR HAVE RELOCATED) COMMUNICATION CABLES, WHCs, AND ALL OTHER UTILITIES AS NECESSARY WHETHER SHOWN OR NOT. THE CONTRACTOR IS MADE AWARE THERE ARE NUMEROUS UNDERGROUND UTILITIES/COMMUNICATION CABLES IN THE PROPOSED STORMWATER MANAGEMENT AREA. WHILE AN EFFORT WAS MADE TO IDENTIFY THESE CONDUITS, ALL UTILITIES/COMMUNICATION CABLES MAY NOT BE SHOWN. WE RECOMMEND EMPLOYING A QUALIFIED UTILITY LOCATOR TO IDENTIFY POTENTIAL CONFLICTS, AND TO PROCEED WITH CAUTION WHEN DIGGING, ESPECIALLY IN THE TOP 3'. THE CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS WITH THE RESPECTIVE UTILITY OWNER AND THE TANGLEWOOD HOA REPRESENTATIVE/INSPECTOR.
 - SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE HOA REPRESENTATIVE AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. IF THE CONTRACTOR MAKES FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
 - CIVIL DESIGN SERVICES, LC IS NOT RESPONSIBLE FOR THE CONTRACTOR'S UTILIZATION OF EMPLOYEES, MATERIALS, EQUIPMENT, OR SAFETY MEASURES IN THE PERFORMANCE OF ANY WORK FOR THIS PROJECT. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PERFORMING THE WORK CORRECTLY AND IN CONFORMANCE WITH CODE/SPECIFICATION REQUIREMENTS.
 - THE BMP MAY BE GRADED, HOWEVER, THE BMP PLANTING SOIL/AGGREGATE SHALL NOT BE INSTALLED UNTIL ALL UPSTREAM DRAINAGE AREAS HAVE BEEN STABILIZED (i.e., THICK GRASS COVER, OR PAVED).
 - THE STORMWATER MANAGEMENT BIORETENTION BMP #3 WILL BE PRIVATELY OWNED AND MAINTAINED.
 - A GEOTECHNICAL REPORT WAS PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. DATED MAY 19, 2016. THIS REPORT IS AVAILABLE FROM THE TANGLEWOOD HOA REPRESENTATIVE AND INCLUDES FOUR (4) SOIL BORING LOGS, INCLUDING ONE (1) FOR BMP #3.
 - IF GRADING CONFLICTS WITH EXISTING LIGHT POLES, RELOCATE OR REMOVE THE LIGHT POLE(S) AS NECESSARY TO A NEARBY LOCATION PER THE OWNER'S DIRECTION.
 - TANGLEWOOD HOA UNDERSTANDS THIS PROJECT INVOLVES GRADING ON PRIVATE PROPERTY (e.g., 6340 SS). THE CONTRACTOR SHALL NOTIFY THE AFFECTED HOMEOWNERS AT LEAST 3 DAYS PRIOR TO GRADING ON PRIVATE PROPERTY.
 - THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION UNTIL ALL REQUIRED PERMITS HAVE BEEN OBTAINED INCLUDING A GRADING PERMIT (INCLUDING A STANDARD EROSION & SEDIMENT CONTROL PLAN) FROM HOWARD COUNTY D.I.L.P.. BMP #3 DOES NOT REQUIRE AN M.D.E. WATERWAY CONSTRUCTION PERMIT.
 - IN THE VICINITY OF BMP #3, THE CONTRACTOR SHALL NOT DRIVE HEAVY VEHICLES OVER THE EXISTING WATER MAIN DUE TO ITS SHALLOW DEPTH UNLESS LARGE METAL PLATES OR SIMILAR PRECAUTIONS ARE USED TO DISSIPATE THE PRESSURE ON THE EXISTING WATERMAIN AND WHCs.
 - CDS RECOMMENDS THAT THE OWNER OR CONTRACTOR HIRE A MD LICENSED ENGINEER TO INSPECT AND DOCUMENT CONSTRUCTION. THIS WILL BE USEFUL FOR AN AS-BUILT PLAN AS WELL AS TO VERIFY CONSTRUCTION.
 - THE 24" AND 36" OAK AND 20" MAPLE TREES ADJACENT TO BMP #3 WILL BE IMPACTED DUE TO ROOT DISTURBANCE. THESE TREES MAY NEED TO BE REMOVED WITH DURING CONSTRUCTION. THE OWNER IS ADVISED TO CONSULT AN ARBORIST TO EVALUATE THE TREES' SURVIVABILITY AND IF AND WHEN THE TREES SHOULD BE REMOVED. THE CONTRACTOR SHALL MINIMIZE ROOT DISTURBANCE AROUND TREES AS MUCH AS REASONABLE. TREE REMOVAL SHALL BE A BID ITEM.
 - RIVER STONE TO BE 3"-6" SMOOTH/ROUNDED STONE, 12"-15" DEEP ON FILTER FABRIC. INSTALL ENKAMAT 7020 PER MANUFACTURER'S SPECIFICATIONS. SECURE UP AND DOWN STREAM EDGES PER INSTALLATION INSTRUCTIONS TO PREVENT UNDERMINING. ENKAMAT TO BE TOP SOIL-FILLED AND IMMEDIATELY STABILIZED WITH HYDRO-SEEDING, OR SEED-IMPREGNATED EXCELSIOR MATTING. KEEP WATERED UNTIL WELL ESTABLISHED GRASS COVER.
 - IN ORDER TO MINIMIZE DISTURBANCE ADJACENT TO THE ACTIVE 6" WATER MAIN, REMOVE ONLY THAT LENGTH OF EX. 15" RCP NEEDED TO INSTALL M-2, I-4, AND REMOVE INLET I-2a (AT LEAST ENOUGH OF I-2a TO INSTALL BMP #3 AND NOT BE EXPOSED). BRICK SHUT (WATERTIGHT) ALL OPEN ENDS OF 15" RCP TO REMAIN.
 - THE DOUBLE WHC FOR 6469 and 6465 BRIGHT PLUME SHALL BE RELOCATED AS SHOWN BY A HOWARD COUNTY LICENSED CONTRACTOR. THE EXISTING CONNECTION FOR THESE HOUSES SHALL BE ABANDONED AT THE 6" WATER MAIN PER COUNTY CRITERIA. THE CONTRACTOR SHALL COORDINATE THE WORK WITH HOWARD COUNTY C.I.D. FOR INSPECTION AND ACCEPTANCE.
 - TANGLEWOOD HOA SHALL HAVE PLANS CHECKED FOR CONFORMANCE TO CURRENT HOWARD COUNTY DESIGN AND CONSTRUCTION STANDARDS/SPECIFICATIONS SHOULD THE BEGINNING OF CONSTRUCTION EXTEND 1 YEAR BEYOND THE DATE OF THIS PLAN.

LEGEND

- Property Line
- 1' Contour
- 5' Contour
- Proposed Contour
- LOD
- Flow Direction
- Existing Underground Electric
- Existing Underground Cable
- Existing Underground Gas Line
- Existing Public Water Line
- Existing Public Sewer
- Pavement To Be Removed
- Approximate FEMA Floodplain
- c/o
- TBR/TBA
- Ex. Lightpole
- Proposed Spot Elevation

SEDIMENT/EROSION CONTROL:

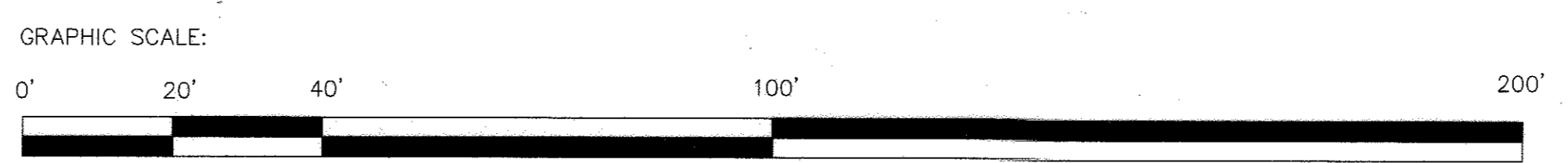
- SEE GENERAL NOTE 16. REFER TO HOWARD COUNTY'S STANDARD SEDIMENT CONTROL PLAN FOR E&S ITEMS IN ADDITION TO THOSE BELOW.
- ALL EXCAVATED SOIL SHALL BE PLACED ON THE HIGH SIDE OF TRENCH/EXCAVATION.
- CONTRACTOR SHALL USE REASONABLE MEASURES TO KEEP SEDIMENT FROM ENTERING THE EXISTING DRAINAGE SYSTEM/DITCHES AND PARKING LOT SURFACES. USE SILT FENCE, INLET PROTECTION, OR OTHER CONTROLS AS NECESSARY.
- FOR STORM DRAIN PIPE WORK: ONLY WORK WITH THAT PORTION OF THE PIPE THAT CAN BE BACKFILLED, SEEDED AND MULCHED IN THAT SAME DAY.
- CONTRACTOR SHALL PROVIDE AN ADEQUATE DIVERSION OF STORMWATER FROM I-4 TO THE DOWNSTREAM STORM DRAIN WHEN BMP #3 IS UNDER CONSTRUCTION.
- SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED DAILY AND MAINTAINED IN WORKING CONDITIONS AS PER THE STANDARD DETAILS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE INSPECTOR.

SOILS TABLE

SYMBOL	NAME	HSG
GfB	Gladstone-Urban Complex 0-8% slope	B

**TANGLEWOOD HOA
MICRO-BIORETENTION (M-6) BMP SUMMARY TABLE**

BMP #	ESD _v		Re _v		Peak Qs/WSEs	
	Calculated	Provided	Calculated	Provided	Q ₁₅	Q ₁₀₀
BMP #3	1,850 cf	925 cf	356 cf	417 cf	5.4 cfs @ WSE 390.11	8.4 cfs @ WSE 390.26



CIVIL DESIGN SERVICES, LC
6123 Holly Ridge Court, Columbia, Maryland 21044
240.755.0380 phone/fax
civildesign@comcast.net

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 15838 w/expiration December 17, 2017



Andrew A. Pate 11/26/2016

NO.	REVISION	DATE

PURPOSE STATEMENT
PLAN SHEETS 4 - 7 SHOWS STORMWATER MANAGEMENT IMPROVEMENTS (BMP #3) TO PROVIDE WATER QUALITY AND QUANTITY TREATMENT TO PREVIOUSLY UNMANAGED AREAS

OWNER/DEVELOPER/BUILDER
Tanglewood Homeowners' Association
c/o Ms. Patricia Valentine
6340 Sunny Spring
Columbia, Maryland 21044
443.693.3336
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: 1-11-17
Chief, Development Engineering Division: 1-6-17
Director - Department of Planning and Zoning: 1-11-18

PROJECT: "HICKORY RIDGE"
SECTION: 1
PARCEL/LOT: 0309/K-19

L/F	GRID NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
785/78	18	NT	35	5th	6056.02

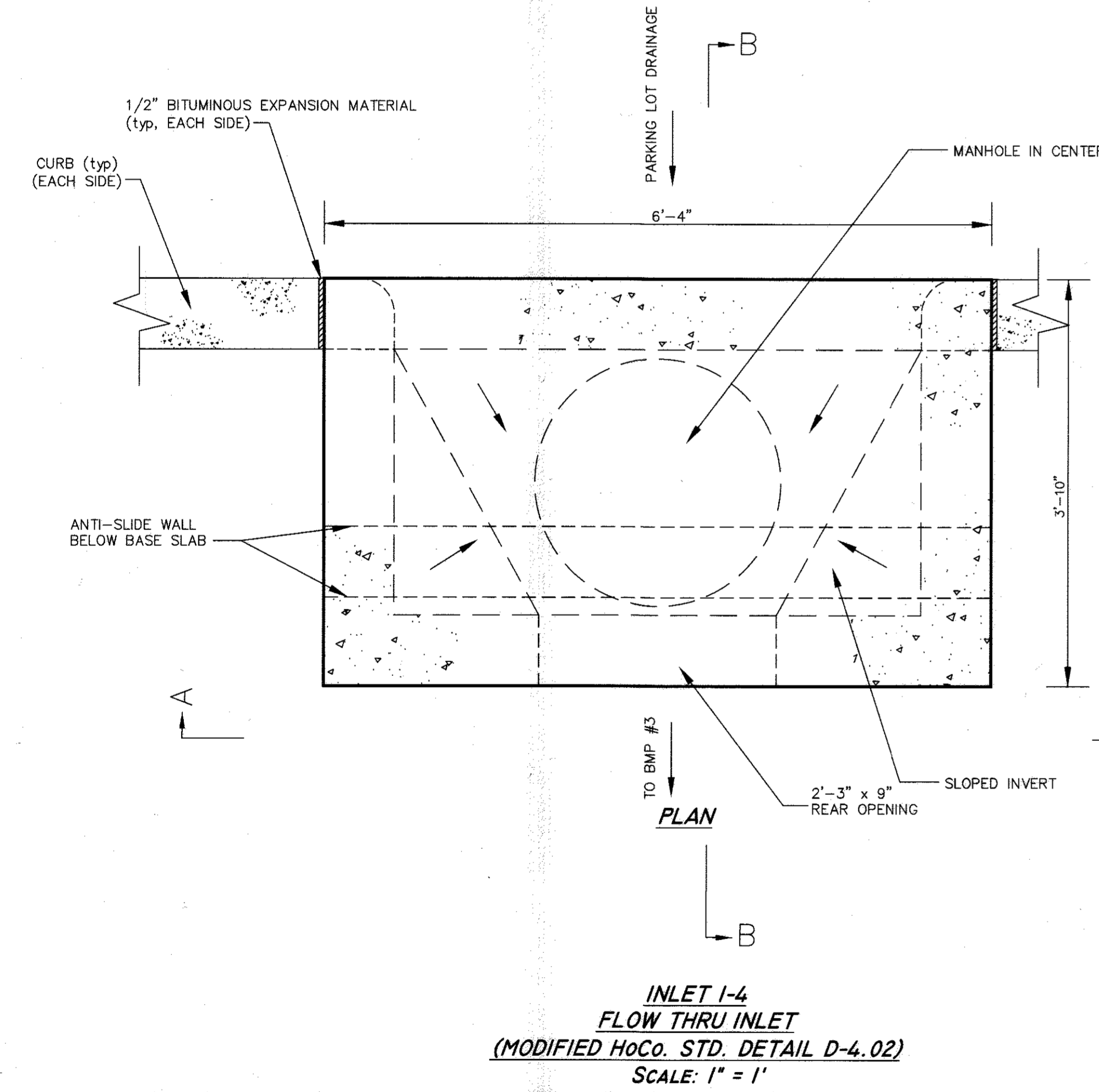
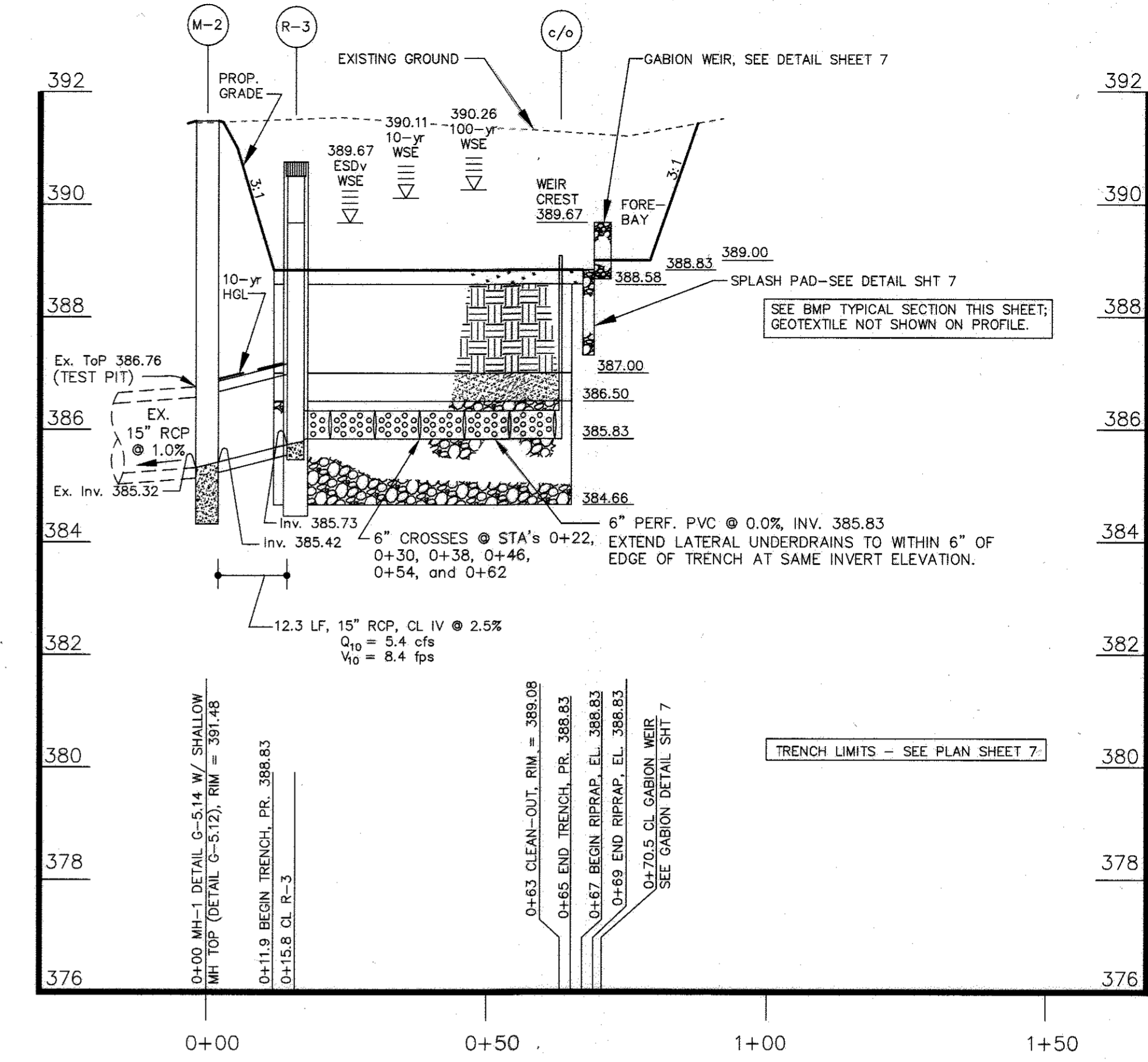
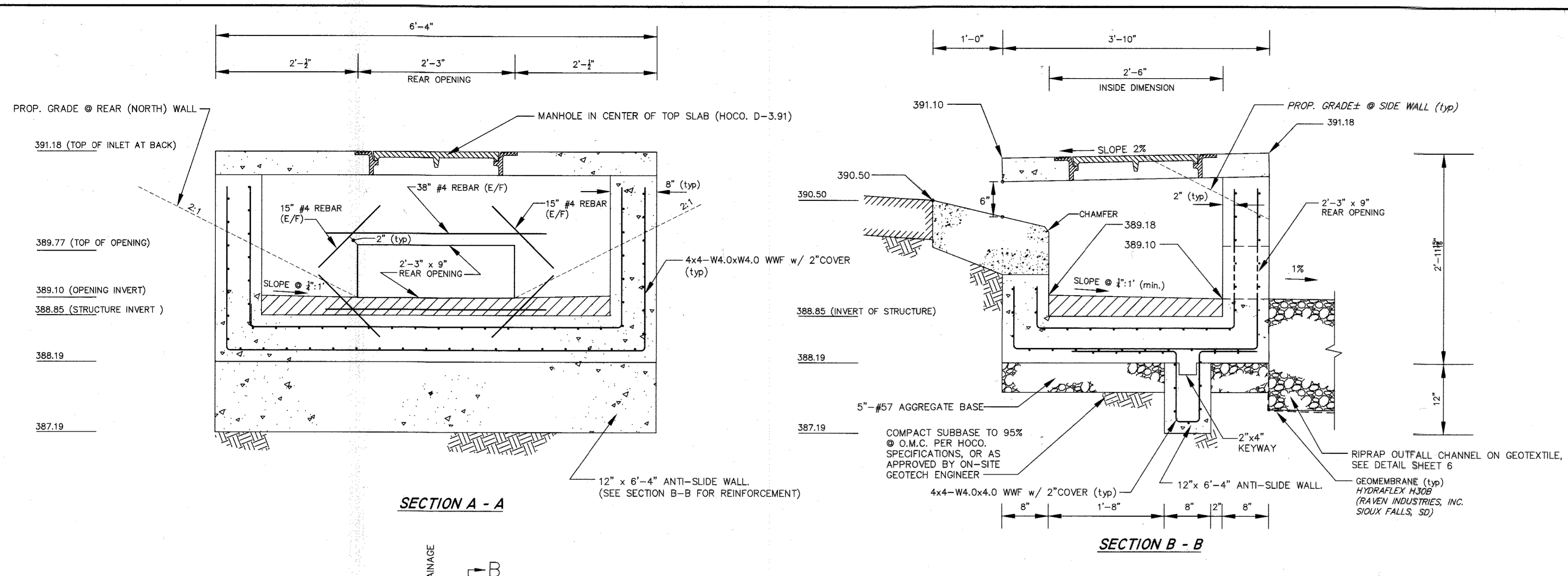
**STORMWATER MANAGEMENT PLAN
BMP #3**

SITE DEVELOPMENT PLAN, LOTS K1 to K-18
A RESUBDIVISION OF PARCEL K, SECTION I AREA I

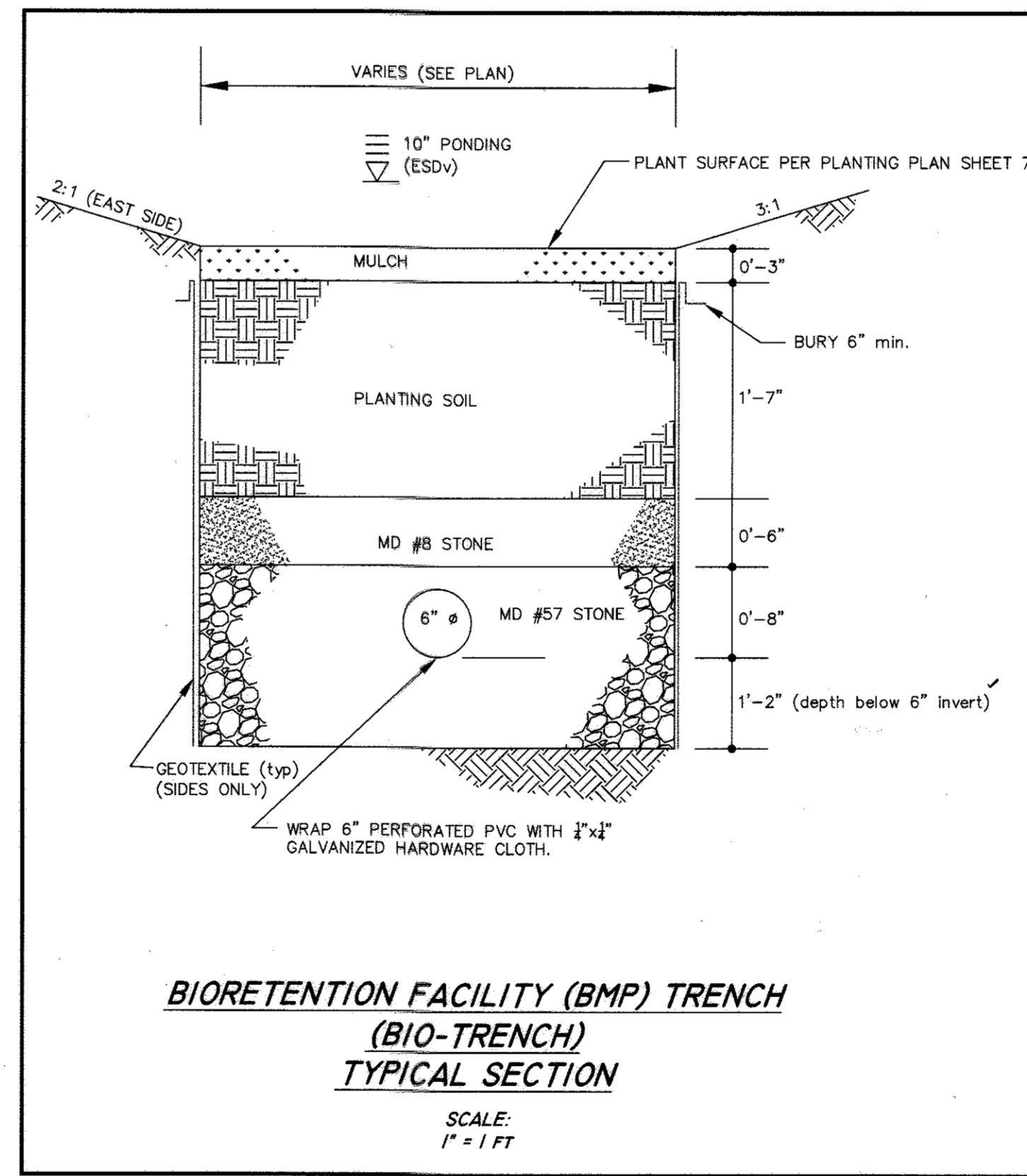
**REVISED SITE DEVELOPMENT PLAN
SUNNY SPRING**

TAX MAP NO: 35 PARCEL NO.: 0309 GRID NO.: 18
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 26, 2016

SHEET 4 OF 7



- NOTES:**
- SEE HOCo. STD DETAILS DRAFT D-4.02 (7/17/15) AND D-4.05 FOR DETAILS AND REINFORCING NOT SHOWN IN THIS DETAIL (E.G., TOP SLAB REBAR & GUTTER REBAR).
 - THIS INLET IS A "FLOW THRU INLET" AND HAS A MODIFIED DEPTH (SHALLOWER) THAN THE STD. DETAIL.
 - PLACE TWELVE (12) ADDITIONAL DEFORMED #4 REBAR AROUND THE REAR OPENING IN THE REAR WALL AS SHOWN. THE DEFORMED REBAR TO BE ON EACH FACE (E/F) WITH 2" COVER.
 - PLACE REINFORCEMENT PER DRAFT STD. DETAIL. REINFORCEMENT (4x4-W4.0xW4.0 WWF) SHALL EXTEND INTO ADJACENT SIDE WALLS AND BASE WITH A MINIMUM 1'-6" OVERLAP. PLACE REINFORCEMENT IN "ANTI-SLIDE" WALL AS SHOWN. REINFORCEMENT IS ONLY PARTIALLY SHOWN ON THIS DETAIL.
 - CHAMFER EXPOSED EDGES 3/4" x 3/4".
 - THE TOP SLAB SHALL MATCH THE OUTSIDE DIMENSION OF THE INLET (NO NEED TO LEAVE "LIP" FOR SIDEWALK SUPPORT. THE TOP SLAB SHALL NOT BE ATTACHED TO INLET WALLS (I.E., TOP TO BE REMOVABLE).
 - SLOPE RISER INVERT 1/2":1' MIN. TOWARD OUTFALL CHANNEL USING MORTAR "WEBER-COLOR 877" MANUFACTURED BY WEBER SAINT-GOBAIN.
 - "ROUND" (4" ± R) CURB UNDER TOP SLAB AT INLET OPENING ON EACH SIDE.
 - STEPS ARE NOT REQUIRED.
 - COMPACT TOP 6" OF SUBBASE TO 95% O.M.C. OR AS APPROVED BY GEOTECHNICAL ENGINEER.
 - NO LETTERING ON MANHOLE COVER.
 - THE 2"x4" KEYWAY IS NOT NECESSARY IF THE ANTI-SLIDE WALL IS POURED SIMULTANEOUSLY WITH THE INLET.



- BIORETENTION FACILITY NOTES AND SPECIFICATIONS**
- THE LIMIT OF THE BIO-TRENCH TYPICAL SECTION (I.E., PLANTING SOIL, AGGREGATE, ETC.) IS AT THE 388.83 CONTOUR AND 1' FROM THE SPLASH APRON (SEE BIO-TRENCH LIMIT PLAN ON SHT 7).
 - REFER TO THE 2000 MARYLAND SWM DESIGN MANUAL FOR BIORETENTION SPECIFICATIONS (PG. B.3.7) FOR INFORMATION NOT LISTED HEREIN AND FOR ADDITIONAL INFORMATION.
 - THE BIORETENTION FACILITY MATERIALS ARE AS FOLLOWS:
 - PLANTING SOIL: PER SPECIFICATIONS OUTLINED IN MDE'S 2000 SWM MANUAL, APPENDIX B.4, THE PLANTING SOIL SHALL MEET THE FOLLOWING: LOAMY SAND @ 60-65% AND COMPOST 35-40%, OR, 30% SANDY LOAM, 30% COARSE SAND, & 40% COMPOST. SEE MDE APPENDICES A.2.3, B.4.7 AND TABLE A.3 FOR ADDITIONAL INFORMATION. IN ADDITION, THE PLANTING SOIL SHALL BE MIXED/DESIGNED SO THAT ITS COEFFICIENT OF PERMEABILITY (k) IS AT LEAST 1.10 FT/DAY. DO NOT MECHANICALLY COMPACT PLANTING SOIL, HOWEVER, SOIL CAN BE "WATERED" TO FACILITATE SETTLING.
 - PVC UNDERDRAIN PIPE: SCHEDULE 40. PERFORATED PIPE SHALL HAVE NO SLOPE (0.0%). PERFORATIONS SHALL BE 0.5" W/ 4" PIPE CIRCUMFERENCE. SPACED AT 6". ADJACENT PERFORATIONS SHALL BE STAGGERED 45°. THE TOTAL AREA OF PERFORATIONS PER LINEAR FOOT OF PIPE SHALL BE 1.57 SQ. INCHES.
 - STONE AGGREGATE: MSHA SPECIFICATIONS AS SHOWN ON TYPICAL SECTION; AGGREGATE MUST BE CLEAN AND WASHED (I.E., FREE OF FINES, DIRT & DEBRIS).
 - GEOTEXTILE: PER MDE SWM MANUAL OR MIRAFI 140N.
 - MULCH: SHREDDED, WELL-AGED (6-12 MONTHS) HARDWOOD MULCH; NO WOOD CHIPS OR PINE MULCH.
 - THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES ALLOW SURFACE DRAINAGE INTO THE BIORETENTION FACILITY UNTIL ALL UPGRADE AREAS HAVE BEEN STABILIZED (I.E., PAVED, OR HAVE WELL-ESTABLISHED VEGETATION).
 - BOARDS SHALL NOT BE LEFT IN PLACE DURING THE CONSTRUCTION OF THE BIORETENTION FACILITY.
 - GEOTEXTILE (FILTER FABRIC) SHALL BE PLACED AGAINST EXCAVATED VERTICAL SURFACES. SCARIFY EARTH PRIOR TO GEOTEXTILE PLACEMENT. INSTALL GEOTEXTILE PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS. USE A 2 FT MINIMUM OVERLAP, AND NOTCH ENDS WITH A 6" MINIMUM BURY OR EQUIVALENT ANCHORING METHOD.
 - THE CONTRACTOR SHALL OBTAIN INDEPENDENT CERTIFICATION THAT THE PLANTING SOIL AND OTHER MATERIALS MEET THE SPECIFICATIONS.
 - THE BIORETENTION FACILITY SHALL BE VEGETATED IN ACCORDANCE WITH THE PLANTING SCHEDULE PER MDE SPECIFICATIONS IN THE 2000 SWM DESIGN MANUAL.
 - USE PERFORATED PVC UNDERDRAIN PIPE INSIDE THE BIORETENTION FACILITY AND WRAP PERFORATED PIPE WITH 1/2" HARDWARE CLOTH TO PREVENT AGGREGATE FROM ENTERING THE PERFORATIONS.
 - INSTALL CLEANOUTS/OBSERVATION WELLS (SOLID PVC PIPE) AS SHOWN. THE CLEANOUT/OBSERVATION WELL TOP SHALL EXTEND 3" ABOVE THE MULCH LAYER.
 - ALL LATERAL UNDERDRAINS ARE PERFORATED AND ITS LENGTHS CAN BE SCALED BUT SHOULD TERMINATE APPROXIMATELY (6" ± 2") FROM EDGE OF TRENCH WALL AND CAPPED.

CIVIL DESIGN SERVICES, LC
 6123 Holly Ridge Court, Columbia, Maryland 21044
 240.755.0380 phone/fax
 civildesign@comcast.net

NO.	REVISION	DATE

I hereby certify that I prepared these documents and that this seal signifies that I am a duly licensed professional engineer under the laws of the State of MD, License No. 15838 w/expiration December 17, 2017

Andrew A. Pate *ref: 1/2016*

PURPOSE STATEMENT
 PLAN SHEETS 4 - 7 SHOWS STORMWATER MANAGEMENT IMPROVEMENTS (BMP #3) TO PROVIDE WATER QUALITY AND QUANTITY TREATMENT TO PREVIOUSLY UNMANAGED AREAS

OWNER/DEVELOPER/BUILDER
 Tanglewood Homeowners' Association
 c/o Ms. Patricia Valentine
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 tanglewood.21044@gmail.com

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

W. H. ... 1-11-17
 Chief, Division of Land Development Date

W. H. ... 1-6-17
 Chief, Development Engineering Division Date

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STORMWATER MANAGEMENT PROFILES AND DETAILS
 BMP #3

SITE DEVELOPMENT PLAN, LOTS K1 TO K18
 A RESUBDIVISION OF PARCEL K, SECTION I AREA I

REVISED SITE DEVELOPMENT PLAN
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SHEET 5 OF 7

