ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE

THE CONTRACTOR SHALL, NOTIFY THE BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST 48 HOURS

PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-251-7177 AT LEAST 48-HOURS PRIOR TO ANY EXCAVATION WORK,

THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES AT (410) 313-4900 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.

PROJECT BACKGROUND:

LOGATION TAX MAP 36 PROPERTY IS ZONED 'NEW TOWN' PER THE 2013 COMPREHENSIVE ZONING PLAN AND IS DESIGNATED AS DOWNTOWN MIXED USE AREA. ADDITIONALLY, THE PROJECT AREA IS SUBJECT TO THE DOWNTOWN COLUMBIA PLAN - A GENERAL PLAN AMENDMENT EFFECTIVE

ELECTION DISTRICT: FIFTH ELECTION DISTRICT AREA OF LOTS: OPEN SPACE LOT I = 0.60 AC

RECORD PLAT NO: 25/27 DPZ REF. FILE NO. FDP-DC-L-I, ECP 19-014, F 20-003, F 20-004

TOPOGRAPHIC PIELD SURVEY WAS PERFORMED ON AUGUST 2018 BY GUTSCHICK, LITTLE AND MEBER, P.A.

COORDINATES ARE BASED ON NAD '83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATION NIMBERS: 36AA AND 30GA.

THE EXISTING UTILITIES SHOWN HEREIN WERE DERIVED FROM AVAILABLE PUBLIC RECORDS AND FIELD LOCATIONS BY GUTSCHICK LITTLE & WEBER, P.A. AND ALDATA. THE CONTRACTOR MUST DIG TEST PITS BY HAND AT ALL LITILITY CROSSINGS AND CONNECTION POINTS TO VERIFY EXACT LOCATION

SPOT ELEVATIONS SHOWN FOR CURB ARE BOTTOM OF CURB UNLESS OTHERWISE NOTED.

ALL PLAN DIMENSIONS ARE TO THE FACE OF BUILDING OR CURB UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIAL BETWEEN ITEMS UNLESS NOTED OTHERWISE

THERE ARE NO KNOWN GRAVE SITES, GENETERIES, FLOOD PLAINS OR WETLANDS ON SITE. WETLANDS AND FLOODPLAIN ARE PRESENT ADJACENT TO THIS SITE BUT ARE NOT BEING DISTURBED UNDER THIS PLAN. 2. NO PUBLIC MATER SERVICE EXISTING OR PROVIDED, WATER TO FOUNTAIN PROVIDED BY WHICE FROM WHOLE FOODS / ROLLES BUILDINGS

. SEMER SERVICE IS PUBLIC (CONTR. #169-5). THE PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS OF SECTION 16,1200 OF THE HOWARD COUNTY CODE SECTION 16.1202(b)(1)(w) (PUD WITH A PDP APPROVED PRIOR TO 12/31/92).

THE CONTRACTOR SHALL TEST PIT ALL EXISTING WILLITIES AT LEAST (5) DAYS PRIVATOSTARTING ANY WORK SHOWN ON THESE DRAMINGS AND NOTIFY THE ENGINEER OF ANY CONFLICTS.

APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. NOTE: IN CASE OF DISCREPANCIES BETWEEN THE PLAT AND THE PLANS. THE PLAT SHALL GOVERN.

ALL OUTDOOR LIGHTING SHALL BE ORIENTED TO DIRECT LIGHT INMARDS AND DOWNNARDS ON-SITE AWAY FROM ALL ADJOINING PUBLIC ROADS AND IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. THE LANDSCAPE PLAN WAS PREPARED ACCORDING TO THE ALTERNATIVE COMPLIANCE SECTION OF THE LANDSCAPE MANUAL. THE

LANDSCAPE PLANS HAVE BEEN PREPARED BY A REGISTERED LANDSCAPE ARCHITECT AND IS CERTIFIED TO MEET THE DESIGN INTENT OF THE LAKEFRONT CORE NEIGHBORHOOD DESIGN GUIDELINES. A LANDSCAPE SURETY IN THE AMOUNT OF \$13,110.00 WILL BE PROVIDED WITH THE DPW DEVELOPER'S AGREEMENT.

20. THE MINIPPIN BUILDING SETBACKS RESTRICTIONS FROM PROPERTY LINES AND PUBLIC ROAD RIGHTS OF WAY ARE TO BE IN ACCORDANCE WITH FOR-DC-L-1 AND LAKEFRONT CORE NEIGHBORHOOD DESIGN GUIDELINES.

THIS PROPERTY IS SUBJECT TO THE LAKEFRONT CORE NEIGHBORHOOD SPECIFIC DESIGN GUIDELINES (NGDG), REGORDED IN L. 18348, F. 388, THE LAKEFRONT CORE NEIGHBORHOOD SPECIFIC IMPLEMENTATION PLAN (NSIP), RECORDED IN L. 18398, F. 308, THE LAKEFRONT CORE NEIGHBORHOOD CONCEPT PLAN (NCP) RECORDED AS PLAT NOS. 24T10 THRU 24T11 AND THE LAKEFRONT CORE FINAL DEVELOPMENT PLAN (FDP-DC-L-I), RECORDED AS PLAT NOS. 24TT2 THRU 24TTB.

22. AT THE TIME OF SEP APPROVAL, THE SITE IS UNDER PHASE LOF THE DOWNTOWN REVITALIZATION PHASING PROGRESSION.

23. THERE ARE HIGHLY ERODIBLE SOILS ON SITE, MORE STRINGENT SEEDING AND STABILIZATION METHODS MAY BE EXPECTED. SOIL TABLE PROVIDED ON SHEET 8.

24. THE PROPOSED HEIGHT OF THE COMMUNITY PERGOLA IS I STORY, 14 FEET. THE MAXIMUM HEIGHT OF BUILDINGS ALLOWED FOR THIS PROJECT PER GUIDELINES IS A MAXIMUM OF 4 STORIES AND NOT TO EXCEED 60 FEET.

25. PROPERTY OWNER TO COORDINATE PRIVATE TRASH PICK UP FROM THE SITE.

26. SITE AREA FALLS WITHIN HOWARD COUNTY SCD SOIL MAP #18.

27. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS IN THE VICINITY.

28. THERE ARE NO DESIGNATED HISTORIC OR CULTURALLY SIGNIFICANT EXISTING SITES, BUILDINGS, OR STRUCTURES OR PUBLIC ART WITHIN THE SITE AREA.

29. THE GEOTEGHNICAL REPORT WAS PROVIDED BY ROBERT B, BALTER COMPANY DATED OCTOBER. 2018

D. THE WETLAND DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY BIOHABITATS DATED OCTOBER, 2018

34. TRAFFIC STUDY FOR THE PROJECT WAS PREPARED BY WELLS AND ASSOCIATES DATED OCTOBER, 2018

32. BOUNDARY INFORMATION TAKEN FROM BOUNDARY SURVEYS BY DAFT, MCCUNE AND WALKER.

33. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REGUIRED BUFFERS, OR 100 YEAR FLOODPLAIN AREAS, UNLESS PERMITTED UNDER AN APPROVED WAIVER PETITION OR DETERMINED TO BE ESSENTIAL OR NECESSARY BY DPZ.

34. THE PROJECT IS WITHIN THE METROPOLITAN DISTRICT.

15. THIS SITE QUALIFIES FOR REDEVELOPMENT UNDER MDE CRITERIA. STORMMATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MDE STORMWATER DESIGN MANUAL. IN ORDER TO FULFILL THE STORMINATER MANAGEMENT REQUIREMENTS A COMBINATION OF MICRO-BIORETENTION (M-6), PERMEABLE PAVEMENT (A-2) AND A STORMCEPTOR WILL BE USED. ALL STORMINATER DEVICES WILL BE PRIVATELY OWNED AND MAINTAINED, THERE ARE NO MAJOR STORMMATER MANAGEMENT FACILITIES WITHIN THE PLAN AREA OR ADJOINING LAND

6. PRIOR TO SUBMITTING THIS SDP, A FRE-SUBMISSION COMMUNITY MEETING WAS HELD ON OCTOBER 23, 2018 AT SLAYTON HOUSE. NOTICE OF THE MEETING WAS PROVIDED IN ACCORDANCE WITH SECTION 16.128 OF THE ZONING REGULATIONS.

PRIOR TO SUBMITTING THIS SITE DEVELOPMENT PLAN, A SUBMISSION TO THE HOWARD COUNTY DESIGN ADVISORY PANEL WAS MADE IN ACCORDANCE WITH SECTION 125.H.I.D. THE DESIGN ADVISORY PANEL CONSIDERED THE APPLICATION AT ITS MEETING ON OCTOBER 24, 2018. THE DAP ADOPTED THREE RECOMMENDATIONS TO THE PLANNING BOARD FOR THE PROJECT AS NOTED IN

30. THERE ARE NO EXISTING SIGNATURE BUILDINGS WITHIN THE SITE AREA. THE SITE IS ADJACENT TO A SIGNATURE BUILDING WITH SPECIAL PROTECTIONS AFFORDED BY THE DOWNTOWN COLUMBIA PLAN.

39. THE PLANNING BOARD HAS APPROVED AND ISSUED BUILDING PERMITS FOR ABOUT 2,122,051 SQUARE FEET OF NET NEW DEVELOPPENT DOWNTOWN. FINAL SQUARE FOOTAGES WILL BE MAINTAINED IN THE DOWNTOWN COLUMBIA DATABASE MAINTAINED BY THE COUNTY, SEE THE NEIGHBORHOOD IMPLEMENTATION PLAN FOR A CEPPA UPDATE.

40. THE DOWNTOWN NEIGHBORHOOD SQUARE IS TO BE DEEDED TO THE COUNTY AT THE COMPLETION OF CONSTRUCTION IN FULFILLMENT OF GEPPA NO. 22. MAINTENANCE FOR THE SQUARE WILL BE FULFILLED BY THE DEPARTMENT OF RECREATION AND

PER SECTION 125,0,A.g.(4)(1) AND IN ACCORDANCE WITH THE ALTERNATIVE CEPPA TIMING APPROVED 6/21/18, NEW DOWNTOWN COMMUNITY COMMONS SHOWN ON THIS SEP WILL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING PHASING PLAN:

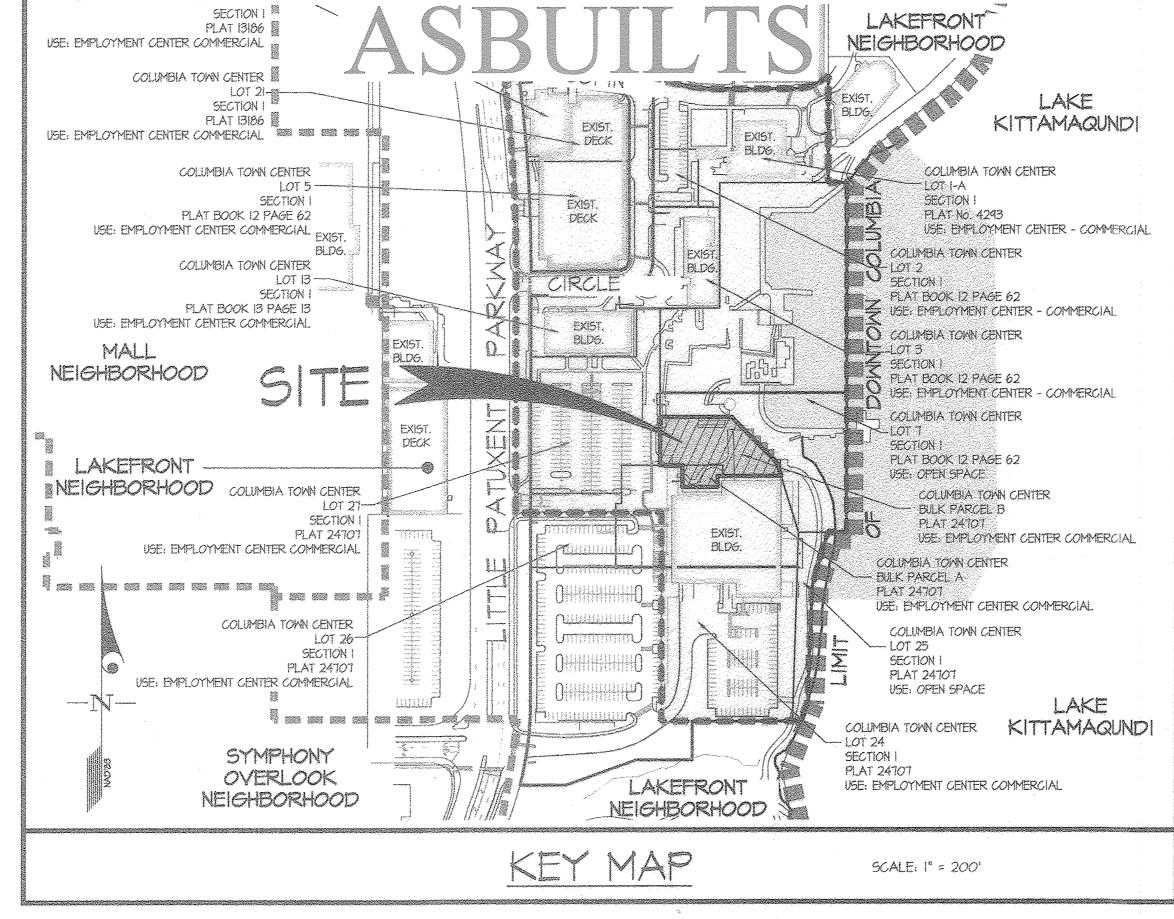
I, THE DOWNTOWN NEIGHBORHOOD SQUARE (OPEN SPACE LOT 1) MUST BE COMPLETED AND DEEDED TO HOWARD COUNTY PRIOR TO ISSUANCE OF A BUILDING PERMIT FOR THE 2600,000TH NET NEW SQUARE FOOT OF DEVELOPMENT.

APPROVED PLANNING BOARD OF HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  $G_{i}/Q_{i}/Q_{i}$ Hopment Engineering Division 🛚 🚜 🖓

## SITE DEVELOPMENT PLAN AKEFRONT CORE NEIGHBORHOOD

PUBLIC DOWNTOWN NEIGHBORHOOD SQUARE



DEVELOPMENT CHART

			And Andreas								Į.	Ises									in and the control of
РА	PARCEL							.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Non-Resid	lential (SF)								Res	Idential (DL	1)
eroditoria			Existing			Demolition		Proposed <sup>2</sup>		NET NEW											
Parcel	Area (SF)	Area (Acre)	Retail/Rest	Office	Cultural	Total	Retail/Rest	Office	Cultural	Total	Retail/Rest	Office	Cultural	Total	Retail/Rest	Office	Cultural	Total	Existing	Proposed	Ne
OPEN SPACE LOT 1	26,254	0.60	0	0	0	0	0	0	0	θ	0	0	0	0	0	0	0	0	0	0	0
gering meneral properties of the second seco						0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
LAKEFRONT CORE Total this SDP	26,254	0.60	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(1) OPEN SPACE LOT 1 IS FOR THE DOWNTOWN COLUMBIA PUBLIC SQUARE.

DEVELOPMENTS INCLUDING AT LEAST 40% AFFORDABLE UNITS.

NOTE: CEPPA'S CANNOT BE TRIGGERED FROM DEVELOPMENT OF DOWNTOWN ARTS, CULTURAL AND COMMUNITY USES OR RESIDENTIAL

	Community Enhancements, Programs and Public Amenities (CEPPA'	s) Tracking Chart
Downtown Columbia Plan	The state of the s	
Satisfied		
CEPPA	Trigger	Notes
1 Environmental Assessment	Prior to Submission of First FDP	Satisfied
2 Environmental Sustainability Program	Prior to Submission of First FDP	Satisfied
3 Rte. 29 Interchange Study	Prior to Submission of First FDP	Satisfied
4 Downtown Wide Design Guidelines	Prior to Approval of First FDP	Satisfied
5 Transportation Feasibility Study	Prior to Approval of First FDP	Satisfied
6 Downtown Columbia Partnership	Prior to Approval of First FDP	Satisfied
7 Environmental Restoration Phasing/initial SDP	Prior to Approval of First FDP	Satisfied
8 Downtown Arts and Culture Commission (DCACC)	Prior to Approval of First FDP	Satisfied
9 Fire Station	Prior to the Issuance of the First Building Permit	Satisfied
10 \$1.5 million Housing Fund Payment	Upon Issuance of the First Building Permit	Satisfied
11 \$1.5 million Housing Fund Payment	Upon Issuance of the First Building Permit for the 400th Residential Unit	Satisfied
12 Downtown Pedestrian Pathways	Prior to Issuance of a Building Permit for the 500,000th SF of Development (Pathway SDP Only)	Satisfied, per Alternative Compliance
13 Rouse Building Covenants	Prior to Issuance of a Building Permit for the 500,000th SF of Development	Satisfied
Future CEPPA's	Trigger	Notes
14 Transit Center	Prior to Issuance of a Building Permit for the 1,300,000th SF of Development	Pending; Alternative Timing to 3,200,000 SF Approved November 17, 2017
15 Environmental Restoration	Prior to Issuance of a Building Permit for the 1,300,000th SF of Development	Pending; See Alternative Compliance approved December 2, 2016
16 Phase 1 Merriweather Improvements	Prior to Issuance of a Building Permit for the 1,300,000th SF of Development	Satisfied
17 School Site or Equivalent	Upon Issuance of the of a Building Permit for the 1,375th Residential Unit	See SDP 18-005. Approved November 9, 2018
18 Wilde Lake Pathway	Prior to Issuance of a Building Permit for the 3,900,000th SF of Development.	Pending
19 Lakefront Terrace	Prior to Issuance of a Building Permit for the 2,600,000th SF of Development.	Pending - Alternative timing to 3.9 MSF approved June 21, 2018
20 Phase 2 Merriweather Improvements	Prior to Issuance of a Building Permit for the 2,600,000th SF of Development.	See Alternative Compliance approved November 4, 2016
21 Phase 3 Merriweather Improvements	Prior to Issuance of a Building Permit for the 3,900,000th SF of Development.	See Alternative Compliance approved November 4, 2016
22 Downtown Neighborhood Square to County	Prior to Issuance of a Building Permit for the 2,600,000th SF of Development.	Pending - Alternative timing to 2.6 MSF approved June 21, 2018. This pian addresses this CEPPA.
23 \$1million funding for Downtown Shuttle	Prior to Issuance of a Building Permit for the 5,000,000th SF of Development.	Pending
24 Transfer of Merriweather to DCACC	Prior to Issuance of a Building Permit for the 5,000,000th SF of Development.	Satisfied
25 *Downtown Columbia Partnership Funding (ongoing)	Prior to each FDP	On-going
26 Removed	ln/a	Removed by passage of C 52-2016
27 ** Housing Fund Payments (ongoing)	Additional CEPPA Contribution	On-going On-going

HC CONTROL STATIONS

NORTHING: 566,053,5979 NORTHING: 562,804,8537 EASTING: 1352,177.5307 EASTING: 1349,906.1701 ELEVATION: 334.676 ELEVATION: 359.151 (LATEST ADJ. NOV. 2008) (LATEST ADJ. NOV. 2008)

42. A PUBLIC EASEMENT WILL BE PROVIDED ON FDP-DC-L-I PARCELS F AND/OR K AS NECESSARY THAT PROVIDES UNRESTRICTED ACCESS TO THE DOWNTOWN NEIGHBORHOOD SQUARE. THE EXACT LOCATION OF THE EASEMENT WILL BE DETERMINED WITH THE FINAL PLAT AND THIS SITE DEVELOPMENT PLAN. TEMPORARY CLOSURE OF WINCOPIN CIRCLE EXTENDED/ROAD B TO VEHICULAR TRAFFIC IS PERMITTED DURING FESTIVALS, EVENTS AND OTHER PEDESTRIAN-ORIENTED ACTIVITIES PROVIDED PEDESTRIAN ACCESS TO THE DOWNTOWN NEIGHBORHOOD SQUARE IS MAINTAINED.

43. ALL PROPERTY CORNERS ARE TO BE LOCATED BY A LICENSED SURVEYOR AND THE APPROPRIATE PERMANENT MARKER TO BE

44. NO PARKING IS REQUIRED FOR THE DOWNTOWN NEIGHBORHOOD SQUARE PER THE DEPARTMENT OF RECREATION AND PARKS BASED ON THE ANTICIPATED OPERATIONS. VISITORS ARE ANTICIPATED TO USE THE "PARK-ONCE" APPROACH RECOMMENDED BY THE DOWNTOWN COLUMBIA PLAN. PARK USERS WILL HAVE ACCESS TO PUBLICLY AVAILABLE PARKING IN THE LAKEFRONT CORE NEIGHBORHOOD. THERE ARE NO REQUIREMENTS FOR HANDICAP PARKING, HOWEVER, TWO HANDICAP PARKING SPACES HAVE BEEN LOCATED PROXIMATE TO THE DOWNTOWN NEIGHBORHOOD SQUARE AND ADJACENT TO A HANDICAP ACCESSIBLE ROUTE TO AND THROUGH THE SQUARE ON LOT 27.

45. CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS (DRP) AT 410-313-4700 AT LEAST 48 HOURS PRIOR TO WORK.

A, DRP SHALL BE FURNISHED WITH THE FINAL DRAWINGS AND ANY REVISIONS TO THE FINAL DRAWINGS, SPECIFICATIONS, SHOP DRAWINGS, SUBMITTALS AND ANY OTHER FORM OF APPROVALS PRIOR TO MANUFACTURE OR SHIPMENT OF MATERIAL FOR . COMMENT AND FINAL APPROVAL;

B. DRP SHALL BE FURNISHED WITH A CONSTRUCTION SCHEDULE

C. DRP SHALL BE NOTIFIED AT LEAST 40 HOURS PRIOR TO ANY CONSTRUCTION MEETING

D. A REPRESENTATIVE DRP SHALL BE PRESENT ON-SITE DURING CONSTRUCTION FOR INSPECTION.

46. CONTRACTOR SHALL PROVIDE THE OWNER AND HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS AN AS-BUILT DRAWING AND/OR REPORT DEMONSTRATING ADA COMPLIANCE FOR THE IDENTIFIED ROUTES, RAMPS AND AREAS SHOWN ON THE HANDICAP ACCESSIBILITY PLAN ON SHEET 3.

47. THE EXISTING STORM DRAIN SYSTEM HAS BEEN VIDEO INSPECTED AND IS AVAILABLE UPON REQUEST. CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING STORM DRAINS DURING CONSTRUCTION. CONTRACTOR SHALL FLUSH THE STORM DRAIN SYSTEM, INCLUDING STRUCTURES, AT THE COMPLETION OF CONSTRUCTION AND ONCE THE SITE

48. THIS SITE INCLUDES THE USE OF RETAINING WALLS AS PART OF THE GRADING SCHEME FOR THE PROJECT. THE DESIGN HAS USED CONCRETE OR STONE RETAINING WALLS WITH LITTLE OR NO BATTER IN THE FACE OF THE WALL. CHANGES FROM CONCRETE AND/OR STONE TO OTHER MATERIALS MAY EFFECT THE LOCATION OF ADJACENT SITE FEATURES AND MAY ADVERSELY IMPACT THE ADJACENT STORMMATER FACILITY. CHANGES TO ANOTHER WALL SYSTEM WILL REQUIRE THAT THE CHANGES BE REVIEWED AND APPROVED BY HOWARD COUNTY (REDLINE PROCESS).

49. THE MAXIMUM SLOPE FOR ALL VEGETATED OR MULCHED AREAS IS 3 HORIZONTAL TO I VERTICAL.

50. CONTRACTOR TO COORDINATE LOCATION OF BOARDWALK, PLAY EQUIPMENT, AND ART INSTALLATION FOOTINGS WITH EXISTING AND PROPOSED STORM DRAIN AND UNDERDRAINS TO AVOID CONFLICTS AND ADVERSE LOADINGS.

51. ANY EARTHWORK QUANTITIES DEPICTED IN THESE PLANS ARE FOR REVIEW PURPOSES ONLY. THE CONTRACTOR SHOULD PERFORM A DETAILED EARTHWORK ANALYSIS TO DETERMINE THE AMOUNT OF IMPORT/EXPORT OF MATERIAL IF ANY

52. A PUBLIC PEDESTRIAN ACCESS EASEMENT RECORDED AT LIBER 18764, FOLIO 176 PROVIDES ACCESS TO THE PARK FROM A PUBLIC ROAD ACROSS PRIVATE PROPERTIES/STREETS.

ANOTE:

A COMMITTEE HAS BEEN APPOINTED BY COUNTY ADMINISTRATION FOR THE DESIGNAMO CONSTRUCTION OF THE PROPOSED VETERAN'S MONNIENT. A REDULE FOR THE PLAN WILL BE REQUIRED WHEN THE DESIGN HAS BEEN COMPLETED.

EXISTING CONTOUR — 600 PROPOSED CONTOUR LIMIT OF DISTURBANCE == == == EX. CURB AND GUTTER ----- FP ----- IOO YEAR FLOODPLAIN \_\_\_\_EX. EDGE OF PAVEMENT EXISTING BUILDING PROPOSED CURB & GUTTER PROPOSED PERGOLA PROPOSED HARDSCAPE / PATHWAY PROPOSED BOARDWALK

Description of the property of EXISTING STORM DRAIN PROPOSED PERVIOUS PAVERS O EXISTING SEMER MAIN

TO BE REMOVED — 望取. 8"V. EXISTING PUBLIC WATER BUILDING ENTRANCE TOP OF BOULDER ELEVATION

> CUMULATIVE DOWNTOWN COMMUNITY COMMONS TRACKING CHART Downtown Community Commons (DCC) Requirement: N/A Parcel DCC Area Provided (SF) Surplus by Parcel (SF) 5DP 19-037 0/5 LOT 1 26,254

> > 26,254

SITE DEVELOPMENT AND GRADING PLAN SITE DETAILS AND HANDICAP ACCESSIBILITY PLAN SEDIMENT CONTROL PLAN SEDIMENT CONTROL DETAILS ESD DRAINAGE AREA MAP @1 ESD SECTIONS, DETAILS & OPERATION AND MAINTENANCE SCHEDULES STORM DRAIN DRAINAGE AREA MAP @9 STORM DRAIN PROFILES, SCHEDULES AND PROFILES LANDSCAPE 10 TREE FRESERVATION PLAN MATERIALS PLAN PLAYGROUND ENLARGEMENT PAVING DETAILS HARDSCAPE DETAILS SITE FURNISHING DETAILS COMMUNITY FERGOLA DETAILS VETERAN'S MEMORIAL DETAILS STONE BENCH 2 DETAILS RETAINING WALL DETAILS BOARDWALK DETAILS BOARDWALK DETAILS PLANTING PLAN PLANTING DETAILS 24 LIGHTING PLAN 25 LIGHTING CUTSHEETS ASBUILT CERTIFICATION I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date: May 26 2022.

VINCOPIN ICIR

SITE

AT COLUMBIA &

ITTLE PATUXENT

MERRIVEATHER

ADC MAP PAGE 33, GRID AI

7/9/2020 Carl K. Gutschick Professional Engineer Maryland Req. No. 12975

ADDRESS CHART COMMUNITY PERGOLA 10271 LITTLE PATUXENT PARKWAY

GENERAL SITE DATA A. TOTAL PROJECT AREA: 26,254 SQUARE FEET OR 0.6 AC. B. LIMIT OF DISTURBED AREA: 24/09 SQUARE FEET OR 0.55 AC. C. PRESENT ZONING: NT (FDP DC-L-I) D. PROPOSED USE OF SITE: FUBLIC SQUARE (DCC), VETERANS

Cumulative Totals (SF)

MEMORIAL & PLAYGROUND

PERMIT INFORMATION CHART PARCEL SECTION/AREA SUBDIVISION NAME: DOWNTOWN COLUMBIA N/A OPEN SPACE LOT I LAKEFRONT CORE NEIGHBORHOOD PLAT No. | PARCEL | ELEC. DIST. CENSUS TRACT ZONE TAX MAP BLOCK 321 25127 6054

SCALE ZONING G. L. W. FILE No. 18050 AS SHOWN NT

PUBLIC DOWNTOWN NEIGHBORHOOD SQUARE DOWNTOWN COLUMBIA OPEN SPACE LOT LAKEFRONT CORE PLAT No. 25127

COVER SHEET

SHEET DATE TAX MAP - GRID 1 OF 25

ASBUILT SDP 19-037

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1869 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20868 | GLWPA.COM PHONE: 301-421-4024 | BALT: 410-880-1820 | DC&VA: 303-2524 | FAX: 301-421-4188

PLANNING ENGINEERING SURVEYING

CHECKED BY \$05/14/2020 DATE

DESIGNED E DRAWN BY 2\ADD NOTE REGARDING VETERANS MEMORIA 101/01/10// Add top of Boulder Elevation to Legend

ACB PARKING BUSINESS TRUST c/o THE HOWARD RESEARCH AND DEVELOPMENT CORP. 10960 GRANCHESTER WAY, SUITE 110 CONTACT: CAROL DOONEY COLUMBIA, MARYLAND 21044

410.964.5408

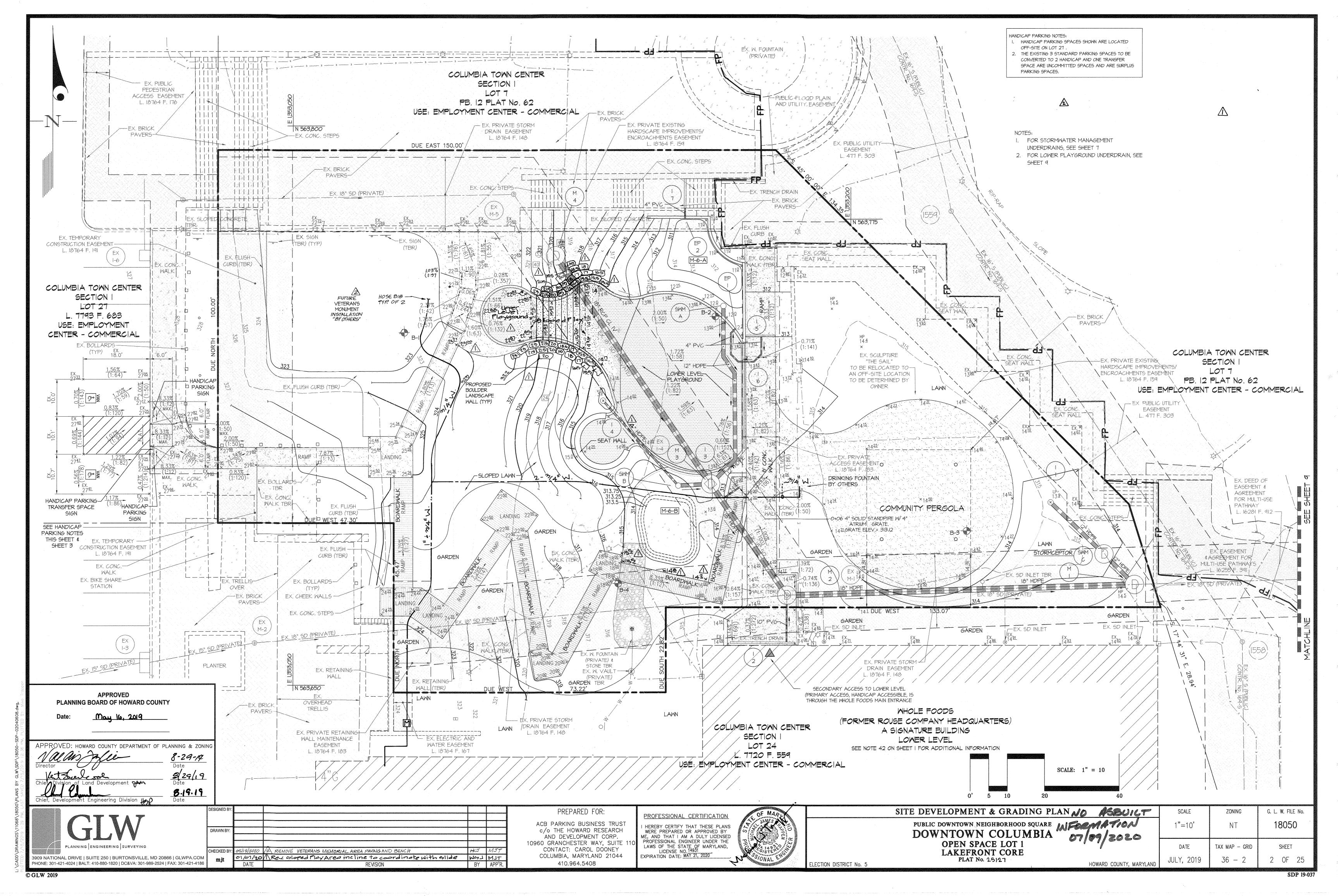
PREPARED FOR:

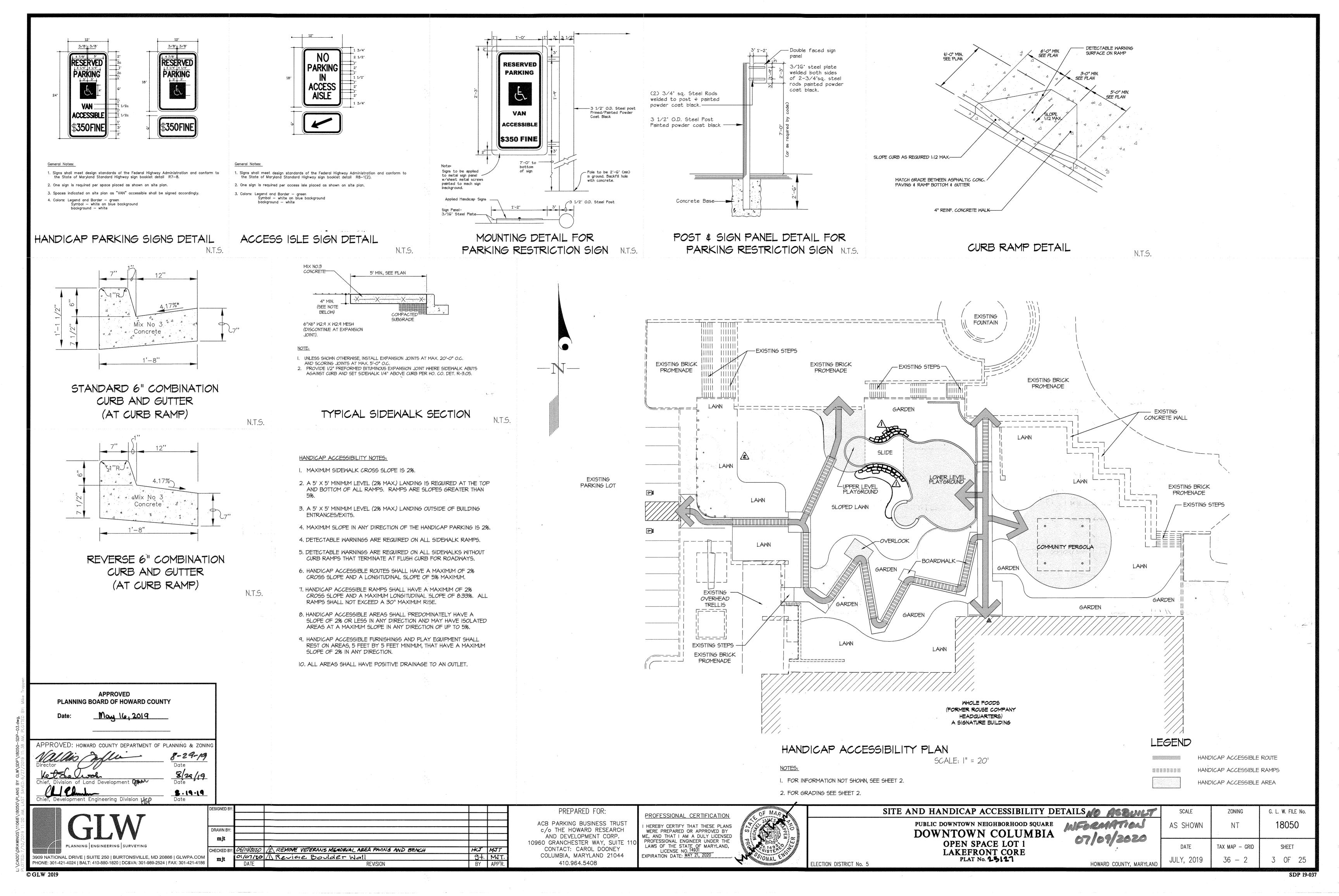
WERE PREPARED OR APPROVED BY WE. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14931 EXPIRATION DATE: MAY, 21, 2020

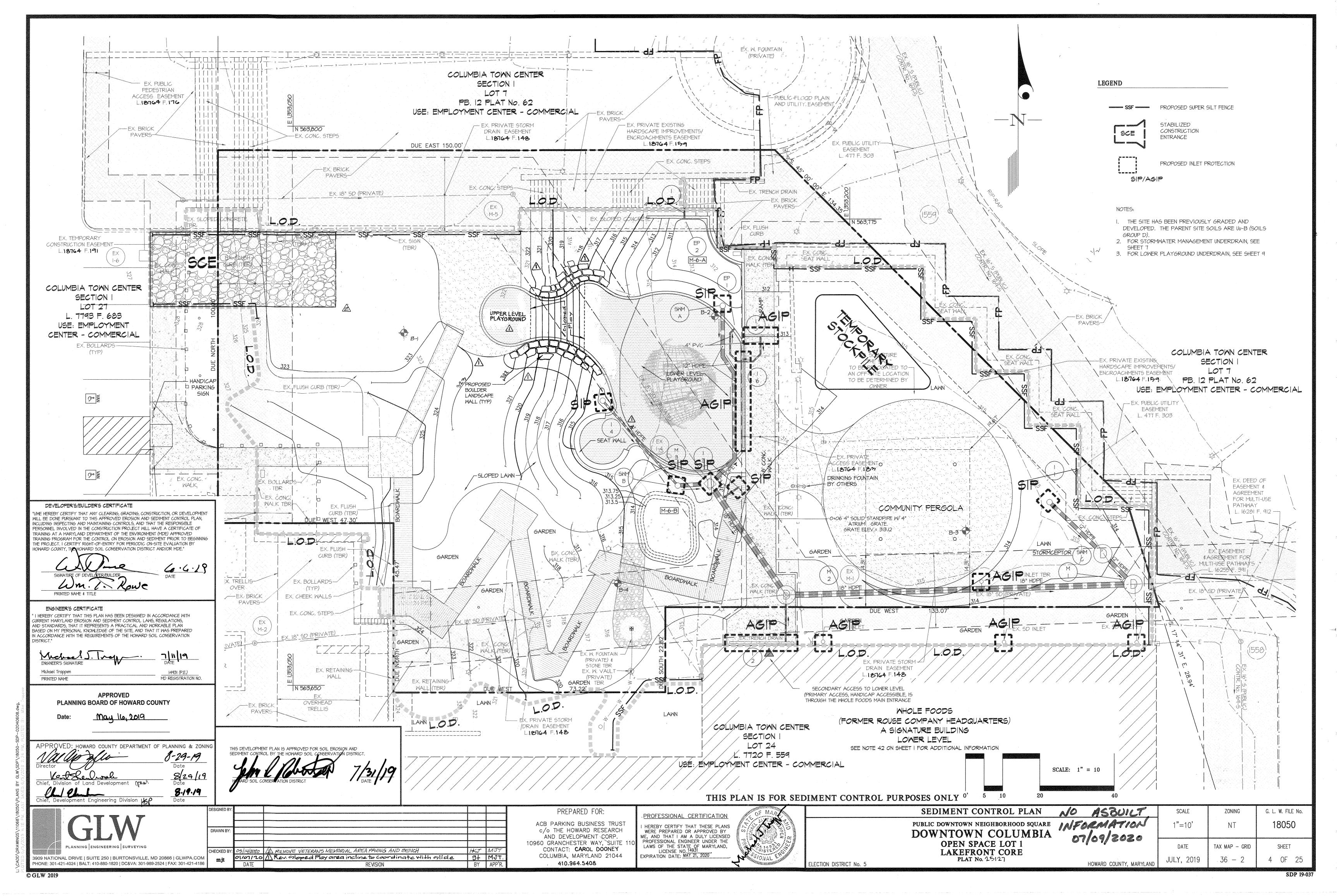
PROFESSIONAL CERTIFICATION

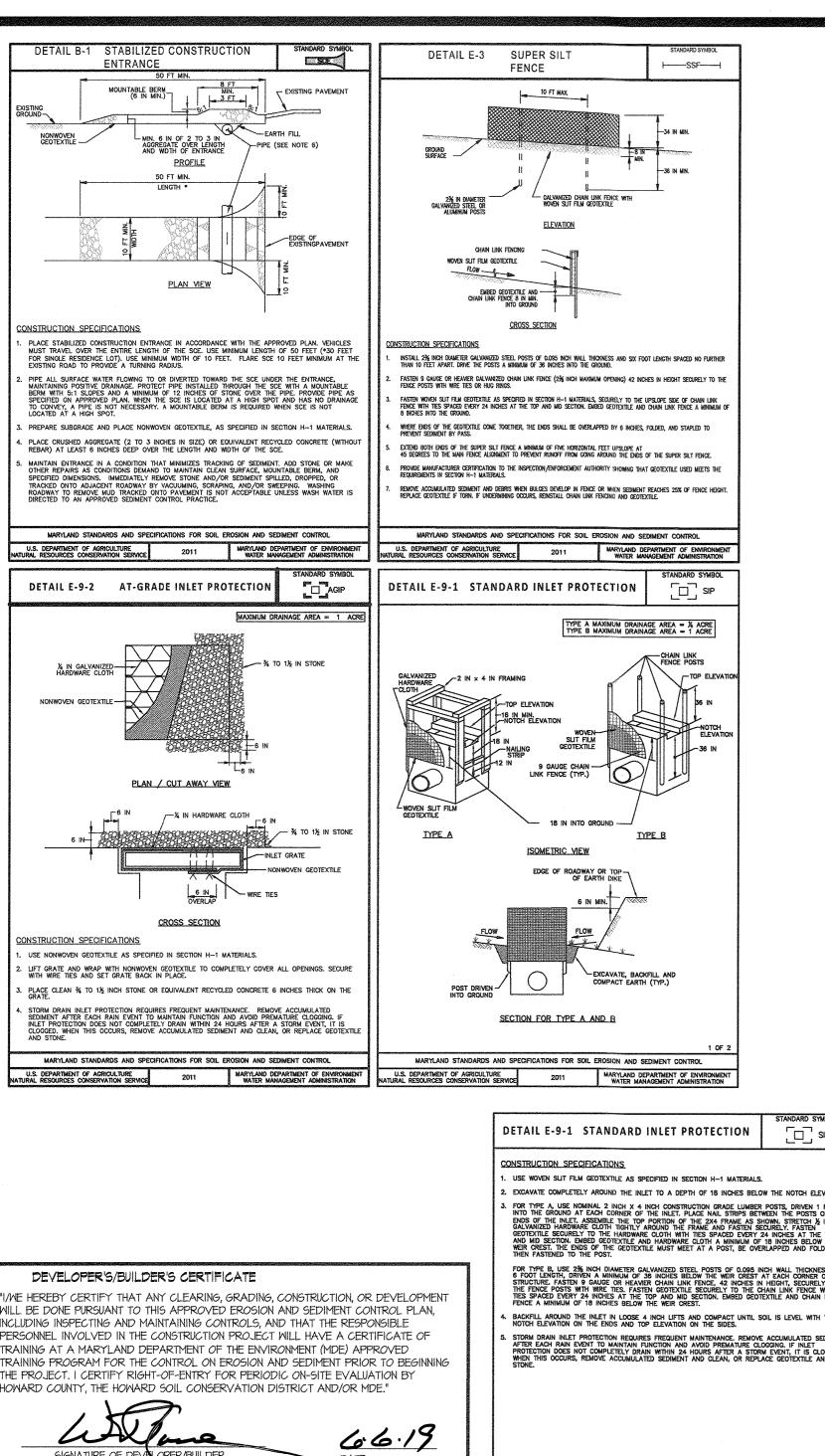
LECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND









PRINTED NAME & TITLE ENGINEER'S CERTIFICATE HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH URRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, IND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN ASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED N ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

MD REGISTRATION NO

8.19.19

STANDARD SYMBO . EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE ZY4 FRAME AS SHOWN. STRETCH & INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY, FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST. FOR TYPE B, USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AT 6 FOOT LENGTH, DRIVEN A MINIMUM OF 35 INCHES BELOW THE WEIR CREST AT EACH CORNER OF TH STRUCTURE. FASTEN 9 GAUGE OR HEAVIRE CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT SCLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STORIE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND

SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

#### **B-4-2 STANDARD AND SPECIFICATIONS FOR SOIL** PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION. <u>PURPOSE</u>

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. CONDITIONS WHERE PRACTICE APPLIES WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

1 TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH 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.

INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. 2. PERMANENT STABILIZATION 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 BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT. V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. 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

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS

B. TOPSOILING 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

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 TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH OR OTHER MATERIALS LARGER THAN 1.5 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.

TOPSOIL APPLICATION

EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS JUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER

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 SEEDBED 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. . SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL

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. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM

OXIDE PLUS MAGNESIUM OXIDÉ). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL ASS THROUGH A #20 MESH SIEVE.

JME\_AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE

#### **B-4-3 STANDARDS AND SPECIFICATIONS FOR** SEEDING and MULCHING

DEFINITION THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. <u>PURPOSE</u>

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.

**CRITERIA** 

A. SEEDING 1. SPECIFICATIONS

APPLICATION

MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. 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 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 : INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY HE 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 LINTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA IND MAKE THE INOCULANT LESS EFFECTIVE d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST 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 A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A

FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES 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; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (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 THOROLIGHLY 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, CAKEL DECAYED, OR EXCESSIVELY DUSTY, NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE

VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY. ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING

APPROPRIATE COLOR TO FACILITATE

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. MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS. 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 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 MINIMUM.

APPLICATION

 a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
 b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE
OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WFIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER

ANCHORING

a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR. II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. I. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG

#### **B-4-4 STANDARDS AND SPECIFICATIONS** FOR TEMPORARY STABILIZATION DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. PRACTICES ARE REQUIRED.

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

SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.

P. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING. 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

#### TEMPORARY SEEDING SUMMARY

	HARDINESS 2	ZONE: 6b						
	SEED MIXTUR		LIME RATE					
No.	SPECIES	APPLICATION RATE (lb/ac.)	SEEDING DATES	SEEDING DEPTHS	(10 lb./	LIME KAIL		
1	ANNUAL RYEGRASS	40 lb/ac	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb./ac.	2 tons/ac. (90 lb./		
2	PEARL MILLET	20 lb/ac	May 16 to July 31	0.5 INCHES		1,000 sf)		

#### **B-4-8 STANDARDS AND SPECIFICATIONS** FOR STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE CONDITIONS WHERE PRACTICE APPLIES

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR

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

RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.

ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE. 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

CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. 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

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1

SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

#### STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

**SPECIFICATIONS** 

MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.

TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE, BEGIN PLOWING ON WINDWARD SIDE OF SITE, CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF FOUIPMENT THAT MAY PRODUCE THE DESIRED. IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST, REPEAT AS NEEDED. THE SITE

MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS. BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND

SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY

Sequence of Construction

Arrange preconstruction meeting with inspector. Obtain Grading

Install stabilized construction entrance, tree protection fence and perimeter sediment controls (1 week) Demolish existing improvements as shown on plans and relocate existing sculpture (1 week)

4. Install storm drain and associated inlet protection (2 weeks) Fine grade site (1 week) 6. Construct retaining wall(s). Construct sidewalks, ramps and

boardwalk. Construct pergola. Install playground surface (2 7. Install play equipment (2 weeks)

8. Construct micro bio-retention facilities and pervious pavers (2

9. Install landscaping (2 weeks) 10. Stabilize remaining areas with sod (1 week) 11. Remove sediment controls once areas draining to them have been stabilized and permission is granted by the sediment control

inspector. Stabilize with sod (1 week) 12. Flush all storm drain systems (1 week)

\*Items 3 thru 8 can be initiated and/or completed simultaneously as the contractor sees fit with the concurrence of the sediment control inspector\*

#### **B-4-5 STANDARDS AND SPECIFICATIONS** FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER

ON DISTURBED SOILS

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

A. SEED MIXTURES

a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S). APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SÚMMARY IS TO 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.

FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY. d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3

1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY. 2. TUREGRASS MIXTURES

AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

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

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 POLINDS PER 1000 SOLIARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT

KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN ARFAS WHERE RAPID ÉSTABLISHMENT IS NECESSARY AND WHEN TURE WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT, CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER DOO SQUÁRE 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 SHADI RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE

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 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT, SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

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 i. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B,

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF

CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE; MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

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

k. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

	PERMANENT S	SEEDING SUMMARY			
HARDINESS ZONE: 6b SEED MIXTURE: #9 (Tall Fescue/	FERTILIZER	1045			
SPECIES	APPLICATION RATE	SEEDING DATES	SEEDING DEPTHS	RATE (10-20-20)	LIME RATE
*Certified Tall Fescue blend (95% by weight): Falcon IV, Penn 1901 & Rebel Exeda and Certified Kentucky Bluegrass blend (5% by weight): Courtyard, Raven & Yankee	6-8 lb/ 1000 s.f.	Mar. 1 to May 15, Aug. 15 to Oct. 15	1/4 – 1/2 IN.	1.0 lb/ 1000 s.f. (45 lb/acre)	90 lb/ 1000 s.f.

\* Other cultivars listed as "proven" in the most current UMD TT-77 may also be used

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER). 1. GENERAL SPECIFICATIONS

a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE

ACCEPTABLE. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVEL) DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOI LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS

WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN

#### SOD MAINTENANCE

PLAT No. 25127

α. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN

ADEQUATE MOISTURE CONTENT. c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

SEDIMENT CONTROL DETAILS NO ASBUILT PUBLIC DOWNTOWN NEIGHBORHOOD SQUARE DOWNTOWN COLUMBIA OPEN SPACE LOT 1

G. L. W. FILE No. 18050 AS SHOWN DATE TAX MAP - GRID SHEET JULY, 2019 36 – 2 5 OF 25

STANDARD SEDIMENT CONTROL NOTES

DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN

UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND

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.

10 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 THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR RE—DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE

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

SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (Sec.

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

B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HA

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY

PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF

• INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
• NAME AND TITLE OF INSPECTOR

• WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT

BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES

OF PLAN DEFICIENCIES
 IDENTIFICATION OF PLAN DEFICIENCIES
 IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS

PROTOGRAPHICS

PROTOGRAPH

MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR

STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

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.

SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY 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 ONTO FINAL GRADE.

ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON—THE—CONTOUR AND BE IMBRICATED AT 25 MINIMUM INTERVALS, WITH LOWER ENDS CURLED

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED

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.

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

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE

PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

TIME PERIODS (INCLUSIVE):

• USE I AND IP MARCH 1 - JUNE 15

• USE IV MARCH 1 - MAY 3

• USE III AND IIIP OCTOBER 1 - APRIL 30

0.60± AC.

: 0.6± AC.

: 0.1± AC.

: 0.5± AC.

300± CY\*

300± CY\*

GRADING PERMIT

: TO A SITE WITH AN ACTIVE

\* FOR REVIEW

PURPOSES ONLY.

RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

BEEN OBTAINED FROM THE CID.

TOTAL AREA OF SITE

AREA TO BE ROOFED OR PAVED

FVERY INSPECTION AND SHOULD INCLUDE:

OF LAST RECORDED PRECIPITATION

EVIDENCE OF SEDIMENT DISCHARGES

OFF-SITE WASTE/BORROW

AREA LOCATION

AREA TO BE VEGETATIVELY STABILIZED

AREA DISTURBED

TOTAL CUT

TOTAL FILL

• PHOTOGRAPHS

MONITORING/SAMPLING

SITE ANALYSIS:

SHALL BE ENFORCED IN AREAS WITH >15'OF CUT AND/OR FILL. STOCKPILES (SEC

-4-2), PERMANENT SEEDING (Sec.B-4-5), TEMPORARY SEEDING (SEC. B-4-4)

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

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND

SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING

THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY

NG STAGES: THE START OF FARTH DISTURBANC

ANOTHER GRADING UNIT

PLANNING ENGINEERING SURVEYING

PLANNING BOARD OF HOWARD COUNTY

May 16, 2019

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

PRINTED NAME

3909 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20866 | GLWPA.COM PHONE: 301-421-4024 | BALT: 410-880-1820 | DC&VA: 301-989-2524 | FAX: 301-421-4186

nent Engineering Division

DRAWN B CHECKED B mjt DATE REVISION BY APP' PREPARED FOR:

ACB PARKING BUSINESS TRUST c/o THE HOWARD RESEARCH AND DEVELOPMENT CORP. 10960 GRANCHESTER WAY, SUITE CONTACT: CAROL DOONEY COLUMBIA, MARYLAND 21044 410.964.5408

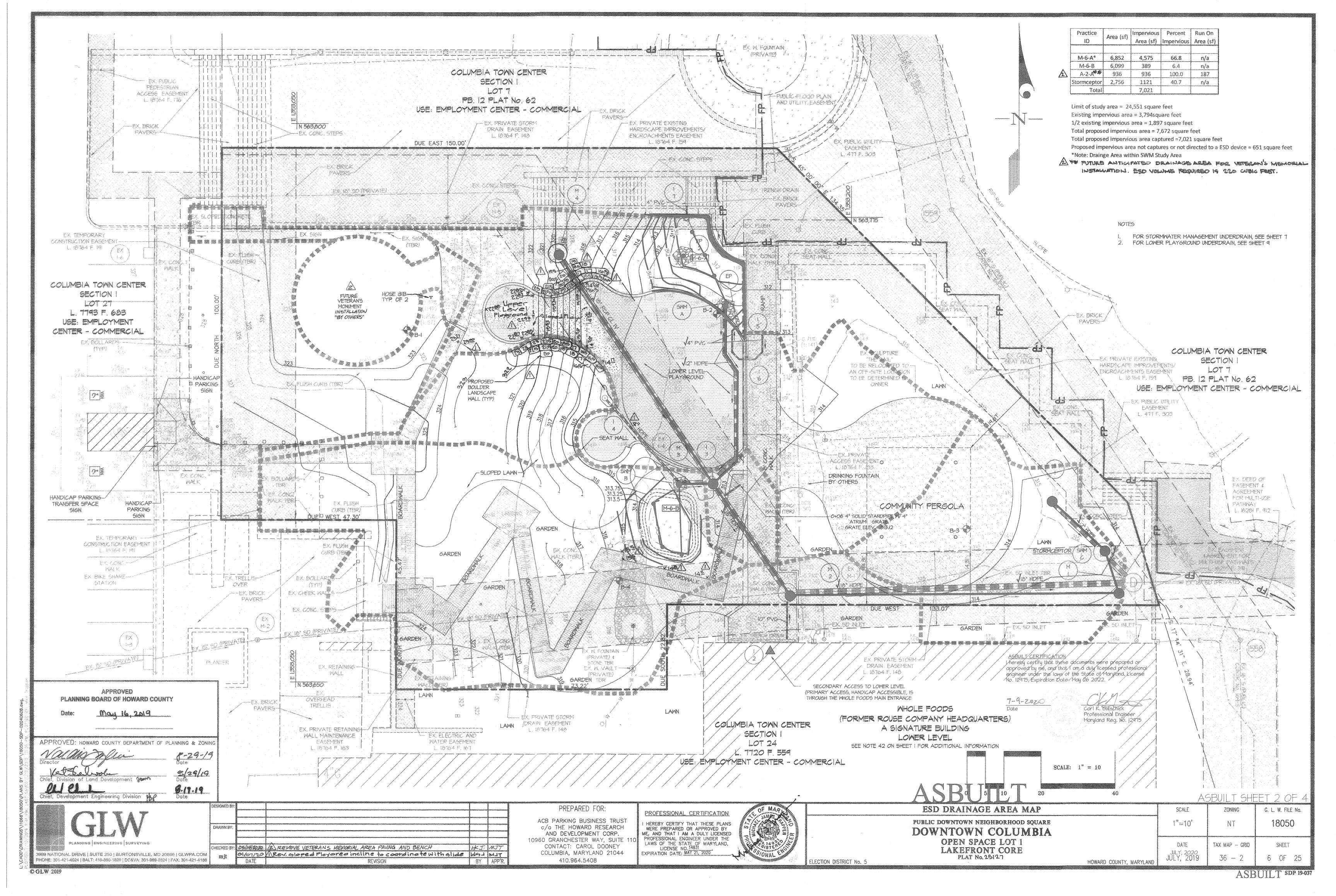
HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14931 EXPIRATION DATE: MAY 21, 2020

PROFESSIONAL CERTIFICATION

ELECTION DISTRICT No. 5

LAKEFRONT CORE

HOWARD COUNTY, MARYLAND



# MATERIAL SPECIFICATIONS 15.08.01.05. SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION). THE SOIL TO INCREASE OR DECREASE PH TOPSOIL WAS EXCAVATED. COMPACTION CAN BE ALLEWATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS RATE OF 2 POUNDS PER 1000 SQUARE FEET. 6. UNDFRORAINS INDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA: . MISCELLANEOUS AFTER EACH HEAVY STORM. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES.

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE 8.4.1.

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-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 BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

- 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%), COARSE SAND (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. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO

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

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO BEMOVE ORIGINAL SOIL IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF FOURPMENT WITH WARROW 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

A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE 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

ROTOTILL 2 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.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE, BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKPILLING 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 A DOZER/LOADER WITH MARSH TRACKS.

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A. SECTION A.2.3.

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS, MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH, PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHÉS 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.

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

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-CRASS GROUND COVER PLANTING SPECIFICATIONS

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 DEFEATS, OR AT A MINIMUM. IMPEDES THIS GOAL, ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL, ROTOTILL UREA FERTILIZER AT A

- PIPE- SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER, THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE). PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8' DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW, PIPE SHALL BE WRAPPED WITH A 16" (NO. 4 OR 4X4) CALVANIZED HARDWARE CLOTH
- GRAVEL THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN. THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROMDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A
- CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER. A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5% OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

RE PRACTICES MAY NOT BE CONSTRUCTED LINTU ALL CONTRIBUTING DRAINAGE AREA HAS REEN STARBLIZED.

#### OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (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 INSPECTION IN THE SPRING AND IN THE FALL OF 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
- THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE UNDERDRAINS WITHIN THE BIO-RETENTION

PLANNING BOARD OF HOWARD COUNTY APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONIN B.4.B SPECIFICATIONS FOR PERMEABLE PAVEMENTS

THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS AND ARE NOT EXCLUSIVE OR LIMITING. THE DESIGNER IS RESPONSIBLE FOR DEVELOPING DETAILED SPECIFICATIONS FOR INDIVIDUAL PROJECTS AND SPECIFIC

PERVIOUS CONCRETE SPECIFICATIONS DESIGN PLICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED. APPLICATIONS MAY BE DESIGNED USING EITHER STANDARD RAVEMENT PROCEDURES (E.G., AASHTO, ACI 325.9R, ACI 330R) OR USING STRUCTUBAL VALUES DERIVED FROM FLEXIBLE PAVEMENT DESIGN PROCEDURES.

MIX & INSTALLATION - TRADITIONAL PORTLAND CEMENTS (ASTM C 150, C 1157) MAY BE USED IN PERVIOUS CONCRETE APPLICATIONS. PHOSPHORUS ADMIXTURES MAY ALSO BE USED, MATERIALS SHOULD BE TESTED (E.G., TRIAL BATCHING) PRIOR TO CONSTRUCTION SO THAT CRITICAL PROPERTIES (E.G., SETTLING TIME, RATE OF STRENGTH DEVELOPMENT, POROSITY,

AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (% IN. TO NO. 4), NO. 8 (% IN. TO NO. 16) AND NO. 89 (% IN. TO NO. 50) SIEVES. SINGLE-SIZED

AGGREGATE (UP TO I INCH) MAY ALSO BE USED. WATER CONTENT - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCLUSION OF CHEMICAL ADMIXTURES. WATER QUALITY SHOULD MEET ACI 30A, AS A GENERAL RULE, POTABLE WATER SHOULD BE USED ALTHOUGH RECYCLED CONCRETE PRODUCTION WATER MEETING ASTM C 94 OR AASHTO M 157 MAY ALSO BE USED.

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN BERVIOUS CONCRETE. USE OF ADMIXTURES SHOULD MEET ASTM C 494 (CHEMICAL ADMIXTURES) AND ASTM C 260 (AIR EMPRAINING ADMIXTURES) AND CLOSELY FOLLOW MANUFACTURER'S RECOMMENDATIONS.

BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE-SPACE

. PERMEABLE INTERLOCKING CONCRETE PAVEMENTS (PICP)

PAVER BLOCKS - BLOCKS SHOULD BE EITHER 3 1/4 IN. OR 4 IN. THICK, AND MEET ASTM C 936 OR CSA A231.2 REQUIREMENTS APPLICATIONS SHOULD HAVE 20% OR MORE (40% PREFERRED) OF THE SURFACE AREA OPEN, INSTALLATION SHOULD FOLLOW MANUFACTURER'S INSTRUCTIONS, EXCEPT THAT INFILL AND BASE COURSE MATERIALS AND DIMENSIONS SPECIFIED IN THIS APPENDIX SHALL BE FOLLOWED. INFILL MATERIALS AND LEVELING COURSE - OPENINGS SHALL BE FILLED WITH ASTM C-3: GRADED SAND OR SANDY LOAM. PICH BLOCKS SHALL BE PLACED ON A ONE-INCH THICK LEVELING COURSE OF ASTM C-3

BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (N = 0.30), REINFORCED TURF REINFORCED GRASS PAVEMENT (RGP) - WHETHER USED WITH GRASS OR GRAVEL. THE RGP THICKNESS SHALL BE AT LEAST 1

#### OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMCEPTOR WATER QUALITY DEVICE

A. THE OWNER SHALL INSPECT THE STORMCEPTOR WATER QUALITY STRUCTURE PERIODICALLY AND CLEAN IT TO MAINTAIN PROPER OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE STORMCEPTOR UNIT YEARLY AT A MINIMUM, UTILIZING THE STORMCEPTOR INSPECTION/MONITORING FORM, INSPECTIONS SHALL BE DONE BY USING A CLEAR PLEXIGLASS TUBE ("SLUDGE JUDGE") TO EXTRACT A WATER COLUMN SAMPLE. WHEN THE SEDIMENT DEPTHS EXCEED THE LEVEL SPECIFIED IN TABLE 6 OF THE STORMCEPTOR TECHNICAL MANUAL, THE STORMCEPTOR UNIT MUST BE CLEANED

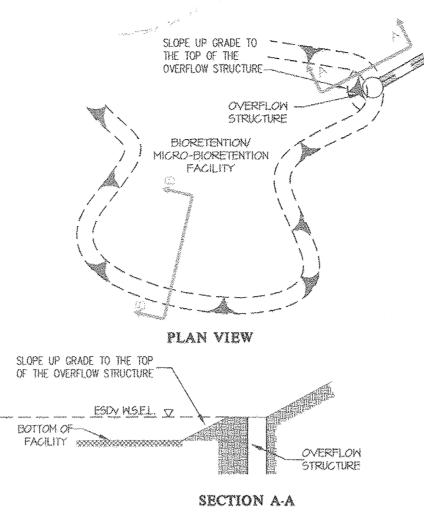
3" THICK WITH A LOAD CAPACITY CAPABLE OF SUPPORTING THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED.

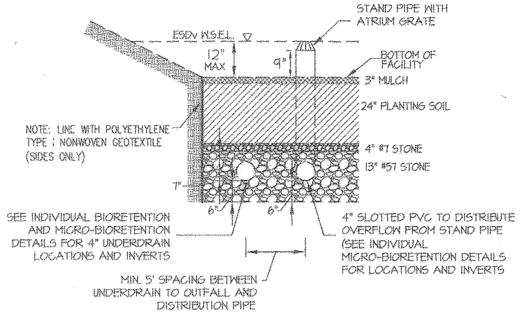
- THE OWNER SHALL CHECK AND CLEAN IMMEDIATELY THE STORMCEPTOR WATER QUALITY STRUCTURE AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES AND CLEAN THE PETROLEUM SPILLS IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
- THE MAINTENANCE OF THE STORMCEPTOR UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH WILL REMOVE THE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS AND OTHER MATERIALS IN THE STORMCEPTOR UNIT. THE OWNER SHALL FOLLOW ALL REQUIREMENTS FOR THE PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS
- THE OWNER SHALL CHECK THE INLET AND OUTLET PIPES FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS, IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED. THE OWNER SHALL REPAIR THE
- E. THE OWNER SHALL RETAIN AND MAKE THE STORMCEPTOR INSPECTION/MONITORING FORMS AVAILABLE THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

STRUCTURAL PARTS OF THE STORMCEPTOR UNIT AS NEEDED.

- A. THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM PORQUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
- B. THE OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE.
- THE OWNER SHALL USE DEICERS IN MODERATION. DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.
- D. THE OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE INCH ABOVE THE SURFACE, PLOWED SNOW PILES AND SNOWMELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.





SECTION B-B

TYPICAL BIORETENTION/MICRO-BIORETENTION SECTION SCALE N.T.S.

DATA REQUIREMENTS

I.E. L. HATERBUL DIAMETE

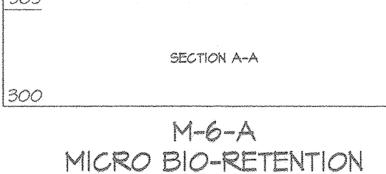
FLOTATION BALCAST VROTH HEIGHT

CHESPSPECIAL REQUIREMENTS:

- I. ALL EXPOSED PIPING, INLETS, AND GRATES WITHIN FACILITY
- 2. PROVIDE FILTER FABRIC BETWEEN BIO-RETENTION MEDIA AND ADJACENT SOIL (SIDES ONLY) MSHA CLASS C.
- 3. SEE SHEET 2 OF 21 FOR MORE INFORMATION. 4. SEE LANDSCAPE PLANS FOR BIO-RETENTION PLANTING

STORMWATER MANAGEMENT NOTES:

ARE TO BE PAINTED BLACK.



States with the contract contract and the states of the states and the states and the states of the states of

0+00 4" SOLID

GRATE.

STANDPIPE W 4" ATRIUM

INV. SLOTTED PIPE= 7.83 -

320

EX, GRADE

TOP OF 4" PVC STAND PIPE

W/ ATRIUM GRATE = 311.75

80110M = 311.00

V 308.42~306.73

4" SLOTTED PVC --

INV. = 307.83

2' PLANTING SOIL

GRATE ELEV.= 11.75

April and a state of the state

0+09 CO-1-1366 x

INV. = 7.83

MICRO BIO-RETENTION

NON - MDE 378 FACILITY

ESDy PROVIDED = 3T1 CU-FT

BOTTOM OF FACILITY = 311.00

TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)

LOW-FLOW OUTFALL: SLOTTED 4" UNDERDRAIN SYSTEM

HIGH-FLOW OUTFALL: SWM-A (12" DRAIN BASIN WITH 12"

NYLOPLAST DOMED GRATE. INLET, TOP =312.00)

STORAGE PROVIDED = 283 CU-FT (@312.00) 258 CU-FT @ 311.93

TOP OF STRUCTURE = 312.0

----PROP. GRADE

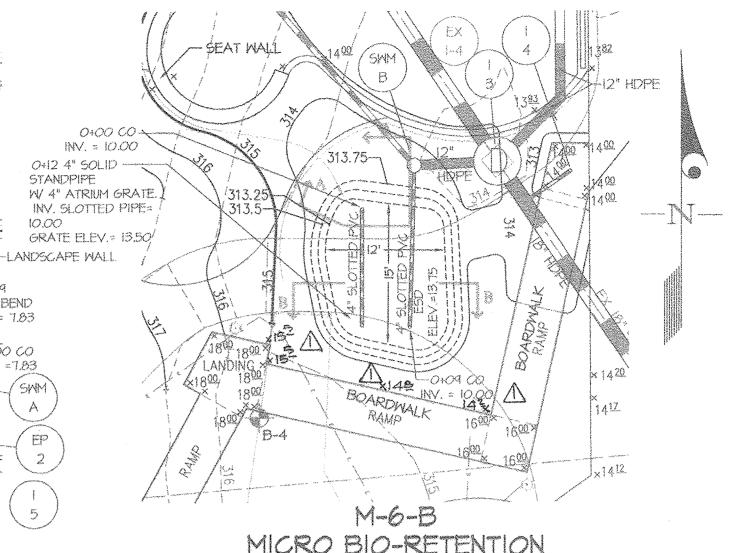
4" SLOTTED PV

INV. = 397.83

" HDPE OUT

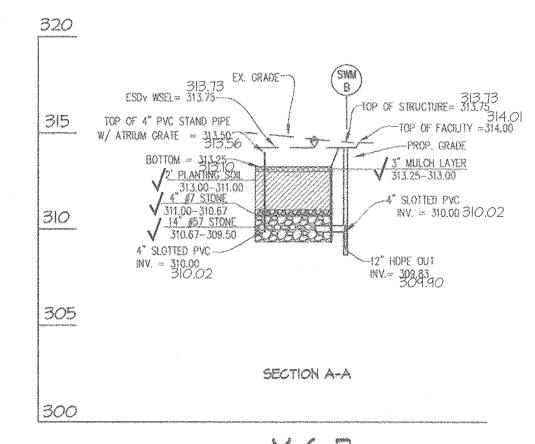
TOP OF FACILITY =312.50 MIN

TOTAL DRAINAGE AREA TO FACILITY = 6,852 SF



TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6) NON - MDE 318 FACILITY TOTAL DRAINAGE AREA TO FACILITY = 6,099 SF STORAGE PROVIDED = 107 CU-FT (@313.75) 128 cu-ft @ 313.73 ESDV PROVIDED = 141 CU-FT

LOW-FLOW OUTFALL: SLOTTED 4" UNDERDRAIN SYSTEM BOTTOM OF FACILITY = 313.25 HIGH-FLOW OUTFALL: SWM-B (12" DRAIN BASIN WITH 12" NYLOPLAST DOMED GRATE. TOP =313,75)



M-6-B MICRO BIO-RETENTION

> ASBUILT CERTIFICATION I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12975, Expiration Date: May 26 2022.

7-9-2020

Carl K. Gutschick Professional Engineer Maryland Reg. No. 12975

EX. TF

45° BEND

INV. = 7.83

-0+00 CC

ESD PROFILES, DETAILS AND OPERATIONS & MAINTENANCE SCHEDULES OPEN SPACE LOT

SCALE ZONING G. L. W. FILE No. 18050 AS SHOWN NT SHEET TAX MAP - GRID JULY, 2020 JULY, 2019 7 OF 25

PUBLIC DOWNTOWN NEIGHBORHOOD SQUARE DOWNTOWN COLUMBIA LAKEFRONT CORE HOWARD COUNTY, MARYLAND

2/39/19

DRAWN BY CHECKED BY 05/14/2020 /2 REMOVE A-ZA LINDER DRAIN AND SECTION DETAILS 01/07/20 AREX Gloped Play area incline to coordinate with glide | WOJ MJT mjt REVISION

PREPARED FOR: ACB PARKING BUSINESS TRUST c/o THE HOWARD RESEARCH AND DEVELOPMENT CORP. 10960 GRANCHESTER WAY, SUITE CONTACT: CAROL DOONEY COLUMBIA, MARYLAND 21044

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CDS2015-4-0 INLINE CDS STANDARD DETAIL

CDS2015-4-C DESIGN NOTES

FIGURATION DESCRIPTION

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CUNTECH

PARATE OIL BAFFLE (SINGLE BILET PIPS BECAUNED FOR THIS CONHIGURATION

PROFESSIONAL CERTIFICATION WERE PREPARED OR APPROVED BY PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14931 EXPIRATION DATE: MAY 21, 2020

410.964.5408

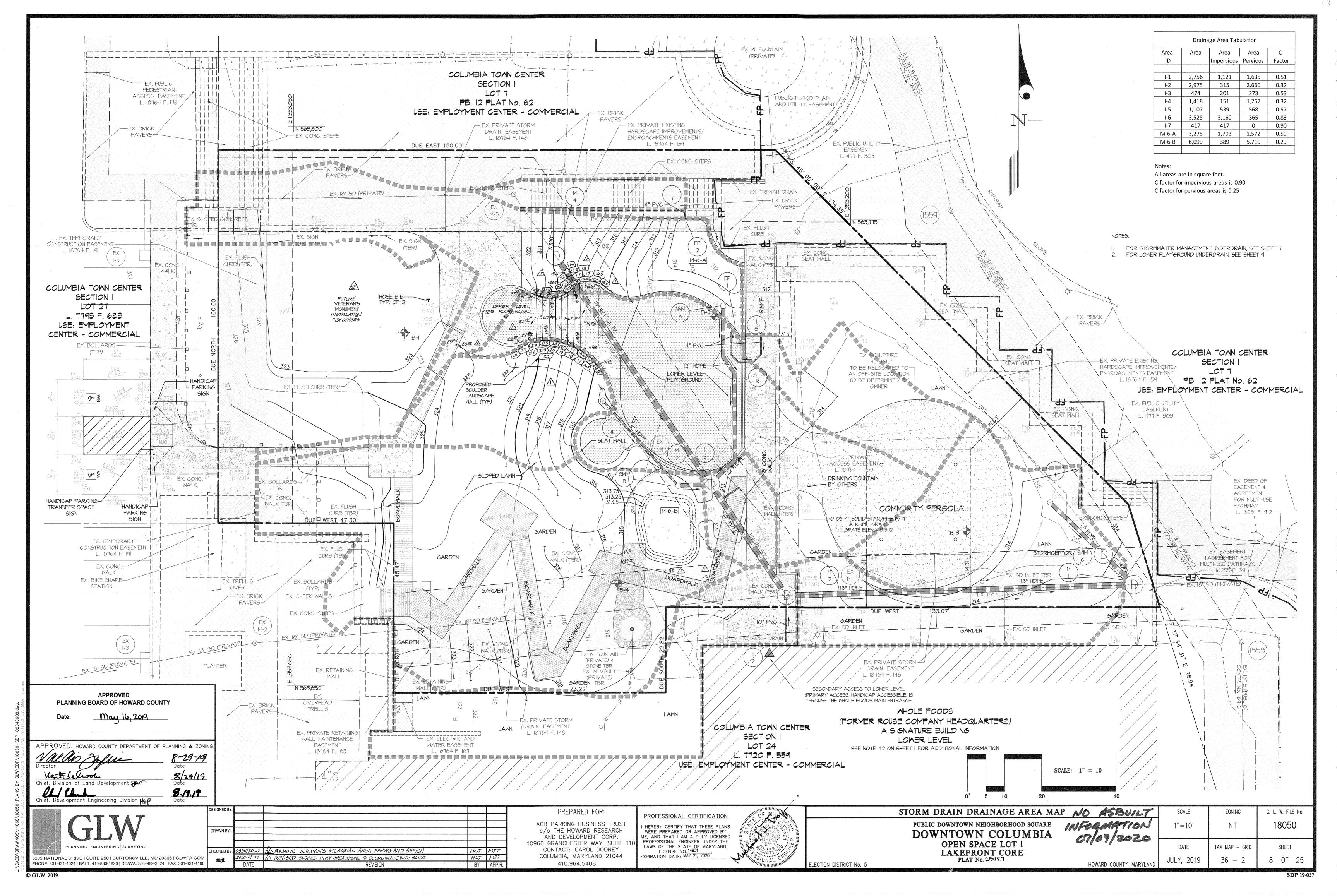
HEREBY CERTIFY THAT THESE PLANS ME, AND THAT I AM A DULY LICENSED

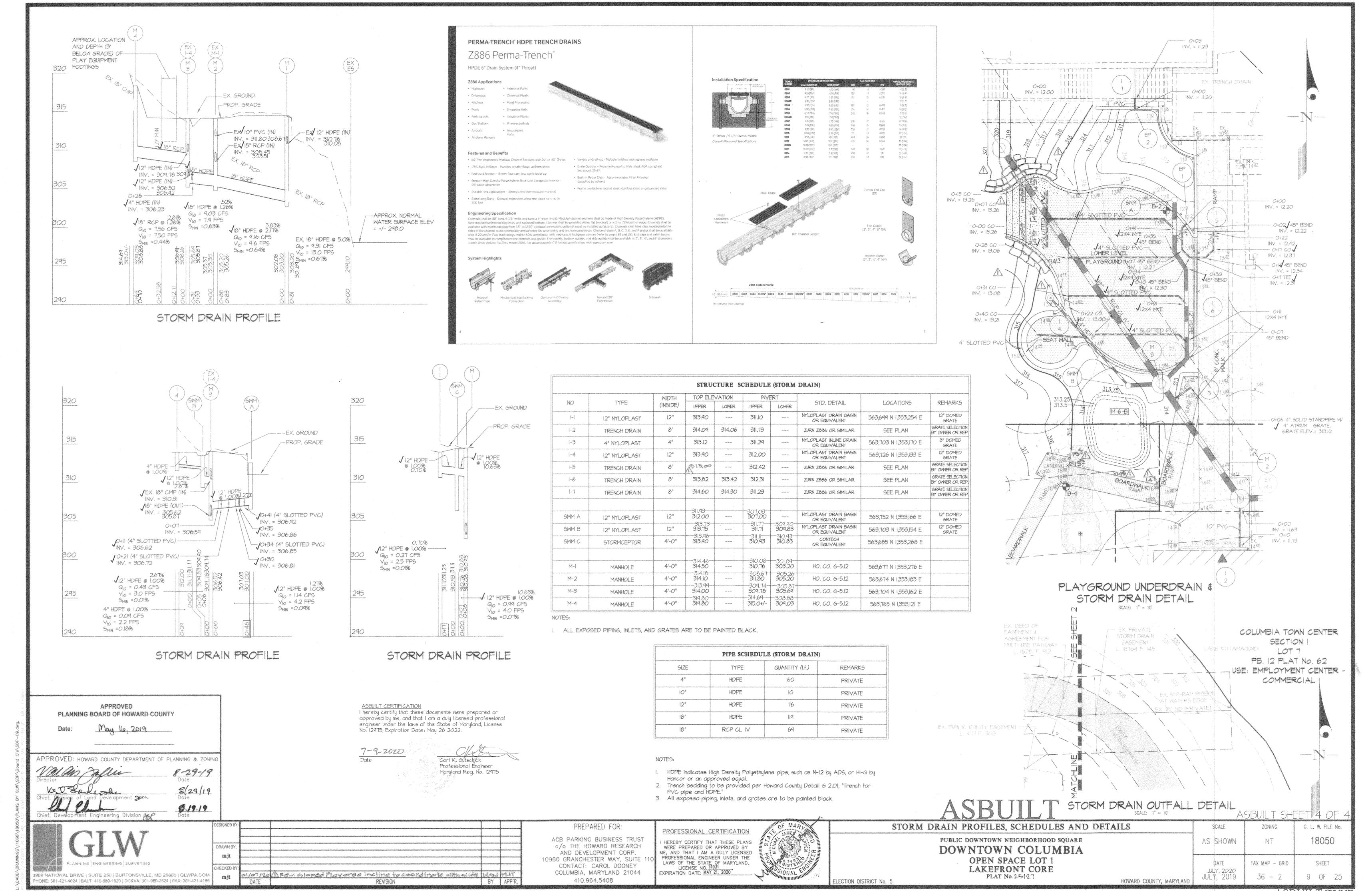
ELECTION DISTRICT No. 5

ASBUILT SDP 19-037

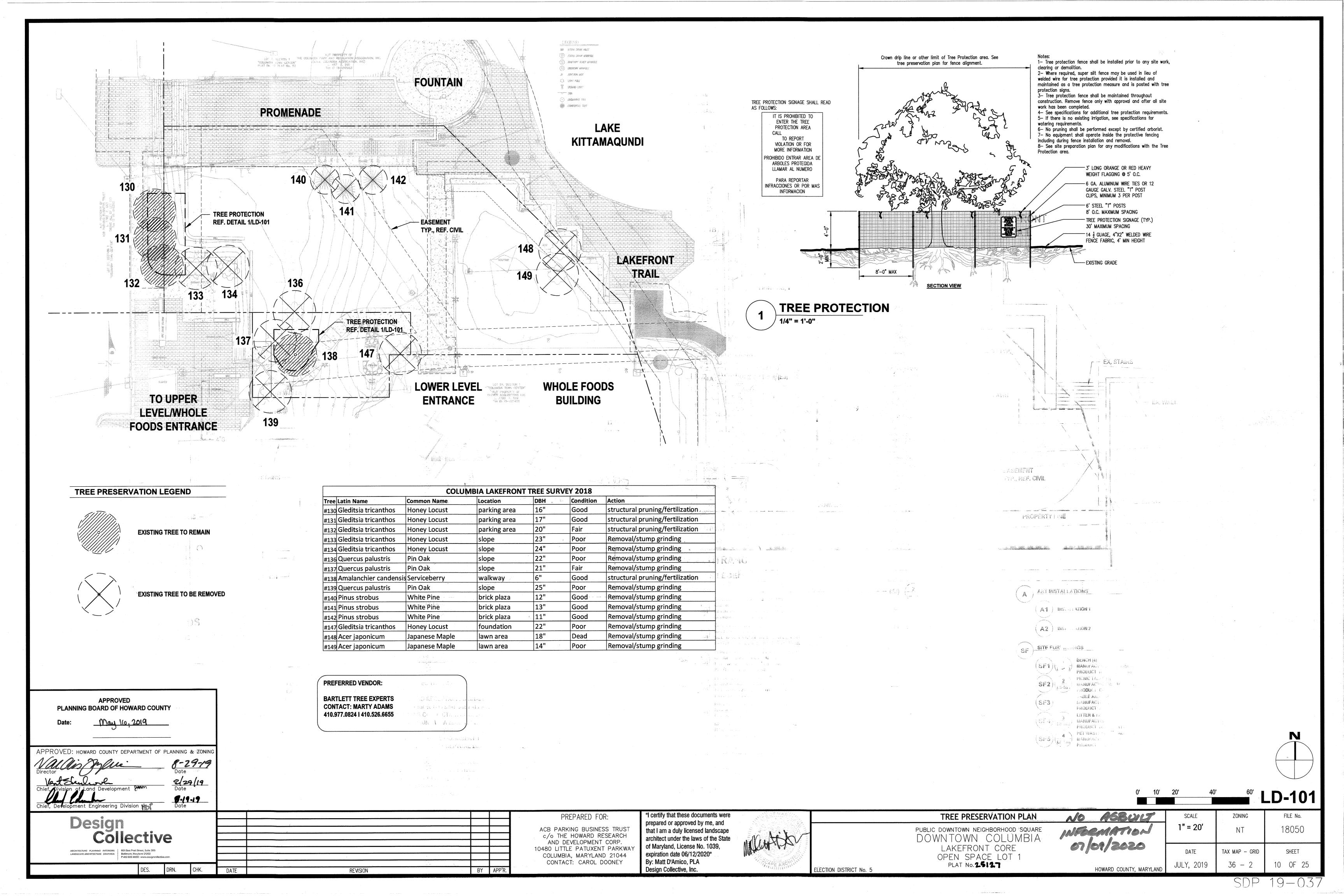
PHONE: 361-421-4024 | BALT: 410-880-1820 | DC&VA: 301-989-2524 | FAX: 301-421-4186

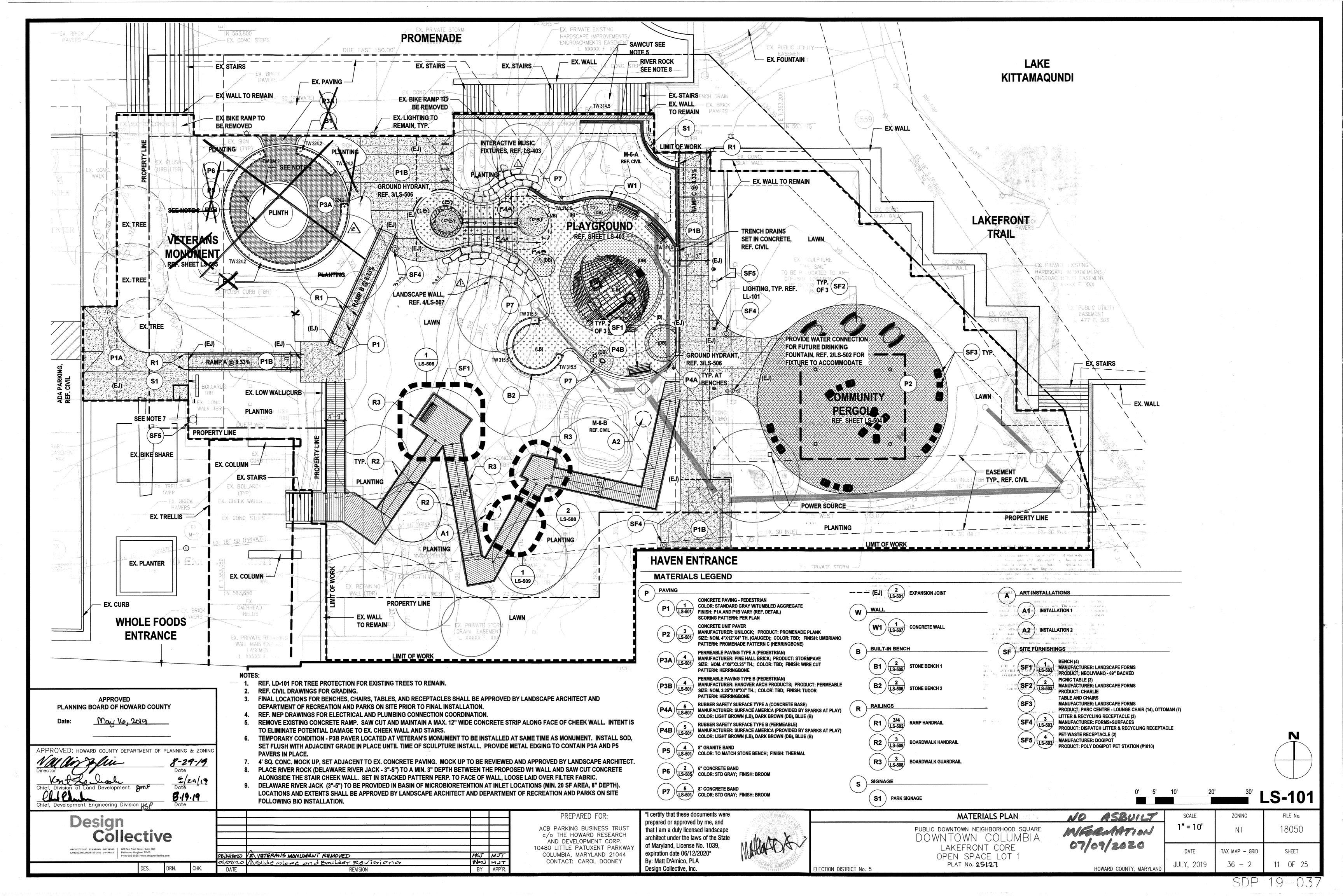
3909 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20866 | GLWPA.COM

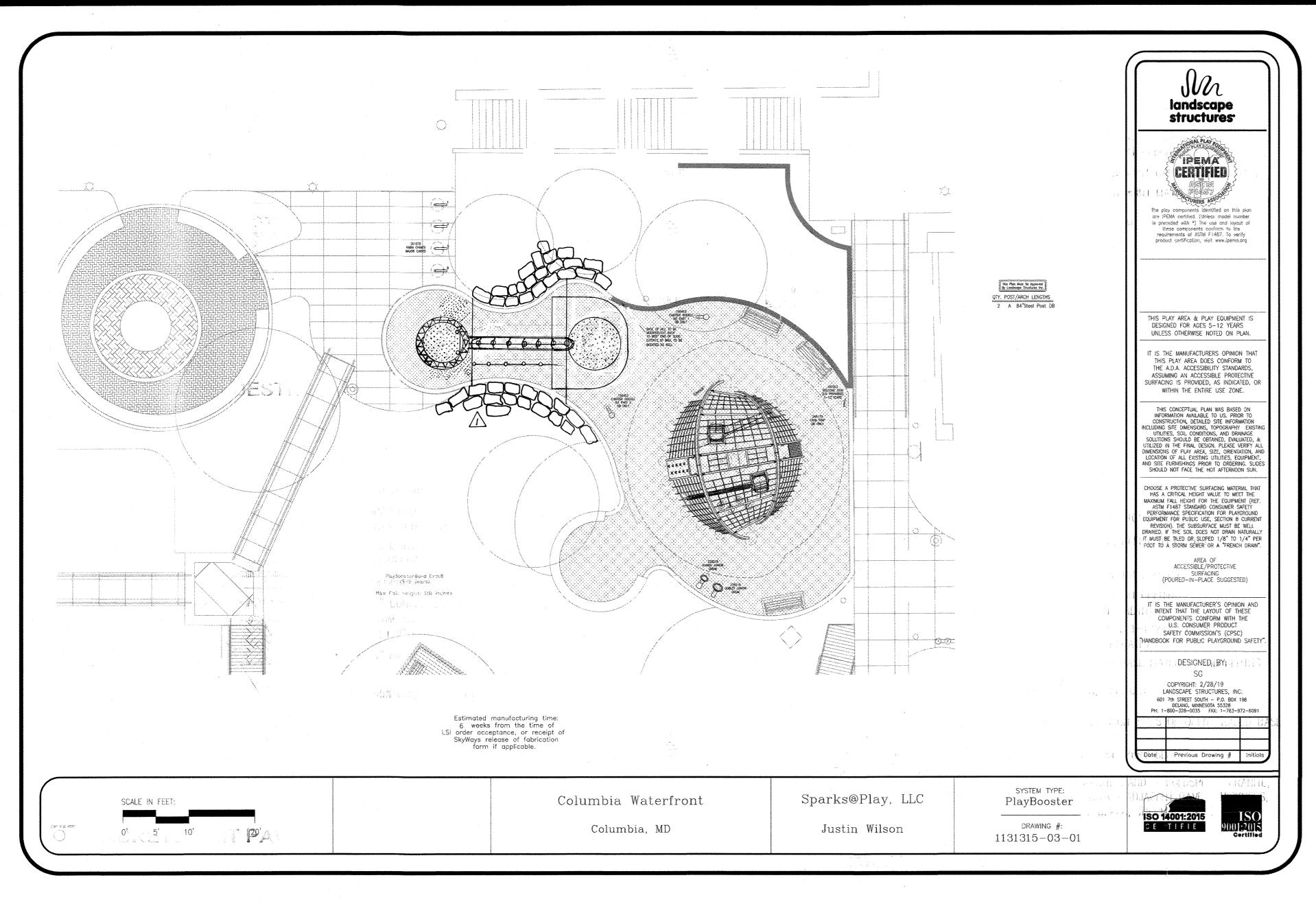




ASBUILT SDP 19-037







PREFERRED VENDOR:

CONTACT: JUSTIN WILSON

SPARKS AT PLAY

443.898.6253



#### PLAYGROUND SURFACE SYSTEM TEN YEAR WARRANTY

#### Scope of Warranty

Surface America, Inc. expressly warrants to the Owner that the materials supplied and installed per the purchase order agreement shall remain free from defects in workmanship and materials for a period of ten (10) years from the date of this Warranty.

#### This Warranty shall be pro-rated as follows:

- If at any time in years 1-5 of the Warranty a Warranty claim is made and determined to be valid, Surface America shall repair or replace the affected area without cost to the Owner.
- If a Warranty claim is made and determined to be valid in year 6 of the Warranty, Surface America shall repair or replace the affected area at a cost to the Owner of 20% of the repair cost.
- If a Warranty claim is made and determined to be valid in year 7 of the Warranty, Surface America shall repair or replace the affected area at a cost to the Owner of 40% of the repair cost.
- If a Warranty claim is made and determined to be valid in year 8 of the Warranty, Surface America shall repair or replace the affected area at a cost to the Owner of 60% of the repair cost.
- If a Warranty claim is made and determined to be valid in year 9-10 of the Warranty, Surface America shall repair or replace the affected area at a cost to the Owner of 80% of the repair cost.

Surface America, Inc. expressly warrants that if the surface is used as a playground it shall remain at or below 1000 HIC and 200 GMAX as tested in accordance with ASTM F1292 for a period of three (3) years from the date of this

Any repairs/replacements which are necessary as a result of the failure of the system to maintain 1000 HIC and 200 GMAX shall be covered for a period of three (3) years from the date of this

#### Owner's Compliance with Maintenance Manual

The Warranties stated above are subject to and conditioned upon the Owner's compliance with Surface America, Inc's maintenance procedures.

#### **Exclusions from Warranties**

- The Warranties stated above exclude damage due to:
- Improper or faulty subsurface preparation
- Shrinkage (which is an inherent characteristic of elastic rubber)
- Normal wear and tear
- Slight color variations





#### 2019 Play Equipment Warranty You have our word.

All the warranties commence on date of Manufacturer's invoice. Should any failure to conform to the above express warranties appear within the applicable warranty period, Manufacturer shall, upon being notified in writing promptly after discovery of the defect and within the applicable warranty period, correct such nonconformity either by repairing any defective part or parts, or by making available a replacement part within 60 days of written notification. Manufacturer shall deliver the repaired or replacement part or parts to the site free of charge, but will not be responsible for providing labor or the cost of labor for the removal of the defective part or parts, the installation of any replacement part or parts or for disposal costs of any part or parts. Replacement parts will be warranted for the balance of the original warranty.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS. FOR A PARTICULAR PURPOSE.

The remedies hereby provided shall be the exclusive and sole remedies of the purchaser. Manufacturer shall not be liable for any direct, indirect, special, incidental or consequential damages.

Manufacturer neither assumes nor authorizes any employee, representative or any other person to assume for Manufacturer any other liability in connection with the sale or use of the structures sold, and there are no oral agreements or warranties collateral to or affecting this agreement. The warranties stated above are valid only if the structures and/or equipment are erected in conformance with Landscape Structures' installation instructions and maintained according to the maintenance procedures furnished by Landscape Structures Inc.; have been subjected to normal use for the purpose for which the goods were designed; have not been exposed to saltwater or salt spray, have not been subject to misuse, negligence, vandalism, or accident, have not been subjected to addition or substitution of parts; and have not been modified, altered, or repaired by persons other than Manufacturer or Manufacturer's designees in any respect which, in the judgement of Manufacturer, affects the condition or operation of the structures.

To make a claim, send your written statement of claim, along with the original job number or invoice number to: Landscape Structures Inc. 601 7th Street South, Delano, Minnesota, 55328-8605.



#### / SURFACE

- Improper snow removal
- Neglect, abuse, deliberate act, accident, or vandalism

CUMBTACTED BUBBLEADE F

- Act of God, casualty Vehicular traffic

Improper dry cleaning fluids

- Improper cleaning methods and/or cleaning methods not sanctioned by SURFACE AMERICA, INC.

#### Warranty Claims Procedure

All warranty claims must be made in writing and sent with photographs to Surface America, Inc., at the address listed below, within thirty (30) days after Owner has or should have knowledge of the alleged defect. Within a reasonable time of receipt of notice. Surface America, Inc. shall have the opportunity to inspect the site and investigate the affected area, including the right to take any photographs and/or tests of the area. Any repair or replacement work performed by a party other than Surface America, Inc. shall invalidate this Warranty and terminate any further obligation of Surface America, Inc.

#### Limitations and Exclusions of Warranty/Remedy

HALLSHALL

If an area of the surface is determined to be covered by this Warranty, Surface America, Inc.'s obligations under this Warranty shall be to repair or replace the area. The remedy of repair or replacement shall be the Owner's sole and exclusive remedy. Except in the case of personal injury, Surface America, Inc. shall not be liable for consequential damages. In no event shall Surface America, Inc. be liable for incidental or punitive damages.

This Warranty shall be of no force and effect if Surface America, Inc. is not paid in full for the System and Surface America, Inc.'s obligations under this Warranty are expressly contingent upon Surface America, Inc. being paid in full for the System. Surface America, Inc. must be paid at least 90% of its contract balance within one hundred twenty (120) days of the substantial completion of its work and fully paid within one year of the substantial completion of its work, or when the retainage is due by Contract. In the event that repairs are required which would otherwise be covered under the Warranty but for non-payment, Surface America, Inc. and the Owner may mutually agree that Surface America, Inc. shall perform such repairs on a pre-pay basis.

NO OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE ARE MADE AND ALL OTHER WARRANTIES EXCEPT AS EXPRESSLY STATED HEREIN ARE DISCLAIMED.

This Warranty is issued by Surface America, Inc. in the State of New York and shall be governed by and interpreted in accordance with the laws of the State of New York,

PATE OF THE NUA SIGNATURENS ARE INTENDED AS BAD on behalf of SURFACE AMERICA, INC. PROJECT: PPROVE SHIP THAT

THE WAR THAT STORE LAND PO Box 157, Williamsville, New York 14231 Toll Free 800.999.0555 • Phone 716.632.8413 • Fax 716.632.8324
Web Site: www.surfam.com • E-mail: surface@surfam.com "Masters in Recreational Surfacing"



## LS-403



PLANNING BOARD OF HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

PLAYGROUND ENLARGEMENT

ASTM +

aSIM +

PRC

2/29/19

HYCH II .

HJ MJT 2020-01-07 / SLIDE ELONGATED; ROPE PULL ADDED BY APP'R

PREPARED FOR: ACB PARKING BUSINESS TRUST c/o THE HOWARD RESEARCH AND DEVELOPMENT CORP.

"I certify that these documents were prepared or approved by me, and that I am a duly licensed landscape architect under the laws of the State of Maryland, License No. 1039, 10480 LITTLE PATUXENT PARKWAY expiration date 06/12/2020" COLUMBIA, MARYLAND 21044 By: Matt D'Amico, PLA CONTACT: CAROL DOONEY Design Collective, Inc.

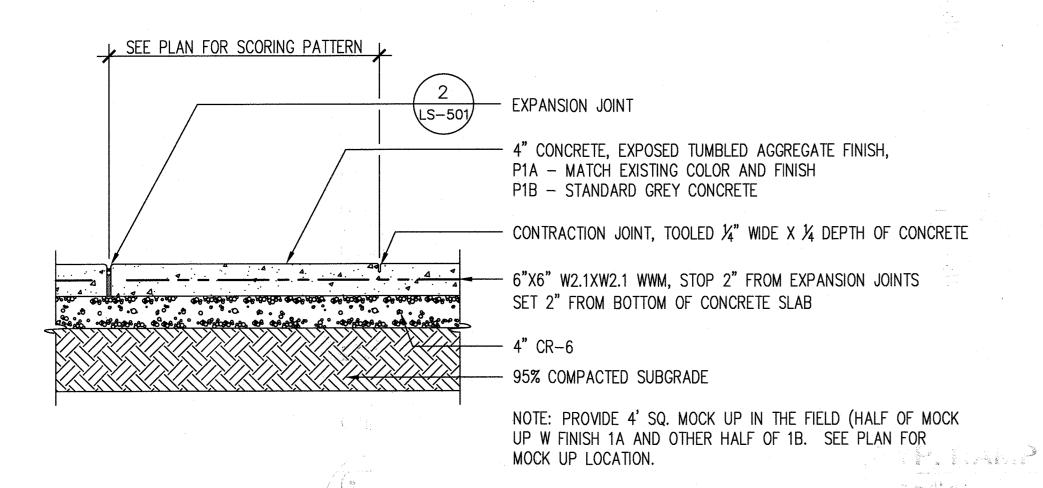
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<b>437</b> 7	
	ELECTION DISTRICT No. 5

PLAYGROUND ENLARGEMENT PUBLIC DOWNTOWN NEIGHBORHOOD SQUARE DOWNTOWN COLUMBIA LAKEFRONT CORE OPEN SPACE LOT 1 PLAT No. 25127

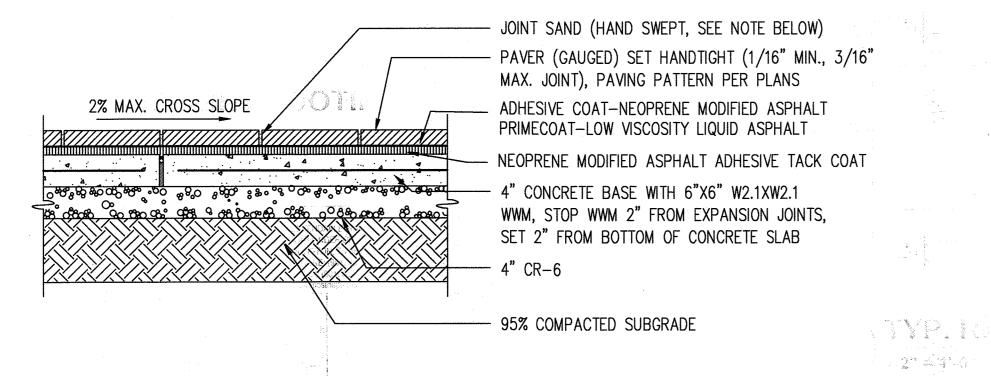
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ZONING FILE No. AS SHOWN 18050 DATE TAX MAP - GRID SHEET 12 OF 25 HOWARD COUNTY, MARYLAND



#### **CONCRETE - PEDESTRIAN** 1" = 1'-0"



#### **CONCRETE UNIT PAVERS** 1" = 1'-0"

#### CONCRETE MIX PROPERTIES

A. ELEMENT (NORMAL WEIGHT UNO) 28-DAY STRENGTH ALL CONCRETE 4,000 PSI

W/C MAX(b)

AIR CONTENT (a) 6% +/- 1.5

112" = 1"

PUMP MIXES: MAXIMUM WATER/CEMENT (W/C) RATIO MUST BE MAINTAINED. IF ADDITIONAL WORKABILITY IS REQUIRED FOR PUMPED PLACEMENT, THE HIGH OR MID-RANGE WATER REDUCERS SHALL BE USED IN LIEU OF ADDITIONAL WATER.

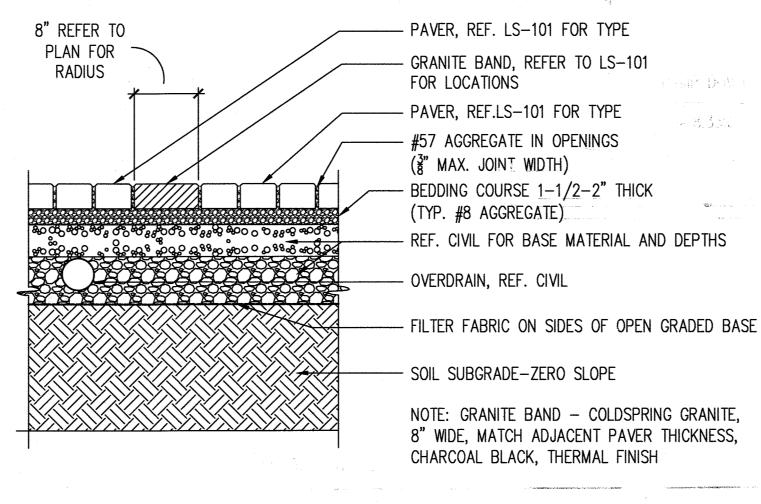
- PORTLAND CEMENT:
- ASTM C150, TYPE II ASTM C595, TYPE LS (LIMIT TO 50% MAX OF CEMENTITIOUS CONTENT BY WEIGHT)
- CEMENT SUBSTITUTES: AGGREGATES/DENSITY:
- ASTM C33 / 145 PCF NORMAL WEIGHT ASTM C260 AIR-ENTRAINMENT:
- F. HYDROPHOBIC ADMIXTURE: HYCRETE SYSTEM W, AS MANUFACTURED BY HYCRETE, INC.



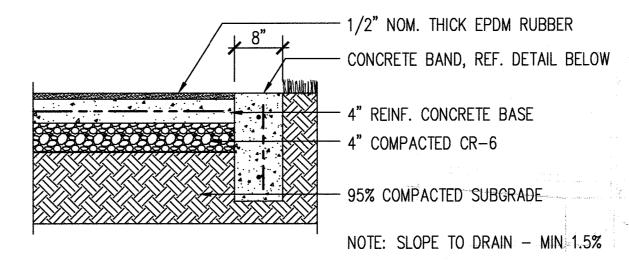


SELF LEVELING POLYURETHANE SEALANT 1/4" RECESS TOOLED, SEALANT COLOR TO MATCH CONCRETE - PLASTIC FIBER EXPANSION JOINT CAP WITH REMOVABLE TOP ½" WIDE FIBER EXPANSION JOINT MATERIAL - ADJACENT PAVING, REF. PLAN 

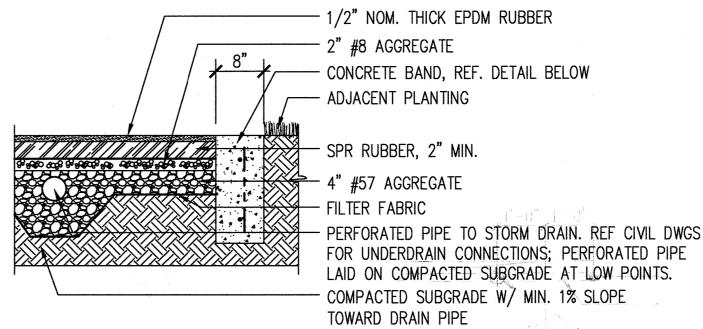
#### **EXPANSION JOINT** 1" = 1'-0"



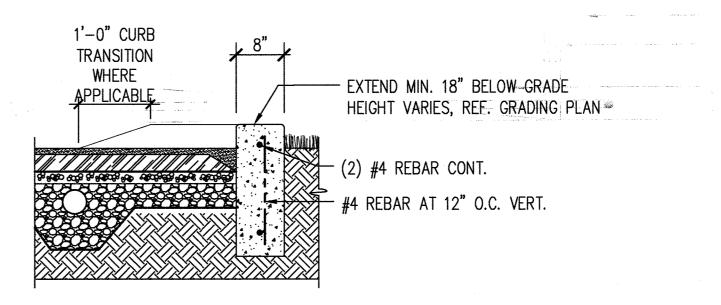




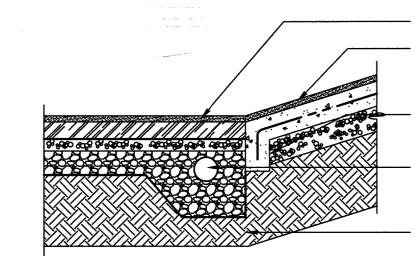
#### **SAFETY SURFACE A**



#### **SAFETY SURFACE B**



#### **CONCRETE BAND/CURB AT SAFETY SURFACE**



- PLAY SURFACE B, REF. DETAIL ABOVE - PLAY SURFACE A, REF. DETAIL ABOVE

- TURN DOWN CONCRETE SUBBASE AT BASE OF SLOPE PER PLAYGROUND MANUFACTURERS RECOMMENDATION PERFORATED PIPE TO STORM DRAIN. REF CIVIL DWGS FOR UNDERDRAIN CONNECTIONS; PERFORATED PIPE LAID ON COMPACTED SUBGRADE AT LOW POINTS. - COMPACTED SUBGRADE W/ MIN. 1% SLOPE TOWARD DRAIN PIPE

#### SAFETY SURFACE TRANSITION

SAFETY SURFACE NOTES: 1. IMPACT LAYER SBR RUBBER DEPTH VARIES, AND IS BASED ON CFH (CRITICAL FALL HEIGHT) OF PLAY EQUIPMENT. 2. EPDM BONDED RUBBER MULCH SURFACING CORRESPONDS TO SLOPE OF 3. SUFFICIENT CURE TIME MUST BE ALLOWED FOR IMPACT COURSE LAYER 4. PLAYGROUND SURFACE SHALL MEET OR EXCEED CONSUMER PRODUCT SAFETY COMMISSION GUIDELINES FOR IMPACT ATTENUATION. 5. COLOR SELECTIONS ARE INTENDED AS BASIS OF DESIGN. LANDSCAPE ARCHITECT AND HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS STAFF TO REVIEW AND APPROVE SUBMITTAL. 6. REFER TO PLANS FOR EXTENTS OF FLUSH AND EXTENDED CURB SECTIONS.

### RUBBER SAFETY SURFACE / 3/4" = 1'-0"

## **LS-501**

Development Engineering Division	Hol	Date	<u> -(7</u>					
Design								
Design Collective								
ARCHITECTURE PLANNING INTERIORS 601 East Pratt Str	eet, Suite 300					-	-	
LANDSCAPE ARCHITECTURE GRAPHICS  Baltimore, Maryland 21202  P 410 685 6555 : www.ciesigncollective.com								
		T						
	DES.	DRN.	CHK.	DATE	REVISION	BY	APP'R.	

PREPARED FOR: ACB PARKING BUSINESS TRUST c/o THE HOWARD RESEARCH AND DEVELOPMENT CORP. 10480 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 CONTACT: CAROL DOONEY

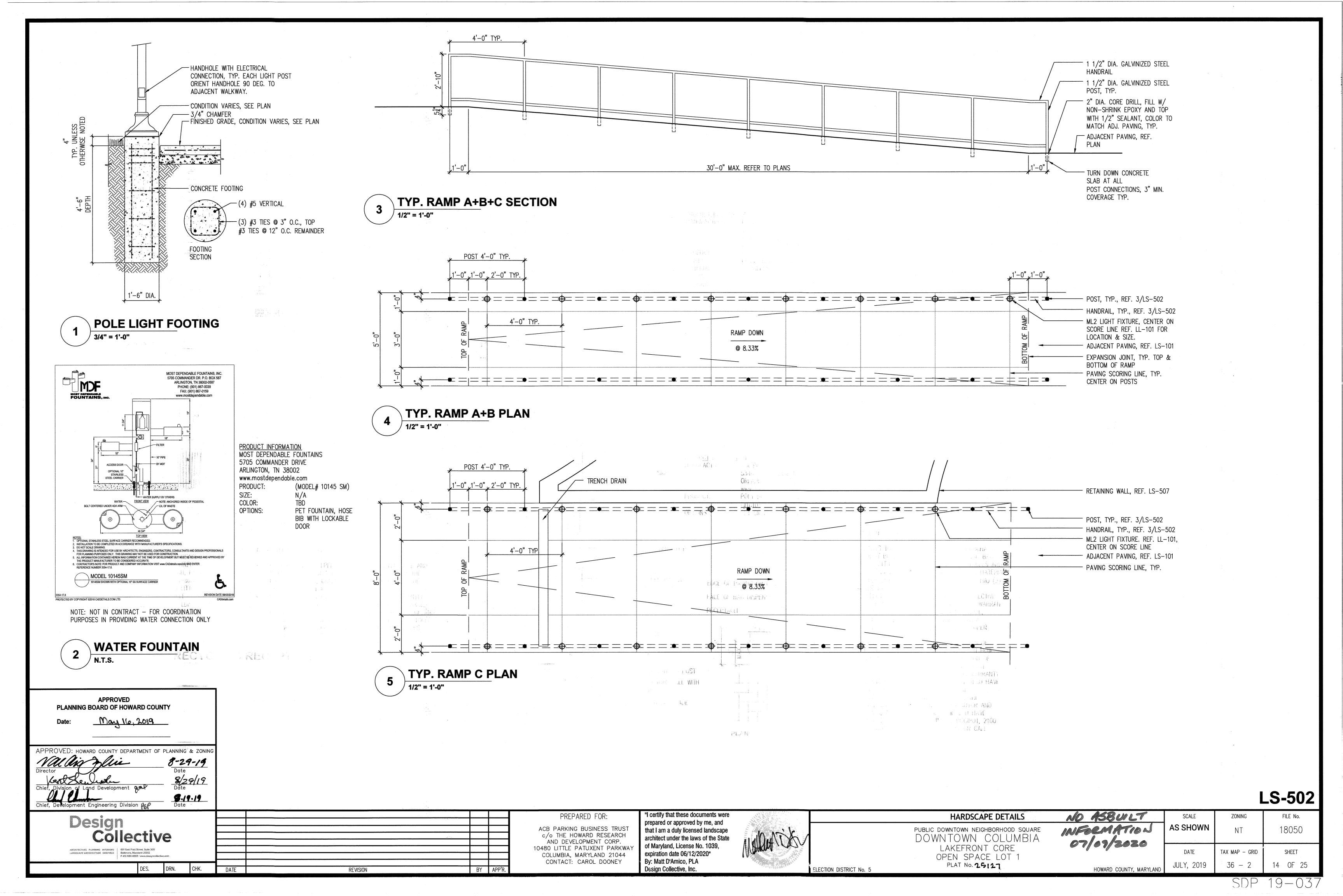
"I certify that these documents were prepared or approved by me, and that I am a duly licensed landscape architect under the laws of the State of Maryland, License No. 1039, expiration date 06/12/2020" By: Matt D'Amico, PLA Design Collective, Inc.

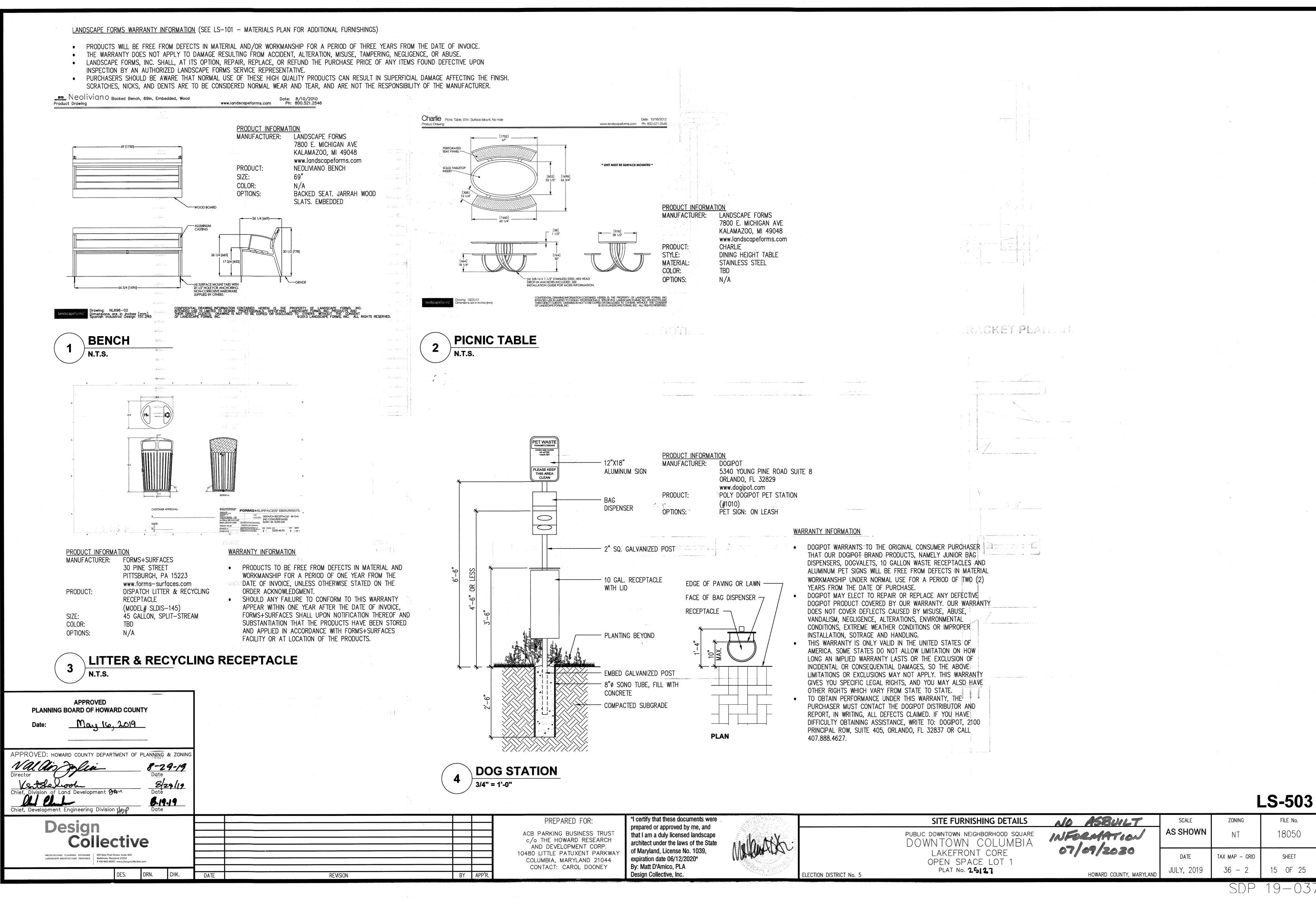
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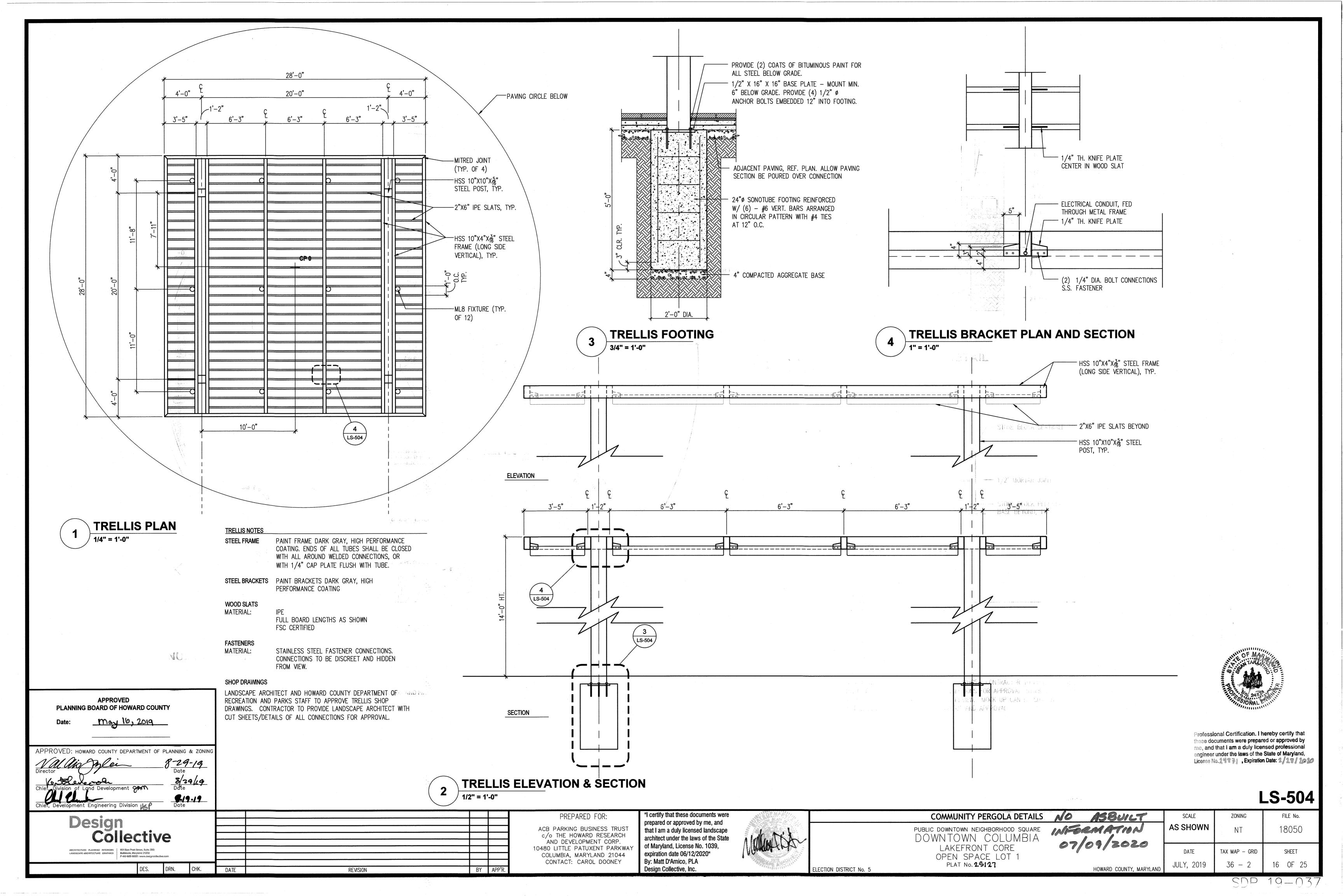
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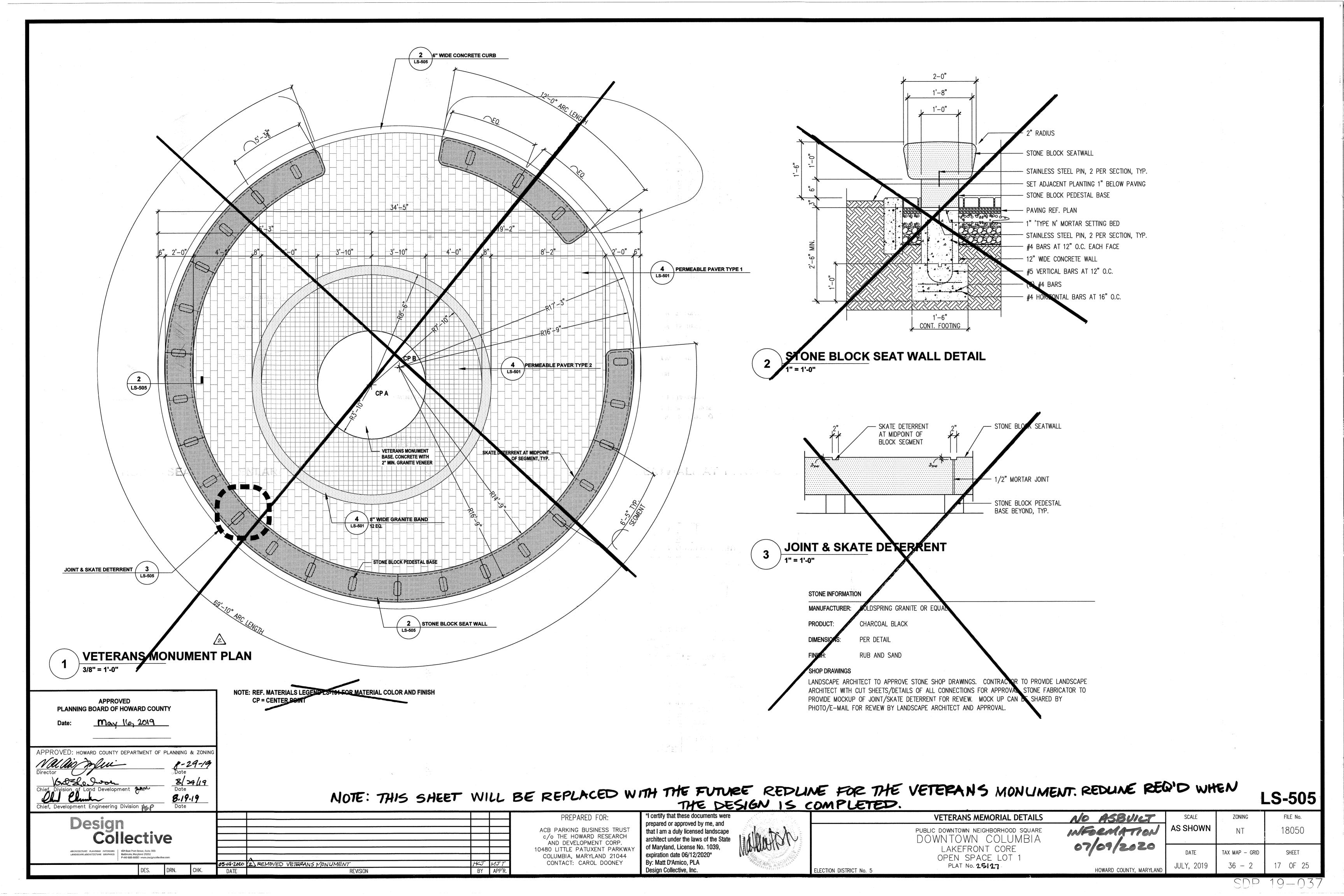
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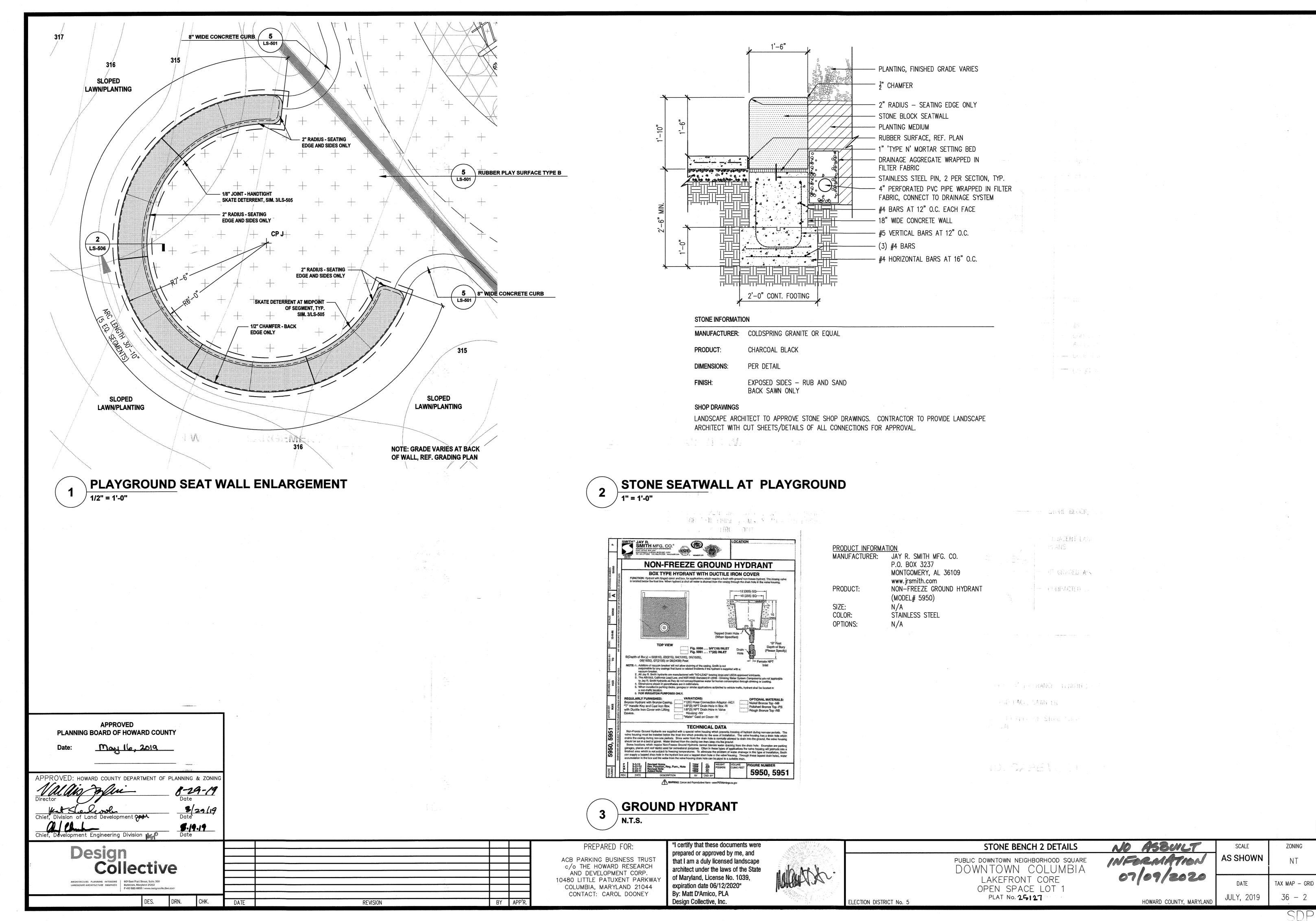
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	PAVING DETAILS	NO ASBUILT	SCALE	ZONING	FILE No.
	PUBLIC DOWNTOWN NEIGHBORHOOD SQUARE DOWNTOWN COLUMBIA	INFORMATION	AS SHOWN	NT	18050
	LAKEFRONT CORE OPEN SPACE LOT 1	67/09/2020	DATE	TAX MAP - GRID	SHEET
ELECTION DISTRICT No. 5	PLAT No. 25127	HOWARD COUNTY, MARYLAND	JULY, 2019	36 – 2	13 OF 25











LS-506

FILE No.

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