

Aggregate Base Course - POROUS PAVEMENT Stabilization - POROUS PAVEMENT Construction Specifications - DRY WELL NOTE: PROVIDE EXPANSION JOINT WHEREVER SIDEWALK ABUTS CURBS, ROOF LEADER (1) All stone used shall be clean, washed, crushed stone, meeting local To preclude premature clogging and/or failure of this practice, porous BUILDINGS, STAIRS AND INTERSECTIONS OF WALKS. highway department specifications. asphalt paving structures shall not be placed into service until all of the A dry well shall not be constructed or placed in service until all of the surface drainage areas contributing to the pavement have been effectively contributing drainage area has been stabilized and approved by the responsible (2) Aggregate shall be of two sizes: the reservoir base course shall be stabilized in accordance with Maryland Standards and Specifications for Soil to depth as noted on drawings of aggregate (maximum of 2", Erosion and Sediment Control. minimum of 1"), and a 2-inch deep top course of 1/2" aggregate SCORE CONCRETE WALH (maximum of 5/8", minimum 3/8"). Dry Well Preparation Subgrade Preparation ANGLE FIRST STAKE TOWA INTERVALS. CAP WITH LOCK Excavate the dry well to the design dimensions. Excavated materials shall (3) Aggregate base course shall be laid over a dry subgrade covered with EURUSUSU DEURUSUSU (1) Alter and refine the grades as necessary to bring subgrade to be placed away from the excavated sides to enhance wall stability. Large tree engineering filter fabric to a depth shown in drawings, in lifts to required grades and sections as shown in the drawings. roots shall be trimmed flush with the sides in order to prevent fabric lay naturally compacted. The stone base course shall be compacted puncturing or tearing during subsequent installation procedures. The side lightly. Keep the base course clean from debris, and sediment. (2) The type of equipment used in subgrade preparation construction shall TYPICAL SIDEWALK DETAIL walls of the dry well shall be roughened where sheared and sealed by heavy not cause undue subgrade compaction. (Use tracked equipment or FOUNDATION FILTER / RE-BARS STEEL PICKETS OR 272 STAKES equipment Porous Asphalt Surface Course oversized rubber tire equipment - DO NOT use standard rubber tired NOT TO SCALE 11/2' TO 2' IN GROUND, DRIVE STAKES FLUSH equipment.) Traffic over subgrade shall be kept at a minimum. Where (1) The surface course shall be laid directly over the 1/2" aggregate fill is required, it shall be compacted to a density equal to the base course and shall be laid in one lift. undisturbed subgrade, and inherent soft spots corrected. The filter fabric roll shall be cut to the proper width prior to CONSTRUCTION SPECIFICATIONS installation. The cut width must include sufficient material to conform to (2) The laying temperature shall be between 230° and 260°, with well perimeter irregularities and for a 6-inch minimum top overlap. Place the minimum air temperature of 50°F, to make sure that the surface does POROUS ASPHALT COURSE fabric roll over the well and unroll a sufficient length to allow placement of 1/2" to 3/4" AGGREGATE ASPHALTIC MIX not cool prior to compaction. BUES SHUL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROM WITH DOS TIGHTLY ABUTTING THE ADJACENT BUES. -NOTE: REVERSE SLOPE COBSERVATION WELL 4-6 INCH. the fabric down into the well. Stones or other anchoring objects should be FILTER COURSE 1/2" AGGREGATE PERFERATED PVC PIPE placed on the fabric at the edge of the well to keep the lined well open during 2. EACH BALE SHALL BE EXCEDED IN THE SOIL A MINIMAN OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL. (3) Compaction of surface course shall be done while the surface is cool windy periods. When overlaps are required between rolls, the upstream roll 1'- 3 1/2' enough to resist a 10-ton roller. One or two passes by the roller is DRY WELL CROSS SECTION shall lap a minimum of 2 feet over the downstream roll in order to provide a 3. Bues shul be seably anchord in place by either the staxes or re-bars driven through the bule. The first staxe in each bue shul be driven tokno the previously laid bule at an ancle to force the bules tokether. Staxes shul be all that is required for proper compaction. More rolling could cause I" TO 2" AGGREGATE shingled effect. The overlap ensures fabric continuity or the fabric conforms a reduction in the surface course porosity. NOT TO SCALE to the excavation surface during aggregate placement and compaction. 4. Inspection shul be frequent and repair replacement shul be independent as (4) Mixing plant shall certify the aggregate mix and abrasion loss factor EXISTING SOIL Aggregate Placement and Compaction and the asphalt content in the mix. The asphaltic mix shall be 3'-4" 5. Bues shul be removed high they have served their discribess so as not to block or infecte storm flom or drainnee. MINIMAL COMPACTION TO RETAIN 2'-2" tested for its resistance to stripping by water using ASTM D 1664. POROSITY AND PERMEABILITY Drainage aggregate shall be placed in lifts and compacted using plate If the estimated coating area is not above 95 percent, anti-stripping compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is agents shall be added to the asphalt. 2-01 15, 7 STRAW BALE DIKE POROUS ASPHALT PAVING TYPICAL SECTION STANDARD 7" COMBINATION CURB & GUTTER recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping and fabric (5) Transporting of mix to site shall be in clean vehicle with smooth NOT TO SCALE 🔦 NO SCALE dump beds that have been sprayed with a non-petroleum release clogging. agent. The mix shall be covered during transportation to control **ገ** '-6" Overlapping and Covering cooling. Following aggregate placement, the fabric previously weighted by stones (6) Mix of asphalt shall be 5.5 to 6 percent of weight of dry -CLASS 'A' CONCRETE should be folded over the aggregate to form a 6" minimum longitudinal lap. The aggregate. desired fill soil should be placed over the lap at sufficient intervals to GLASS "A" CONC. maintain the lap during subsequent backfilling. (7) Asphalt grade shall meet AASHTO Specification M-20 for 85 to 100 2'-0" CURB OPENING penetration road asphalt as a binder in the northern United States, 65 to 80 in the middle states (Maryland), and 50 to 65 in the Contamination 1'-3 1/2 NOT TO SCALE Care shall be exercised to prevent natural or fill soils from intermixing with the drainage aggregate. All contaminated aggregate shall be removed and (8) Aggregate grading shall be as specified in Table 3-3. ITIVE DRANAGE-GRADE SUFFICIENT TO DRAIN replaced with uncontaminated aggregate. Protection 2'-2" Voids Behind Fabric 6 maximum spacing of 2 x 4 spacers OPTION: A one foot layer of $2^{\mathbf{u}}$ stone may be placed on the upstresm side of the riprep is After final rolling, no vehicular traffic of any kind shall be permitted place of the embedded filter cloth. STANDARD 7" COMBINATION CURB & GUTTER Voids can be created between the fabric and excavation sides and should be on the pavement until cooling and hardening has taken place, and in no case CONSTRUCTION SPECIFICATIONS FOR ST-Y 1. Area under embaniment shell be cleared, grabbed and stripped of any vegetation and root avoided. Removing boulders or other obstacles from the trench walls is one less than 6 hours (preferably a day or two). CONSTRICTION SPECIFICATIONS NO SCALE source of such voids. Natural soils should be placed in these voids at the ALL DIKES SHALL BE COMPACTED BY EARTH-HOVING EQUIPMENT. ALL DIKES SHALL HAVE POSITIVE DEALINGE TO AN OUTLET. TOP WIDTH HAY BE MIDER AND SIDE SLOPES HAY BE FLATTER IF DESIRED TO FACILITATE COSSING BY CONSTRUCTION TRUFFIC. THE LOCATION SHOULD BE ADJUSTED AS MEDED TO UTILIZE A STABILIZED SAFE OUTLET. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. PLANFF SHALL BE CONNEVED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT. 2. The fill naterial for the embashment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic naterial or other objectionable naterial. The embashment shall be compacted by traversing with equipment while it is being constructed., most convenient time during construction to ensure fabric conformity to the Workmanship excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process. (1) Work shall be done expertly throughout and without staining or damage 3. All cut and fill eleges shall be 2:1 or flatter. to other permanent work. 4. The stone wied in the outlet shall be small ripray 4"-3" along with a 1" thickness of 2" basin where either the dike offwel or the drainage area above the dike are not Unstable Excavation Sides aggregate placed on the sy-grade side on the small ripray of embedded filter cloth in the ADEQUATELY STABILIZED. STABILIZATION SHALL BE: (A) IN ACCORDANCE MITH STANDARD SPECIFICATIONS FOR SEED AND STRAIN MALCH OF STRAIN MALCH IF NOT IN SEEDING SEASON, (B) FLOM CHANNEL AS PER THE CHART BELOW. (2) Make transition between existing and new paving work neat and Tx 4 spacer Vertically excavated trench walls may be difficult to maintain in areas 5. Sediment shall be removed and trap restored to its original dimensions when the sediment where the soil moisture is high or where soft cohesive or cohesionless soils FLOW CHANEL STABILIZATION 6. The structure shall be inspected after each rain and repairs node as needed. (3) Finished paving shall be even, without pockets, and graded to predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may 7. Construction operations shall be carried out in such a maner than eresion and vater DIKE B elevations shown. To pipe .5-3.0 SEED AND STRAW PLACH Attach a continuous piece of wire mesh (30" min. width by SEED AND STRAN MULCH \$. The structure shall be removed and the area stabilized when the drainage area has been (4) Iron smoothly to grade, all minor surface projections and edges throat length plus 4') to the 2" x 4" weir (measuring throat 3.1-5.07 SEED AND STRAY MULCH length plus 2") as shown on the standard drawing. Foundation Protection adjoining other materials. STONE OUTLET SEDIMENT TRAP STANDARD SYMBOL 2. Place a piece of approved filter cloth (40-85 sieve) of the SEED WITH JUTE, OR SOD; LINED RIP-RUP 4-8" Dry wells 3 or more feet deep shall be located at least 10 feet down Certification ENGINEERING DESIGN METAL HANDIZAIL, 1/6 \$ gradient from foundation walls. securely attach to the 2" x 4" weir. A. STORE TO BE 2 INCH STORE, OR RECYCLED CONCRETE EQUIVALDIT, IN A LAYER AT LEAST 3 THE PAINT (SEE ARCH An appropriate professional, registered in the State of Maryland, shall BUILDING -Securely nail the 2" x 4" weir to 9" long vertical spacers to B. RIP RAY TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO certify that these specifications were complied with. WALL Observation Well e located between the weir and inlet face (max. 6' apart). TIMASI'65 il. Ed Equivalents can be substituted for any of the above materials. Inspection and required maintenance must be provided after each rain event. Place the assembly against the inlet throat and nail (minimum An observation well, as described in subsection 3.4.4.8 and Figure 3-5, Maintenance 2' lengths of 2" x 4" to the top of the weir at spacer Turnbuckle will be provided. The depth of the well, at the time of installation, will be locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbage or alternate weight. clearly marked on the well cap. The surface of porous asphalt pavement must be cleaned regularly to avoid its becoming clogged by fine material. This cleaning is best accomplished The assembly shall be placed so that the end spacers are a through use of a vacuum cleaning street sweeper. Outside of regular cleaning, Maintenance minimum l' beyond both ends of the throat opening. porous pavement requires no more maintenance than conventional pavement. In EI.400.00 Form the wire mesh and filter cloth to the concrete gutter and Dry wells shall be designed to minimize maintenance. However, it is times of heavy snowfall it must be recognized that application of abrasive WALK JIASONDAY! against the face of curb on both sides of the inlet. Place recognized that all infiltration facilities are subject to clogging by material should be closely monitored to avoid clogging problems once the snow GRADING FOR PLANTING MIANTER WALL clean 2" stone over the wire mesh and filter fabric in such a STAKING DETAIL sediment, oil, grease, grit and other debris. In addition, the performance and and ice has melted. No method of maintenance has been satisfactory on fully SECTION THIRD PAMP "6" manner as to prevent water from entering the inlet under or ON SLOPES longevity of these structures is not well documented. Consequently, a clogged pavements, and only a superficially clogged section showing a water monitoring observation well is required for all infiltration structures. infiltration rate of 0.1 inches per second compared to a normal water This type of protection must be inspected frequently and the penetration of 0.38 inches per second can be restored to normal operation. The filter cloth and stone replaced when clogged with sediment. EI. 475.61 The observation well should be monitored periodically. For the first year best method for cleaning is brush and vacuum sweeping followed by high pressure Assure that storm flow does not bypass inlet by installing water washing of the pavement. Vacuum cleaning alone, once the pavement is after completion of construction, the well should be monitored on a quarterly _WALL5_ temporary earth or asphalt dikes directing flow into inlet. clogged, has been found ineffective. The oils in the asphalt bind dirt, and ~}CANTER~ basis and after every large storm. It is recommended that a log book be maintained indicating the rate at which the facility dewaters after large only an abrading and washing technique can be effective in the removal of such INLET PROTECTION dirt. Clogging to a depth of 0.5 inch is sufficient to prevent water storms and the depth of the well for each observation. Once the performance HAMOICAPPED BAYING penetration. characteristics of the structure have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data indicate that a Traffic Control more frequent schedule is required. El. 475.7 Wheelchair Experience has shown the need for close control of contractor vehicles on Rubber Hose Landing Area 4" WHITE PAINTED T newly installed areas of porous asphalt pavement. Damage to pavement porosity -2x4 stake results chiefly from abuse during the early life of the pavement. Normally, LINE paving is done while heavy construction or earth moving is continuing in an 2-1/2" Caliper___ area. The pavement is thus subjected to mud and dirt from contractor vehicles for up to several months, and the continual passage of these vehicles compacts **HANDICAPPED** STANDARD the dirt into the pores. Only if caked mud is cleaned from vehicle wheels and APPROVED PARKING SPACE the pavement is cleaned daily by sweeping and high-pressure water washing can 1114-64 DEVISE PER HISTARCH REVIEW COMMENTS IL-65 PARKING SPACE porosity be retained. Clogging can be further minimized by proper use of - // -- To Full Section 10:03:04 DEVISE FER COMMENTS MARKS, COOK, THOMAS PLANNING BOARD curbing to prevent surrounding soils from washing onto the pavement surface. Provide Smooth Transition OF HOWARD COUNTY Between Flow Line and Ramp REVISE PER COUNTY COMMENTS DATED 8-30-84 Twice Ball Provide Smooth Transition DATE DESCRIPTION Dia. E1.475.0 Between Flow Line and Ramp E1. 476.4 DEVELOPER SECTION STENCIL HANDICAPPED Note: Remove Burlap from LEGENO AND BORDER-GREEN THE COLUMBIA DOCTORS BUILDING LOGO USING WHITE WINTE SYMBOL ON BLUE BACKSTOUNG EI. 475.7 -Top 1/3 of Ball HANDICAPPED RAMP "A" JOINT VENTURE PAINT ON SPACES NOT TO SCALE C/O RICHARD B. TALKIN HANDICAPPED SIGN DETAIL 'DESIGNATED 'H' THE HOWARD RESEARCH AND DEVELOPMENT CORP. HANDICAPPED RAMPEDROP OFF AREA ATTORNEYS AT LAW TREE PLANTING 12275 LITTLE PATUXENT PARKWAY SUITE 105 NOT TO SCALE COLUMBIA, MARYLAND 21044 NOT TO SCALE 5560 STERRETT PLACE TYPICAL PARKING DETAIL COLUMBIA, MARYLAND 21044 (301) 992-6000 NO SCALE APPROVED: OFFICE OF PLANNING AND ZONING APPROVED: DEPARTMENT OF PUBLIC WORKS. DEVELOPER'S CERTIFICATE REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION ENGINEER'S CERTIFICATE FOR PUBLIC WATER AND SEWER AND STORM DRAINAGE DISTRICT AND MEETS TECHNICAL REQUIREMENTS. "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION

FISHER, COLLINS & CARTER, INC.

CIVIL ENGINEERS & LAND SURVEYORS 8388 / COURT 'AVE.

ELLICOTT CITY, MD. 21043 (301) 461 - 2855

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SED IMENT 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 REQUIRE-MENTS OF THE MOWARD SOIL CONSERVATION DISTRICT.

WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PRO-GRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DIS-TRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED **NECESSARY."**

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. **APPROVED**

AND ZONING ADMINISTRATION APPROVED: HOWARD COUNTY HEALTH DEPARTMENT

FOR PUBLIC WATER AND SEWERAGE SYSTEMS.

PLAT No. / L.F. | BLOCK No. | ZONE | TAX / ZONE | ELEC. DIST. | CENSUS TR.

TG0721_

WATER CODE

5

SYSTEMS AND ROADS.

SECTION/AREA LOT / PARCEL No SUPDIVISION NAME COLUMBIA - TOWN CENTER 8 / 4 F. G-1

35

5 <u>th</u>

SEWER CODE 55000

SO.6500

NOTES & DETAILS

COLUMBIA - TOWN CENTER PARCEL G-I SECTION 8 AREA 4

MEDICAL OFFICE BUILDING

5TH ELECTION DISTRICT, HOWARD CO. MD. TAX MAP 35 PARCEL 386 **AUGUST 6, 1984**

SCALE: AS SHOWN SHEET 2 OF 4

SDP-85-20c



