

PIPE TO

FILTER BAG DETAIL

SITE SUCH THAT WATER WILL FLIDY AVAY FROM STRUCTURES AND WORK AREAS. 2. THE FILTER BAG HURT BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE. 3. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.

4. DENICE SHALL BE REMOVED AND DISPUSED OF AFTER DAG IS FILLED WITH SEDIMENT.

FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, VELL-VEGETATED

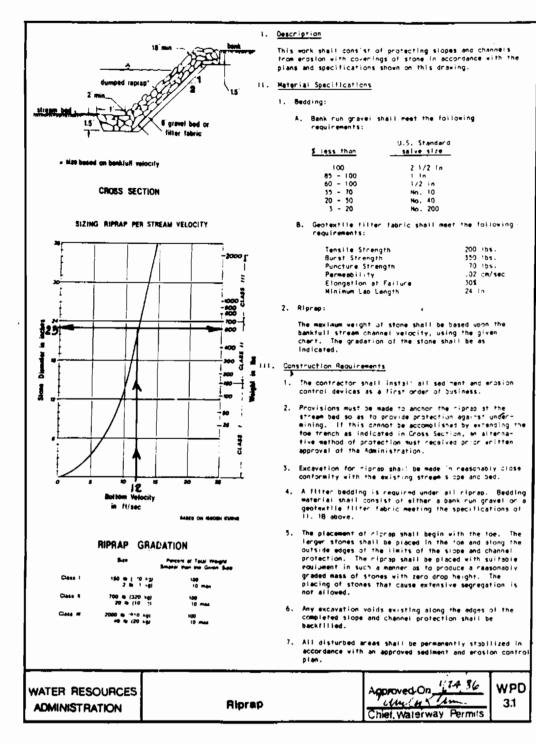
## Construction and Material Specifications For Topsoil

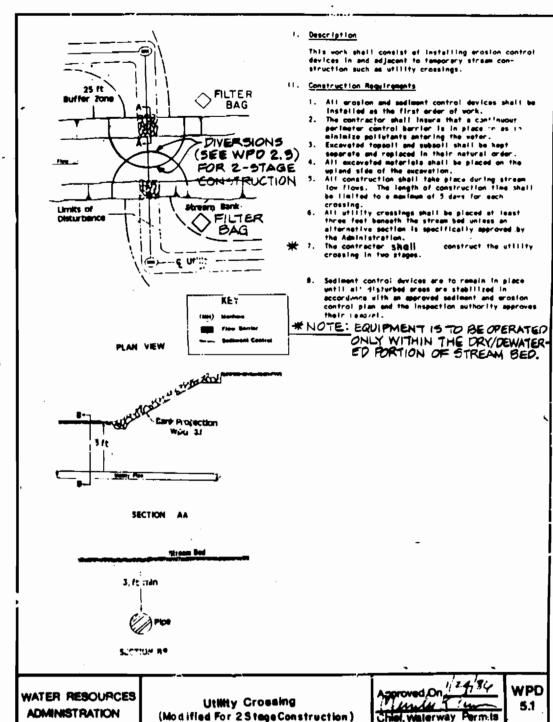
Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

Topsoil Specifications - Soil to be used as topsoil must meet the following:

SEDIMENT FROM DAG SHALL DE SPREAD IN AN UPLANT AREA.

- i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slaw, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2" in diameter.
- ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified
- iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
- i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials. IV. For sites having disturbed areas over 5 acres:
- i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
- a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be perscribed to raise the pH to 6.5 or higher.
- b. Organic content of topsoil shall be not less than 1.5 percent by weight.
- c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
- d. No sod or seed shall 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.
- Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientistand approved by the appopriate approval authority, may be used in lieu of natural topsoil.
- ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.





A NOTE : USE STREAM MEASURES FOR INSTALLATION OF NEW MAIN AS WELL AS REMOVAL OF EXISTING

# A REMOVAL OF EXISTING MAIN BETWEEN PROPOSED MH 3 EXISTING MH#1339 NOT TO SCALE

PIPE STUB ---- 4"MIN.TYPICAL AT PIPE STUB

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation
- iii. Topsoil shall be uniformly distributed in a 4" 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil proparation and tillage. Any irregularities in the surface resulting from topsoiling or other open tions shall be corrected in order to prevent the formation of depressions or water pockets.
- iv. Topsoil shall not be placed while 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
- VI. Alternative for Permanent Seeding Instead of applying the full amounts of time and commercial fertilizer, composted sludge and amendments may be applied as specified below:
- i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements.
- a. Composted studge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06
- b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
- c. Composted sludge shall or applied at a rate of 1 ton/1,000 square feet
- iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate

MAIN BETWEEN MH-3 AND MH 1339 SEQUENCE OF CONSTRUCTION

25% of Stream

WATER RESOURCES

ADMINISTRATION

MATERIALS FOR TEMP ACCESS RAMP

1. FILTER FABRIC - THE FILTER CLOTH CAN BE A WOVEN OR NON-WOVEN FABRIC CONSISTING OF CONTINUOUS CHAIN POLYMERIC FILAMENTS OR YARNS OF POLYESTER. IT SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS, HYDROCAL BONS, MILDEW AND ROT-RESISTANT.

2. RIPHAP - 4-6" WASHED STONE AND GRAVEL SHALL BE USED.

erosion control when construction activities take place within the stream

Material Specifications

1. Sandbags: Sandbags shall consist of materials which are resistant to

uitra-violet radiation, tearing and puncture and woven tightly nough to prevent leakage of fill material (l.e., sand, fine grave)

Description
The work shall consist of installing flow diversions for the purpose

2. Stone: Stone shall be washed and have a minimum diameter of

which is impervious and resistant to puncture and tearing.

4. All excavated materials shall be disposed of in a SCD approved

5. All dewatering of the construction area shall be numbed to a

the downstream portion with at least an 18-inch overlap.

dewatering basin prior to re-entering the stream.

Sandbag/Stone Diversion

(Modified for 2StageConstruction)

ar proved on the plans by the MRA.

2. The diversion structure shall be installed from upstream to

Construction Requirements

1. All erosion and sediment control devices shall be installed as the

3. The height of the diversion structure shall be one half the distance

disposal area outside the 100-year floodylain unless otherwise

from stream bed to stream bank plus one foot, as Indicated on the

Sheeting shall be overlapped such that the upstream portion covers

Sediment control devices are to remain in place until all disturbed

areas are stailized in accordance with an approved sediment and

ecosion control plan and the inspecting authority approves their

NOTE: EQUIPMENT 15 TO BE OPERATED ONLY WITHIN THE DRY/DEWATERED PORTION OF STREAM BED.

channel such as bank stabilization or bridge abutment construction.

#### DBTAIN A GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, 2. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION (313-1880) PRIOR TO 0.5 WEEK STARTING DATE. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD 4. EXCAVATE AND INSTALL PROPOSED 8' SEVER MAIN, SEE 1) UNDER UTILITY NOTES" AND 2.0 WEEKS DETAILED SEQUENCE BELOW a.) Through h.) UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT/ 6. FINE GRADE ALL DISTRUBED AREAS AND STABILIZE WITH PERMANENT SEEDING 0.5 WEEK

NOTE: THE TEMP. ACCESS RAMP SHALL NOT

EXTEND BEYOND THE LIMITS OF

DISTURBANCE SHOWN ON THE PLAN.

Existing Grade

ACCESS RAM

SECTION (FILTER CLOTH W

AA AGGREGATE COVER

1/24/86-

WPD

ESTIMATED

TIME TO COMPLETE

### DETAILED SEQUENCE

- (1) Install sandbag/stone diversion (w/filter bag dewatering device) and temporary access ramp on west side of river, the diversion for this phase shall be installed so that 40% of the exist. River bed width remains undisturbed.
- b) build my I over ex. 30" sewer main and reform channel as necessary. Install proposed 6"MAIN (INCLUDING STREAM EROSION PROTECTION AND CONCRETE ENCASEMENT WHERE REQUIRED) AS CLOSE TO LIMIT OF DIVERSION AS POSSIBLE WITHOUT COMPROMISING ITS STABILITY OR FUNCTION. TEMPORARILY CAP OR PLUG END OF MAIN. BACKFILL TRENCH, REMOVE TEMP. ACCESS RAMP AND REPAIR W. RIVER BANK PER DETAILS & STABILIZE ALL DISTURBED AREAS.
- C) RE-ALIGN THE DIVERSION TO CREATE THE CONSTRUCTION AREA ON THE EAST SIDE OF THE RIVER (EXTEND LIMITS BEYOND TEMPORARY CAP/PLUG ENOUGH TO PERMIT REMOVAL AND CONTINUED CONSTRUCTION) AND INSTALL TEMPORARY ACCESS RAMP.
- d) remove temporary cap/plug and continue installation of 8" main (including stream erosion protection and concrete encasement where required) easterly to MH 2.
- BACKFILL TRENCH, REPAIR EAST RIVER BANK PER DETAILS, AND STABILIZE ALL DISTURBED AREAS.
- REMOVE DIVERSION AND TEMPORARY ACCESS RAMP AND REPAIR AND/OR STABILIZE ALL RELATED DISTURBED AREAS.
- 9) INSTALL REMAINDER OF PROPOSED MAIN FROM MH 2 TO EXIST. 8" MAIN. CONSTRUCT MH 3 OVER EXIST. 8" MAIN REFORM CHANNEL AS NECESSARY AND ABANDON EXIST. 8" MAIN WEST OF MH 3. - SEE DETAIL THIS SHEET.
- RESTORE EARTH TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS. AT SUCH TIME THAT THE PROPOSED SANITARY MAIN HAS PLEN PLACED IN SERVICE, THE CONTRACTOR SHALL ! KULLED TO SEVER AND PLUG THE TWENTY INCH SECTION OF PIPE TO FEMAIN AT MANHOLES NO. 3 AND NO. 1330.
- THE CONTRACTUR SHALL THEN INSTALL A SANDBAG/STUNE DIVERSION AS DISCUSSED ABOVE, ALONG THE EXISTING MAIN AND REMOVE THE EXISTING MAIN BETWEEN STA 0+14 AND STA 0+84.
- AK.) RESTORE AREAS DISTURBED BY CONSTRUCTION.

# UTILITY NOTES

- 1.) DPEN DNLY THAT SECTION OF TRENCH THAT WILL BE BACKFILLED AND STABILIZED
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED

#### IMMEDIATELY. SEDIMENT CONTROL NOTES

- 1.) A MINIMUM OF 24 HOURS NOTICE MUST DE GIVEN TO THE HOWARD COUNTY OFFICE OF CONSTRUCTION INSPECTION PRIOR TO THE START OF ANY CONSTRUCTION. (319-1855). ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT
- 3.) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B> 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4.) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED ARDUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE
- HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. 5.) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ARDVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOD, TEMP-DRARY SEEDING AND MULCHING. TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECO**mm**en**d**ed **s**eeding dates do not allow for proper GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6.) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7.) SITE ANALYSIS TOTAL AREA DE SITE AREA DISTURBED 0.226 ACRES± AREA TO BE ROOFED OR PAVED # AREA TO BE VEGETATIVELY STABILIZED 0.02 ACRES: ACRES±
- TOTAL FILL DFFSITE WASTE/BORROW AREA LOCATION-SITE WITH A CURRENT, ACTIVE GRADING PERMIT. 8.) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY
- FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE
- 9.) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
- 10.) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE
- INSPECTION AGENCY IS MADE. \* AREA TO BE STABILIZED WITH GABIONS/RIPRAP 0.07 ACRES±

# PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED. <u>SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR</u>

OTHER ACCEPTABLE MEANS BEFORE SEEDING. <u>SOIL AMENDMENTS:</u> IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES

- 1.) PREFERRED APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES DF SDIL. AT TIME DF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFDRM
- FERTILIZER (9 LBS/1000 SQ.FT.). 2.) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.> AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ.FT.> BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

<u>SEEDING</u> - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE <.05 LBS/1000 SQ.FT.> OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000/SQ.FT.) DF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS. REPLACEMENTS AND RESEEDINGS.

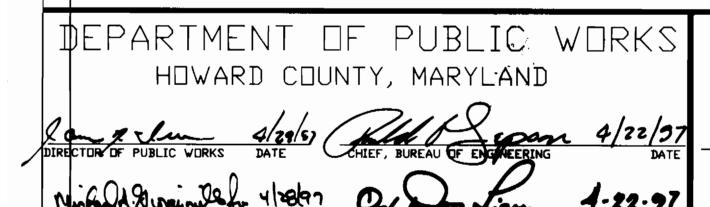
\* SEE CONDITION 'E' (CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS) FOR SEEDING WITHIN THE WETLANDS & BUFFER AREAS.

# 'CONDITIONS AND MANAGEMENT PRACTICES

WORKING IN NONTIDAL WETLANDS:

- A) For utility line installation, strip, stockpile and maintain separately
- the top 6' of soll material from the nontidal wetlands and buffer, to be replaced as the top layer of the backfilled material.
- B) Remove excess fill or construction material or debris to an upland disposal area, outside of any floodplain, waterway, wetland or buffer. C) Place materials in a location and manner which does not adversely impact
- surface or subsurface water flow into or out of the nontidal wetland. D) Use previously excavated material as utility line backfill, unless it contains waste metal products, unsightly debris, toxic material or any other deleterious substance. Use clean borrow material when excavated material
- is not suitable for use as backfill. E) Rectify any nontidal wetlands and buffers temporarily impacted by any proposed repair and maintenance activity or installation of the utility line. All stabilization in the wetland and buffer shall be of the following recommended species: Annual Ryegrass (Lilium multiflorum), Millet (Setaria Italica),
  Dats (Uniola sp.), and/or Rye (Secale cereale). Dither non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands Division. Kentucky 31 fescue <u>shall not</u> be utilized in the wetland or buffer.
- All temporary fills shall be removed in their entirety on or before the completion of construction. After Installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.
- To protect important aquatic species, in-stream work is prohibited as determined by the classification of the stream as follows: Class 1 Waters. In-stream work may not be conducted during the period March 1 through June 15, inclusive, during any year.
- H) No removal of vegetation, grading, filling, draining or other alteration of the nontidal wetlands or buffer outside the limits of disturbance shall occur, either during construction or after completion, without written authorization from the Water Resources Administration.

CRADLEROCK OUTFALL SEWER MAIN REPLACEMENT



HICKS ENGINEERING CO., INC.) ENGINEERS, SURVEYORS & PLANNERS 200 EAST JOPPA ROAD — SUITE 4020 TOWSON, MARYLAND 21286-3160 (410) 494-0001



DES: DRN: CHK: D.E.HDATE: 3/97 DATE 600' SCALE MAP NO. S-36/W-36 BLOCK NO. 20 REVISION

DETAIL SHEET

6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT S-6206 CONTRACT NO. 20-3609

SHOWN SHEET

2 OF 2