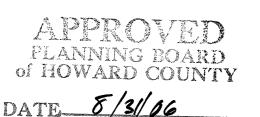
GENERAL NOTES

- I. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARD AND SPECIFICATIONS IF APPLICABLE.
- 2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF INSPECTION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-TTTT AT LEAST 48 HOURS
- 4. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES AT (410) 313-4900 AT LEAST FIVE WORKING DAYS PRIOR TO STARTING ANY EXCAVATION WORK.
- 5. AREA OF SITE/PARCEL M = 1.2364 AC. DISTURBED AREA: 2.46 AC.
- 6. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT,
- 7. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- 8. EXISTING MASS GRADED TOPOGRAPHY WAS DERIVED FROM THE APPROVED ROAD PLANS UNDER F-05-058. EXISTING "UNDISTURBED" TOPOGRAPHY IS DERIVED FROM FIELD SURVEY PREPARED BY DAFT MCCUNE & WALKER INC. IN MAY OF 2003. ALL TOPOGRAPHY IS REPRESENTED BY 2-FOOT CONTOUR INTERVALS.
- 9. COORDINATES AND BEARINGS ARE BASED UPON THE MD STATE PLANE SYSTEM (NAD '83).
- IO. EXISTING WATER AND SEWER SHOWN WAS DERIVED FROM THE APPROVED PUBLIC WATER & SEWER PLANS UNDER CONTRACTS 24-4209-D AND 24-4284-D.
- II. EXISTING STORM DRAIN SHOWN IS PER F-05-058.
- 12. STORMWATER MANAGEMENT QUALITY & QUANTITY CONTROL IS PROVIDED BY EXISTING POND I, DESIGNED AND APPROVED UNDER SDP-04-163. THE RECHARGE (Rev) REQUIREMENT FOR PARCELS M, T, AND U IS PROVIDED UNDER THIS PLAN BY RECHARGE FACILITY Rev-A. THE TOTAL RECHARGE REQUIREMENT FOR THESE PARCELS IS 3,223 CU-FT.
- 13. THERE ARE NO STREAMS, WETLANDS, OR FLOODPLAINS RELATED TO THIS SITE.
- 14. ALL CURB RADII ARE 5' UNLESS NOTED OTHERWISE.
- 15. PROPSED GRADING SHOWN WITHIN THE LIMITS OF "EXISTING" LANDSCAPING IS TO BE COORDINATED WITH PAUL CAVANAUGH OF HRD-GENERAL GROWTH PROPERTIES SUCH THAT THE "EXISTING" LANDSCAPING WILL NOT REQUIRE RELOCATION OR REPLACEMENT.
- 16. SIDEWALKS ADJACENT TO PERPENDICULAR PARKING SHALL BE 6' WIDE. ALL OTHER SIDEWALKS SHALL BE 5' WIDE, EXCEPT WHERE DIMENSIONED OTHERWISE. PROVIDE 3' RADIUS ROUNDING AT ALL
- 17. CONTRACTOR SHALL UTILIZE PVC PIPE FOR ALL SEWER HOUSE CONNECTIONS. CONTRACTOR SHALL UTILIZE D.I.P. (CL. 51) FOR 4" AND 6" WATER HOUSE CONNECTIONS AND D.I.P. (CL. 50) FOR 8" WHC.
- 18. CONTRACTOR TO FIELD LOCATE ALL EXISTING UTILITY CONNECTIONS. SHOULD SUBSTANTIAL DISCREPANCIES ARISE, THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER BEFORE MAKING ADJUSTMENTS.
- 19. USE TRENCH BEDDING CLASS "C" FOR STORM DRAINS.
- 20. PAVED AREAS INDICATED ARE PRIVATE EXCEPT AS NOTED.
- 21. RECORDING REFERENCE: PLAT NO. 17873 (PARCEL M)
- 22. ALL PROPOSED RAMPS SHALL BE IN ACCORDANCE WITH CURRENT A.D.A. STANDARDS, ALL HANDICAP ACCESSIBLE SIDEWALKS SHALL HAVE A TWO PERCENT MAXIMUM CROSS SLOPE . PROVIDE A FIVE-FOOT BY FIVE-FOOT LEVEL (2 PERCENT MAX.) LANDING AT THE TOP AND BOTTOM OF ALL RAMPS AND BUILDING ENTRANCES AND EXITS.
- 23. ALL WATER METERS SHALL BE LOCATED INSIDE BUILDINGS.
- THE PROPOSED WATER AND SEWER HOUSE CONNECTION ALIGNMENTS INDICATED ON THE PLANS, FROM THE EXISTING UTILITIES TO THE BUILDING, ARE TO BE CONSTRUCTED BY THE BUILDING PLUMBER AND ARE APPROXIMATE. THE PROPOSED STUBS ARE LOCATED 5' FROM THE BUILDING FACE.
- 25. THE PROPOSED STORM DRAIN HAS BEEN CONSERVATIVELY SIZED TO ACCOMMODATE ROOF DRAIN LEADER TIE IN AT ANY POINT IN THE SYSTEM. THE BUILDING-STORM DRAIN CONNECTIONS ARE TO BE CONSTRUCTED BY THE BUILDING PLUMBER.
- 26. MAINTAIN 2 % CROSS-SLOPES ON SIDEWALKS, PER STANDARD DETAILS. WHERE SIDEWALK IS ADJACENT TO BUILDING, SLOPE AWAY FROM BUILDING, AND UTILIZE EXPANSION JOINT MATERIAL AND SEALER IN THE JOINT BETWEEN THE SIDEWALK AND THE BUILDING WALL
- 27. SUFFICIENT SIGHT DISTANCE PER THE HOWARD COUNTY DESIGN MANUAL MUST BE PROVIDED AT ALL ACCESS POINTS. ANY LANDSCAPING THAT OBSTRUCTS THE LINE OF SIGHT MUST BE RELOCATED.
- 28. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY WELLS AND ASSOCIATES IN APRIL OF 2005
- UNDER F-05-058.
- 29. NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
- 30. THE PROPOSED USE OF PARCEL 'M' IS BANK/OFFICE. THE HOWARD COUNTY INDUSTRIAL WASTE SURVEY QUESTIONNAIRE HAS BEEN SUBMITTED UNDER THIS SITE DEVELOPMENT PLAN.
- 31. THIS PARCEL DOES NOT APPEAR ON THE COUNTY'S CEMETERY INVENTORY AS HAVING CEMETERIES OR BURIAL GROUNDS. ALSO, THERE IS NO PHYSICAL EVIDENCE OF EITHER CEMETERIES OR BURIAL GROUNDS BEING PRESENT ON THE SITE.
- 32. COORDINATES AND BEARINGS ARE BASED UPON THE '83 MD STATE COORDINATE SYSTEM (NAD '83) AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NOs. 2243002, 2243003.
- 33. ALL EXTERIOR LIGHTING SHALL CONFORM TO SECTION 134 OF THE ZONING REGULATIONS. (SEE DETAIL SHEET-3)
- 34. THIS SUBDIVISION IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BECAUSE THE PROPERTY IS ZONED NT AND HAS PRELIMINARY APPROVAL PRIOR TO 12/31/92 PER SECTION 16.1202(b)(1)(iv).
- 35. THE SUBJECT PROPERTY IS ZONED NEW TOWN PER THE LATEST COMPREHENSIVE ZONING PLAN DATED 02/02/2004.
- 36. THIS SDP HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, CHAPTER VI (ALTERNATIVE COMPLIANCE).
- 37. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT AS NOTED ON SHEET #9. THE SURETY IS IN THE AMOUNT OF \$4,200.00
- 38. APPLICABLE HOWARD COUNTY FILE NUMBERS: S- 03-05, FDP-240, FDP-240-A, PB 360, WP 04-113, WP 04-135,
- SDP 04-163, PB3T3, F 05-58, AND F-06-102.
- PARKING, DRIVEWAY, & UTILITY ACCESS FOR PARCELS M, T, AND U. THIS AGREEMENT HAS BEEN RECORDED AS LIBER 10156 FOLIO 251 40. ALL OUTSIDE LIGHTING SHALL COMPLY WITH ZONING REGULATION SECTION 134 WHICH REQUIRES LIGHTS TO

39. THIS PROJECT IS PART OF A CONSTRUCTION, OPERATION, AND RECIPRICAL EASEMENT AGREEMENT THAT ALLOWS SHARED

- BE INSTALLED TO DIRECT/REFLECT LIGHT DOWNWARDS AND INWARDS ON SITE AWAY FROM ALL ADJOINING PUBLIC STREETS AND RESIDENTIAL AREAS.
- 41. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.

42. TRASH PICK UP FOR THIS SITE SHALL BE PRIVATE.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

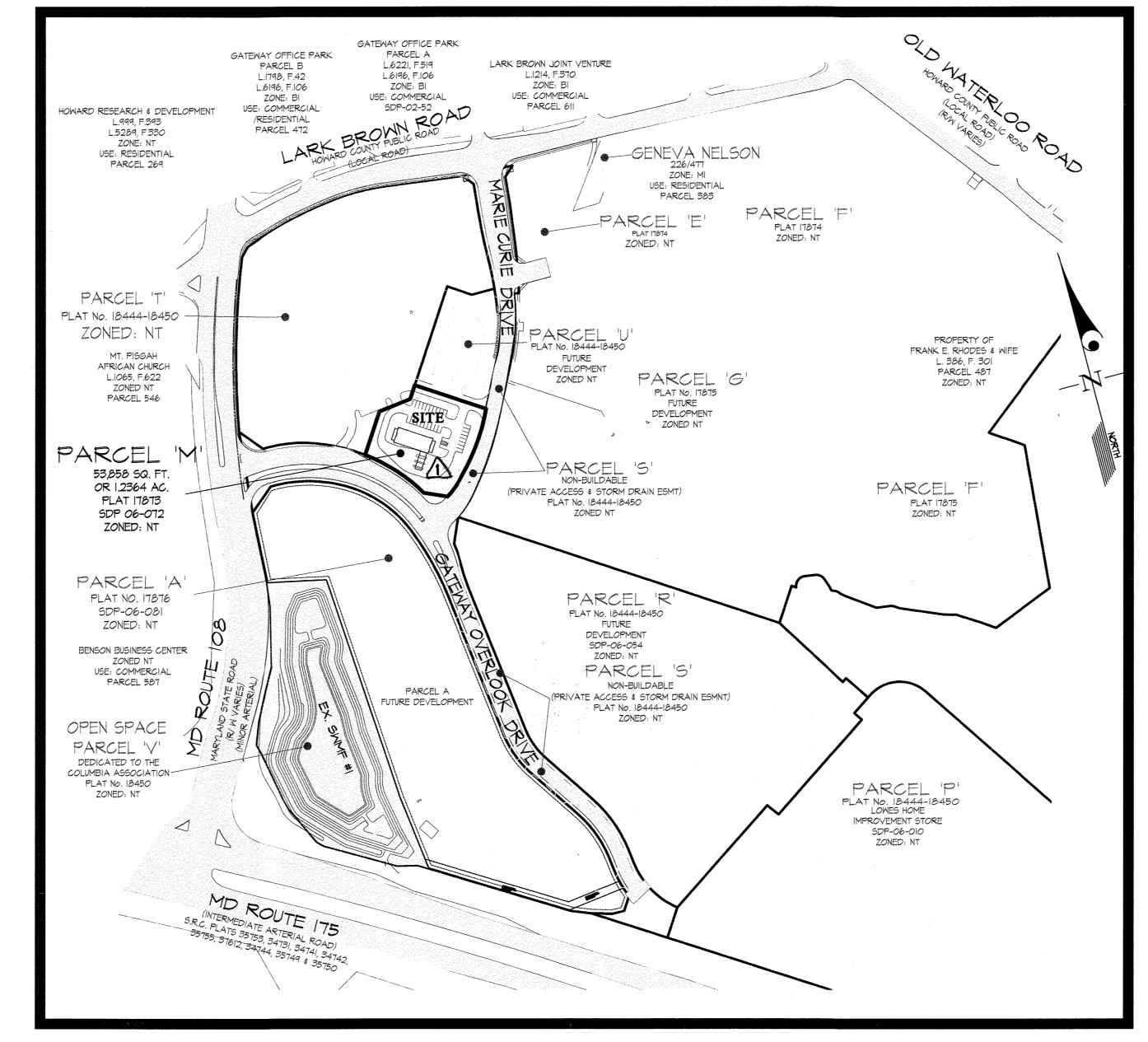
HOWARD COUNTY FIRE AND RESCUE GENERAL REQUIREMENTS

- A KNOX BOX (FIRE DEPT. ACCESS BOX) IS REQUIRED TO BE PLACED IN FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE 3. PRESENT ZONING = NEW TOWN RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4-5' IN HEIGHT AND NO MORE THAN 6' LATERALLY FROM THE DOOR. THE BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED. NFPA-I 18.2.2.5.1.1 AMMENDED IN
- MAINTAIN A MINIMUM CANOPY HEIGHT OF 13 FEET, 6 INCHES FOR EMERGENCY EQUIPMENT ACCESS. NFPA-I 18.2.2.5.I.I AMMENDED IN TITLE 17.
- PROVIDE SIGNAGE ON THE BUIDLING IDENTIFYING BUILDING ACCESS.

SITE DEVELOPMENT PLAN

BENSON EAST PARCEL M

AND PART OF PARCELS T & U



AREA OVERVIEW

SCALE : |" = 300'

SITE ANALYSIS DATA CHART

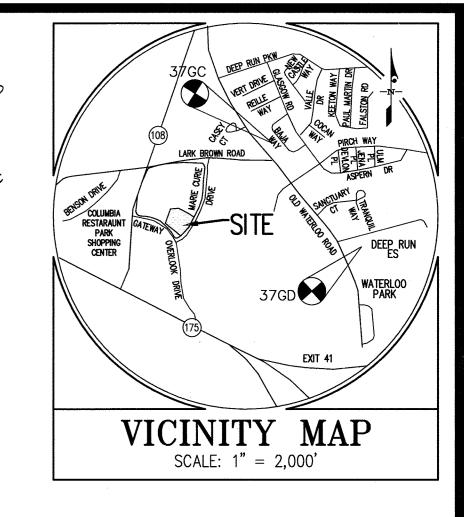
LECTION DISTRICT No. 6

- I. GROSS AREA PARCEL M: 53,858 SQ. FT. OR 1.2364 AC.
- 2. LIMIT OF DISTURBED AREA = 107,158 SF OR 2.46 AC.
- 4. PROPOSED USE: OFFICE/BANK. PARKING ON PARCEL T. SHARED ACCCESS PARCEL T, M, & U. LANDSCAPING ALL OF PARCEL M, AND PORTION OF T.
- 5. GROSS FLOOR AREA = 5,013 SF. CANOPY AREA = 1,413 SF. NET BANK FLOOR AREA = 3,600 SF.
- 6. NUMBER OF PARKING SPACES REQUIRED BY FDP (5 SPACES PER 1000 SF. NET RETAIL/BANK AREA) $3600/1,000 \times 5 = 18$ SPACES

- 7. NO. OF PARKING SPACES PROVIDED: 30 SPACES (INCL. HC ACCESSIBLE SPACES).
- 8. NO. OF HANDICAP SPACES REQUIRED: 2 SPACES
- 9. NO. OF HANDICAP SPACES PROVIDED: 2 VAN SPACES.
- 10. BUILDING PERCENT COVERAGE = Building Gross Coverage/Gross Parcel Area
 - = 5,013/53,858 = 9.3%
- II. NUMBER OF SERVICE LANES PROVIDED = 4 STACKING REQUIREMENT PER FDP = 4 VEHICLES/SERVICE LANE TOTAL REQUIRED VEHICLE STACKING = 16 VEHICLES

BENCHMARKS CONTROL STATION 37GD ELEVATION 331.855 N 555,250.791 E 1,370,946.348

> CONTROL STATION 37GC ELEVATION 307.455 N 552,081.826 E 1,370,625.818



EX. CONTOUR PROP CONTOUR EX. STORM DRAIN PROP. STORM DRAIN LIMIT OF DISTURBANCE EX. SANITARY SEWER PROP. SANITARY SEWER PROP. WATER LINE Ex. 8"W. (public) EX. WATERLINE EX. CURB & GUTTER CONCRETE CURB & GUTTER PROPOSED REVERSE CURB & GUTTER CONCRETE SIDEWALK

DUMPSTER OR UTILITY PAD

EXISTING EASEMENTS ×7888

18

NUMBER OF PARKING SPACES PROP. LIGHT FIXTURE & POLE

TOP OF PAVING SPOT SHOT

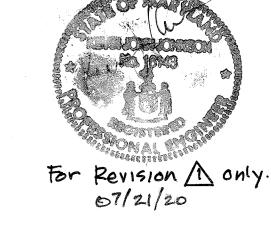
EX. LIGHT FIXTURE & POLE



PATRON ENTRANCE

SHEET INDEX

- I. COVER SHEET
- 2. SITE DEVELOPMENT PLAN
- 3. SITE & HANDICAP ACCESSIBILITY DETAILS
- 4. STORM DRAIN/UTILITY DETAILS & PROFILES
- 5. STORM DRAIN DRAINAGE AREA MAP & Rev FACILITY DETAILS
- 6. SEDIMENT CONTROL PLAN
- 7. SEDIMENT CONTROL NOTES & DETAILS
- 8. LANDSCAPE PLAN
- 9. LANDSCAPE NOTES, DETAILS & SCHEDULES



ADDRESS CHART PARCEL NUMBER STREET ADDRESS WATER CODE: SEWER CODE: 6690 Marie Curie Drive PARCEL SECTION/AREA SUBDIVISION NAME: BENSON EAST p/o P. 587 BLOCK CENSUS TRACT TAX MAP 17873 NEW TOWN 6067.03 20

Chief, Development Engineering Division GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

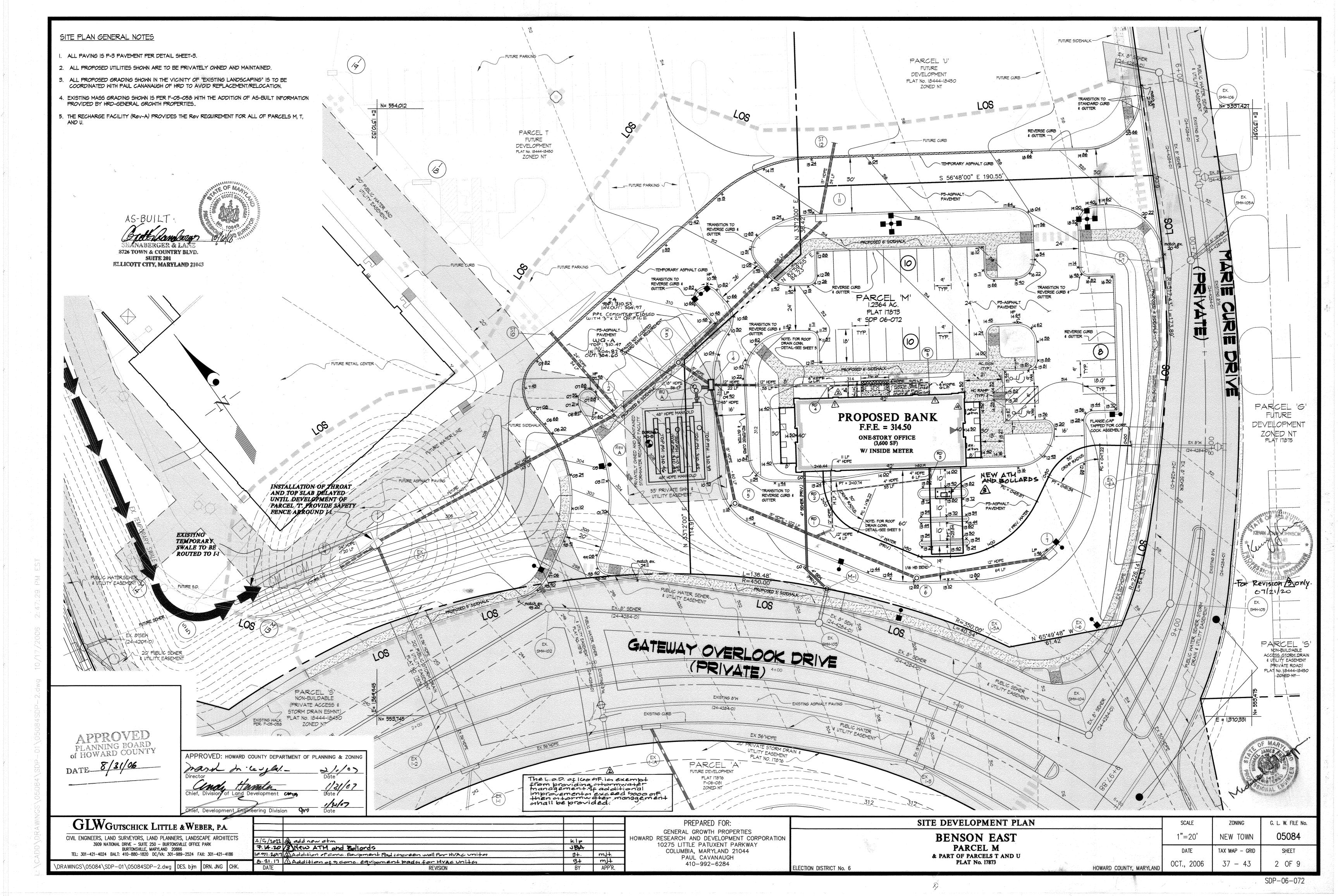
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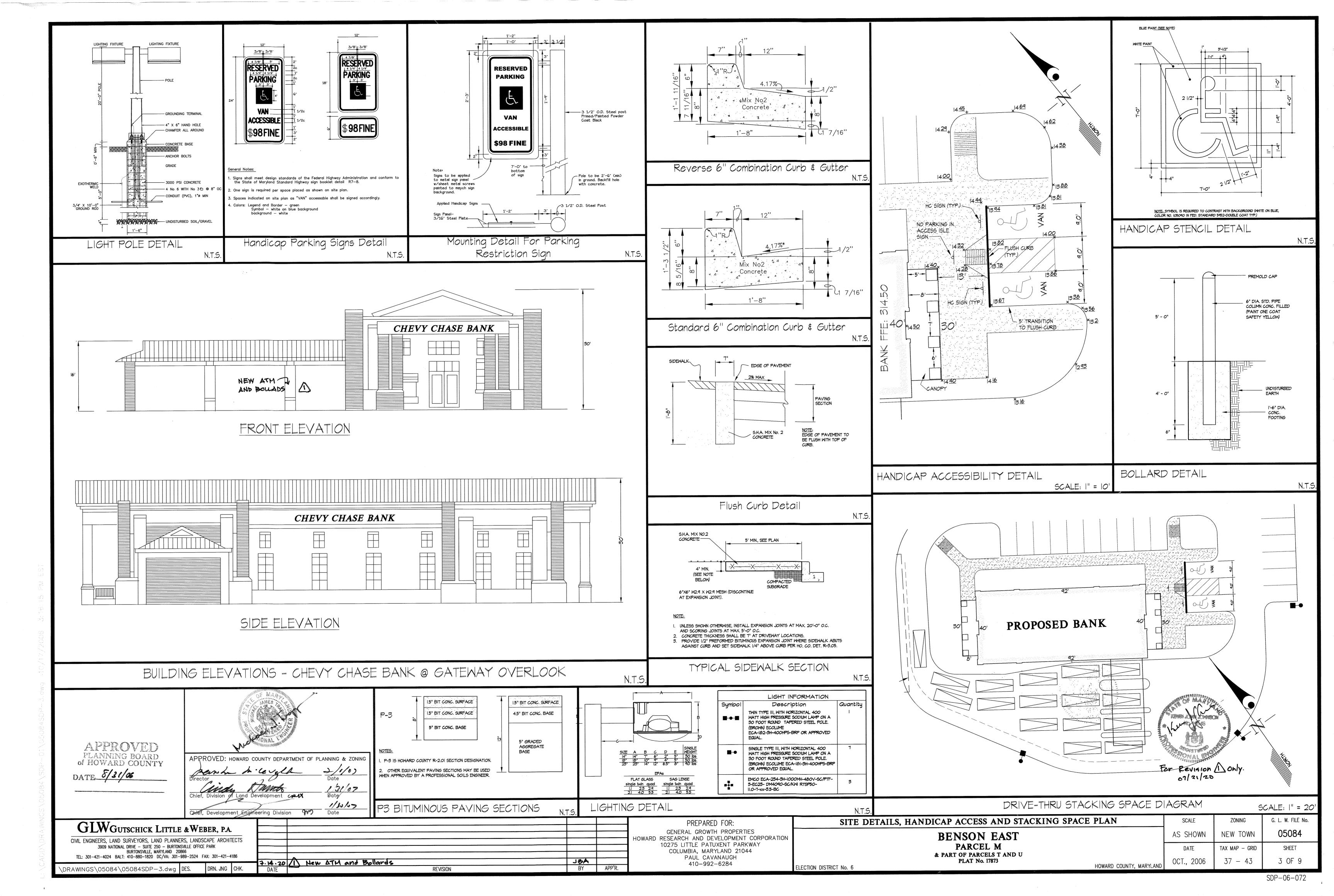
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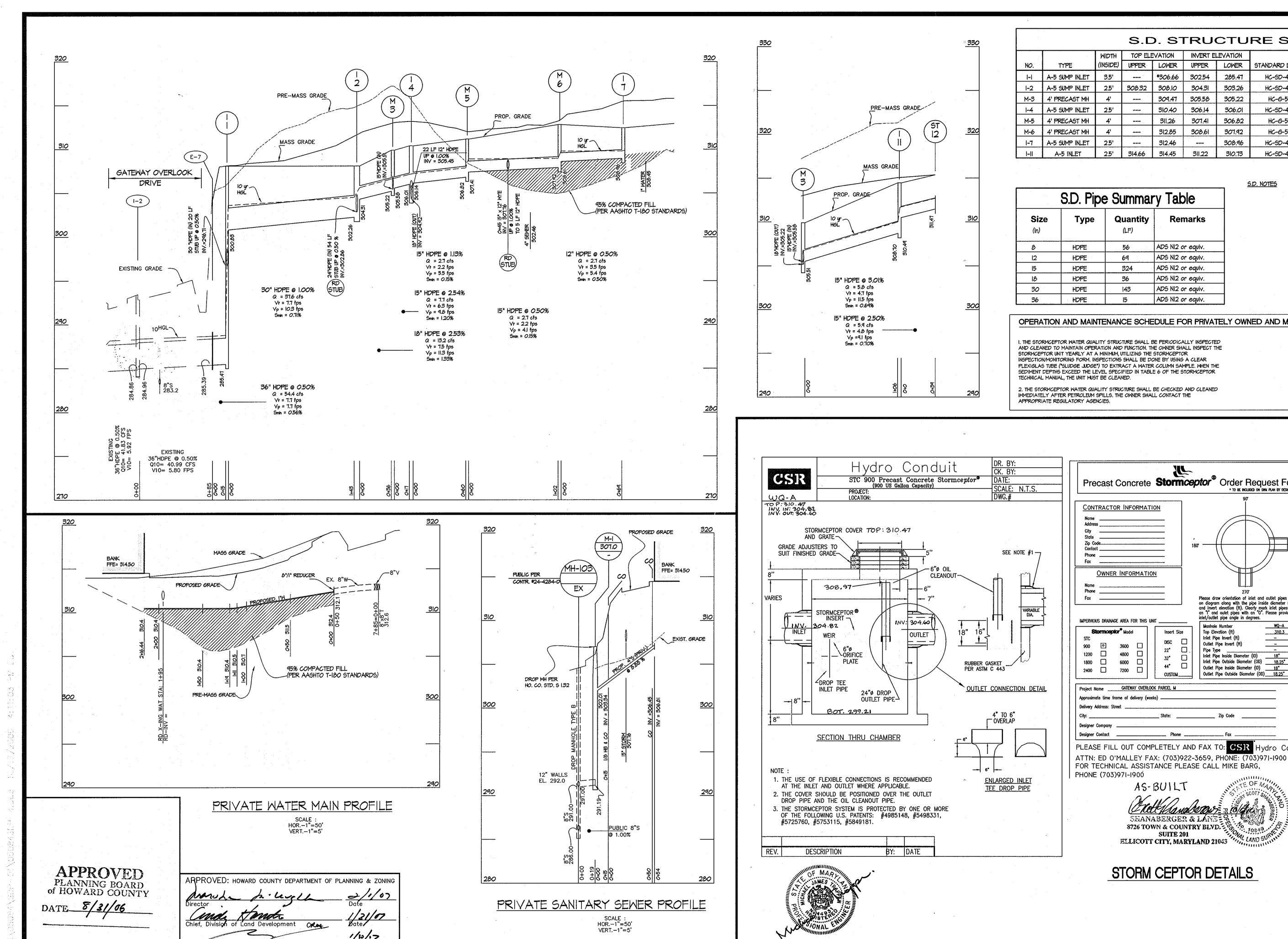
PREPARED FOR: GENERAL GROWTH PROPERTIES HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 PAUL CAVANAUGH 410-992-6284

BENSON EAST PARCEL M

COVER SHEET SCALE ZONING G. L. W. FILE No. AS SHOWN NEW TOWN TAX MAP - GRID SHEET & PART OF PARCELS T AND U PLAT No. 17873 OCT., 2006 37 - 43 OF 9 HOWARD COUNTY, MARYLAND







REVISION

PREPARED FOR:

GENERAL GROWTH PROPERTIES

HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY

COLUMBIA, MARYLAND 21044

PAUL CAVANAUGH

410-992-6284

APP'R.

BY

ELECTION DISTRICT No. 6

Chief, Development Engineering Division 909

DRN. JNG CHK.

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

BURTONSVILLE, MARYLAND 20866

TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

\DRAWINGS\05084\05084SDP.dwg | DES.

S.D. STRUCTURE SCHEDULE TOP ELEVATION INVERT ELEVATION (INSIDE) UPPER LOWER UPPER LOWER STANDARD DETAIL LOCATIONS & REMARKS *306.66 302.54 TOP SLAB & THROAT INSTALLATION DELAYED (INV. WEIR=305) HC-SD-4.40 308.32 308.10 304.31 303.26 HC-SD-4.40 see plan 309.47 305.58 HC-G-5.12 see plan 310.40 306.14 HC-SD-4.40 see plan 307.41 311.26 306.82 HC-G-5.12 see plan 312.85 307.92 308.61 HC-G-5.12 see plan HC-SD-4.40 see plan 314.45 310.73 314.66 HC-SD-4.40 see plan

S.D. Pipe Summary Table Remarks Quantity ADS NI2 or equiv. 56 ADS NI2 or equiv. 324 ADS NI2 or equiv. ADS NI2 or equiv. ADS N12 or equiv. 143 ADS NI2 or equiv.

S.D. NOTES ALL STRUCTURES TO BE PRECAST.

- PROVIDE WATER TIGHT JOINT AT ALL PIPE AND STRUCTURE CONNECTIONS.
- ALL STORM DRAIN PIPE, STRUCTURES AND WATER QUALITY DEVICES ARE TO BE FLUSHED AND PUMPED CLEAN PRIOR TO REMOVAL OF ALL SEDIMENT CONTROLS.
- STURCTURE I-4 TO HAVE 2'X25' TRASH RACK COVERING 18" OPENING TO WQ-A (STORMCEPTOR) (SEE DETAIL SHEET 5)
- ALL HOPE MANIFOLD & STORM DRAIN PIPES ARE TO BE ADS-NI2 OR EQUIVALENT.

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

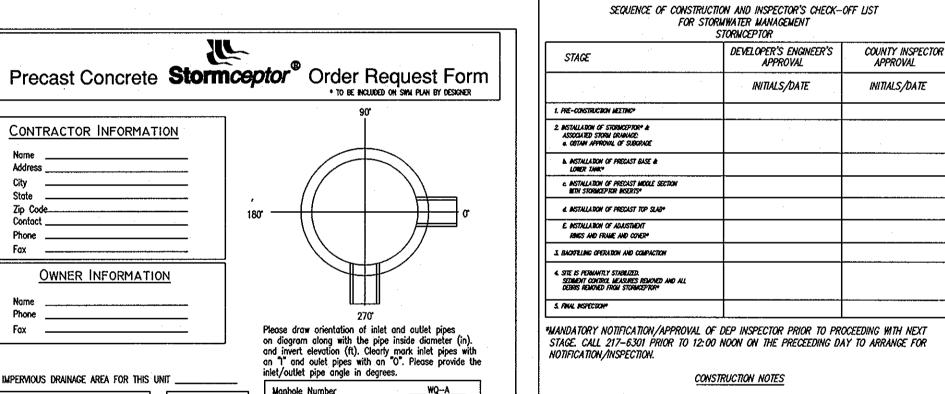
I. THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE STORMCEPTOR UNIT YEARLY AT A MINIMUM, UTILIZING THE STORMCEPTOR INSPECTION/MONITORING FORM, INSPECTIONS SHALL BE DONE BY USING A CLEAR PLEXIGLAS TUBE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

2. THE STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE CHECKED AND CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE

3. 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 UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.

4. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE STORMCEPTOR UNIT SHALL BE REPAIRED AS NEEDED.

5. THE OWNER SHALL RETAIN AND MAKE THE STORMCEPTOR INSPECTION/MONITORING FORMS AVAILABLE THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.



310.3

Top Elevation (ft)

AS-BUILT

SHANABERGER & LANE

SUITE 201 ELLICOTT CITY, MARYLAND 21043

8726 TOWN & COUNTRY BLVD.

Outlet Pipe Invert (ft)

Outlet Pipe Inside Diameter (ID) 18"
Outlet Pipe Outside Diameter (OD) 18.25"

1. SILT AND DEBRES SHALL NOT BE ALLOWED TO ENTER THE STORMCEPTOR UNTIL THE CONTRIBUTING DRAINAGE AREAS HAVE BEEN PERMANTLY STABILIZED. SILT MAY BE ALLOWED TO ENTER STORMCEPTOR IF IT IS BEING USED AS A FINAL SEDIMENT CONTROL FILTERING

2. ALL OPENINGS TO STRUCTURES SHALL BE PROTECTED WITH THE APPROPRIATE SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.

3. THE STORMCEPTOR MUSR BE PUMPED OUT AND CLEANED AT THE END OF THE CONSTRUCTION

INSPECTION NOTES: PRECAST CONCRETE STORMCEPTOR

I. PRIOR TO THE START OF INSTALLATION OF THE STORMCEPTOR, THE MCDEP INSPECTOR MUST BE CALLED 48 HOURS IN ADVANCE AT 217-6301 (PRE CONSTRUCTION MEETING). 2. THE MCDEP INSPECTOR MUST BE NOTIFIED (217-6301) AT EACH OF THE FOLLOWING A. APPROVAL OF SUBGRADE, PREPARE A COMPACTED CRAVEL BED AT THE BOTTOM OF THE EXCAVATION (6" DEEP). ENSURE COMPACTION TO 95% DENSITY

B. PLACE STORNCEPTOR IN EXCAVATION AT CORRECT ELEVATION AND AT CORRECT ALIGNMENT AND GRADE FOR INLET AND OUTLET STORM DRAINS, LEVEL UNIT

INSTALL BASE AND LOWER TANK, MIDDLE SECTION WITH STORMCEPTOR INSERT RISER SECTION, TOP SLAB WITH PERSONWAY, LEVELING RINGS AND MANHOLE

C. BACKFILL STORMCEPTOR WITH SUITABLE NATIVE SOIL (NO ORGANIC OR TOPSOIL IS TO BE USED FOR BACKFILL). BACKFILL AND COMPACT IN 8 INCH LIFTS BACKFILL SHOULD BE TO 95% OF DENSITY.

D. WHEN SITE IS PERMANENTLY STABILIZED AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED AND STABILIZED. THEN THE STORMCEPTOR WILL BE PUMPED OUT AND CLEANED AND PLACED IN STORMWATER MANAGEMENT OPERATION.

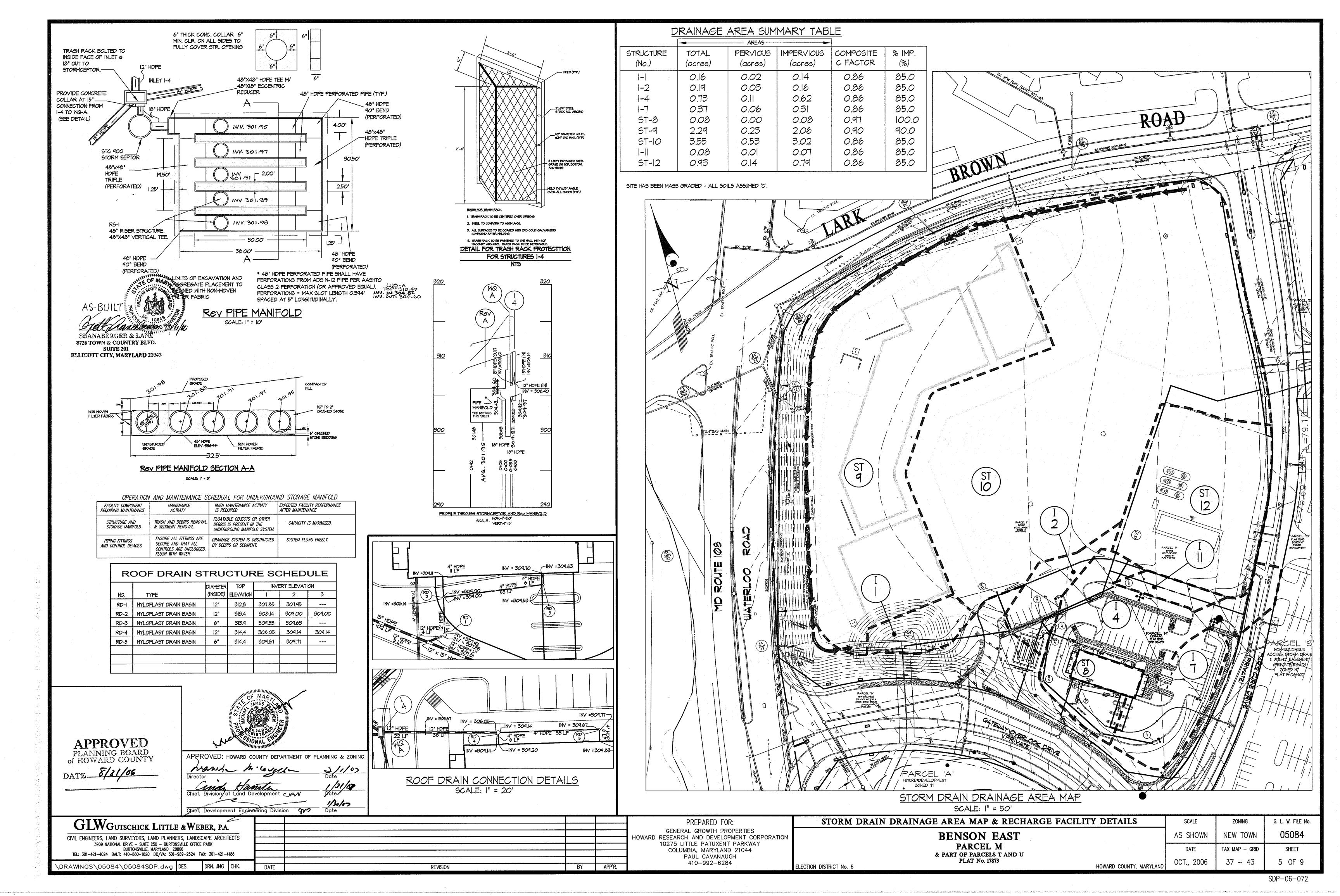
E. FINAL INSPECTION.

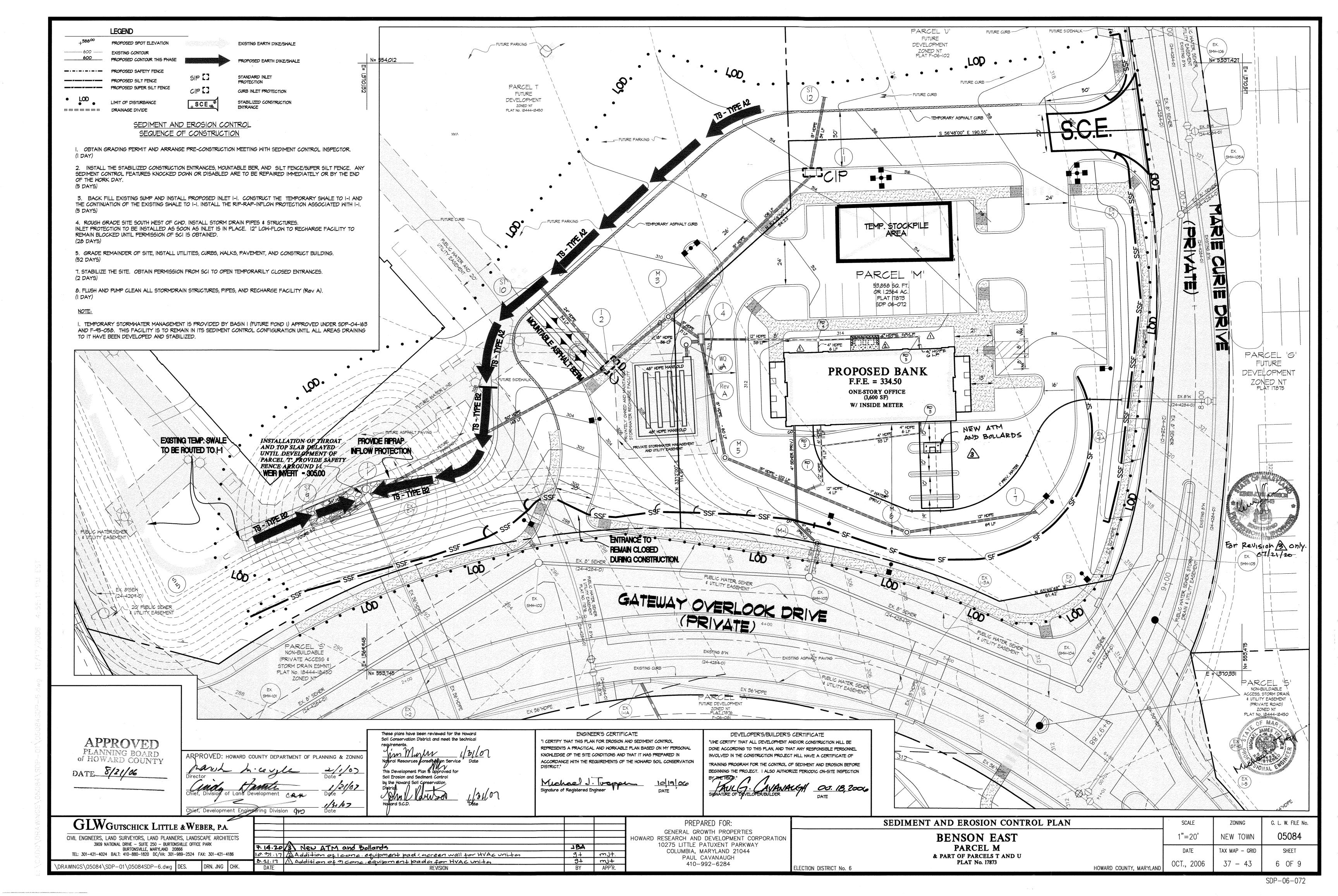
AS MANUFACTURED BY CSR-HYDRO CONDUIT AND STORMCEPTOR CORPORATION. MODEL STC-1800, PRECAST CONCRETE. FOR TECHNICAL INFORMATION CALL STORMCEPTOR AT 301-763-8361 TO ORDER CONTACT CSR-HYDRO CONDUIT, VIRGINIA PRECAST AT

1-800-999-2278 AT LEAST 3 WEEKS PRIOR TO NEEDED DELIVERY.

UTILITY PROFILES & STORM CEPTOR DETAILS ZONING G. L. W. FILE No.

05084 **BENSON EAST NEW TOWN** AS SHOWN PARCEL M TAX MAP - GRID SHEET & PART OF PARCELS T AND U PLAT No. 17873 OCT., 2006 37 – 43 4 OF 9 HOWARD COUNTY, MARYLAND





STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPE WHERE:

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIED 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.

FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

. 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 RESPECTIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL

TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY A 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, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.

B. TOPSOIL MUST BE FREE OF PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE IF 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.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE SEEDING IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

 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 PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT. TOPSOIL HAVING SOLUBLE SALT GREATER THAN 500 PARTS PER MILL SHALL NOT BE USED. 4. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHOTO-TOXIC MATERIALS.

NOTE: 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

B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE SEEDING

TOPSOIL APPLICATION

A. WHEN TOPSOILLING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"-8" HIGHER IN ELEVATION.

C. 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 PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILLING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER

D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS 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.

ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

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:

COMPOSTED SLUDGE 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.

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

3. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES

PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQUARE FEET) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM 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 OF 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL

SEEDING: 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 AND 2 LBS 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

MULCHING: APPLY 1-1/2 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 MILLCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF 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.

TEMPORARY SEEDING NOTES

ANCHORED STRAW.

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

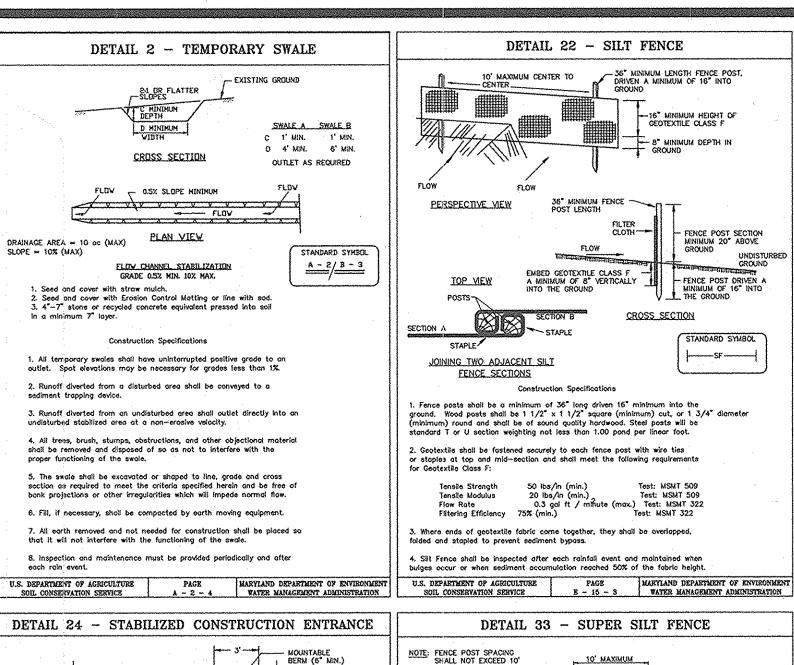
SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED). SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

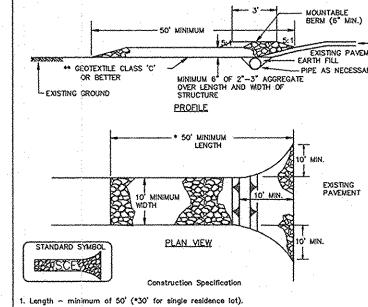
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SO.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SO FT) OF UNROTTED, WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

THESE SEEDING NOTES ARE THE MINIMUM REQUIRED FOR SEDIMENT CONTROL. REFER TO PROJECT SPECIFICATIONS FOR SEEDING REQUIREMENTS OF OTHER AREAS OF THE SITE.





DETAIL 2 - TEMPORARY SWALE

-SLOPES

DEPTH DEPTH

FLOV O.S.Y. SLOPE MINIMUM

DRAINAGE AREA = 10 oc (MAX)

D HINIMUM

CROSS SECTION

FLOW CHANNEL STABILIZATION

Seed and cover with straw mutch.
 Seed and cover with Erosion Control Matting or line with sod.
 4"-7" stone or recycled concrete equivalent pressed into soil

1. All temporary swales shall have uninterrupted positive grade to an

outlet. Spot elevations may be necessary for grades less than 1%

3. Runoff diverted from an undisturbed area shall outlet directly into an

4 All from hrush, stumps, obstructions, and other objectional material

shall be removed and disposed of so as not to interfere with the

5. The swale shall be excavated or shaped to line, grade and cross

6. Fill, if necessary, shall be compacted by earth moving equipment

that it will not interfere with the functioning of the swale.

section as required to meet the criteria specified herein and be free of bonk projections or other irregularities which will impede normal flow.

7. All earth removed and not needed for construction shall be placed so

8. Inspection and maintenance must be provided periodically and after

2. Runoff diverted from a disturbed area shall be conveyed to a

undisturbed stabilized area at a non-erosive velocity.

proper functioning of the swele.

FLOV -

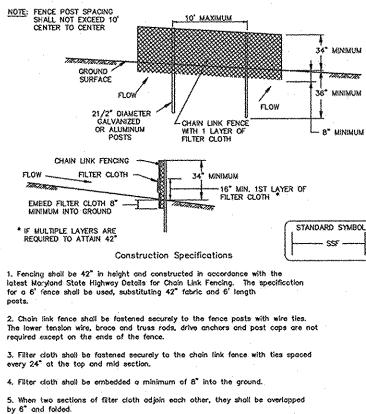
- EXISTING GROUN

2. Width - 10' minimum, should be flared at the existing road to provide a turning

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family 4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 5" deep over the length and width of the

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

8. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance



Tensile Strength 50 lbs/in (min.) Test: MSMT 509
Tensile Modulus 20 lbs/in (min.) Test: MSMT 509
Flow Rate 0.3 gal/ft /minute (max.) Test: MSMT 322
Filtering Efficiency 75% (min.) Test: MSMT 322 U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE P - 17 - 3 WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE H - 28 - 3 WATER MANAGEMENT ADMINISTRATION DETAIL 23C CURB INLET PROTECTION (COG OR COS INLETS)

6. Maintenance shall be performed as needed and silt buildups removed when "builges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or

MAX. DRAINAGE AREA = 1/4 ACRE

Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard 2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" welr.

3. Securely not the 2" X 4" welr to a 9" long vertical spacer to be located between 4. Place the assembly against the inlet throat and noil (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight. 5. The assembly shall be placed so that the end spacers are a minimum \mathbf{t}^{\prime} beyond both ends of the throat opening.

> 6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inict. Place clean 3/4 " x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile. 7. This type of protection must be inspected frequently and the filter cloth

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF ACRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMEN
SOIL CONSERVATION SERVICE R - 16 - 5B WATER MANAGEMENT ADMINISTRATION

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (410) 313-1855

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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURÉS, DIKES AND 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 AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDINGS AND MULCHING (SEC. G). TEMPORARY STABILIZATION, WITH MULCH ALONE, CAN ONLY BE DONE WHEN RECOMMENDED SEEDING 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.

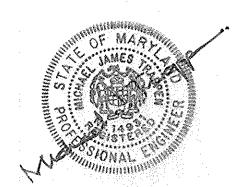
7. SITE ANALYSIS: TOTAL AREA OF SITE : 1.24 AC. AREA DISTURBED 2.46 AC. AREA TO BE ROOFED OR PAVED 1.13 ACRES AREA TO BE VEGETATIVELY STABILIZED 1.33 ACRES TOTAL CUT 10,000 CU. YDS. TOTAL FILL 10,000 CU. YDS. OFF-SITE WASTE/BORROW AREA LOCATION:

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 CONTROL 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.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN 1 WORKING DAY, WHICHEVER IS SHORTER.



PLANNING BOARD of HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING bief, Development Engineering Division 900

These plans have been reviewed for the Howard Soil Conservation District and meet the technical um Mayer igural Resources Conselliption Service This Development Plan is approved for Soll Erosion and Sediment Control by the Howard Soil Conservation
Difficial.

ENGINEER'S CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION

Signature of Registered Engineer

*I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION

ELECTION DISTRICT No. 6

DEVELOPER'S/BUILDER'S CERTIFICATE

PREPARED FOR: GENERAL GROWTH PROPERTIES 10275 LITTLE PATUXENT PARKWAY

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILE, MARYLAND 20866

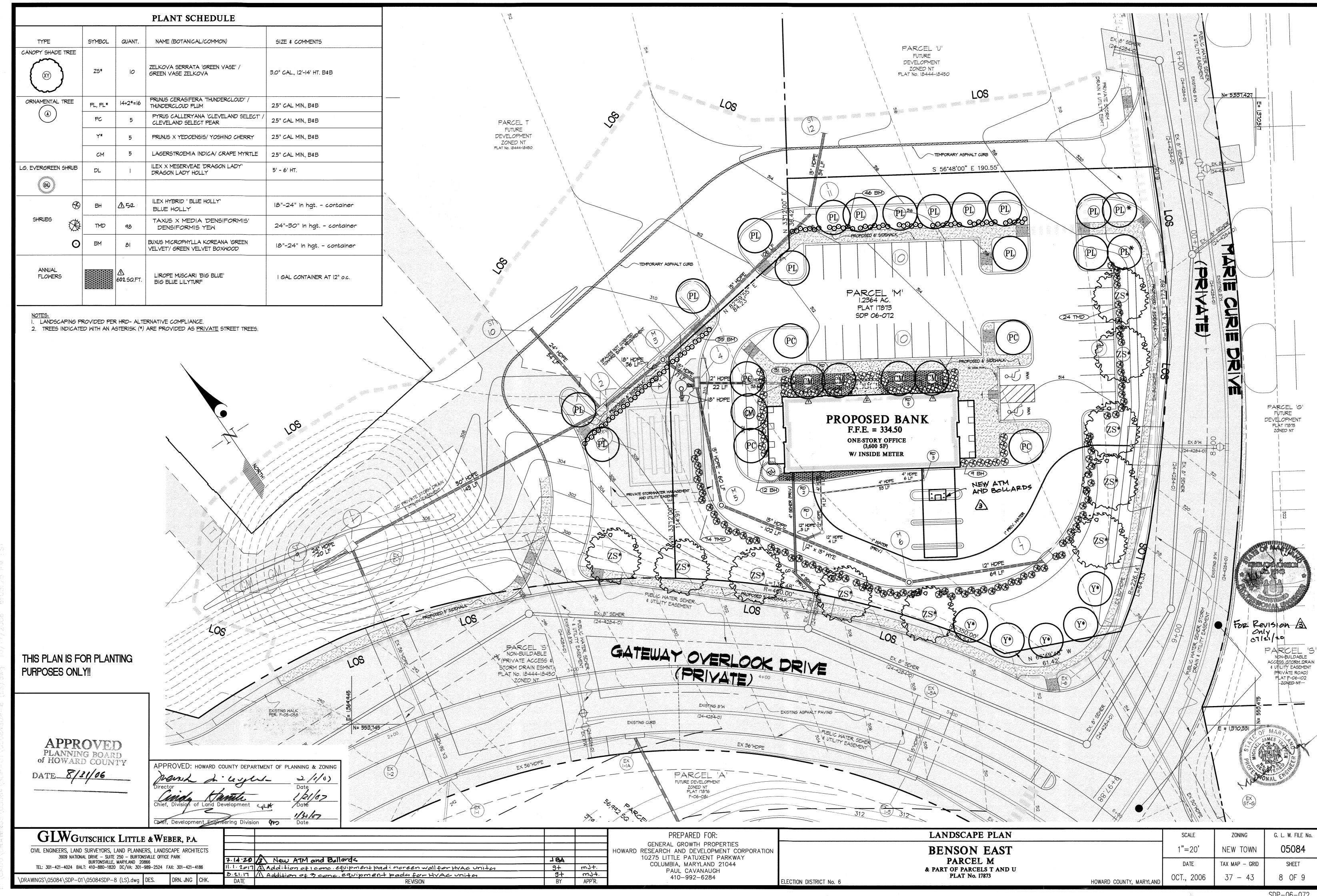
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186 DRN. JNG CHK. \DRAWINGS\05084\05084SDP-7dwg DES.

APP'R. REVISION BY

HOWARD RESEARCH AND DEVELOPMENT CORPORATION COLUMBIA, MARYLAND 21044 PAUL CAVANAUGH 410-992-6284

SEDIMENT CONTROL NOTES SCALE ZONING G. L. W. FILE No. 05084 BENSON EAST NONE **NEW TOWN** PARCEL M DATE TAX MAP - GRID & PART OF PARCELS T AND U PLAT No. 17873 OF 9 OCT., 2006 HOWARD COUNTY, MARYLAND

SHEET



PLANT MATERIALS AND PLANTING METHODS

A. Plant Materiais

The landscape contractor shall furnish and install and/or dig, ball, burlap and transplant all of the plant materials called for on drawings and/or listed in the Plant Schedule.

I. Plant Names

Plant names used in the Plant Schedule shall conform with "Standardized Plant Names," latest edition.

2. Plant Standards

All plant material shall be equal to or better than the requirements of the "USA Standard for Nursery Stock" latest edition, as published by the American Association of Nurserymen (hereafter referred to as AAN Standards). All plants shall be tupical of their species and variety, shall have a normal habit of arouth and shall be first quality, sound, vigorous, well-branched and with healthy, well-furnished root systems. They shall be free of disease, insect pests and mechanical injuries.

All plants shall be nursery grown and shall have been arown under the same climate conditions as the location of this project for at least two years before planting. Neither heeled-in plants nor plants from cold storage will be accepted.

3. Plant Measurements

All plants shall conform to the measurements specified in the Plant Schedule as approved by the ARC.

- a. Caliper measurements shall be taken six inches (6") above grade for trees under four-inch (4") caliper and twelve (12") above grade for trees four inches (4") in caliper and over.
- b. Minimum branching height for all shade trees shall be six feet (6'), maximum eight feet (8').
- c. Caliper, height, spread and size of ball shall be generally as follows:

CALIPER HEIGHT SPREAD SIZE OF BALL 3" - 3.5" |4'-|6' 6'-8' 32" diameter 3.5"-4" |4'-16' 8'-10' 36" diameter 4" - 4.5" 16'-18' 8'-10' 40" diameter 4.5"- 5" 16'-17' 10'-12' 44" diameter 5" - 5.5" 16'-20' 10'-12' 48" diameter 5.5"-6" 18'-20' 12'-14' 52" diameter

All plant material shall generally average the median for the size ranges indicated above as indicated in the "AAN Standards".

4. Plant Identification

Legible labels shall be attached to all shade trees, minor trees, specimen shrubs and bundles or boxes of other plant material giving the botanical and common names, size and quantity of each. Each shipment of plants shall bear certificates of Inspection as required by Federal, State and County authorities.

5. Plant Inspection

The ARC may, upon request by the builder or developer, at least ten (10) days prior to the installation of any proposed plant material, inspect all proposed plant material at the source of origin.

B. Planting Methods

APPQ(VE)

PLANNING BORGED of HOWARD COUNTY

DRAWINGS\05084\LS-DET.dwg DES.

All proposed plant materials that meet the specifications in Section A are to be planted in accordance with the following methods during the proper planting seasons as described in the following:

I. Planting Seasons

The planting of deciduous trees, shrubs and vines shall be from March 1st to June 15th and from September 15th to December 15th. Planting of deciduous material may be continued during the winter months providing there is no frost in the ground and frost-free topsoil planting mixtures are used.

The planting of evergreen material shall be from March 15th to June 15th and from August 15th to December 1st. No planting shall be done when around is frozen or excessively moist. No frozen or wet topsoil shall be used at any time.

2. Digging

All plant material shall be dug, balled and burlapped (B&B) in accordance with the "AAN Standards".

3. Excavation of Plant Pits

The landscaping contractor shall excavate all plant pits, vine pits, hedge trenches and shrub beds in accordance with the following

- a. Locations of all proposed plant material shall be staked and approved in the field by the landscape architect before any of the proposed plant material is installed by the landscape contractor.
- b. All pits shall be generally circular in outline, vertical sides; depth shall not be less than 6" deeper than the root ball, diameter shall not be less than two times the diameter of the root ball as set forth in the following schedule.
- c. If areas are designated as shrub beds or hedge trenches, they shall be excavated to at least 18" depth minimum. Areas designated for ground covers and vines shall be excavated to at least 12" in depth minimum.
- d. Diameter and depth of tree pits shall generally be as follows:

PLANT SIZE	ROOT BALL	DIAMETER		DEPTH
3" - 3.5" cal.	32"	64"	28"	
3.5"- 4" cal.	36"	72"	32"	•
4" - 4.5" cal.	40"	8O"	36"	
4.5"- 5" cal.	44"	88"	40"	
5" - 5.5" cal.	48"	96"	44"	
5.5"- 6" cal.	52"	104"	48"	

A 20% compaction figure of the soil to be removed is assumed and will be allowed in calculation of extra topsoll. The tabulated pit sizes are for purposes of uniform calculation and shall not override the specified depths below the bottoms of the root balls.

4. Staking, Guying and Wrapping

All plant material shall be staked or auged, and wrapped in accordance with the following specifications:

- a. Stakes: Shall be sound wood 2" x 2" rough sawn oak or similar durable woods, or lengths, minimum 7'-0" for major trees and 5'-0" minimum for minor trees.
- b. Wire and Cable: Wire shall be #10 ga. galvanized or bethanized annealed steel wire. For trees or 3" caliper, provide 5/16" turn buckles, eye and eye with 4" takeup. For trees over 5" caliper, provide 3/16". 7 strand cable cadmium plated steel, with galvanized "eye" thimbles of wire and hose on trees up to 3" in
- c. Hose: Shall be new, 2 ply reinforced rubber hose, minimum 1/2' I.D. "Plastic Lock Ties" or "Paul's Trees Braces" may be used in place of wire and hose on trees up to 3" in caliper.

- a. Each tree, shrub or vine shall be pruned in an appropriate manner to its particular requirements, in accordance with accepted standard practice. Broken or bruised branches shall be removed with clean cuts flush with the adjacent trunk or branches. All cuts over I" in diameter shall be painted with an approved antiseptic tree wound dressing.
- b. All trenches and shrub beds shall be edged and cultivated to the lines shown on the drawing. The areas around isolated plants shall be edged and cultivated to the full diameter of the pit. Sod which has been removed and stacked shall be used to trim the edges of all excavated areas to the neat lines of the plant pit saucers, the edges of shrub areas, hedge trenches and vine pockets.
- c. After cultivation, all plant materials shall be mulched with a 2" layer of fine, shredded pine bark, peat moss, or another approved material over the entire area of the bed or saucer.

6. Plant Inspection and Acceptance

The ARC shall be responsible for inspecting all planting projects on a periodic basis to assure that all work is proceeding in accordance with the approved plans and specifications.

7. Plant Guarantee

All plant material shall be guaranteed for the duration of one full growing season, after final inspection and acceptance of the work in the planting project. Plants shall be alive and in satisfactory growing condition at the end of the quarantee period.

- a. For this purpose, the "growing season" shall be that period between the end of the "Spring" planting season, and the commencement of the "Fall" planting
- b. Guarantee for planting performed after the specified end of the "Spring" planting season, shall be extended through the end of the next following "Spring" planting season.

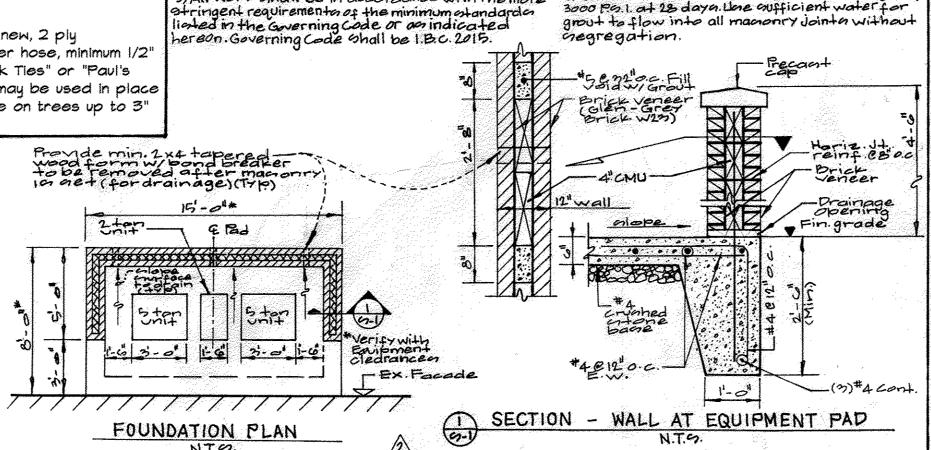
All sodding shall be in accordance to the "Landscape Specification Guidelines for Baltimore-Washington metropolitan Areas' latest edition, approved by the Landscape Contractors Association of Metropolitan Washington and the American Society of Landscape Architects.

All sod shall be strongly rooted sod, not less than two years old and free of weeds and undesirable native grasses. Provide only sod capable of growth development when planted and in strips not more than 18" wide x 4' long. Provide sod composed principally of improved strain Kentucky bluegrass, such as, Columbia, Victa, or

structural Notes A 1) The Contractor Shall verify all dimensions for or to atarting Construction. The Engineer on all be notified any discrepancies or inconsistencies. 6) The atructural drawings and apecifications represent the finished atructure. They do not indicate the method of construction. The Contractor shall provide all measures necessary to protect the atructure during construction, including all bracing and shoring required to resist the actual construction loads. 21 All concrete ahall conform with the requirements of the A.C.I. Building code requirements for reinforced concrete (ACI 318).

Concrete For alaba 4500 Pail 7) Deargn Live Loader: Equipment alab: 3) Soil bearing frenoured annumed are an Follows: Bottom bearing 2000 POF SO POF Cocentrated Load: 2000 100 4) Temporary aupport and leveling ahall be the gole reaponaibility of the Contractor.

8) Concrete block ahall be hollow load-bearing concrete manonry Unita Conforming to ABTM CO 9) Grout ahall attain a compressive strength a 3000 Ps. 1. at 18 days. Une sufficient water for 5) All work ahall be in accordance with the more grout to flow into all manonry Jointa without gegregation.



LANDSCAPING NOTES

- 1. This plan has been prepared in accordance with the New Town Alternative Compliance provisions of Section 16.124 of the Howard County Code and the Howard County Landscape Manual.
- 2. Contractor shall notify all utilities at least (5) five days before starting work. All General Notes, especially those regarding utilities, on Sheet I shall apply.
- 3. Field verify underground utility locations and existing conditions before starting planting work. Contact engineer / landscape architect if any relocation's are required.
- 4. Plant quantities shown on Plant List are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on the plan and those shown on the plant list, the quantities on the plan shall take precedence.
- 5. All plant material shall be full, heavy, well formed, and symmetrical, and conform to the A.A.N. Specifications, and be installed in accordance with project specifications.
- 6. No substitution shall be made without written consent of the owner or his representative.
- 7. All areas disturbed by construction activities but not otherwise planted, paved, or mulched shall be seeded or sodded in accordance with the project specifications.
- 8. The contractor shall notify the owner in writing if he/she encounters soil drainage conditions which may be detrimental to the growth of the
- 9. All exposed earth within limits of planting beds shall be mulched with shredded hardwood mulch per Planting Details.
- 10. Planting trees within a <u>PUBLIC</u> UTILITY EASEMENT is prohibited.
- 12. Schedule-B (Parking Lot Internal Landscaaping) is provided for landscape surety calculation purposes only.
- 13. Tabulation for landscape shown: Required planting by HRD for 1.02 acres of a bank combined at 26 trees/acre = 27 trees

E.S.T. = Equivalent Shade Tree

Dianting appuided	
Planting provided:	
Shade Trees	10
Ornamental Trees	31 = 15 E.S.T. (AT 2:1)
Evergreen Trees	0
Shrubs provided:	231 = 23 E.S.T. (AT 10:1)
Total E.S.T. = 48	

14. The owner, tenant, and /or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

SCHEDULE-B: PARKING LOT INTERNAL LANDSCAPING NUMBER OF PARKING SPACES 28 TOTAL SPACES NUMBER OF SHADE TREES REQUIRED (I PER 20 SPACES) 2 NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION) 6 ORNAMENTALS (EQV. TO 3 SHADE TREES)

PRIVATE STREET TREE					
LINEAR FEET OF PRIVATE ROADWAY PERIMETER	483' ALONG PARCEL 'M' (MARIE CURIE AND GATEWAY OVERLOOK DRIVE)				
REQUIRED NUMBER OF PRIVATE STREET TREE (AT I SHADE PER 40 L.F.)	12 SHADE TREES				
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	9 SHADE TREES 7 FLOWERING TREES (EQV. TO 3.5 SHADE TREES)				
	LINEAR FEET OF PRIVATE ROADWAY PERIMETER REQUIRED NUMBER OF PRIVATE STREET TREE (AT I SHADE PER 40 L.F.) NUMBER OF TREES PROVIDED SHADE TREES				

NOTE: FINANCIAL SURETY FOR THE PRIVATE STREET TREES THAT ARE ON THE ADJACENT PARCEL 'T' SHALL BE POSTED WITH THE SDP FOR PARCEL 'T' (SDP-06-108).

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$4,200.00 IS FOR THE FOLLOWING:

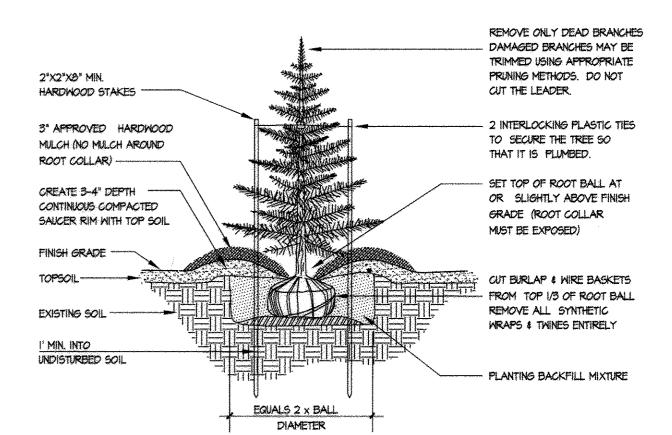
\$ 600.00 FOR 2 SHADE TREES @ \$300/TREE PER SCHEDULE-A \$3600.00 FOR 12 SHADE TREES @ \$300/TREE FOR PRIVATE STREET TREES \$4200.00 TOTAL SURETY REQUIRED

SCREEN WALL DETAILS

	AVV	
		— DO NOT CUT CENTRAL LEADER, REMOVE ANY DEAD OR DAMAGED BRANCHES BY APPROPRIATE PRUNING METHODS.
2"X2"X8" MIN. HARDWOOD STAKES		- 3/8" DIA, REINFORCED BLACK RUBBER HOSE, INTERLOCKED, POSITION ABOVE
3" APPROVED HARDWOOD "MULCH (NO MULCH AROUND "		FIRST SET OF BRANCHES TO SECURE THE TREE SO THAT IT IS PLUMBED.
ROOT COLLAR)		- 2 STRANDS 14-GA GALY. WIRE TWISTED
CREATE 3-4" DEPTH	90	(PLASTIC TIES MAY BE USED INSTEAD OF WIRE & RUBBER HOSE)
CONTINUOUS COMPACTED		F 165 May 9 C (Metaletations II) C the writing
SAUCER RIM WITH TOP SOIL		- SET TOP OF ROOT BALL AT OR SLIGHTLY
FINISH GRADE	, 11 ,	ABOVE FINISH GRADE (NO MORE THAN 3").
THIST STOLE		— CUT BURLAP & WIRE BASKETS FROM
		TOP 1/3 OF ROOT BALL REMOVE ALL
TOPSOIL TIEITETTE		SYNTHETIC WRAPS & TWINES ENTIRELY
EXISTING SOIL		- PLANTING BACKFILL MIXTURE
I'MIN, INTO ∃ ⊟ ⊞ E		COMPACT SOIL MIX BELOW BALL
UNDISTURBED SOIL	[]	PITCH AWAY FROM BALL TO
EQUA	LS 2 x BALL	PERIMETER OF PLANTING PIT.
	PIAMETER	

NOTE: ALL SUPPORTING DEVICES (STAKES, WIRES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

DECIDUOUS TREE PLANTING DETAIL FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER

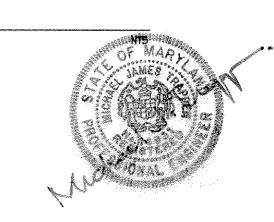


NOTE: ALL SUPPORTING DEVICES (STAKES, TIES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

EVERGREEN TREE PLANTING DETAIL

SET ROOT BALL AT OR SLIGHTLY ABOVE FINISH GRADE. CONTAINERS TO BE REMOVED PRIOR TO PLANTING. SCARIFY ROOT EDGES TO STIMULATE GROWTH. 3" MILCH - AS SPECIFIED MOUNDED EARTH SAUCER (FOR ISOLATED PLANTING SITUATION) PLANTING BACKFILL MIXTURE SCARIFY SOIL BELOW ROOTBAL EXISTING SOIL

SHRUB PLANTING DETAIL



THIS PLAN FOR LANDSCAPE PURPOSES ONLY

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DRN. JNG CHK.

Chief, Division of Land Development CRK

Chief, Development Engineering Division

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

THERESY CONTRY THAT THESE DOCUMENTS WERE PROPERTIED ON ASPROVED BY ME. AND THAT I AM A CIE Y USE MED FROM THE CONTRY ON ALL ENGINEER USE MEDICAL THE LANG OF THE STATE OF MARKAND, LICENSE NO. 1983 CONTRY OF THE CONTRY ON THE CONTRY OF THE CONTRY ON THE CONTRY OF THE CONTRY OF THE CONTRY OF THE CONTRY OF THE CO

SCREEN WALL

1-2-2017 Addition of Iconc. equipment Padiacreen wall for HVAC unita

DATE

REVISION

PREPARED FOR: GENERAL GROWTH PROPERTIES COLUMBIA, MARYLAND 21044 PAUL CAVANAUGH mj+ 410-992-6284

HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY

PLAT No. 17873 ELECTION DISTRICT No. 6

BENSON EAST PARCEL M & PART OF PARCELS T AND U

LANDSCAPE DETAILS, NOTES AND SCHEDULES

SCALE ZONING G. L. W. FILE No. **NEW TOWN** DATE TAX MAP - GRID OCT., 2006 37 - 43 HOWARD COUNTY, MARYLAND

SDP-06-072

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SHEET

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