

S.H.C. INVERTS AT PROPERTY LINE	MIN. C ELEVATION	
LOT NUMBER	ELEVATION	ELEVATION
60	482.24	486.6
61	480.54	485.3
62	478.16	482.5
63	479.24	484.0
64	479.44	482.9
70	481.04	484.5
71	480.63	485.4
72	480.20	484.5
73	479.77	484.5
74	479.34	483.7
75	479.66	484.4
76	484.03	488.4
77	483.65	488.4

NOTE: CONTRACTOR TO CHECK SEWER HOUSE CONNECTIONS ELEVATIONS AT PROPERTY LINE PRIOR TO CONSTRUCTION.
 NOTE: C DENOTES CELLAR
 NOTE: TYPICAL S.H.C. SIZE IS 4". TYPICAL W.H.C. SIZE IS 3/4". LOTS 4, 5, 13-15, 19, 30, 31, 36, 43-48 AND 51-54 W.H.C. SIZE IS 1". TYPICAL TWIN W.H.C. SIZE IS 1 1/2".

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
60	3000 GROTTO WALK
61	3100 ST. CHARLES PLACE
62	3016 GROTTO WALK
63	3020 GROTTO WALK
64	3024 GROTTO WALK
70	3029 GROTTO WALK
71	3025 GROTTO WALK
72	3021 GROTTO WALK
73	3017 GROTTO WALK
74	3013 GROTTO WALK
75	3009 GROTTO WALK
76	3005 GROTTO WALK
77	3001 GROTTO WALK

LEGEND

SYMBOL	DESCRIPTION
FF	FINISHED FLOOR ELEVATION
BSMT	FINISHED BASEMENT ELEVATION
WO	PROPOSED GROUND ELEVATION AT WALKOUT CONDITION
00+0	GROUND SPOT ELEVATION
STD/REV	UNIT DESIGNATION FROM ARCHITECTURAL PLAN
JR	NUMBER OF RISERS - 7 1/2" EACH (INCLUDING 2 RISERS INTO HOUSE)
.....	LIMIT OF DISTURBANCE
---	PROPOSED CONTOUR
---	EXISTING GROUND CONTOUR
---	DRAINAGE FLOW ARROW
---	PROPERTY LINE
---	RIGHT-OF-WAY
---	EXISTING CURB & GUTTER
---	EXISTING WATER MAINS
---	EXISTING STORM DRAINS
---	EXISTING SEWER LINES
+	STOP SIGN
○	STREET TREES
○	STREET LIGHT

PLANT TYPE LIST:
 Q = QUERCUS RUBRA - RED OAK
 A = ACER SACCHARUM - GREEN MOUNTAIN SUGAR MAPLE
 F = FRAXINUS AMERICANA - AUTUMN PURPLE ASH
 S = PINUS STROBUS - WHITE PINE
 SEE PLAN NO. F-98-99 FOR LANDSCAPING REQUIREMENTS SHEET 20 OF 30

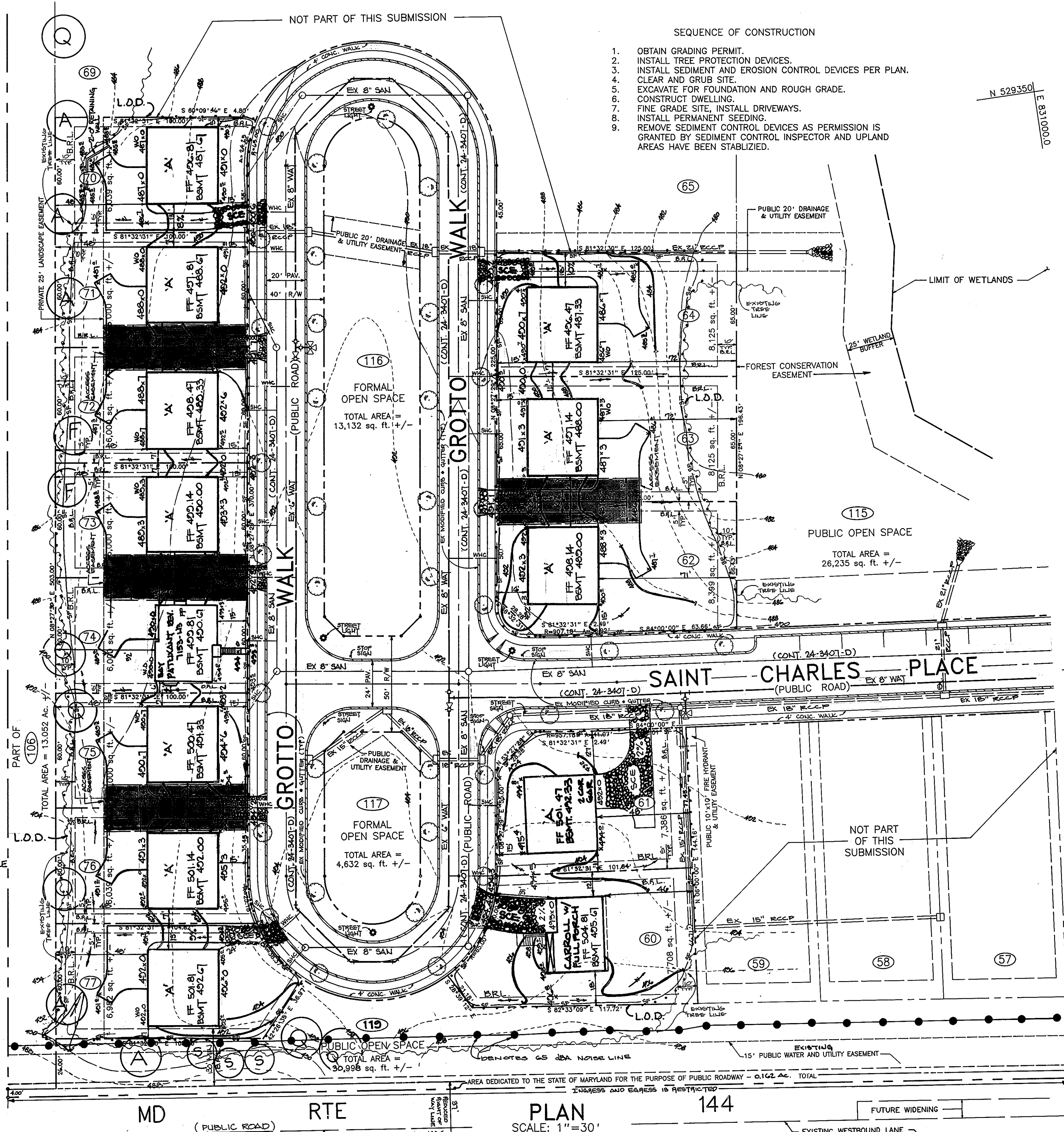
APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 10/23/97

OWNER / DEVELOPER
 TERRA MARIA L.L.C. BY
 DAVID DEMANRO, PRESIDENT
 SYNERGY DEVELOPMENT VENTURE II, INC.
 IT'S MANAGING MEMBER
 231 EAST BALTIMORE STREET
 10TH FLOOR
 BALTIMORE, MARYLAND 21202-3415

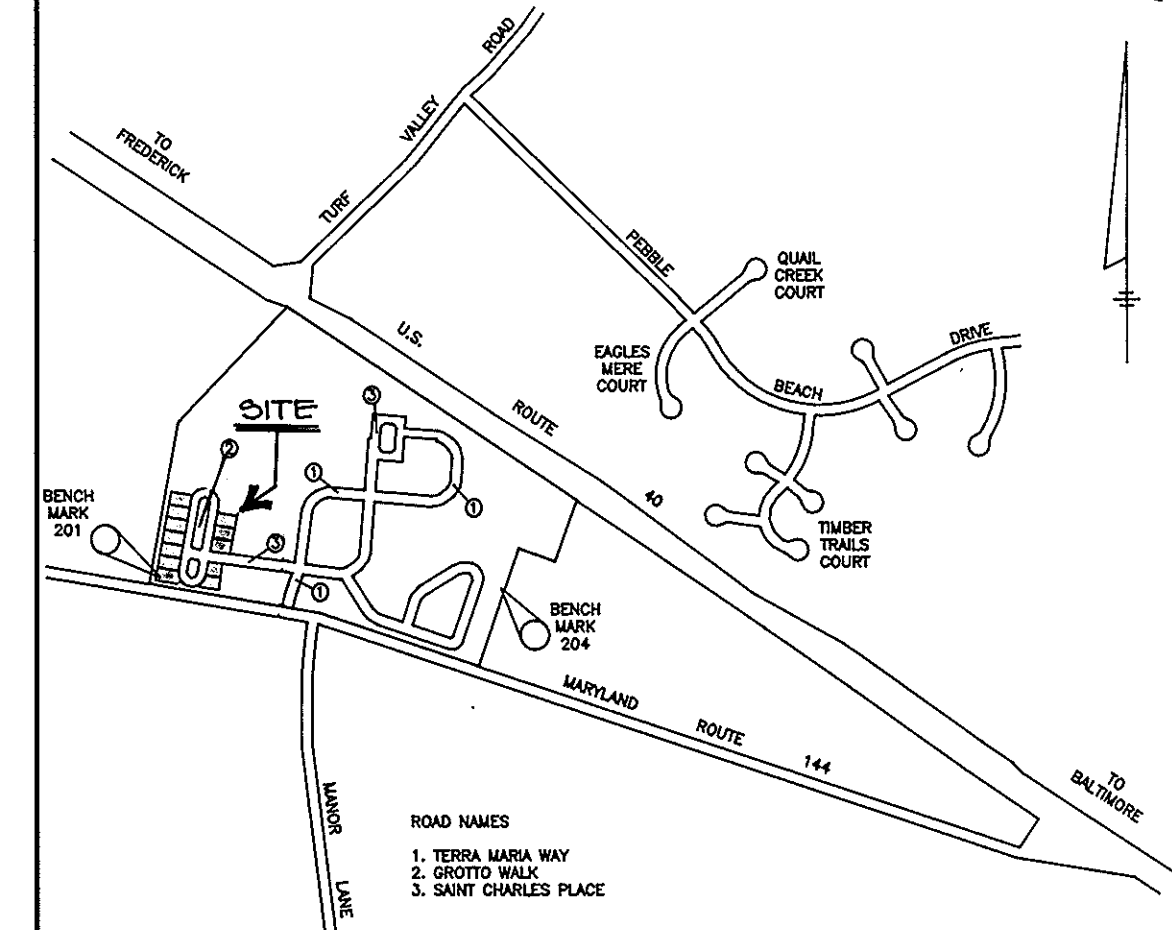


MORRIS & RITCHIE ASSOC., INC.
 ENGINEERS, PLANNERS, SURVEYORS,
 AND LANDSCAPE ARCHITECTS
 139 N. Main Street, Suite 200
 Bel Air, Maryland 21014
 (410) 879-1890 - (410) 836-7560
 Fax: (410) 879-1820

No.	Date	Description
1	7-18-98	REV. MOPEL AND GRADING LOT 74



- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT.
 - INSTALL TREE PROTECTION DEVICES.
 - INSTALL SEDIMENT AND EROSION CONTROL DEVICES PER PLAN.
 - CLEAR AND GRUB SITE.
 - EXCAVATE FOR FOUNDATION AND ROUGH GRADE.
 - CONSTRUCT DWELLING.
 - FINE GRADE SITE, INSTALL DRIVEWAYS.
 - INSTALL PERMANENT SEEDING.
 - REMOVE SEDIMENT CONTROL DEVICES AS PERMISSION IS GRANTED BY SEDIMENT CONTROL INSPECTOR AND UPLAND AREAS HAVE BEEN STABILIZED.



VICINITY MAP
 SCALE: 1"=1000'
 NOTE: THIS PROJECT IS SUBJECT TO ZONING CASE NO. ZB 925M AND PLANNING BOARD CASE NO. 201.
 NOTE: USE IN COMMON ACCESS EASEMENTS ARE RECORDED IN THE HOWARD CO. LAND RECORDS LIBER 411 FOLIO 624

SHEET INDEX

SHEET No.	DESCRIPTION
1	SITE DEVELOPMENT PLAN
2	DETAIL SHEET

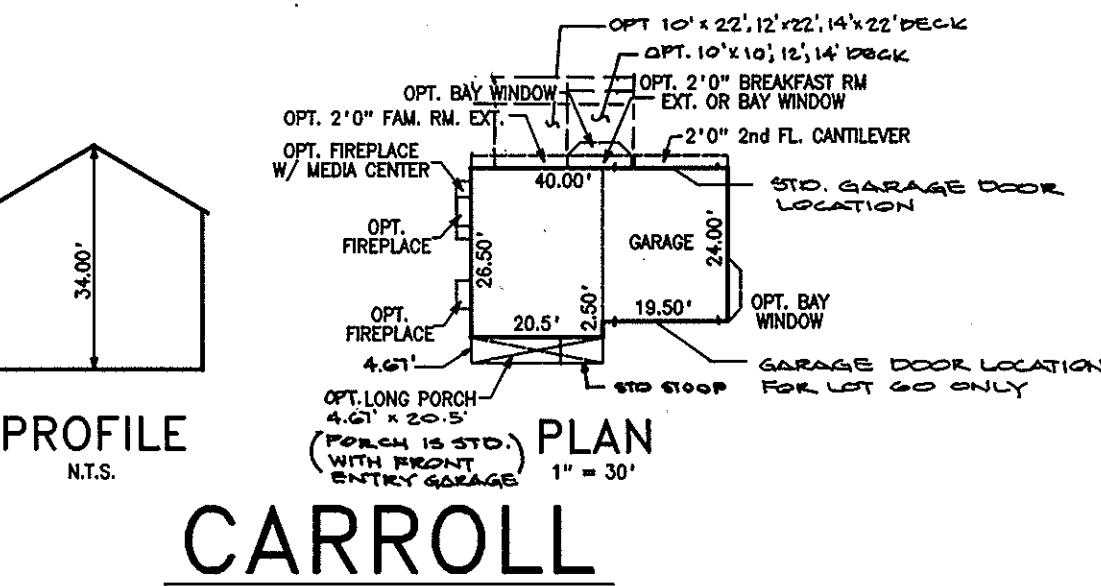
- GENERAL NOTES**
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1870 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MIS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 - THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: TERRA MARIA 504-02, P 94-24 AND F 95-99.
 - BOUNDARY AND TOPOGRAPHIC SURVEY WAS PREPARED BY FISHER, COLLINS & CARTER, INC. ON OR ABOUT JANUARY 1992.
 - HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS 33438001 AND 339003.
 - ANY DAMAGE TO THE COUNTY'S RIGHT OF WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
 - EXISTING UTILITIES WERE LOCATED FROM EXISTING ROAD CONSTRUCTION DRAWINGS AND EXISTING WATER AND SEWER CONTRACT NO. 24-3407-D
 - SITE ANALYSIS:
 - A. THIS PROJECT IS ZONED R-ED (TERRA MARIA, ZONING SECTION 128.0)
 - B. TOTAL AREA OF BUILDABLE LOTS: 2.04 AC. +/-
 - C. LIMIT OF SUBMISSION AREA: 2.04 AC. +/-
 - D. TOTAL NUMBER BUILDABLE LOTS: 13
 - THE MAXIMUM ALLOWABLE COVERAGE BY A STRUCTURE ON ANY LOT IS 60%
 - ALL FIREPLACE CHIMNEYS AND BAY WINDOWS NOT MORE THAN 10 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY REQUIRED YARD IN ACCORDANCE WITH SECTION 128 OF THE ZONING REGULATIONS.
 - PROJECT BACKGROUND:
 - LOCATION: TAX MAP 16, PARCEL 114
 - ZONED: R-ED
 - ELECTION DISTRICT: SECOND
 - TOTAL TRACT AREA: 55.107 AC. +/-
 - TERRA MARIA F 95-99
 - STORMWATER MANAGEMENT PROVIDED BY FACILITY ON SITE.
 - THIS PLAN IS FOR HOUSE SITTING AND LOT GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHT-OF-WAYS ON THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. SEE APPROVED ROAD CONSTRUCTION PLANS F 95-99 AND/OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 24-3407-D.
 - CONTRACTOR TO CONSTRUCT RESIDENTIAL DRIVEWAY ENTRANCES PER HOWARD COUNTY STANDARD DETAILS R6.05, R6.01 AND R6.02.
 - CONTRACTORS ARE TO CONSTRUCT DOWN SPOUTS SO THAT THERE IS NO CONCENTRATION OF DISCHARGE BETWEEN HOUSES.
 - PROPOSED USE OF PROPERTY IS SINGLE FAMILY DETACHED HOUSING. BENCH MARKS
 - BM. 201 REBAR AND CAP SET FLUSH WITH GROUND CENTERLINE STATION 0+64 MD. ROUTE 144 75' LEFT OF CENTERLINE. ELEV. =
 - BM. 204 REBAR AND CAP SET FLUSH WITH GROUND CENTERLINE STATION 17+37 MD. ROUTE 144 422' LEFT OF CENTERLINE. ELEV. =

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 DISTRICT.
 David H. Tolson 9/8/97
 SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE
 DAVID G. TAYLOR
DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Charles O'Donovan 9-9-97
 SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE

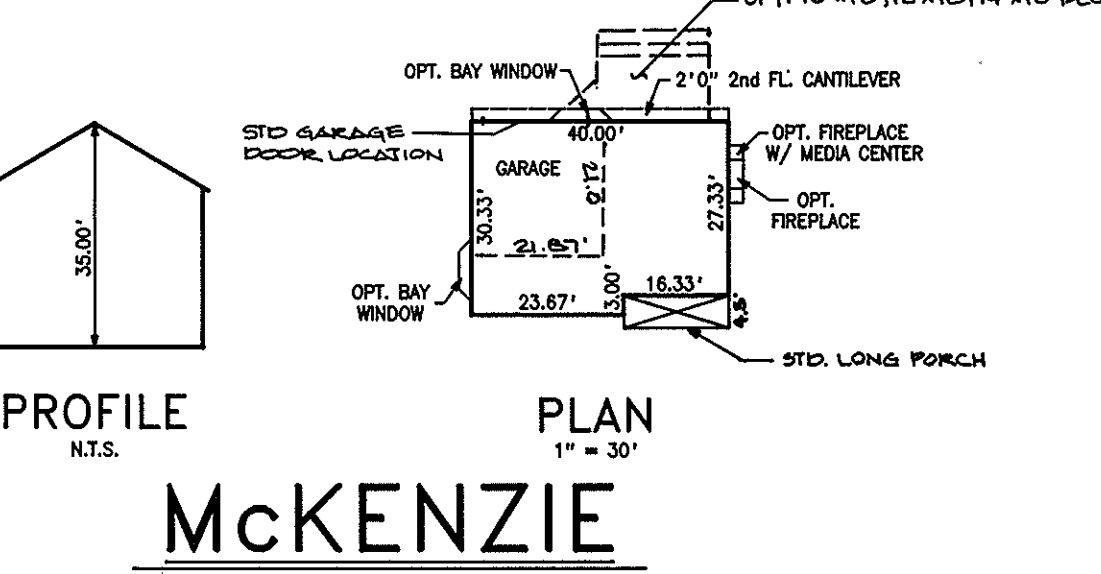
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.
 Charles Simmons 11/4/97
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 John R. Roberts 11/4/97
 HOWARD SCD DATE
BUILDER
 THE RYLAND GROUP, INC.
 GALLERIA TOWERS
 1447 YORK ROAD, SUITE 705
 LUTHERVILLE, MARYLAND 21093

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Charles O'Donovan 12/9/97
 DATE
 Chief, Development Engineering Division
 David G. Taylor 12/9/97
 DATE
 Director
 David G. Taylor 12/10/97
 DATE
 SUBDIVISION TERRA MARIA SECTION / AREA LOT NO. 60-64, 70-77
 PLAT NO. 11995-12001 BLOCK NO. 23 ZONE R-ED TAX/ZONE 16 ELEC. DIST. 2ND CENSUS TR. 6022.01
 WATER CODE JOI, H07 SEWER CODE 5992000

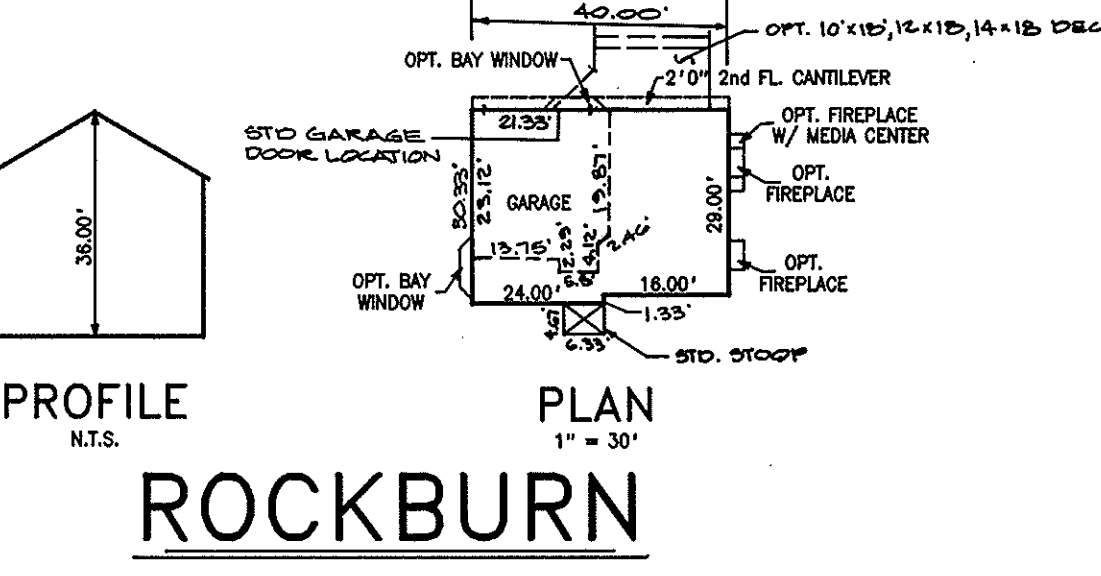
(GENERIC)
SITE DEVELOPMENT PLAN
TERRA MARIA
 LOTS: 60-64 & 70-77
 PLAT #11996
 TAX MAP NO. 16 PART OF PARCEL 114 AND 547
 SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' DATE: 8/25/97
 SHEET 1 OF 2



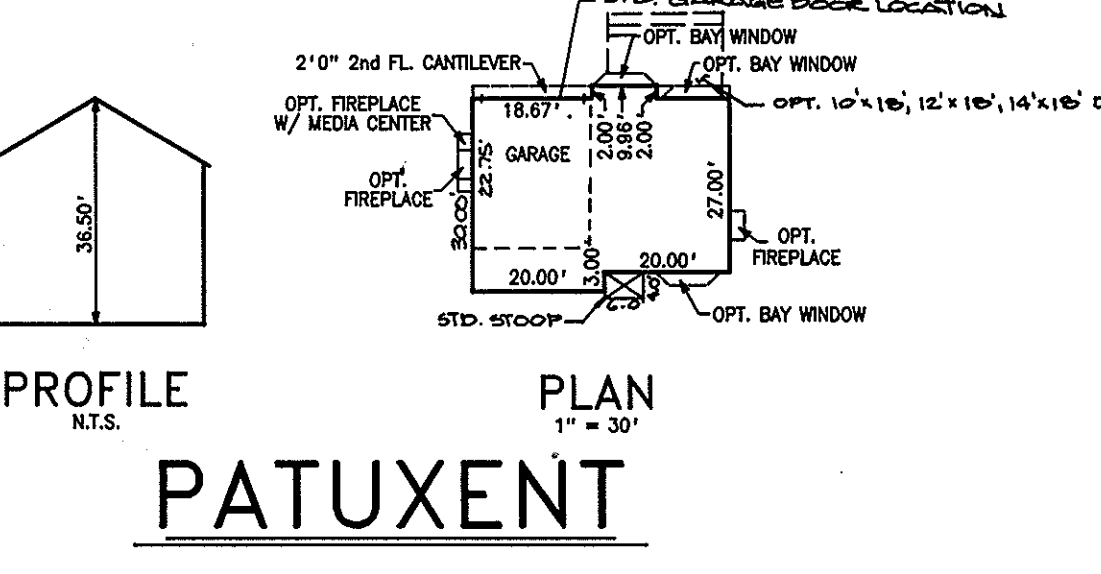
PROFILE
N.T.S.
PLAN
1" = 30"



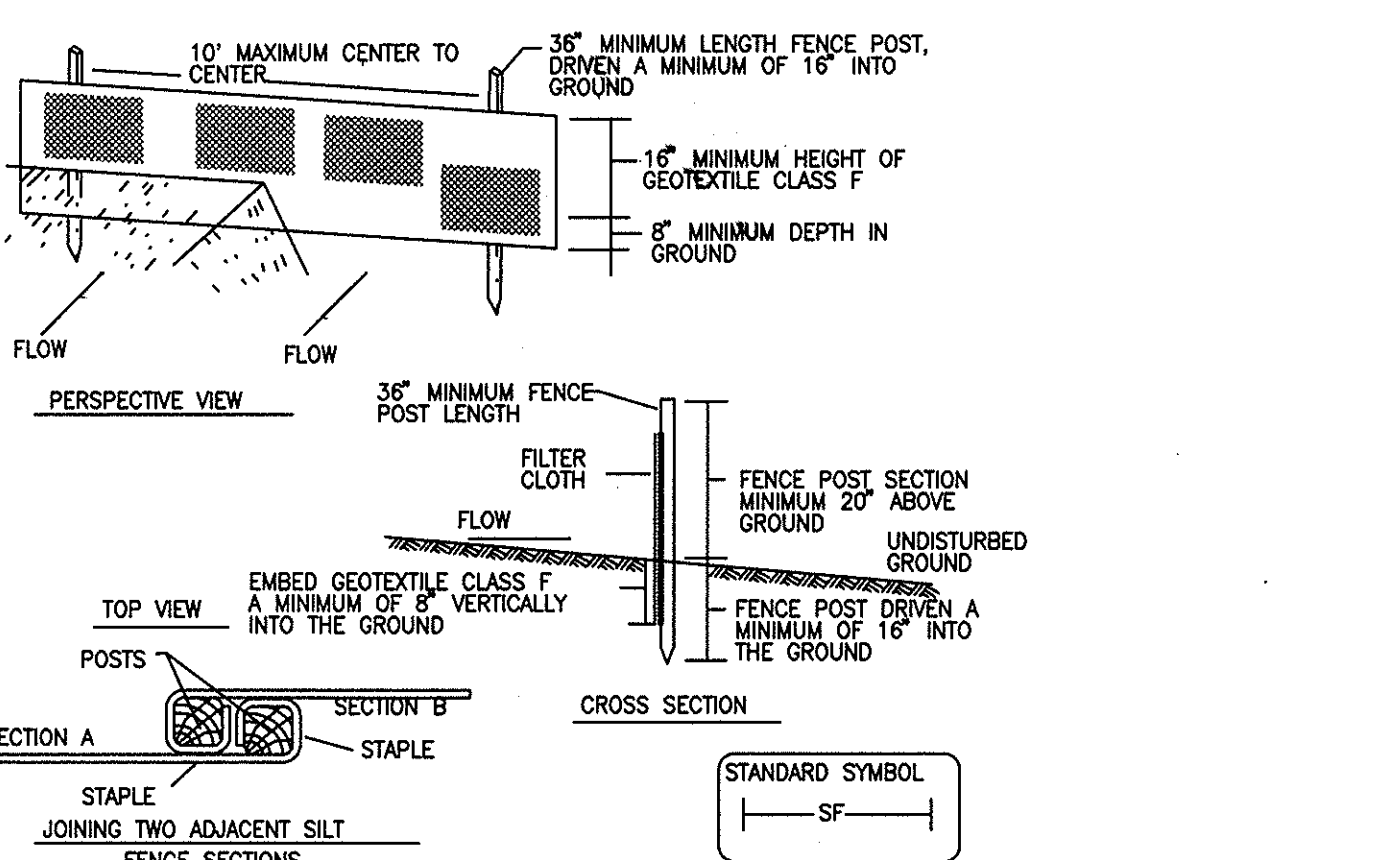
PROFILE
N.T.S.
PLAN
1" = 30"



PROFILE
N.T.S.
PLAN
1" = 30"



PROFILE
N.T.S.
PLAN
1" = 30"



PERSPECTIVE VIEW
CROSS SECTION
STANDARD SYMBOL

CONSTRUCTION SPECIFICATIONS

- FENCE POSTS SHALL BE A MINIMUM OF 3/4" LONG DRIVEN 1/2" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE (MINIMUM CUT OR 1 3/4" DIAMETER) (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
- GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

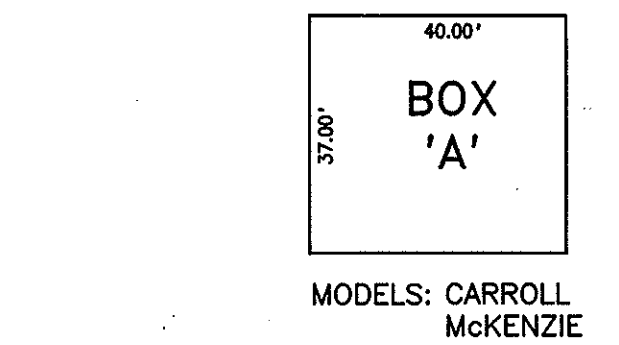
TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL FT / MINUTE (MAX.)	TEST: MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST: MSMT 322

- WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
- SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

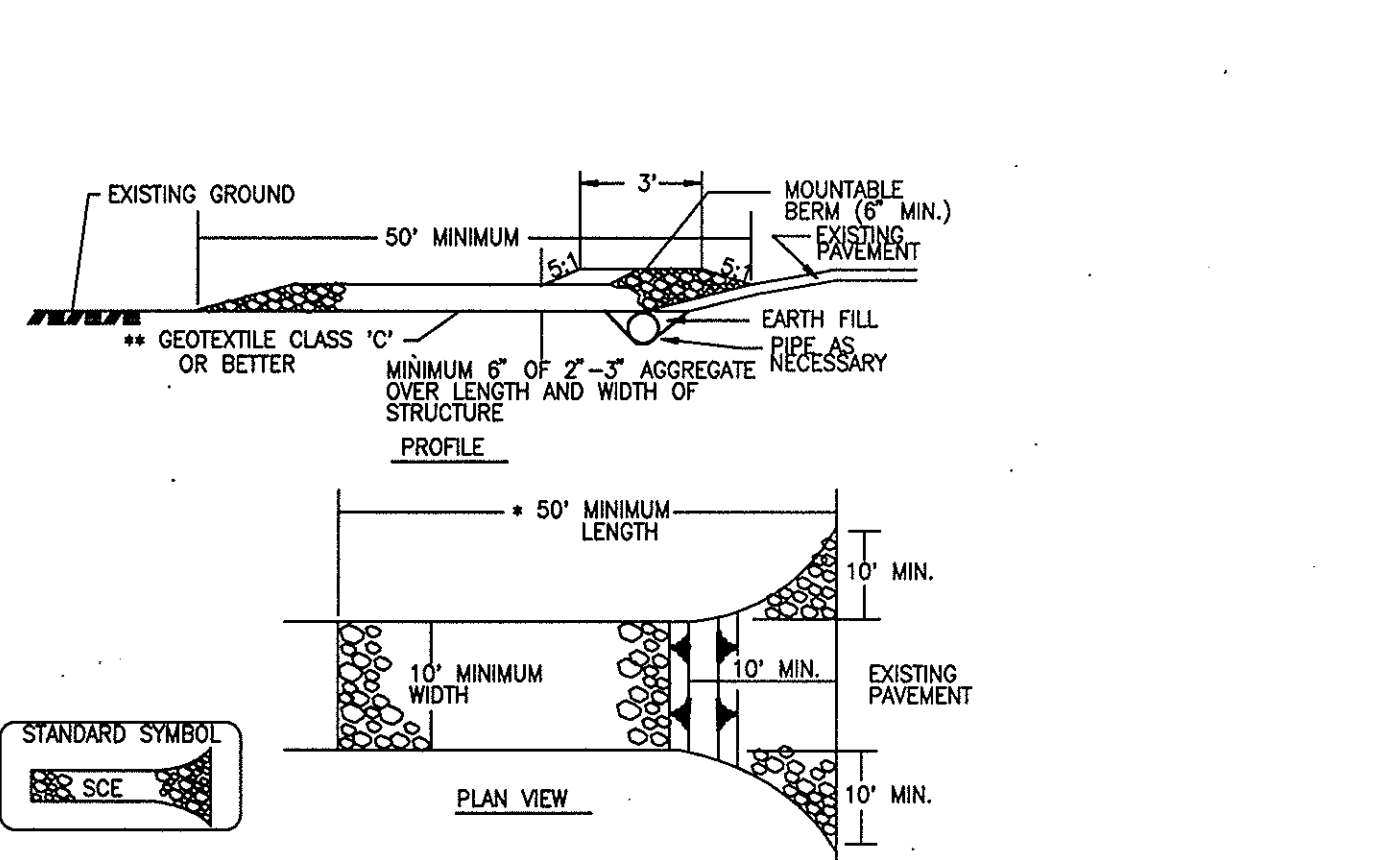
CLASS	APPROXIMATE OPENING SIZE (IN)	GRAB TENSILE LB. STRENGTH	BURST STRENGTH PSI MIN.
F (SILT FENCE)	0.40 - 0.80	90	190

* US STD. SIEVE CW-02215

SILT FENCE
NOT TO SCALE



BOX 'A'
MODELS: CARROLL
MCKENZIE
ROCKBURN
PATUXENT



CONSTRUCTION SPECIFICATION
STANDARD SYMBOL

- LENGTH - MINIMUM OF 50' (43' FOR SINGLE LEGEND LOT).
- WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. *THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
- STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
- SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION 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.
- 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.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS. SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT 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: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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 DRAINAGE.
- 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 SEEDING (SEC. 51), SO2 (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:**
TOTAL AREA OF SITE ACRES = 2.04
AREA DISTURBED ACRES = 1.04
AREA TO BE ROOFED OR PAVED ACRES = 0.70
AREA TO BE VEGETATIVELY STABILIZED ACRES = 1.24
TOTAL CU. YDS. = 642
TOTAL FILL CU. YDS. = 642
OFFSITE WASTE/BORROW AREA LOCATION CU. YDS. = 0
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDING NOTES

ALL DISTURBED AREA SHALL BE STABILIZED AS FOLLOWS:

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

SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.F.T.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.F.T.) BEFORE SEEDING HARROW OR DISC. INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING APPLY 400 LBS PER ACRE 39-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ. F.T.) AND 500 LBS PER ACRE (11.5 LBS./1,000 SQ.F.T.) OF 10-20-20 FERTILIZER.

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS PER ACRE (2.3 LBS./1,000 SQ.F.T.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE (1.4 LBS./1,000 SQ.F.T.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.F.T.) OF WEeping LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROJECT SITE BY: OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OPTION (2) - USE 500; OPTION (3) - SEED WITH 100 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.F.T.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1,000 SQ.F.T.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.F.T.) FOR ANCHORING.

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

*FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWNVECH AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS/ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.

TEMPORARY SEEDING NOTES

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, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS:
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ. F.T.)

SEEDING:
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 17 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEeping LOVEGRASS (0.7 LBS./1,000 SQ.F.T.) 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 SO2.

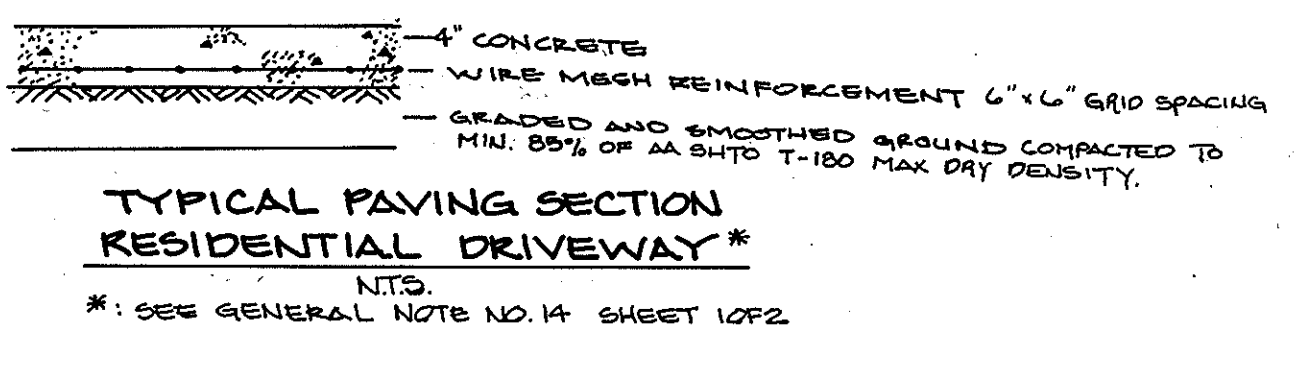
MULCHING:
APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.F.T.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1,000 SQ. F.T.) OF EMULSIFIED ASPHALT ON FLAT ACRE ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.F.T.) FOR ANCHORING.

REFER TO THE 1988 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

- VEGETATIVE STABILIZATION METHODS AND MATERIALS**
- SITE PREPARATION**
 - INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (OTHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRACE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
 - PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
 - SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.
 - SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**
 - SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATES AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS.
 - FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTIES OF THE PRODUCER.
 - LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 95% WILL PASS THROUGH A #20 MESH SIEVE.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 - 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - SEEDBED PREPARATION**
 - TEMPORARY SEEDING
 - SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" 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 SHOULD NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 - 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - PERMANENT SEEDING
 - MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:
 - SOIL PH SHALL BE BETWEEN 6.0 AND 7.0
 - SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
 - THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (> 200 SIEVE) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS # LOVEGRASS OR SERPENA LESPEDeza IS TO BE PLANTED; THEN A SANDY SOIL (< 30% SILT PLUS CLAY) WILL BE ACCEPTABLE.
 - SOIL SHALL CONTAIN 1.0% MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL.
 - AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCORPED OR OTHERWISE LOOSENED TO A DEPTH OF 3" TO 5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 10/23/97



MRA
MORRIS & RITCHIE ASSOC., INC.
ENGINEERS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS
139 N. Main Street, Suite 200
Bel Air, Maryland 21014
(410) 879-1890 (410) 816-7560
Fax: (410) 879-1820

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 DISTRICT.

David H. Taylor
DATE 9/8/97
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Charles O'Donovan
DATE 9-9-97
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Simmons
DATE 11/9/97
CHIEF, DIVISION OF LAND DEVELOPMENT

John R. Robertson
DATE 11/9/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNER / DEVELOPER
THE RYLAND GROUP, INC.
GALLERIA TOWERS
1447 YORK ROAD, SUITE 705
LUTHERVILLE, MARYLAND 21093

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Charles O'Donovan
DATE 12/16/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

John R. Robertson
DATE 12/16/97
DIRECTOR

SUBDIVISION
TERRA MARIA

PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
11995-12001	23	R-ED	16	2ND	6022.01

SECTION / AREA
60-6470-77

LOT NO.
60-6470-77

WATER CODE
J01, H07

SEWER CODE
5992000

SITE DEVELOPMENT PLAN

TERRA MARIA
LOTS: 60-64 & 70-77

FLAT # 11996
TAX MAP NO: 16 PART OF PARCEL 114
SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SECTION: 1" = 30"
DATE: 8/25/97
SHEET 2 OF 2

S.H.C. INVERTS AT PROPERTY LINE	MIN. C ELEVATION	
LOT NUMBER	ELEVATION	ELEVATION
60	482.24	486.6
61	480.54	485.3
62	478.16	482.5
63	479.24	484.0
64	479.44	482.9
70	481.04	484.5
71	480.83	485.4
72	480.20	484.5
73	479.77	484.5
74	479.34	483.7
75	479.86	484.4
76	484.03	488.4
77	483.65	488.4

NOTE: CONTRACTOR TO CHECK SEWER HOUSE CONNECTIONS ELEVATIONS AT PROPERTY LINE PRIOR TO CONSTRUCTION.

NOTE: C DENOTES CELLAR
 NOTE: TYPICAL S.H.C. SIZE IS 4". TYPICAL W.H.C. SIZE IS 3/4". LOTS 4, 5, 13-15, 19, 30, 31, 36, 43-48 AND 51-54 W.H.C. SIZE IS 1". TYPICAL TWIN W.H.C. SIZE IS 1 1/2".

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
60	3000 GROTTO WALK
61	3100 ST. CHARLES PLACE
62	3016 GROTTO WALK
63	3020 GROTTO WALK
64	3024 GROTTO WALK
70	3029 GROTTO WALK
71	3025 GROTTO WALK
72	3021 GROTTO WALK
73	3017 GROTTO WALK
74	3013 GROTTO WALK
75	3009 GROTTO WALK
76	3005 GROTTO WALK
77	3001 GROTTO WALK

SYMBOL	DESCRIPTION
FF	FINISHED FLOOR ELEVATION
BSMT	FINISHED BASEMENT ELEVATION
NO	PROPOSED GROUND ELEVATION AT WALKOUT CONDITION
00+0	GROUND SPOT ELEVATION
STD/REV	UNIT DESIGNATION FROM ARCHITECTURAL PLAN
3R	NUMBER OF RISERS - 7 1/2" EACH (INCLUDING 2 RISERS INTO HOUSE)
.....	LIMIT OF DISTURBANCE
-----	PROPOSED CONTOUR
-----	EXISTING GROUND CONTOUR
-----	DRAINAGE FLOW ARROW
-----	PROPERTY LINE
-----	RIGHT-OF-WAY
-----	EXISTING CURB & GUTTER
-----	EXISTING WATER MAINS
-----	EXISTING STORM DRAINS
-----	EXISTING SEWER LINES
○	STOP SIGN
○	STREET TREES
○	STREET LIGHT

PLANT TYPE LIST:
 Q = QUERCUS RUBRA - RED OAK
 A = ACER SACCHARUM - GREEN MOUNTAIN SUGAR MAPLE
 F = FRAXINUS AMERICANA - AUTUMN PURPLE ASH
 S = PINUS STROBUS - WHITE PINE
 SEE PLAN NO. F-95-99 FOR LANDSCAPING REQUIREMENTS SHEET 20 OF 30

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY

DATE 10/23/97

OWNER / DEVELOPER

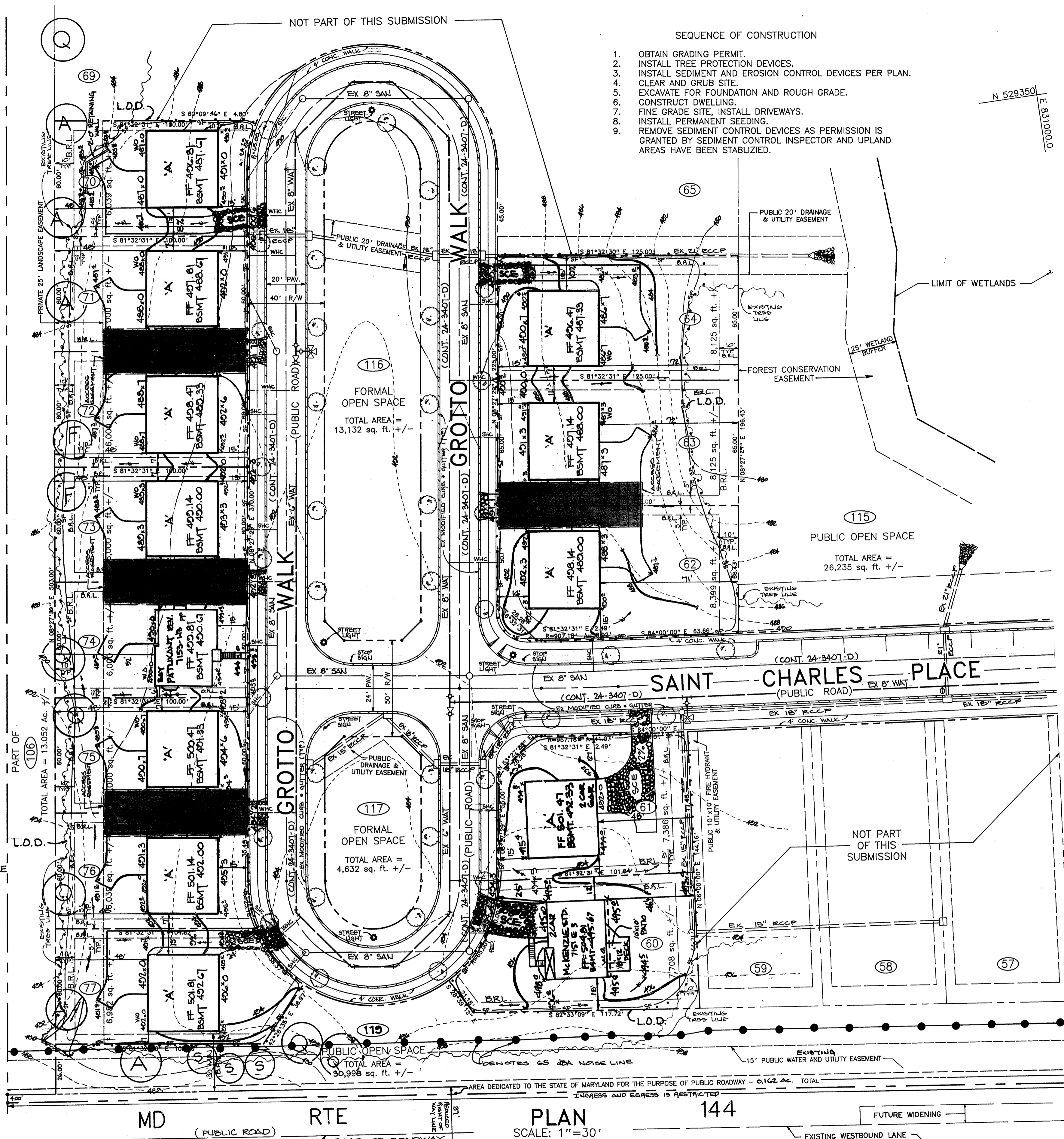
TERRA MARIA L.L.C. BY
 DAVID DEMANHO, PRESIDENT
 SYNERGY DEVELOPMENT VENTURE II, INC.
 IT'S MANAGING MEMBER
 231 EAST BALTIMORE STREET
 10TH FLOOR
 BALTIMORE, MARYLAND 21202-3415



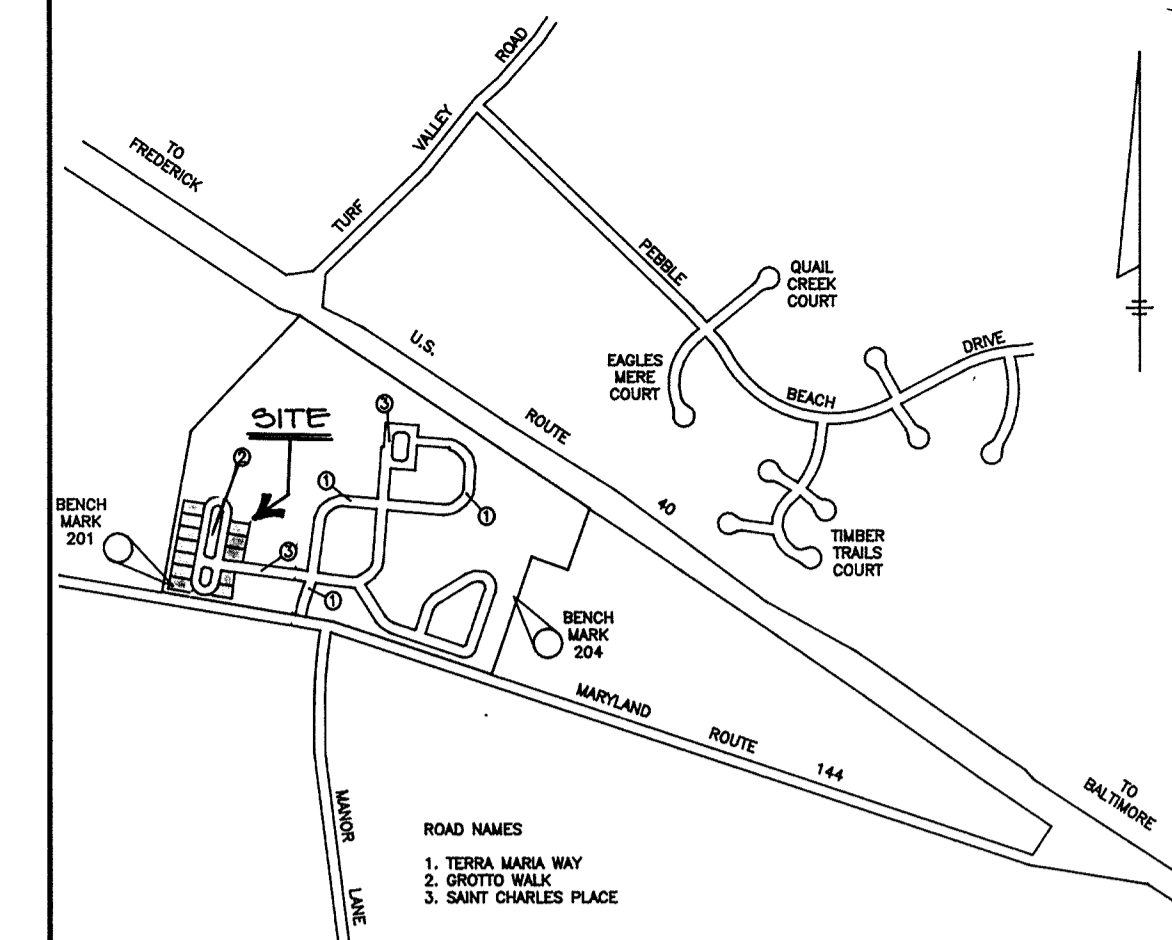
MORRIS & RITCHIE ASSOC., INC.

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NO.	DATE	REVISION / DESCRIPTION
2	7-16-99	REV. LOT 60 ADD MCKENZIE
1	7-10-98	REV. MODEL AND GRADING LOT 74
NO.	DATE	REVISION / DESCRIPTION



- SEQUENCE OF CONSTRUCTION
- OBTAIN GRADING PERMIT.
 - INSTALL TREE PROTECTION DEVICES.
 - INSTALL SEDIMENT AND EROSION CONTROL DEVICES PER PLAN.
 - CLEAR AND GRUB SITE.
 - EXCAVATE FOR FOUNDATION AND ROUGH GRADE.
 - CONSTRUCT DWELLINGS.
 - FINE GRADE SITE, INSTALL DRIVEWAYS.
 - INSTALL PERMANENT SEEDING.
 - REMOVE SEDIMENT CONTROL DEVICES AS PERMISSION IS GRANTED BY SEDIMENT CONTROL INSPECTOR AND UPLAND AREAS HAVE BEEN STABILIZED.



VICINITY MAP
 SCALE: 1"=1000'

NOTE: THIS PROJECT IS SUBJECT TO ZONING CASE NO ZB 025M AND PLANNING BOARD CASE NO. 201.
 NOTE: USE IN COMMON ACCESS EASEMENTS ARE RECORDED IN THE HOWARD CO. LAND RECORDS LIBER 411 FOLIO 647

SHEET INDEX	
SHEET No.	DESCRIPTION
1	SITE DEVELOPMENT PLAN
2	DETAIL SHEET

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1870 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: TERRA MARIA 954-02, P 94-24, AND F 95-99.
- BOUNDARY AND TOPOGRAPHIC SURVEY WAS PREPARED BY FISHER, COLLINS & CARTER, INC. ON OR ABOUT JANUARY 1992.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS 33438001 AND 339003.
- ANY DAMAGE TO THE COUNTY'S RIGHT OF WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- EXISTING UTILITIES WERE LOCATED FROM EXISTING ROAD CONSTRUCTION DRAWINGS AND EXISTING WATER AND SEWER CONTRACT NO. 24-3407-D
- SITE ANALYSIS:
 - THIS PROJECT IS ZONED R-ED (TWO DESIGN), ZONING SECTION 128.0
 - TOTAL AREA OF BUILDABLE LOTS: 2.04 AC. +/-
 - LIMIT OF SUBMISSION AREA: 2.04 AC. +/-
 - TOTAL NUMBER BUILDABLE LOTS: 13
- THE MAXIMUM ALLOWABLE COVERAGE BY A STRUCTURE ON ANY LOT IS 60%.
- ALL FIREPLACE CHIMNEYS AND BAY WINDOWS NOT MORE THAN 10 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY REQUIRED YARD IN ACCORDANCE WITH SECTION 128 OF THE ZONING REGULATIONS.
- PROJECT BACKGROUND:
 - LOCATION: TAX MAP 16, PARCEL 114
 - ZONED: R-ED
 - ELECTION DISTRICT: SECOND
 - TOTAL TRACT AREA: 55.107 AC. +/-
 - (TERRA MARIA F 95-99)
- STORMWATER MANAGEMENT PROVIDED BY FACILITY ON SITE.
- THIS PLAN IS FOR HOUSE SITTING AND LOT GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHT-OF-WAYS ON THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. SEE APPROVED ROAD CONSTRUCTION PLANS F 95-99 AND/OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 24-3407-D.
- CONTRACTOR TO CONSTRUCT RESIDENTIAL DRIVEWAY ENTRANCES PER HOWARD COUNTY STANDARD DETAILS R6.05, R6.01 AND R6.02.
- CONTRACTORS ARE TO CONSTRUCT DOWN SPOUTS SO THAT THERE IS NO CONCENTRATION OF DISCHARGE BETWEEN HOUSES.
- PROPOSED USE OF PROPERTY IS SINGLE FAMILY DETACHED HOUSING.

BM. 201 REBAR AND CAP SET FLUSH WITH GROUND CENTERLINE STATION 0+64 MD. ROUTE 144 75' LEFT OF CENTERLINE. ELEV. =
 BM. 204 REBAR AND CAP SET FLUSH WITH GROUND CENTERLINE STATION 17+67 MD. ROUTE 144 422' LEFT OF CENTERLINE. ELEV. =

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 DISTRICT."
 Signature of Engineer: David H. Taha
 DATE: 9/2/97

DEVELOPER'S CERTIFICATE
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
 Signature of Developer: Charles O'Donovan
 DATE: 9-9-97

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.
 Signature: Cheryl Simmons
 DATE: 11/4/97
 Signature: John R. Roberts
 DATE: 11/4/97
BUILDER
 THE RYLAND GROUP, INC.
 GALLERIA TOWERS
 1447 YORK ROAD, SUITE 705
 LUTHERVILLE, MARYLAND 21093

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: Wendy Hamalla
 DATE: 12/9/97
 Signature: Chris Deman
 DATE: 12/9/97
 Signature: [Signature]
 DATE: 12/10/97

SUBMISSION	SECTION / AREA	LOT NO.
TERRA MARIA		60-64, 70-77
PLAT NO.	BLOCK NO.	ZONE
11995-12001	23	R-ED
WATER CODE	TAX/ZONE	ELEC. DIST.
JOL, H07	16	2ND
SEWER CODE	CENSUS TR.	
5992000	602301	

(GENERIC)
 SITE DEVELOPMENT PLAN
TERRA MARIA
 LOTS: 60-64 & 70-77
 PLAT # 11996
 TAX MAP NO: 16 PART OF PARCEL 114 AND 547
 SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: 1"=30' DATE: 8/25/97
 SHEET 1 OF 2