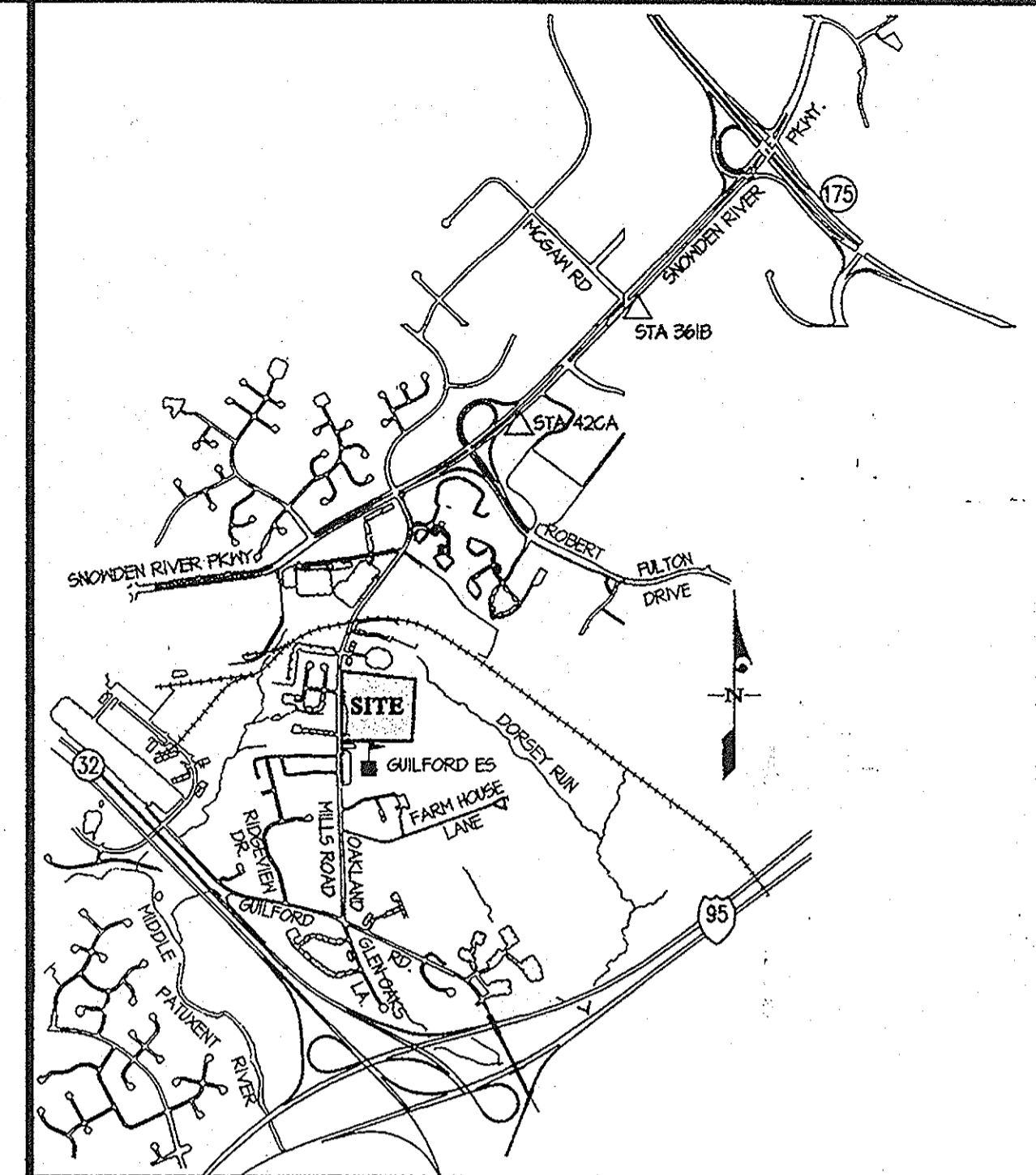


GUILFORD GARDENS SITE DEVELOPMENT PLAN

SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOLUME I OF 4
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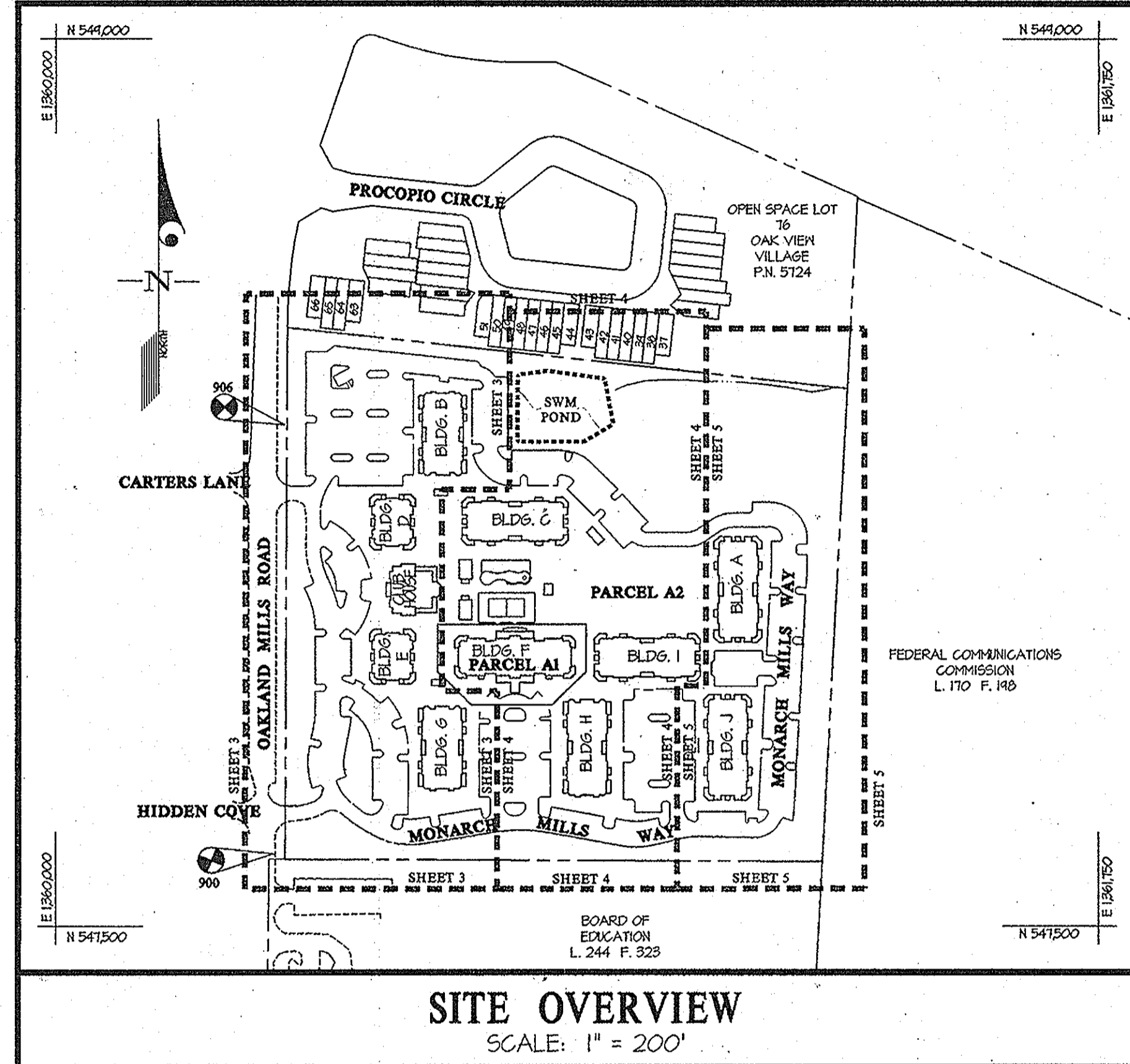
VICINITY MAP
1" = 2000'

CONTROL DESCRIPTIONS

42CA N 551,645.76 E 1362,506.37 Elev. 376.43	361B N 553,348.65 E 1364,085.23 Elev. 305.65
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MINIMUM BUILDING SETBACK:

A. FROM ARTERIAL OR COLLECTOR PUBLIC STREET RIGHT-OF-WAY	30 FEET
1. STRUCTURES	30 FEET
2. USES (OTHER THAN STRUCTURES) IN ALL DEVELOPMENT PROJECTS EXCEPT SINGLE FAMILY DETACHED	30 FEET
B. FROM VIGNAL PROPERTIES - IN ALL DEVELOPMENT PROJECTS EXCEPT SINGLE-FAMILY DETACHED	100 FEET
1. FROM AN RC, RR, R-20, OR R-12 DISTRICT	50 FEET
2. FROM ANY OTHER ZONING DISTRICT OR IF LAND ADJACENT TO PROPERTY IS ZONED R-4S, FROM THE PROJECT BOUNDARY	50 FEET
C. MINIMUM DISTANCES BETWEEN APARTMENT BUILDINGS AND SINGLE FAMILY ATTACHED DWELLINGS	20 FEET
1. FACE TO FACE	30 FEET
2. FACE TO SIDE/REAR TO SIDE	30 FEET
3. SIDE TO SIDE	30 FEET
4. REAR TO REAR	60 FEET
5. REAR TO FACE	100 FEET



SITE OVERVIEW
SCALE: 1" = 200'

SITE DATA

- GENERAL SITE DATA
 - A. PRESENT ZONING: RA-15
 - B. PROPOSED USE OF SITE: 10 APARTMENT BUILDINGS
- AREA TABULATION FOR PARCEL:
 - GROSS ACRE: 11.47 AC.
 - STEEP SLOPES (2% AND GREATER): 0.001 AC.
 - 100 YR FLOODPLAIN NET TRACT AREA: 11.47 AC.
- AREA OF THIS SDP SUBMISSION: 11.47 AC.
- LIMIT OF GRADING DISTURBANCE: 16.31 AC.
- SITE DEVELOPMENT DATA
 - A. PROPOSED NUMBER OF APARTMENT BUILDINGS: 10
 - B. DENSITY ALLOWED = 15 UNITS/AC. x 11.47 AC. = 264 UNITS ALLOWED
 - C. PROPOSED NUMBER OF APARTMENT UNITS = 264
 - D. NUMBER OF MODERATE INCOME HOUSING UNITS (MIHU) REQUIRED: 21
 - E. NUMBER OF MODERATE INCOME HOUSING UNITS (MIHU) PROVIDED: 21
 - F. PARKING REQUIRED:
 - BUILDING A: 32 UNITS @ 2 SPACES PER UNIT = 64 SPACES
 - BUILDING B: 24 UNITS @ 2 SPACES PER UNIT = 48 SPACES
 - BUILDING C: 32 UNITS @ 2 SPACES PER UNIT = 64 SPACES
 - BUILDING D: 12 UNITS @ 2 SPACES PER UNIT = 24 SPACES
 - BUILDING E: 12 UNITS @ 2 SPACES PER UNIT = 24 SPACES
 - BUILDING F: 45 UNITS @ 1 SPACE PER UNIT = 45 SPACES
 - BUILDING G: 24 UNITS @ 2 SPACES PER UNIT = 48 SPACES
 - BUILDING H: 32 UNITS @ 2 SPACES PER UNIT = 64 SPACES
 - BUILDING I: 32 UNITS @ 2 SPACES PER UNIT = 64 SPACES
 - BUILDING J: 32 UNITS @ 2 SPACES PER UNIT = 64 SPACES
 - GUEST PARKING: 264 UNITS @ 0.5 SPACES PER UNIT = 132 SPACES
 - TOTAL SPACES REQUIRED: = 574 SPACES
 - * BUILDING 'F' IS AGE-RESTRICTED HOUSING, REQUIRING 1 SPACE PER UNIT.

- HANDICAP SPACES REQUIRED PER ADA:
HANDICAP SPACES REQUIRED @ 2% OF TOTAL SPACES PROVIDED = 12 SPACES
VAN ACCESSIBLE SPACES REQUIRED @ 2 PER 8 HANDICAP SPACES = 2 SPACES
- HANDICAP SPACES PER UFAS:
21 HANDICAP COMPLIANT UNITS @ 1 SPACE PER UNIT = 21 SPACES
GUEST PARKING @ 2% OF SPACES NOT ALLOCATED TO RESIDENTS = 2 SPACES
- PARKING PROVIDED:
 - TOTAL PARKING SPACES (INCLUDING HANDICAP AND MOTORCYCLE SPACES) = 504
 - TOTAL MOTORCYCLE SPACES PROVIDED = 4
 - TOTAL HANDICAP SPACES PROVIDED = 14
 - TOTAL VAN ACCESSIBLE SPACES PROVIDED = 18
 - RECREATIONAL OPEN SPACE:
 - AREA OF REG. OPEN SPACE REQUIRED = 264 UNITS x 400 sq/ft/101,600 sq ft
 - AREA OF REG. OPEN SPACE PROVIDED = 174,076 sq ft (SEE SHEET 2)

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY DESIGN MANUAL VOLUME FOUR, PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 318-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-TTTT AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- PROJECT BACKGROUND:
 - LOCATION: TAX MAP 42
 - ZONING: RA-15
 - ELECTION DISTRICT: 6TH ELECTION DISTRICT
 - SECTION/AREA: NA
 - SITE AREA: 11.4706 AC.
- APPROVED DEPT. OF PLANNING & ZONING REFERENCE FILE No.: F-14-47, SDP-14-20R, WP-04-144, AND F-04-05 PLAT NUMBERS 120007 & 120010
- 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.
- ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIIALLY BETWEEN ITEMS UNLESS OTHERWISE NOTED.
- EXISTING TOPOGRAPHY AND FEATURES WERE DERIVED FROM SDP-14-20R, AVAILABLE PUBLIC RECORDS AND FROM SURVEY BY GUTSCHICK, LITTLE & WEBER, P.A. DONE IN OCTOBER 2008.
- COORDINATES ARE BASED ON HOWARD COUNTY GEODETIC CONTROL STA. Nos. 42GA AND 361B
- THE NEW BUILDINGS ARE SERVED BY PUBLIC WATER CONTRACT No. 24-0812-D AND No. 24-4620-D. A WATER METER IS LOCATED IN-SIDE EACH BUILDING. THE BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM.
- THE NEW BUILDINGS ARE SERVED BY PRIVATE SEWER BEINGS CONSTRUCTED BY THESE PLANS.
- ALL EXISTING STORM DRAIN TO BE USED FOR THE PROPOSED IMPROVEMENTS WERE CONSTRUCTED UNDER SDP 14-20R.
- STORMWATER MANAGEMENT IS BEING PROVIDED IN THE FOLLOWING MANNER:
 - QUANTITY MANAGEMENT IS BEING PROVIDED IN A TYPE 'P' POND ALONG THE NORTH PROPERTY LINE AND A DRY POND WITH EXTENDED DETENTION ALONG THE EASTERN PROPERTY LINE. BOTH FACILITIES WILL BE AN 'A' HAZARD CLASS.
 - QUALITY MANAGEMENT IS BEING PROVIDED IN THE POND ALONG THE NORTH PROPERTY LINE, IN A SAND FILTER FACILITY ABOVE THE POND No. 2 ALONG THE EASTERN PROPERTY LINE, AND WITH THREE 'WATER HARVESTING' FACILITIES LOCATED AROUND THE SITE.
- ALL OF THE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOWARD COUNTY HOUSING COMMISSION.
- THE EXISTING UTILITIES SHOWN HEREIN WERE DERIVED FROM AVAILABLE PUBLIC RECORDS. THE CONTRACTOR MUST HAND DIG TEST PITS AT ALL UTILITY CROSSINGS AND CONNECTION POINTS TO VERIFY EXACT LOCATION PRIOR TO ANY CONSTRUCTION.
- ALL PROPOSED RAMPS SHALL BE IN ACCORDANCE WITH CURRENT ADA STANDARDS. MAXIMUM SIDEWALK GROSS SLOPE SHALL BE (2%) TWO PERCENT. PROVIDE A MINIMUM OF (5'-5) FIVE BY FIVE FOOT LEVEL LANDINGS (2% MAX) AT THE TOP AND BOTTOM OF ALL RAMPS AND BUILDING INGRESS/EGRESS POINTS.
- ALL DRIVEWAYS AND PARKING LOTS ARE PRIVATELY OWNED AND MAINTAINED.
- ANY DAMAGE TO COUNTY OWNED RIGHT-OF-WAY TO BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- TRENCH BEDDING FOR STORM DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD 62.01, CLASS 'C' BEDDING, UNLESS OTHERWISE NOTED.
- CURB GUTTER PAN SHALL BE PITCHED TO CONFORM TO THE ADJACENT DRAINAGE PATTERN OF THE ADJOINING PAVING FOR VEHICULAR USE.
- ALL CURB FILLETS ARE 5' RADII UNLESS NOTED OTHERWISE. SPOT ELEVATIONS ALONG CURB LINE ARE FOR THE FLOW LINE AT PITS, PC+1 CORNERS, UNLESS NOTED OTHERWISE.
- THERE ARE NO KNOWN GRAVE SITES, CEMETERIES OR HISTORIC STRUCTURES ON THIS SITE.
- THERE ARE NO SCENIC ROADS WITHIN OR ADJACENT TO THE SUBJECT PROPERTY.
- THERE IS NO FLOODPLAIN WITHIN 100' OF THE PROPOSED L.O.D.
- ALL OUTLET LIGHTING SHALL COMPLY WITH ZONING REGULATION SECTION 134 WHICH REQUIRES LIGHTS TO BE INSTALLED TO DIRECT/REFLECT LIGHT DOWNWARDS AND INWARDS ON SITE AWAY FROM ALL ADJOINING PUBLIC STREETS AND RESIDENTIAL AREAS. PER SECTION 134 OF THE ZONING REGULATIONS, "LIGHT TRESPASS" ONTO ANY OTHER PROPERTY ZONED OR USED FOR RESIDENTIAL PURPOSES SHOULD BE LIMITED TO 0.5 FOOT CANDLES.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING AS SHOWN ON SHEET 30 & 31 IN THE AMOUNT OF \$ 19,260.00 WILL BE POSTED AS PART OF THE DPM DEVELOPER'S AGREEMENT.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (2 GAUGE)- LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (RES) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (LINE 1993)" A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP IN MARCH, 2004 AND APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION ON SEPTEMBER 9, 2004. PER THE RECOMMENDATION WITHIN APPENDIX 'E' OF THE TRAFFIC STUDY, THE DEVELOPER WILL CONTRIBUTE \$15,500.00 TO CAPITAL PROJECT J-4222 AS THEIR SHARE OF THE IMPROVEMENTS. CAPITAL PROJECT J-4222 IS A PROJECT TO DESIGN AND CONSTRUCT A WIDENING OF SNOWDEN RIVER PARKWAY BY ADDING A THIRD LANE AND SIDEWALK ON THE NORTHBOUND ROADWAY FROM BROKEN LAND PARKWAY TO OAKLAND MILLS ROAD.
- THE NETLAND LIMITS SHOWN ON THESE PLANS WERE ESTABLISHED BY EXPLORATION RESEARCH IN JANUARY, 2004. NOTICE OF INTENT TO ISSUE A PERMIT IS COVERED BY MDE TRACKING #200406291041-0212.
- WATER SEWER AND ROOF DRAIN CONNECTION LINES SHOWN ON THESE PLANS ARE WITHIN 5' OF THE BUILDINGS. REFER TO ARCHITECTURAL PLANS FOR REMAINDER OF CONNECTION.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF NETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENTS, EXCEPT AS APPROVED UNDER WP-04-144.
- THE MODERATE INCOME HOUSING UNIT (MIHU) DECLARATION OF COVENANTS AND RESTRICTIONS WAS RECORDED IN THE HOWARD COUNTY LAND RECORDS AS LIBER 103222, FOLIO 10. THE MIHU AGREEMENT WAS SIGNED BY THE DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT ON 1/14/2009 AND RECORDED IN THE LAND RECORDS ON 1/14/2009, FOLIO 182. THE 21 MIHUS ARE PROVIDED ON-SITE.
- THIS SDP IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL No. 45-2003 AND THE AMENDED ZONING REGULATIONS PER COUNCIL BILL No. 75-2003. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, MAIVER PETITION APPLICATION OR BUILDING/ GRADING PERMIT APPLICATIONS.
- IN ACCORDANCE WITH SECTION 120 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, VESTIBULES, BALCONIES, CHIMNEYS, HEATING OR AIR CONDITIONING UNITS, AND EXTERIOR STAIRWAYS OR RAMPS, ABOVE OR BELOW GRADING LEVEL, MAY PROJECT UP TO 4 FEET INTO ANY SETBACK OR DISTANCE BETWEEN BUILDINGS, PROVIDED THE BUILDING FEATURE HAS A MAXIMUM WIDTH OF 16 FEET, OPEN OR ENCLOSED PORCHES OR DECKS MAY PROJECT UP TO 16 FEET INTO A FRONT OR REAR SETBACK, A SETBACK FROM A PROJECT BOUNDARY, A SETBACK FROM A DIFFERENT ZONING DISTRICT, OR A REQUIRED DISTANCE BETWEEN BUILDINGS.
- THE SUBJECT PROPERTY IS ZONED RA-15 IN ACCORDANCE WITH THE 2/2/04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE ON 7/28/06.
- THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1002 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL WILL BE SATISFIED WITHIN A 100' BUFFER RETENTION FOR THIS PROJECT. THIS OBLIGATION WILL BE MET WITH A TOTAL OF 1.44 ACRES OF CREDITED RETENTION WITHIN THE FOREST CONSERVATION EASEMENT TO BE PROVIDED ON-SITE. A FOREST CONSERVATION SURVEY IN THE AMOUNT OF \$8625.00 WILL BE POSTED AS PART OF THE DPM DEVELOPER'S AGREEMENT.
- SEE SHEET 2 FOR "UNIVERSAL DESIGN STANDARDS". THESE STANDARDS APPLY TO BUILDING 'F' ONLY.
- A CROSS EASEMENT HAS BEEN RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, LIBER 1114-B AT FOLIO 99-116. THIS CROSS EASEMENT PROVIDES PARCEL A-1 WITH THE FOLLOWING SHARED ITEMS: PARKING, PEDESTRIAN ACCESS, UTILITIES, AND STORMWATER MANAGEMENT FACILITIES.
- ON SEPTEMBER 8, 2004 A MAIVER TO THE FOLLOWING SECTIONS OF HOWARD COUNTY DESIGN MANUAL, VOLUME I WAS GRANTED, 5.2.41, 5.2.51F, 5.2.51R, 5.2.7B1, 5.2.6D, AND 5.2.7B3. APPROVAL TO THIS ALLOWS FOR THE FOLLOWING:
 - TO REDUCE THE 25' SETBACK OF AN EMBANKMENT TO A PROPERTY LINE.
 - TO ALLOW MEASURED INTERVIEWS AREA IN THE COMPUTATIONS.
 - TO HAVE THE CENTROID SHIFT.
 - ALLOW SLOPES GREATER THAN 3:1 IN A STORMWATER MANAGEMENT FACILITY.
 - TO ALLOW USE OF STORMCEPTORS IN LIEU OF FORESTAYS.
 - TO ALLOW WATER QUALITY LOCATIONS TO BE OUTSIDE OF THE DRAINAGE AREA WHOSE OBLIGATION THEY ARE SATISFYING.

- WP 04-144
ON JULY 2, 2004, WP 04-144 WAS GRANTED FOR THE FOLLOWING:
- A MAIVER FROM SECTION 16.134 (a)(1) TO ELIMINATE THE SIDEWALK ALONG THE OUTSIDE LOOP OF THE PROPOSED INTERNAL PRIVATE ROAD,
 - A MAIVER FROM SECTION 16.116 (a)(2)(i) TO ALLOW GRADING AND CONSTRUCTION FOR THE RE-CONSTRUCTION OF A STORMWATER MANAGEMENT OUTFALL APRON WITHIN THE 50' INTERMITTENT STREAM BANK BUFFER, AND
 - A MAIVER FROM 16.120 (k) ALLOWING PARCEL A1 TO NOT HAVE THE REQUIRED 60' FRONTAGE ON A PUBLIC ROAD.
- TO SATISFY THE REQUIRED OPEN SPACE AREA OF 400 SQUARE FEET PER UNIT IN SECTION 16.121 (a)(4) THROUGH THE USE OF AN ALTERNATIVE COMPLIANCE, GIVING A RATIO HIGHER THAN 1:1 FOR AMENITIES SUCH AS SWIMMING POOLS, ATHLETIC COURTS, CLUB HOUSES, ETC. SIMILAR TO THE RM-H ZONE.
- APPROVAL IS SUBJECT TO THE FOLLOWING:
- COMPLIANCE WITH THE SRC AGENCY COMMENTS ISSUED FOR SDP-04-045.
 - COMPLIANCE WITH THE DEVELOPMENT ENGINEERING DIVISION IN A LETTER DATED JUNE 24, 2004. PLEASE NOTE THAT THE HSCD COMMENTS IN A LETTER DATED JUNE 11, 2004 ARE ADVISORY COMMENTS ONLY.
 - THE MAIVER PETITION APPROVAL PERTAINS ONLY TO THE LIMIT OF DISTURBANCE LOCATED WITHIN THE 50' STREAM BANK BUFFER FOR THE SWM OUTFALL AS SHOWN ON THE MAIVER PETITION PLAN EXHIBIT AND SDP-04-045. THE LIMIT OF DISTURBANCE SHALL BE THE MINIMUM NECESSARY FOR THE PROPOSED SITE IMPROVEMENTS.
 - AS ALTERNATIVE COMPLIANCE FOR THE CONSTRUCTION DISTURBANCES THAT WILL BE LOCATED WITHIN THE STREAM BUFFER AND THE ESTABLISHMENT OF FOREST RETENTION EASEMENT FOR THIS PROJECT, THE DEVELOPER SHALL CLEAN UP THE EXISTING STREAM AND FORESTED AREAS BY REMOVING THE ABUNDANT TRASH AND DEBRIS LOCATED IN THOSE AREAS.
 - THE DEVELOPER SHALL RECORD A CROSS-EASEMENT FOR SHARED ACCESS AND PARKING FOR PROPOSED PARCEL 'A-1' WHICH WILL INCLUDE THE PROPOSED AGE-RESTRICTED ADULT HOUSING BUILDING 'F' TO ALLOW PUBLIC ROAD ACCESS ONTO OAKLAND MILLS ROAD THROUGH PROPOSED PARCEL 'A-2' FOR THIS PROJECT. PROVIDE A RECORDED COPY OF THE CROSS-EASEMENT DOCUMENT AND REFERENCE THE LIBER/FOLIO RECORDING NUMBER AS A GENERAL NOTE ON SDP-04-45 AND F-04-06.

PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26, 2014.

[Signature]
Date: 7-24-13
Professional Engineer
Maryland Reg. No. 12475



**SEWER HOUSE CONNECTIONS
MINIMUM CELLAR
ELEVATIONS CHART**

BUILDING	FFE	M.C.E.
A	301.50	300.16
B	300.83	314.50
C	302.20	311.71
D	302.70	312.96
E	302.50	311.02
F	302.50	311.12
G	301.22	311.90
H	301.00	305.61
I	304.71	314.98
J	306.06	301.24
CLUB HOUSE	302.40	314.30

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 7/18/10
Director Date

[Signature] 7/18/10
Chief, Division of Land Development Date

[Signature] 11/15/10
Chief, Development Engineering Division CE Date

APPROVED: For Public Water & Public Sewerage Systems In Conformance with The Master Plan of Water & Sewerage For Howard County, MD

[Signature] 11/22/10
County Health Officer Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedan
410-962-0595

Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units

**GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 120007 & 120010
TAX MAP 42, PARCEL 361**

ELECTION DISTRICT No. 6

COVER SHEET

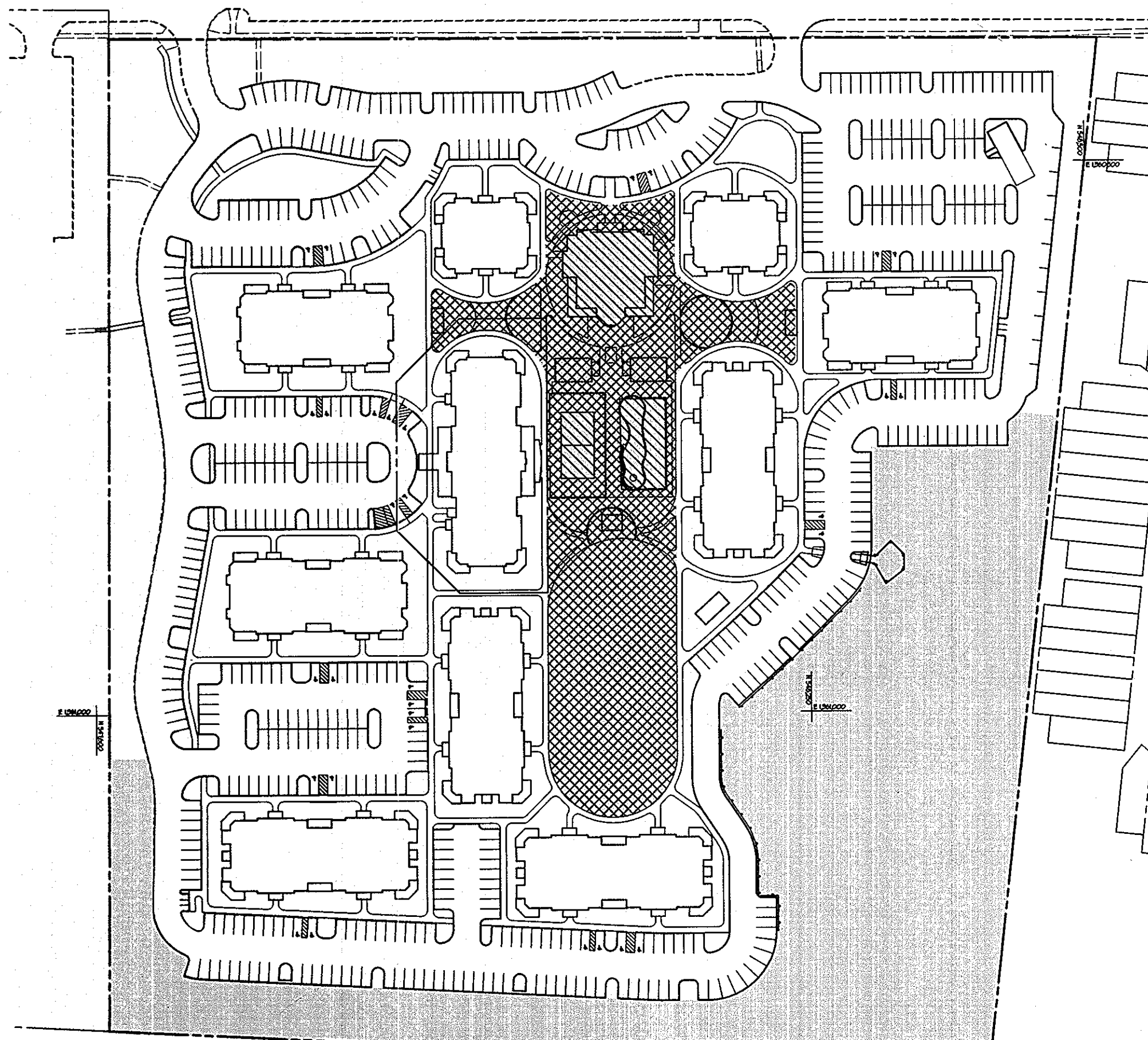
SCALE: AS SHOWN
ZONING: RA-15
DATE: JUN, 2013
TAX MAP - GRID: 42 - 11
SHEET: 1 OF 35

HOWARD COUNTY, MARYLAND

PERMIT INFORMATION CHART

SUBDIVISION NAME: GUILFORD GARDENS	SECTION/AREA SECTION 1 - AREA 1	PARCELS A-1 & A-2
PLAT No. 120007/120010	TAX MAP BLOCK 42	ELEC. DIST. 6
WATER CODE: E-14	SEWER CODE: 5201800	CENSUS TRACT 606123

ASBUILT SHEET I OF 7



OPEN SPACE CALCULATIONS

REQUIRED
 TOTAL OPEN SPACE REQUIRED = 11.91 AC. x 25% = 4.44 AC.
 RECREATIONAL OPEN SPACE REQUIRED = 264 UNITS x 400 SF/UNIT = 107,600 SF (2.41 AC)

PROVIDED
 TOTAL OPEN SPACE PROVIDED = 5.40 AC. (ALLOWED PER APPROVED MP-04-144)

RECREATIONAL OPEN SPACE PROVIDED
 (6' 10" SF PER 1 SF PROVIDED) = 11,044 SF x 10 SF = 110,440 SF
 (6' 1" SF PER 1 SF PROVIDED) = 62,126 SF
 TOTAL REC. OPEN SPACE = 174,566 SF (4.00 AC.)

OPEN SPACE EXHIBIT
 SCALE: 1" = 100'

UNIVERSAL DESIGN GUIDELINES FOR AGE-RESTRICTED ADULT HOUSING IN HOWARD COUNTY
 (TO BE APPLIED TO BUILDING 1* ONLY)

THE HOWARD COUNTY ZONING REGULATIONS ALLOW FOR "ACTIVE ADULT HOUSING" AS EITHER A CONDITIONAL USE IN RESIDENTIAL ZONING DISTRICTS OR AS A PERMITTED USE IN THE PLANNED SENIOR COMMUNITY, PLANNED OFFICE RESEARCH, COMMUNITY CENTER, TRANSITION, AND RESIDENTIAL INSTITUTIONAL ZONING DISTRICTS. ACTIVE ADULT DEVELOPMENTS MUST BE APPROPRIATELY DESIGNED FOR ADULTS AT LEAST 55 YEARS OF AGE. SITE IMPROVEMENTS MUST ENSURE ACCESSIBLE ROUTES BETWEEN PARKING, DWELLING UNITS, AND COMMON AREAS. INDIVIDUAL DWELLINGS MUST INCORPORATE UNIVERSAL DESIGN FEATURES TO BE ADAPTABLE FOR RESIDENTS WITH MOBILITY AND FUNCTIONAL LIMITATIONS THAT OFTEN RESULT FROM AGING.

DESIGN STANDARDS FOR SITE ACCESSIBILITY AND USABLE COMMON AREAS HAVE BEEN ESTABLISHED FOR MULTI-FAMILY HOUSING WITH DISABILITIES ACT AND THE FAIR HOUSING ACT OF 1988. WHILE RECOGNIZED STANDARDS FOR INDIVIDUAL UNITS FOR OLDER ADULTS HAVE NOT BEEN ESTABLISHED, UNIVERSAL DESIGN IS A RELATIVELY NEW, EVOLVING CONCEPT THAT PROVIDES SOME GUIDANCE.

ACCORDINGLY, THE DEPARTMENT OF PLANNING AND ZONING MET WITH SEVERAL SENIOR HOUSING DEVELOPERS, REPRESENTATIVES OF THE HOMES FOR LIFE COALITION OF HOWARD COUNTY, AND THE DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS TO DISCUSS MINIMUM REQUIREMENTS. DIVERGENT VIEWS WERE EXPRESSED REGARDING WHAT FEATURES SHOULD BE REQUIRED VS. OPTIONAL. FEATURES VARY CONSIDERABLY IN COST, RELEVANCE FOR DIFFERENT USERS, AND ADAPTABILITY TO DIFFERENT SITES AND PROJECT TYPES. DEVELOPERS CHEIE CONCERN WAS THAT THE CURRENT MARKET DOESN'T PERCEIVE A NEED FOR MOST UNIVERSAL DESIGN FEATURES SINCE THE OLDEST BOOMERS ARE STILL RELATIVELY YOUNG AND AREN'T FOCUSED ON HOW THEIR NEEDS MAY CHANGE OVER TIME. CONCERN WAS ALSO EXPRESSED ABOUT INCREASING THE COST OF SENIOR HOUSING IF MANY UNIVERSAL DESIGN FEATURES ARE REQUIRED RATHER THAN OPTIONAL.

THESE GUIDELINES REFLECT A MIDDLE POSITION FOCUSING ON REQUIRING THOSE FEATURES THAT ARE RELATIVELY INEXPENSIVE IF PART OF INITIAL CONSTRUCTION BUT WOULD REQUIRE MAJOR RENOVATION TO RETROFIT IN THE FUTURE. ITEMS THAT ARE EITHER RELATIVELY LESS EXPENSIVE TO RETROFIT IN THE FUTURE ARE LISTED AS DESIRABLE OR OPTIONAL.

- REQUIRED**
- FOR MULTI-FAMILY APARTMENT OR CONDO DEVELOPMENTS, AN ACCESSIBLE PATH BETWEEN PARKING, DWELLING UNITS, AND COMMON AREAS THAT MEETS ADA STANDARDS
 - FOR SINGLE FAMILY DETACHED AND ATTACHED DEVELOPMENTS, A NO-STEP ACCESS TO THE FRONT ENTRANCE TO THE COMMUNITY BUILDINGS AND ALL DWELLINGS (A NO-STEP ENTRANCE IS DESIRABLE, BUT NOT REQUIRED AT OTHER ENTRANCES)
 - 36" WIDE FRONT DOOR WITH EXTERIOR LIGHTING OF THE ENTRANCE
 - ALL INTERIOR DOORWAYS AT LEAST 32" WIDE (36" IS PREFERABLE)
 - HALLWAYS AT LEAST 36" WIDE (40-42" IS PREFERABLE)
 - COMPLETE LIVING AREA INCLUDING MASTER BEDROOM + BATH ON FIRST FLOOR (OR ELEVATOR ACCESS IF MULTI-STORY RENTAL/CONDO APARTMENTS)
 - LEVER HANDLES ON INTERIOR AND EXTERIOR DOORS
 - BLOCKING FOR GRAB BARS IN WALLS IN BATHROOM HALLS NEAR TOILET AND SHOWER

- DESIRABLE**
- LOW MAINTENANCE EXTERIOR MATERIALS
 - COVERED MAIN ENTRY
 - ENTRY DOOR APPROACH WITH 18"-24" OF CLEARANCE AT SIDE ADJACENT TO HANDLE
 - SMOOTH TRANSITIONS BETWEEN ROOMS (VERTICAL THRESHOLD OF 2" OR LESS)
 - SLIP RESISTANT FLOORING
 - MAXIMIZE ACCESSIBLE PATH BETWEEN MAIN LIVING ROOMS (PREFERABLY 30-42")
 - LEVER HANDLES ON KITCHEN AND BATHROOM SINKS, PLUS SHOWER
 - ANTI SCALD DEVICES ON ALL PLUMBING FIXTURES
 - 5' TURNING RADIUS OR T TURN IN KITCHEN AND FIRST FLOOR BATHROOM
 - PARALLEL AND FORWARD APPROACH HANDSERRING SPACE IN FRONT OF APPLIANCES AND PLUMBING FIXTURES
 - MAIN ELECTRICAL BREAKER BOX LOCATED ON THE FIRST FLOOR
 - SWITCHES, DOORBELLS, THERMOSTATS, AND BREAKER BOXES SHOULD BE LOCATED NO MORE THAN 48" ABOVE THE FLOOR. ELECTRICAL RECEPTACLES SHOULD BE AT LEAST 15' ABOVE THE FLOOR

- CUSTOM OPTIONS**
- SECURITY SYSTEM
 - VISUAL ID OF VISITORS
 - VISUAL SMOKE DETECTORS
 - HANDRAILS ON BOTH SIDES OF EXTERIOR AND INTERIOR STAIRS
 - TASK LIGHTING IN KITCHEN, BATH AND OTHER WORK SPACES
 - ROCKER LIGHT SWITCHES
 - LIGHTING IN CLOSETS AND PANTRY
 - CLOSET RODS ADJUSTABLE FROM 3" TO 56"
 - SLIP RESISTANT FLOORING IN KITCHEN AND BATH
 - MULTI-LEVEL OR ADJUSTABLE KITCHEN COUNTERTOPS AND WORK SPACES
 - PULL-OUT SHELVES FOR KITCHEN BASE CABINETS
 - FRONT MOUNTED CONTROLS ON STOVE
 - INSTALLATION OF GRAB BARS IN BATHROOM
 - HAND HELD SHOWERHEAD IN SHOWER
 - CURBLESS SHOWER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Dianne E. Suttle 2/18/10
 Director Date
Ken Sheppard 2-18-10
 Chief, Division of Land Development Date
Michael... 1/15/10
 Chief, Development Engineering Division Date

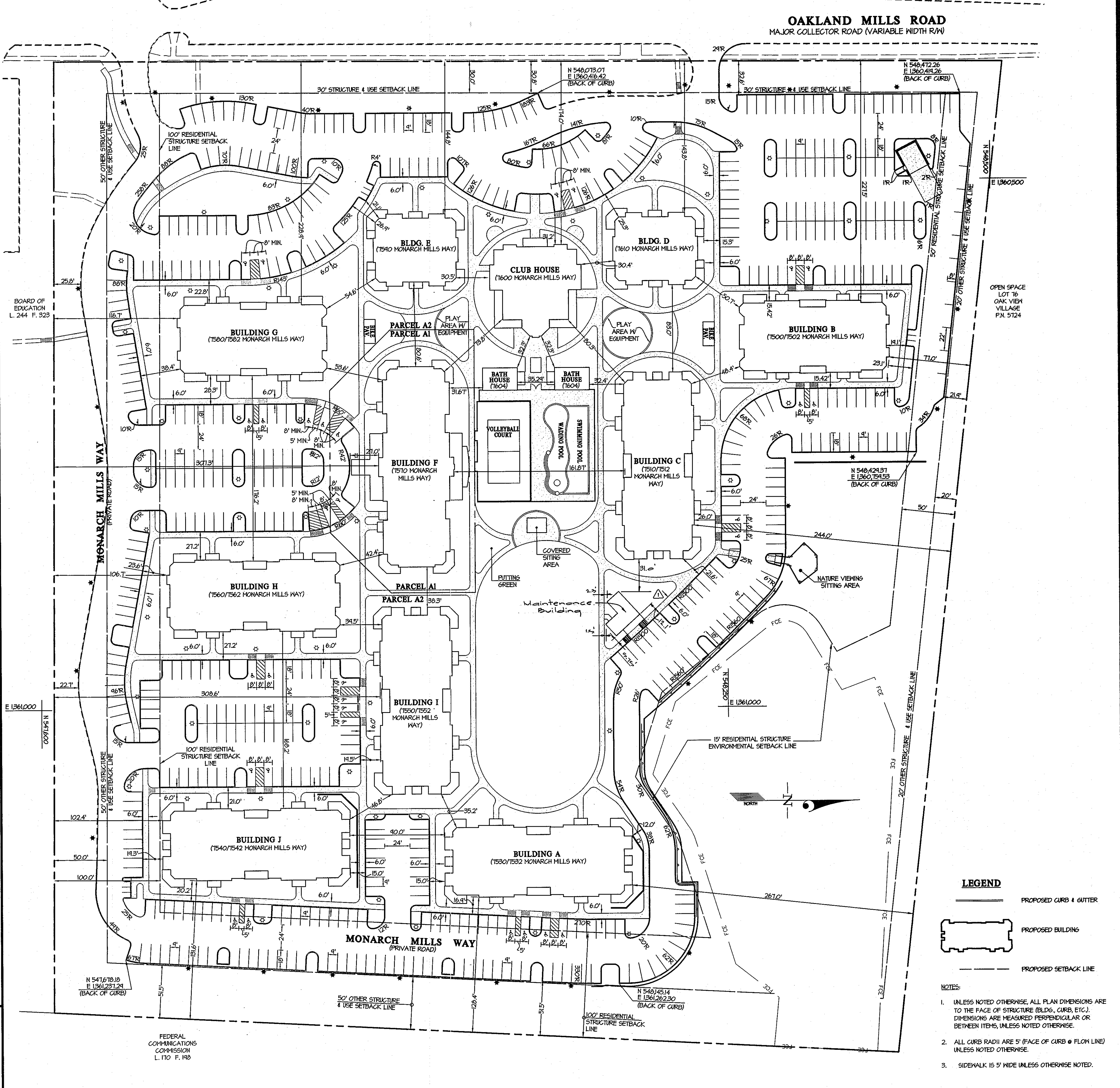
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12178, EXPIRATION DATE: MAY 26, 2010

[Signature] 12-2-09



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 230 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND, 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-888-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
11/6/10	Revised Maintenance Bldg. Footprint & provided temps.	BBV	



LEGEND

- PROPOSED CURB & GUTTER
- PROPOSED BUILDING
- PROPOSED SETBACK LINE

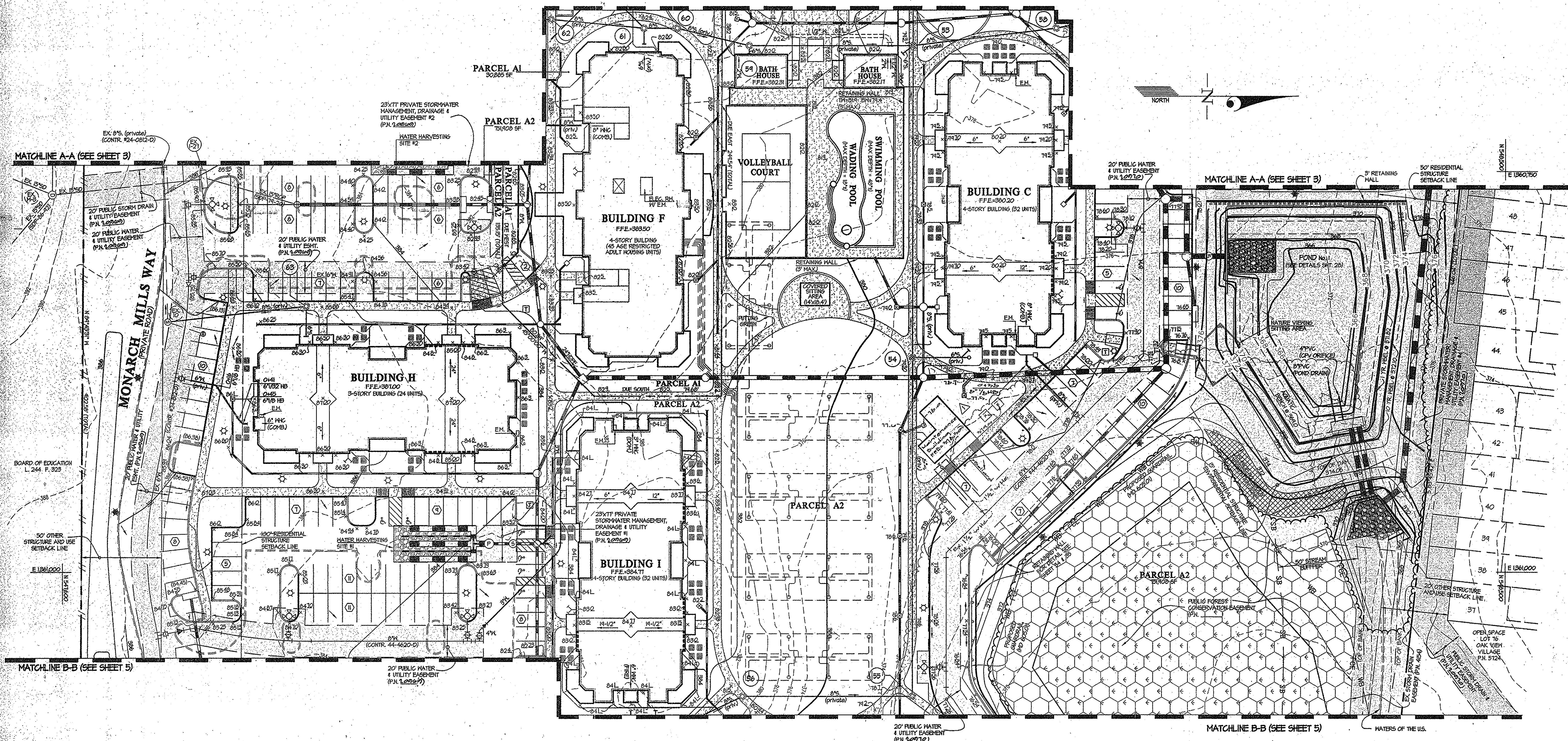
- NOTES:**
- UNLESS NOTED OTHERWISE, ALL PLAN DIMENSIONS ARE TO THE FACE OF STRUCTURE (BLDG., CURB, ETC.). DIMENSIONS ARE MEASURED PERPENDICULAR OR BETWEEN ITEMS, UNLESS NOTED OTHERWISE.
 - ALL CURB RADI ARE 5' (FACE OF CURB @ FLOW LINE) UNLESS NOTED OTHERWISE.
 - SIDEWALK IS 5' WIDE UNLESS OTHERWISE NOTED.

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creedon
 410-962-0595

OVERALL DIMENSION PLAN & OPEN SPACE EXHIBIT
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 200702 & 200710
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=50'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov, 2009	42 - 11	2 OF 35



PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12475
 EXPIRATION DATE: MAY 26, 2014

12-2-09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Mona J. Stutler 2/16/10
 Director Date

W. J. Shankland 2-18-10
 Chief, Division of Land Development Date

Al D. ... 1/15/10
 Chief, Development Engineering Division Date

SITE DEVELOPMENT PLAN LEGEND

--- 306 ---	EXISTING CONTOUR	EX 2'S	EXISTING SANITARY SEWER	--- (hatched) ---	PROPOSED TREELINE
--- 306 ---	PROPOSED CONTOUR	2'S (private)	PROPOSED SANITARY SEWER	--- (hatched) ---	EASEMENT AREA (SHADED)
x 06.00	EXISTING SPOT ELEVATION	2' 1/2"	WATERLINE (PUBLIC)	--- (hatched) ---	NETLANDS
x 06.20	PROPOSED SPOT ELEVATION	2' 1/2"	FIRE HYDRANT	--- (hatched) ---	NETLAND BUFFER
○	EXISTING STORM DRAIN	2' 1/2"	WATERLINE (private)	--- (hatched) ---	STREAM BUFFER
○	PROPOSED STORM DRAIN	2' 1/2"		--- (hatched) ---	FOREST CONSERVATION EASEMENT
○	PROPOSED DOWNSPOUT	2' 1/2"	NUMBER OF PARKING SPACES	--- (hatched) ---	SIAMENSE CONNECTION (FDC)
○	1" INDICATES STRUCTURE FOR ACCESS TO HARVESTED WATER	2' 1/2"	HANDICAPPED PARKING DESIGNATION	--- (hatched) ---	PROPOSED BUILDING
○	5" INDICATES STORMCEPTOR DEVICE	2' 1/2"	EXISTING LIGHT FIXTURES & POLE	--- (hatched) ---	ELECTRIC METER (EM)
○	EXISTING CURB & GUTTER TO REMAIN	2' 1/2"	PROPOSED LIGHT FIXTURES & POLE	--- (hatched) ---	FOUNDATION STEM HALL
○	EXISTING CURB & GUTTER TO BE REMOVED	2' 1/2"	PROPOSED TRANSFORMER	--- (hatched) ---	
○	NEW CONCRETE CURB & GUTTER (DET. 17)	2' 1/2"	PROPOSED AC UNIT	--- (hatched) ---	
○	REVERSED CURB AND GUTTER	2' 1/2"	EXISTING SIGN	--- (hatched) ---	
○	FACE OF CURB	2' 1/2"	PROPOSED STOP SIGN (R-1)	--- (hatched) ---	
○	BACK OF CURB	2' 1/2"	PROPOSED HANDICAP SIGN, UNLESS OTHERWISE NOTED	--- (hatched) ---	
○	POPT	2' 1/2"		--- (hatched) ---	
○	PROPOSED CONCRETE SIDEWALK (DET. 47)	2' 1/2"		--- (hatched) ---	

NOTES

- UNLESS NOTED OTHERWISE, PROPOSED SPOT ELEVATIONS ALONG THE CONCRETE CURB & GUTTER ARE TO THE FLOOR LINE (BOTTOM OF CURB) AT THE P.C.'S, P.T.'S, CORNERS AND TERMINUSES.
- ALL ON-SITE PAVING AND ROADWAYS ARE PRIVATE.
- ALL ON-SITE STORM DRAIN SYSTEMS ARE PRIVATELY OWNED & MAINTAINED.
- UNLESS NOTED OTHERWISE, ALL PLAN DIMENSIONS ARE TO THE FACE OF STRUCTURE (BLDG., CURB, ETC.). DIMENSIONS ARE MEASURED PERPENDICULAR OR BETWEEN ITEMS, UNLESS NOTED OTHERWISE.
- ALL CURB RADIUS ARE 5' FACE OF CURB @ FLOW LINE UNLESS NOTED OTHERWISE.
- FOR SIDEWALK DIMENSIONS, SEE SHEET 2.
- HANDICAP ACCESSIBILITY DETAILS ARE ON SHEET 6 & 8.
- FOR BUILDING DIMENSIONS, SEE SHEET 8.
- FOR EXCAVATION PLAN, SEE SHEET 4.
- FOR STORM DRAIN PIPE SIZES AND LENGTHS, SEE SHEET 11.
- FOR DOWNSPOUT (DS) LOCATIONS, SEE SHEET 11.
- FOR LANDSCAPING REQUIREMENTS, SEE SHEETS 30 & 31.
- FOR RETAINING WALL INFORMATION, SEE SHEETS 54 & 55.
- A KNOX BOX IS REQUIRED ON THE CLUB HOUSE BUILDING; IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5" IN HEIGHT AND NO MORE THAN 6' LATERALLY FROM THE DOOR.
- AREA INDICATED BY 25% PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT #12 AND #13 DEFINES THE LIMIT OF THOSE ELEMENTS INCLUDED IN THE CONTRACT FOR RAINWATER HARVESTING SITES.

ASBUILT'S

SITE DEVELOPMENT PLAN

Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units

GULFORD GARDENS SECTION 1, AREA 1

PARCELS "A1" & "A2"

PLAT No. 122002 & 10970

TAX MAP 42, PARCEL 361

ELECTION DISTRICT No. 6

OWNER:
 The Howard County Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creighton
 410-962-0595

PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date, May 26, 2014.

7-24-12
 Date

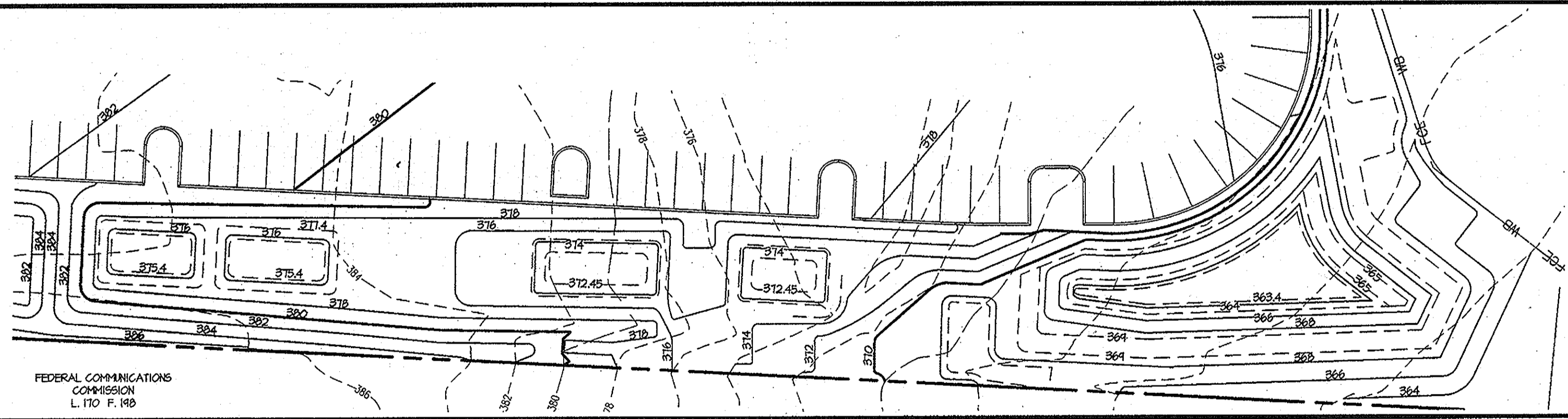
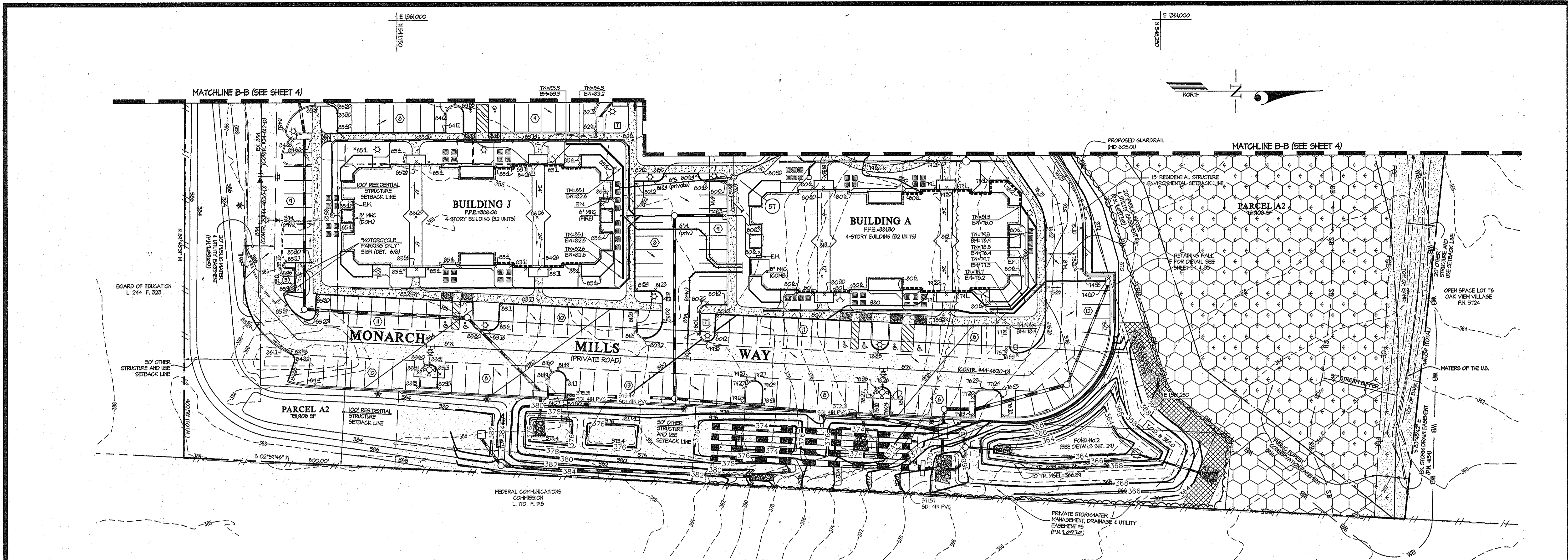
Carl K. Gutschick
 Professional Engineer
 Maryland Reg. No. 12475

ASBUILT SHEET 2 OF 7

SCALE	ZONING	G. L. W. FILE NO.
1"=30'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
JUN, 2013 Nov., 2009	42 - 11	4 OF 35

HOWARD COUNTY, MARYLAND

GLWGUTSCHICK LITTLE & WEBER, P.A. CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS 3909 NATIONAL DRIVE, SUITE 230 - BURTNSVILLE OFFICE PARK BURTNSVILLE, MARYLAND 20866 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-888-2524 FAX: 301-421-4186	OWNER: The Howard County Commission 6751 Columbia Gateway Dr., 3rd Floor Columbia, MD 21046 ATTN: Tom Carbo 410-313-6318	PREPARED FOR: The Shelter Group 218 North Charles Street Suite 220 Baltimore, MD 21202-4019 ATTN: Donna Creighton 410-962-0595	SITE DEVELOPMENT PLAN Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units GULFORD GARDENS SECTION 1, AREA 1 PARCELS "A1" & "A2" PLAT No. 122002 & 10970 TAX MAP 42, PARCEL 361	SCALE 1"=30'	ZONING RA-15	G. L. W. FILE NO. 08057
DATE JUN, 2013 Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 4 OF 35	ELECTION DISTRICT No. 6	HOWARD COUNTY, MARYLAND		



DETAIL OF GRADING FOR SAND FILTER and POND No. 2 SCALE: 1" = 30'

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12915
 EXPIRATION DATE: MAY 26, 2014

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Thomas S. Swelle* Date: 2/18/10
 Chief, Division of Land Development: *Kristina D. Smith* Date: 2-18-10
 Chief, Development Engineering Division: *Chris D. ...* Date: 1/15/10

SITE DEVELOPMENT PLAN LEGEND

--- 306 ---	EXISTING CONTOUR	- - - 2% - - -	EXISTING SANITARY SEWER	--- 306 ---	PROPOSED TREELINE
--- 306 ---	PROPOSED CONTOUR	2% (private)	PROPOSED SANITARY SEWER	--- 306 ---	EASEMENT AREA (SHADED)
x (26.00)	EXISTING SPOT ELEVATION	2% (priv)	WATERLINE (PUBLIC)	--- 306 ---	WETLANDS
x 66.60	PROPOSED SPOT ELEVATION	2% (priv)	FIRE HYDRANT	--- 306 ---	WETLAND BUFFER
---	EXISTING STORM DRAIN	2% (priv)	WATERLINE (private)	--- 306 ---	STREAM BUFFER
---	PROPOSED STORM DRAIN	2% (priv)	NUMBER OF PARKING SPACES	---	FOREST CONSERVATION EASEMENT
---	PROPOSED DOWNSPOUT	2% (priv)	HANDICAPPED PARKING DESIGNATION	---	SIAMENSE CONNECTION (FDC)
---	1" INDICATES STRUCTURE FOR ACCESS TO HARVESTED WATER	2% (priv)	EXISTING LIGHT FIXTURES & POLE	---	PROPOSED BUILDING
---	1" INDICATES STORAGE DEVICE	2% (priv)	PROPOSED LIGHT FIXTURES & POLE	---	ELECTRIC METER (EM)
---	EXISTING CURB & GUTTER TO REMAIN	2% (priv)	PROPOSED TRANSFORMER	---	FOUNDATION STEM WALL
---	NEW CONCRETE CURB & GUTTER (DET. 17)	2% (priv)	PROPOSED AC UNIT	---	
---	FACE OF CURB	2% (priv)	EXISTING SIGN	---	
---	BACK OF CURB	2% (priv)	PROPOSED STOP SIGN (R-I)	---	
---	PROPOSED CONCRETE SIDEWALK (DET. 47)	2% (priv)	PROPOSED HANDICAP SIGN, UNLESS OTHERWISE NOTED	---	

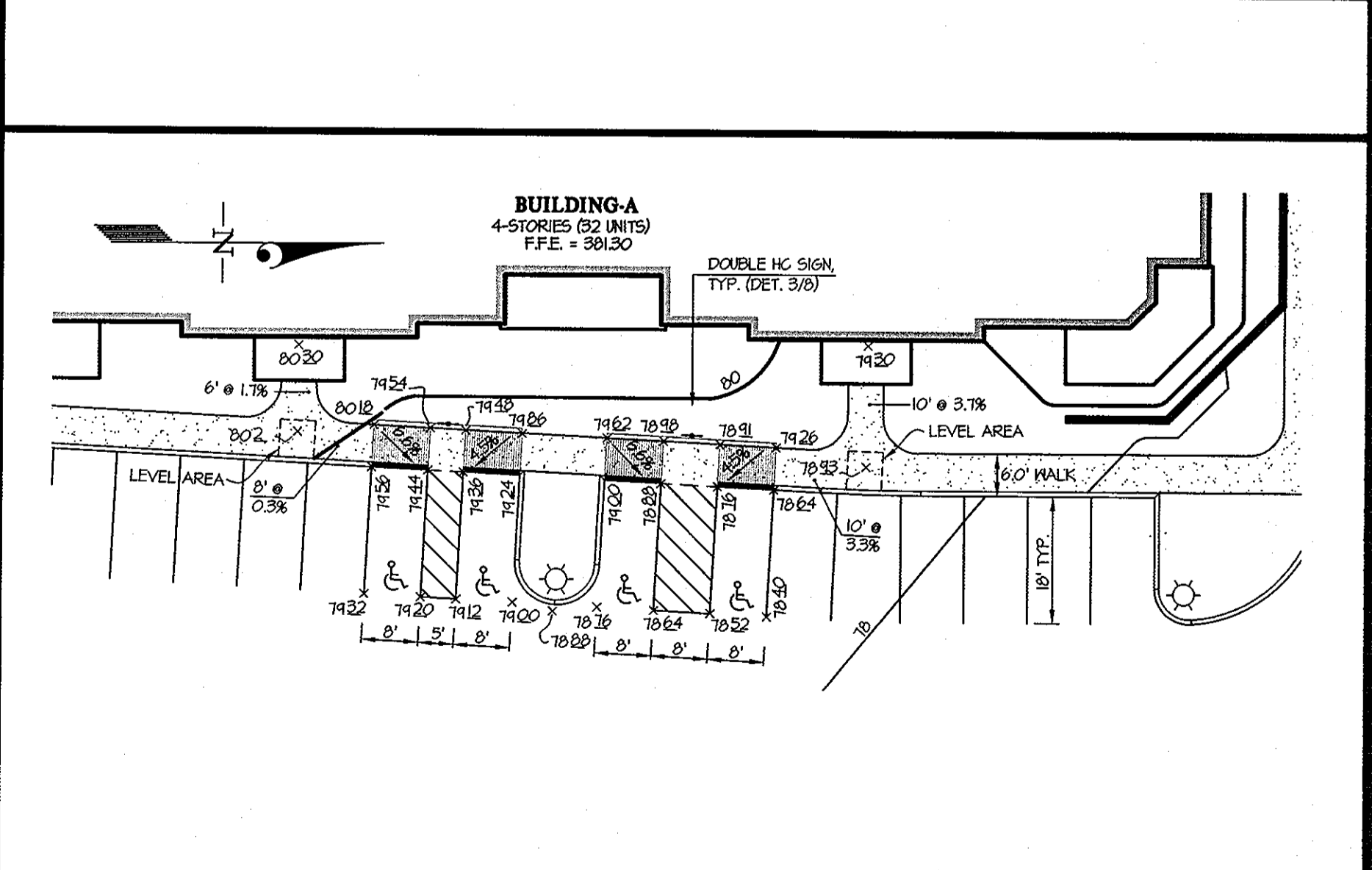
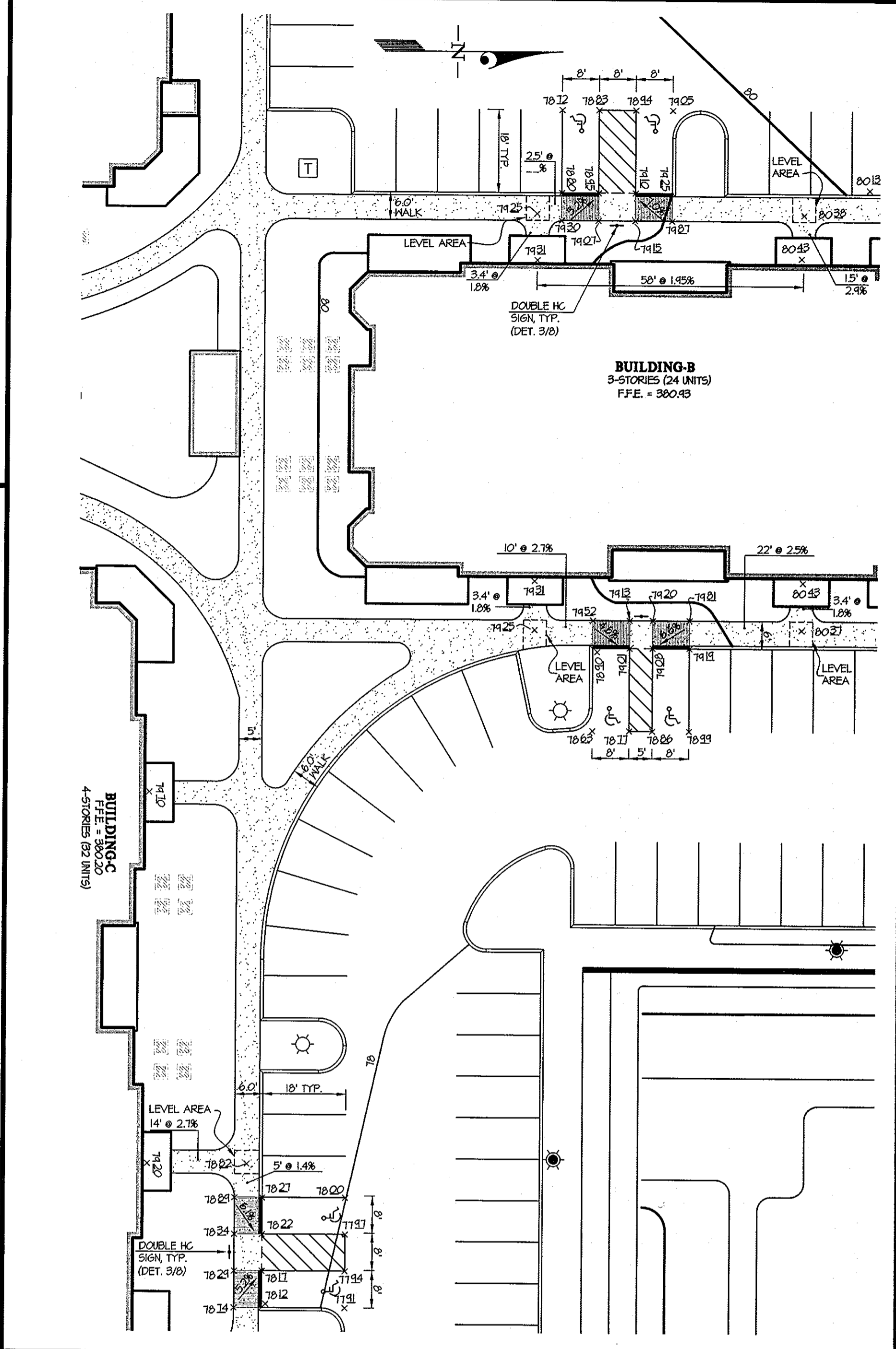
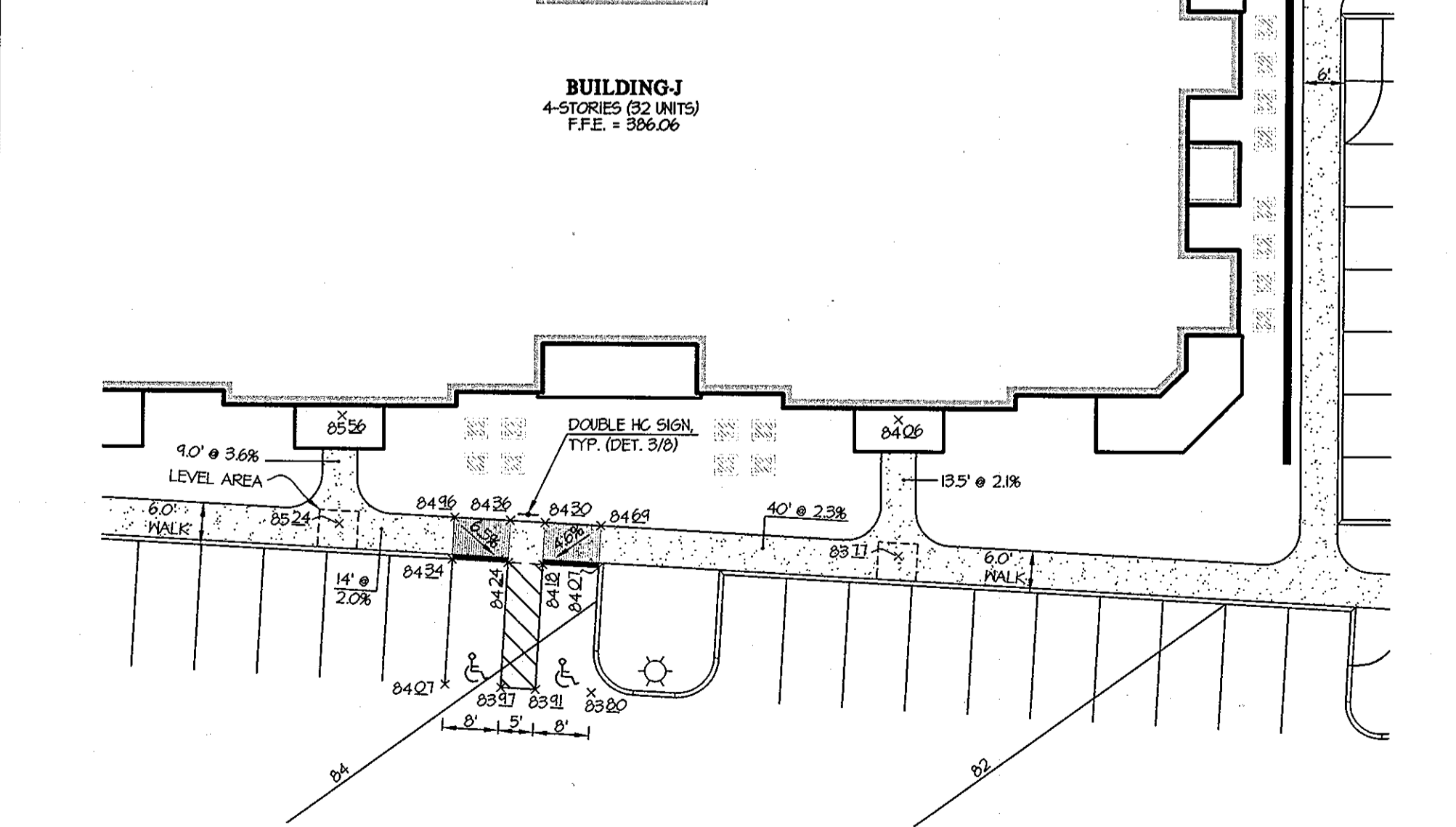
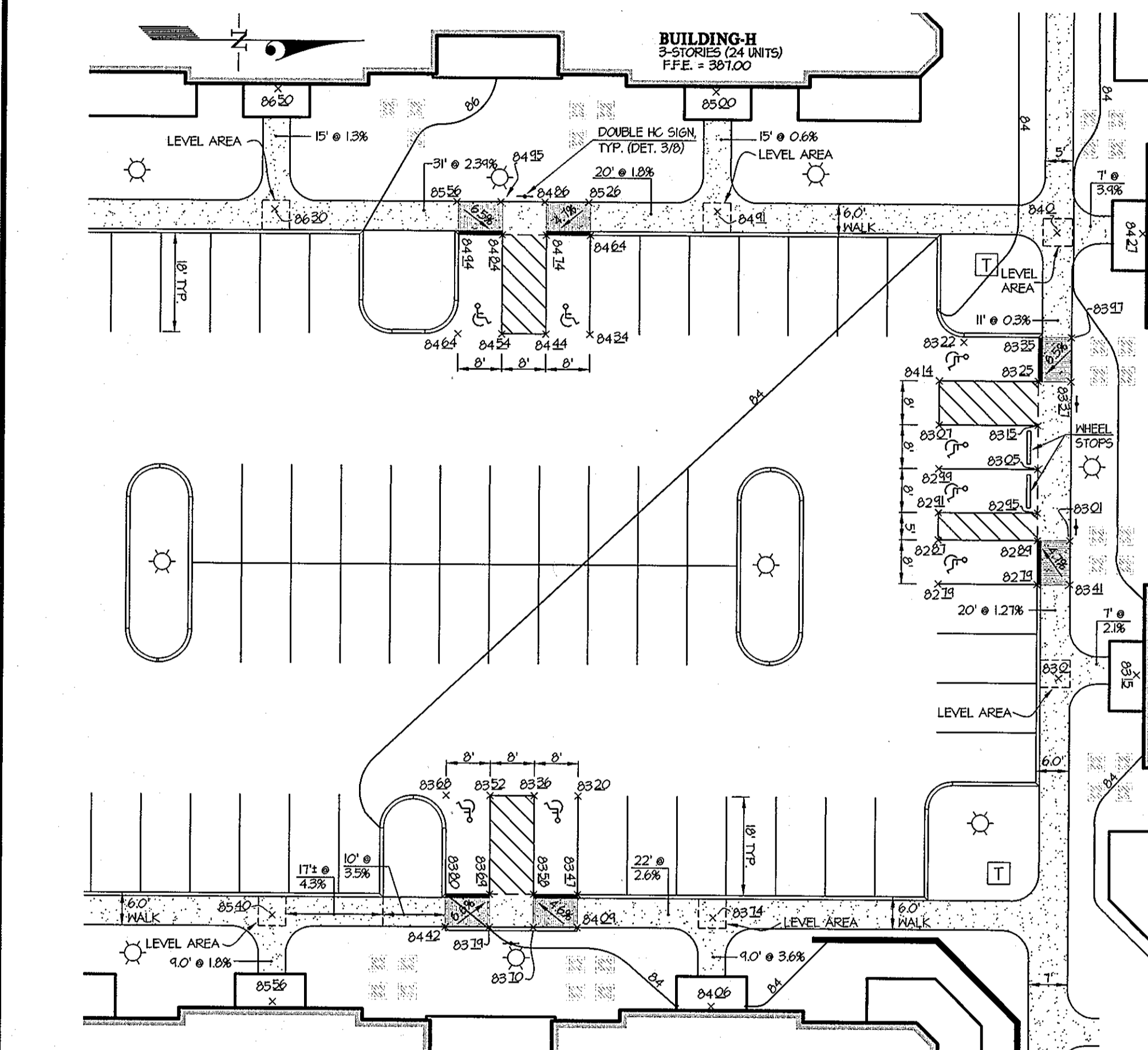
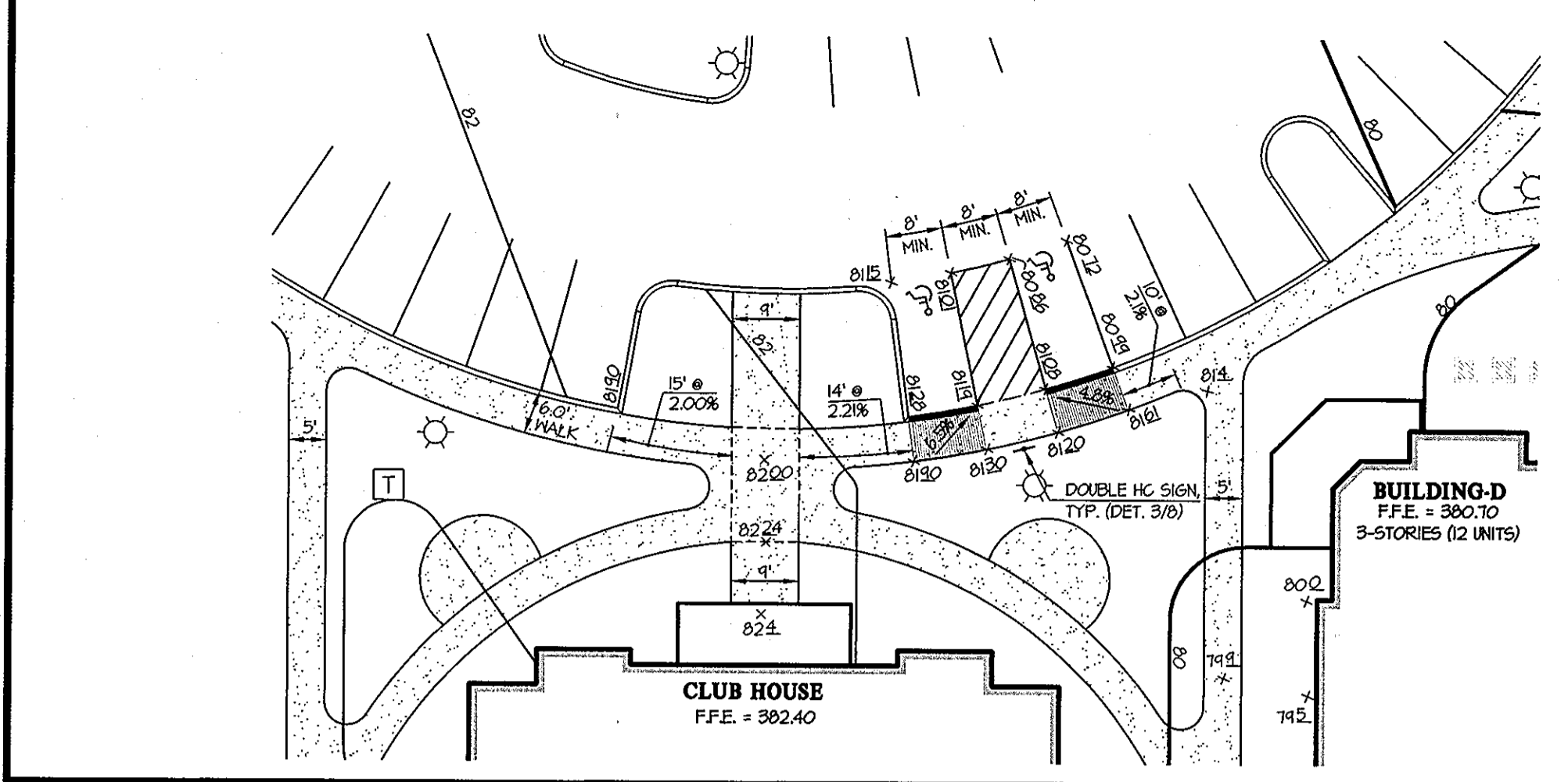
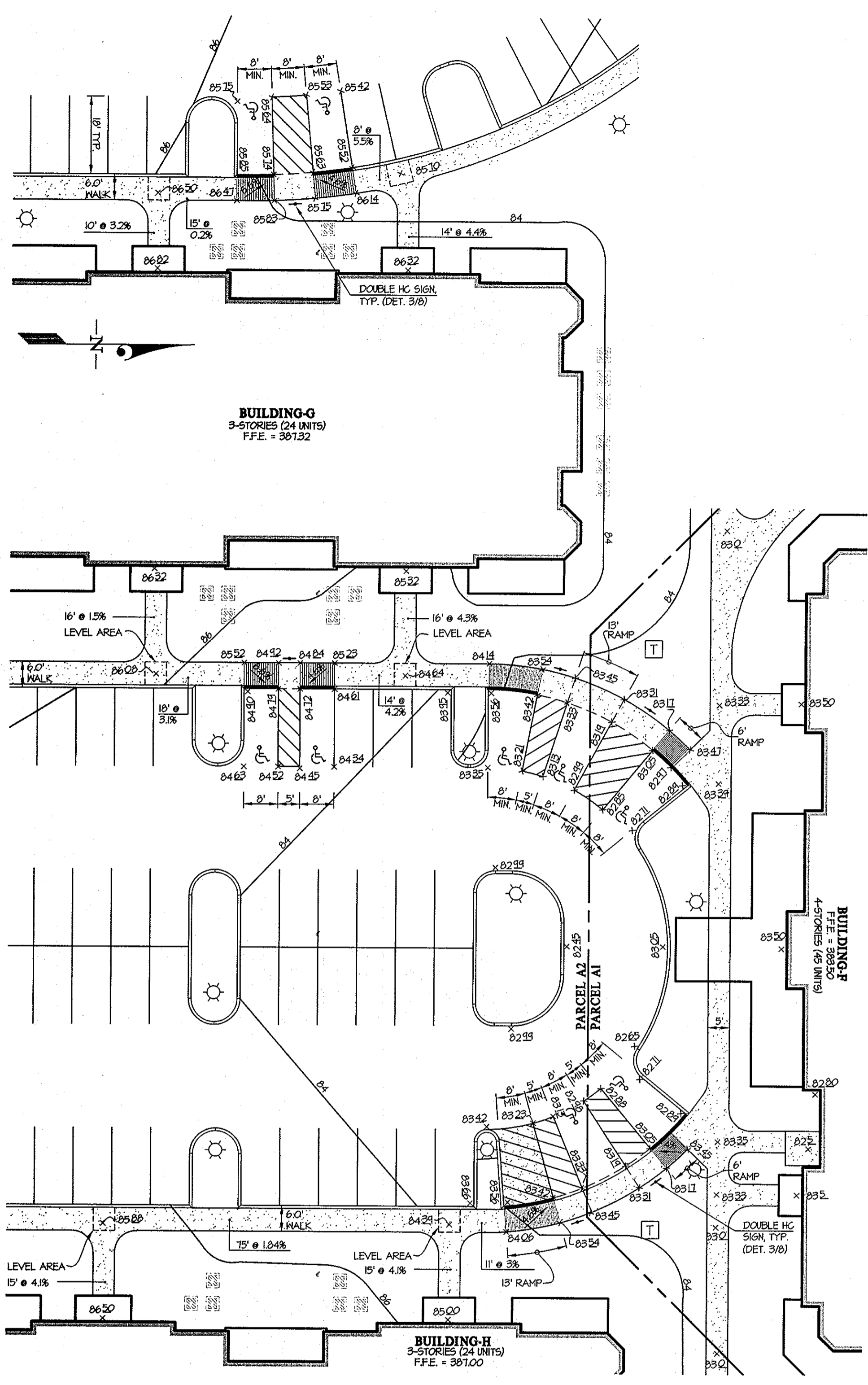
- NOTES:**
- UNLESS NOTED OTHERWISE, PROPOSED SPOT ELEVATIONS ALONG THE CONCRETE CURB & GUTTER ARE TO THE FLOW LINE (BOTTOM OF CURB) AT THE PCS/PTS, CORNERS AND TERMINUSES.
 - ALL ON-SITE PAVING AND ROADWAYS ARE PRIVATELY OWNED & MAINTAINED.
 - ALL ON-SITE STORM DRAIN SYSTEMS ARE PRIVATELY OWNED & MAINTAINED.
 - UNLESS NOTED OTHERWISE, ALL PLAN DIMENSIONS ARE TO THE FACE OF STRUCTURE (BLDG., CURB, ETC.). DIMENSIONS ARE MEASURED PERPENDICULAR OR BETWEEN ITEMS, UNLESS NOTED OTHERWISE.
 - ALL CURB RADI ARE 5' (FACE OF CURB @ FLOW LINE) UNLESS NOTED OTHERWISE.
 - FOR SIDEWALK DIMENSIONS, SEE SHEET 2.
 - HANDICAP ACCESSIBILITY DETAILS ARE ON SHEET 6 & 8.
 - FOR BUILDING DIMENSIONS, SEE SHEET 8.
 - FOR DEMOLITION PLAN, SEE SHEET 4.
 - FOR STORM DRAIN PIPE SIZES AND LENGTHS, SEE SHEET 11.
 - FOR DOWNSPOUT (DS) LOCATIONS SEE SHEET 17 & 18.
 - FOR LANDSCAPING REQUIREMENTS, SEE SHEETS 30 & 31.
 - FOR RETAINING WALL INFORMATION SEE SHEETS 34 & 35.
 - A KNOX BOX IS REQUIRED ON THE CLUB HOUSE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5' IN HEIGHT AND NO MORE THAN 6' LATERALLY FROM THE DOOR.
 - AREA INDICATED BY 25% (1) PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT #1, #2 and #3 DEFINES THE LIMIT OF THOSE ELEMENTS INCLUDED IN THE CONTRACT FOR RAINWATER HARVESTING SITES.

PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12915, Expiration Date: May 26, 2014.

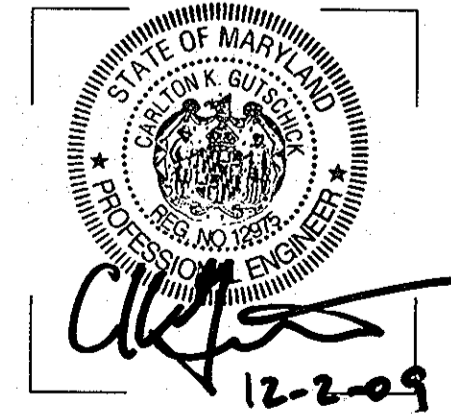
7-24-13
 Date: *Carl Gutschick*
 Professional Engineer
 Maryland Reg. No. 12915

ASBUILTS
 ASBUILT SHEET 3 OF 7

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: 410-580-1600 DC/VA: 301-589-2524 FAX: 301-421-4186	OWNER: The Howard County Housing Commission 6751 Columbia Gateway Dr., 3rd Floor Columbia, MD 21046 ATTN: Tom Carbo 410-313-6318	PREPARED FOR: The Shelter Group 218 North Charles Street Suite 220 Baltimore, MD 21202-4019 ATTN: Donna Oresdon 410-982-0595	SITE DEVELOPMENT PLAN Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units		SCALE 1"=30'	ZONING RA-15	G. L. W. FILE NO. 08057
			GUILFORD GARDENS SECTION 1, AREA 1 PARCELS "A1" & "A2" PLAT No. 2000 & 2007 TAX MAP 42, PARCEL 361		DATE JUN 2013 Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 5 OF 35



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Thomas F. Suttle 2/18/10
 Director Date
Robert S. Schuch 2-18-10
 Chief, Division of Land Development Date
Michael J. ... 1/15/10
 Chief, Development Engineering Division Date



PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE
 PREPARED OR APPROVED BY ME, AND THAT I AM A
 DULY LICENSED PROFESSIONAL ENGINEER UNDER THE
 LAWS OF THE STATE OF MARYLAND,
 LICENSE NO. 1275,
 EXPIRATION DATE: MAY 26, 2010

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 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

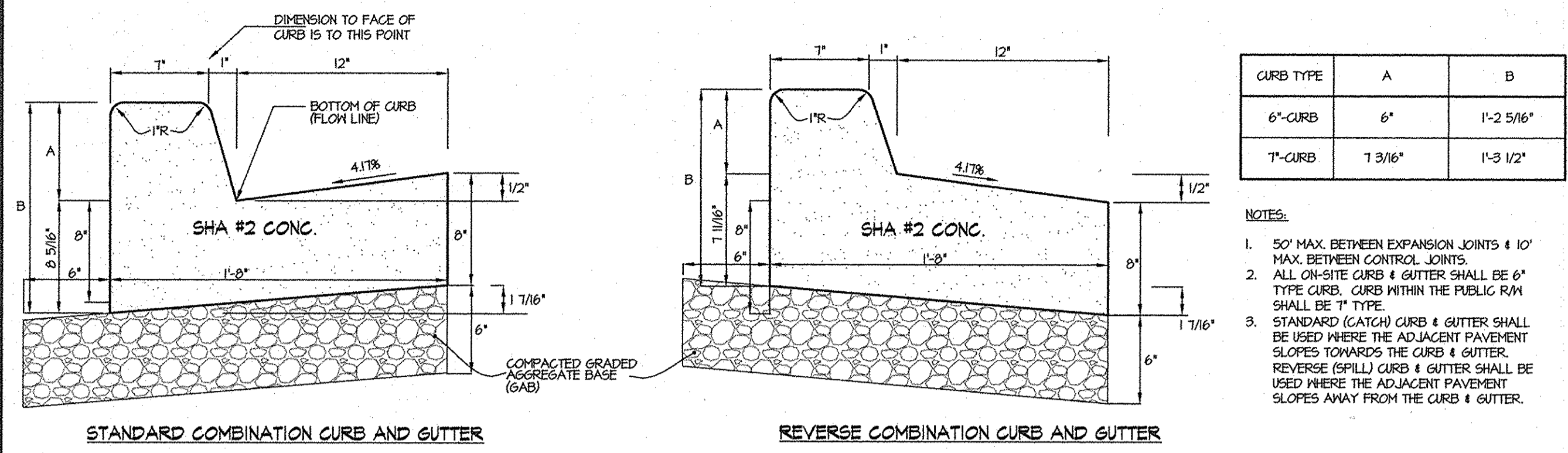
OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 6751 Columbia Gateway Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Crendon
 410-962-0595

HANDICAP ACCESSIBILITY NOTES and DETAILS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 100007 & 100710
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=20'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	6 OF 35

L:\CADD\DRAWINGS\08057\SDP\08057-HC-DET.dwg DES. DEV DRN. KLP CHK. CKG DATE REVISION BY APPR.
 PLOTTED: 12/17/2009 9:58:54 AM PLOTTER: LGS-3630/7/28/09 8:30 AM PLOTTED BY: Tony Lashley



CURB TYPE	A	B
6"-CURB	6"	1'-2 5/16"
7"-CURB	7 3/16"	1'-3 1/2"

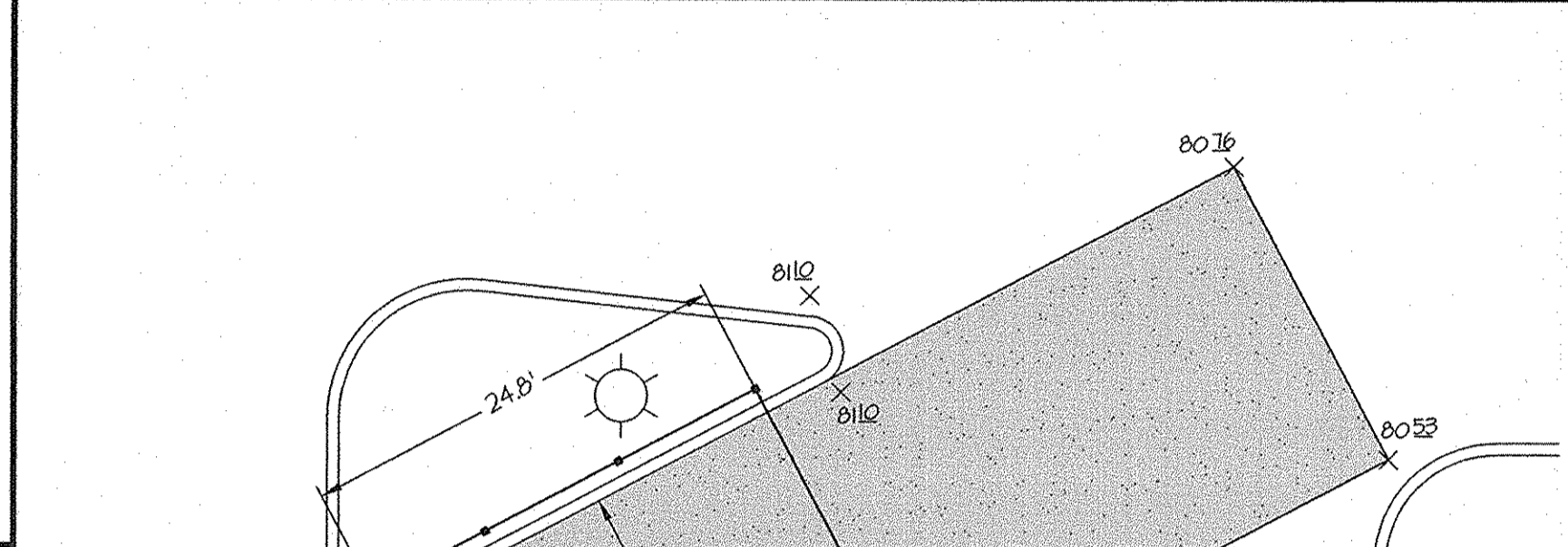
- NOTES:
- 50' MAX. BETWEEN EXPANSION JOINTS & 10' MAX. BETWEEN CONTROL JOINTS.
 - ALL ON-SITE CURB & GUTTER SHALL BE 6" TYPE CURB. CURB WITHIN THE PUBLIC R/W SHALL BE 7" TYPE.
 - STANDARD (CATCH) CURB & GUTTER SHALL BE USED WHERE THE ADJACENT PAVEMENT SLOPES TOWARDS THE CURB & GUTTER. REVERSE (SPILL) CURB & GUTTER SHALL BE USED WHERE THE ADJACENT PAVEMENT SLOPES AWAY FROM THE CURB & GUTTER.

1 CONCRETE CURB AND GUTTER (STANDARD AND REVERSE) NO SCALE

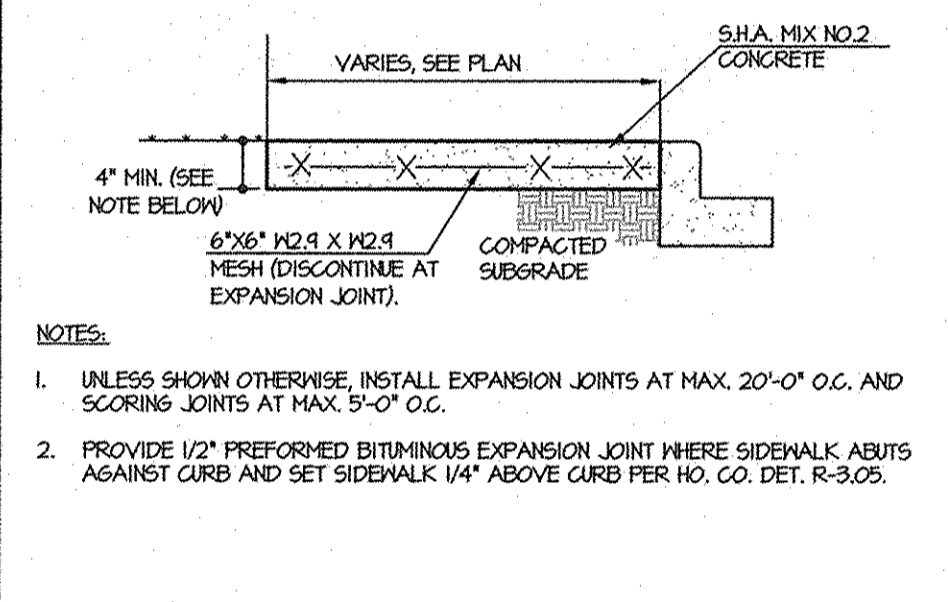
P-3 PAVING

PAVEMENT MATERIAL (INCHES)	3 TO 5'	5 TO 11'
HMA SUPERPAVE FINAL SURFACE 4.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5
HMA SUPERPAVE INTERMEDIATE SURFACE 4.5 MM PG 64-22, LEVEL 1 (ESAL)	1.0	1.0
HMA SUPERPAVE BASE 13.0 MM PG 64-22, LEVEL 1 (ESAL)	3.0	3.0
GRADED AGGREGATE BASE (GAB)	10.0	6.0

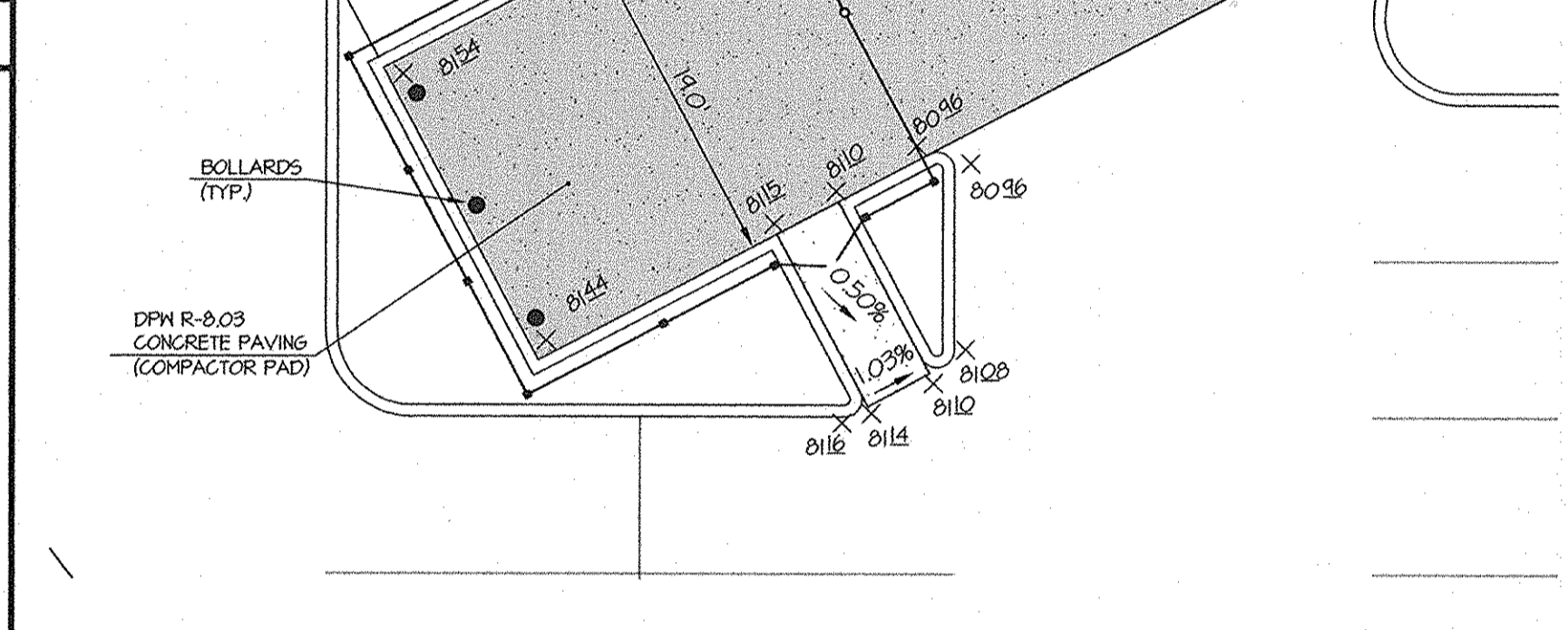
NOTE: DEPENDING ON THE CBR VALUES OBTAINED IN THE FIELD, THE PAVING SECTIONS MAY BE REVISED, IF APPROVED BY A PROFESSIONAL SOILS ENGINEER. THESE SUBSTITUTIONS MUST ALSO BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.



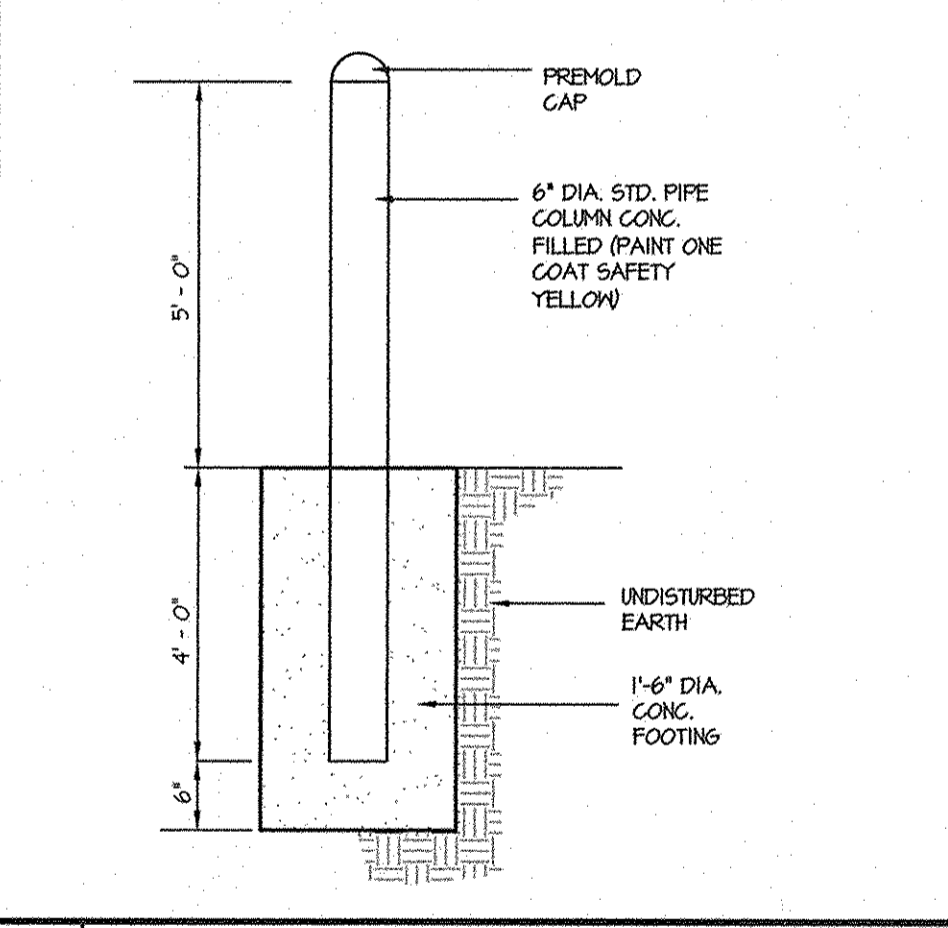
2 PAVEMENT DETAILS NO SCALE



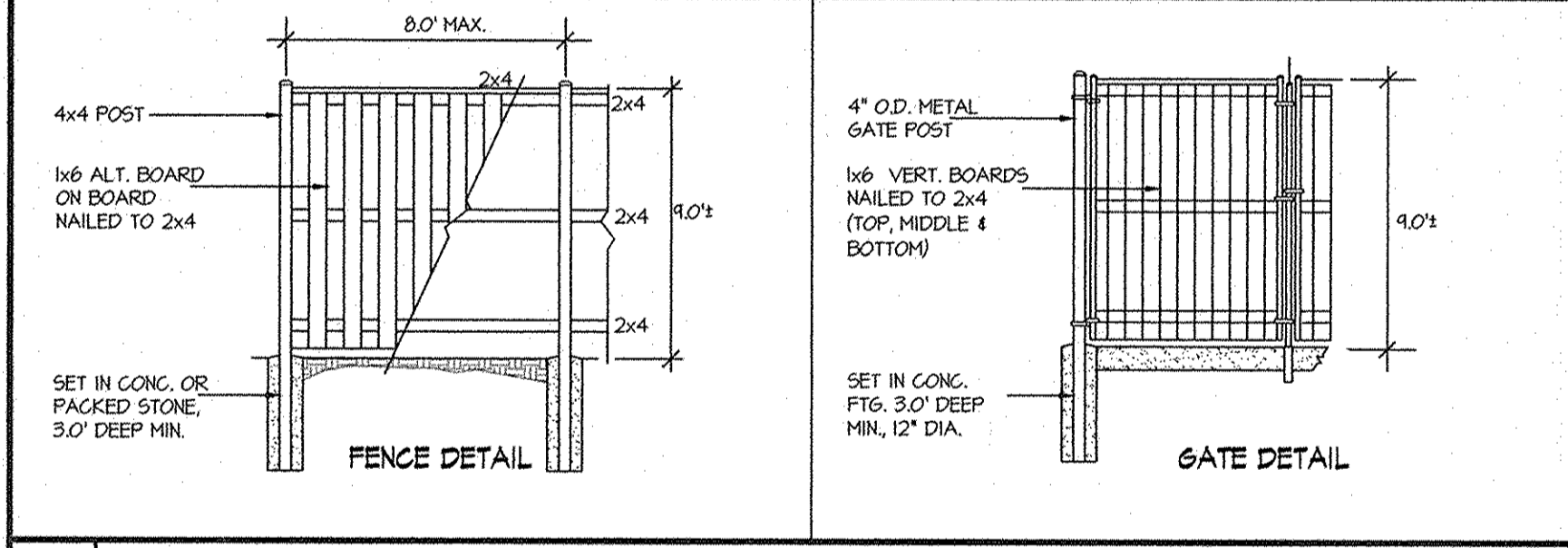
4 TYPICAL SIDEWALK SECTION NO SCALE



5 COMPACTOR ENCLOSURE DETAIL SCALE: 1" = 10'



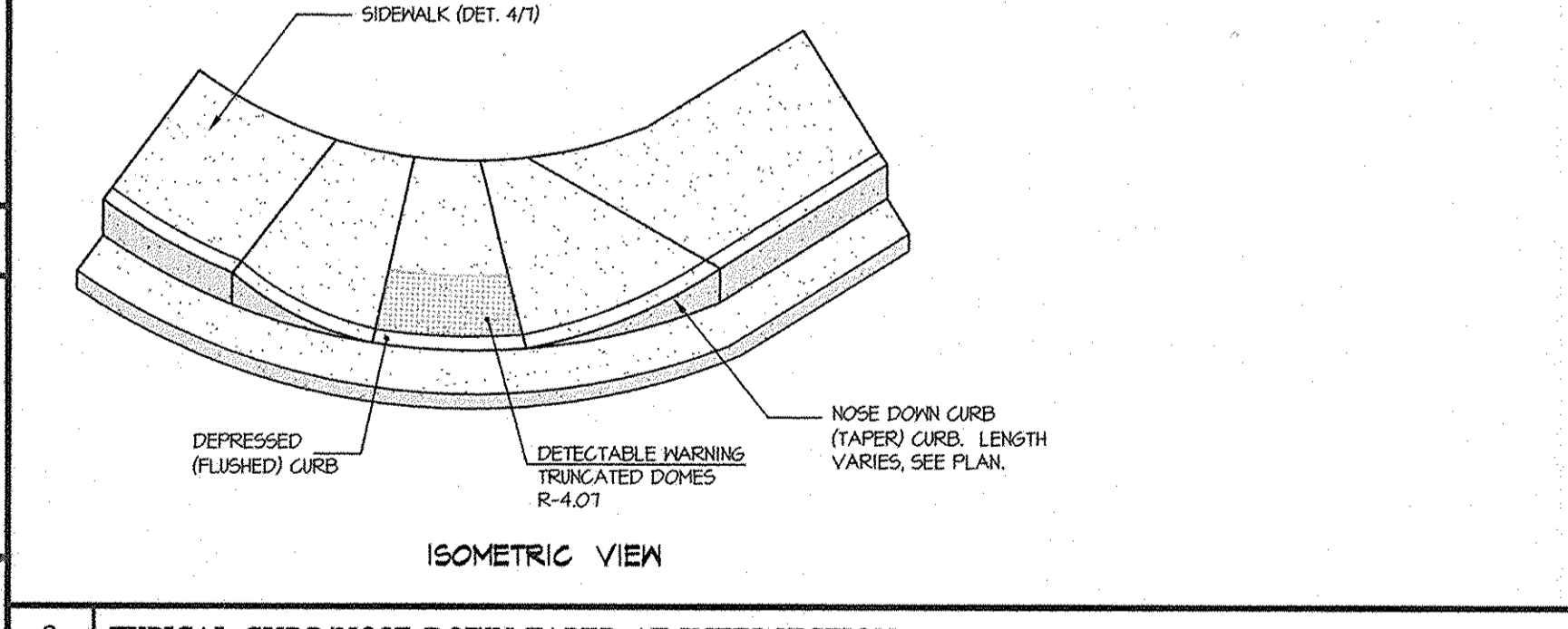
6 BOLLARD DETAIL NO SCALE



7 DUMPSTER ENCLOSURE DETAILS NO SCALE

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475, EXPIRATION DATE: MAY 26, 2010.

12-2-09



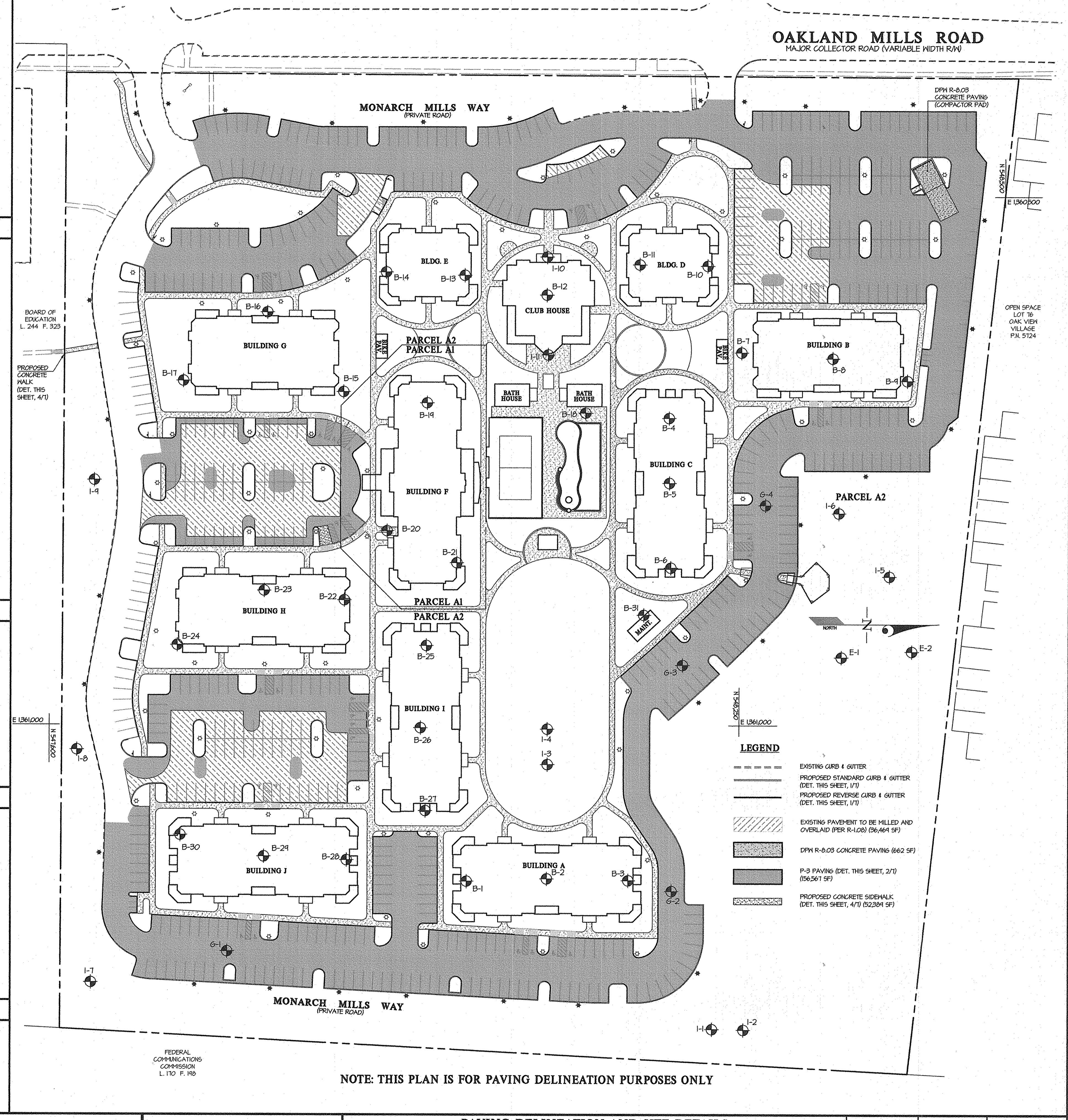
8 TYPICAL CURB/NOSE DOWN TAPER AT INTERSECTION NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: *Thomas J. Suttler* Date: 2/18/10
 Chief, Division of Land Development: *Keith DeLoach* Date: 2/18/10
 Chief, Development Engineering Division: *John Williams* Date: 1/15/10

LIGHT SCHEDULE

SYMBOL	QUANTITY	TYPE	MANUFACTURER	FIXTURE TYPE	MFR. CATALOG #
☆	60	S1	PROVIDENCE	150 WATT, 240 VOLTS - 12' POLE, POST TOP FULL CUT OFF INDIRECT EXTERIOR FIXTURE, BLACK FINISH	ARCHITECTURAL AREA LIGHTING FROM-HIS-500-HH-BLK-FB-4R12-125
☆	30	S2	PROVIDENCE	150 WATT, 240 VOLTS - 12' POLE, POST TOP FULL CUT OFF INDIRECT EXTERIOR FIXTURE WITH HOUSE SIDE SHIELD, BLACK FINISH	ARCHITECTURAL AREA LIGHTING FROM-HIS-500-HH-BLK-HS-FB-4R12-125



OWNER: The Howard County Housing Commission, 6751 Columbia Gateway Dr., 3rd Floor, Columbia, MD 21046, ATTN: Tom Carbo, 410-313-6318

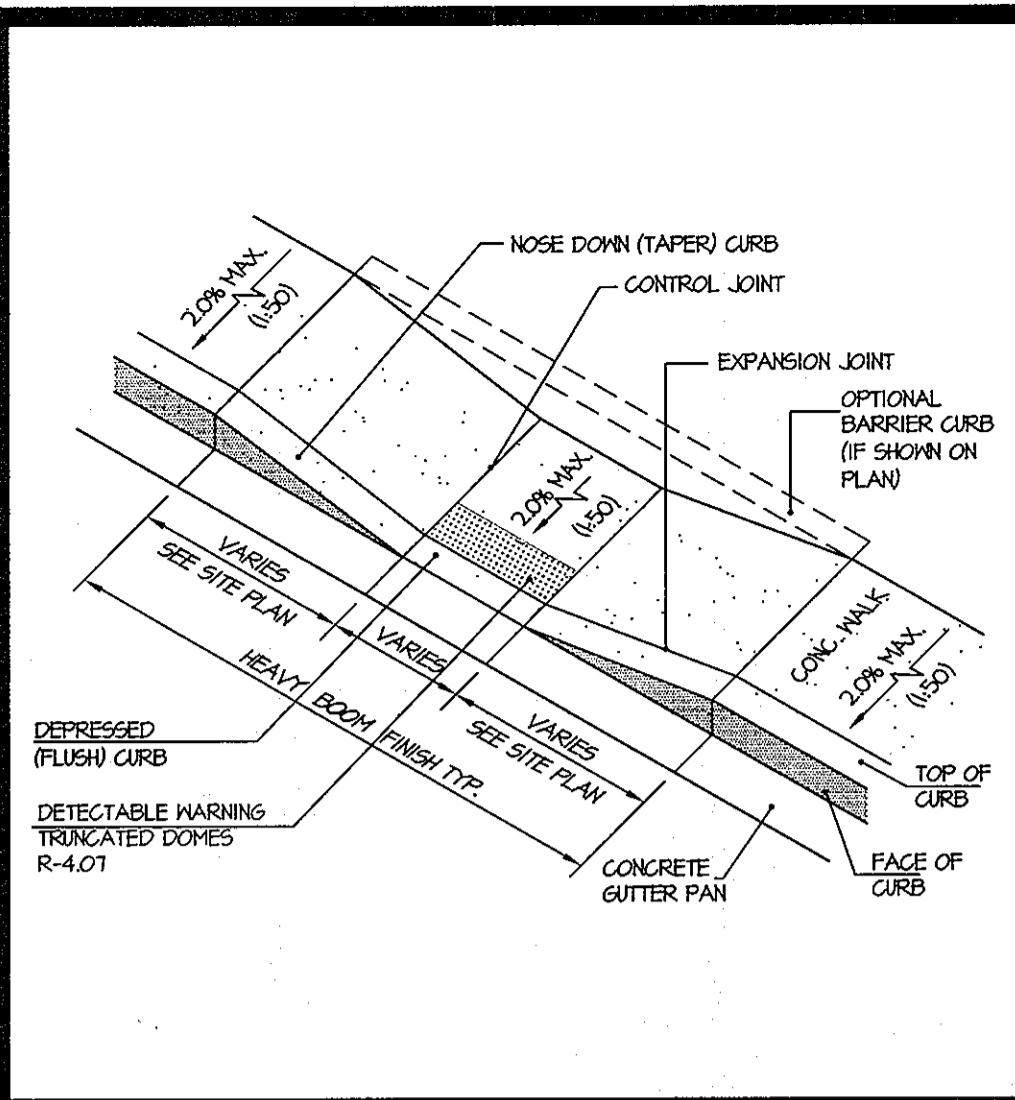
PREPARED FOR: The Shelter Group, 218 North Charles Street, Suite 220, Baltimore, MD 21202-4019, ATTN: Donna Crendon, 410-962-0595

PAVING DELINEATION AND SITE DETAILS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 100002 & 100010
 TAX MAP 42, PARCEL 361

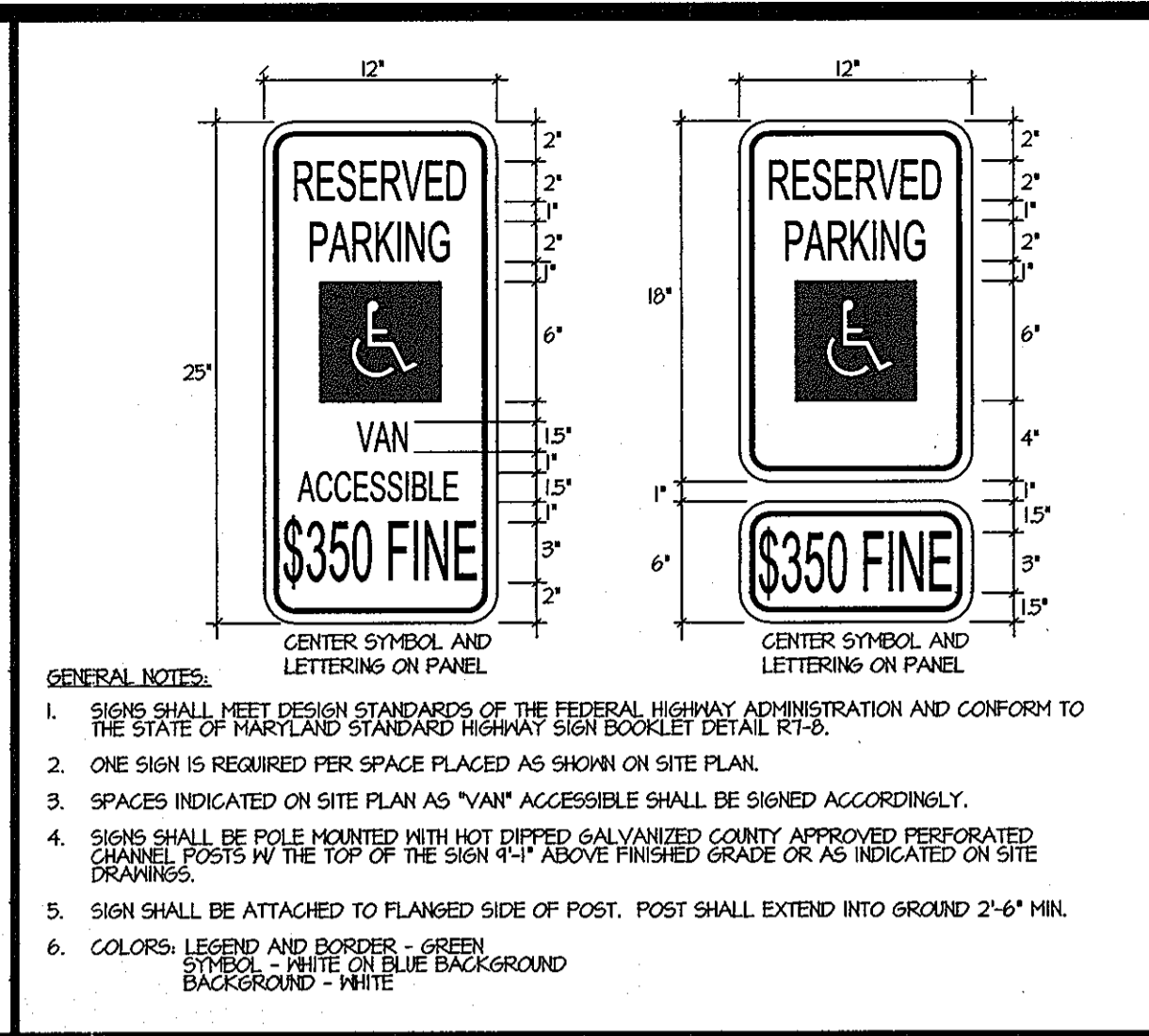
SCALE: 1"=50'
 ZONING: RA-15
 DATE: Nov., 2009
 TAX MAP - GRID: 42 - 11
 SHEET: 7 OF 35

ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

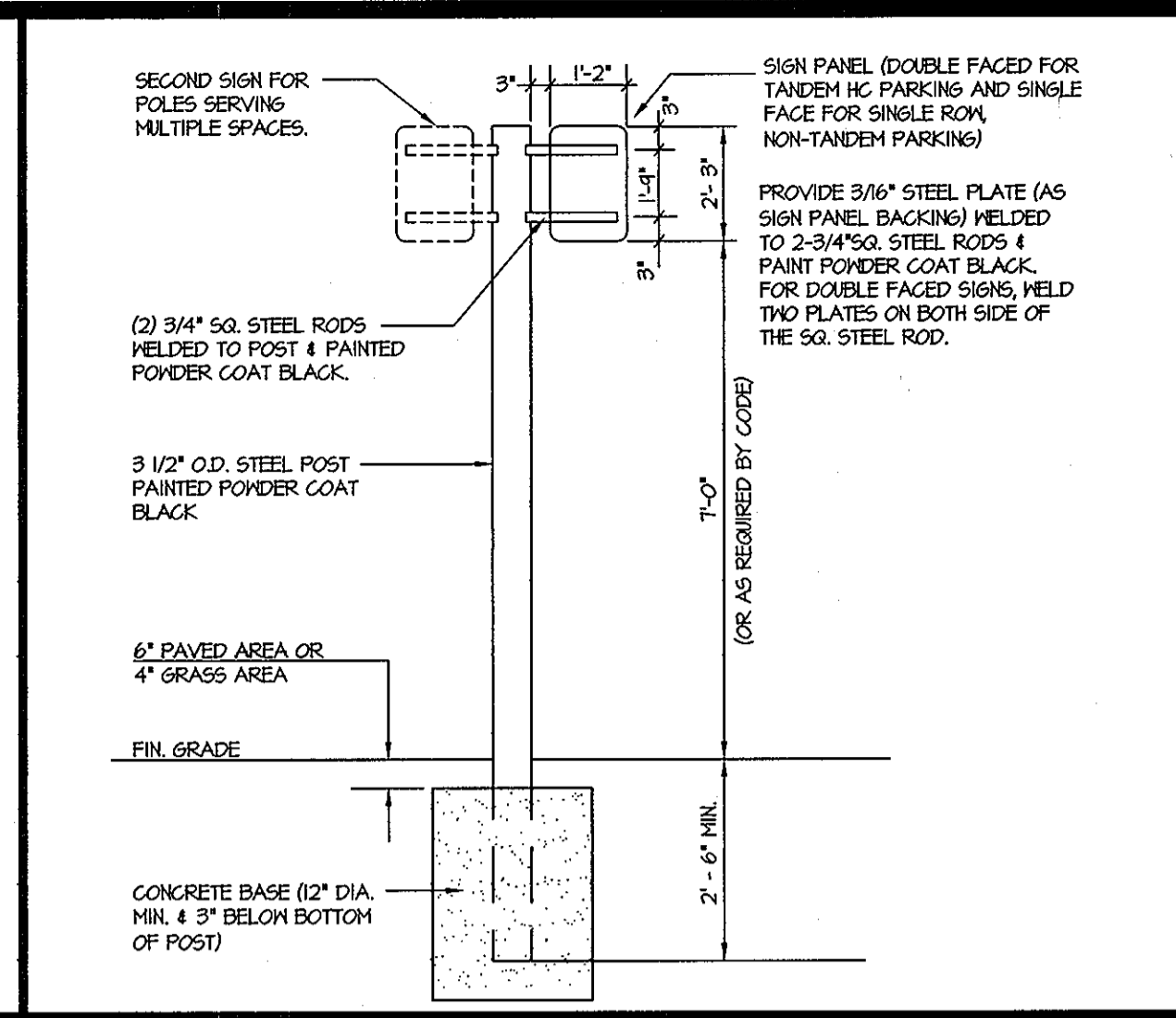
L:\DRAWINGS\08057\SDP\08057 PAVING.dwg DES. DEV DRN. KLP CHK. CKG DATE REVISION BY APPR.



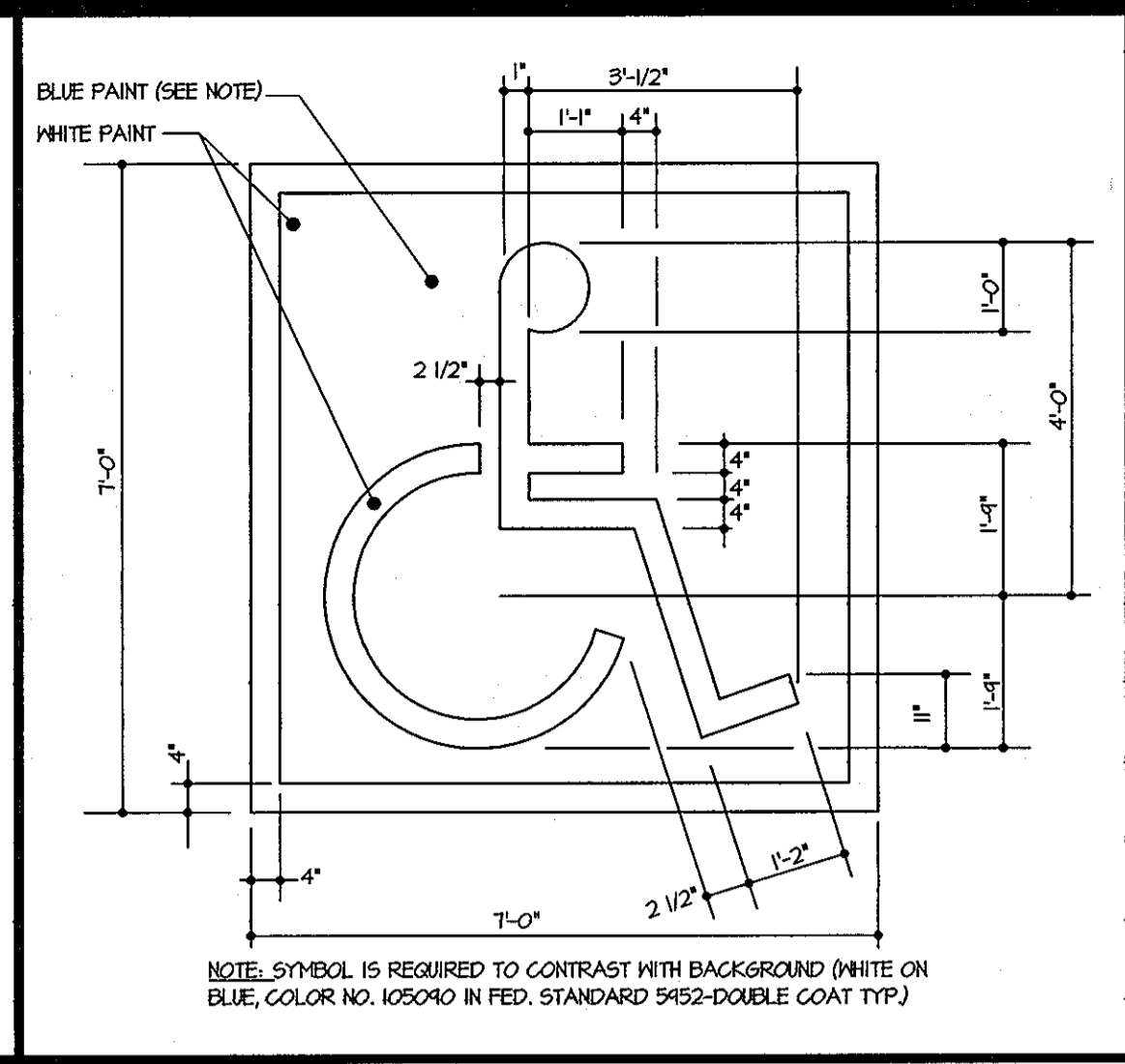
1 TYPE-C SIDEWALK CURB RAMP NO SCALE



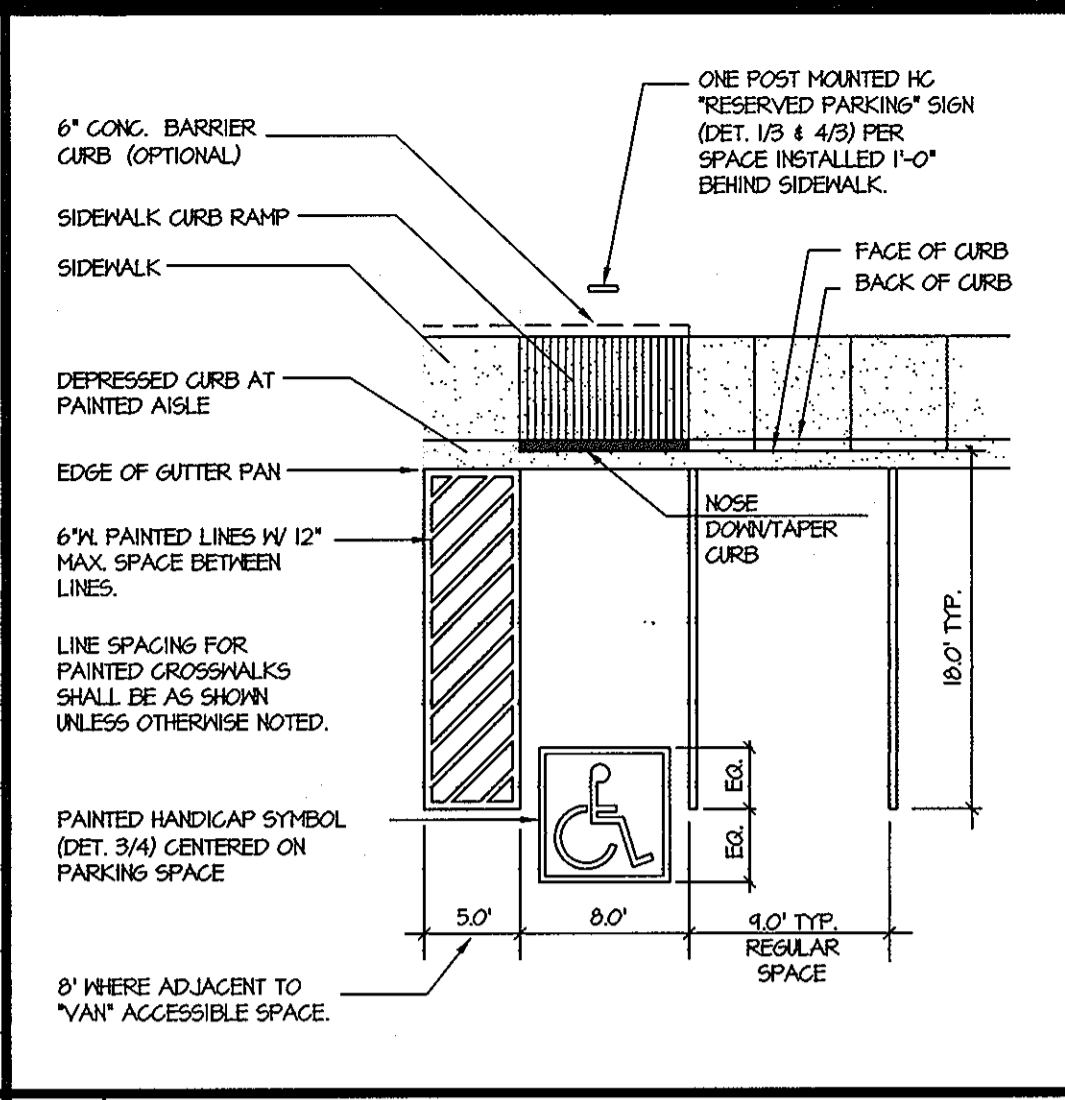
2 HANDICAP PARKING SIGNS DETAIL NO SCALE



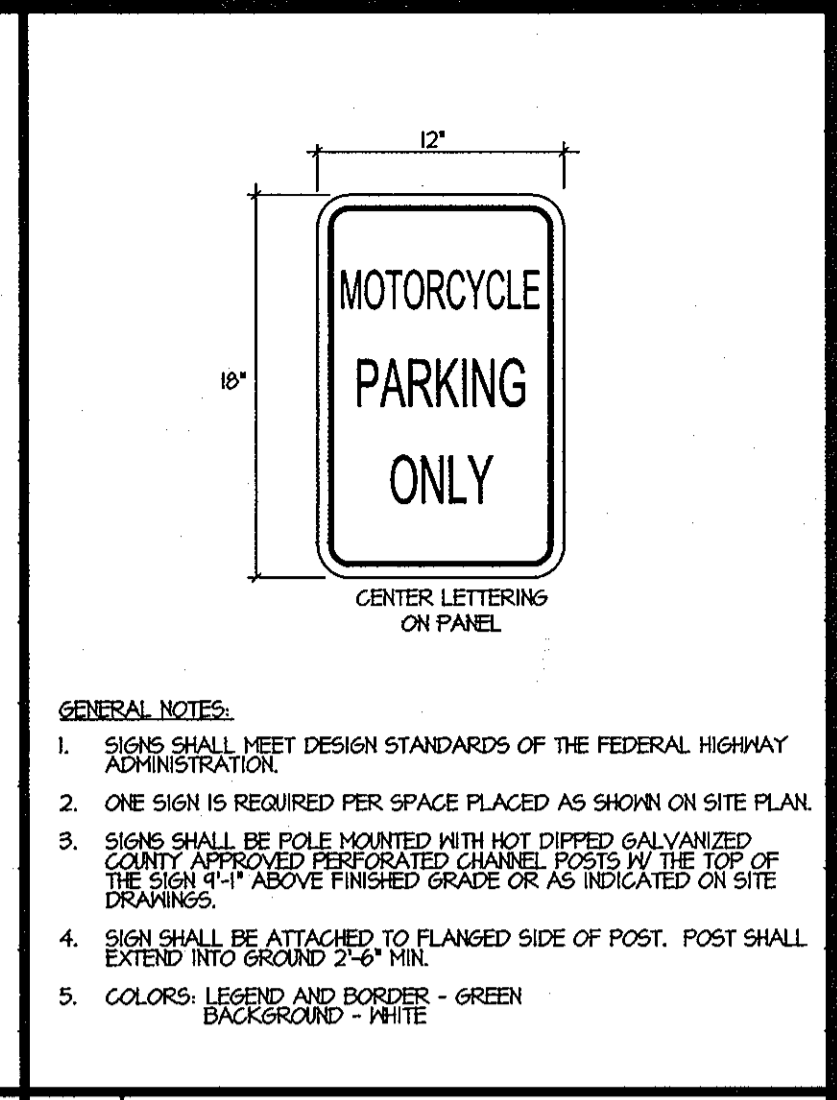
3 POST and SIGN DETAIL FOR PARKING RESTRICTION SIGN NO SCALE



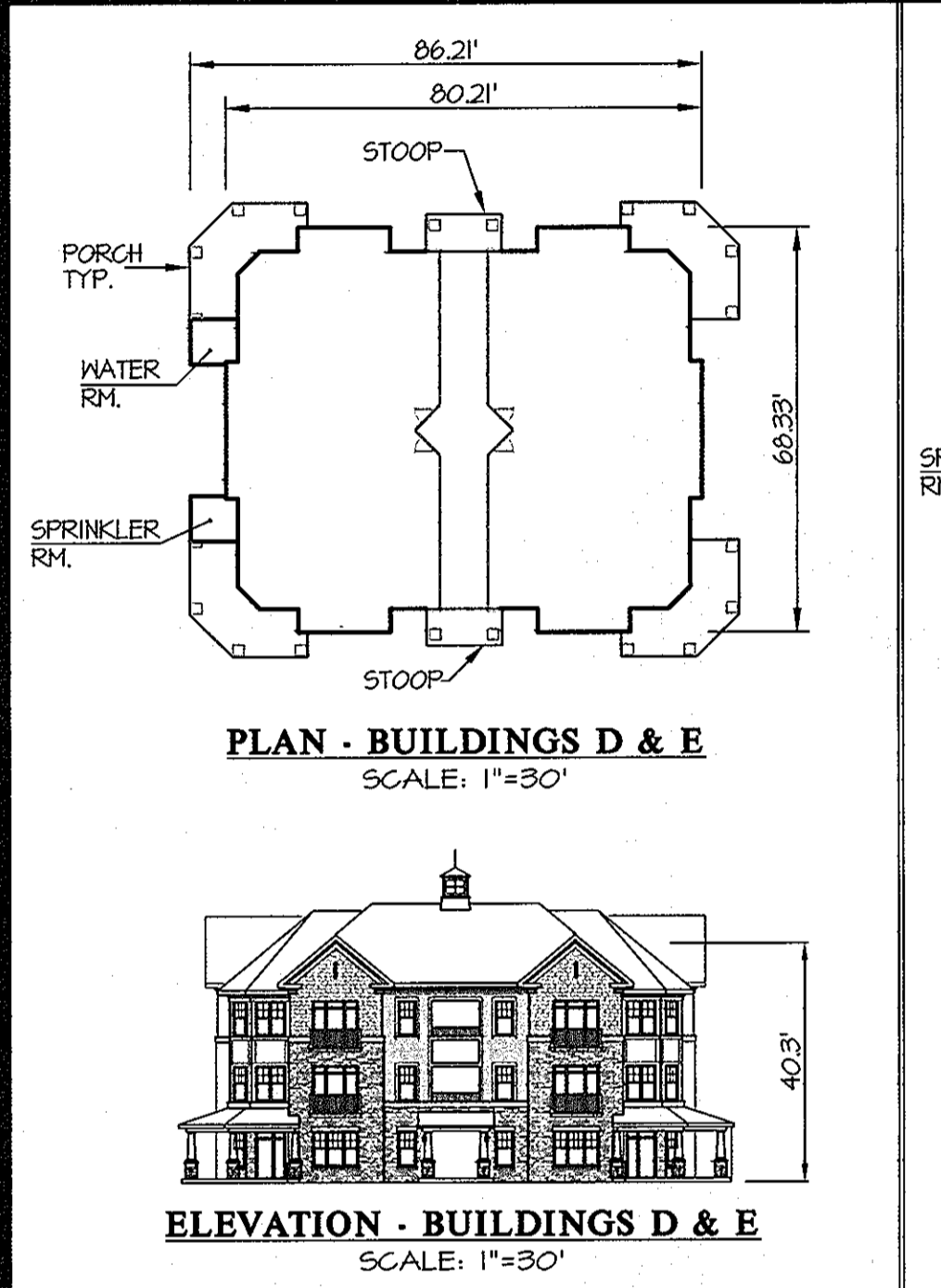
4 HANDICAP SPACE STENCIL LAYOUT NO SCALE



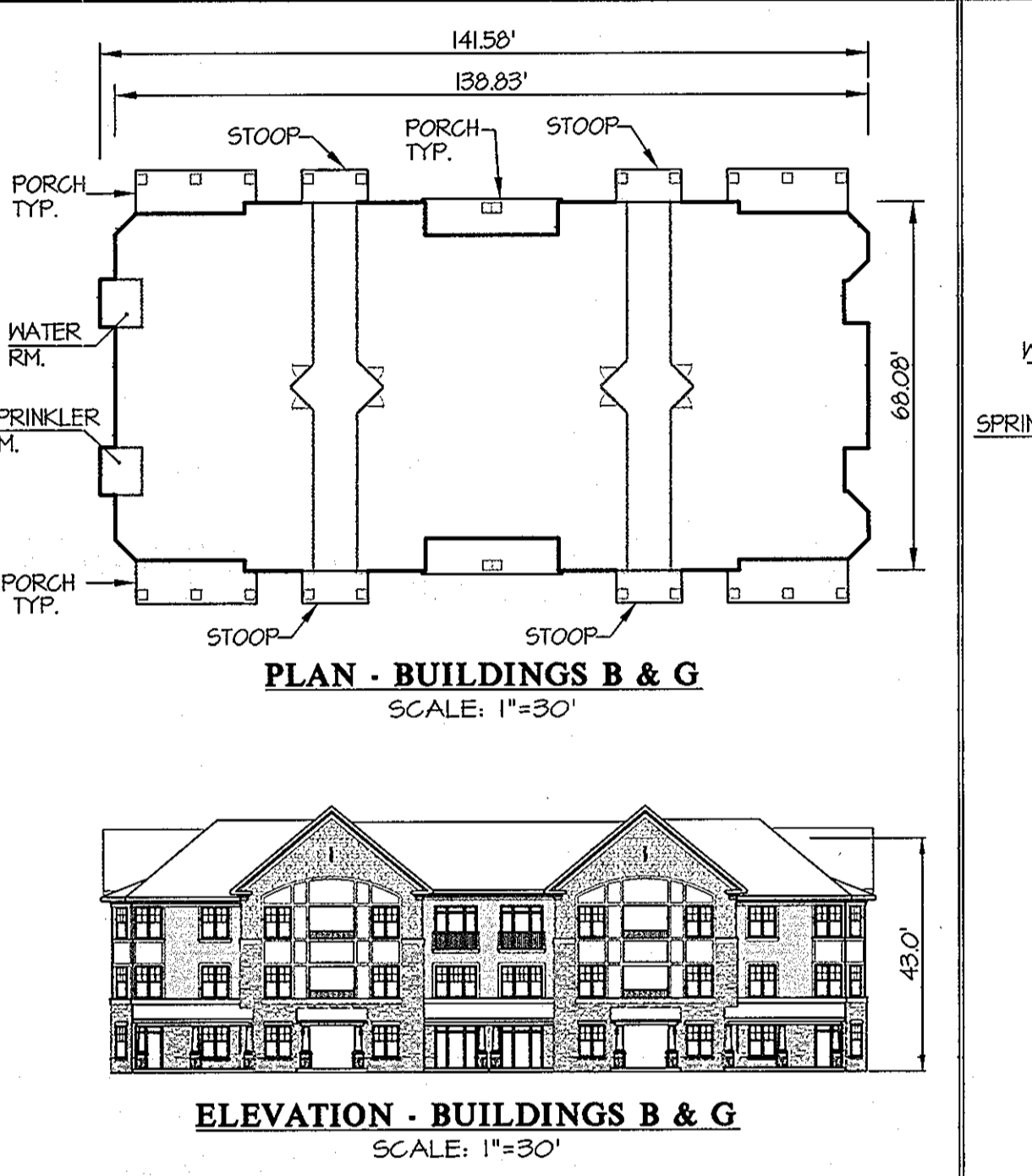
5 PARKING SPACE LAYOUT NO SCALE



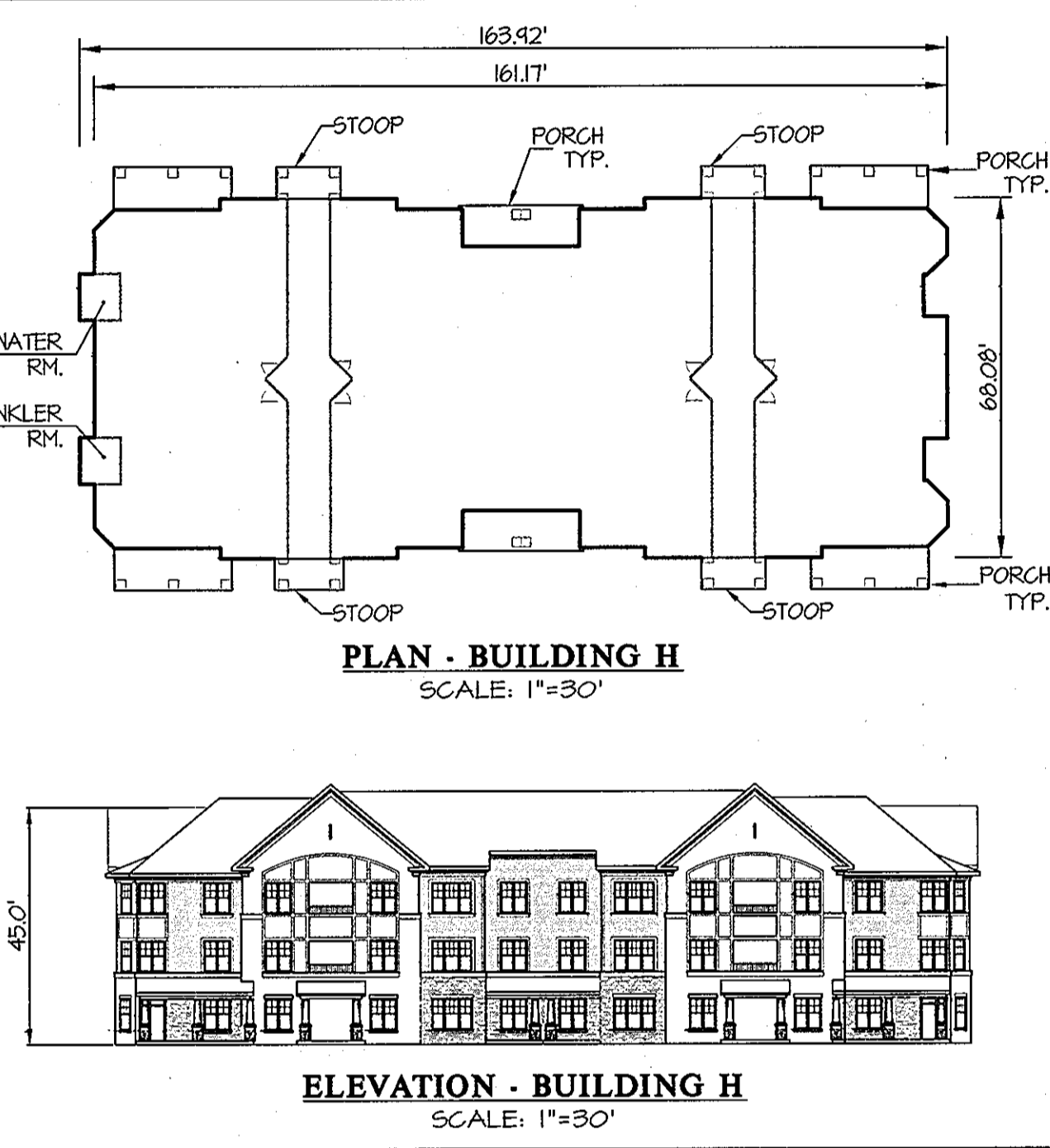
6 MOTORCYCLE PARKING SIGN DETAIL



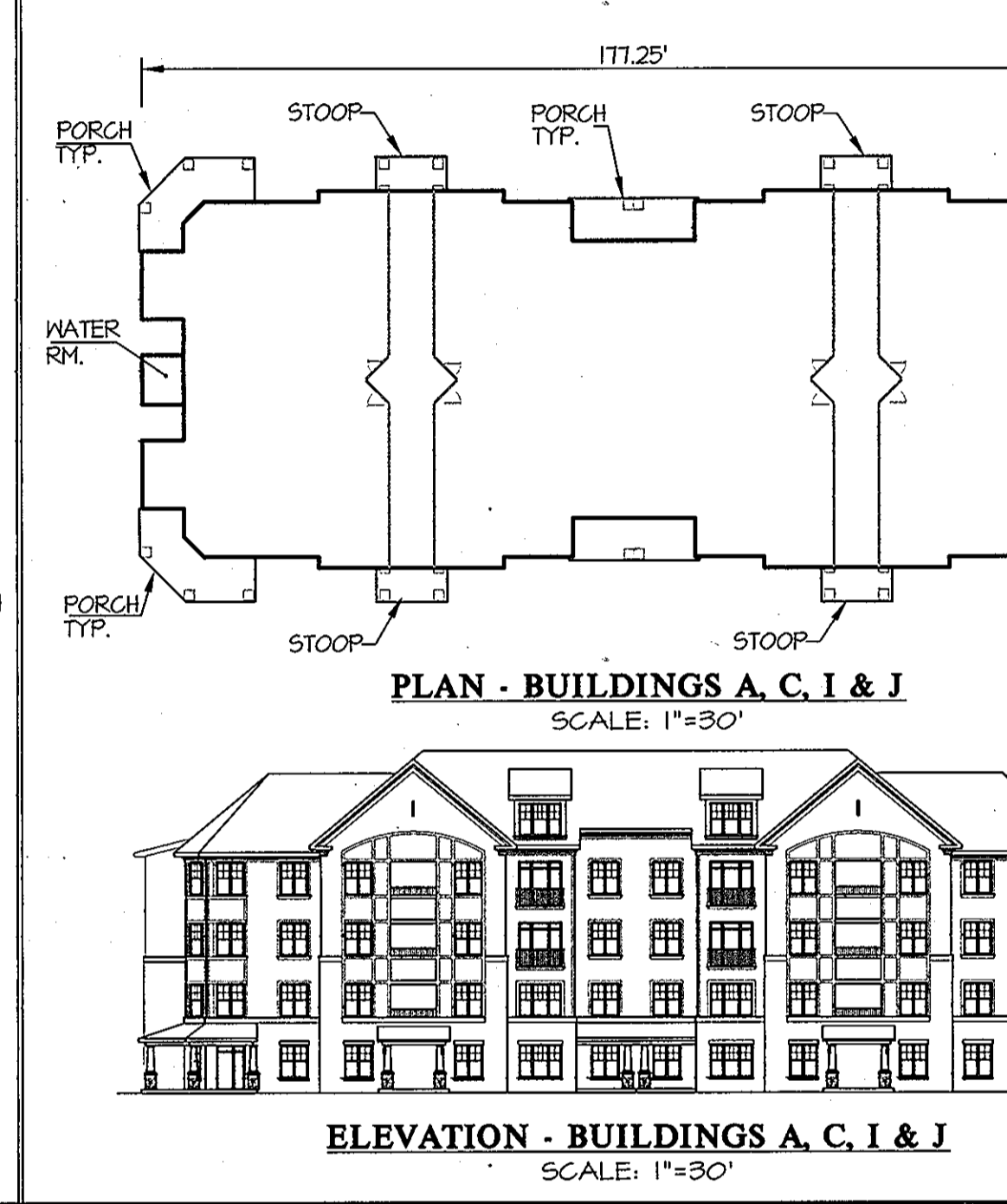
PLAN - BUILDINGS D & E SCALE: 1"=30'



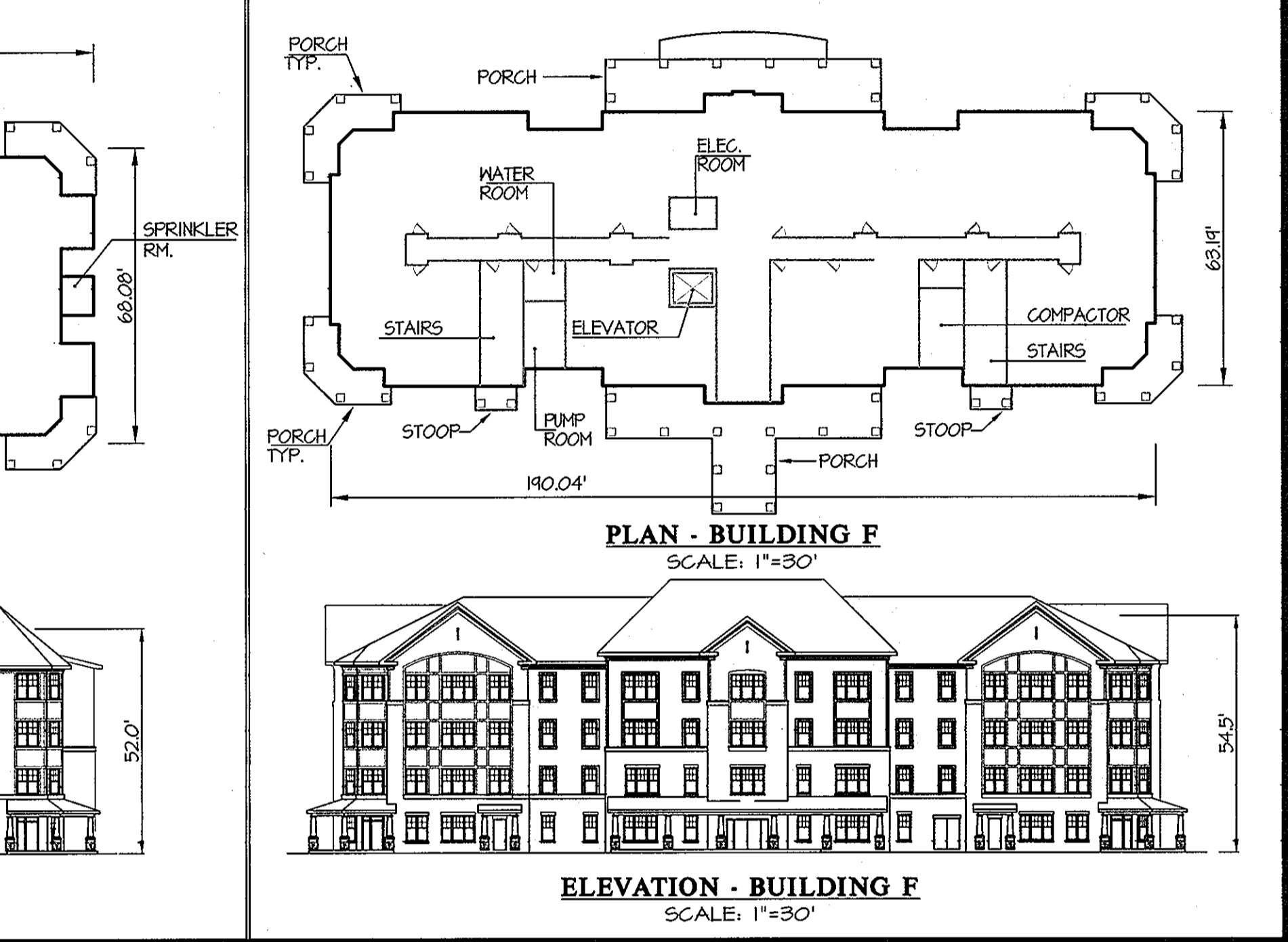
PLAN - BUILDINGS B & G SCALE: 1"=30'



PLAN - BUILDING H SCALE: 1"=30'



PLAN - BUILDINGS A, C, I & J SCALE: 1"=30'



PLAN - BUILDING F SCALE: 1"=30'

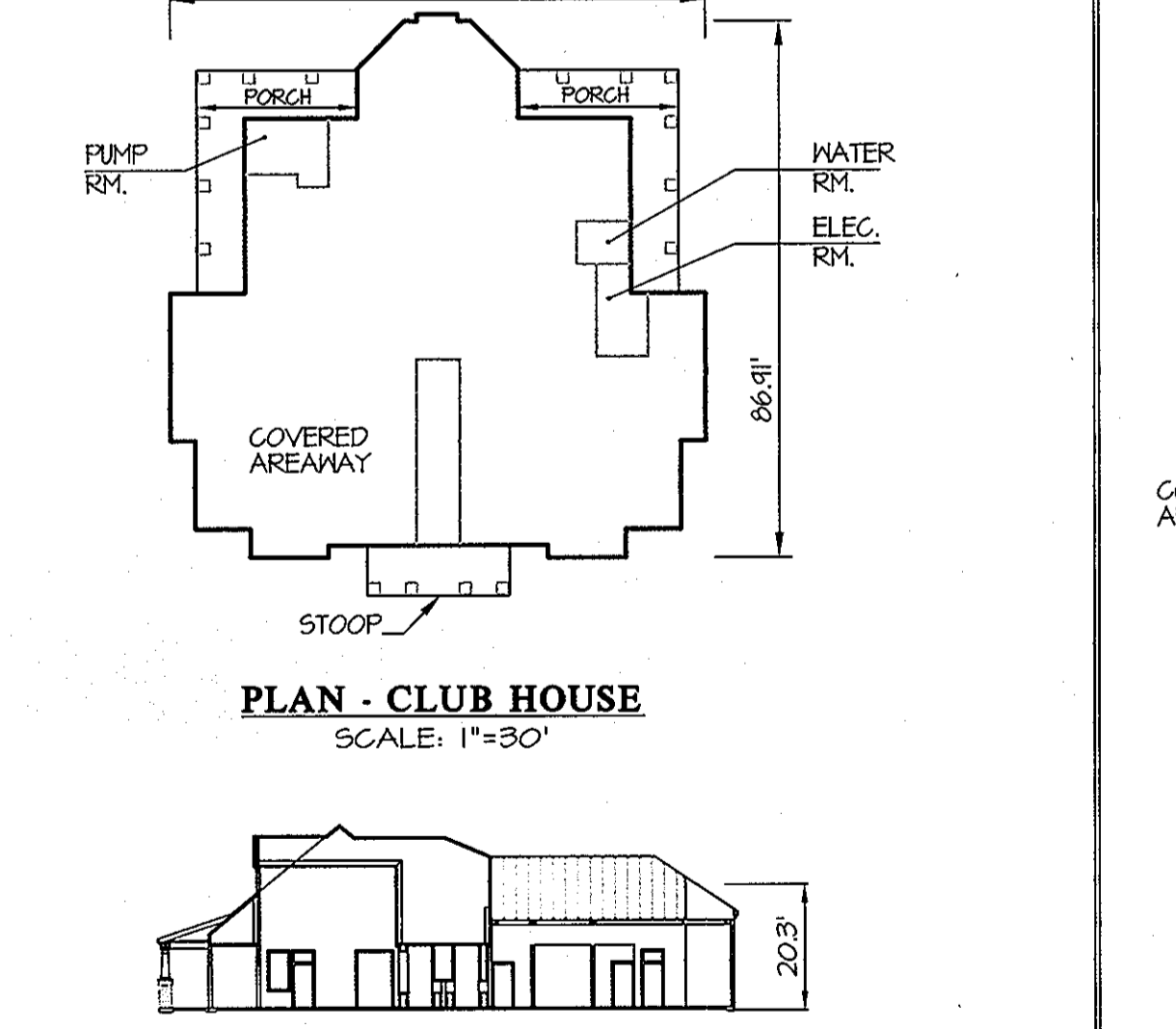
NOTE: THE DEPARTMENT OF PLANNING AND ZONING HAS APPROVED THE PROPOSED BUILDING LENGTHS AS PERMITTED BY SECTION 12.2.1.6 OF THE ZONING REGULATIONS. THE PROPOSED BUILDINGS WILL MITIGATE THE AESTHETICS OF THE INCREASED LENGTH WITH THE USE OF BUILDING PROJECTIONS AND RECESSES, CHANGES IN MATERIAL AND COLOR, AND THROUGH THE USE OF ARCHITECTURAL FEATURES SUCH AS COLUMNS AND BREEZEWAYS.

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12415, EXPIRATION DATE: MAY 10, 2010.

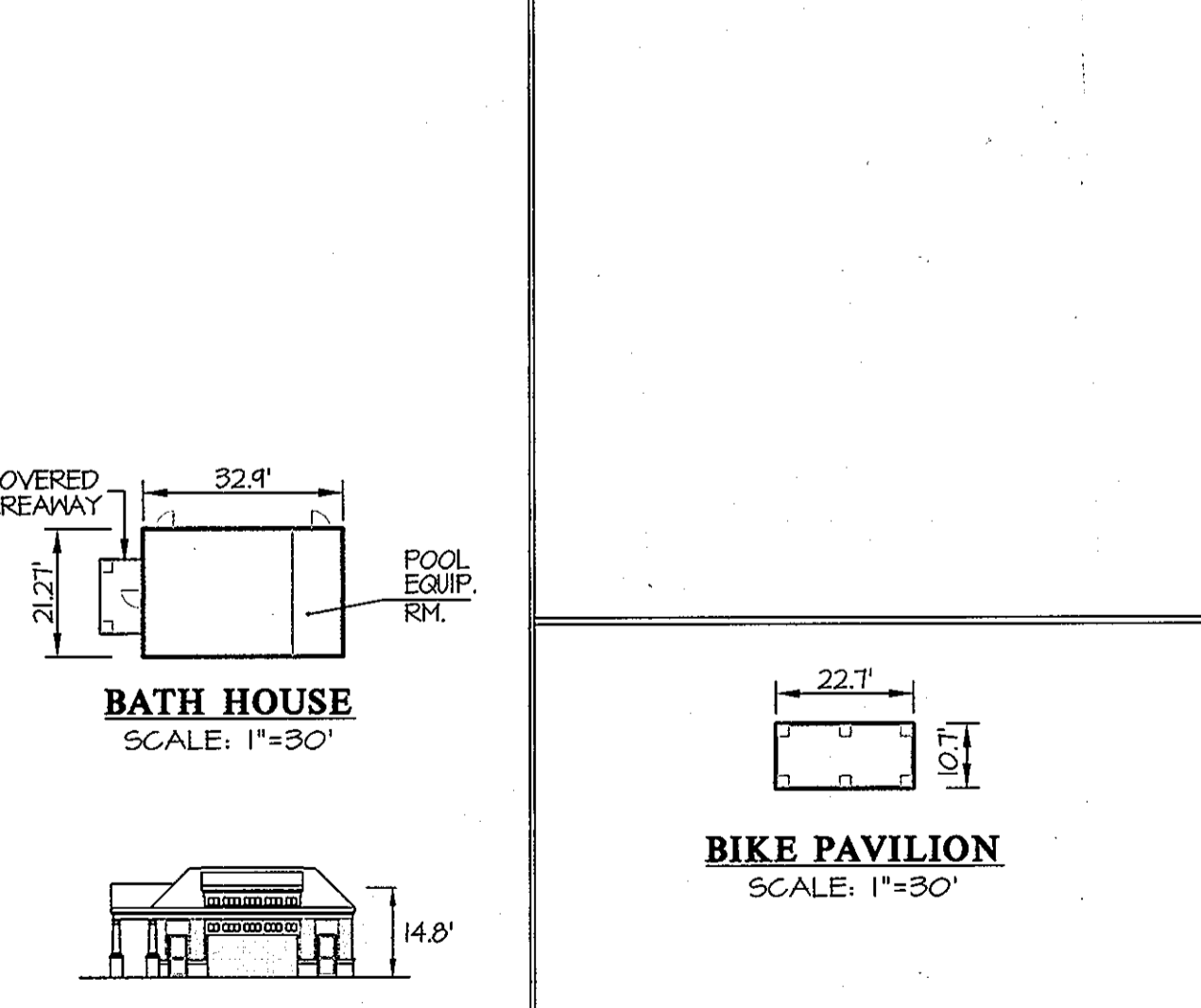
Cliff Gutschick
 12-20-09
 PROFESSIONAL ENGINEER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Donna S. Stuller 2/18/10
 Director Date
Keith Sheehan 2-18-10
 Chief, Division of Land Development Date
Chris DeWanna 11/5/10
 Chief, Development Engineering Division Date

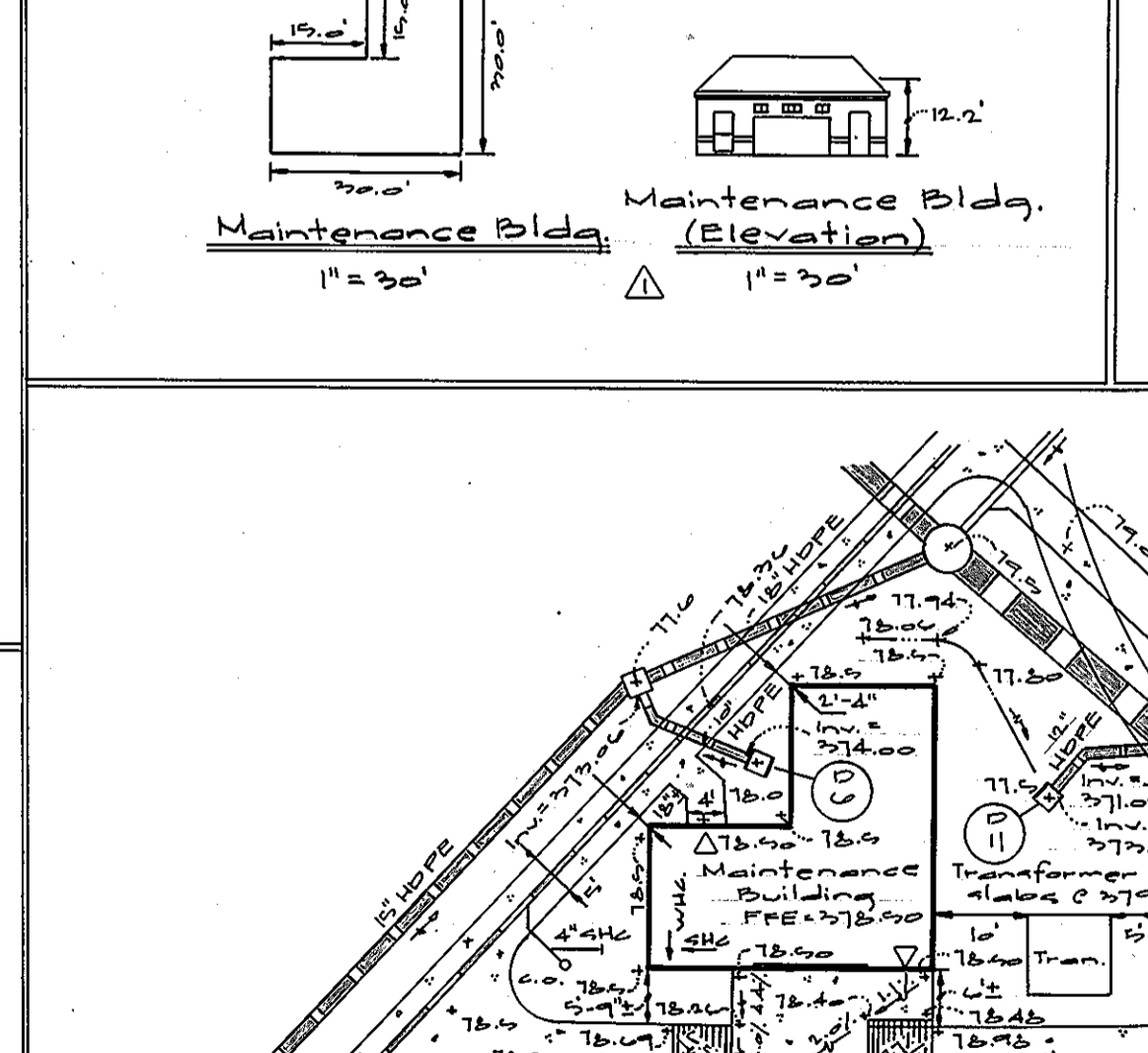
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186



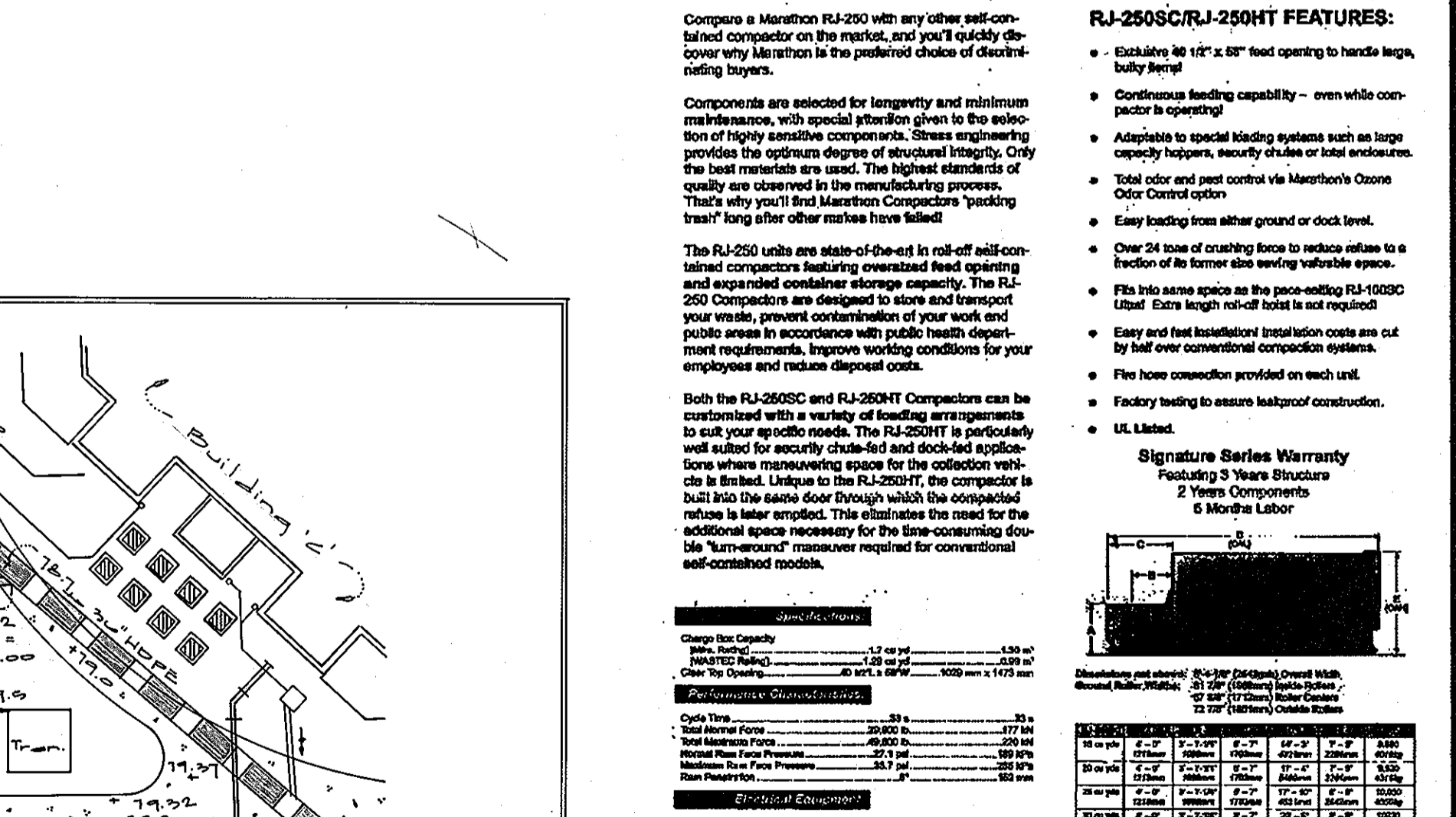
PLAN - CLUB HOUSE SCALE: 1"=30'



BATH HOUSE SCALE: 1"=30'



BIKE PAVILION SCALE: 1"=30'

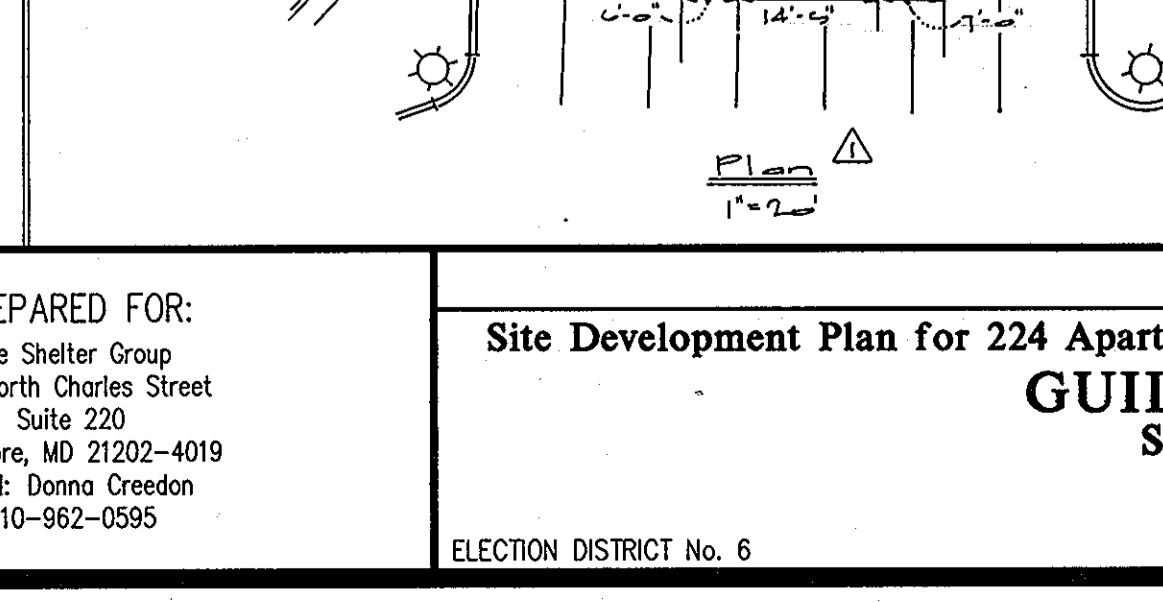


TRASH COMPACTOR DETAILS (34 cu. yd UNIT)

DATE	REVISION	BY	APPR.
11/20/10	Rev. Maintenance Bldg. footprint & elevation. Provided Plan information in area of the building.	DEW	

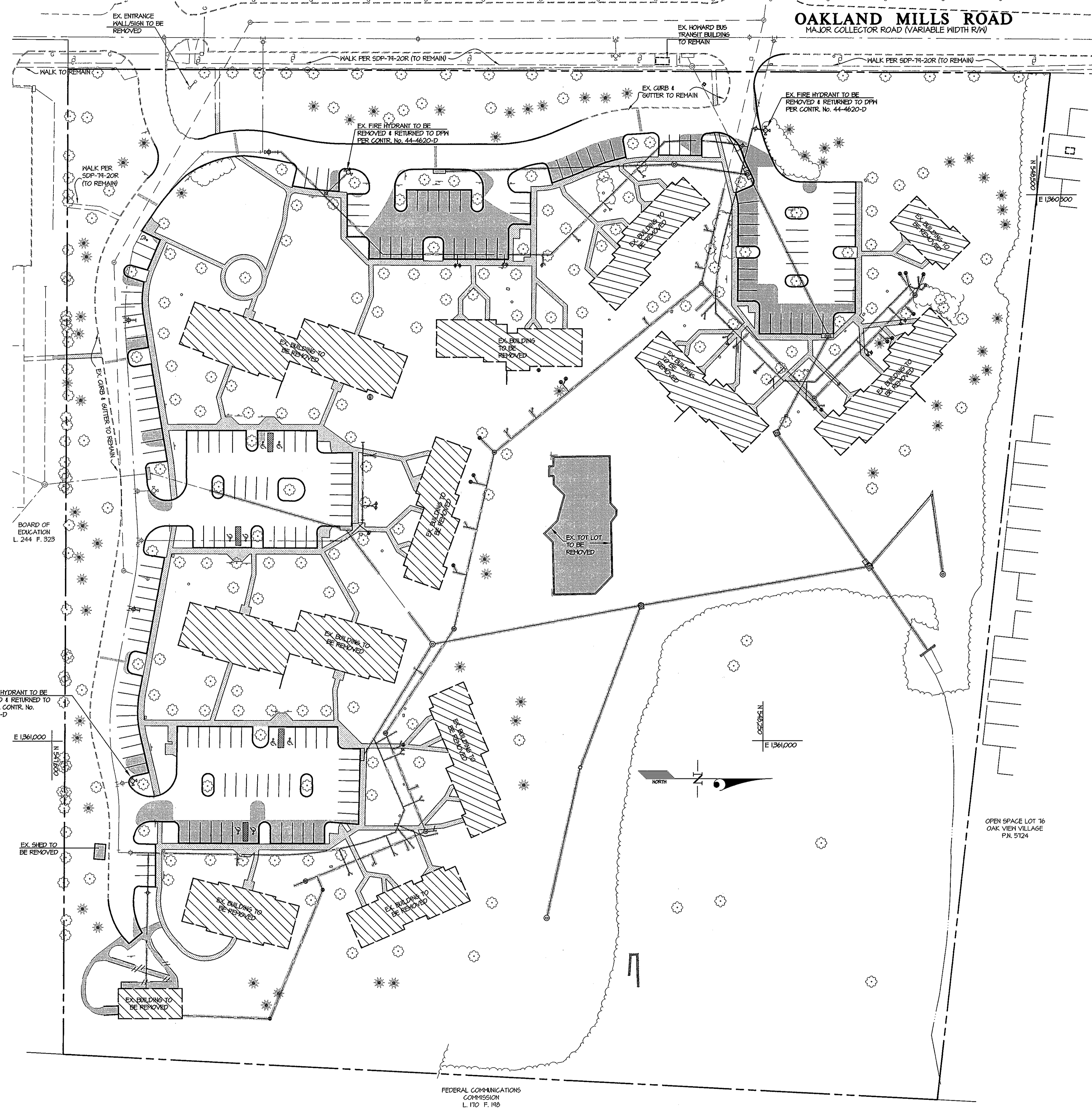
OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creodon
 410-962-0595



SCALE	ZONING	G. L. W. FILE NO.
1"=30'	RA-15	08057
DATE	TAX MAP -- GRID	SHEET
Nov., 2009	42 - 11	8 OF 35

OAKLAND MILLS ROAD
MAJOR COLLECTOR ROAD (VARIABLE WIDTH R/W)



DEMOLITION NOTES:

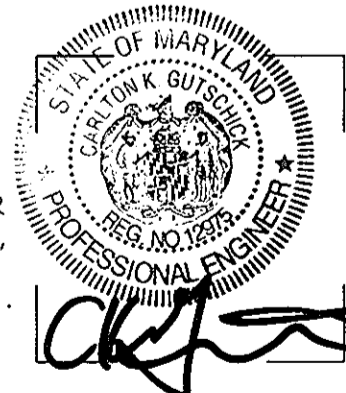
1. SEE SEDIMENT CONTROL PLAN FOR SEQUENCE OF CONSTRUCTION.
2. ALL EXISTING BUILDINGS, LIGHTS, SIGNS AND PARKING STRIPES SHOWN ON THIS PLAN SHALL BE REMOVED, UNLESS OTHERWISE NOTED.
3. AS A LEED PROJECT, THE EXISTING ASPHALT & CONCRETE SHALL BE RECYCLED AS DIRECTED BY THE GEOTECHNICAL ENGINEER FOR USE AS BASE MATERIAL ON THIS SITE.
4. ALL UNDERGROUND LINES AND APPURTENANCES (EGE, COMCAST, VERIZON, ETC.) TO BE REMOVED, UNLESS OTHERWISE NOTED.

DEMOLITION LEGEND

- EXISTING LIGHT TO BE REMOVED (UNLESS OTHERWISE NOTED)
- EXISTING SIGN TO BE REMOVED (UNLESS OTHERWISE NOTED)
- EXISTING TREES, SEE LANDSCAPE PLANS FOR TREES TO REMAIN, TO BE RELOCATED OR REMOVED.
- EXISTING CURB & GUTTER TO REMAIN
- EXISTING CURB & GUTTER TO BE REMOVED (4,744 L.F.)
- EXISTING FENCE TO BE REMOVED
- EXISTING SIDEWALK TO BE REMOVED (24,991 S.F.)
- PROPOSED DEMOLITION
- DEMOLITION OF BUILDING UNDER SEPARATE CONTRACT
- EXISTING STORM DRAIN TO BE REMOVED
- EXISTING SEWER TO BE REMOVED
- EXISTING WATER TO BE REMOVED (CONT. # 2012-D W45)
- EXISTING STORM DRAIN TO REMAIN
- EXISTING SEWER TO REMAIN
- EXISTING WATER TO REMAIN (CONT. # 2012-D W45)

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12415, EXPIRATION DATE: MAY 26, 2010



12-2-09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Thomas E. Stottle 2/18/10
Director Date
Keith Sheehy 2/18-10
Chief, Division of Land Development Date
John Deane 1/15/10
Chief, Development Engineering Division Date

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

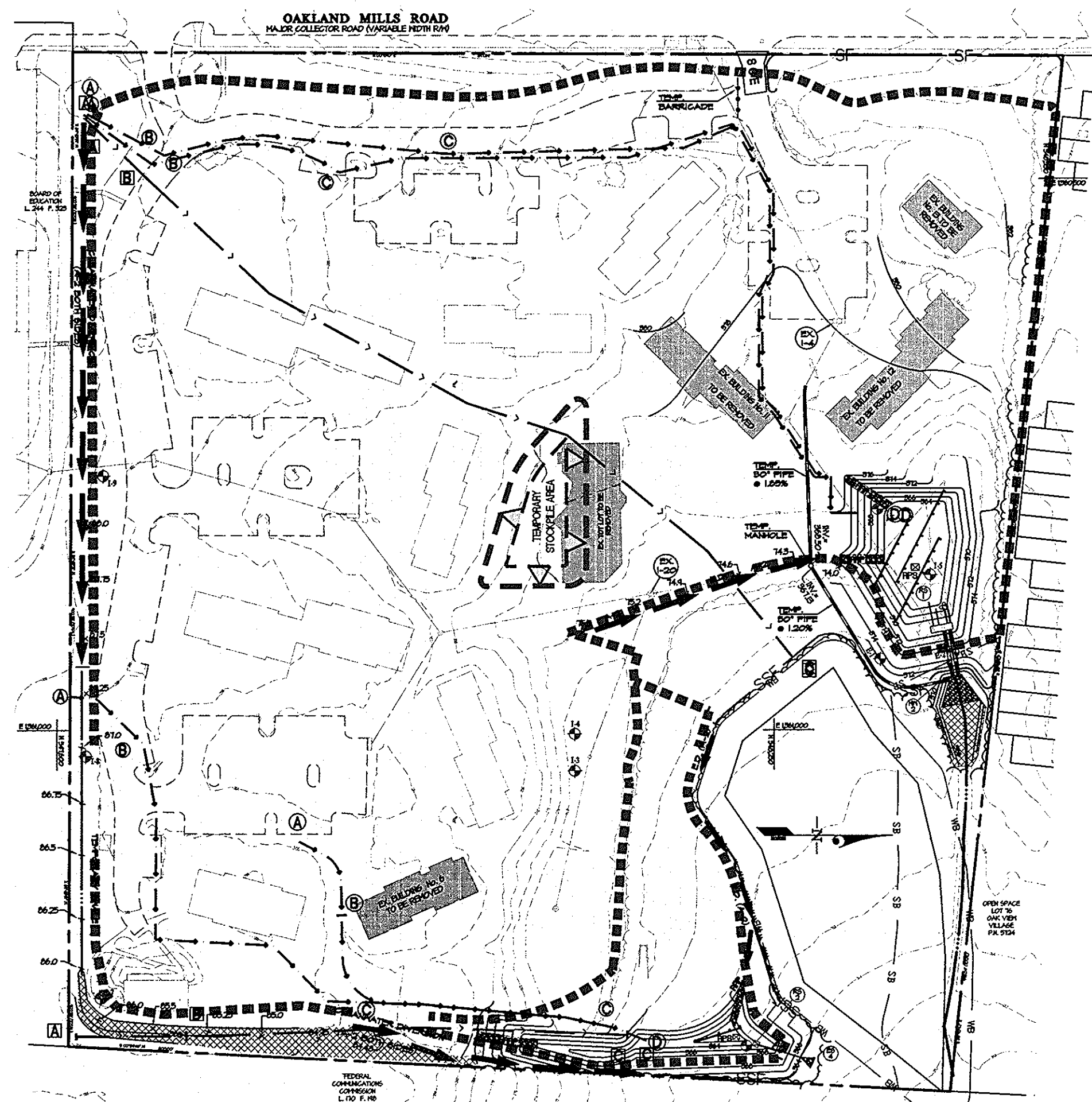
OWNER:
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ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
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218 North Charles Street
Suite 220
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ATTN: Donna Creedon
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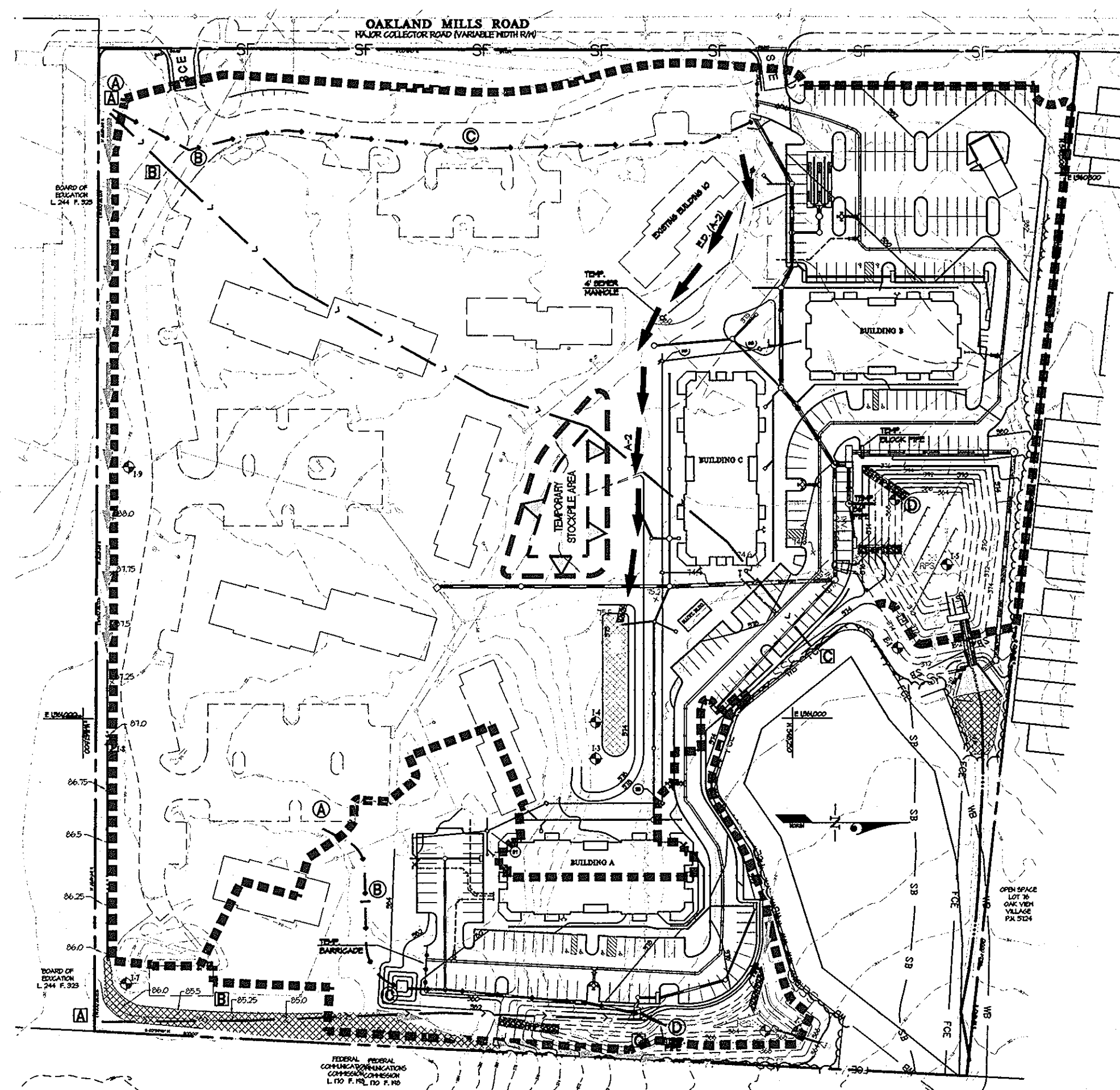
DEMOLITION PLAN
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 20067 & 20070
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

SCALE 1"=50'	ZONING RA-15	G. L. W. FILE No. 08057
DATE Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 9 OF 35

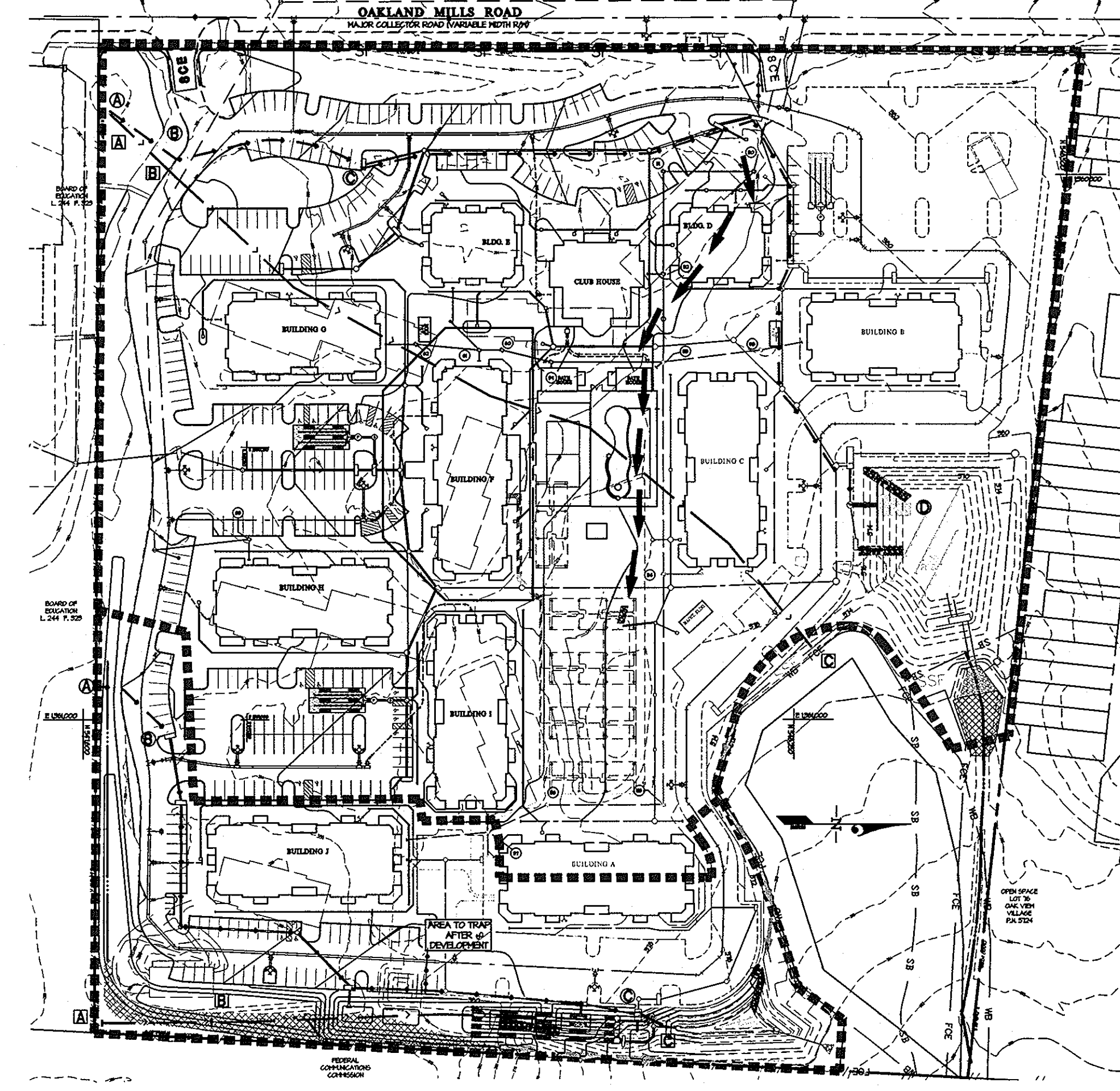
L:\CADD\DRAWINGS\08057\SDP\08057 DEMOLITION.dwg DES. DEV DRN. KLP CHK. KGC DATE REVISION BY APP'R



SEDIMENT CONTROL - PHASE I CONDITION
DRAINAGE AREA MAP
SCALE: 1"=100'



SEDIMENT CONTROL - PHASE 2 CONSTRUCTION
DRAINAGE AREA MAP
SCALE: 1"=100'



SEDIMENT CONTROL - PHASE 3 CONSTRUCTION
DRAINAGE AREA MAP
SCALE: 1"=100'

Design Item	To Main Pond Before Development	During Construction
Drainage Area	14.0 ac.	18.7 ac.
Drainage Area	0.0241 sq. miles	0.0242 sq. miles
Curve Number	84	91
Time of Conc.	0.21 hr.	0.21 hr.
1 Yr. Discharge	35.16 c.f.s.	---
1 Yr. Discharge (Unmanaged)	---	31.74 c.f.s.
1 Yr. Discharge (Managed)	---	18.04 c.f.s. @ 371.42
10 Yr. Discharge (Unmanaged)	---	86.84 c.f.s.
10 Yr. Discharge (Managed)	---	85.24 c.f.s. @ 372.50

Design Item	To Pocket Pond Before Development	During Construction
Drainage Area	2.4 ac.	2.4 ac.
Drainage Area	0.0033 sq. miles	0.0038 sq. miles
Curve Number	85	85
Time of Conc.	0.18 hr.	0.18 hr.
1 Yr. Discharge	5.21 c.f.s.	---
1 Yr. Discharge (Unmanaged)	---	6.72 c.f.s.
1 Yr. Discharge (Managed)	---	1.81 c.f.s. @ 366.47
10 Yr. Discharge (Unmanaged)	---	13.91 c.f.s.
10 Yr. Discharge (Managed)	---	13.73 c.f.s. @ 367.21

PHASE 1 & 2 CONSTRUCTION - BEFORE-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 1)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	100	overland	unpaved	0.24	3.20	0.0250	0.51	0.22
B - C	730	shall conc.	unpaved	0.24	16.13	0.0250	2.55	0.08
								TOTAL= 0.30

PHASE 1 & 2 CONSTRUCTION - AFTER-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 1)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	90	overland	unpaved	0.24	3.20	0.0440	0.67	0.16
B - C	280	shall conc.	paved	---	20.33	0.0180	2.73	0.03
C - D	620	pipe	---	---	---	---	7.00	0.02
								TOTAL= 0.21

PHASE 1 & 2 CONSTRUCTION - BEFORE-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 2)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	100	overland	unpaved	0.24	3.20	0.0100	0.32	0.31
B - C	350	shall conc.	unpaved	0.24	16.1345	0.0600	3.95	0.02
								TOTAL= 0.33

PHASE 1 & 2 CONSTRUCTION - AFTER-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 2)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	65	overland	unpaved	0.24	3.20	0.0230	0.44	0.16
B - C	85	shall conc.	unpaved	---	16.1345	0.0240	2.50	0.01
C - D	220	pipe	---	---	---	---	7.00	0.01
								TOTAL= 0.18

PHASE 3 CONSTRUCTION - BEFORE-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 1)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	100	overland	unpaved	0.24	3.20	0.0250	0.51	0.22
B - C	730	shall conc.	unpaved	0.24	16.13	0.0250	2.55	0.08
								TOTAL= 0.30

PHASE 3 CONSTRUCTION - AFTER-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 1)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	90	overland	unpaved	0.24	3.20	0.0440	0.67	0.16
B - C	280	shall conc.	paved	---	20.33	0.0180	2.73	0.03
C - D	620	pipe	---	---	---	---	7.00	0.02
								TOTAL= 0.21

PHASE 3 CONSTRUCTION - BEFORE-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 2)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	100	overland	unpaved	0.24	3.20	0.0100	0.32	0.31
B - C	350	shall conc.	unpaved	0.24	16.1345	0.0600	3.95	0.02
								TOTAL= 0.33

PHASE 3 CONSTRUCTION - AFTER-DEVELOPMENT TIME OF CONCENTRATION (TO BASIN 2)								
SEGMENT	DISTANCE	FLOW	COVER	"N"	CONST./P	SLOPE	VELOCITY	TL (hr)
A - B	TO INLET	---	---	---	---	---	---	0.08
B - C	640	pipe	---	---	---	---	7.00	0.03
								TOTAL= 0.33

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475, EXPIRATION DATE: MAY 26, 2010.

12-2-09

- SEDIMENT CONTROL LEGEND**
- 600 --- EXISTING CONTOUR
 - 600 — PROPOSED CONTOUR
 - SF — PROPOSED SILT FENCE
 - SSF — PROPOSED SUPER SILT FENCE
 - CP, AGP, SP INLET PROTECTION
 - SCE STABILIZED CONSTRUCTION ENTRANCE
 - E.P. — EARTH DIKE
 - D.D. — DRAINAGE DIVIDE
 - BEFORE DEVELOPMENT TIME OF CONCENTRATION
 - AFTER DEVELOPMENT TIME OF CONCENTRATION
 - BEFORE DEVELOPMENT STUDY POINT
 - AFTER DEVELOPMENT STUDY POINT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director 2/18/10
Date

Chief, Division of Land Development 2-18-10
Date

Chief, Development Engineering Division 1/15/10
Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0585

SEDIMENT CONTROL DRAINAGE AREA MAP
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 2000 & 2070
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	10 OF 35

L:\CADD\DRAWINGS\08057\SDP\08057 DAM-EX.dwg DES. DEV DRN. KLP CHK. CKG DATE REVISION BY APP'R.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT AND NDE NON-TIDAL WETLAND PERMIT (TRACKING #2009/25/01/04-NI-0212) AND ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING. DUE TO THE COMPLEXITY OF THIS PROJECT, THE CONTRACTOR MAY WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR PERFORM SOME CONSTRUCTION ITEMS CONCURRENTLY. NO "IN-STREAM" CONSTRUCTION MAY TAKE PLACE FROM MARCH 1 TO JUNE 15, (1 DAY)
- PHASE I CONSTRUCTION**
- INSTALL STONE CONSTRUCTION ENTRANCE, SILT FENCE, AND SUPER SILT FENCE AS DETAILED ON SHEET 14. (2 DAYS)
- CONSTRUCT CLEANWATER DIVERSION DIKE AND SHALE ALONG THE SOUTHERN AND EASTERN PROPERTY LINE. BEGIN CONSTRUCTION OF THESE DEVICES AT THE LOW END AND PROGRESS UPHILL. THE CONTRACTOR IS TO STABILIZE THE SHALE WITH AN APPROVED SOIL STABILIZATION MATERIAL AND TO EARTH DIKE WITH THE TREATMENT CALLED FOR ON THESE PLANS. (1 WEEK)
- CONSTRUCT THE STORM DRAIN DIVERSION AS SHOWN ON THIS PLAN TO DIRECT FLOWS FROM THE EXISTING STORM DRAIN SYSTEMS AROUND THE WORK AREA FOR SEDIMENT BASIN 1. (2 WEEKS)
- BEGIN CONSTRUCTION OF THE SEDIMENT BASINS. THE RISERS IN EACH FACILITY WILL BE CONSTRUCTED AS SHOWN ON THIS PLAN. PHASE I SEDIMENT CONTROL PLAN FOR LOCATION AND AND SHEETS 26 AND 24 FOR SIZE OF THE ORIFICES AND MEIRS. INSTALL RIP-RAP AT HW-2 AND E-4. CONTRACTOR IS TO IMMEDIATELY STABILIZE DISTURBED AREA DOWNSTREAM OF RIP-RAP AT HW-2 WITH SOD OR EROSION CONTROL MATTING WITH SEED. CONSTRUCTION OF SEDIMENT BASIN 1 CANNOT BE DONE FROM MARCH 1 TO JUNE 15. ONCE THE FILL FOR THE BASIN REACHES THE TOP OF DRY ELEVATION, INSTALL THE EARTH DIKE DRAWINGS TO THE BASINS IN THEIR "INITIAL LOCATION". CONSTRUCTION OF THE EARTH DIKES IS TO BEGIN AT THE BASIN AND PROGRESS UPHILL. (1 MONTH)
- UPON COMPLETION OF THE BASINS, AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN THE DEMOLITION OF BUILDINGS 6, 11, 12 AND 13 ALONG WITH THE REMOVAL OF EXISTING FEATURES AS SHOWN ON THE DEMOLITION PLAN IN THIS PLAN SET. TEMPORARILY GRADE THE AREA AS SHOWN ON THE PHASE I SEDIMENT CONTROL PLAN TO DRAIN THE AREA TO THE BASIN UNTIL THE PROPOSED STORM DRAIN HAS BEEN CONSTRUCTED. (3 MONTHS)

SEDIMENT CONTROL DESIGN INFORMATION	SEDIMENT BASIN 1	SEDIMENT BASIN 2
PRE-DEVELOPMENT DRAINAGE AREA	14.0 ACRES	2.1 ACRES
POST-DEVELOPMENT DRAINAGE AREA	10.7 ACRES	2.4 ACRES
TOTAL STORAGE REQUIRED (WET & DRY VOLUME)	69,400 C.F.	8640 C.F.
TOTAL STORAGE PROVIDED (WET VOLUME & 1 YR. TSMW)	64,810 C.F.	11,766 C.F.
TOTAL STORAGE PROVIDED (NET VOLUME)	11,974 C.F.	11,766 C.F.
RISER DIMENSIONS	20' X 6'	5' X 6'
BARREL SIZE	2-30" RCCP	18" RCCP
WEIR CREST ELEVATION	VARIES	VARIES
RISER CREST LENGTH	52'	16'
RISER CREST ELEVATION	371.85	366.85
OUTLET ELEVATION (LIMIT OF NET VOLUME)	364.00	364.83
CLEANOUT ELEVATION	366.73	364.04
BOTTOM ELEVATION	366.00	363.40
BOTTOM DIMENSIONS	VARIES	VARIES
POST-DEVELOPMENT 1 YEAR DISCHARGE	35.16 CFS	5.21 C.F.S.
POST-DEVELOPMENT 1 YEAR DISCHARGE (UNMANAGED)	37.74 CFS	6.72 C.F.S.
POST-DEVELOPMENT 1 YEAR DISCHARGE (MANAGED)	18.04 CFS @ 371.42	1.81 C.F.S. @ 366.47
NET VOLUME REQUIRED	34,200 CF	4320 CF
NET VOLUME PROVIDED	36,264 CF @ 364.00	4320 CF @ 364.83
DRY VOLUME REQUIRED	34,200 CF	7446 CF
DRY VOLUME PROVIDED	35,610 CF @ 371.42	7446 CF @ 366.47

RIP RAP INFORMATION	HW-2	E-4
DESIGN ITEM		
STONE CLASS	CL-11	CL-1
LENGTH	25'	10'
D50	16"	4 1/2"
DMAX	24"	15"
BLANKET THICKNESS	32"	14"

SEDIMENT CONTROL LEGEND

- 600 --- EXISTING CONTOUR
- 600 PROPOSED CONTOUR
- LIMIT OF DISTURBANCE
- SF PROPOSED SILT FENCE
- SSF PROPOSED SUPER SILT FENCE
- RPS REMOVABLE PUMPING STATION
- PROPOSED RIP RAP PROTECTION
- SCE PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SHALE
- ED PROPOSED EARTH DIKE
- PROPOSED EROSION CONTROL MATTING (ECM)

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] DATE: 12/2/09

DEVELOPER'S/BUILDER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] DATE: 12-2-09

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[Signature] DATE: 12-2-09

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475

EXPIRATION DATE: MAY 26, 2010

[Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] DATE: 2/18/10
Director

[Signature] DATE: 2-18-10
Chief, Division of Land Development

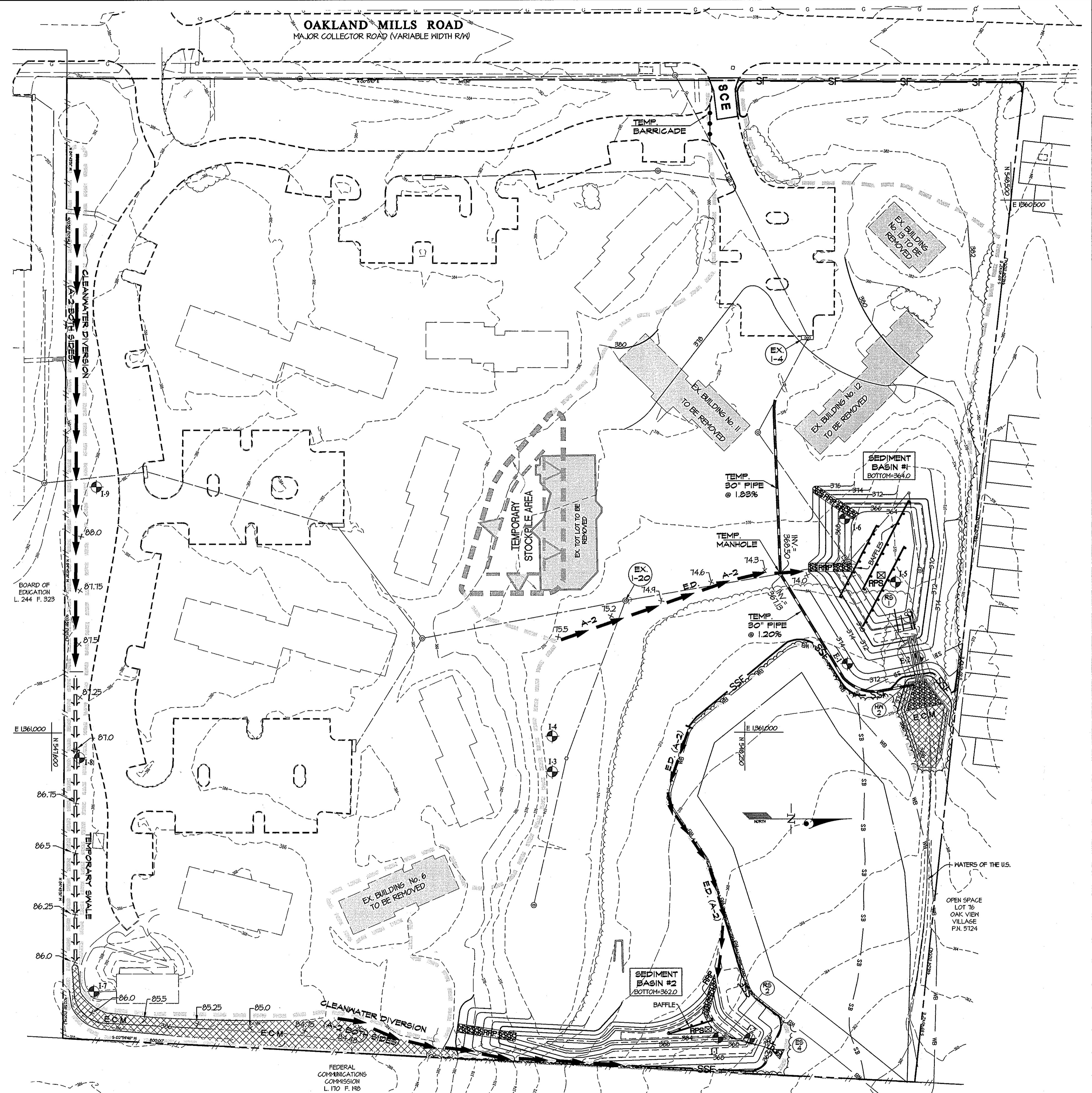
[Signature] DATE: 1/15/10
Chief, Development Engineering Division

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

DATE	REVISION	BY	APP'R.



THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY.

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Corbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

PHASE I - SEDIMENT CONTROL PLAN

Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units

GUILFORD GARDENS

SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 2006-2 & 2007-0
TAX MAP 42, PARCEL 361

ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	11 OF 35

HOWARD COUNTY, MARYLAND

SEQUENCE OF CONSTRUCTION

PHASE 2 CONSTRUCTION

7. INSTALL THE EARTH DIKE SHOWN ON THIS PLAN BEGINNING AT THE LOW AREA TO THE WEST OF BUILDING A AND PROGRESS UPHILL TO THE NORTHWEST CORNER OF EXISTING BUILDING 10. (1 WEEK)
8. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN GRADING THE AREA SHOWN ON THE PHASE 2 SEDIMENT CONTROL PLAN. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE SITE. DUST IS TO BE CONTROLLED IN ACCORDANCE WITH THE SPECIFICATIONS ON SHEET 14. (1 MONTH)
9. CONSTRUCT THE STORM DRAIN SYSTEM TO THE LIMITS SHOWN ON THE PHASE 2 SEDIMENT CONTROL PLAN. THE PIPE LEAVING MH-20A TO SC-3, SP-1 TO MH-13, AND SP-2 TO MH-3 MUST BE BLOCKED AT THIS TIME. A TEMPORARY PIPE WILL BE INSTALLED FROM SP-2 TO THE BOTTOM OF THE SEDIMENT TRAP. CONSTRUCTION OF THE STORM DRAIN RUN FROM MH-2 TO MH-1, SP-2 TO MH-3, AND SP-2 TO ES-1 WILL BE DONE AS PART OF THE POND CONVERSIONS LATER IN THE CONSTRUCTION SEQUENCE. (1 WEEK)
10. THE CONSTRUCTION OF THE STORM DRAIN FROM D-II TO MH-3 NEEDS TO BE CONSTRUCTED IN THE FOLLOWING MANNER: (1 WEEK)
 - I. CONSTRUCT MH-3 AND THE FIRST 120' OF 36" HDPE TOWARD MH-4.
 - II. CONSTRUCT D-II OVER THE EXISTING STORM DRAIN LINE AND THE 30" HDPE DOWN TO WITHIN 25' OF EX. I-20. TEMPORARILY BLOCK THE OUTLET FROM D-II TO THE PROPOSED 30" HDPE AT THIS TIME.
 - III. REMOVE THE LAST 40' OF EXISTING STORM DRAIN FROM EX. I-24 TO EX. MH-21 AND CONSTRUCT THE TEMPORARY PIPE TO D-II.
 - IV. CONSTRUCT THE TEMPORARY PIPE TO CONNECT THE STORM DRAIN RUNS INSTALLED UNDER ITEMS I AND II ABOVE.
 - V. UNBLOCK THE NEWLY CONSTRUCTED 30" STORM DRAIN OUT OF D-II AND PERMANENTLY BLOCK THE OUTLET TO THE EXISTING 24" RCP.
 - VI. THE EXISTING PIPE FROM D-II TO EX. I-20 AS WELL AS I-20 CAN BE REMOVED AT THIS TIME. THE EXISTING 21" FROM I-20 TO THE BASIN CAN BE REMOVED AT THIS TIME.
 - VII. COMPLETE THE STORM DRAIN RUN FROM D-II TO MH-4 AND FROM MH-4 TO MH-3.
11. CONSTRUCT THE WATER IN THE AREA SHOWN ON THE PHASE 2 SEDIMENT CONTROL PLAN PER CONTRACT M44-4620-D, AND THE SEWER PER THIS PLAN SET. (1 MONTH)
12. FINE GRADE SITE, CONSTRUCT RETAINING WALLS, AND THE CONSTRUCTION OF BUILDINGS A, B, AND C. CONSTRUCTION OF THE RETAINING WALLS MUST BE SUPERVISED BY THE ON-SITE GEO-TECHNICAL ENGINEER. AS THE FILL FOR THE RETAINING WALLS ADJACENT TO THE NETLANDS PROGRESSES, RELOCATE THE EARTH DIKE AS SHOWN ON THIS PLAN, INSURING POSITIVE DRAINAGE TO THE BASIN AND/OR SEDIMENT TRAP. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE EARTH DIKE COULD BE REPLACED BY SILT FENCE ONCE THE RENOFT CAN BE CONVEYED TO THE BASIN THROUGH THE STORM DRAIN SYSTEM. (3 MONTHS)
13. INSTALL CURB AND GUTTER, SIDEWALKS, GUARD RAILS, ETC. PAVE ALL AREAS TO BE PAVED. STABILIZE ALL OTHER AREAS WITH PERMANENT SEEDING, MULCH, AND LANDSCAPING. INSTALLATION OF THE FINAL COURSE OF PAVING MUST BE INSPECTED BY THE ON-SITE GEO-TECHNICAL ENGINEER. THE CONTRACTOR SHOULD WORK WITH THE SEDIMENT CONTROL INSPECTOR TO DETERMINE IN THE FIELD IF IT WOULD BE BEST, IN THE INTEREST OF AVOIDING DAMAGING NEWLY CONSTRUCTED ITEMS, TO DELAY CERTAIN IMPROVEMENTS CALLED FOR IN THIS ITEM TO THE NEXT PHASE. (2 MONTHS)
14. CONSTRUCT THE COMPACTOR IN THE NORTHWEST CORNER OF THE SITE. (1 WEEK)

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 12/16/09
HOWARD S.C.D. DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A HANRLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 12-2-09
SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

[Signature] 12-2-09
DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12175
EXPIRATION DATE: MAY 26, 2010



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 2/18/10
Director Date

[Signature] 2-18-10
Chief, Division of Land Development Date

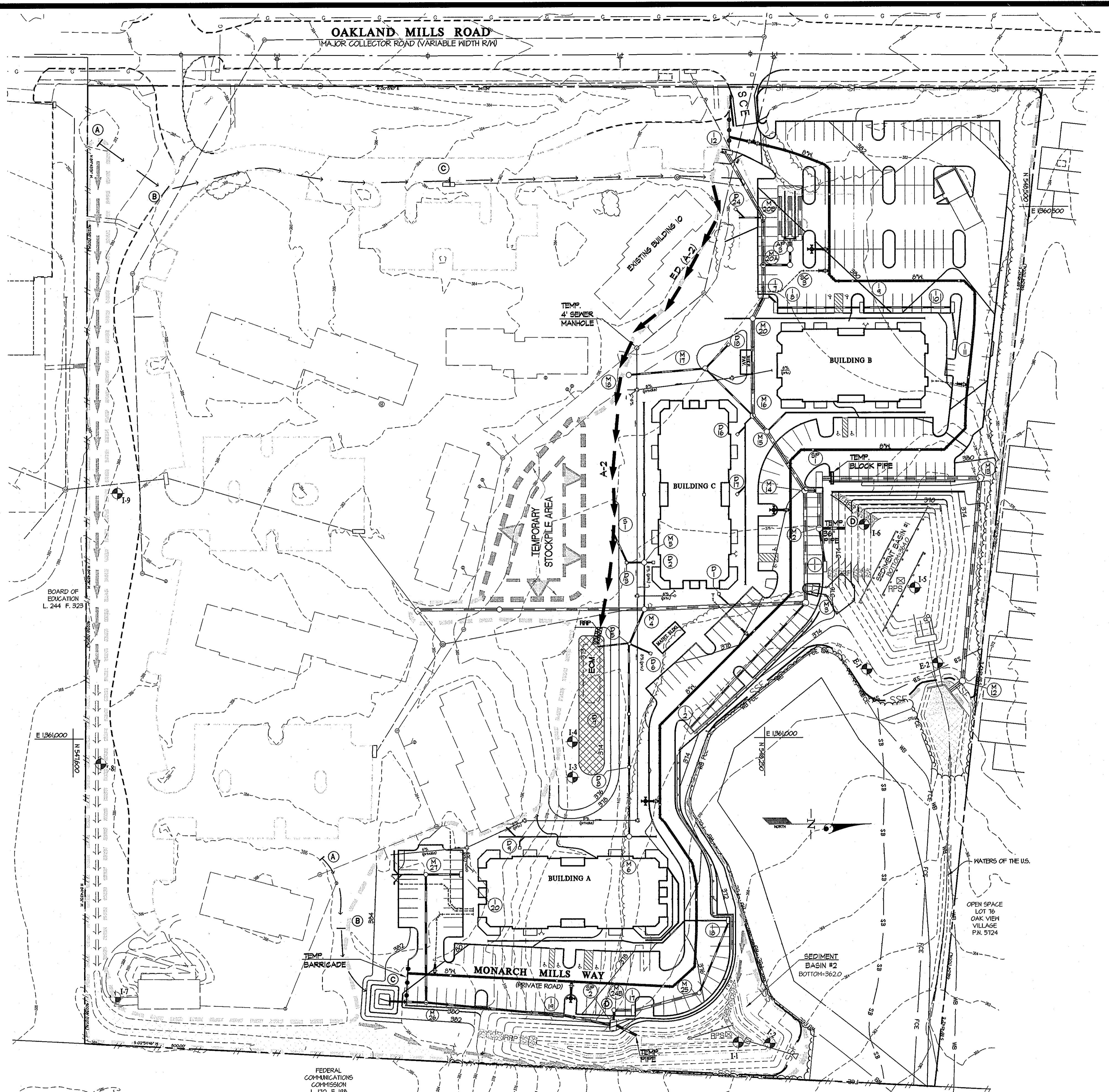
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Chief, Development Engineering Division Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
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BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

SEDIMENT CONTROL LEGEND

- 600 --- EXISTING CONTOUR
- 600 --- PROPOSED CONTOUR
- LIMIT OF DISTURBANCE
- SF --- PHASE 1 SILT FENCE
- SSF --- PHASE 1 SUPER SILT FENCE
- SF --- PROPOSED SILT FENCE
- SSF --- PROPOSED SUPER SILT FENCE
- SCE --- PHASE 1 STABILIZED CONSTRUCTION ENTRANCE
- RRP --- PHASE 1 RIP RAP PROTECTION
- RPS --- REMOVABLE PUMPING STATION
- S --- PHASE 1 SHALE
- E --- PHASE 1 EARTH DIKE
- E --- PROPOSED EARTH DIKE
- T --- TIME OF CONCENTRATION PATH
- ECM --- PROPOSED EROSION CONTROL MATTING (ECM)
- ECM --- PHASE 1 EROSION CONTROL MATTING (ECM)

DESIGN ITEM	MH-2	ES-4
STONE CLASS	CL. II	CL. I
LENGTH	25'	10'
D ₅₀	16"	4 1/2"
D _{max}	24"	15"
BLANKET THICKNESS	32"	19"



THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY.

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

PHASE 2 - SEDIMENT CONTROL PLAN
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 200607 & 20070
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

SCALE 1"=50'	ZONING RA-15	G. L. W. FILE No. 08057
DATE Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 12 OF 35

L:\CAD\DRAWINGS\08057\SDP\08057 SNE PH2.dwg	DES. DEV	DRN. KLP	CHK. CKG	DATE	REVISION	BY	APP'R.
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SEQUENCE OF CONSTRUCTION

PHASE 3 CONSTRUCTION

15. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN GRADING THE AREA SHOWN ON THE "PHASE 3 SEDIMENT CONTROL PLAN" MUST BE CONTROLLED IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN ON SHEET 14. (2 MONTHS)
16. AS RESIDENTS ARE RELOCATED FROM THE EXISTING BUILDINGS DEMOLITION OF BUILDINGS 2 THRU 5, 7 THRU 10, AND THE MAINTENANCE BUILDING ALONG WITH THE REMOVAL OF EXISTING FEATURES AS SHOWN ON THE DEMOLITION PLAN IN THIS PLAN SET. (4 MONTHS)
17. CONSTRUCT THE STORM DRAIN TO THE LIMITS SHOWN ON THE "PHASE 3 SEDIMENT CONTROL PLAN". THE PIPE LEAVING I-21 TO ES-3 AND FROM I-14 TO ES-2 MUST BE BLOCKED AT THIS TIME TO INSURE ALL THE RAINFALL IS CONVEYED TO THE SEDIMENT TRAP. THE PIPE LEAVING M1-8A TO SC-1 AND FROM I-5 TO SC-2 MUST BE BLOCKED. (2 MONTHS)
18. ONCE THE STORM DRAIN RUN FROM M1-10A TO M1-4 HAS BEEN COMPLETED, THE EXISTING PIPE IN THAT AREA MAY BE REMOVED OR FILLED WITH FLOWABLE FILL AND ABANDONED IN PLACE. (1 WEEK)
19. CONSTRUCT THE WATER IN THE AREA SHOWN ON THE "PHASE 3 SEDIMENT CONTROL PLAN" PER CONTRACT M4-4620-D, THE SEWER, AND THE GEO-THERMAL SITES PER THIS PLAN SET. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION CONCERNING THE GEO-THERMAL SITES. (6 MONTHS)
20. FINE GRADE SITE AND BEGIN THE CONSTRUCTION OF BUILDINGS D THRU J, CLUB HOUSE, AND BATH HOUSE. BEGIN CONSTRUCTION OF THE POOL, VOLLEYBALL COURT, ENTRANCE FEATURE, AND OTHER AMENITIES. THE CONTRACTOR MAY, WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR DELAY SOME OF THESE ITEMS IF IN DOING SO, DAMAGE TO THE AMENITIES CAN BE AVOIDED. (8 MONTHS)
21. INSTALL CURB AND GUTTER, SIDEWALKS, GUARD RAILS, ETC... PAVE ALL AREAS TO BE PAVED. STABILIZE ALL OTHER AREAS WITH PERMANENT SEEDING, MULCH, AND LANDSCAPING. INSTALLATION OF THE FINAL COURSE OF PAVING MUST BE INSPECTED BY THE ON-SITE GEO-TECHNICAL ENGINEER. (6 MONTHS)
22. FLUSH AND PUMP CLEAN THE STORM DRAIN SYSTEM. (1 DAY)
23. BEGIN CONSTRUCTION OF THE UNDERGROUND STORAGE FOR THE POND #2 ALONG THE EAST PROPERTY LINE AND THE BIO-RETENTION FACILITY IN THE SAME AREA. (1 MONTH)
24. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, WHEN ALL AREAS DRAINING TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND ARE NO LONGER NEEDED FOR LEANWATER DIVERSION, THAT SEDIMENT CONTROL DEVICE MAY BE REMOVED. ANY DISTURBANCE CREATED BY ITS REMOVAL MUST BE STABILIZED IMMEDIATELY. (1 MONTH)
25. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, CONVERT THE SEDIMENT BASIN AND SEDIMENT TRAP TO STORMWATER MANAGEMENT FACILITIES ACCORDING TO THE FINAL GRADING SHOWN ON THESE PLANS. THE RISERS WILL BE MODIFIED TO REFLECT THE DETAILS ON THESE PLANS FOR FINAL LOCATION AND SIZE FOR THE ORIFICES AND WEIRS. INSTALL FENCES AROUND BOTH FACILITIES AS SHOWN ON THESE PLANS. (1 MONTH)
26. CONSTRUCT THE STORM DRAIN RUNS M4-2 TO HH-1, SP-2 TO ES-1A, AND SP-2 TO ES-1. (1 MONTH)
27. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, THE BLOCKINGS IN I-5, I-4, I-21, M1-8A, M1-20A, SP-1, AND SP-2 MAY BE REMOVED AT THIS TIME. (1 DAY)
28. THE CONTRACTOR IS TO REMOVE ALL NON-NATURAL ITEMS (DEBRIS AND JUNK), BOTH EXISTING AND AS A RESULT OF THE PROPOSED CONSTRUCTION FROM THE WETLANDS, STREAM, BUFFERS, AND FORESTED AREA ON THE SITE. (1 WEEK)
29. OWNER MUST PREPARE AS-BUILT OF THE STORMWATER MANAGEMENT FACILITY AND SUBMIT TO THE HOWARD SCD FOR REVIEW AND APPROVAL. ONCE APPROVED, THE OWNER IS TO PROVIDE A COPY OF THE HOWARD SCD POND APPROVAL LETTER TO THE SEDIMENT CONTROL INSPECTOR. (1 MONTH)

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
HOWARD SCD. DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature]
SIGNATURE OF DEVELOPER/BUILDER DATE 12-2-09

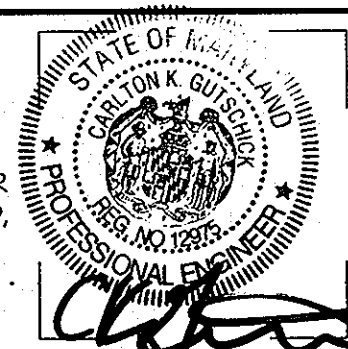
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[Signature]
DATE 12-2-09

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12415, EXPIRATION DATE: MAY 26, 2010.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] Director Date 12/16/09

[Signature] Chief, Division of Land Development Date 12/16/09

[Signature] Chief, Development Engineering Division Date 11/15/09

GLWGUTSCHICK LITTLE & WEBER, P.A.

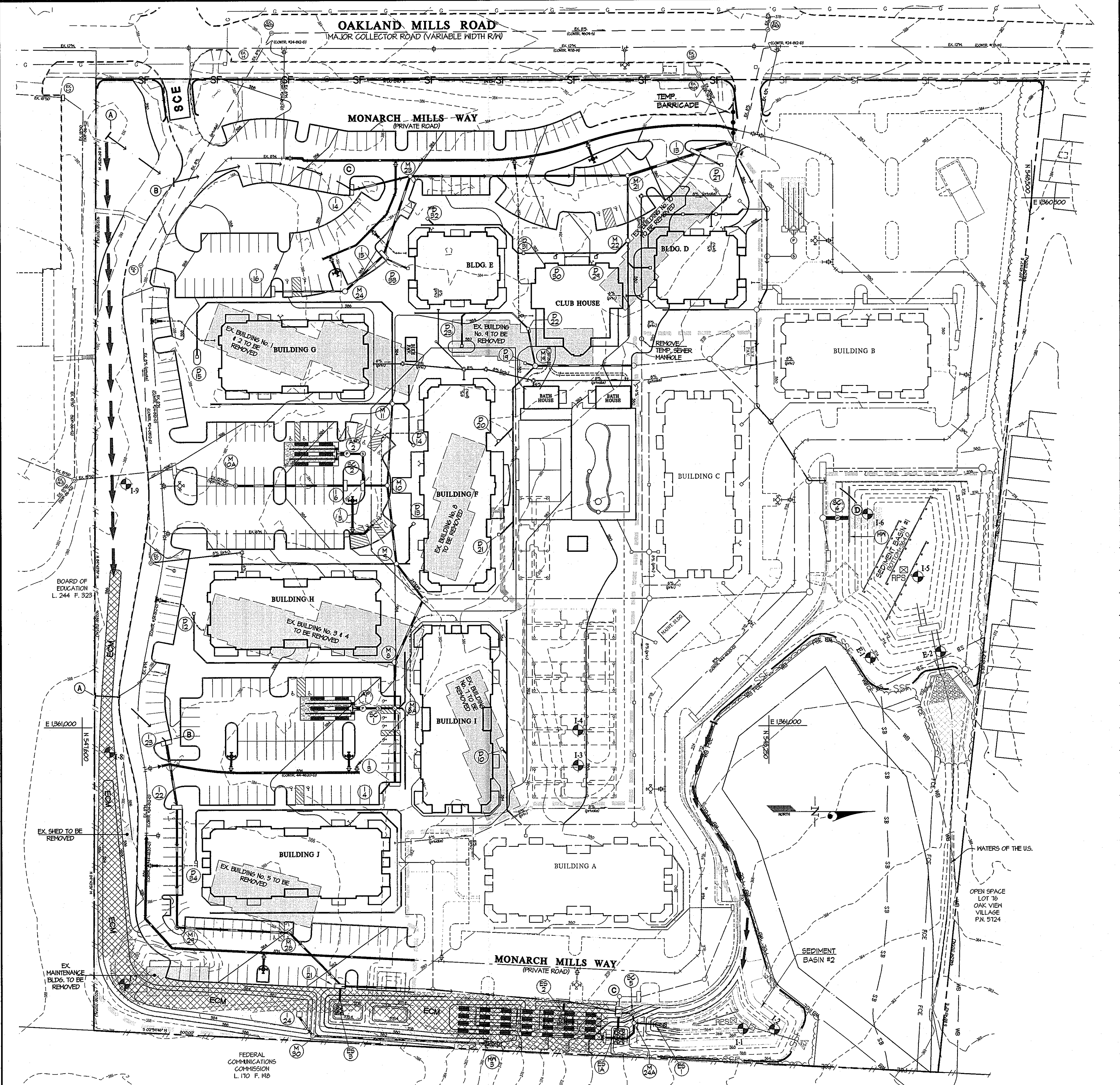
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SEDIMENT CONTROL LEGEND

- 600 --- EXISTING CONTOUR
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- --- LIMIT OF DISTURBANCE
- SF --- PHASE I SILT FENCE
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- --- PHASE I EARTH DIKE
- --- PROPOSED EARTH DIKE
- --- TIME OF CONCENTRATION PATH
- --- EROSION CONTROL MATTING (ECM)

RIP RAP INFORMATION	HM-2	ES-4
DESIGN ITEM	CL II	CL I
STONE CLASS	25'	10'
LENGTH	16"	9 1/2"
D ₅₀	24"	15"
D _{max}	32"	19"
BLANKET THICKNESS		

RIP RAP INFORMATION	HM-1	HM-3	ES-1	ES-1A	ES-2	ES-3
DESIGN ITEM	CL I	CL I	CL II	CL I	CL I	CL I
STONE CLASS	30'	15'	10'	15'	14'	4'
LENGTH	4 1/2"	4 1/2"	16"	4 1/2"	4 1/2"	4 1/2"
D ₅₀	15"	15"	24"	15"	15"	15"
D _{max}	19"	19"	32"	19"	19"	19"
BLANKET THICKNESS						



THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY. No STOCKPILES ALLOWED DURING THIS PHASE.

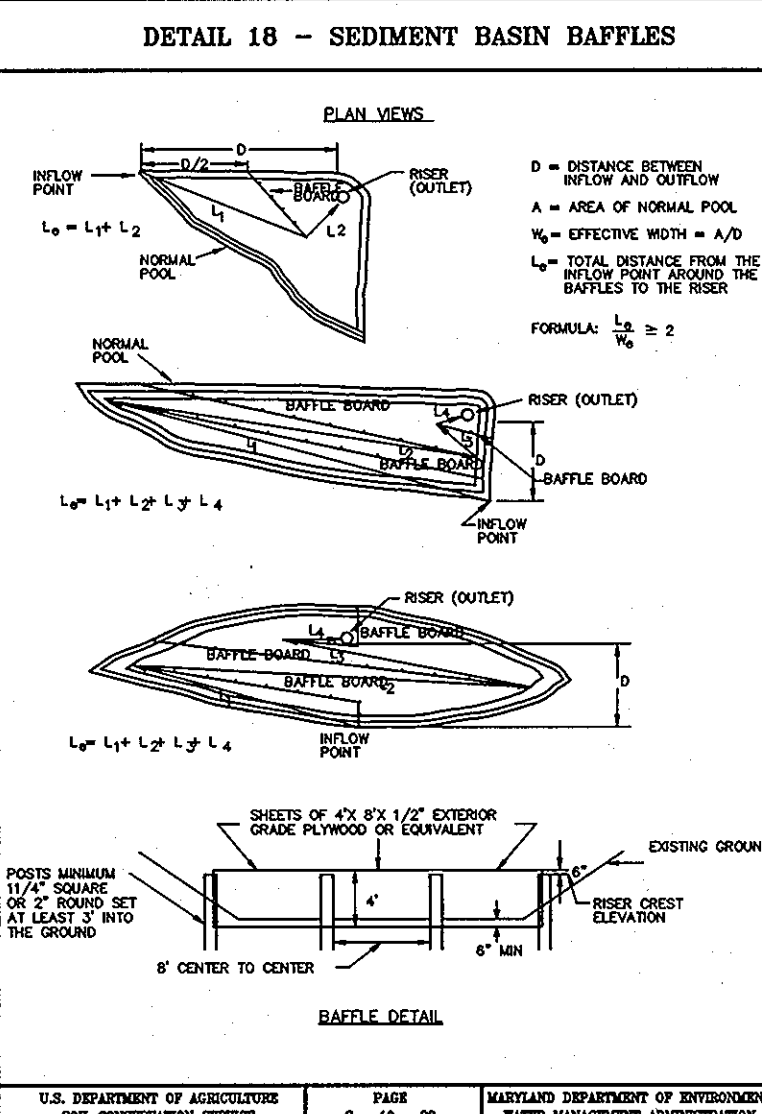
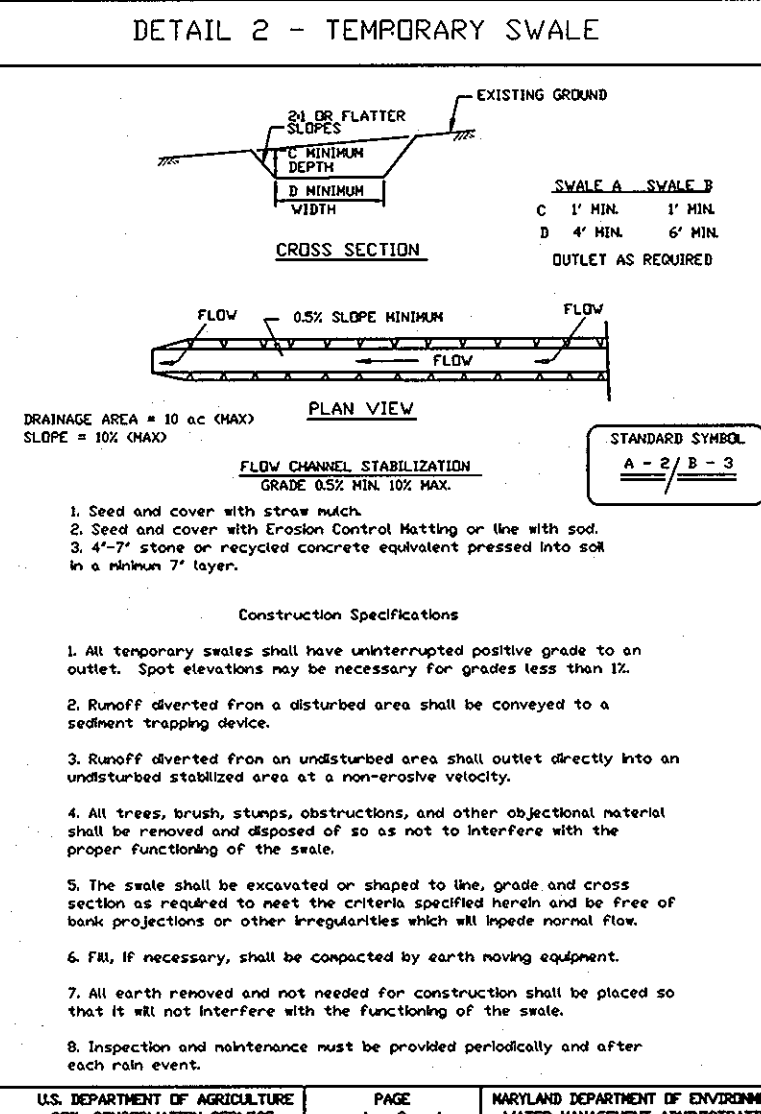
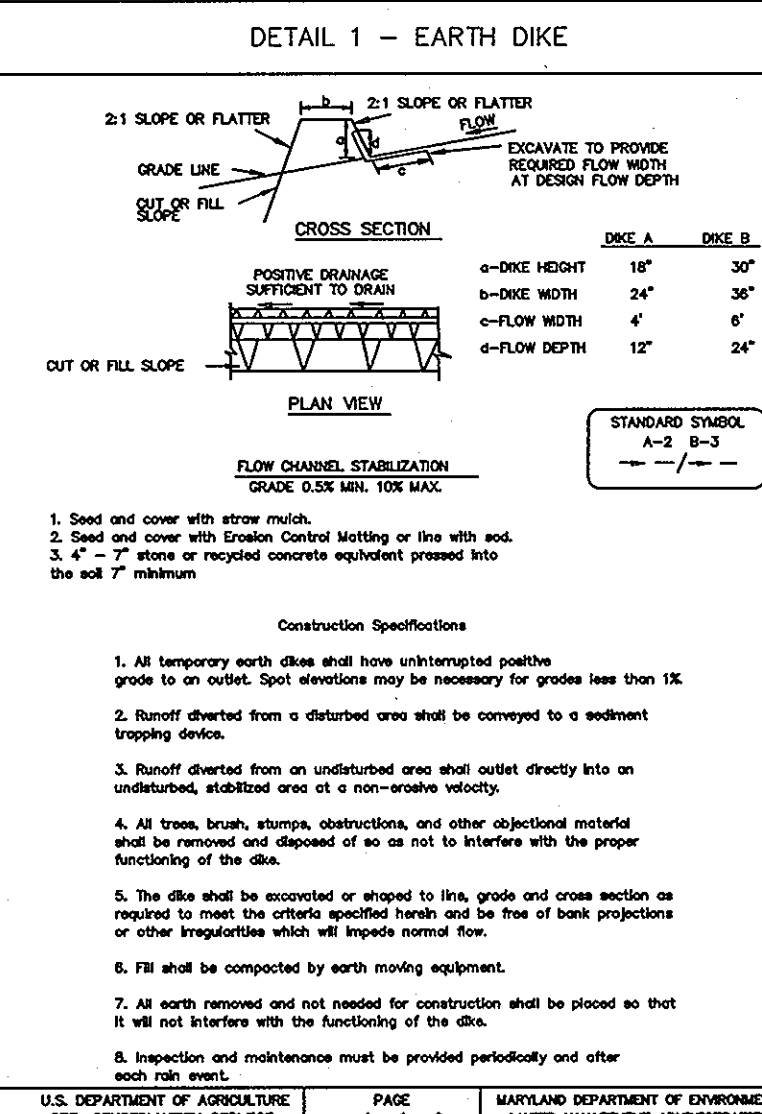
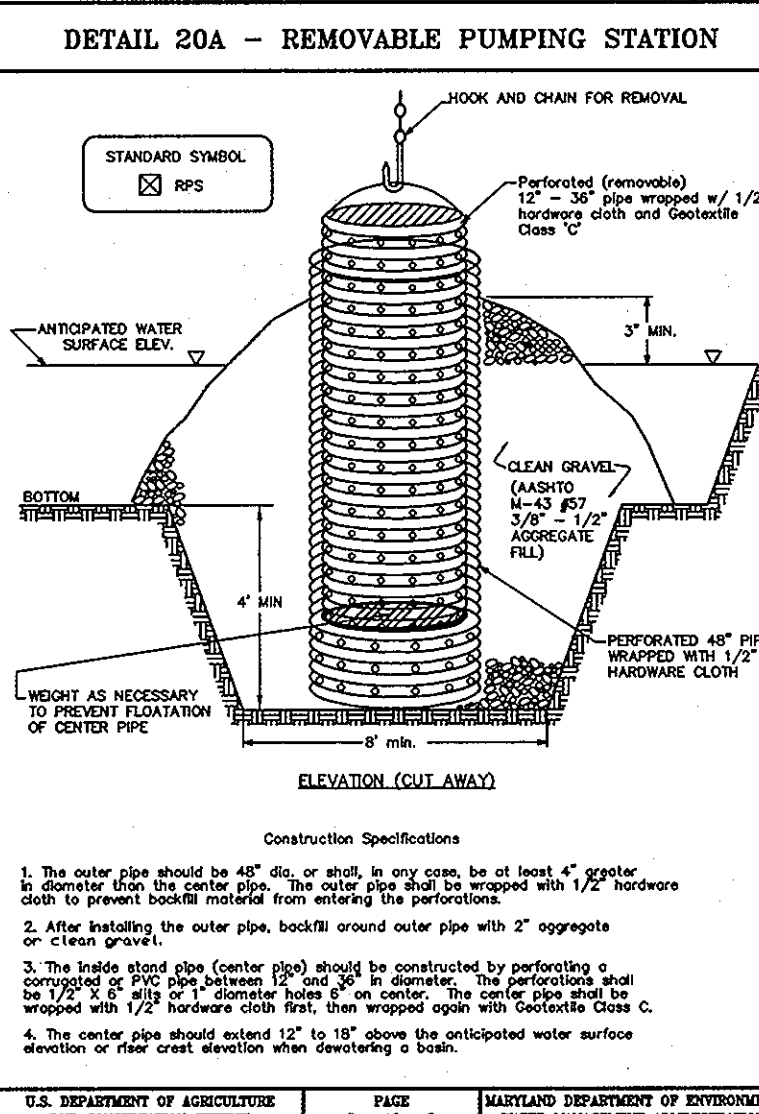
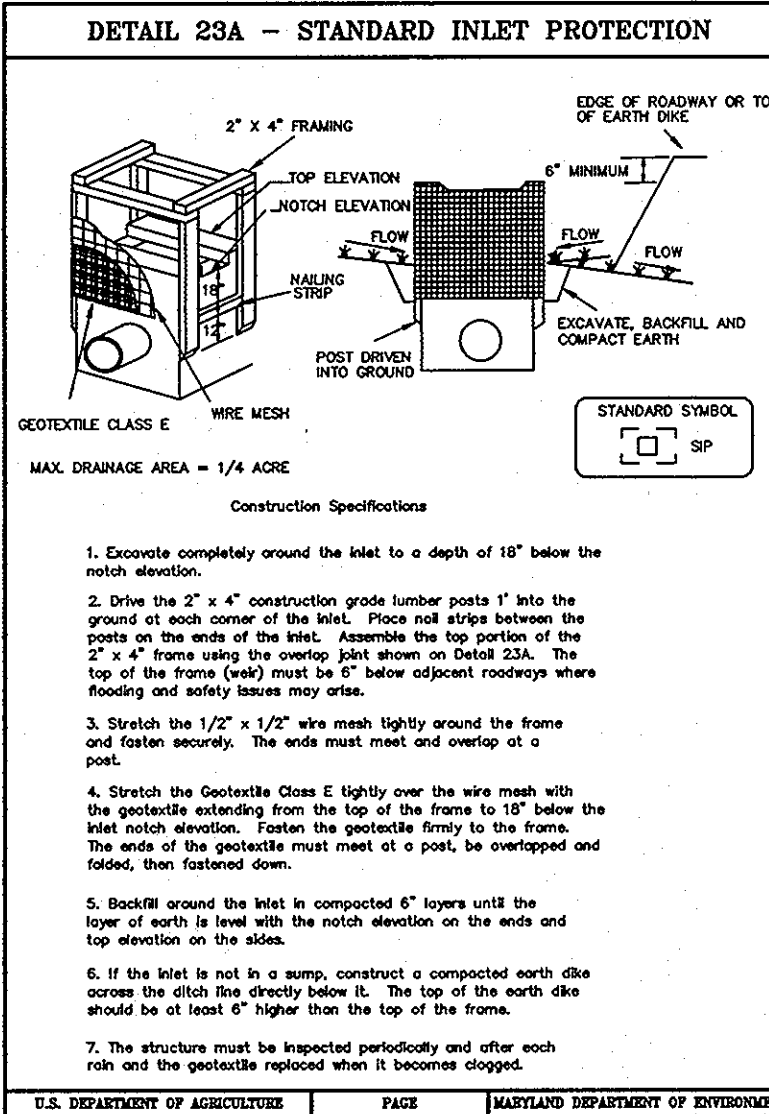
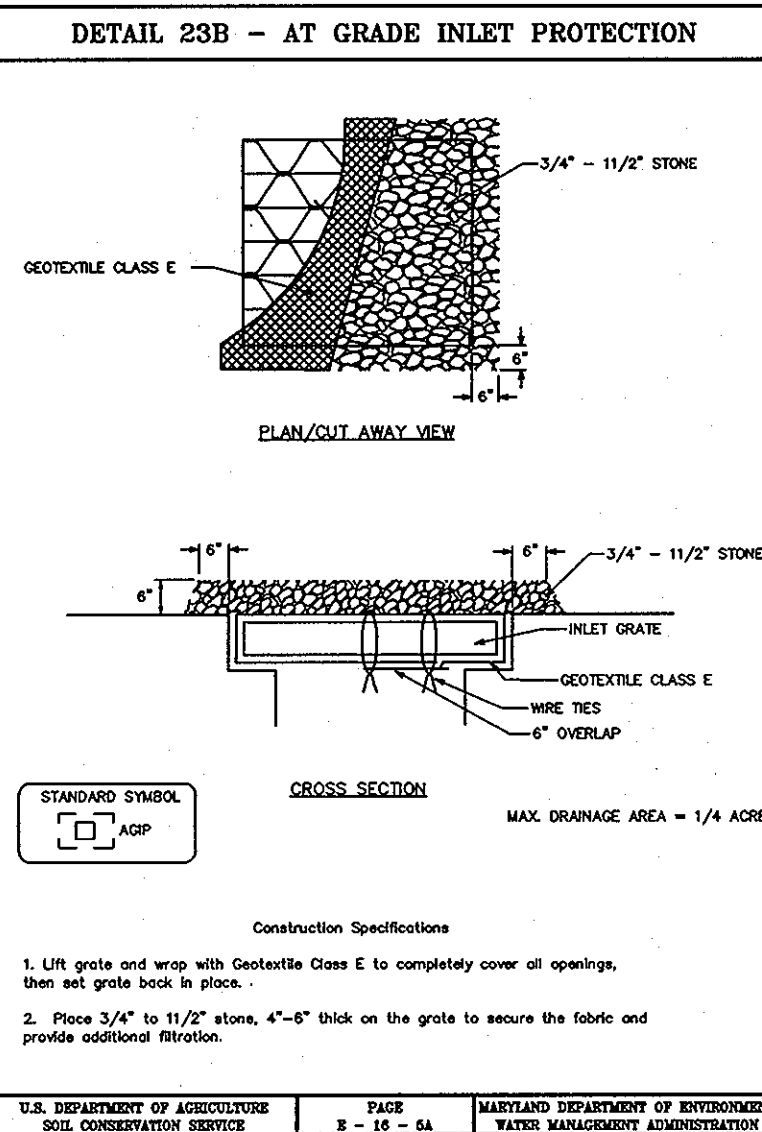
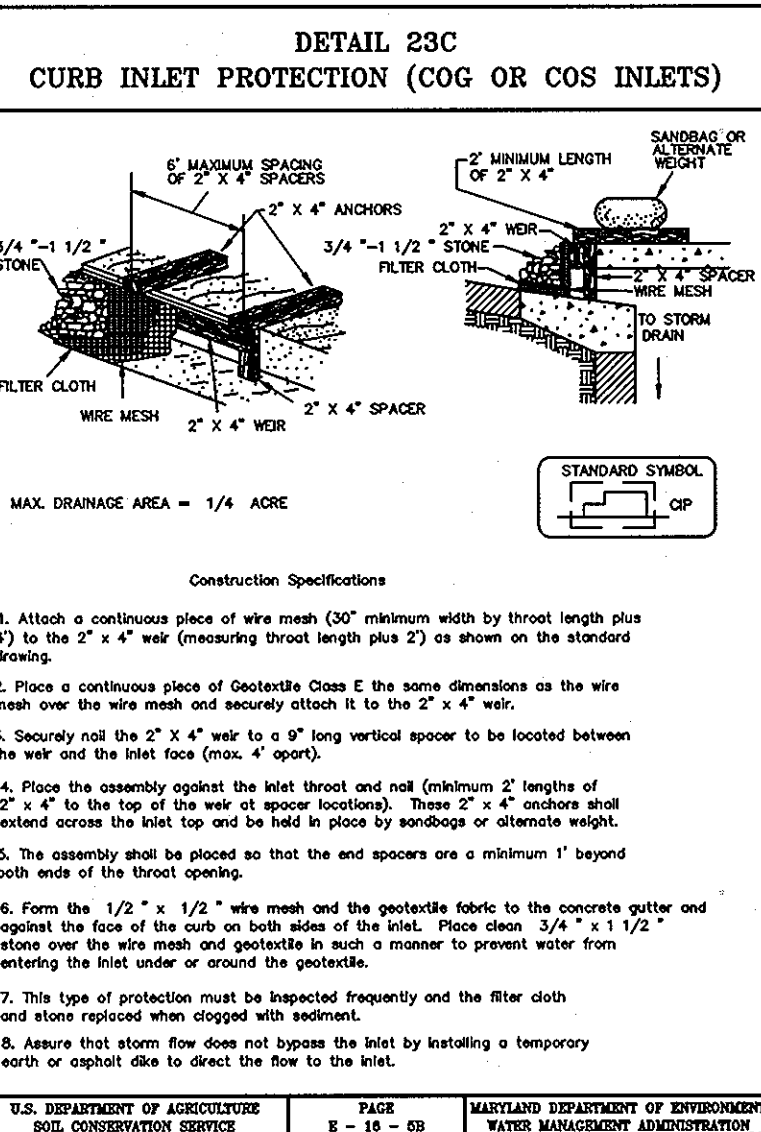
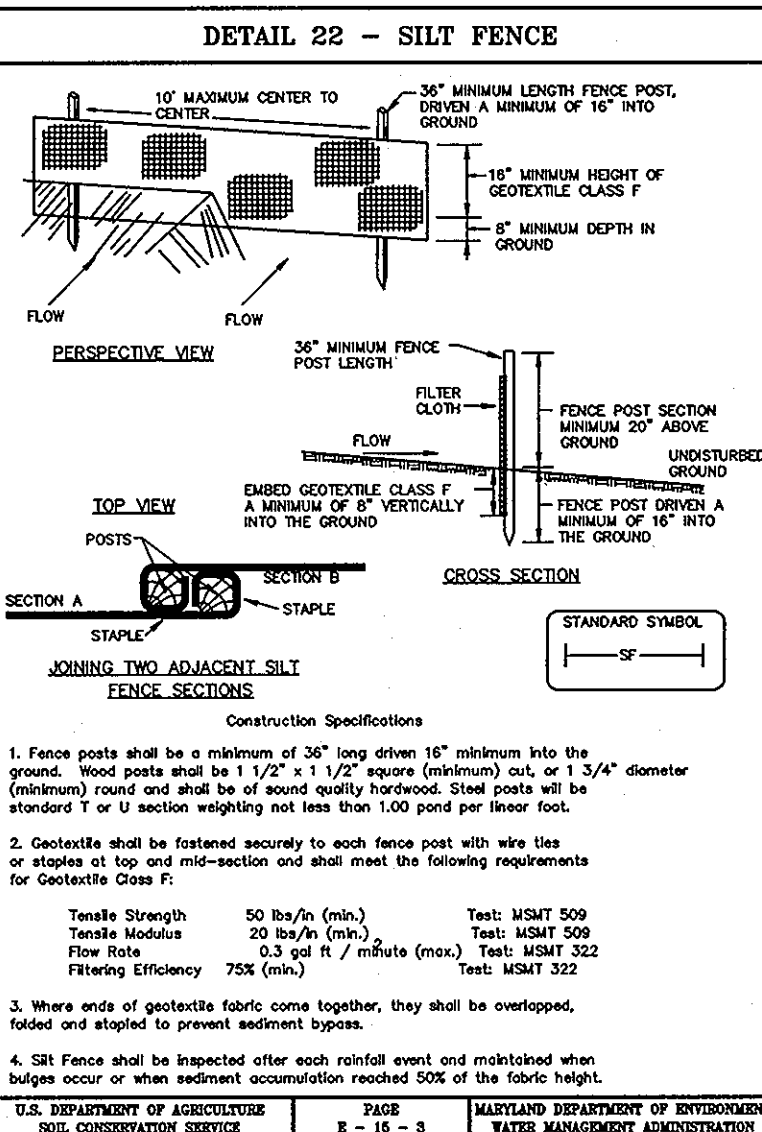
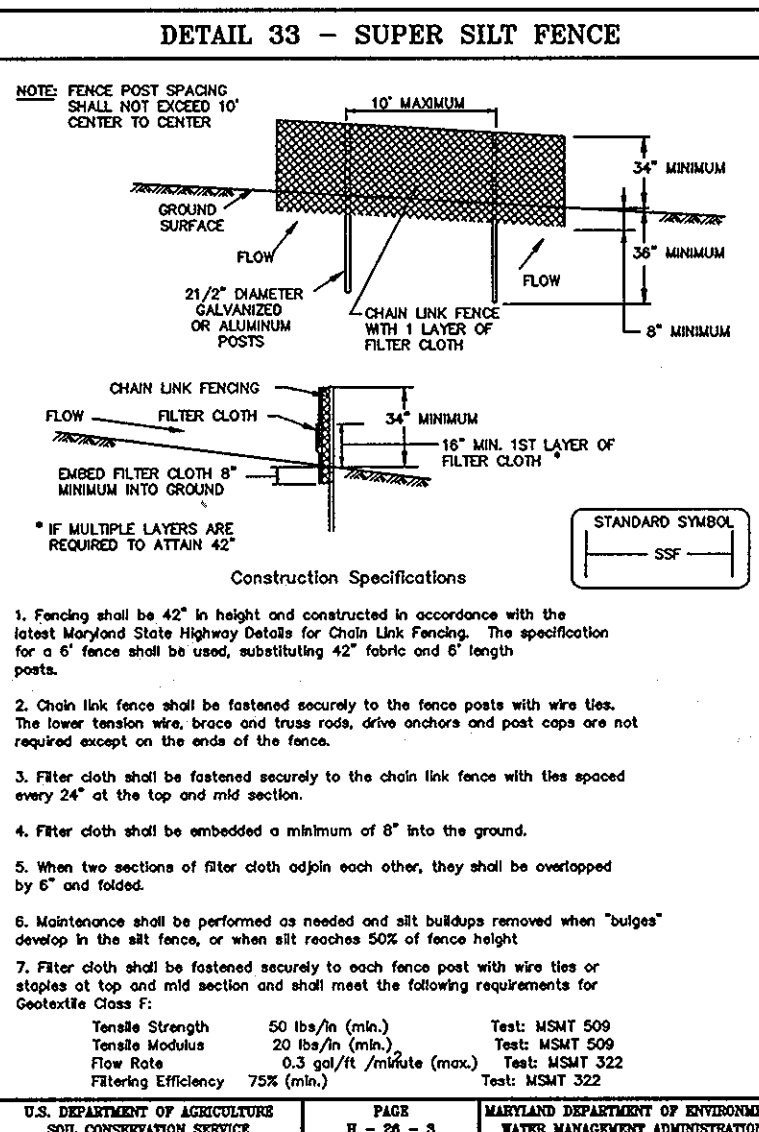
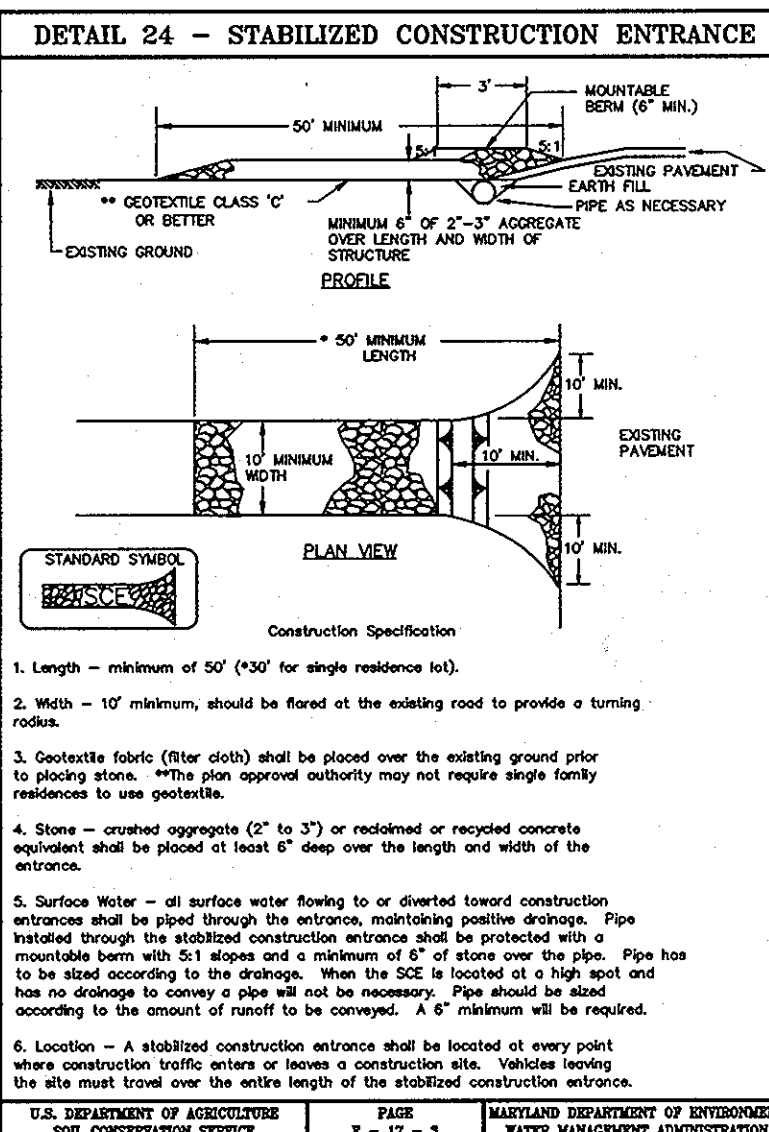
DATE	REVISION	BY	APPR.

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Corbo
410-313-6318

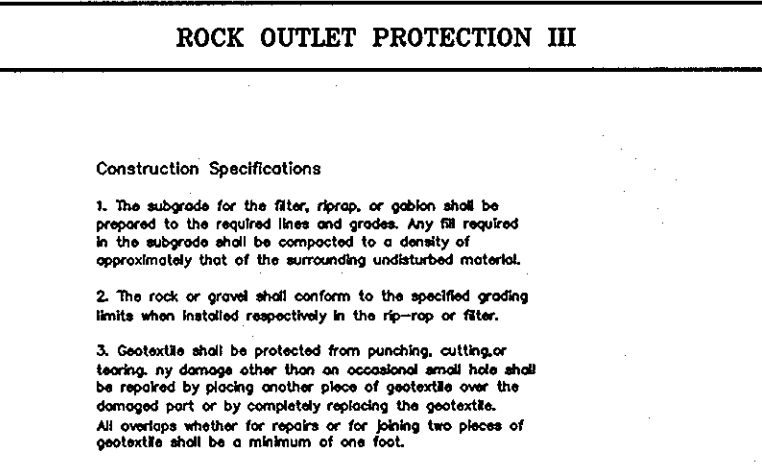
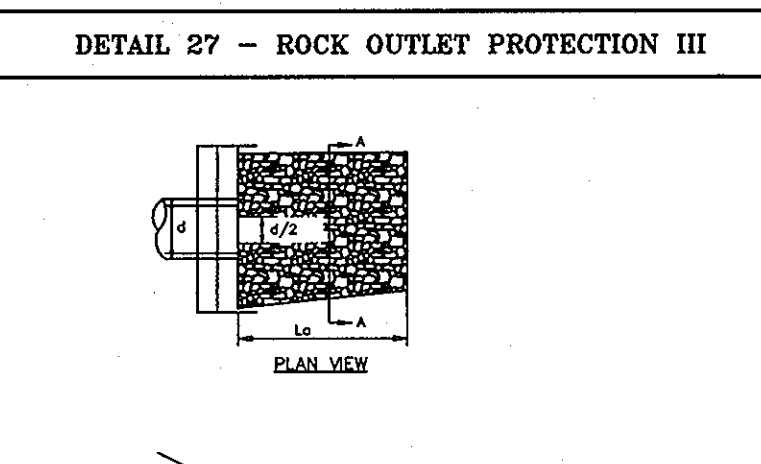
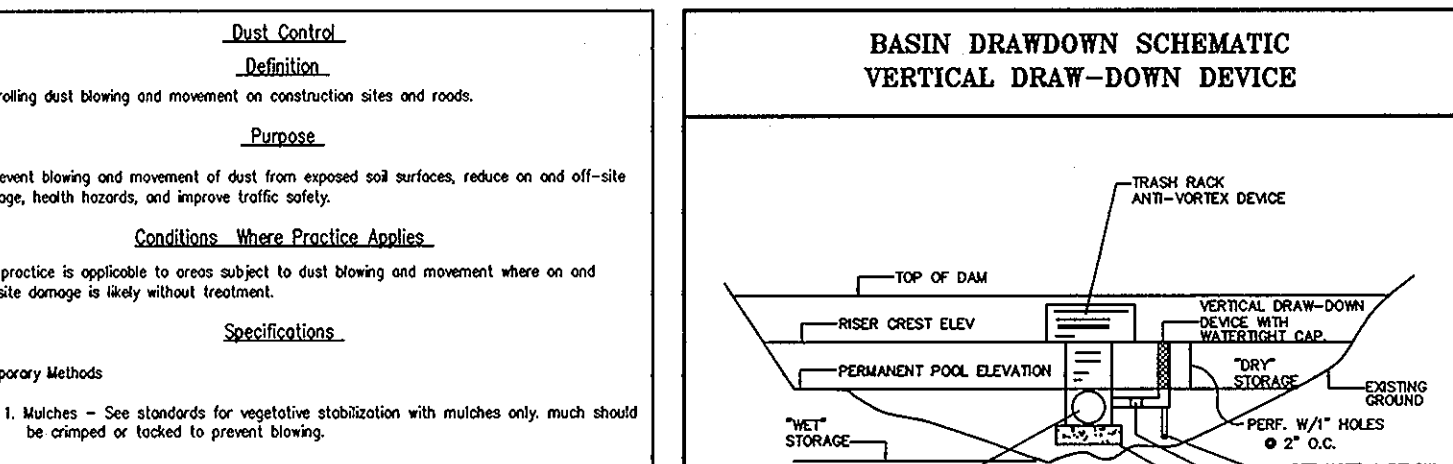
PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

PHASE 3 - SEDIMENT CONTROL PLAN
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 2200002 & 20970
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	13 OF 35

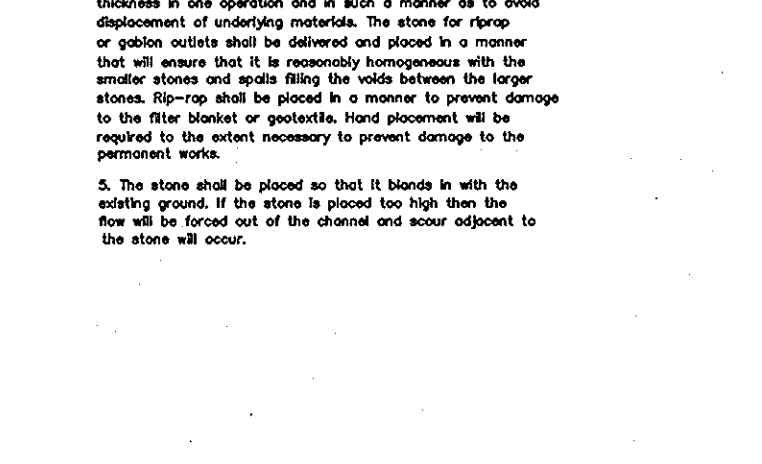
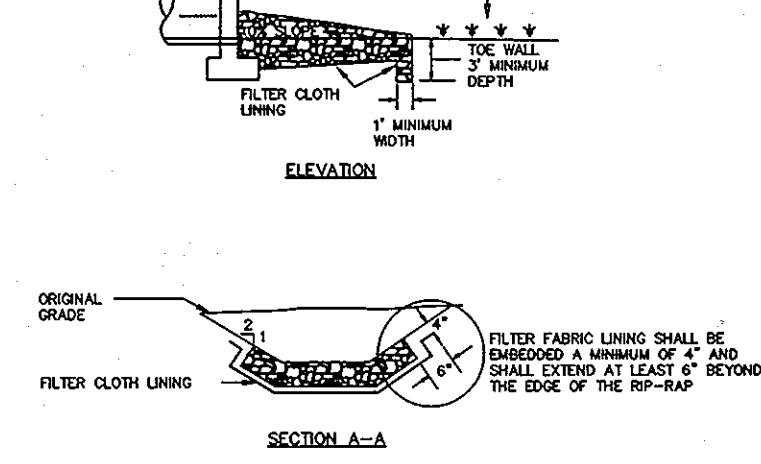


DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD.
 Signature: [Signature] Date: 12-2-09



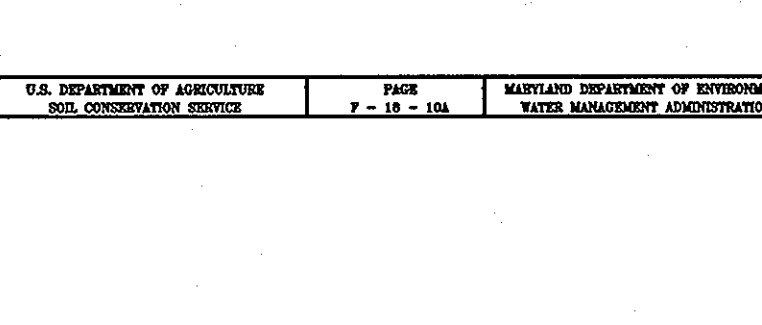
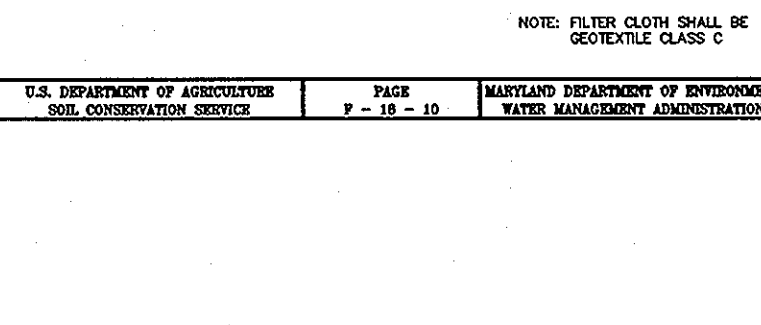
ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR FOND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED BY AN ACCREDITED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HSCD.
 Signature: [Signature] Date: 12-2-09

Dust Control Definition
 Controlling dust blowing and movement on construction sites and roads.
 Purpose: To prevent blowing and movement of dirt from exposed soil surfaces, reduce on and off-site impacts, health hazards, and improve traffic safety.
 Conditions Where Practice Applies: This practice is applicable to areas subject to dust blowing and movement where on and off-site impacts are likely without treatment.
 Specifications:
 1. Materials - See standards for vegetative stabilization with mulches only, mulch should be compost or topped to prevent blowing.
 2. Vegetative Cover - See standards for temporary vegetative cover.
 3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Piling on windward side of site. Chisel-till plow spaced about 12' apart, spring-toothed harrow, and similar tools on examples of equipment which may produce the desired effect.
 4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed at no more than the site is irrigated to the point that runoff begins to flow.
 5. Barriers - Solid board fences, silt fences, straw fences, straw bales, and similar material can be used to control or curtail soil blowing. Barriers placed at right angle to prevailing currents of air must be spaced so close together that they are effective in controlling soil blowing.
 6. Odors - Odors - Apply if rates that will keep surface moist. May need treatment.
 Permanent Method:
 1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with mulch. Existing trees or large shrubs may afford suitable protection if left in place.
 2. Topsoiling - Covering with less erosive soil material. See standards for top soil.
 3. Stone - Cover surface with crushed stone or gravel.
 References:
 1. Agriculture Handbook 346, Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
 2. Agriculture Information Bulletin 354, How to Control Wind Erosion, USDA, ARS.



PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12915 EXPIRATION DATE: MAY 26, 2010
 Signature: [Signature] Date: [Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: [Signature] Date: 12/18/09
 Chief, Division of Land Development: [Signature] Date: 12/18/09
 Chief, Development Engineering Division: [Signature] Date: 12/18/09



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: [Signature] Date: 12/18/09
 Chief, Division of Land Development: [Signature] Date: 12/18/09
 Chief, Development Engineering Division: [Signature] Date: 12/18/09

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] Date: 12/18/09

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creedon
 410-962-0595

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: 301-421-0224 FAX: 301-421-0188

DATE: [Signature] REVISION: [Signature] BY: [Signature] APPR: [Signature]

SEDIMENT CONTROL NOTES AND DETAILS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 2006-07 & 2007-10
 TAX MAP 42, PARCEL 361
 HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL NOTES AND DETAILS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
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 TAX MAP 42, PARCEL 361
 HOWARD COUNTY, MARYLAND

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION
 PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

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

CONDITIONS WHERE PRACTICE APPLIES
 I. 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 VEGETATIVE GROWTH.
 B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLY 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.
 II. 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
 I. 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 PREPARED BY USDA AND IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
 II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAM, OR OTHER SOILS AS MAY BE RECOMMENDED BY THE AGRICULTURAL OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTAMINANTS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2" IN DIAMETER.
 B. TOPSOIL MUST BE FREE OF PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNS GRASS, 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 OF 4-8 TONS/ACRE (200-400 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. THE LIME SHALL BE DISPERSED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONNECTION 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 2.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS (OR SEE SEEDING NOTES).
 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 NOTES).
 C. 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 1000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. THE LIME SHALL BE DISPERSED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONNECTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
 IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS INDICATING FERTILIZER LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 1. 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.
 2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1% PERCENT BY WEIGHT.
 3. TOPSOIL HAVING SOLUBLE SALT GREATER THAN 500 PARTS PER MILL SHALL NOT BE USED.
 4. NO SOD OR BEED SHALL BE PLACED ON SOIL WHICH HAS BEEN WITH SOIL STABILIZERS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN) TO PERMIT DISAPPEARANCE OF PHOTO TOXICITY.
 B. QUALIFIED AGRICULTURAL OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 C. 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 NOTES).
 D. TOPSOIL APPLICATION
 V. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 B. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 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 TOPSOILING 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 MIDDY CONDITION WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
 VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERICAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
 A. 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:
 1. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF APPLICATION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER CODE 88-20.04.
 2. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1% PERCENT NITROGEN, 1% PERCENT PHOSPHORUS, AND 0.2% PERCENT POTASSIUM AND HAVE A PH OF 10 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 3. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1000 SQUARE FEET.
 B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT A RATE OF 4LB/1000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.
 REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA FIB, A COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTE, REVISED 1975.

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 (40) SERVICES.
 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 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE-TO.
 3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 1 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, 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 DRAINAGE.
 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS, SO, TEMPORARY SEEDINGS AND MULCHING (SEE SECTION I - VEGETATIVE 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 PERMISSON FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

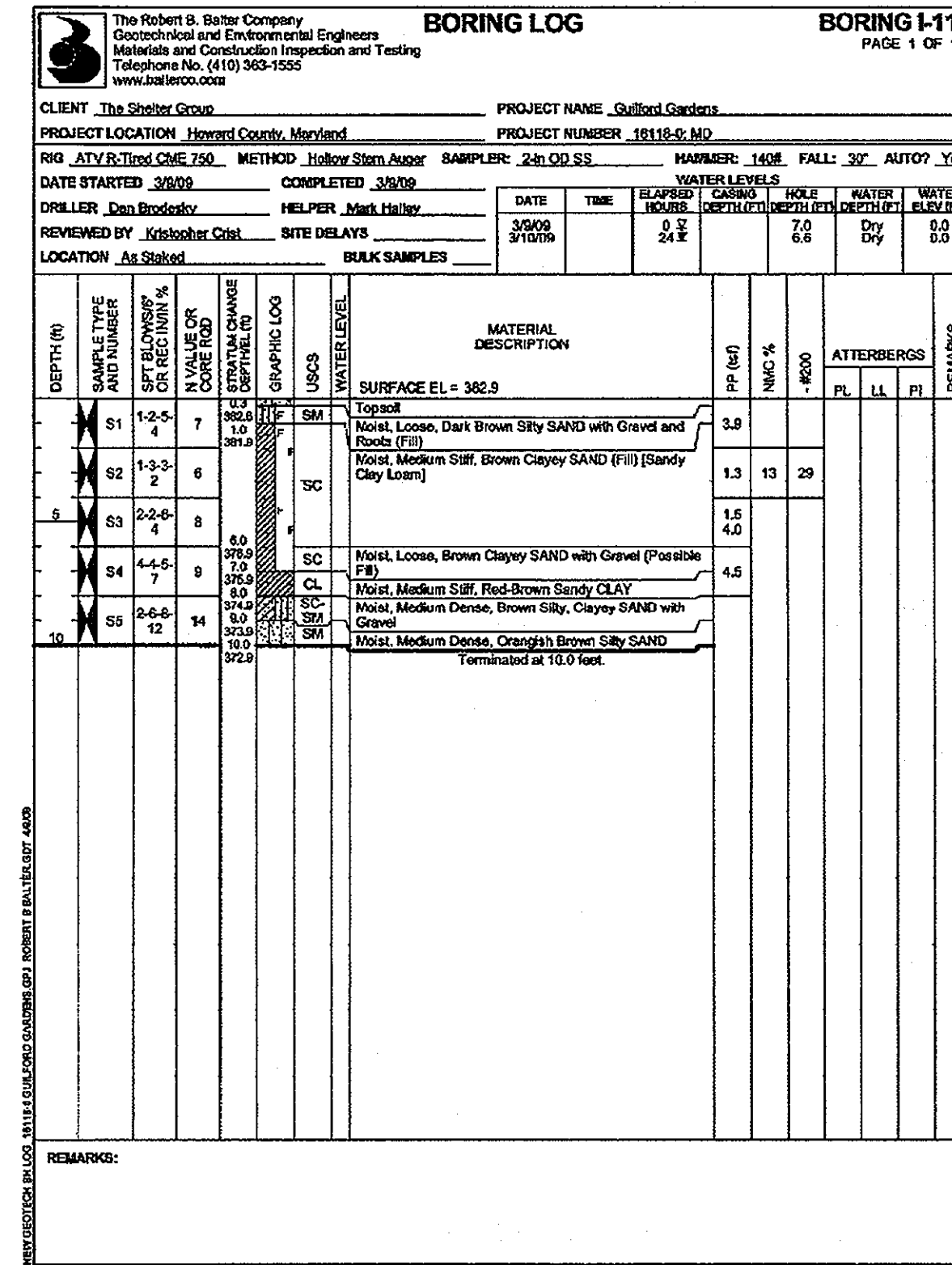
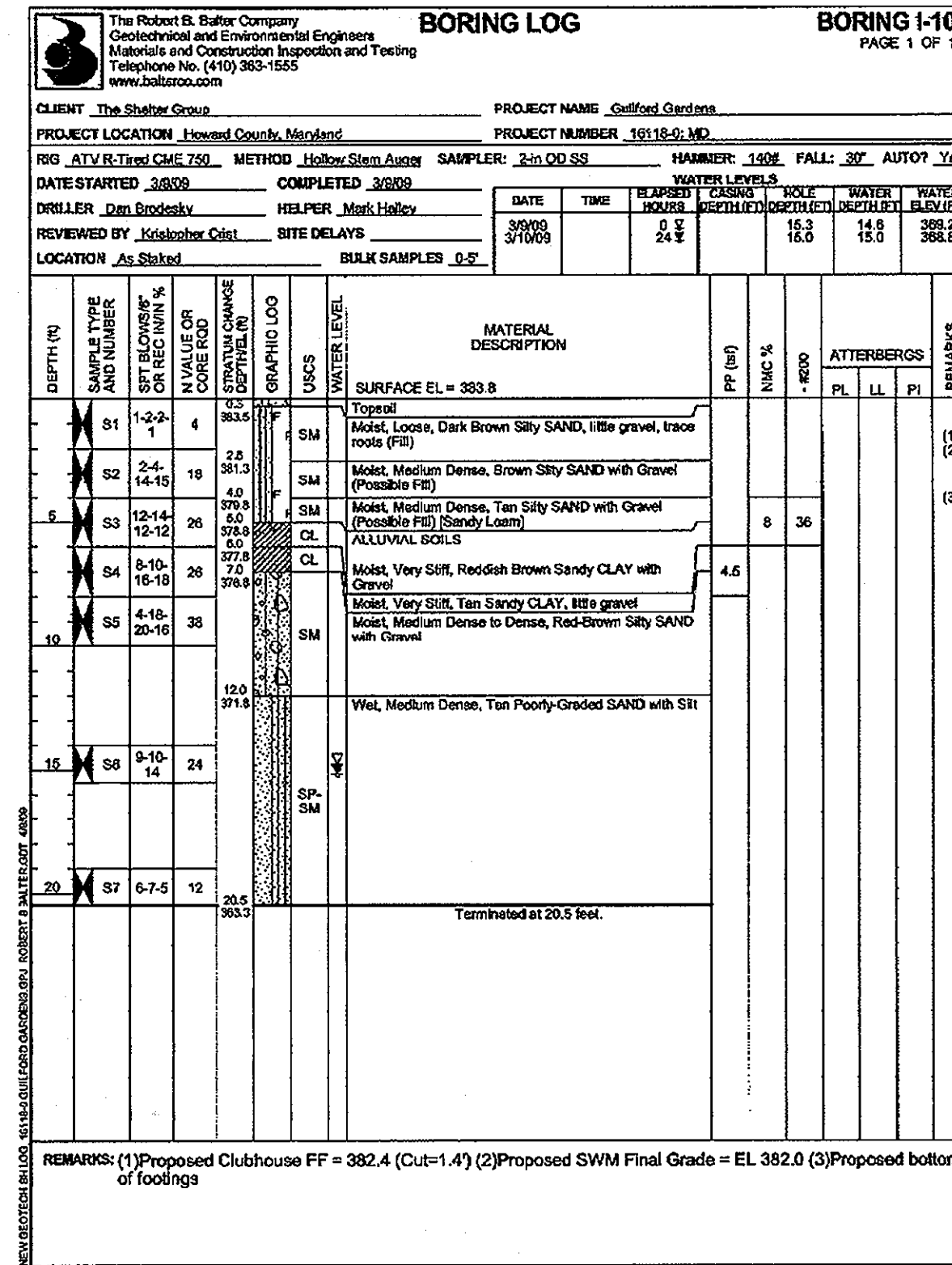
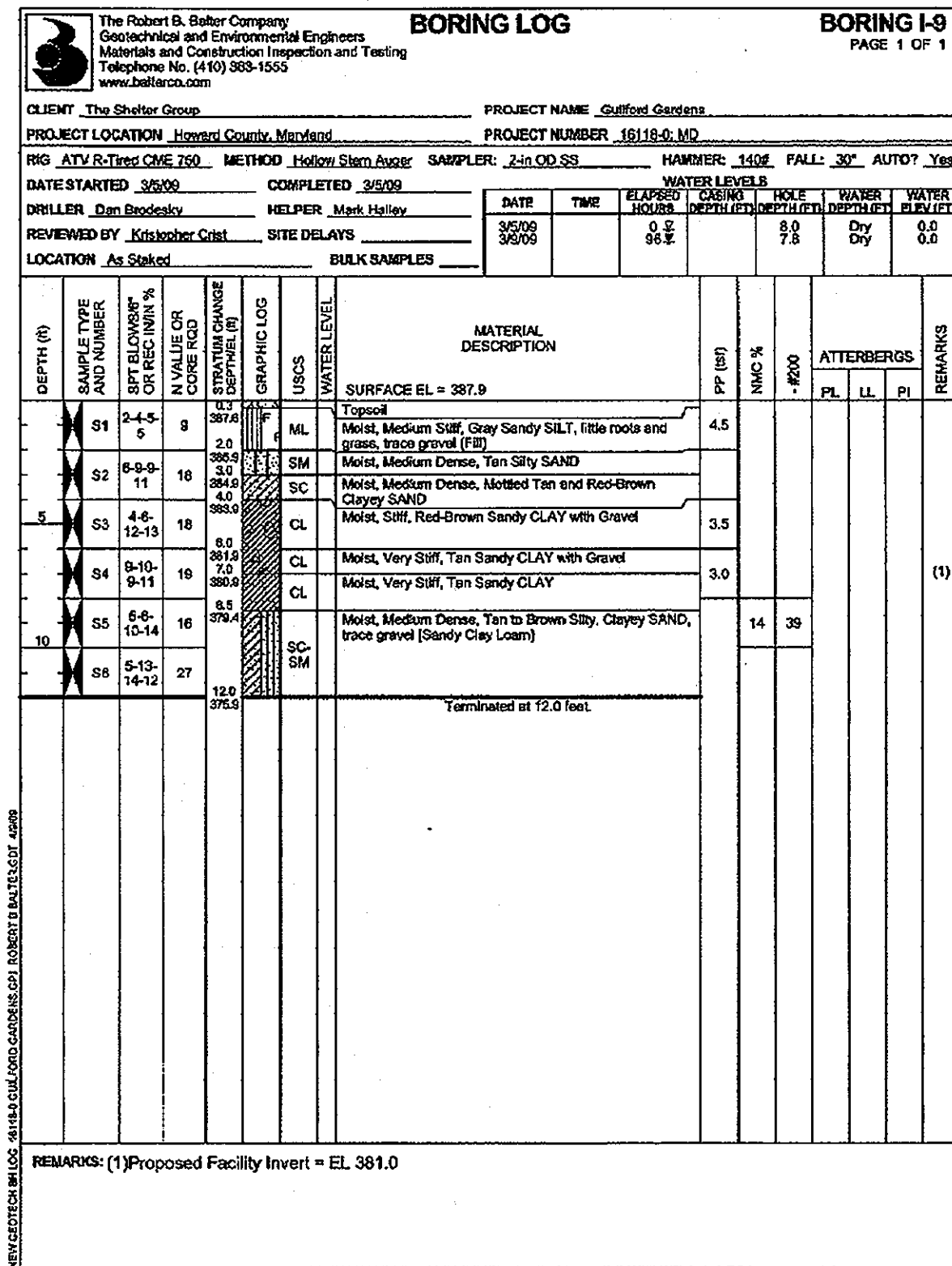
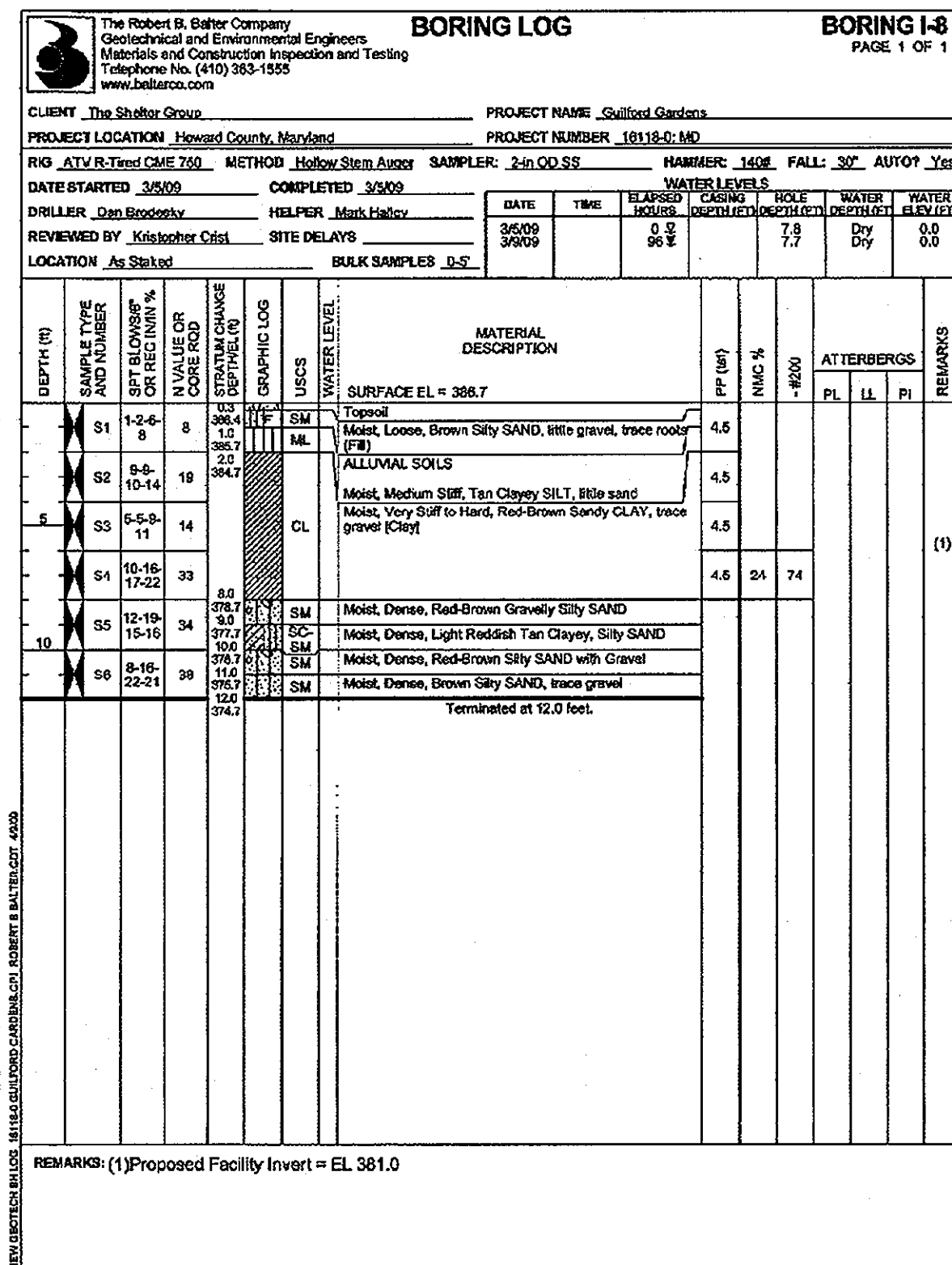
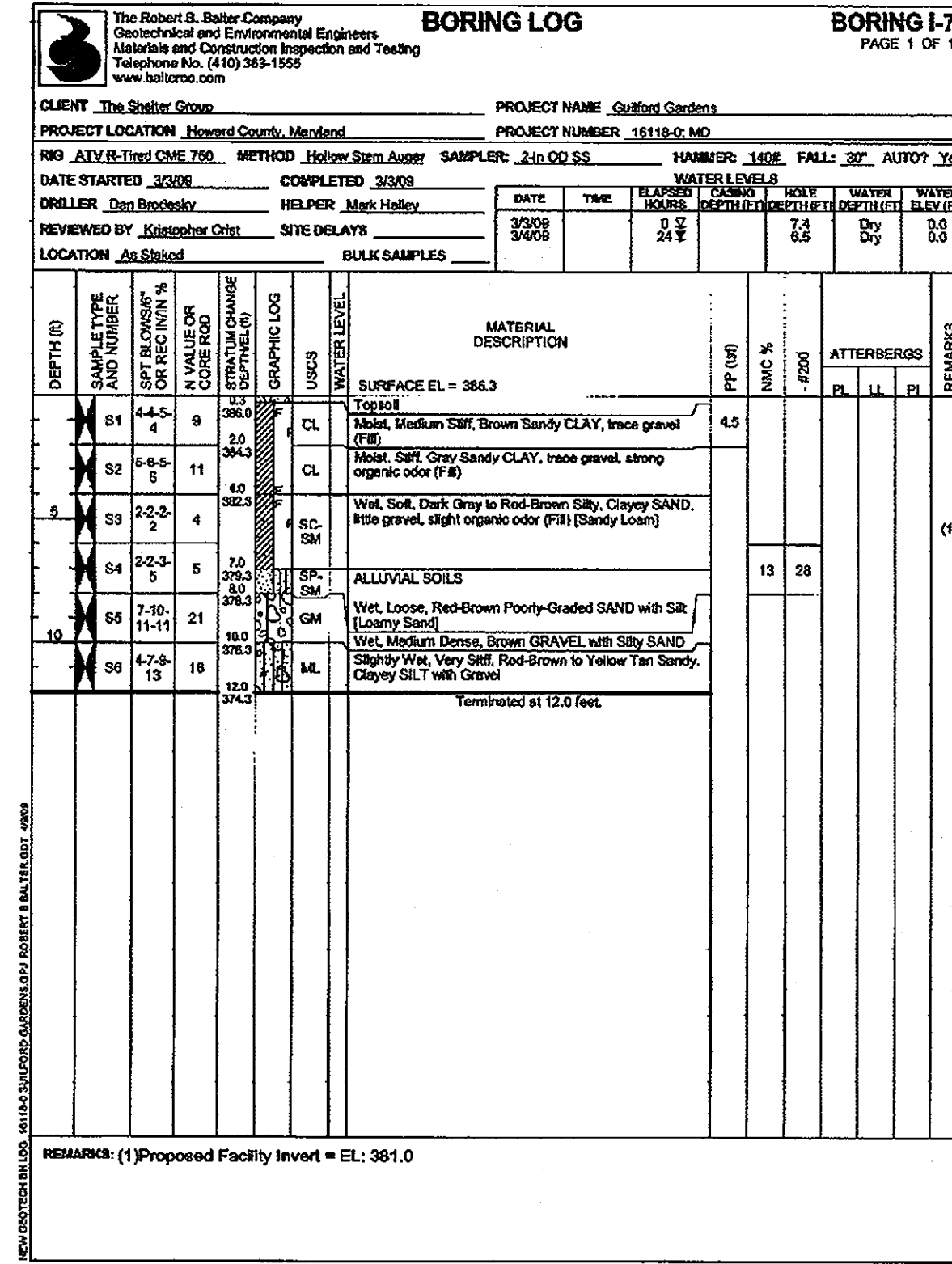
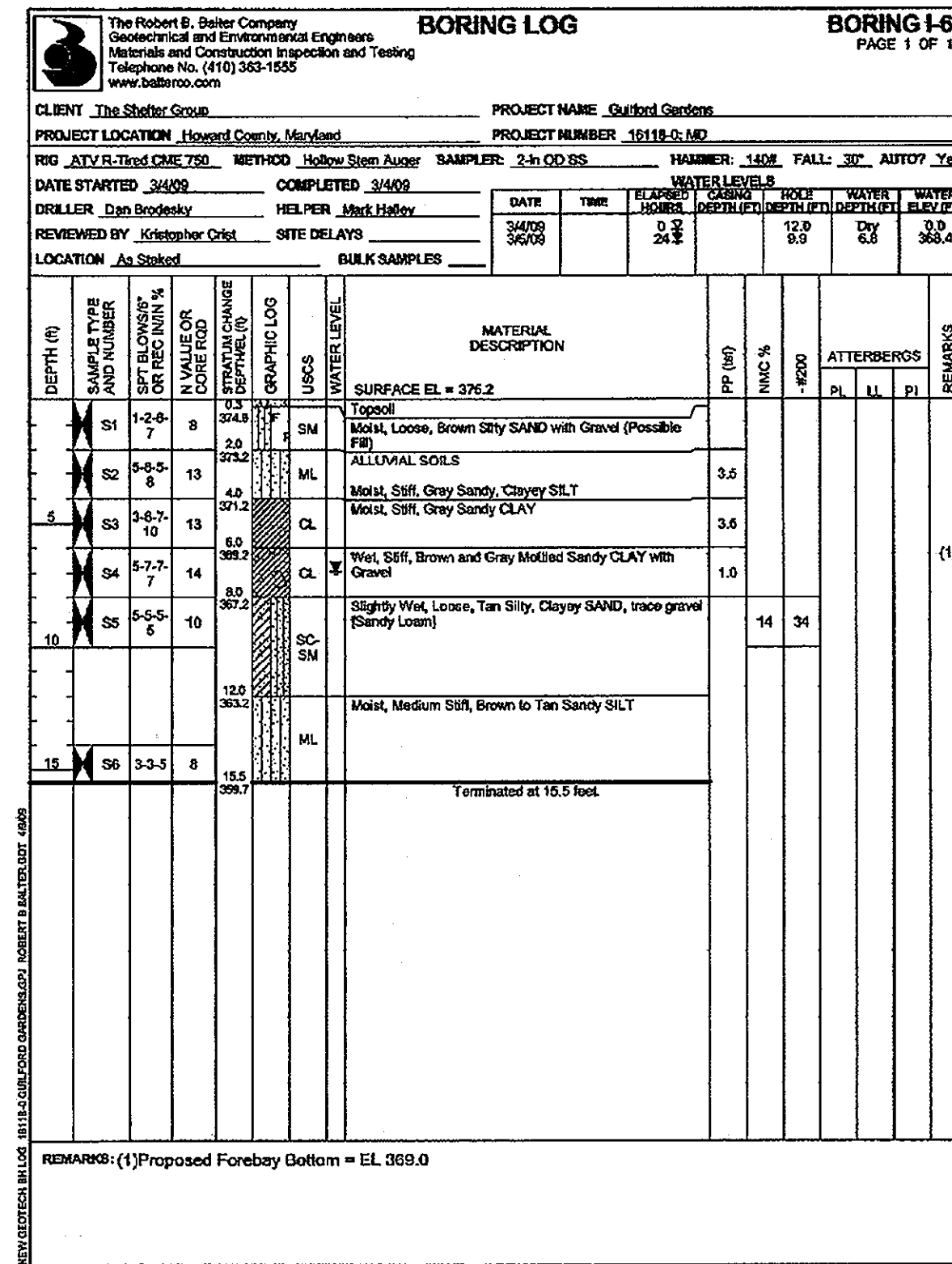
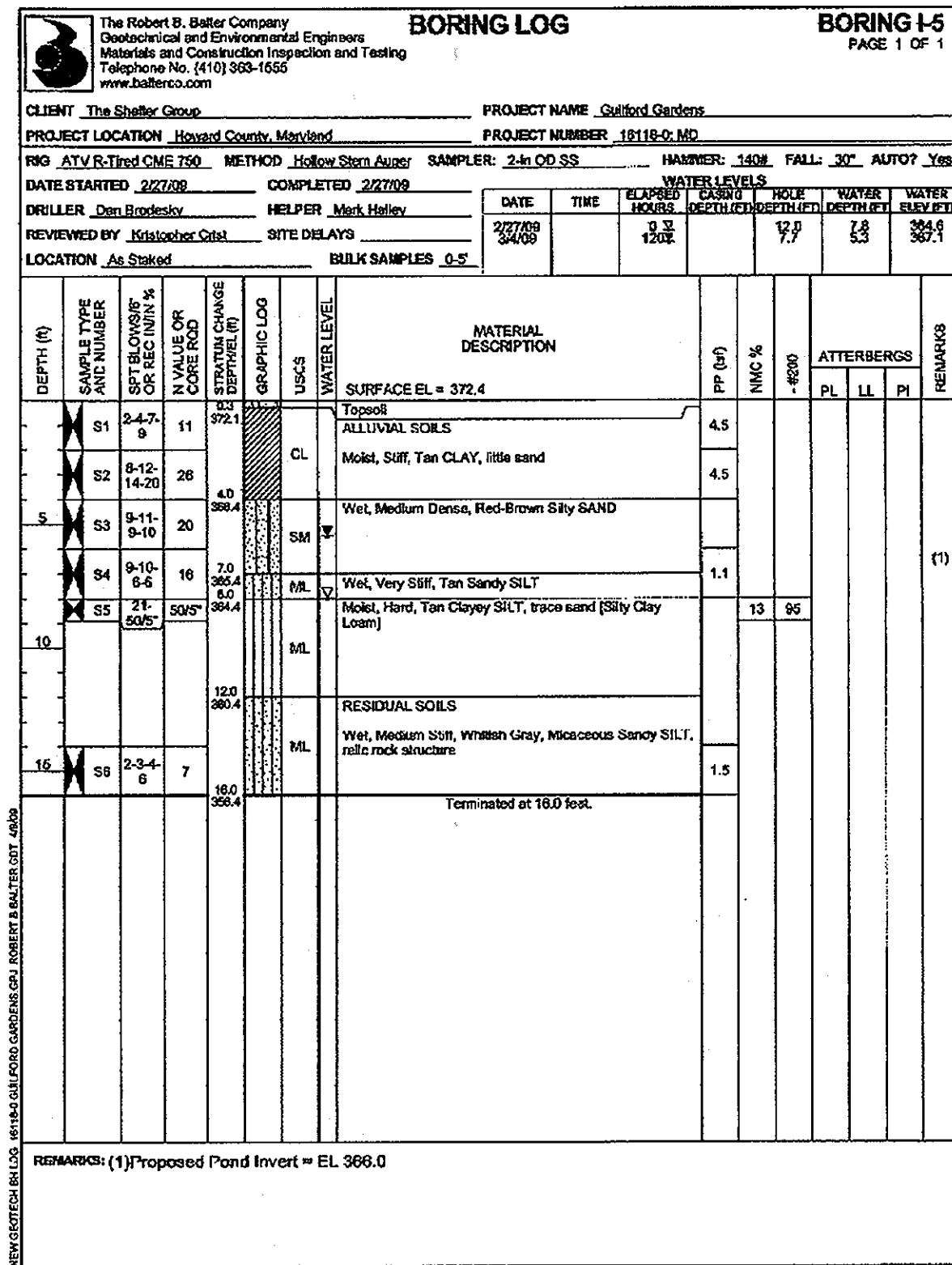
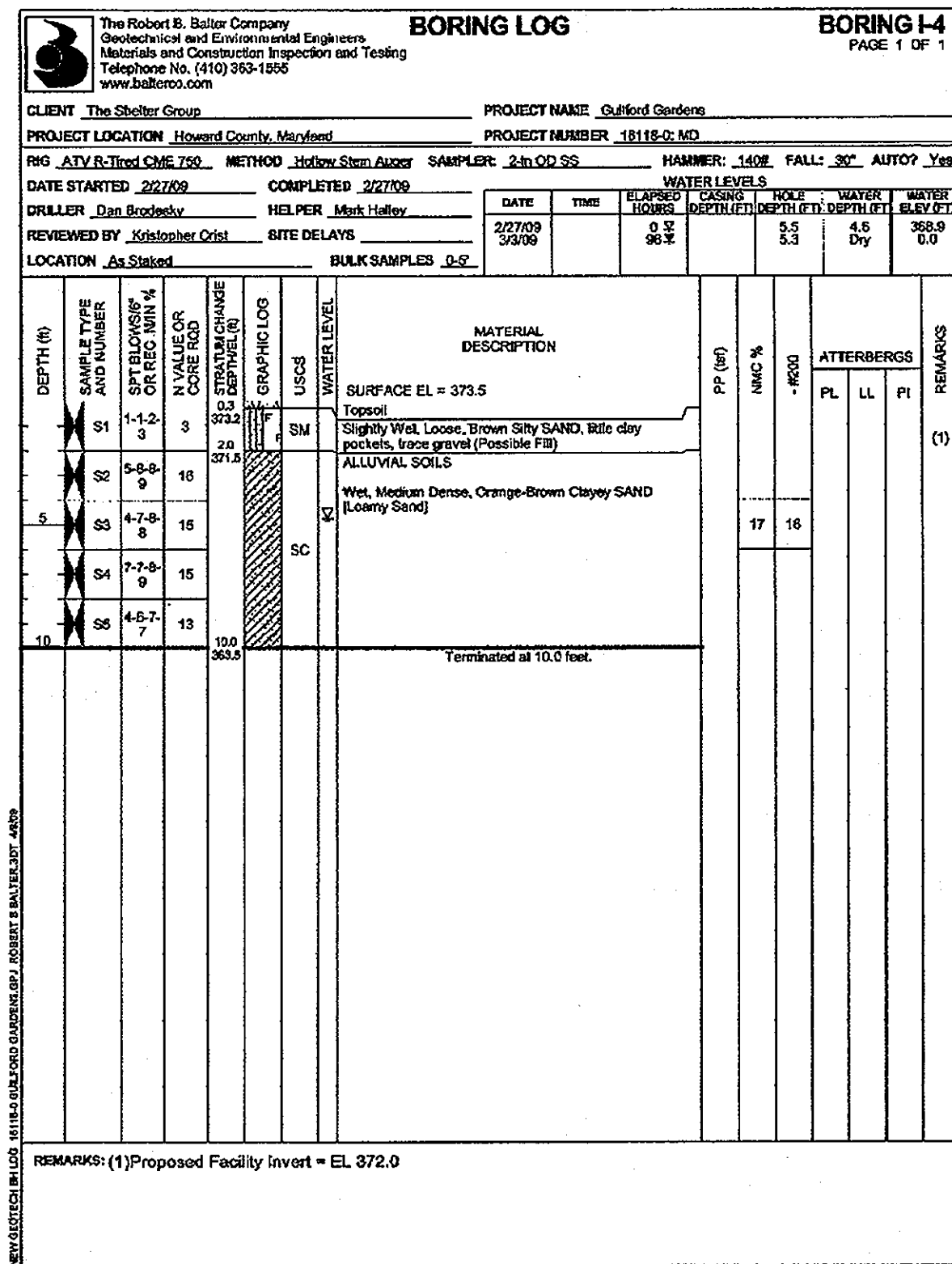
TOTAL AREA OF SITE: 17478 ACRES
AREA DISTURBED: 1636 ACRES
AREA TO BE ROOFED OR PAVED: 924 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 114 ACRES
TOTAL CUT: 15000 + CU. YDS.
TOTAL FILL: 39000 + CU. YDS.
 OFF-SITE WASTE/ROOF/AREA LOCATION: FROM A PROJECT WITH AN APPROVED SEDIMENT CONTROL PLAN AND AN ACTIVE GRADING PERMIT.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-VEGETATIVE VEGETATIVE COVER IS NEEDED.
 SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCS OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (MULCH PREVIOUSLY LOOSENED).
 SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES
 I. PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (2 LB/1000 SQUARE FEET) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (4 LB/1000 SQ FT) BEFORE SEEDING.
 HARBOR OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FERTILIZER (4 LB/1000 SQ FT).
 II. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (2 LB/1000 SQ FT) AND 1000 LBS PER ACRE OF 10-10-10 FERTILIZER (2 LB/1000 SQ FT) BEFORE SEEDING.
 HARBOR OR DISC INTO UPPER THREE INCHES OF SOIL.
 SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (4 LB/1000 SQ FT) OF KENTUCKY 3 TALL FESCUE. FOR PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS PER ACRE OF KENTUCKY PER ACRE AND 2 LBS PER ACRE (2 LB/1000 SQ FT) OF MEETING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (I) 2 TONS PER ACRE OF HELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LB/ACRE KENTUCKY 3 TALL FESCUE AND MULCH WITH 2 TONS/ACRE HELL ANCHORED STRAW.
 MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (10 TO 40 LB/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT FLAT AREAS. ON SLOPES 3 FEET OR HIGHER, USE 348 GAL PER ACRE (6 GAL/1000 SQ FT) FOR ANCHORING.
 MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

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, DISCS OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (MULCH PREVIOUSLY LOOSENED).
 SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (4 LB/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 LB/1000 SQ FT). FOR PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF MEETING LOVEGRASS (10 LB/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF HELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.
 B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT A RATE OF 4LB/1000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.
 REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA FIB, A COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTE, REVISED 1975.

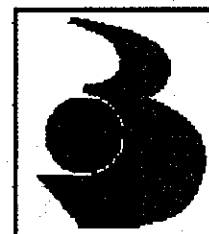


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: *Mona R. Swartz* Date: 2/18/10

Chief, Division of Land Development: *Keith St. Onofre* Date: 2/18/10

Chief, Development Engineering Division: *Michael J. ...* Date: 1/15/10



The Robert B. Balter Company
 Geotechnical and Environmental Engineers
 Materials and Construction Inspection and Testing
 Telephone No. (410) 363-1555
 www.balterco.com

GLWGUTSCHICK LITTLE & WEBER, P.A.

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 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BAL: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4186

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
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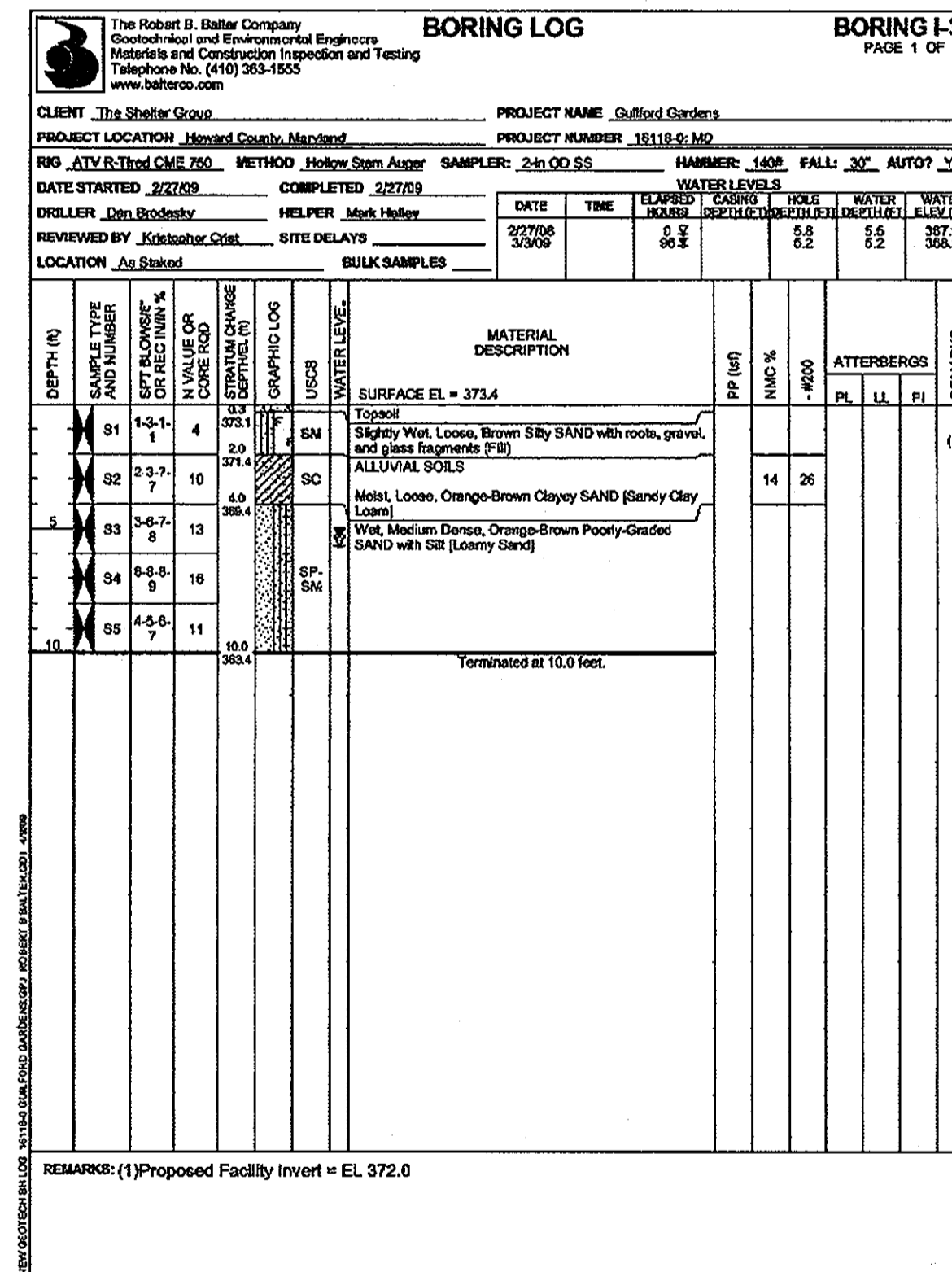
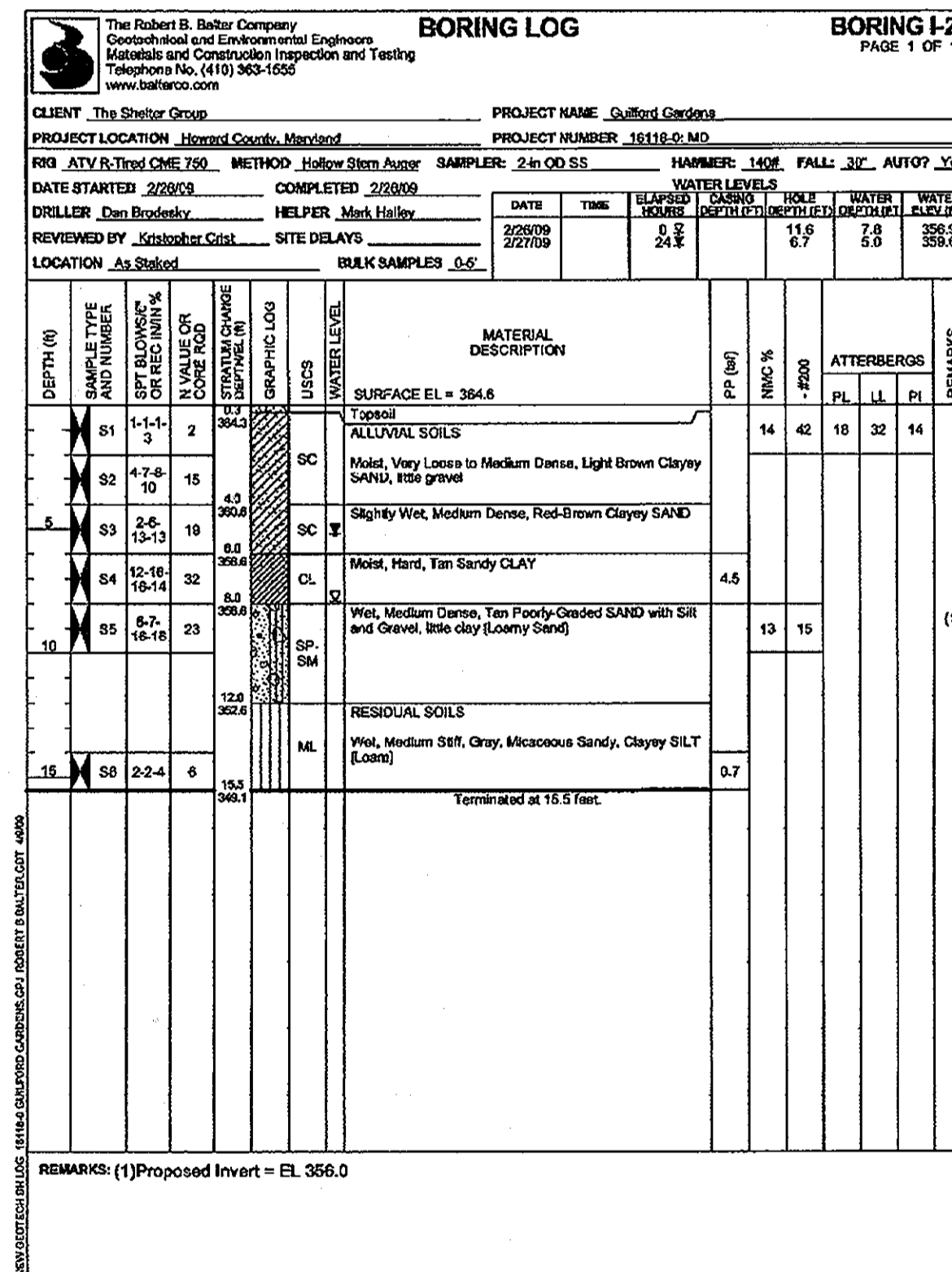
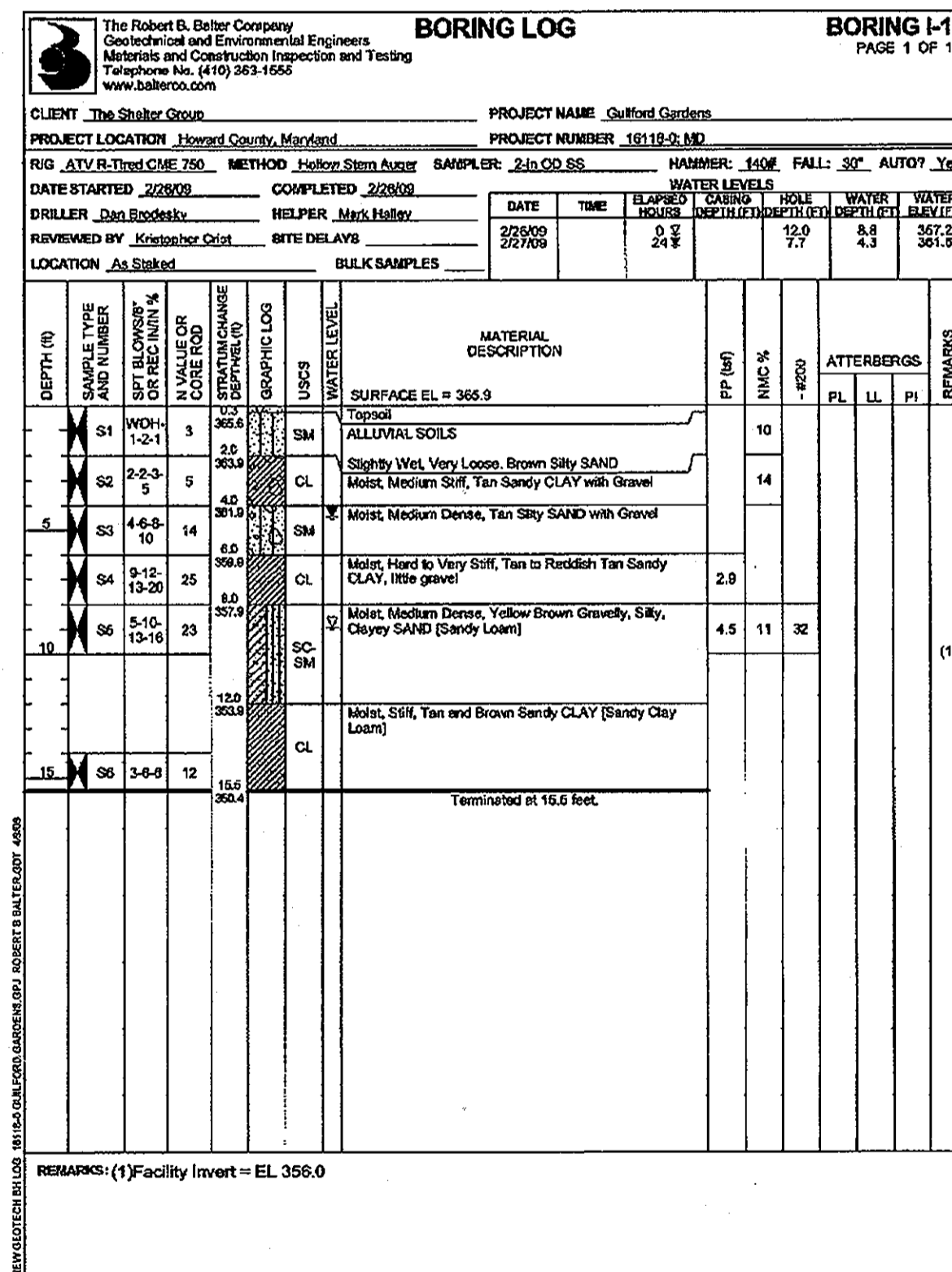
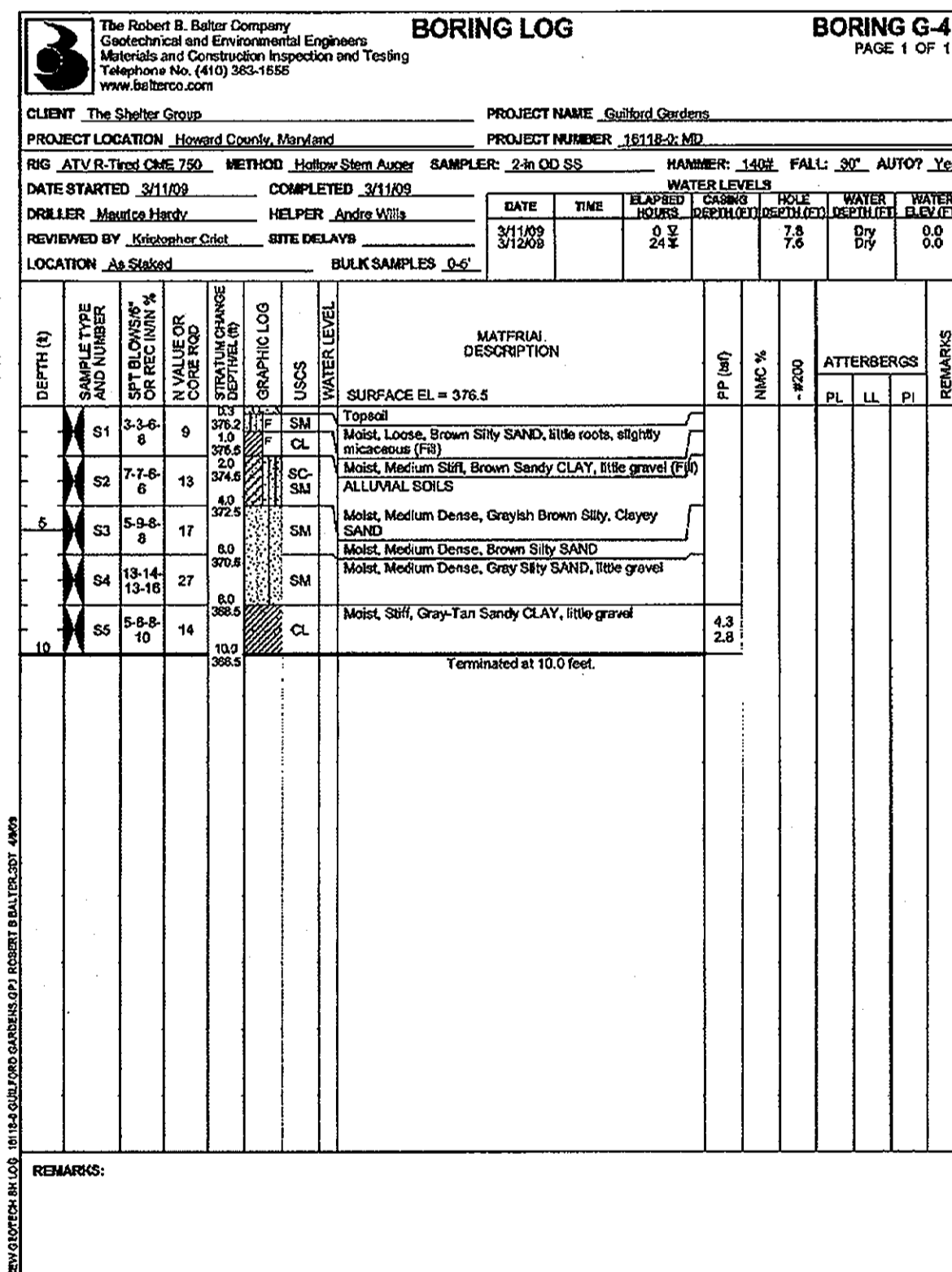
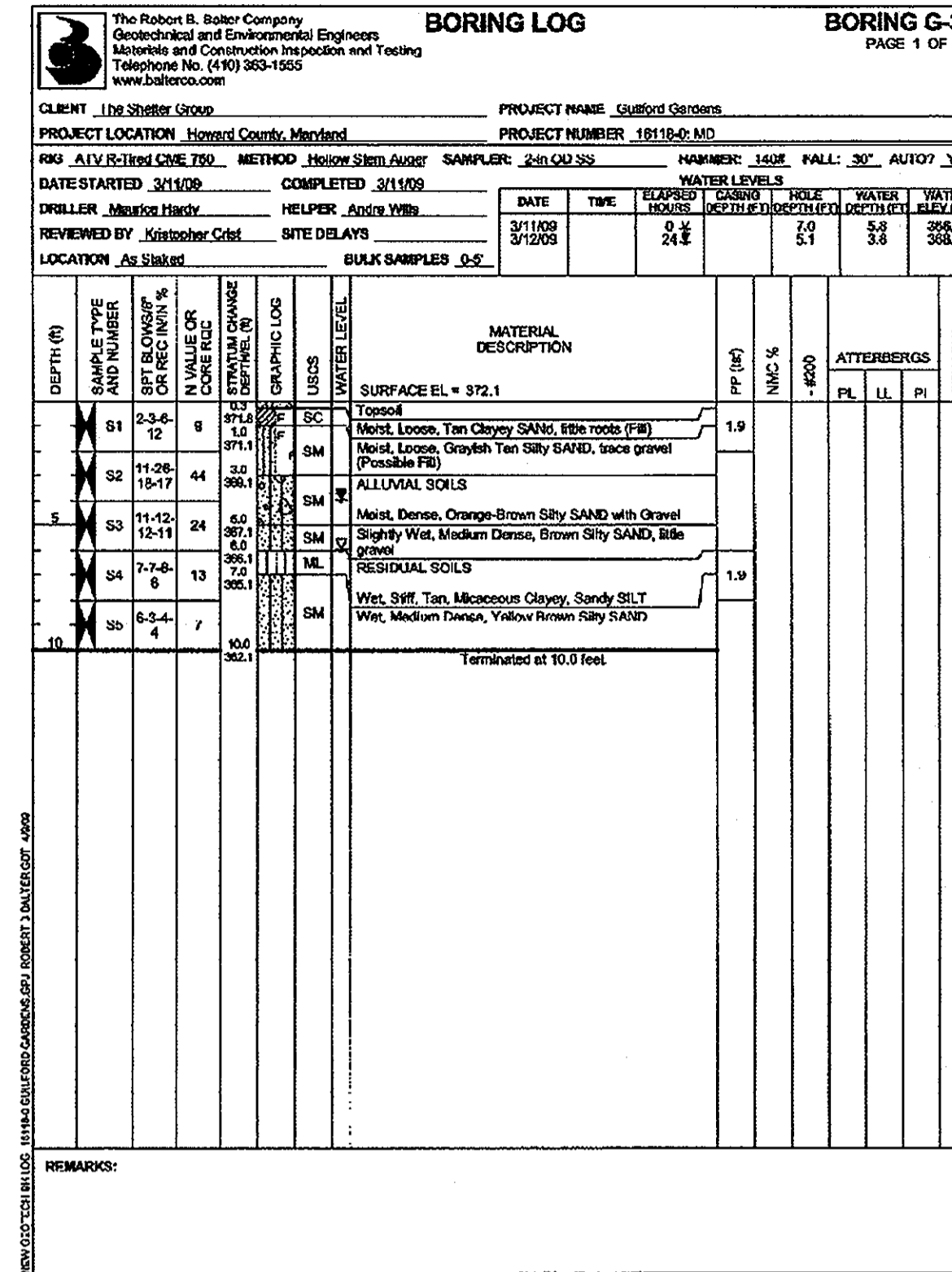
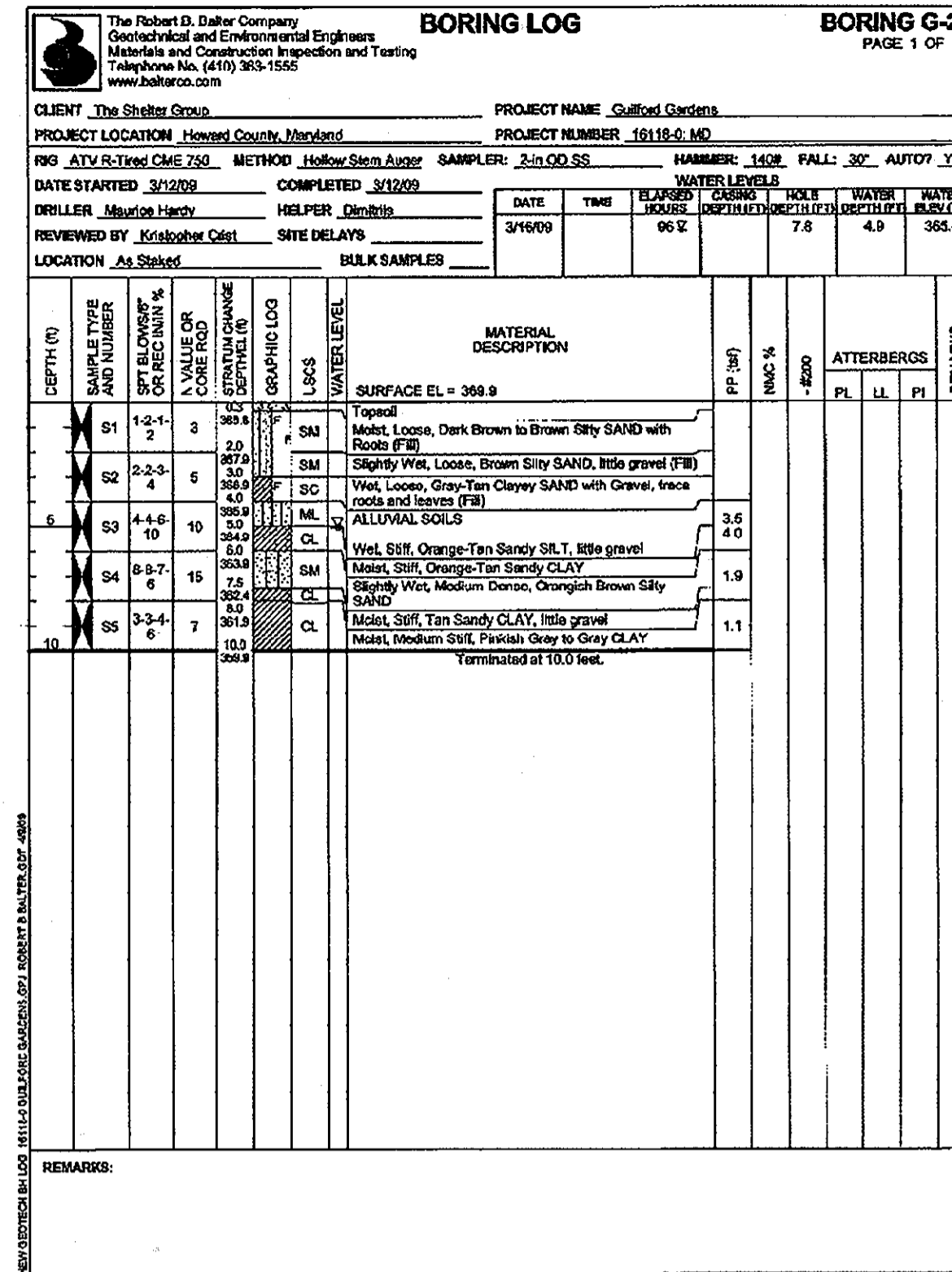
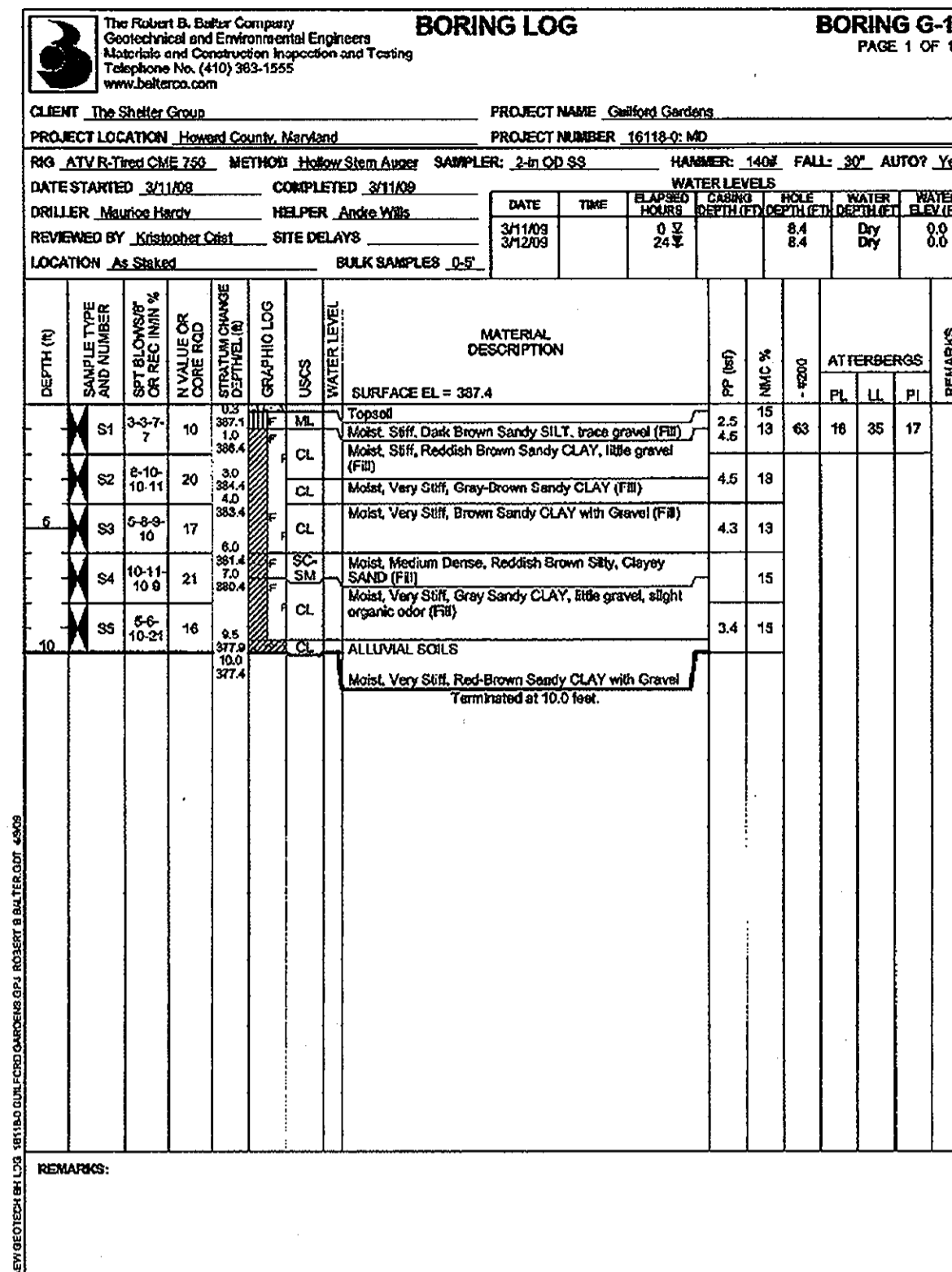
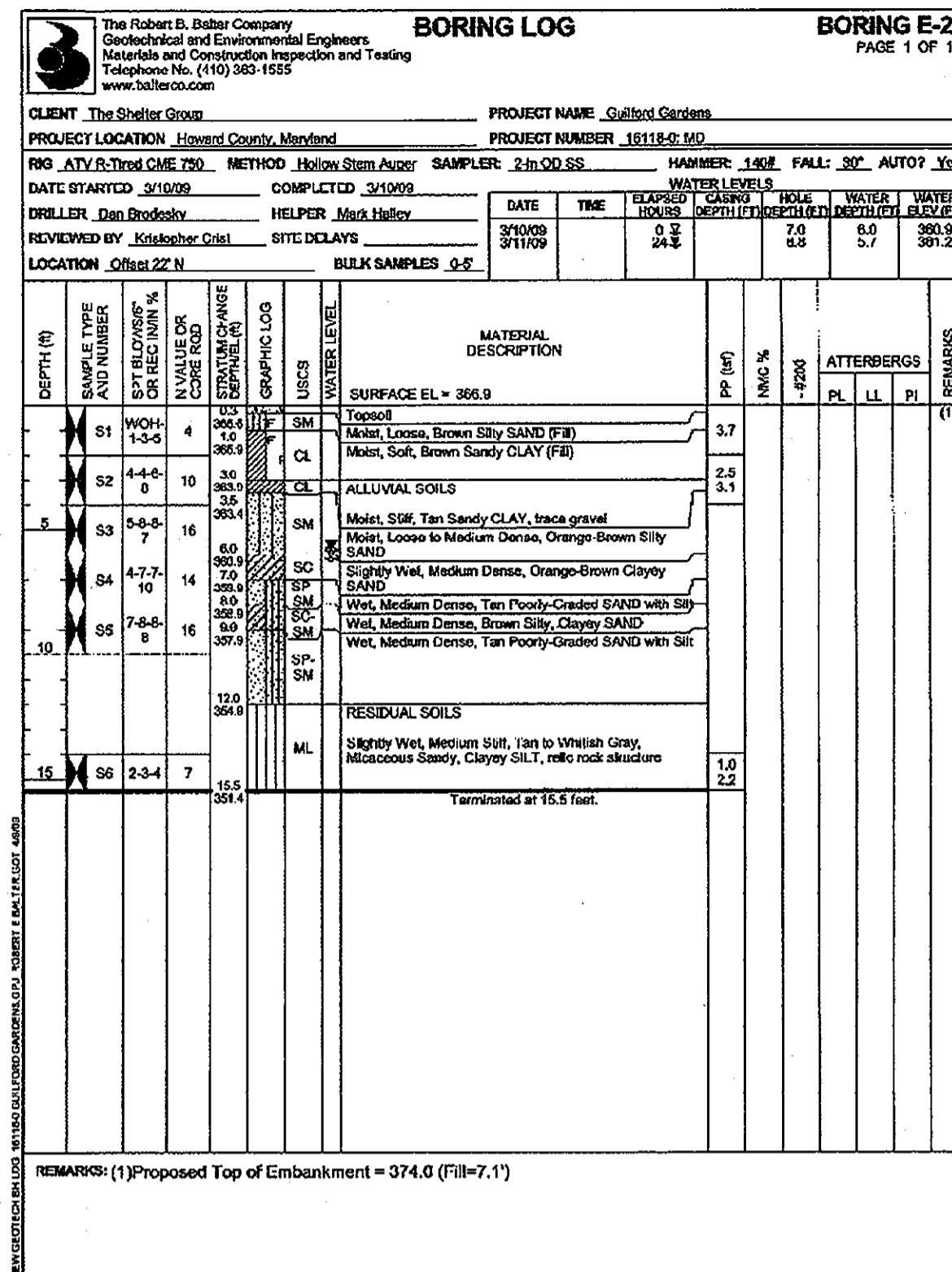
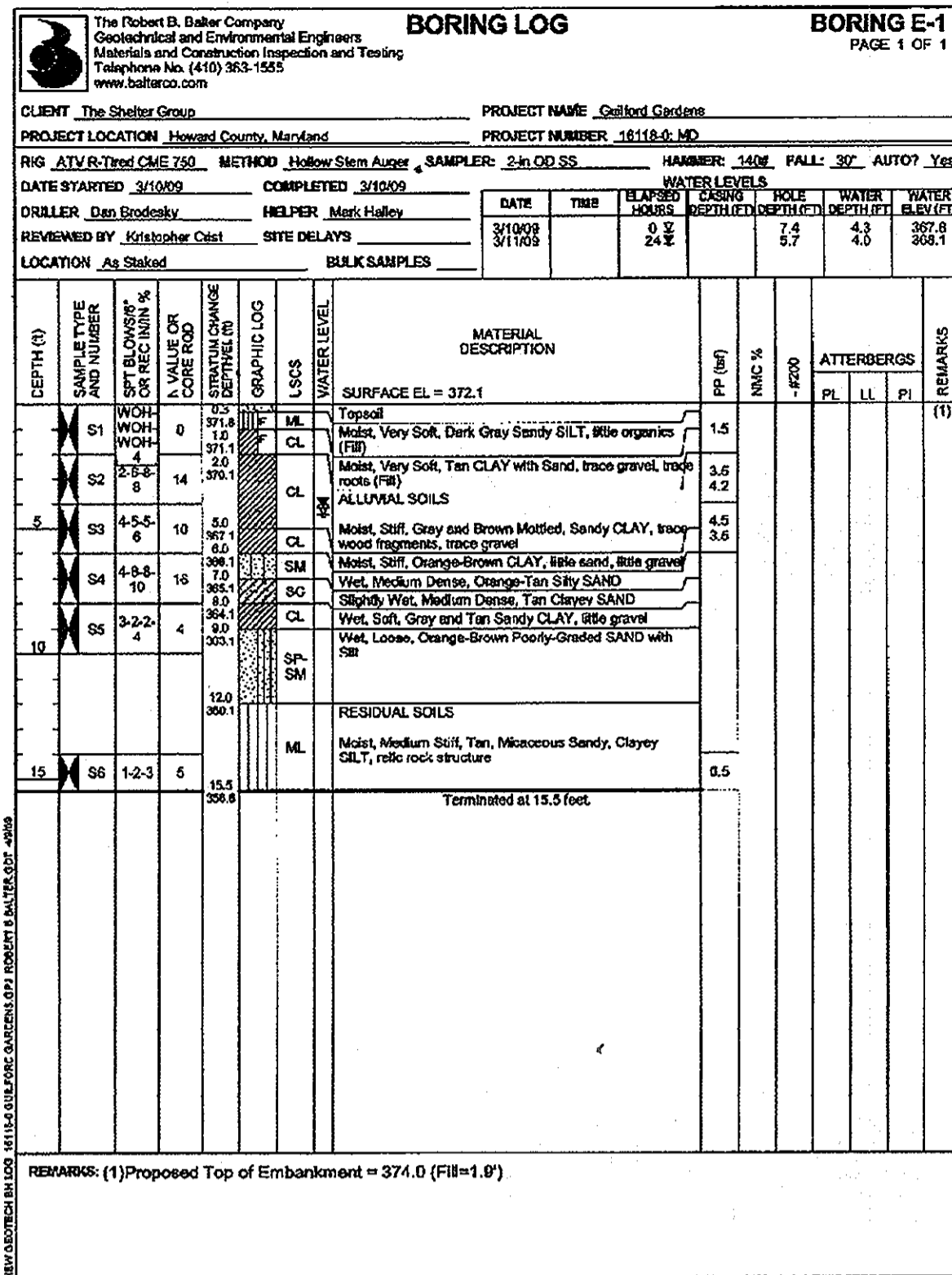
SOIL BORINGS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 2007-2-20970
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	15 OF 35

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE
 PREPARED OR APPROVED BY ME, AND THAT I
 AM A FULLY LICENSED PROFESSIONAL ENGINEER
 UNDER THE LAWS OF THE STATE OF MARYLAND,
 LICENSE NO. 12975
 EXPIRATION DATE: MAY 26, 2010

12-2-09





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Donna Creedon* 2/18/10
 Chief, Division of Land Development: *Keith DeLoach* 2-18-10
 Chief, Development Engineering Division: *John DeLoach* 1/15/10



The Robert B. Baiter Company
 Geotechnical and Environmental Engineers
 Materials and Construction Inspection and Testing
 Telephone No. (410) 363-1555
 www.baiterco.com

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: 301-399-2524 FAX: 301-421-4188

L:\CADD\DRAWINGS\08057\SDP\08057 BORINGS.dwg DES. DRN. CHK. DATE REVISION BY APPR.

DATE	REVISION	BY	APPR.

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Corbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creedon
 410-962-0585

SOIL BORINGS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION I, AREA I
 PARCELS "A1" & "A2"
 PLAT No. 200600 & 20070
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6

SCALE AS SHOWN	ZONING RA-15	G. L. W. FILE No. 08057
DATE Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 16 OF 35

PROFESSIONAL CERTIFICATION
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 UNDER THE LAWS OF THE STATE OF MARYLAND,
 LICENSE NO. 12475
 EXPIRATION DATE: MAY 26, 2010
 12-2-09



STRUCTURE SCHEDULE								
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATIONS & REMARKS
			UPPER	LOWER	UPPER	LOWER		
D-1	NYLOPLAST DRAIN BASIN	18"	374.25	---	---	376.25	SEE DETAIL SHEET 22	N 548,201 E 1360,865
D-2	NYLOPLAST DRAIN BASIN	18"	374.25	---	---	376.25		N 548,146 E 1360,835
D-3	NYLOPLAST DRAIN BASIN	18"	374.00	---	---	376.00		N 548,121 E 1360,835
D-4	NYLOPLAST DRAIN BASIN	18"	381.34	---	---	378.34		N 548,020 E 1361,103
D-10	NYLOPLAST DRAIN BASIN	18"	382.21	---	---	374.21		N 547,947 E 1361,021
D-12	NYLOPLAST DRAIN BASIN	18"	386.10	---	---	383.10		N 547,106 E 1360,842
D-13	NYLOPLAST DRAIN BASIN	18"	383.50	---	---	380.50		N 547,914 E 1360,801
D-14	NYLOPLAST DRAIN BASIN	18"	382.50	---	---	374.50		N 547,914 E 1360,133
D-15	NYLOPLAST DRAIN BASIN	18"	385.80	---	---	382.80		N 547,710 E 1360,648
D-16	NYLOPLAST DRAIN BASIN	18"	374.01	---	---	376.01		N 548,225 E 1360,714
D-17	NYLOPLAST DRAIN BASIN	18"	374.00	---	---	376.00		N 548,225 E 1360,711
D-18	NYLOPLAST DRAIN BASIN	18"	378.00	---	---	375.00		N 548,217 E 1360,630
D-19	NYLOPLAST DRAIN BASIN	18"	381.50	---	---	378.50		N 548,020 E 1360,655
D-20	NYLOPLAST DRAIN BASIN	18"	382.00	---	---	374.00		N 547,945 E 1360,724
D-21	NYLOPLAST DRAIN BASIN	18"	382.00	---	---	374.00		N 547,945 E 1360,818
D-23	NYLOPLAST DRAIN BASIN	18"	381.50	---	---	378.50		N 547,160 E 1360,634
D-24	NYLOPLAST DRAIN BASIN	18"	381.50	---	---	378.50		N 548,224 E 1360,502
D-25	NYLOPLAST DRAIN BASIN	18"	381.50	---	---	378.50		N 548,201 E 1360,515
D-26	NYLOPLAST DRAIN BASIN	18"	381.50	---	---	378.50		N 548,110 E 1360,515
D-27	NYLOPLAST DRAIN BASIN	18"	378.50	---	---	375.50		N 548,206 E 1360,468
D-28	NYLOPLAST DRAIN BASIN	18"	374.50	---	---	376.50		N 548,194 E 1360,565
D-29	NYLOPLAST DRAIN BASIN	18"	381.50	---	---	378.50		N 548,088 E 1360,555
D-30	NYLOPLAST DRAIN BASIN	18"	381.00	---	---	378.00		N 548,044 E 1360,555
D-31	NYLOPLAST DRAIN BASIN	18"	381.30	---	378.30	378.20		N 548,014 E 1360,551
D-32	NYLOPLAST DRAIN BASIN	18"	383.10	---	---	380.10		N 547,428 E 1360,518
D-33	NYLOPLAST DRAIN BASIN	18"	383.10	---	---	380.10		N 547,410 E 1360,565
D-34	NYLOPLAST DRAIN BASIN	18"	385.00	---	---	382.00		N 547,108 E 1361,128

PIPE SCHEDULE		
SIZE & TYPE	QUANTITY (LF)	REMARKS
10" HDPE	3,462	
12" HDPE	440	
15" HDPE	2,348	
18" HDPE	524	
24" HDPE	188	
30" HDPE	203	
36" HDPE	617	
42" HDPE	346	

*ALL PIPES TO BE PRIVATE.
THIS PIPE SCHEDULE IS FOR ALL ROOF LEADERS SHOWN ON SHEETS IT 4 18
NOTE: SEE SHEET 22 FOR RIP-RAP APRON INFORMATION
THIS STRUCTURE SCHEDULE IS FOR ALL INLETS CONNECTED TO ROOF LEADERS SHOWN ON SHEETS IT 4 18.
SEE STORM DRAIN PROFILES (SHEETS 20-22) FOR D-4, D-5, D-6, D-7, D-8, D-11, & D-22.

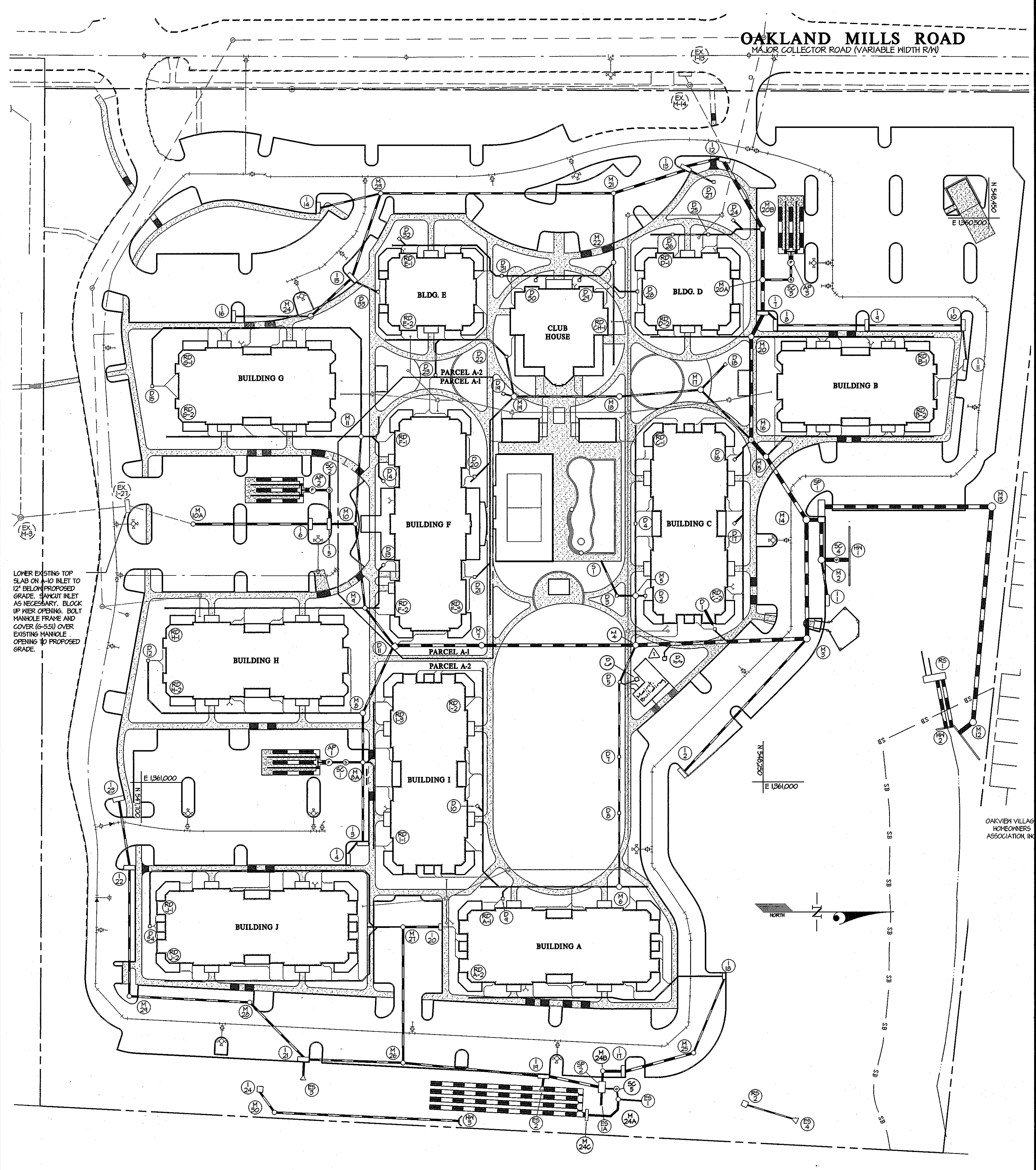
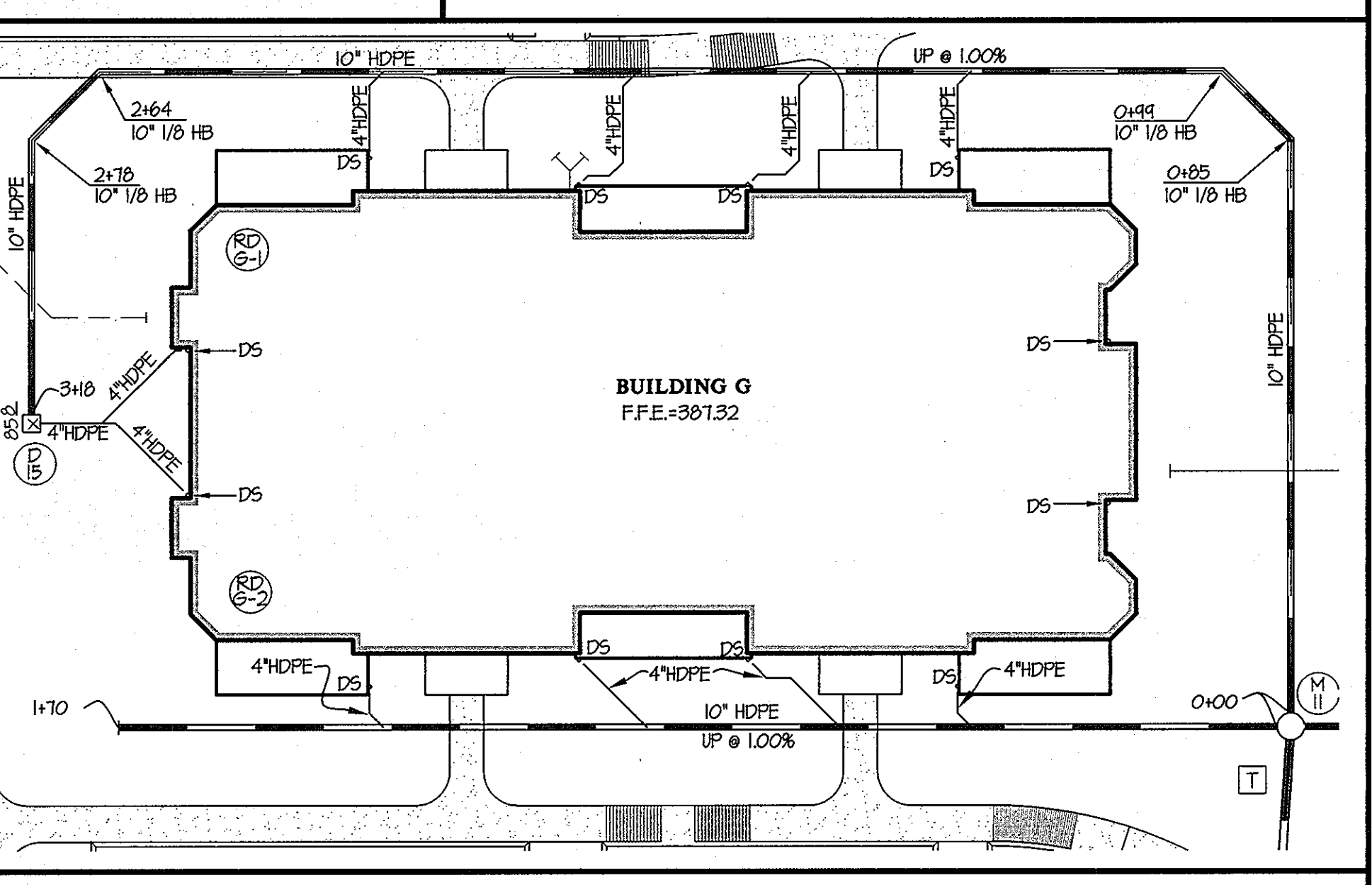
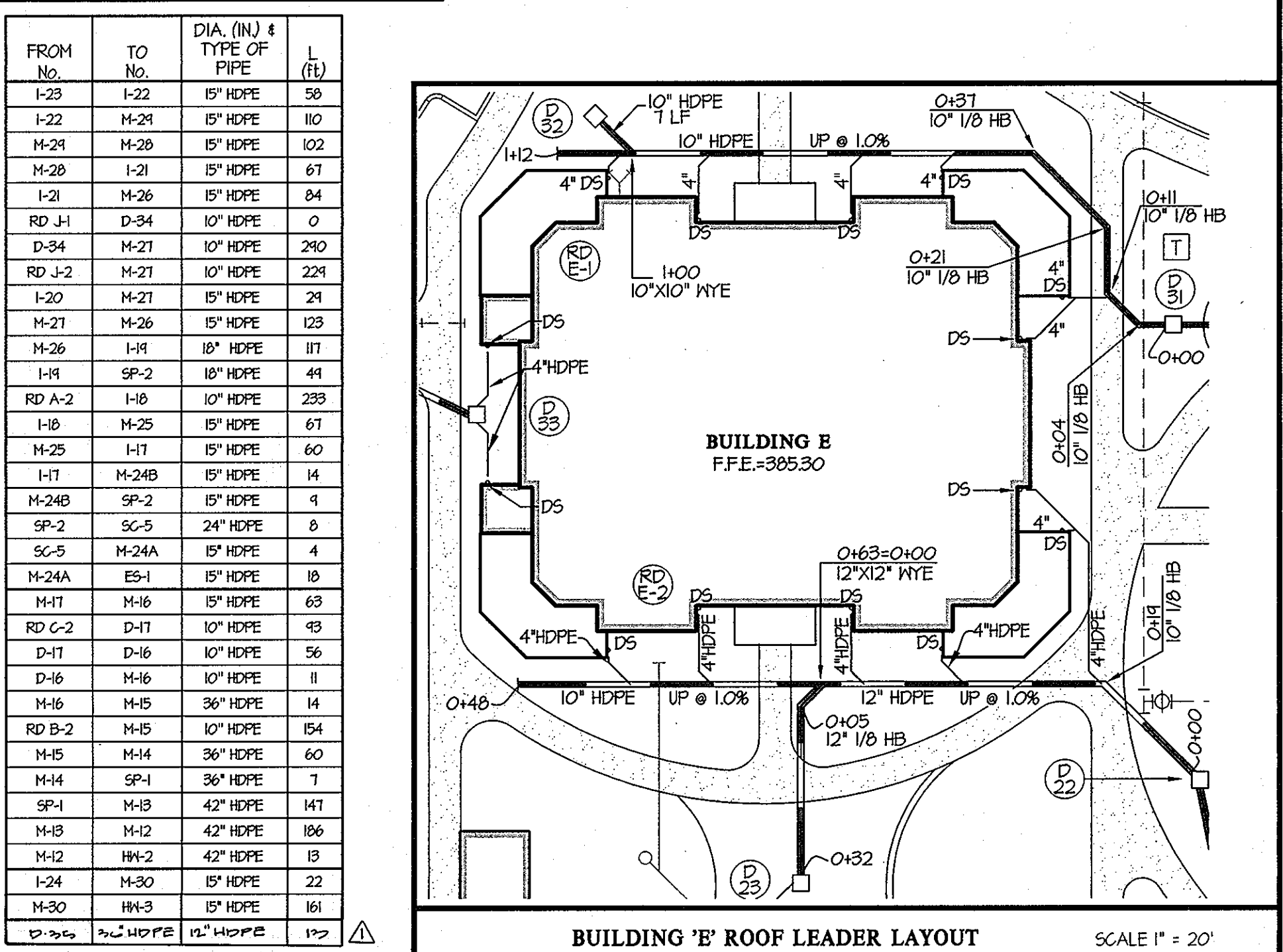
NOTES:
• ALL CONCRETE STRUCTURES TO BE PRECAST.
• ALL STRUCTURES TO BE PRIVATE.

FROM NO.	TO NO.	DIA. (IN) & TYPE OF PIPE	L (FT)	FROM NO.	TO NO.	DIA. (IN) & TYPE OF PIPE	L (FT)
RD 6-1	D-5	10" HDPE	8	I-23	I-22	15" HDPE	58
D-5	M-11	10" HDPE	310	I-22	M-21	15" HDPE	110
RD 6-2	M-11	10" HDPE	110	M-21	M-28	15" HDPE	102
RD F-1	D-4	10" HDPE	21	M-28	M-21	15" HDPE	67
D-4	M-11	10" HDPE	50	I-21	M-21	15" HDPE	84
M-11	M-10	15" HDPE	75	RD J-1	D-34	10" HDPE	0
EX M-3	M-10A	15" HDPE	156	RD 3-4	M-21	10" HDPE	240
M-10A	I-6	15" HDPE	100	RD J-2	M-21	10" HDPE	224
I-6	I-5	24" HDPE	14	I-20	M-21	15" HDPE	24
I-5	M-10	24" HDPE	11	M-21	M-26	15" HDPE	123
M-10	M-4	24" HDPE	75	M-26	M-18	18" HDPE	117
RD H-1	M-4	10" HDPE	175	I-14	SP-2	18" HDPE	44
RD F-2	D-18	10" HDPE	0	RD A-2	I-18	10" HDPE	233
D-18	M-4	10" HDPE	46	I-18	M-25	15" HDPE	67
M-4	D-12	24" HDPE	41	M-25	I-17	15" HDPE	60
RD H-2	D-12	10" HDPE	0	I-17	M-24B	15" HDPE	14
D-12	M-8	10" HDPE	225	M-24B	SP-2	15" HDPE	4
RD I-1	M-8A	10" HDPE	83	SP-2	SC-5	24" HDPE	8
RD I-3	M-8A	10" HDPE	56	SC-5	M-24A	15" HDPE	4
I-4	I-3	15" HDPE	13	M-24A	ES-1	15" HDPE	18
I-3	M-8A	15" HDPE	68	M-17	M-16	15" HDPE	63
M-8A	M-8	15" HDPE	34	RD C-2	D-11	10" HDPE	43
M-8	D-11	18" HDPE	60	D-11	D-16	10" HDPE	56
D-11	M-7	30" HDPE	12	D-16	M-16	10" HDPE	11
M-7	M-4	30" HDPE	131	M-16	M-15	36" HDPE	14
RD I-2	D-10	10" HDPE	105	RD B-2	M-15	10" HDPE	154
D-10	D-4	12" HDPE	13	M-15	M-14	36" HDPE	60
RD A-1	D-4	10" HDPE	24	M-14	SP-1	36" HDPE	7
D-4	M-6	12" HDPE	46	SP-1	M-13	42" HDPE	147
M-6	D-8	12" HDPE	65	M-13	M-12	42" HDPE	186
D-8	D-7	15" HDPE	50	M-12	HK-2	42" HDPE	13
D-7	D-5	15" HDPE	66	I-24	M-30	15" HDPE	22
D-6	D-5	12" HDPE	14	M-30	HK-3	15" HDPE	161
D-5	M-4	15" HDPE	33	M-30	HK-3	15" HDPE	161
RD C-1	D-4	10" HDPE	86	D-23	D-22	12" HDPE	64
D-4	M-5	10" HDPE	60	D-22	M-11	12" HDPE	34
S-1	D-3	10" HDPE	39	RD F-3	D-21	10" HDPE	46
D-3	M-5	10" HDPE	13	D-21	D-20	10" HDPE	84
D-2	M-5	10" HDPE	5	D-20	M-11	12" HDPE	65
M-5	M-4	10" HDPE	34	D-18	M-11	10" HDPE	6
D-1	M-4	10" HDPE	12	M-11	M-10	15" HDPE	11
M-4	M-3	36" HDPE	145	M-10	M-17	15" HDPE	12
I-2	M-3	15" HDPE	154	D-18	M-17	12" HDPE	28
M-3	M-4	36" HDPE	100				
M-4	SP-1	36" HDPE	7				
SP-1	M-2	36" HDPE	30				
I-1	M-2	15" HDPE	24				
M-2	SC-4	36" HDPE	8				
SC-4	HH	36" HDPE	4				

NOTE: M-1 HAS BEEN INTENTIONALLY OMITTED
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12415, EXPIRATION DATE: MAY 26, 2010

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *Thomas E. Suttler* 2/18/10
Chief, Division of Planning and Development: *W. J. Se. Wood* 2/18/10
Chief, Development Engineering Division: *Michael J. ...* 1/15/10

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 FAX: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4186



DATE	REVISION	BY	APP'R.
11/27/10	Rev. Maintenance Bldg. footprint, storm drains & schedules accordingly		DEV

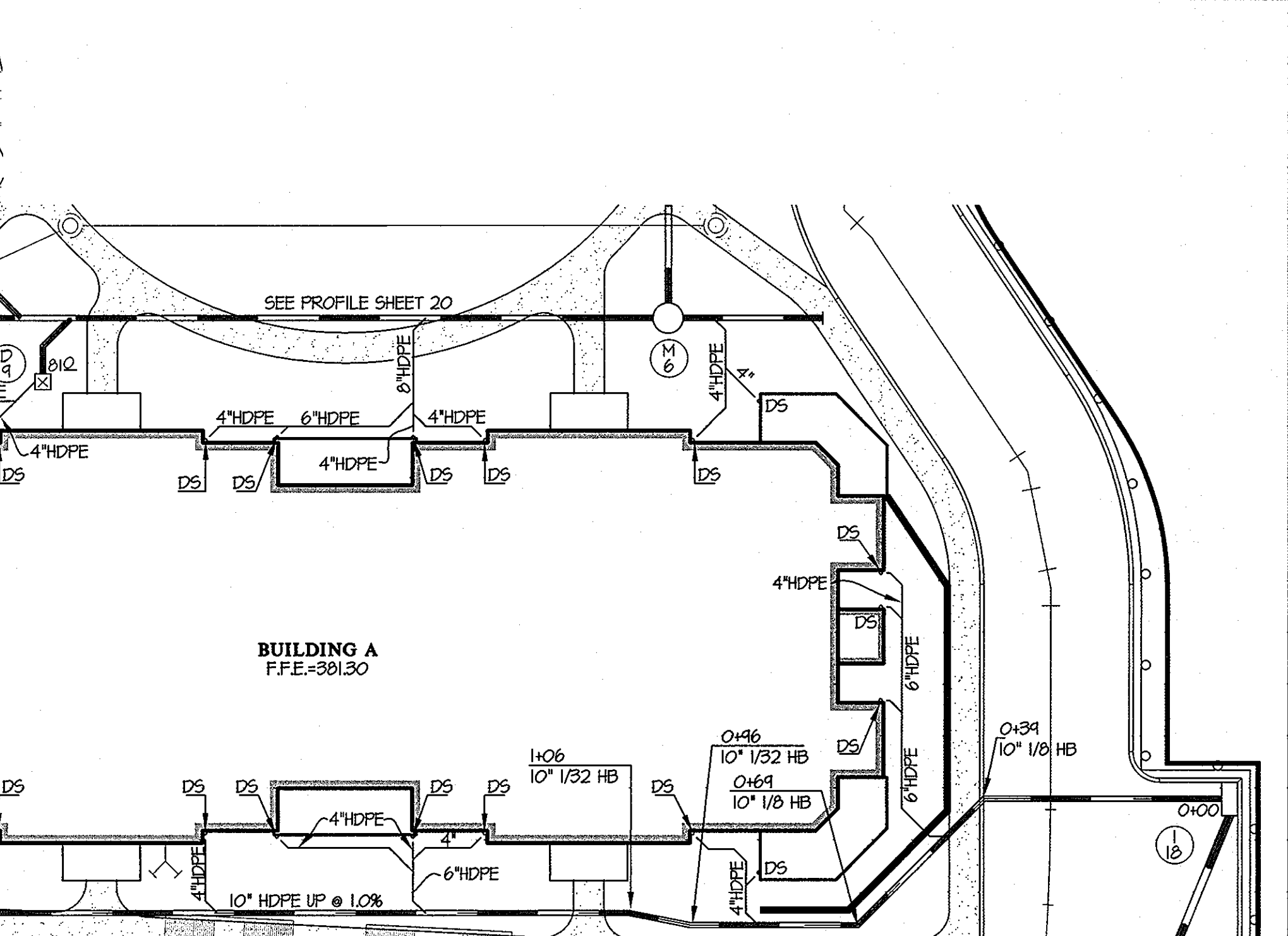
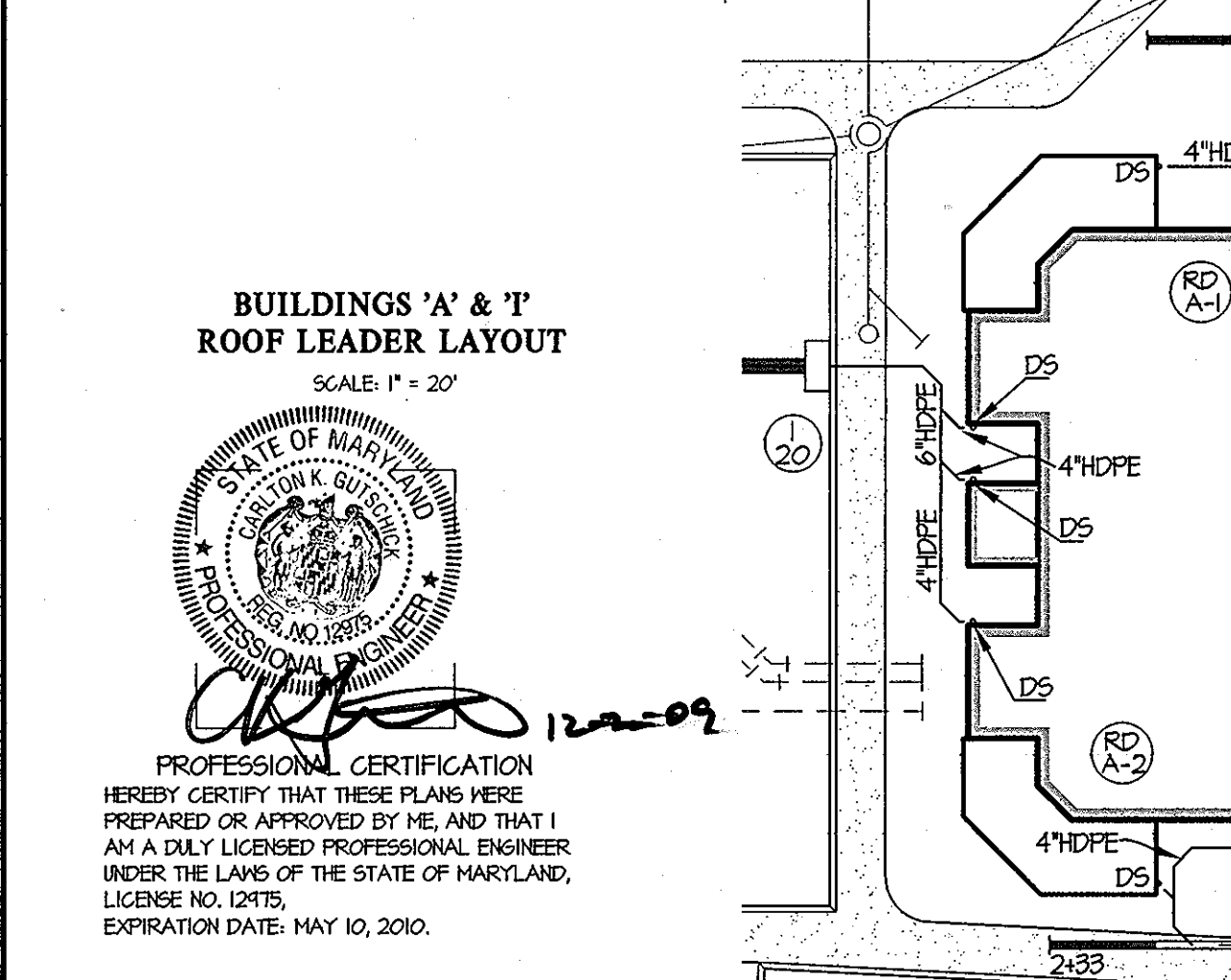
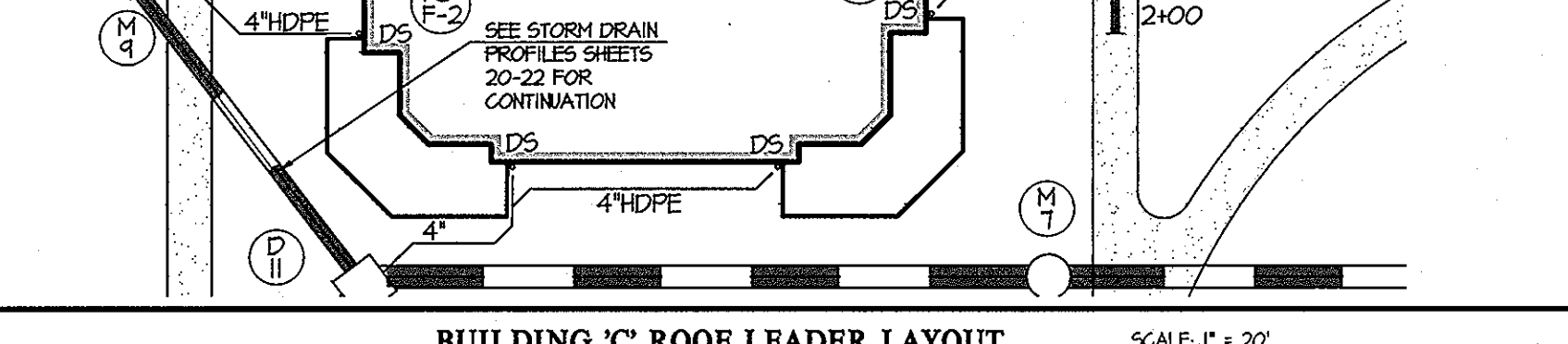
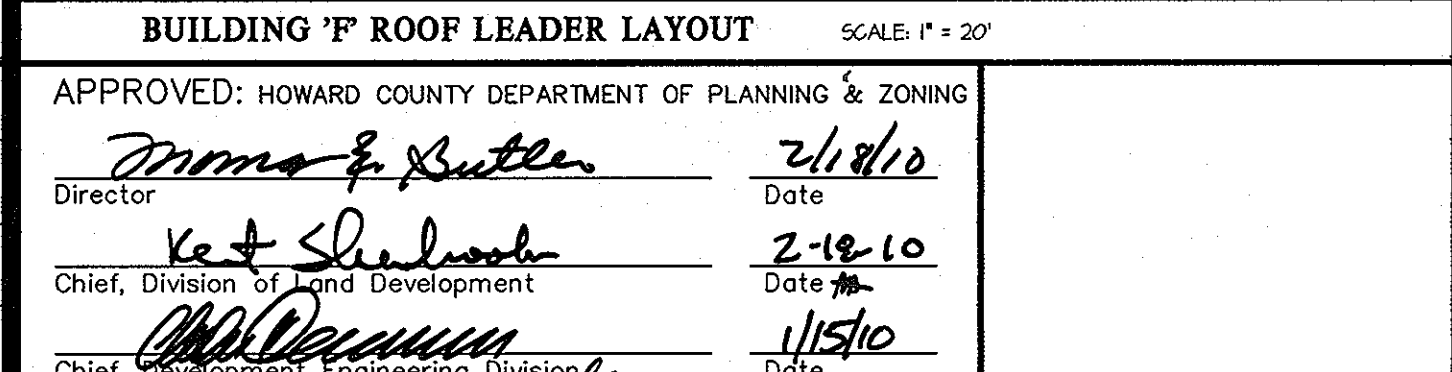
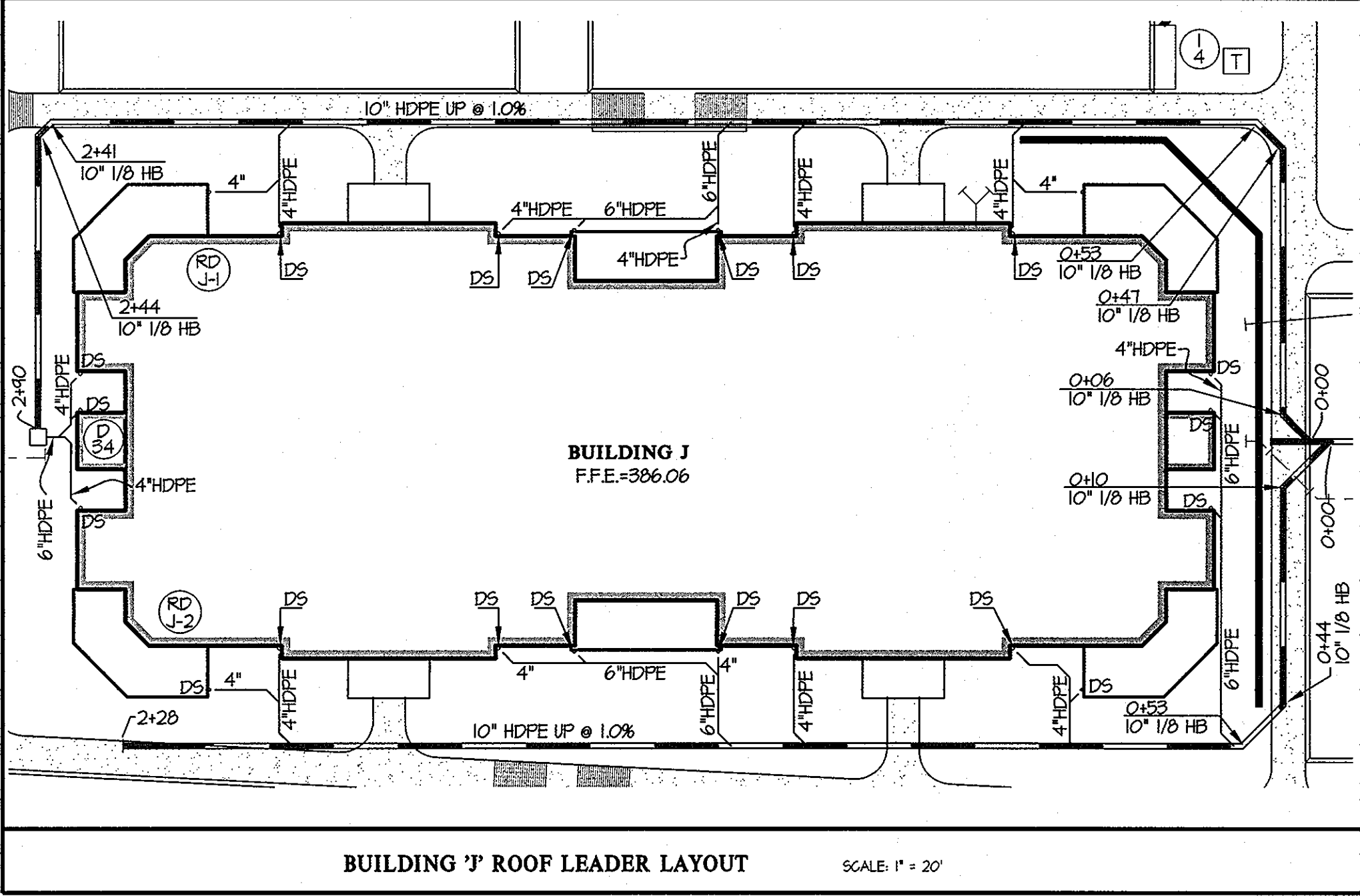
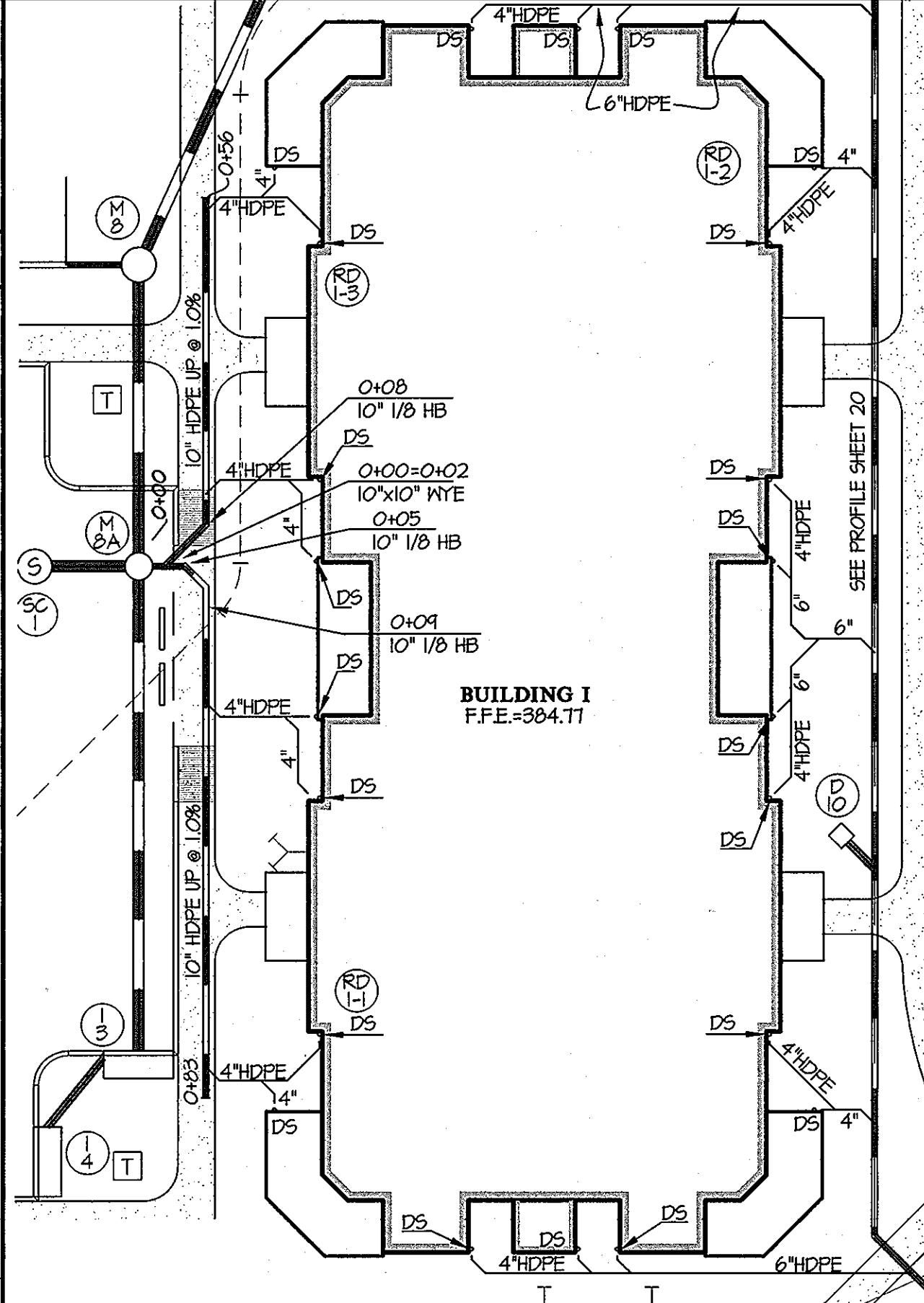
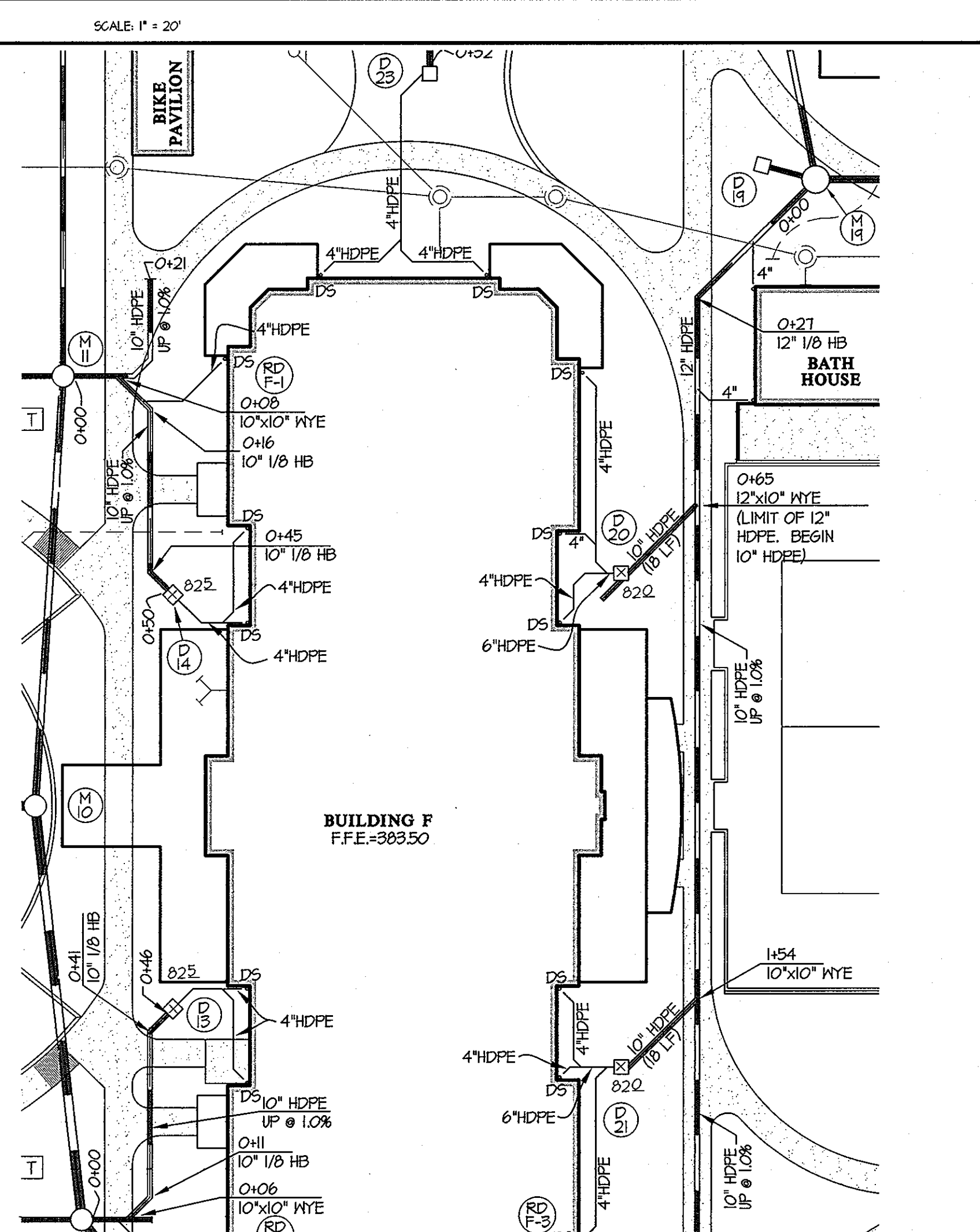
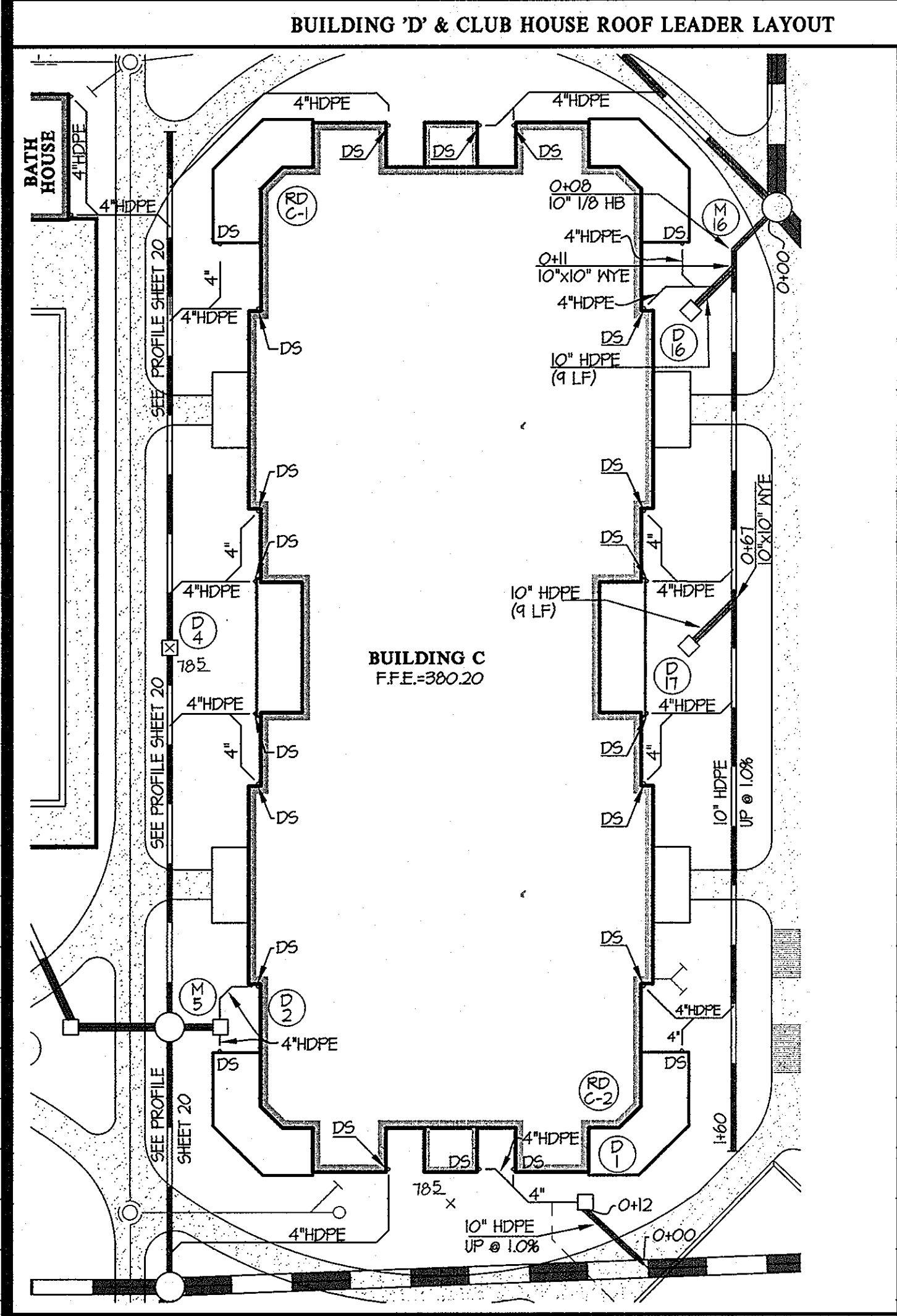
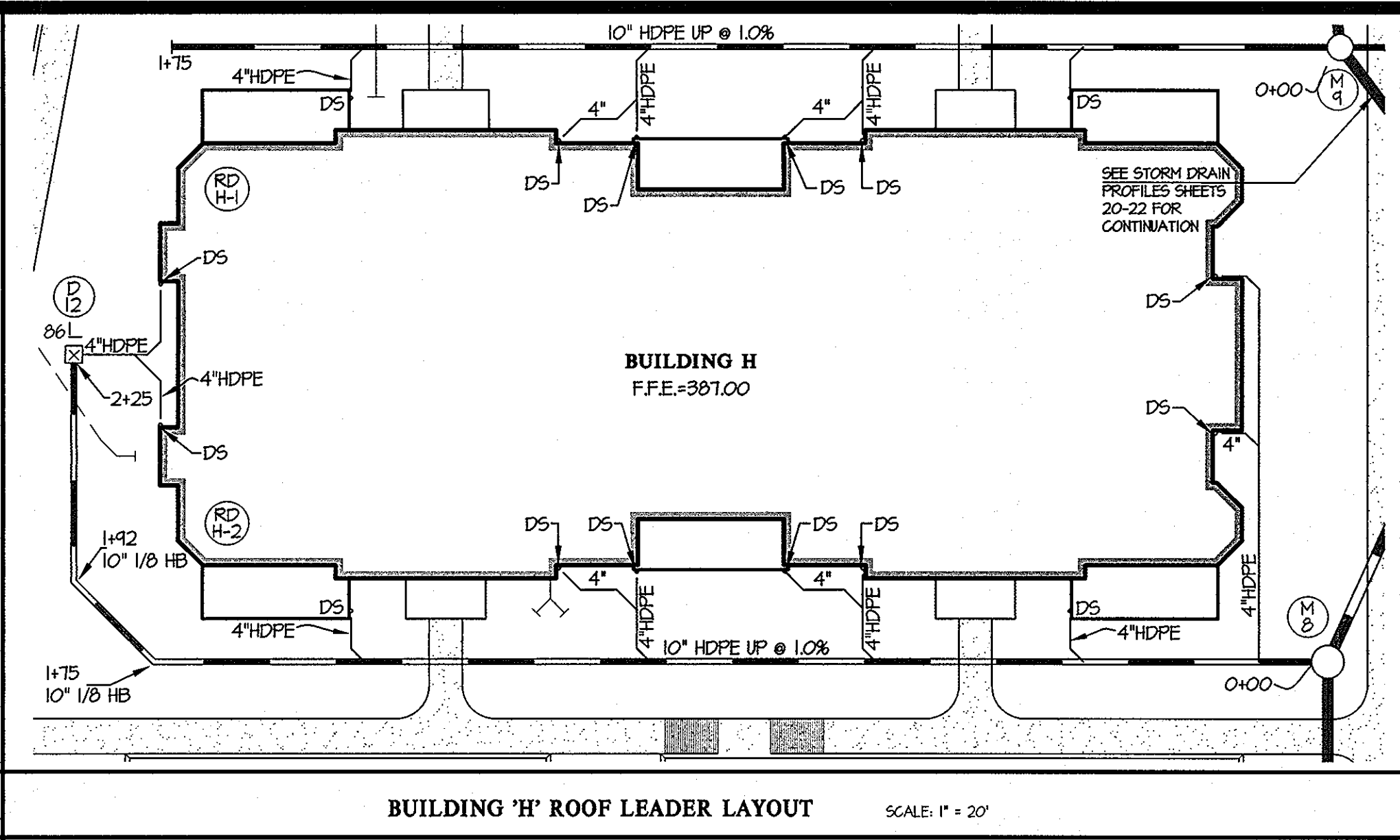
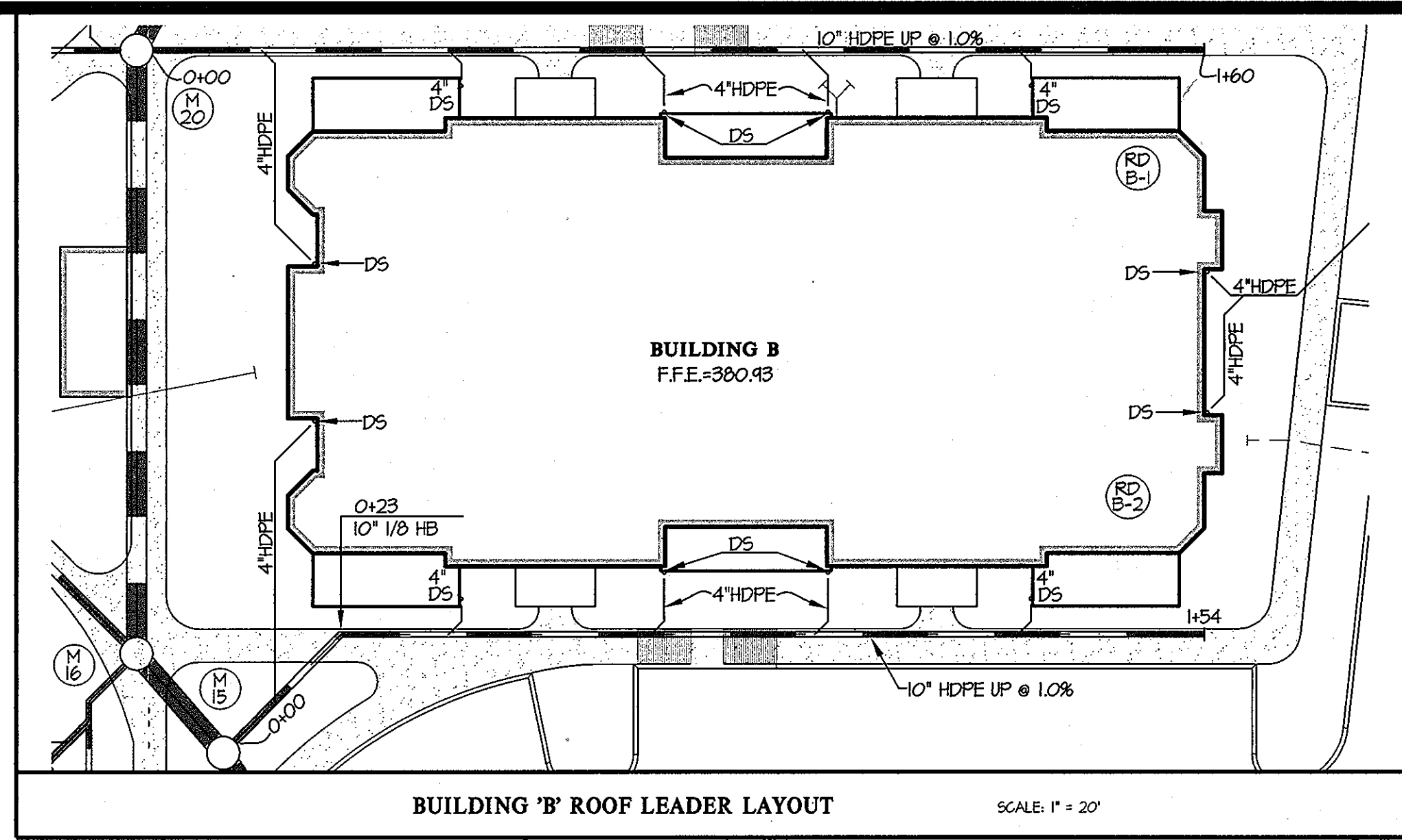
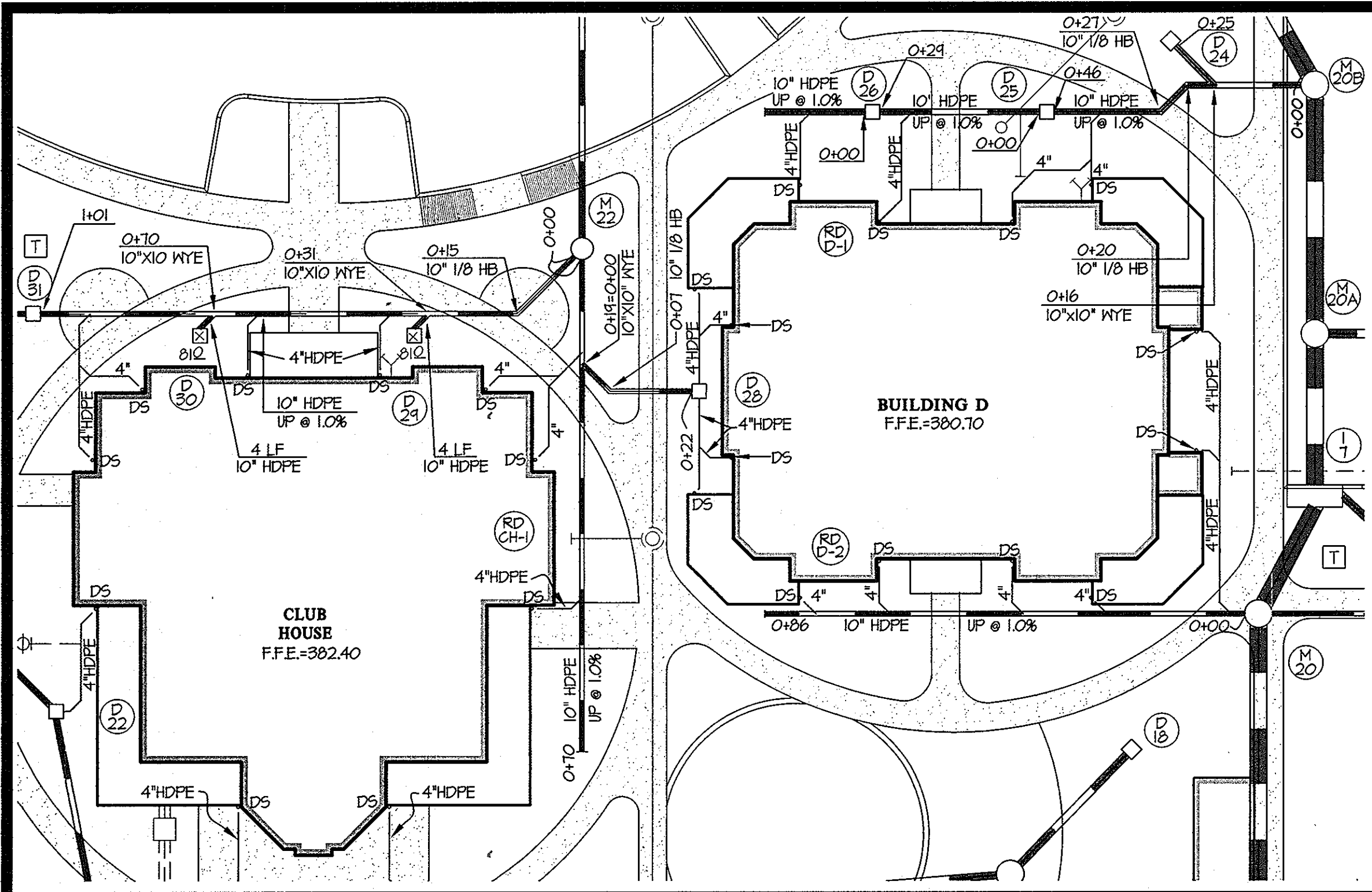
OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

STORM DRAIN INFORMATION PLAN
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 200007 & 20070
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6

SCALE 1"=50'	ZONING RA-15	G. L. W. FILE NO. 08057
DATE Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 17 OF 35

HOWARD COUNTY, MARYLAND



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director **2/16/10**
Date

Chief, Division of Land Development **2-19-10**
Date

Chief, Development Engineering Division **1/15/10**
Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

DATE	REVISION	BY	APP'R.

OWNER:
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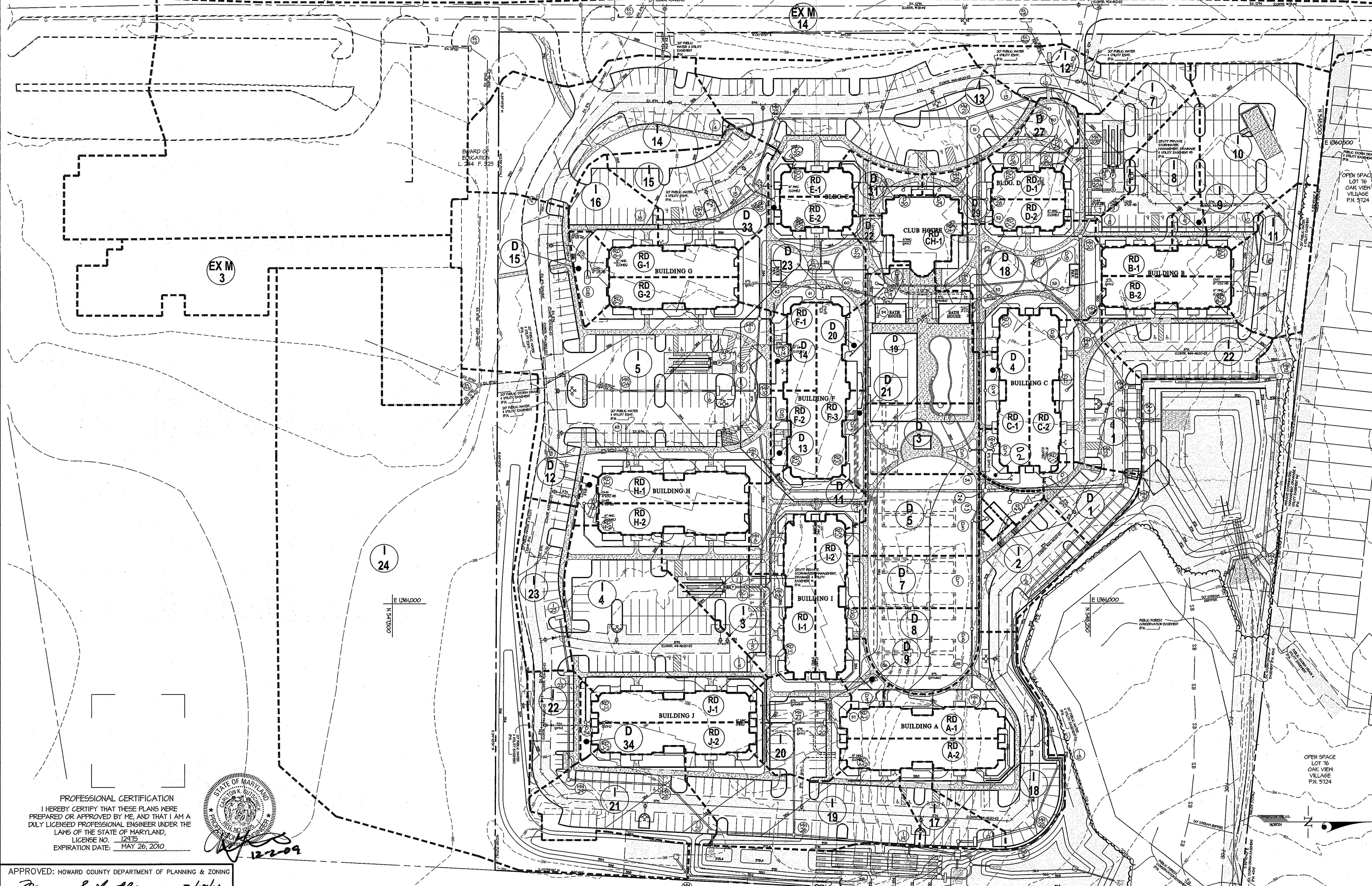
ROOF LEADER PLAN
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 20000 & 20070
TAX MAP 42, PARCEL 361
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=20'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov, 2009	42 - 11	18 OF 35

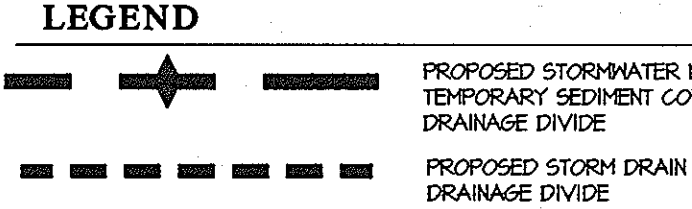
**BUILDINGS 'A' & 'T'
ROOF LEADER LAYOUT**
SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION
HEREBY CERTIFY THAT THESE PLANS WERE
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UNDER THE LAWS OF THE STATE OF MARYLAND,
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EXPIRATION DATE: MAY 10, 2010.

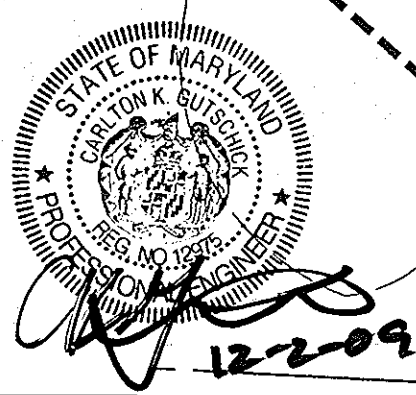
OAKLAND MILLS ROAD
MAJOR COLLECTOR ROAD (VARIABLE WIDTH R/W)



DRAINAGE AREAS			
DRAINAGE AREA	AREA (AC)	% IMPERVIOUS	C
I-1	0.58	77%	0.12
I-2	0.25	77%	0.12
I-3	0.26	77%	0.12
I-4	0.57	77%	0.12
I-5	0.21	77%	0.12
I-6	1.24	77%	0.12
I-7	0.26	77%	0.12
I-8	0.22	77%	0.12
I-9	0.04	77%	0.12
I-10	0.50	77%	0.12
I-11	0.25	77%	0.12
I-12	0.19	77%	0.12
I-13	0.81	77%	0.12
I-14	0.65	77%	0.24
I-15	0.27	77%	0.24
I-16	0.13	77%	0.24
I-17	0.31	77%	0.12
I-18	0.18	77%	0.12
I-19	0.41	77%	0.12
I-20	0.22	77%	0.12
I-21	0.30	77%	0.12
I-22	0.16	77%	0.12
I-23	0.22	0%	0.24
I-24	2.60	0%	0.24
D-1	0.05	77%	0.12
D-2	0.01	77%	0.12
D-3	0.22	77%	0.12
D-4	0.04	77%	0.12
D-5	0.18	77%	0.12
D-6	0.02	77%	0.12
D-7	0.16	77%	0.12
D-8	0.20	77%	0.12
D-9	0.04	77%	0.12
D-10	0.06	77%	0.12
D-11	0.26	77%	0.12
D-12	0.04	77%	0.12
D-13	0.02	77%	0.12
D-14	0.02	77%	0.12
D-15	0.04	77%	0.12
D-16	0.02	77%	0.12
D-17	0.35	77%	0.12
D-18	0.04	77%	0.12
D-19	0.07	77%	0.12
D-20	0.03	77%	0.24
D-21	0.03	77%	0.12
D-22	0.05	77%	0.12
D-23	0.27	77%	0.12
D-24	0.04	77%	0.12
D-25	0.02	77%	0.12
D-26	0.02	77%	0.12
D-27	0.02	77%	0.12
D-28	0.06	77%	0.12
D-29	0.01	77%	0.12
D-30	0.02	77%	0.12
D-31	0.05	77%	0.12
D-32	0.03	77%	0.12
D-33	0.07	77%	0.12
D-34	0.03	77%	0.12
RD A-1	0.14	100%	0.86
RD A-2	0.14	100%	0.86
RD B-1	0.11	100%	0.86
RD B-2	0.11	100%	0.86
RD C-1	0.14	100%	0.86
RD C-2	0.14	100%	0.86
RD D-1	0.07	100%	0.86
RD D-2	0.07	100%	0.86
RD E-1	0.07	100%	0.86
RD E-2	0.07	100%	0.86
RD F-1	0.07	100%	0.86
RD F-2	0.07	100%	0.86
RD F-3	0.16	100%	0.86
RD G-1	0.11	100%	0.86
RD G-2	0.11	100%	0.86
RD H-1	0.13	100%	0.86
RD H-2	0.13	100%	0.86
RD I-1	0.14	100%	0.86
RD I-2	0.14	100%	0.86
RD J-1	0.14	100%	0.86
RD J-2	0.14	100%	0.86
RD CH-1	0.07	100%	0.86
S-1	0.35	90%	0.80
EX MH-1	0.19	100%	0.86
EX MH-14	3.85	77%	0.12



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475, EXPIRATION DATE: MAY 26, 2010.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *Donna C. Creighton* Date: 2/18/10
Chief, Division of Land Development: *Walt Sheindel* Date: 2-18-10
Chief, Development Engineering Division: *John Deussen* Date: 1/15/10

GLWGUTSCHICK LITTLE & WEBER, P.A.
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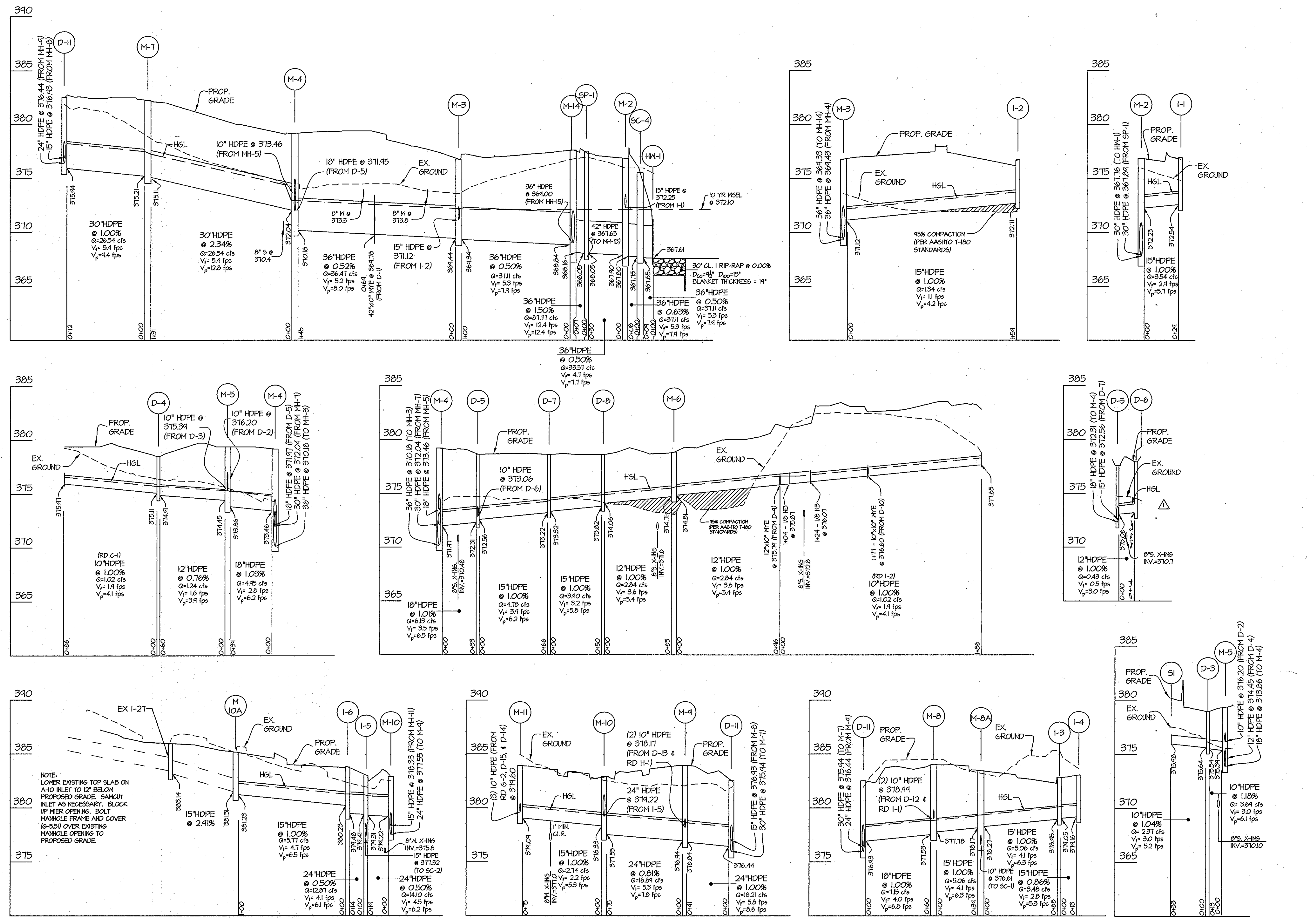
DATE	REVISION	BY	APP'R.
11/10/10	Rev. Maintenance Bldg. footprint, drain locations, drainage divides & tables.	DEV	

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creighton
410-962-0595

STORM DRAIN DRAINAGE AREA MAP
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION I, AREA 1
PARCELS "A1" & "A2"
PLAT No. 120102 & 200710
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE NO.
1"=50'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov, 2009	42 - 11	19 OF 35



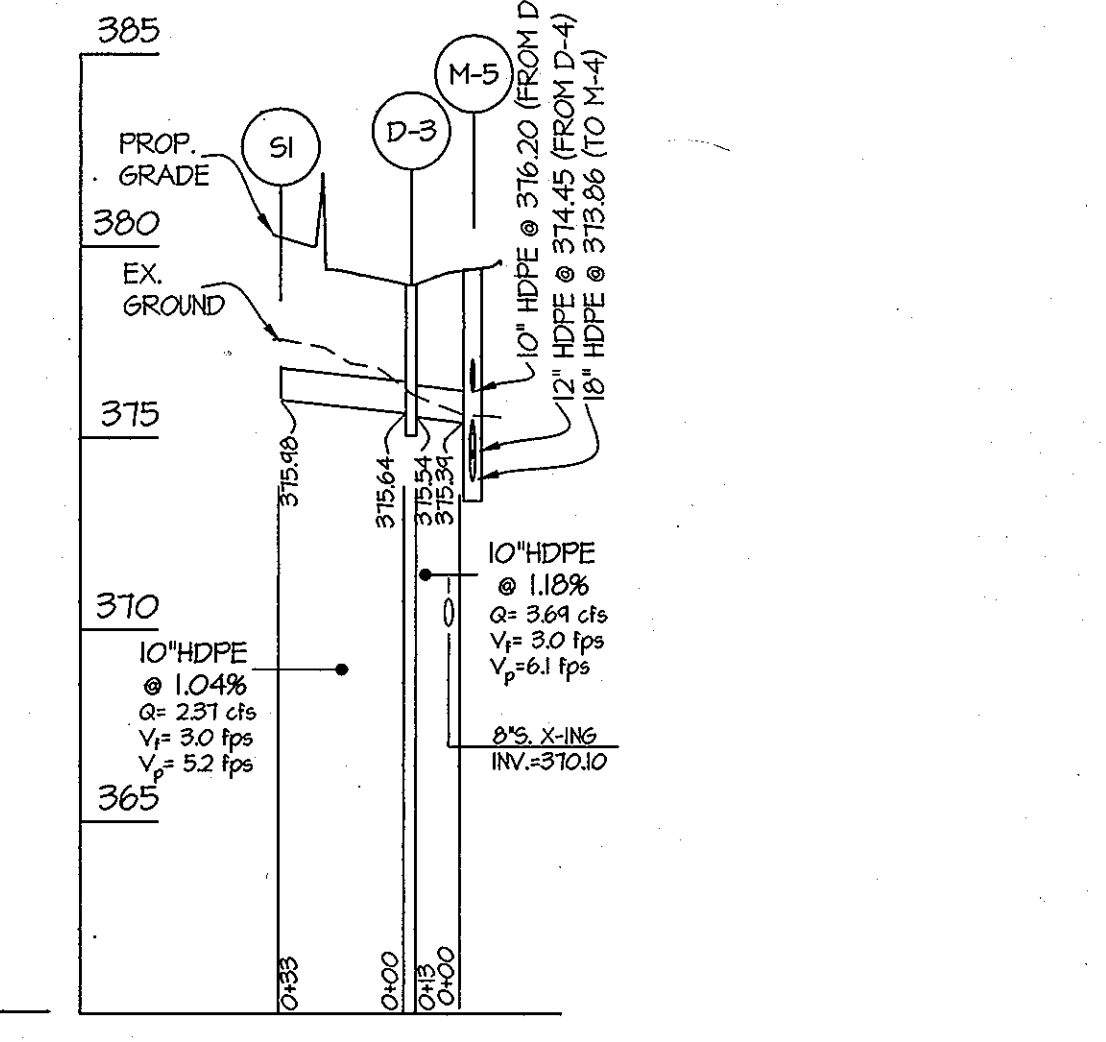
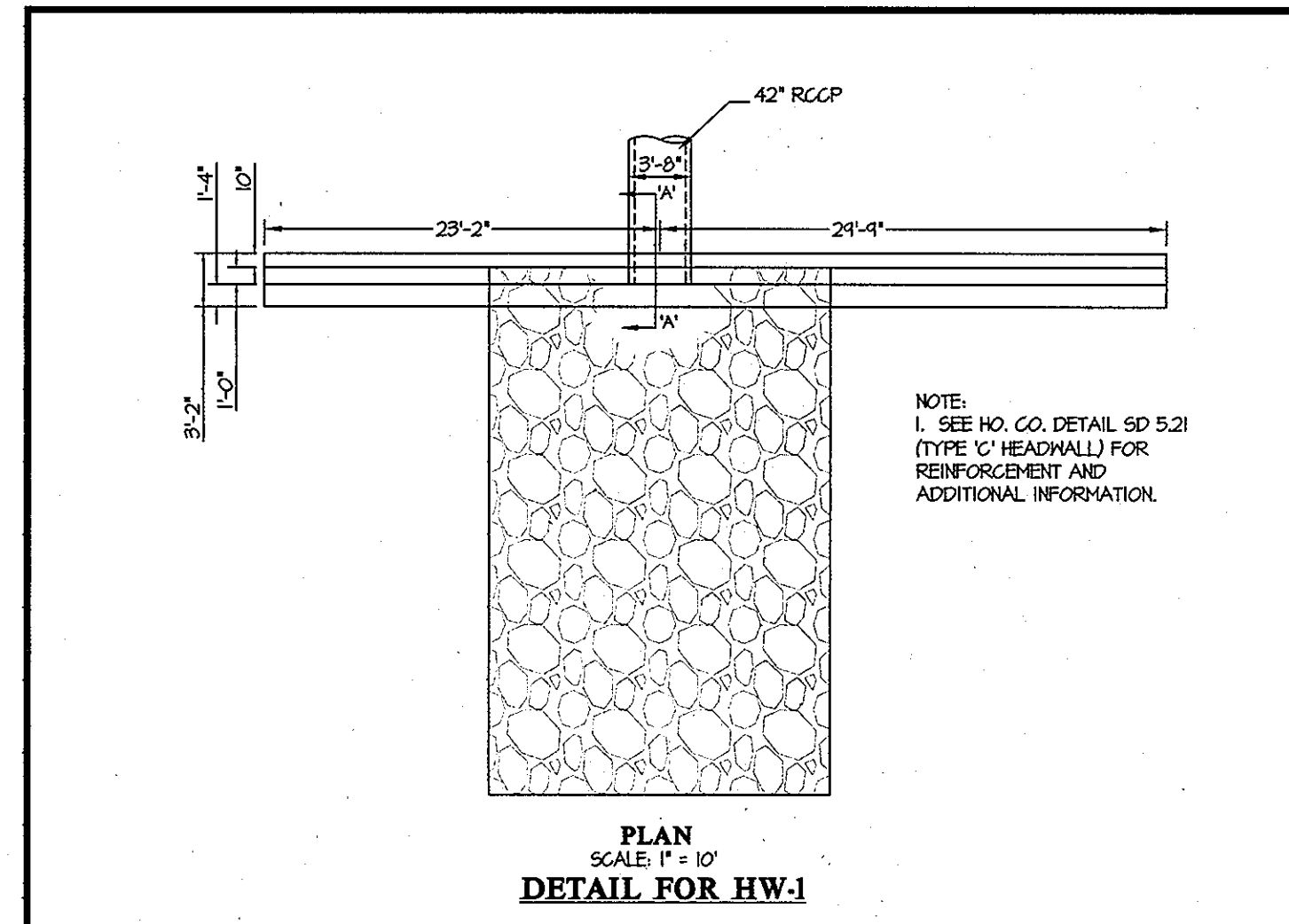
STRUCTURE SCHEDULE										
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION	UPPER	LOWER	INVERT ELEVATION	UPPER	LOWER	STANDARD DETAIL	LOCATIONS & REMARKS
M-2	MANHOLE	5'	371.01	---	---	372.25	361.80	---	HO. CO. STD. G-5.13	N 548,302 E 1,360,803
M-3	MANHOLE	5'	376.86	---	---	371.12	369.34	---	HO. CO. STD. G-5.13	N 548,284 E 1,360,813
M-4	MANHOLE	5'	374.52	---	---	373.46	370.18	---	HO. CO. STD. G-5.13	N 548,371 E 1,360,814
M-5	MANHOLE	4'	380.16	---	---	376.20	373.86	---	HO. CO. STD. G-5.12	N 548,371 E 1,360,835
M-6	MANHOLE	4'	374.50	---	---	374.81	374.11	---	HO. CO. STD. G-5.12	N 548,284 E 1,360,845
M-7	MANHOLE	5'	382.23	---	---	375.21	375.11	---	HO. CO. STD. G-5.13	N 548,001 E 1,360,874
M-8	MANHOLE	4'	384.14	---	---	378.99	371.53	---	HO. CO. STD. G-5.12	N 547,846 E 1,360,934
M-8A	MANHOLE	4'	383.24	---	---	378.27	376.61	---	HO. CO. STD. G-5.12	N 547,846 E 1,360,982
M-9	MANHOLE	4'	383.80	---	---	378.17	376.84	---	HO. CO. STD. G-5.12	N 547,848 E 1,360,845
M-10	MANHOLE	4'	382.84	---	---	374.22	371.55	---	HO. CO. STD. G-5.12	N 547,848 E 1,360,771
M-10A	MANHOLE	4'	385.02	---	---	381.51	381.23	---	HO. CO. STD. G-5.12	N 547,146 E 1,360,771
M-11	MANHOLE	4'	383.84	---	---	374.60	374.09	---	HO. CO. STD. G-5.12	N 547,845 E 1,360,643
I-1	A-10 INLET	2'-6"	371.15	---	---	---	372.54	---	HO. CO. STD. D-4.03	N 548,305 E 1,360,834
I-2	A-10 INLET	2'-6"	376.82	---	---	---	372.71	---	HO. CO. STD. D-4.03	N 548,180 E 1,360,840
I-3	A-10 INLET	3'-0"	382.86	---	---	378.05	378.95	---	HO. CO. STD. D-4.03	N 547,846 E 1,361,052
I-4	A-10 INLET	3'-0"	383.20	---	---	---	374.16	---	HO. CO. STD. D-4.03	N 547,881 E 1,361,068
I-5	A-10 INLET	2'-6"	383.19	---	---	---	371.33	---	HO. CO. STD. D-4.03	N 547,864 E 1,360,771
I-6	COS-15 INLET	4'-0"	383.88	---	---	380.23	374.48	---	SHA STD.-MD 374.62	N 547,848 E 1,360,771
D-3	NYLOPLAST BASIN	18"	---	---	---	375.64	375.54	---	SEE DTL. SHEET 22	N 548,121 E 1,360,835
D-4	NYLOPLAST BASIN	18"	---	---	---	375.11	375.01	---	SEE DTL. SHEET 22	N 548,137 E 1,360,771
D-5	NYLOPLAST BASIN	18"	---	---	---	373.06	372.31	---	SEE DTL. SHEET 22	N 548,123 E 1,360,911
D-6	NYLOPLAST BASIN	18"	---	---	---	---	---	---	SEE DTL. SHEET 22	N 548,123 E 1,360,911
D-7	NYLOPLAST BASIN	18"	---	---	---	373.32	373.22	---	SEE DTL. SHEET 22	N 548,123 E 1,360,911
D-8	NYLOPLAST BASIN	18"	---	---	---	374.06	373.82	---	SEE DTL. SHEET 22	N 548,123 E 1,361,027
D-11	TYPE 'S' INLET	2'-15"	381.50	---	---	376.93	375.94	---	HO. CO. STD. D-4.22	N 547,124 E 1,360,880
SC-4	STORMCEPTOR	8'-0"	375.20	---	---	367.15	367.65	---	SEE DTL. SHEET 26	N 548,315 E 1,360,803
HW-1	HEADWALL TYPE 'C'	---	370.21	---	---	---	367.61	---	HO. CO. STD. D-5.21	N 548,326 E 1,360,800

NOTES:
 1. ALL CONCRETE STRUCTURES TO BE PRECAST.
 2. ALL STRUCTURES TO BE PRIVATE.

PIPE SCHEDULE		
SIZE & TYPE	QUANTITY (LF)	REMARKS
10" HDPE	318	
12" HDPE	275	
15" HDPE	544	
18" HDPE	132	
24" HDPE	144	
30" HDPE	203	
36" HDPE	244	

*ALL PIPES TO BE PRIVATE.

ALL PROFILES
 SCALE: 1" = 5' VERT.
 1" = 50' HORIZ.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Donna E. Butler* 2/18/10
 Chief, Division of Land Development: *Keith Shulman* 2-13-10
 Chief, Development Engineering Division: *William J. ...* 1/15/10

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475
 EXPIRATION DATE: MAY 26, 2010
 12-2-09

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BIRTONVILLE OFFICE PARK
 BIRTONVILLE, MARYLAND 20865
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

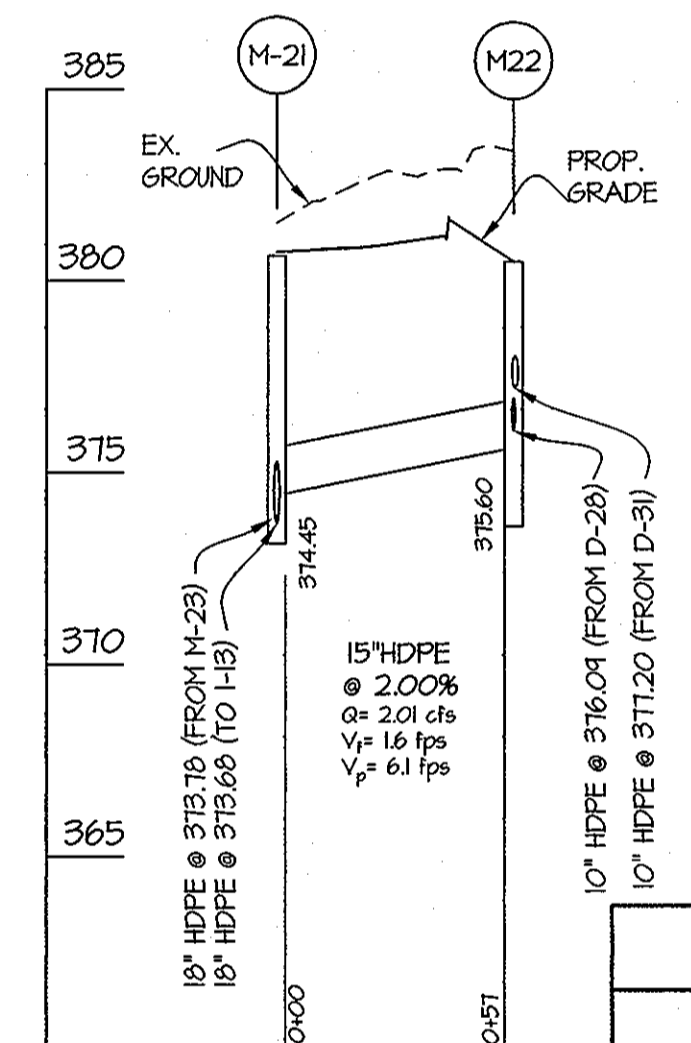
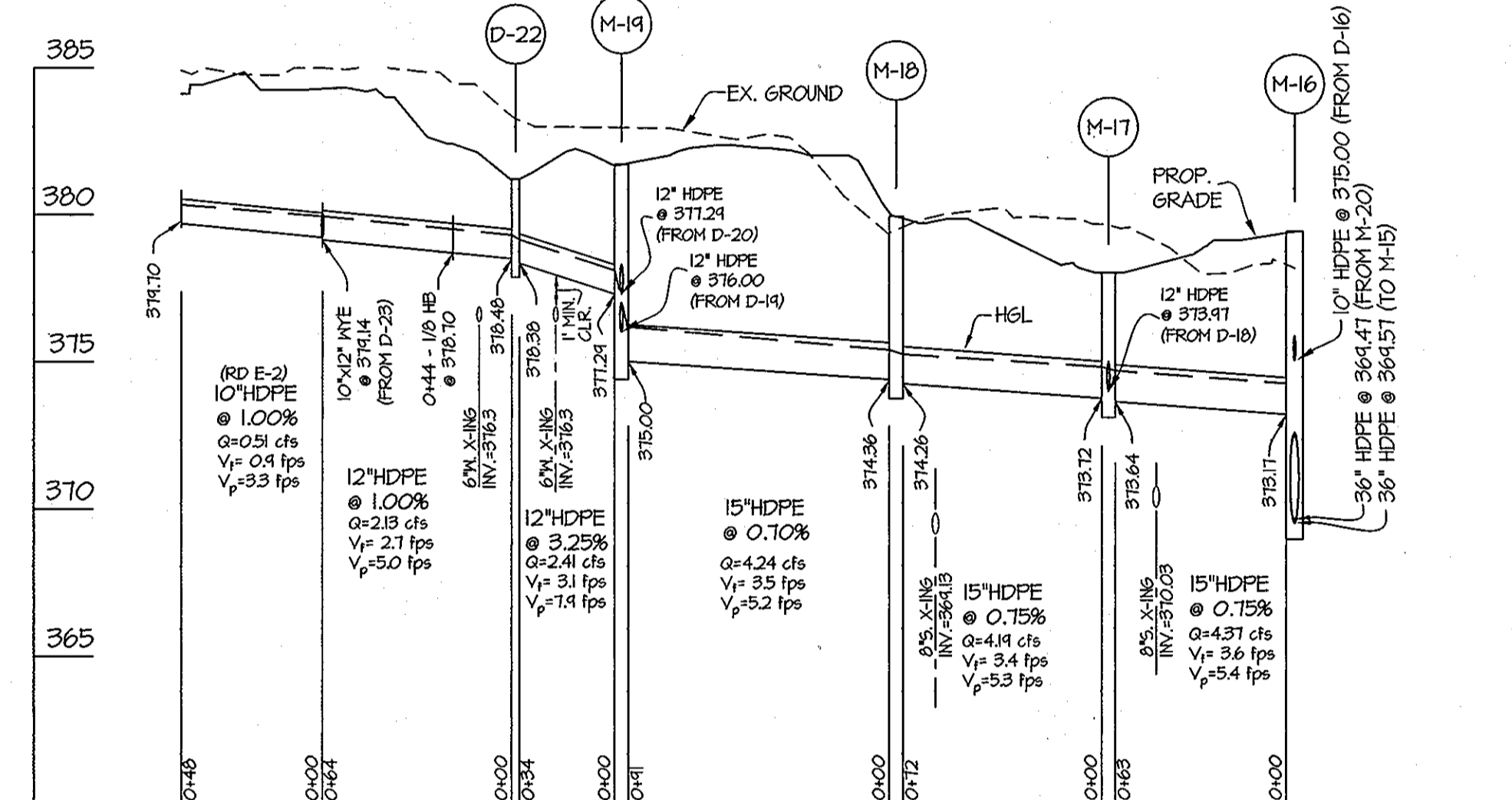
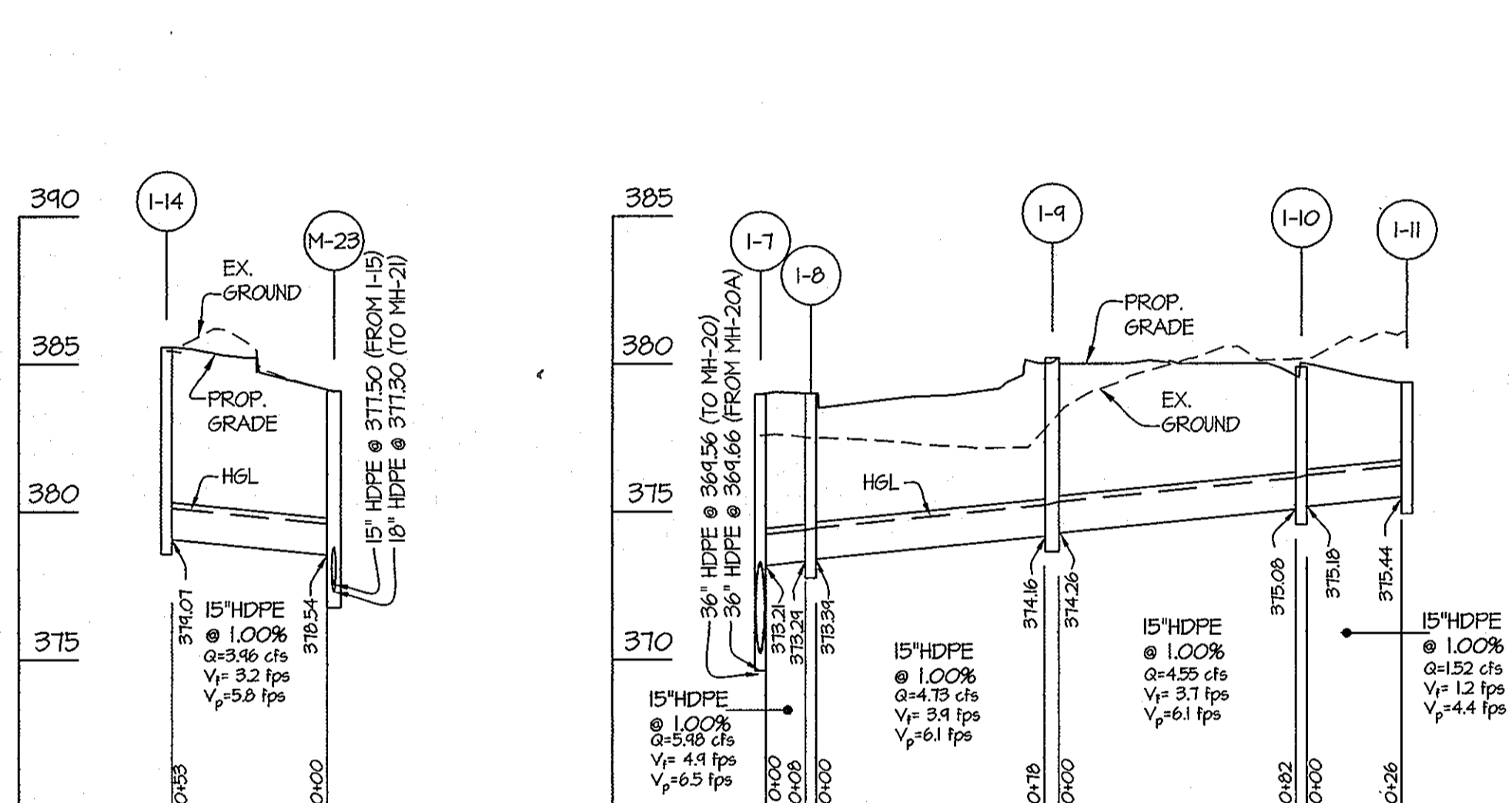
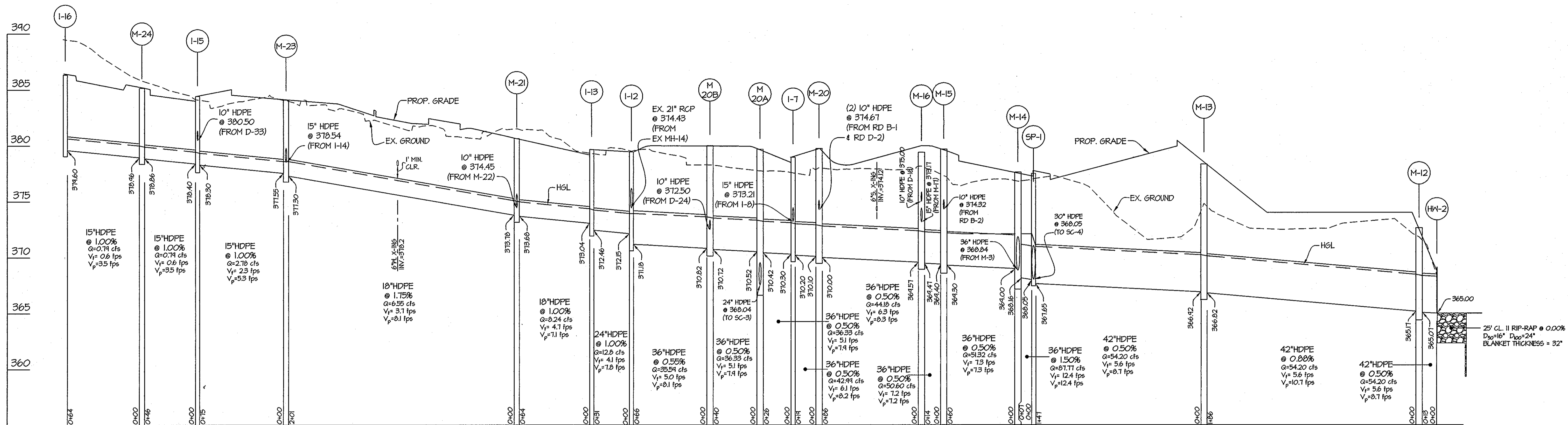
DATE	REVISION	BY	APPR.
11/2/10	Revised storm drain profile structure schedule accordingly.	DEW	

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Gredson
 410-862-0595

STORM DRAIN PROFILES
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 120002 & 20070
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	20 OF 35



PIPE SCHEDULE		
SIZE & TYPE	QUANTITY (LF)	REMARKS
10" HDPE	48	
12" HDPE	48	
15" HDPE	715	
18" HDPE	265	
24" HDPE	31	
36" HDPE	318	
42" HDPE	346	

*ALL PIPES TO BE PRIVATE.

STRUCTURE SCHEDULE								
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATIONS & REMARKS
			UPPER	LOWER	UPPER	LOWER		
M-12	MANHOLE	6'	312.63	---	365.17	365.01	SHA DTL. MD-384.05	N 548,436 E 1360,941
M-13	MANHOLE	6'	318.34	---	366.92	366.82	SHA DTL. MD-384.05	N 548,453 E 1360,756
M-14	MANHOLE	6'	311.60	---	369.00	368.16	SHA DTL. MD-384.05	N 548,288 E 1360,761
M-15	MANHOLE	5'	319.63	---	314.32	369.30	HO. CO. STD. D-5.13	N 548,253 E 1360,712
M-16	MANHOLE	5'	380.30	---	315.00	369.47	HO. CO. STD. D-5.13	N 548,234 E 1360,691
M-17	MANHOLE	5'	318.08	---	313.97	313.64	HO. CO. STD. D-5.13	N 548,195 E 1360,652
M-18	MANHOLE	5'	319.90	---	314.36	314.26	HO. CO. STD. D-5.13	N 548,123 E 1360,658
M-19	MANHOLE	5'	381.12	---	311.24	315.00	HO. CO. STD. D-5.13	N 548,030 E 1360,558
M-20	MANHOLE	5'	319.83	---	314.67	310.00	HO. CO. STD. D-5.13	N 548,234 E 1360,605
M-20A	MANHOLE	5'	319.64	---	310.52	367.54	HO. CO. STD. D-5.13	N 548,250 E 1360,555
M-20B	MANHOLE	5'	380.00	---	312.50	310.12	HO. CO. STD. D-5.13	N 548,250 E 1360,510
M-21	MANHOLE	4'	380.64	---	314.45	313.68	HO. CO. STD. D-5.12	N 548,118 E 1360,418
M-22	MANHOLE	4'	380.50	---	311.20	315.60	HO. CO. STD. D-5.12	N 548,118 E 1360,534
M-23	MANHOLE	4'	384.01	---	318.54	311.30	HO. CO. STD. D-5.12	N 547,912 E 1360,418
M-24	MANHOLE	4'	385.17	---	318.96	318.86	HO. CO. STD. D-5.12	N 547,850 E 1360,587
I-1	A-I/O INLET	3'-0"	319.07	318.92	313.21	310.20	HO. CO. STD. D-4.03	N 548,250 E 1360,582
I-8	A-I/O INLET	2'-6"	319.07	318.92	313.34	313.29	HO. CO. STD. D-4.03	N 548,263 E 1360,545
I-4	A-I/O INLET	2'-6"	380.33	380.10	314.16	314.16	HO. CO. STD. D-4.03	N 548,344 E 1360,545
I-10	A-I/O INLET	2'-6"	380.12	319.91	315.18	315.08	HO. CO. STD. D-4.03	N 548,425 E 1360,545
I-11	A-I/O INLET	2'-6"	319.18	---	---	---	HO. CO. STD. D-4.03	N 548,431 E 1360,630
I-12	A-I/O INLET	2'-6"	318.50	---	314.43	311.18	HO. CO. STD. D-4.03	N 548,216 E 1360,446
I-13	A-I/O INLET	2'-6"	319.73	319.57	313.04	312.46	HO. CO. STD. D-4.03	N 548,181 E 1360,458
I-14	A-I/O INLET	2'-6"	385.68	385.46	---	319.07	HO. CO. STD. D-4.03	N 547,855 E 1360,440
I-15	A-I/O INLET	2'-6"	384.41	384.12	318.40	318.30	HO. CO. STD. D-4.03	N 547,885 E 1360,554
I-16	A-I/O INLET	2'-6"	386.48	386.40	---	319.60	HO. CO. STD. D-4.03	N 547,880 E 1360,587
D-22	NYLOPLAST D.B.	18"	381.20	---	318.48	318.38	SEE SHEET 22	N 548,023 E 1360,623
HM-2	HEADWALL TYPE 'C'		368.76	---	---	365.00	HO. CO. STD. D-5.21	N 547,901 E 1361,300

NOTES:
 1. ALL CONCRETE STRUCTURES TO BE PRECAST.
 2. ALL STRUCTURES TO BE PRIVATE.

ALL PROFILES
 SCALE: 1" = 5' VERT.
 1" = 50' HORIZ.

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475
 EXPIRATION DATE: MAY 26, 2010



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Donna E. Butler* Date: 2/18/10
 Chief, Division of Land Development: *West S. DeLoach* Date: 2-18-10
 Chief, Development Engineering Division: *Michael J. Williams* Date: 1/15/10

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

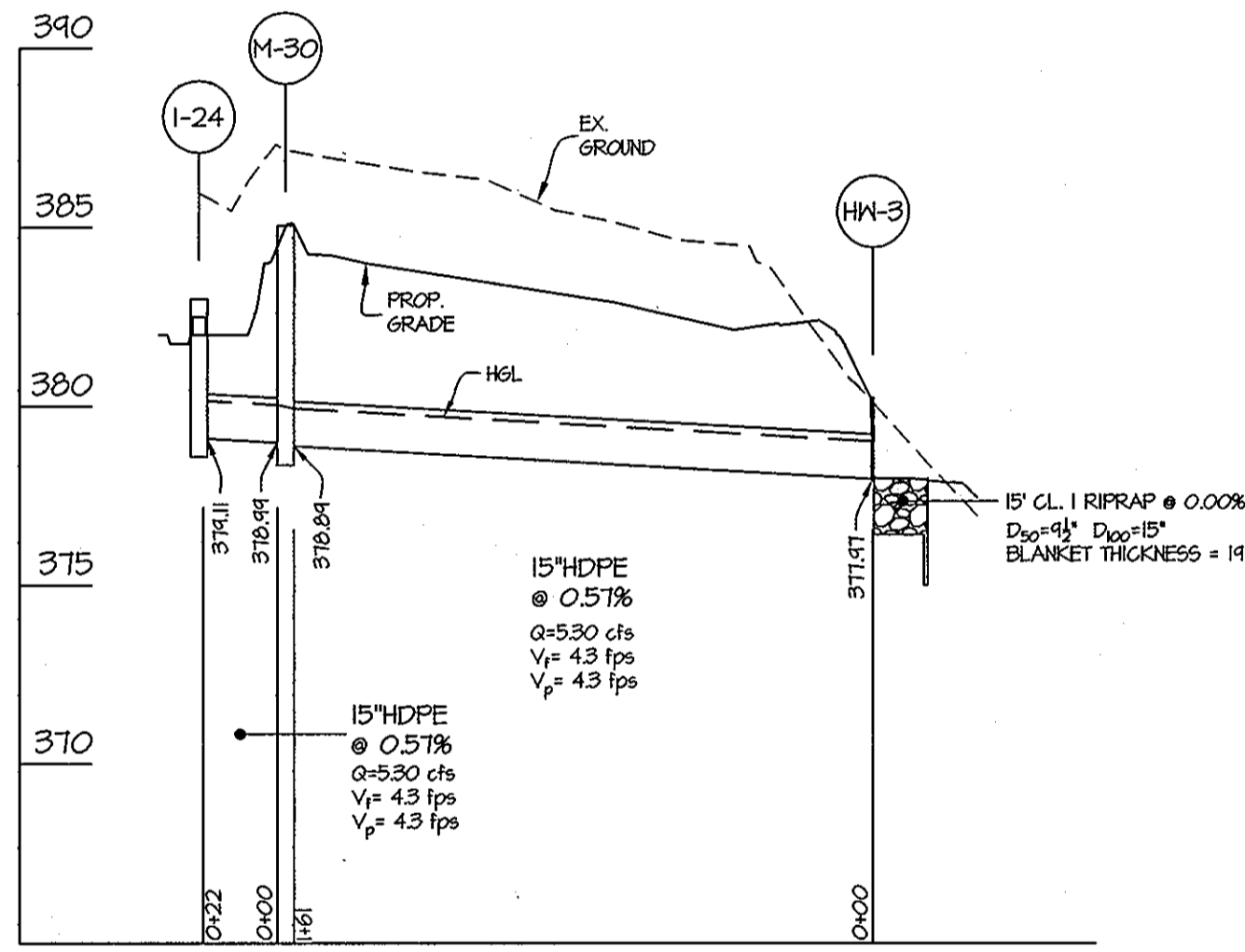
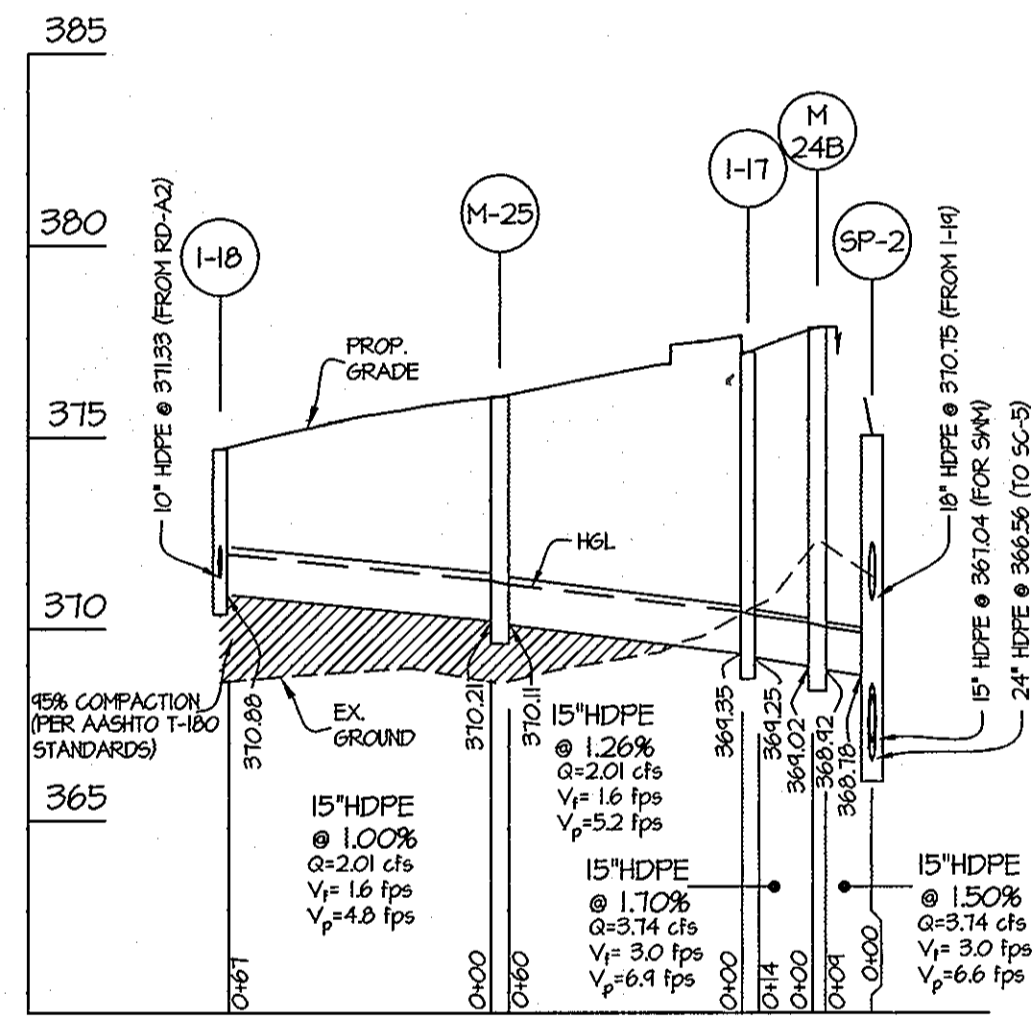
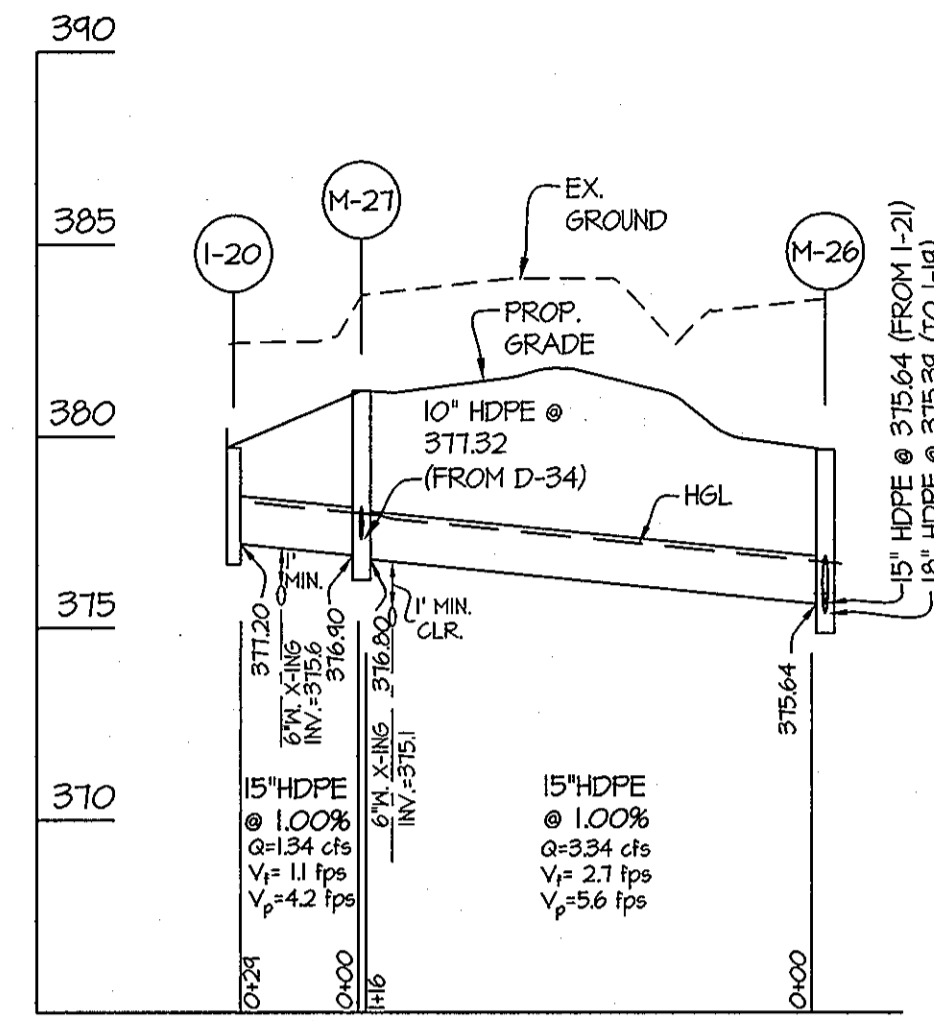
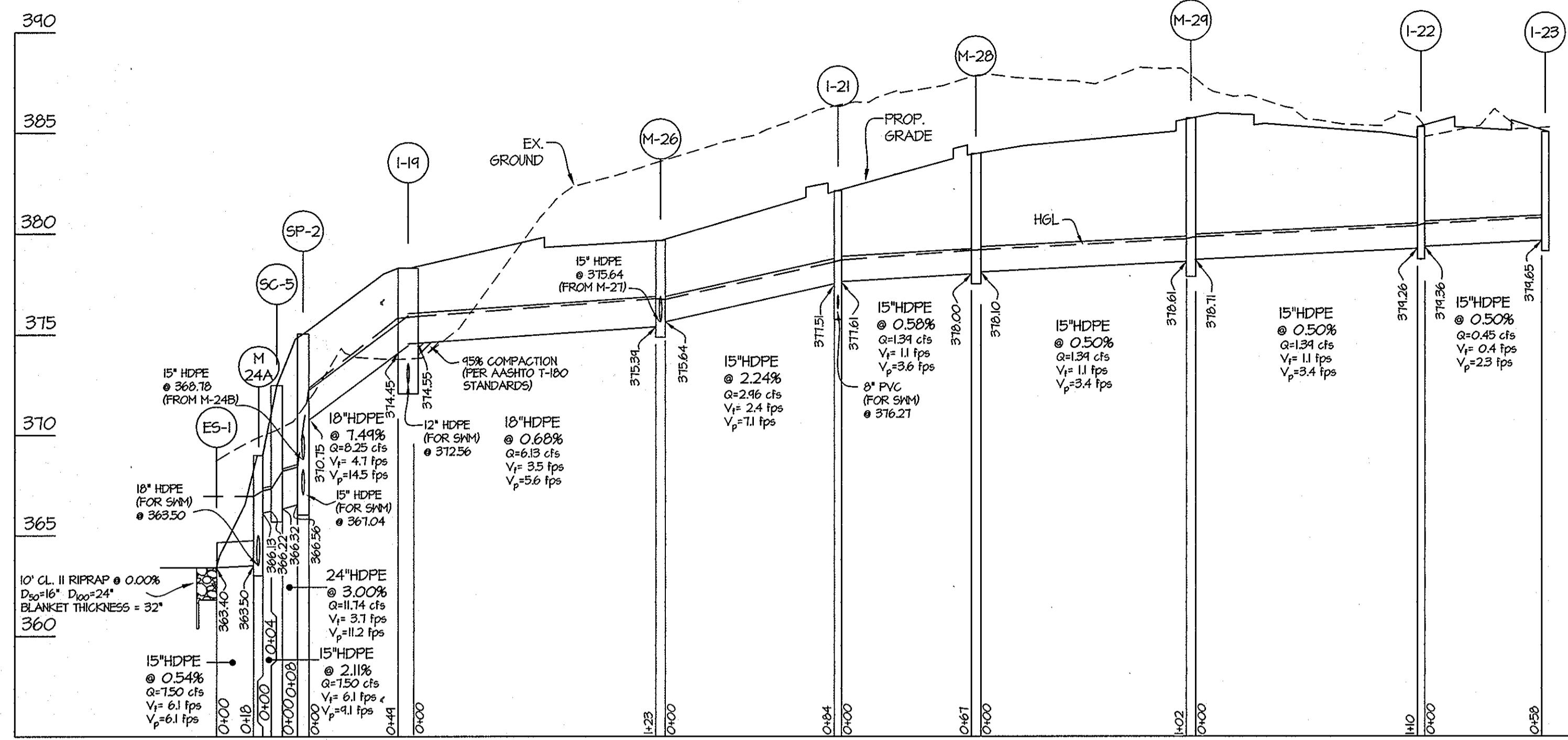
PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creeden
 410-962-0595

STORM DRAIN PROFILES
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A" & "B"
 PLAT No. 200902 & 200970
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	21 OF 35

L:\CADD\DRAWINGS\08057\SOP\08057 PROFILES.dwg DES. XXX DRN. XXX CHK. XXX

DATE	REVISION	BY	APPR.



ALL PROFILES
SCALE: 1" = 5' VERT.
1" = 50' HORIZ.

STRUCTURE SCHEDULE

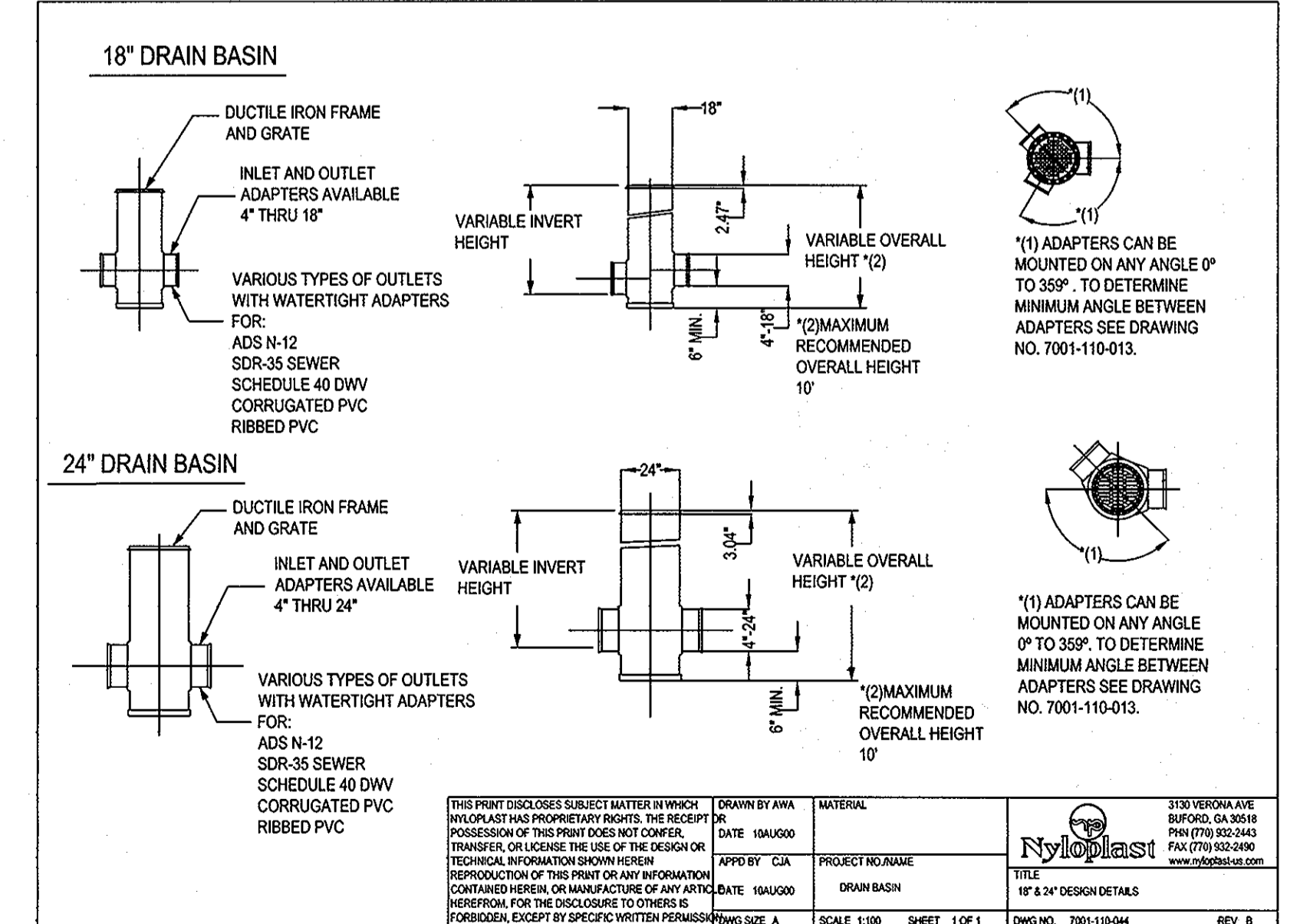
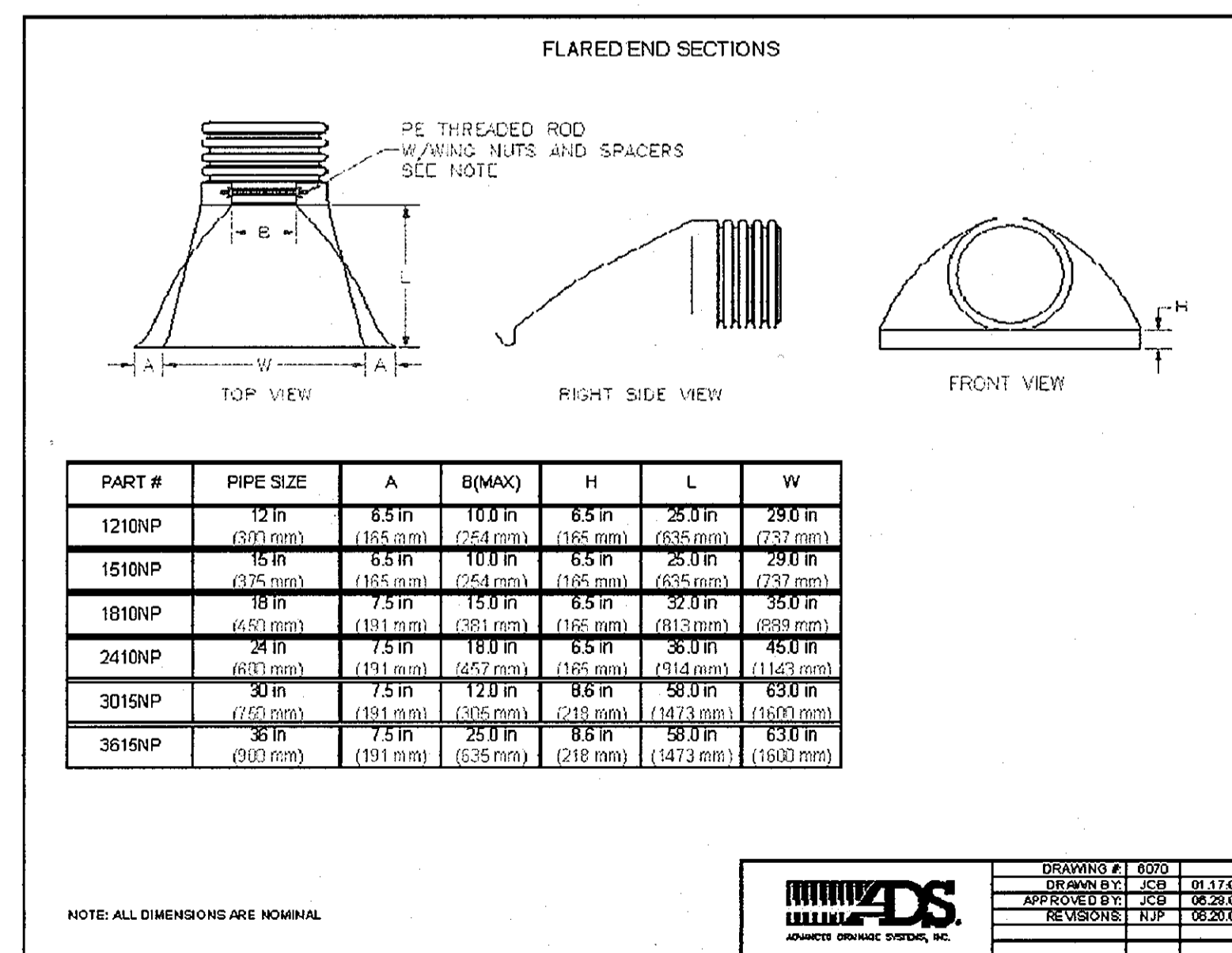
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	LOCATIONS & REMARKS	
			UPPER	LOWER	UPPER	LOWER			
M-24A	MANHOLE	4'	364.00	---	366.13	363.50	HO. CO. STD. G-512	N 548,122	E 1361,281
M-24B	MANHOLE	4'	371.13	---	364.02	368.92	HO. CO. STD. G-512	N 548,108	E 1361,256
SP-2	MANHOLE	CUSTOM	374.64	---	370.75	366.56	SEE SHEET 26	N 548,107	E 1361,271
M-25	MANHOLE	4'	376.06	---	370.21	370.11	HO. CO. STD. G-512	N 548,188	E 1361,241
M-26	MANHOLE	4'	374.65	---	375.64	375.39	HO. CO. STD. G-512	N 547,932	E 1361,244
M-27	MANHOLE	4'	381.19	---	377.32	376.80	HO. CO. STD. G-512	N 547,932	E 1361,226
M-28	MANHOLE	4'	383.96	---	378.10	378.00	HO. CO. STD. G-512	N 547,746	E 1361,195
M-29	MANHOLE	4'	385.74	---	378.71	378.61	HO. CO. STD. G-512	N 547,684	E 1361,190
M-30	MANHOLE	4'	385.05	---	378.99	378.89	HO. CO. STD. G-512	N 547,818	E 1361,243
I-17	A-I/O INLET	2'-6"	376.68	376.53	364.35	364.25	HO. CO. STD. D-4.03	N 548,128	E 1361,257
I-18	A-I/O INLET	2'-6"	374.60	---	371.33	370.88	HO. CO. STD. D-4.03	N 548,217	E 1361,172
I-19	A-I/O INLET	3'-0"	378.45	378.18	374.55	372.56	HO. CO. STD. D-4.03	N 548,056	E 1361,254
I-20	DOUBLE 'S'	2'-15"	374.63	---	---	---	HO. CO. STD. D-4.23	N 547,966	E 1361,126
I-21	A-I/O INLET	2'-6"	382.15	381.07	377.61	376.27	HO. CO. STD. D-4.03	N 547,843	E 1361,248
I-22	A-I/O INLET	2'-6"	385.32	385.18	374.36	374.26	HO. CO. STD. D-4.03	N 547,684	E 1361,078
I-23	A-I/O INLET	2'-6"	385.03	384.95	---	374.65	HO. CO. STD. D-4.03	N 547,674	E 1361,013
I-24	A-I/O INLET	2'-6"	383.00	---	---	374.11	HO. CO. STD. D-4.03	N 547,805	E 1361,212
SC-5	STORMCEPTOR	8'	364.75	---	366.32	366.22	SEE DTL. SHT. 26	N 548,120	E 1361,272
ES-1	HEADWALL TYPE 'A'	8'	380.32	---	---	363.40	HO. CO. STD. D-5.11	N 548,143	E 1361,283
HW-3	HEADWALL TYPE 'A'	8'	380.32	---	---	371.97	HO. CO. STD. D-5.11	N 547,981	E 1361,300

NOTES:
1. ALL CONCRETE STRUCTURES TO BE PRECAST.
2. ALL STRUCTURES TO BE PRIVATE.

PIPE SCHEDULE

SIZE & TYPE	QUANTITY (LF)	REMARKS
15" HDPE	921	
18" HDPE	112	
24" HDPE	8	

*ALL PIPES TO BE PRIVATE.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Thomas G. Kuttler* Date: *2/18/10*
 Chief, Division of Land Development
 Chief, Development Engineering Division *CE* Date: *1/15/10*

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12915
 EXPIRATION DATE: MAY 26, 2010
12-2-09

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BIRTONSVILLE OFFICE PARK
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 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

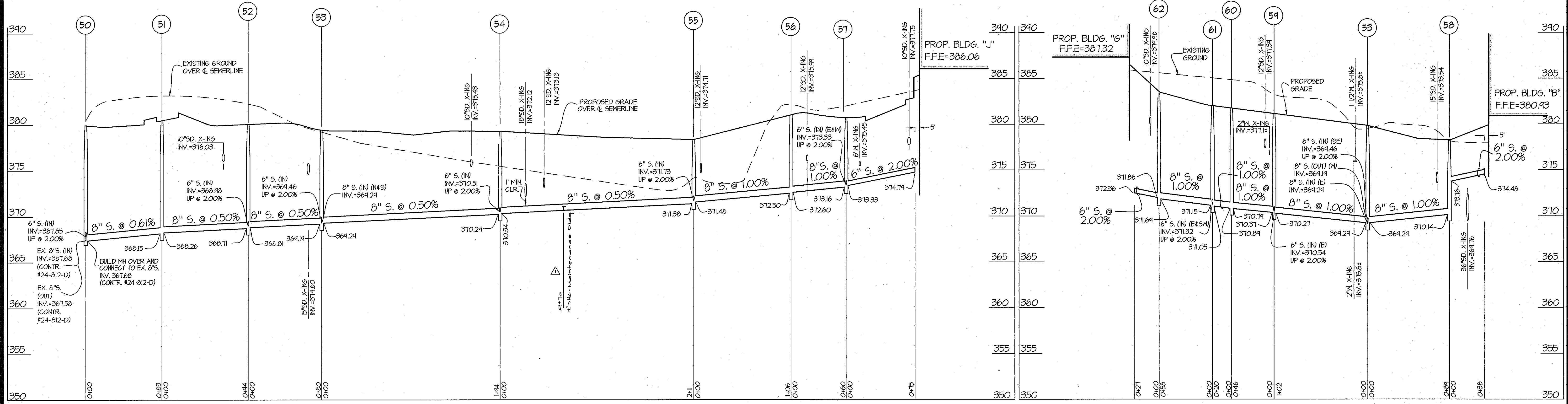
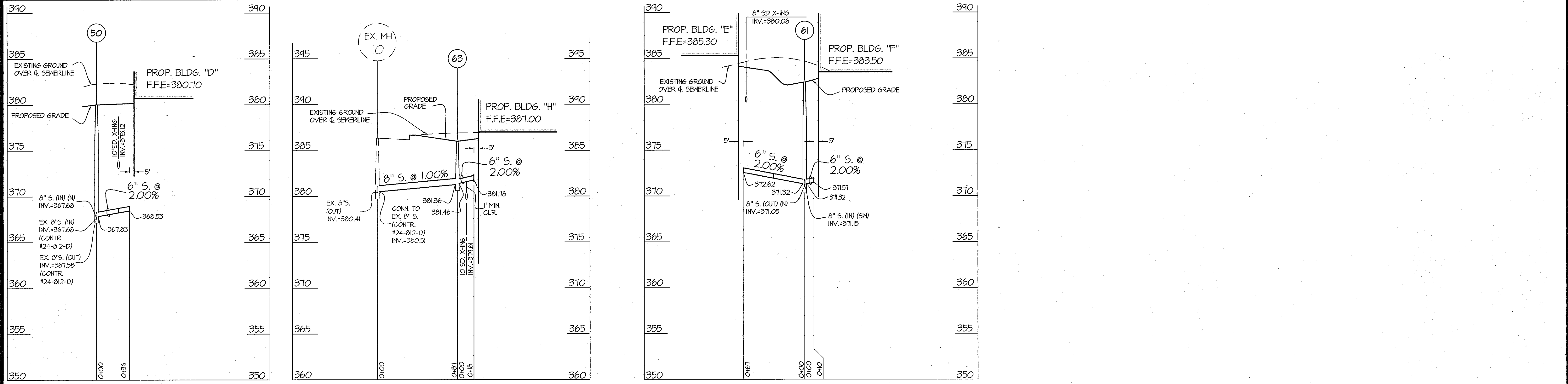
DATE	REVISION	BY	APP'R.

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creeden
 410-962-0595

STORM DRAIN PROFILES
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS 'A1' & 'A2'
 PLAT No. 200902 & 200970
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	22 OF 35



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Thomas J. Butler 2/18/10
Director Date

Kevin S. Dwyer 2-18-10
Chief, Division of Land Development Date

John Williams 1/15/10
Chief, Development Engineering Division Date

ALL PROFILES
SCALE: 1" = 5' VERT.
1" = 50' HORZ.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12375
EXPIRATION DATE: MAY 26, 2010

12-2-09 *[Signature]*

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3309 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK
BURTONTVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R
1/10/10	Rev. Sewer Profile to reflect location of 4" tile to maintenance bldg.	DEW	

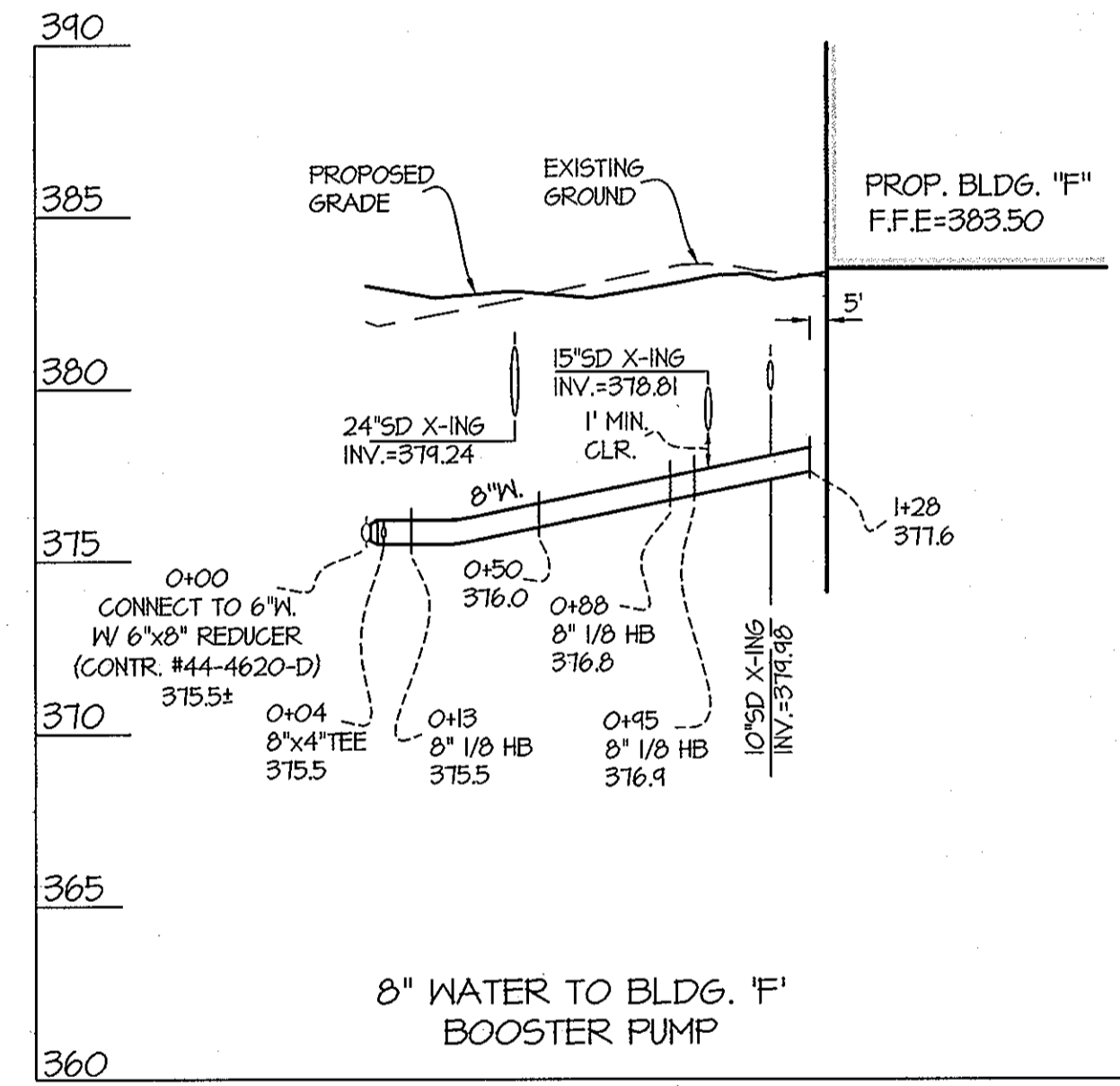
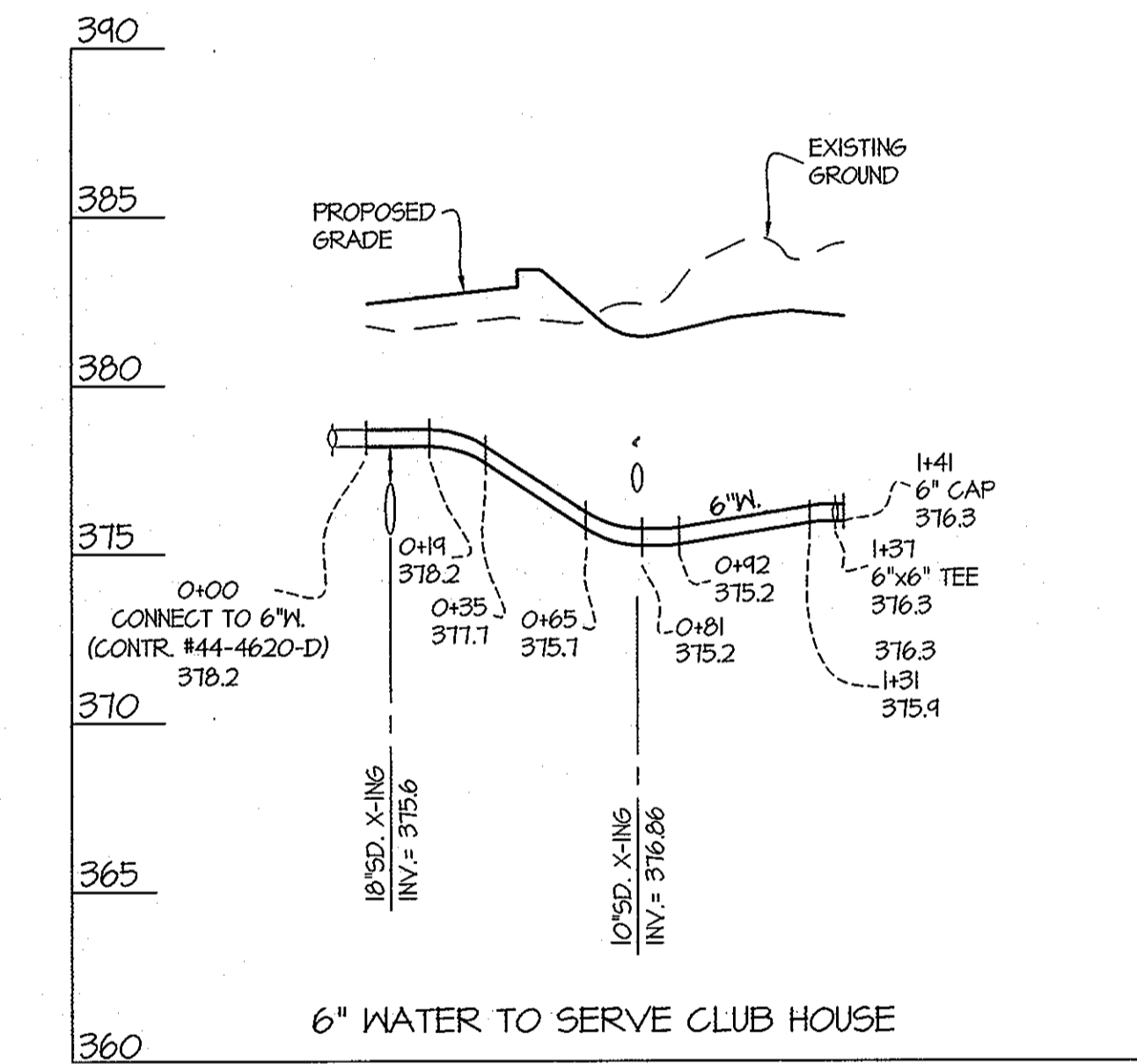
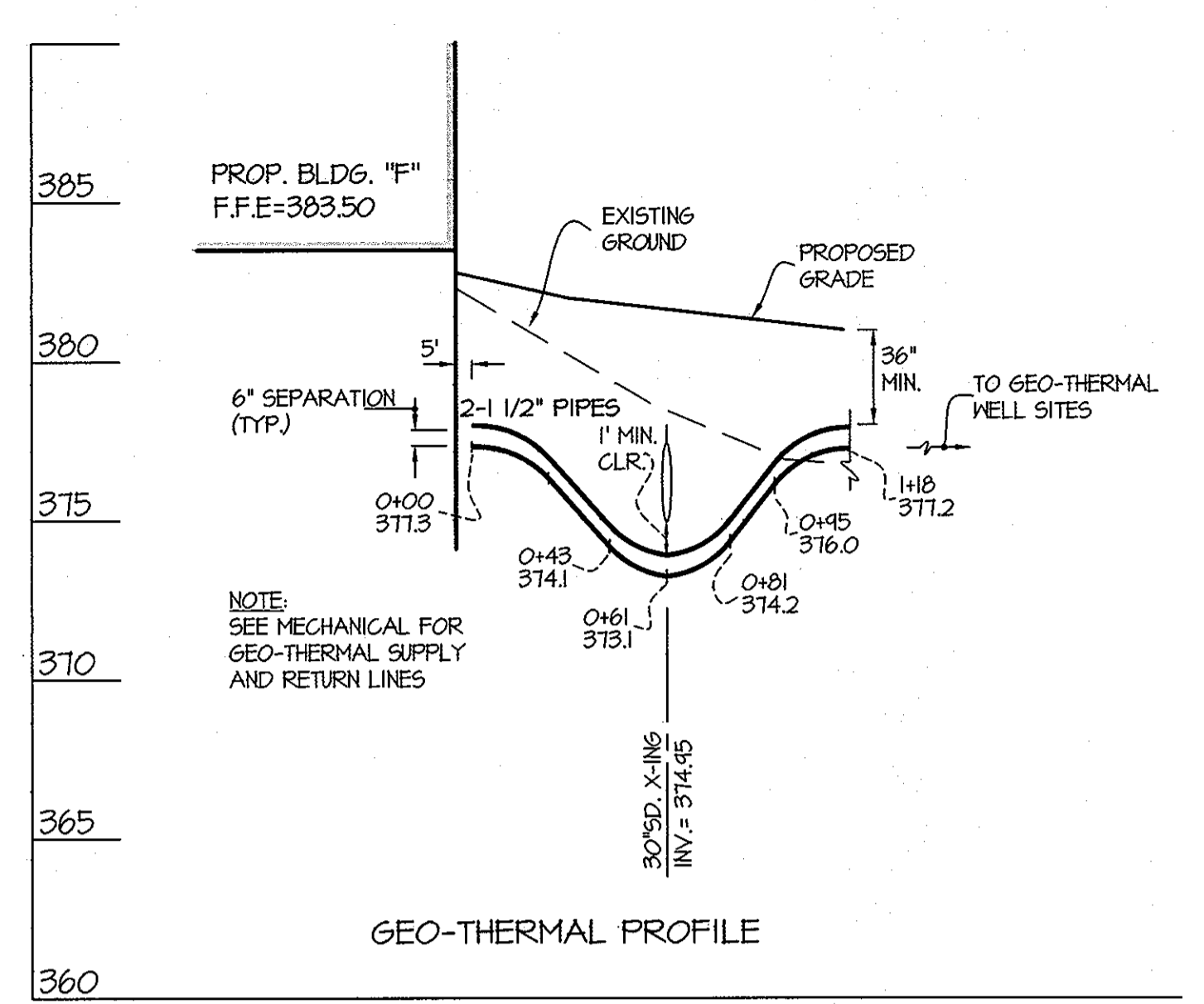
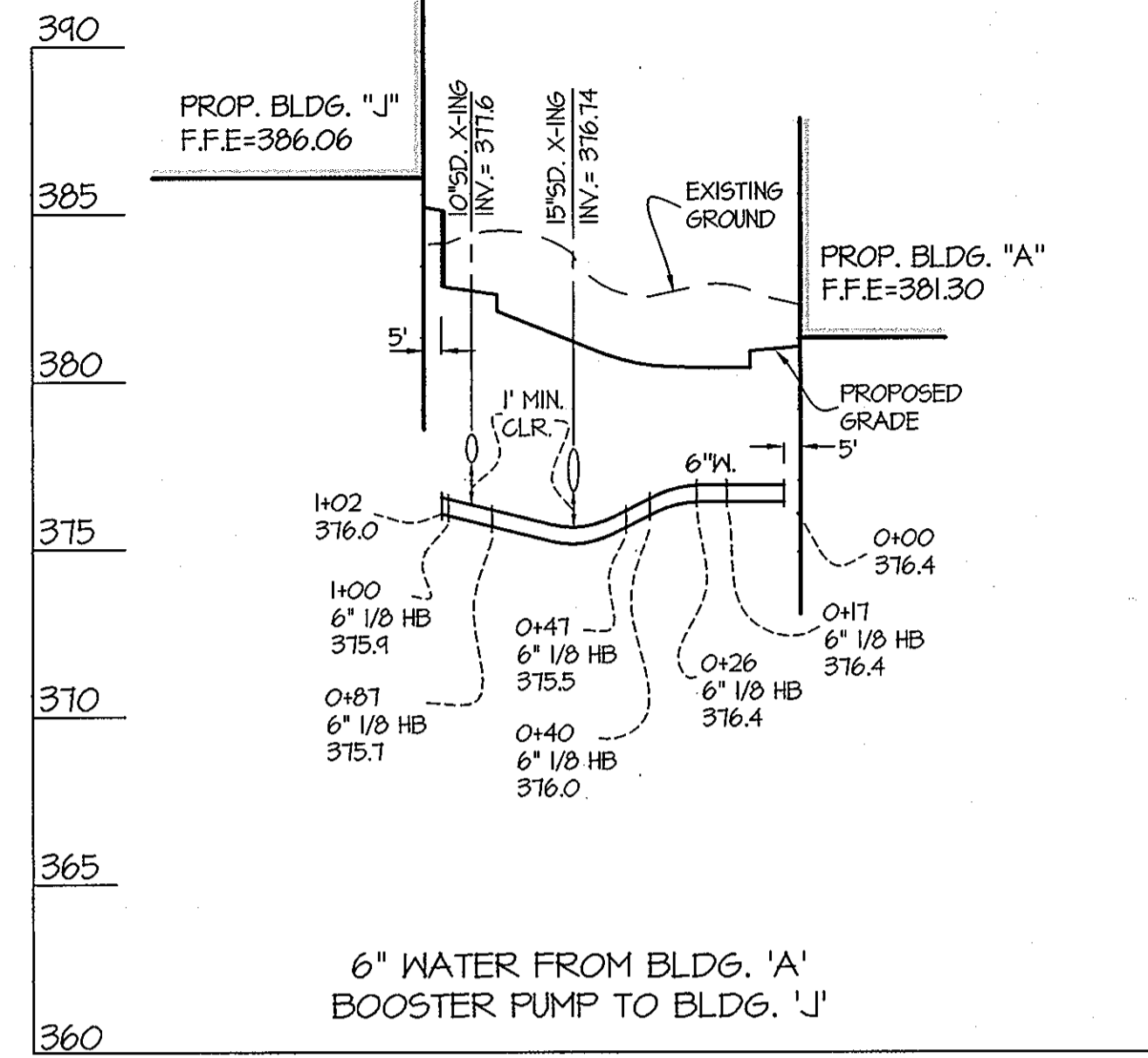
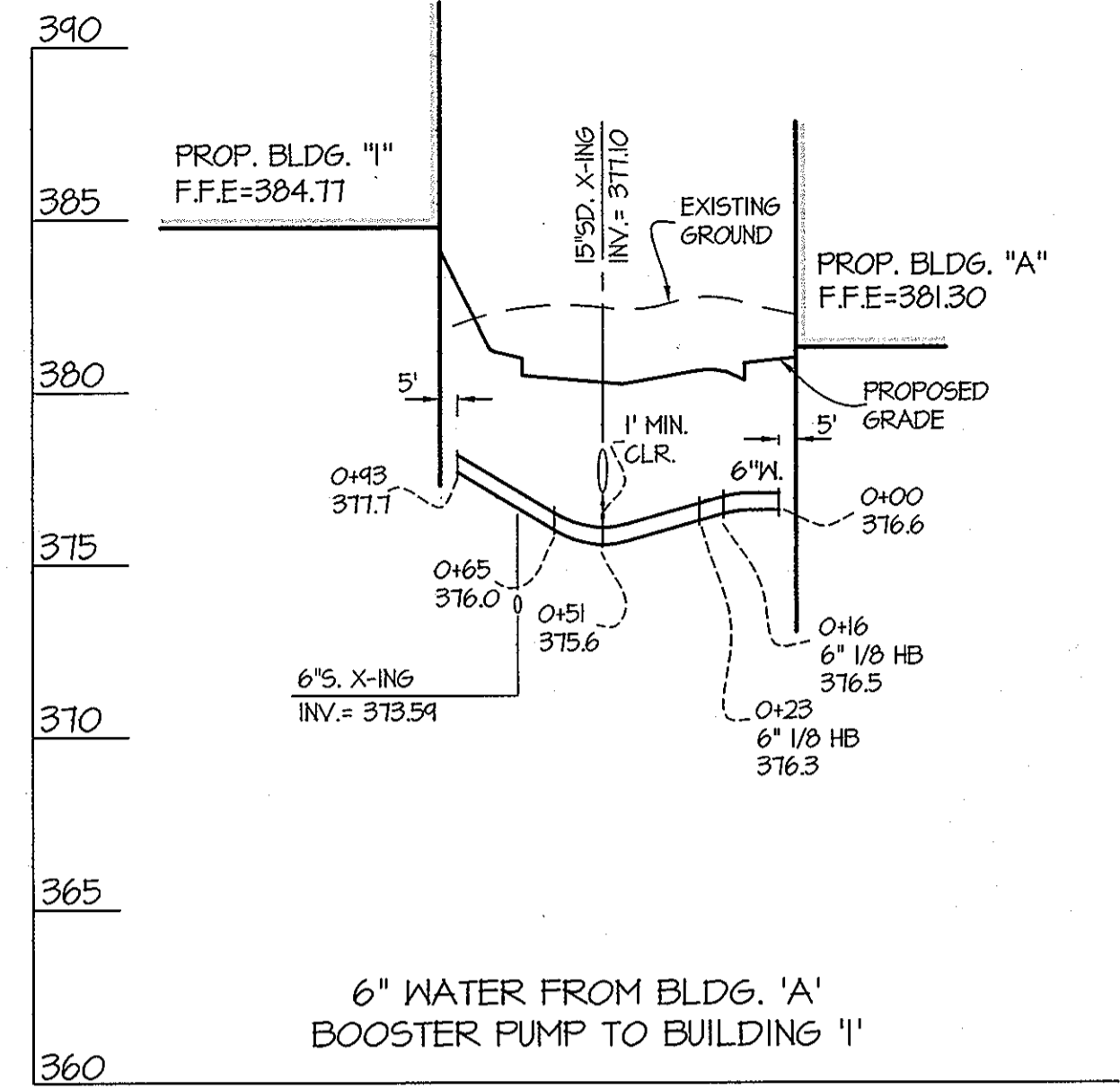
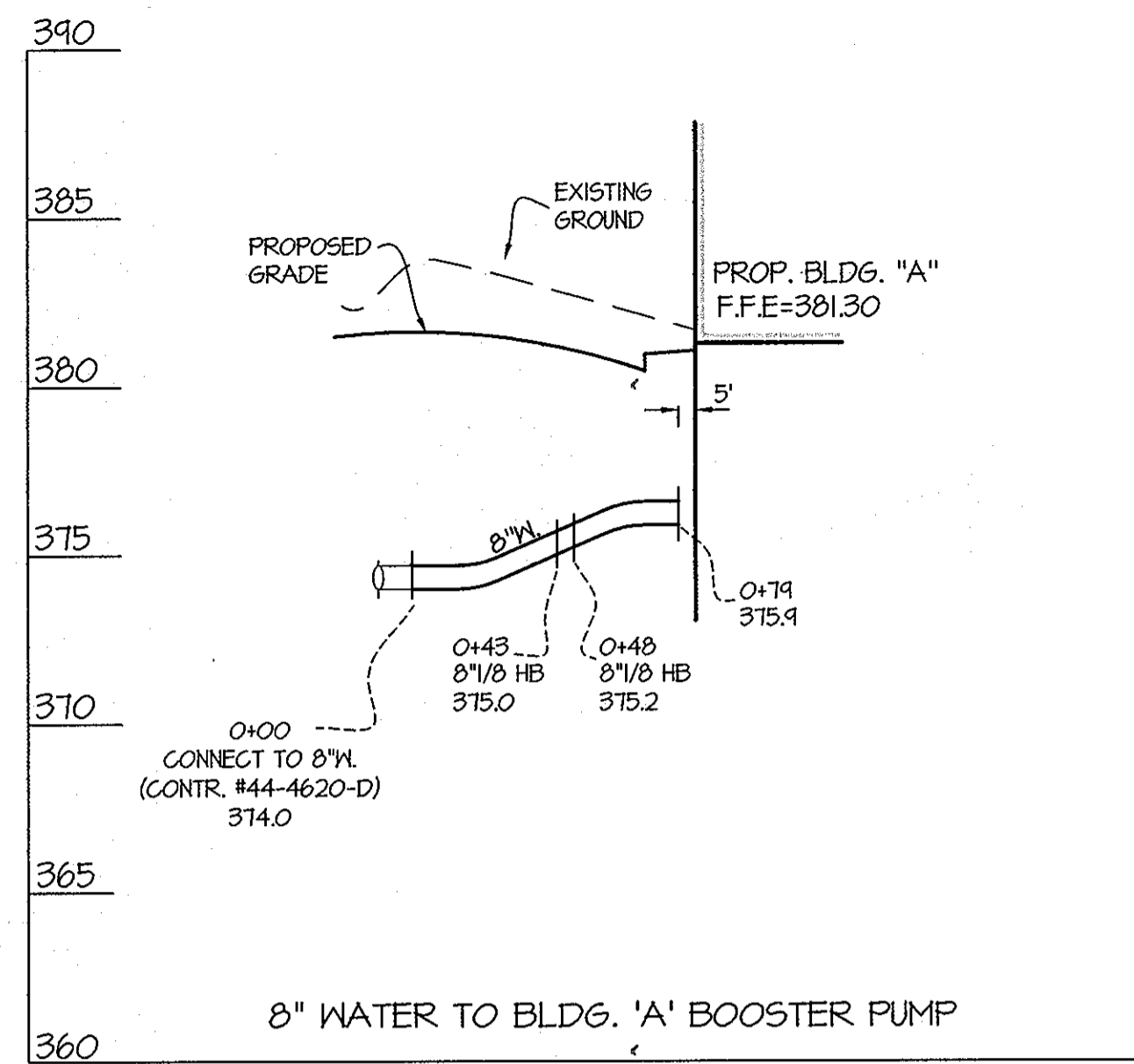
OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

UTILITY PROFILES
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 20900 & 20970
TAX MAP 42, PARCEL 361

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	23 OF 35

HOWARD COUNTY, MARYLAND



ALL PROFILES
SCALE: 1" = 5' VERT.
1" = 50' HORZ.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Thomas J. Kuttler 2/18/10
 Director Date
Neil S. DeLore 2-18-10
 Chief, Division of Land Development Date
Bill DeLore 1/15/10
 Chief, Development Engineering Division Date

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE
 PREPARED OR APPROVED BY ME, AND THAT I
 AM A DULY LICENSED PROFESSIONAL ENGINEER
 UNDER THE LAWS OF THE STATE OF MARYLAND,
 LICENSE NO. 12375
 EXPIRATION DATE: MAY 26, 2010
 12-2-09

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Cresson
 410-962-0595

UTILITY PROFILES
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 200602 & 200710
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	24 OF 35

SITE REQUIREMENTS
 WATER QUALITY VOLUME REQUIRED: 28,418 C.F. PROVIDED: 21,263 C.F.
 RECHARGE VOLUME REQUIRED: 4,246 C.F. PROVIDED: 1,551 C.F.
 CHANNEL PROTECTION VOLUME REQUIRED: 45,805 C.F. PROVIDED: 41,513 C.F.

TO POND No. 1			
Design Item	Before Development	After Development	After Development (clogged)
Drainage Area	12.4 ac.	12.4 ac.	---
Drainage Area	0.014 sq. miles	0.014 sq. miles	---
Curve Number	71	85	---
Time of Conc.	0.21 hr.	0.21 hr.	---
1 Yr. Discharge	12.44 c.f.s.	---	---
1 Yr. Discharge (Unmanaged)	---	21.64 c.f.s.	---
1 Yr. Discharge (Managed)	---	0.65 c.f.s. @ 311.82	---
10 Yr. Discharge (Unmanaged)	---	31.40 c.f.s.	31.40 c.f.s.
10 Yr. Discharge (Managed)	---	10.91 c.f.s. @ 312.10	34.36 c.f.s. @ 312.11

TO POND No. 2			
Design Item	Before Development	After Development	After Development (clogged)
Drainage Area	2.4 ac.	2.4 ac.	---
Drainage Area	0.0030 sq. miles	0.0030 sq. miles	---
Curve Number	71	96	---
Time of Conc.	0.19 hr.	0.11 hr.	---
1 Yr. Discharge	2.12 c.f.s.	---	---
1 Yr. Discharge (Unmanaged)	---	6.84 c.f.s.	---
1 Yr. Discharge (Managed)	---	0.34 c.f.s. @ 366.81	---
10 Yr. Discharge (Unmanaged)	---	1.44 c.f.s.	1.44 c.f.s.
10 Yr. Discharge (Managed)	---	0.50 c.f.s. @ 366.81	1.43 c.f.s. @ 367.10

PRE-DEVELOPMENT (TO POND No. 1)		
SEGMENT	DESCRIPTION	TIME
①-②	90' OVERLAND FLOW @ 4.4% (GRASS, n= 0.24)	0.16 HR.
②-③	280' SHALLOW CONC. FLOW (UNPAVED) @ 1.8% (v = 2.13'/SEC.)	0.03 HR.
③-④	620' PIPE FLOW (v = 7'/SEC.)	0.02 HR.
TOTAL =		0.21 HR.

POST-DEVELOPMENT (TO POND No. 1)		
SEGMENT	DESCRIPTION	TIME
①-②	90' OVERLAND FLOW @ 4.4% (GRASS, n= 0.24)	0.16 HR.
②-③	190' SHALLOW CONC. FLOW (UNPAVED) @ 1.8% (v = 2.13'/SEC.)	0.03 HR.
③-④	190' PIPE FLOW (v = 7'/SEC.)	0.02 HR.
TOTAL =		0.21 HR.

PRE-DEVELOPMENT (TO POND No. 2)		
SEGMENT	DESCRIPTION	TIME
①-②	100' OVERLAND FLOW @ 1.8% (n= 0.24)	0.30 HR.
②-③	400' PIPE FLOW (v = 3.42'/SEC.)	0.03 HR.
TOTAL =		0.33 HR.

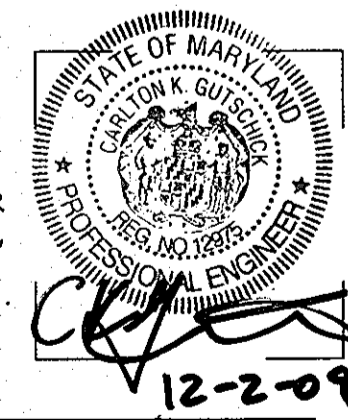
POST-DEVELOPMENT (TO POND No. 2)		
SEGMENT	DESCRIPTION	TIME
①-②	5 MINUTES	0.08 HR.
②-③	640' PIPE FLOW (v = 7'/SEC.)	0.03 HR.
TOTAL =		0.11 HR.

NOTE: PRE-DEVELOPMENT TIME OF CONCENTRATION PATHS TO BOTH PONDS PRE-DATE EXISTING SITE CONDITIONS

- NOTES:
- THE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. THE HOMEOWNERS ASSOCIATION WILL BE RESPONSIBLE FOR THE MAINTENANCE OF THE FACILITIES.
 - POND No. 1 WILL BE A P-2 WET POND WITH EXTENDED DETENTION, AND POND No. 2 WILL BE A DRY POND WITH EXTENDED DETENTION.
 - BOTH FACILITIES HAVE AN 'A' POND CLASSIFICATION.

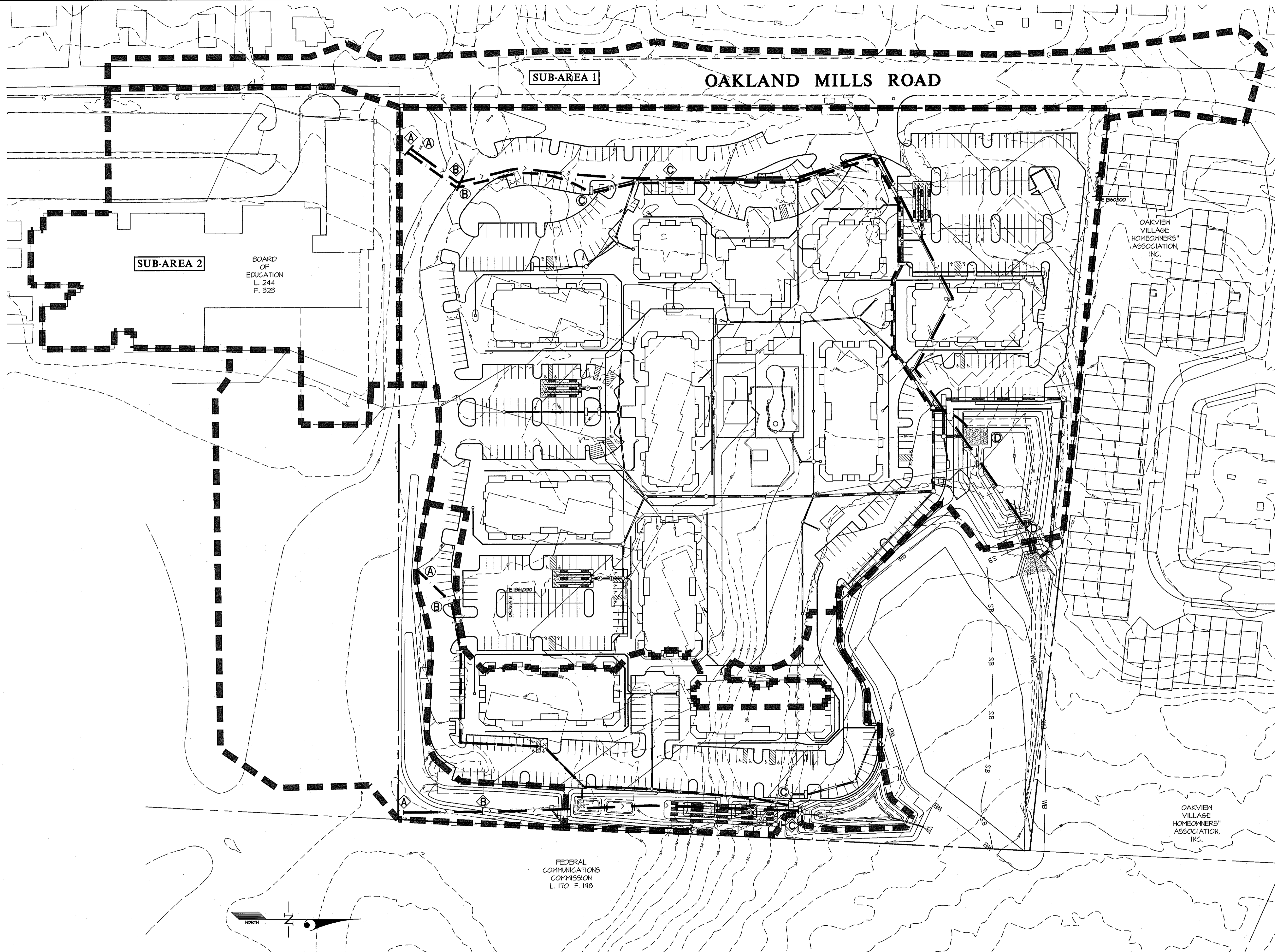
LEGEND	
	PROPOSED DRAINAGE DIVIDE
	BEFORE DEVELOPMENT TIME OF CONCENTRATION
	AFTER DEVELOPMENT TIME OF CONCENTRATION
	BEFORE DEVELOPMENT STUDY POINT
	AFTER DEVELOPMENT STUDY POINT

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 1215
 EXPIRATION DATE: MAY 26, 2010



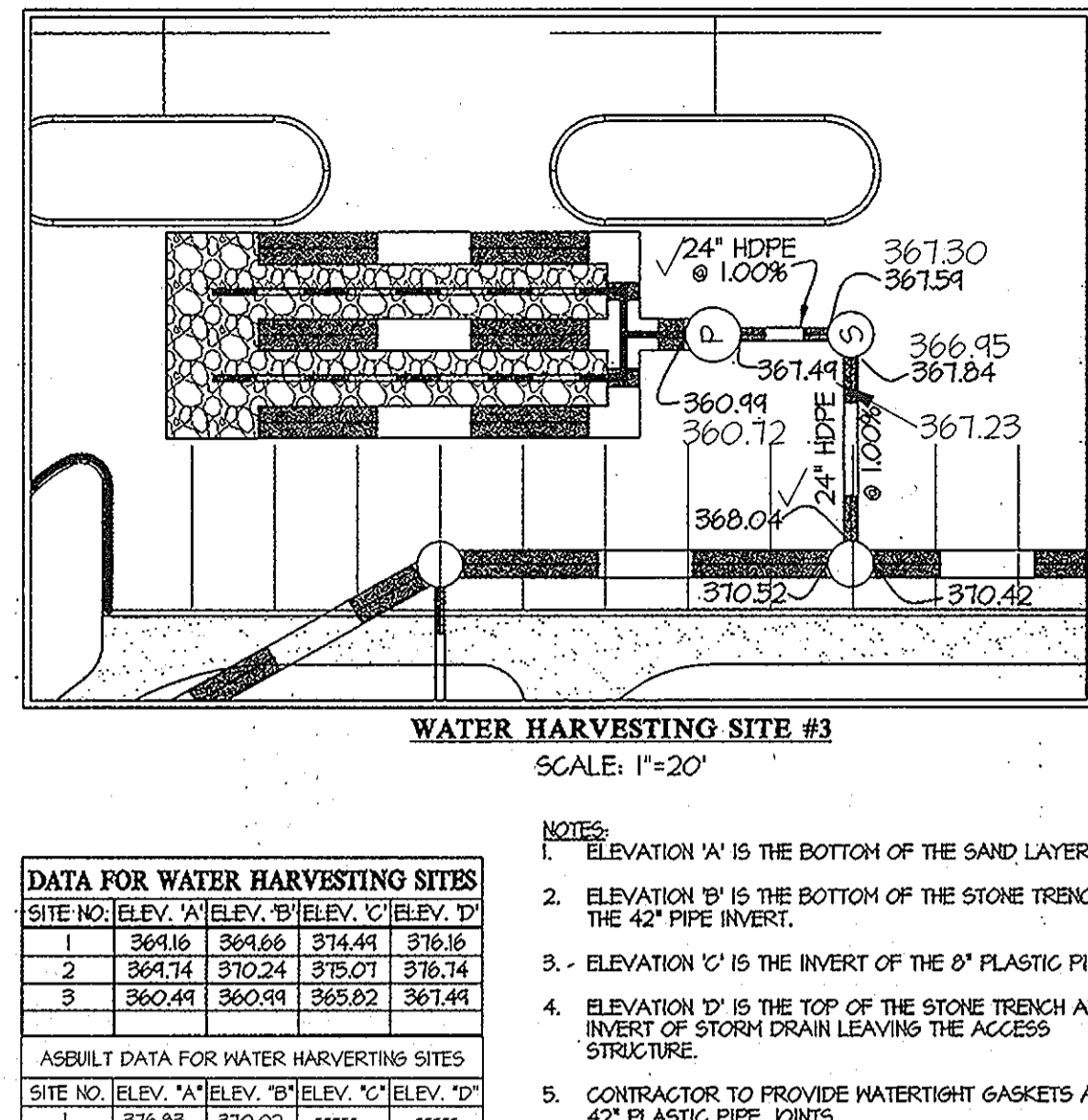
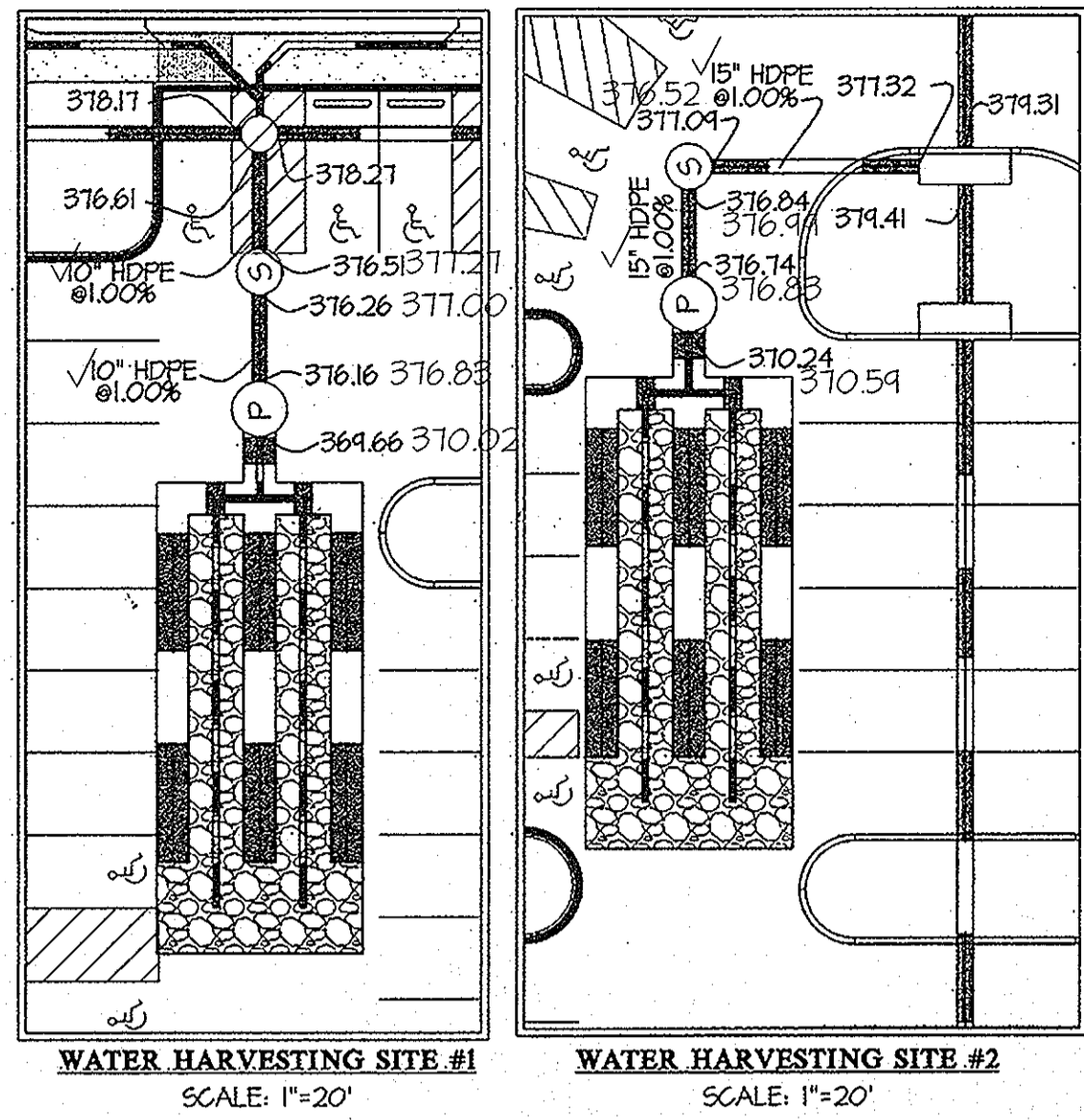
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Thomas E. Suttler* Date: 2/18/10
 Chief, Division of Land Development: *Robert L. ...* Date: 2-18-10
 Chief, Development Engineering Division: *...* Date: 1/15/10

GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BIRTSVILLE OFFICE PARK
 BIRTSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186



OWNER: The Howard County Housing Commission 6751 Columbia Gateway Dr., 3rd Floor Columbia, MD 21046 ATTN: Tom Carbo 410-313-6318	PREPARED FOR: The Shelter Group 218 North Charles Street Suite 220 Baltimore, MD 21202-4019 ATTN: Donna Creedon 410-962-0595	SWM DRAINAGE AREA MAP Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units		SCALE 1"=60'	ZONING RA-15	G. L. W. FILE No. 08057
		GUILFORD GARDENS SECTION 1, AREA 1 PARCELS "A1" & "A2" PLAT No. 200602 & 200710 TAX MAP 42, PARCEL 361		DATE Nov., 2009	TAX MAP - GRID 42 - 11	SHEET 25 OF 35

L:\CAD\DRAWINGS\08057\SDP\08057 DAM-SWM.dwg DES. DEV. DRN. KLP CHK. CKG DATE REVISION BY APPR.

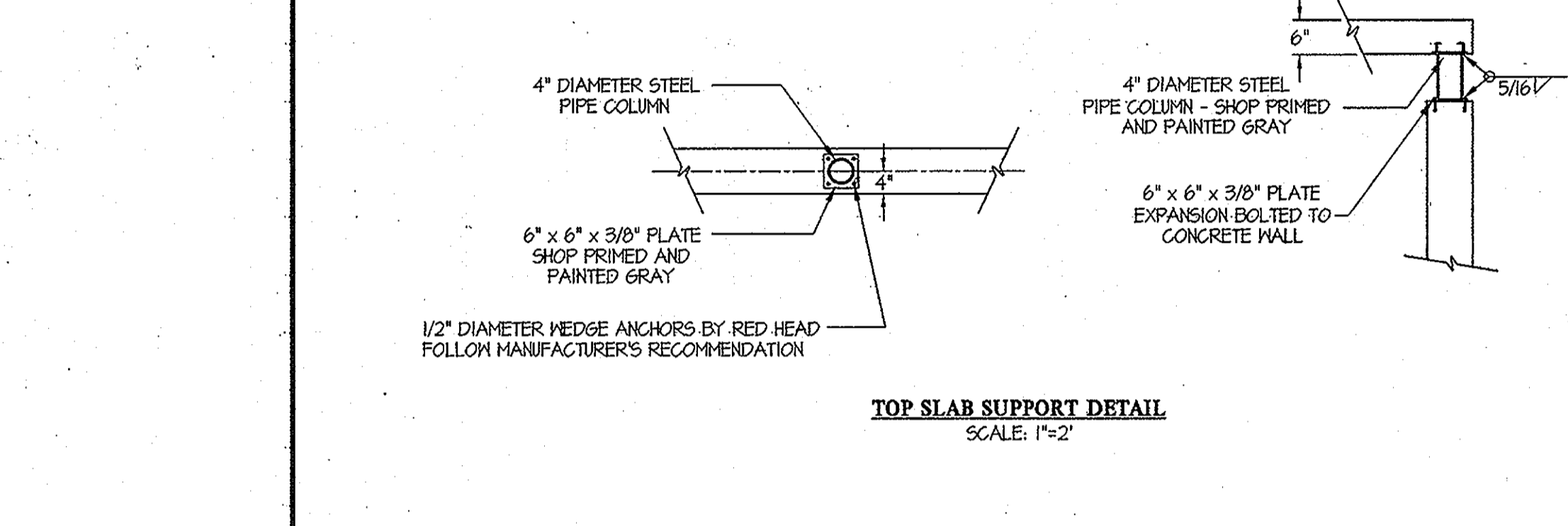
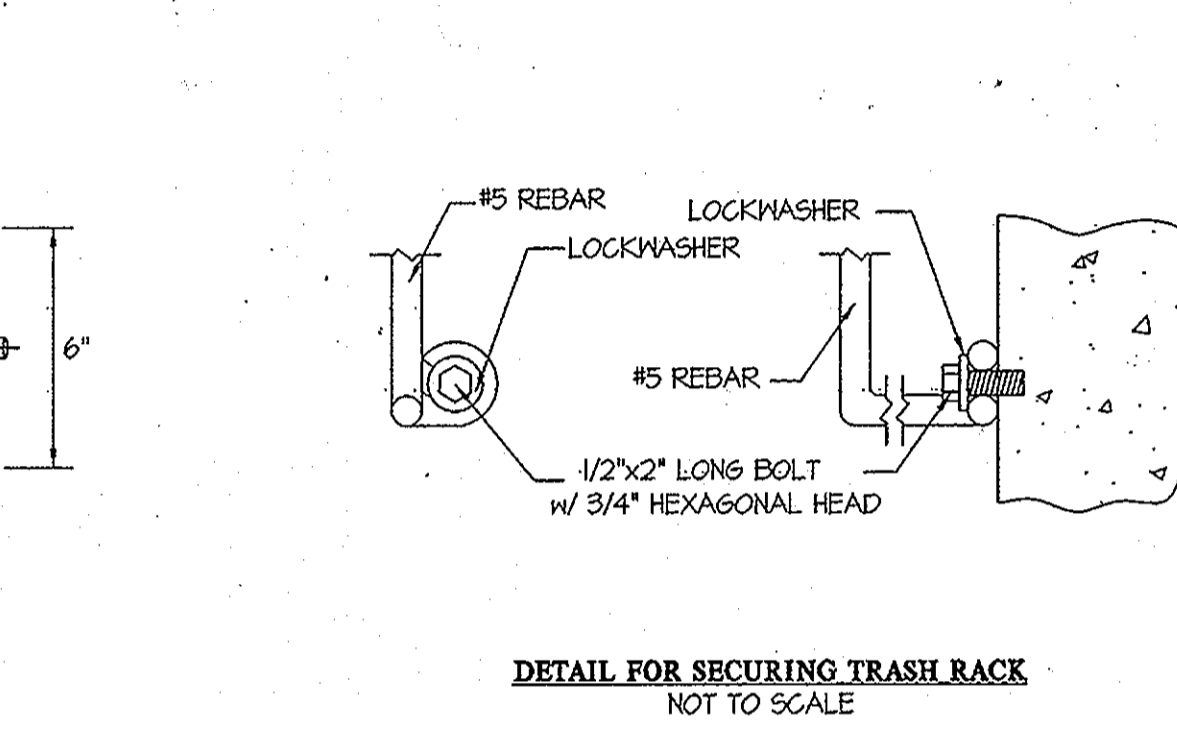
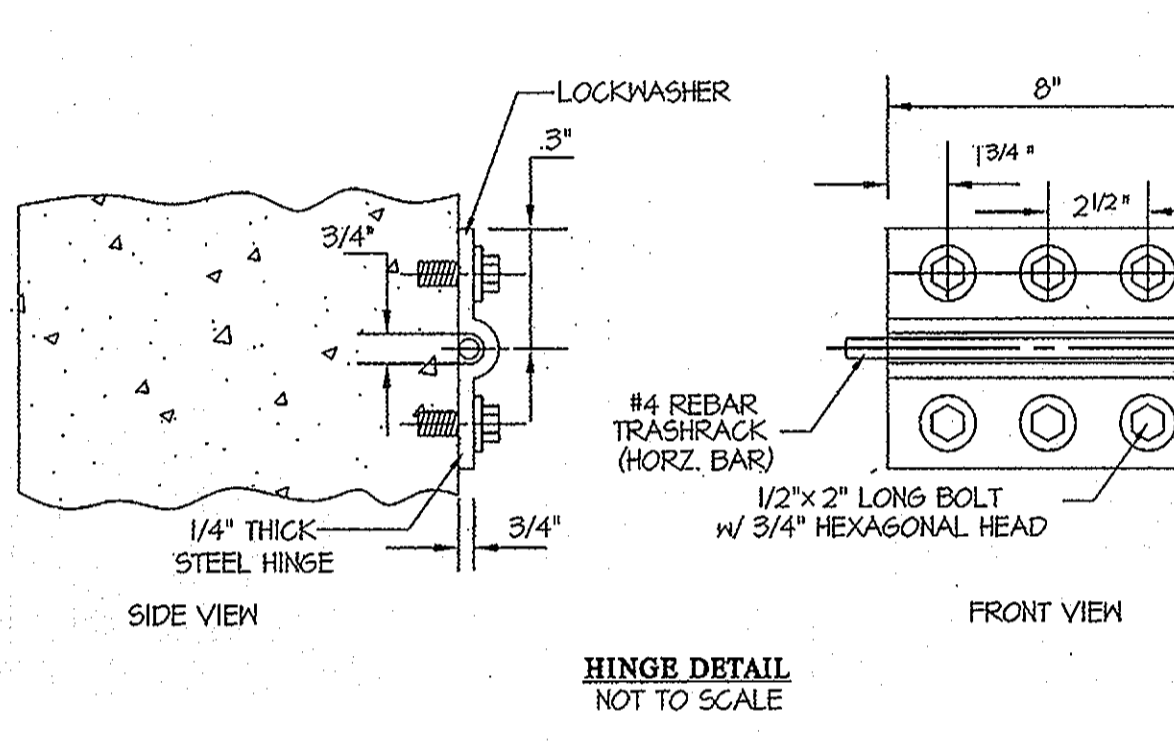
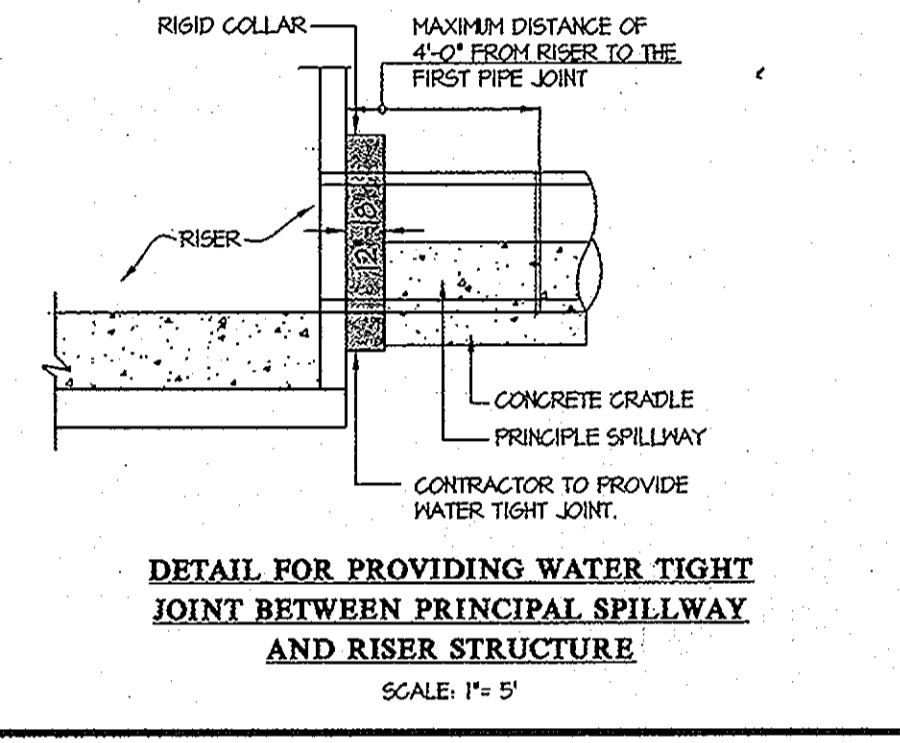
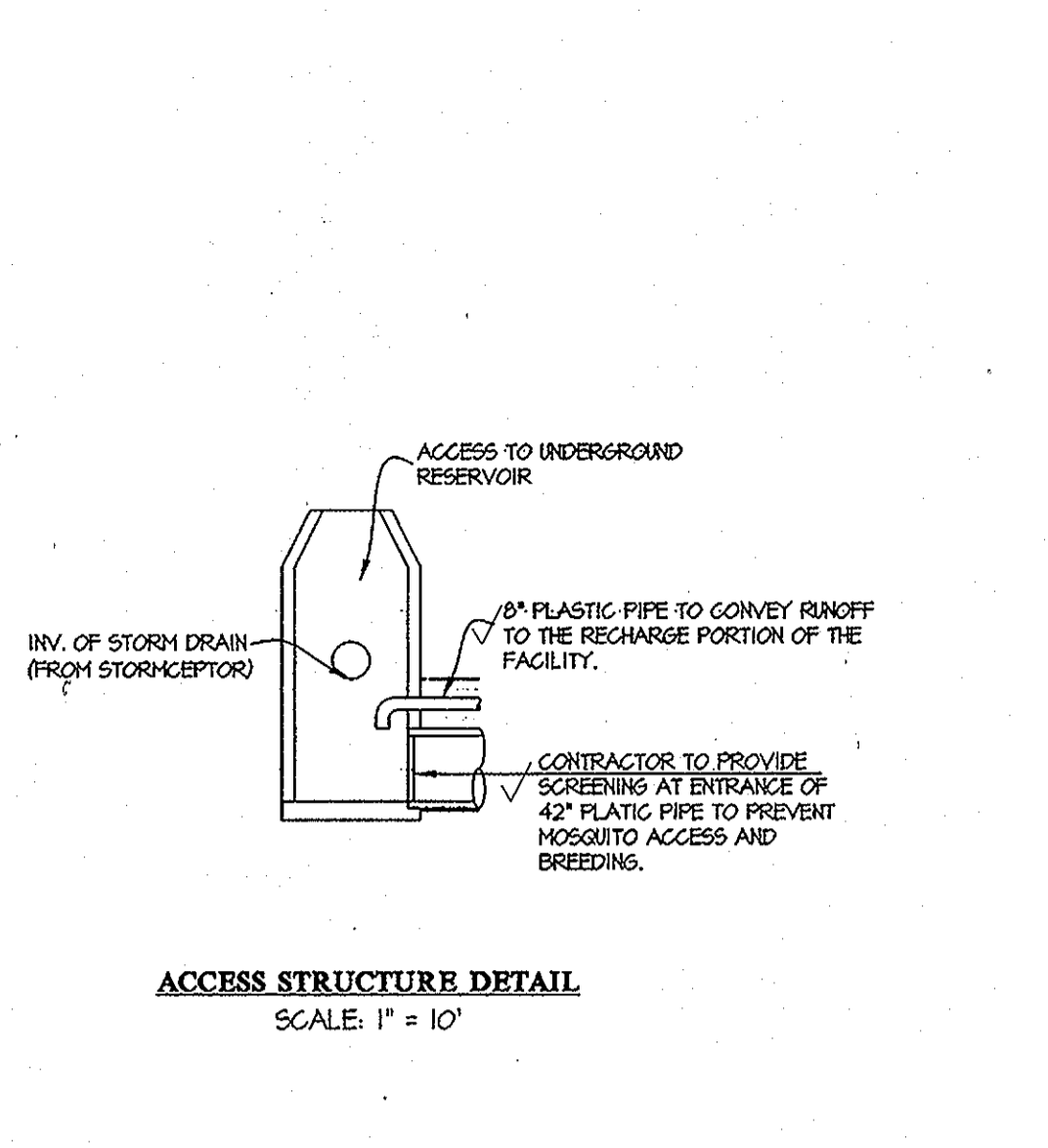
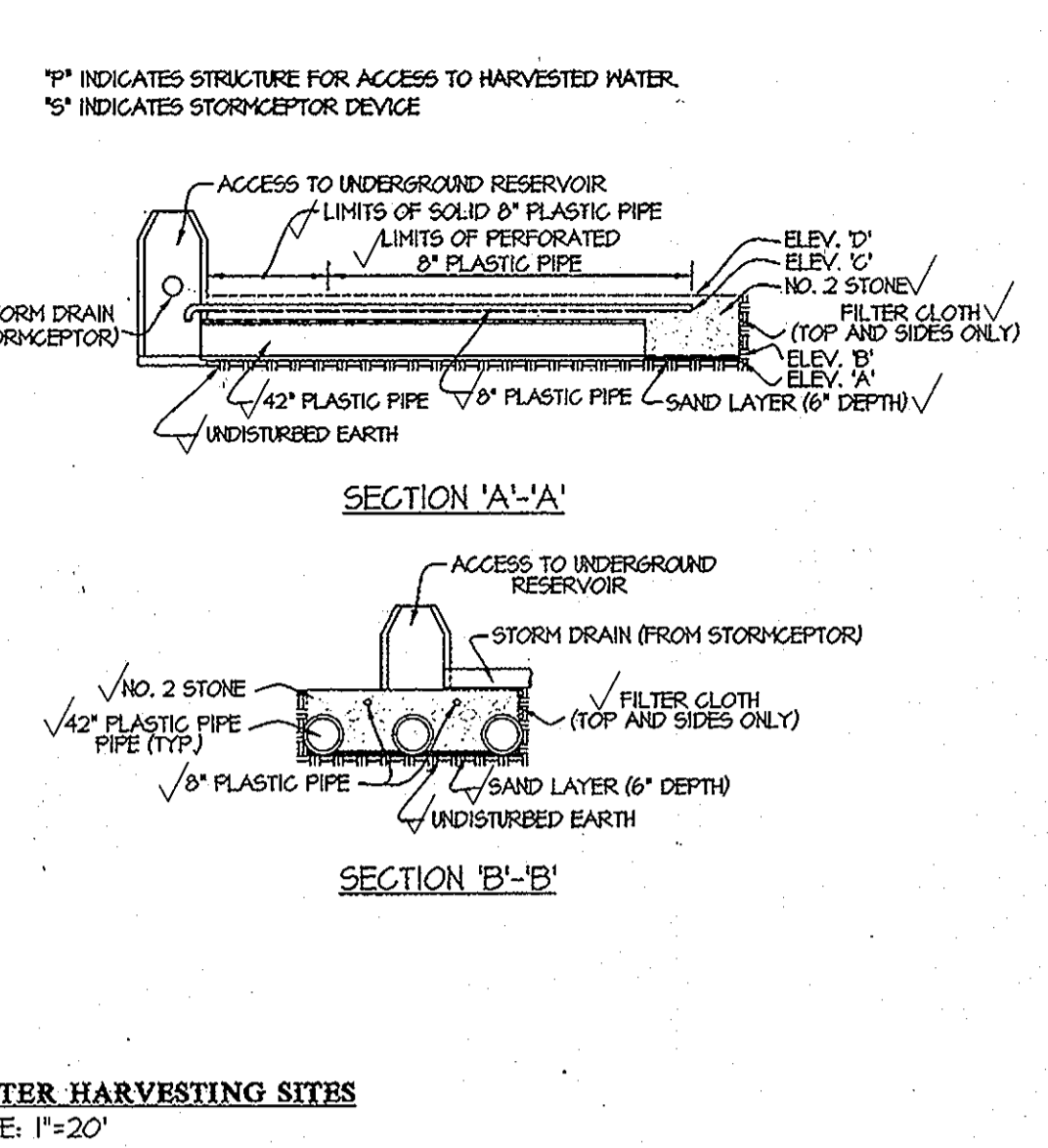
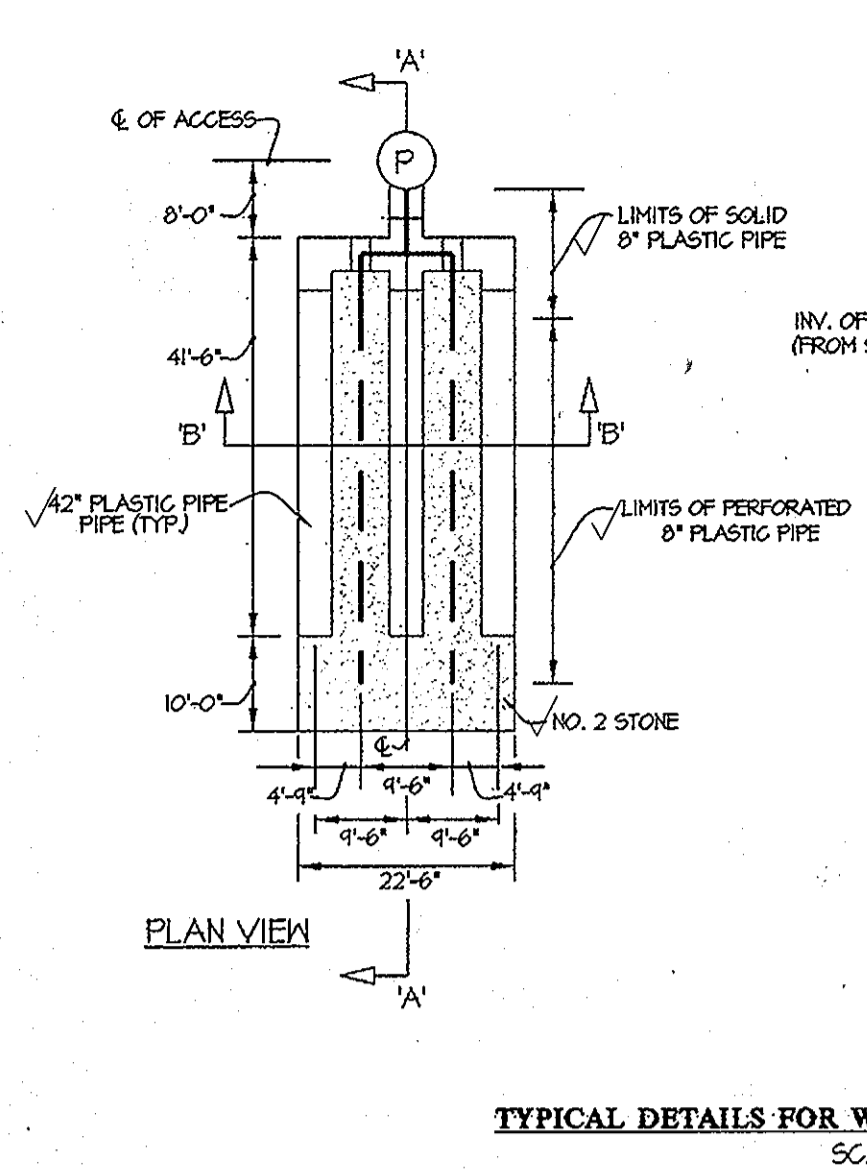


DATA FOR WATER HARVESTING SITES

SITE NO.	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	ELEV. 'D'
1	364.16	364.66	374.44	376.16
2	364.14	370.24	375.07	376.14
3	360.44	360.94	365.82	367.44

AS-BUILT DATA FOR WATER HARVESTING SITES

SITE NO.	ELEV. 'A'	ELEV. 'B'	ELEV. 'C'	ELEV. 'D'
1	376.83	370.02	-----	-----
2	376.83	370.94	-----	-----
3	367.23	360.72	-----	-----



NOTES:

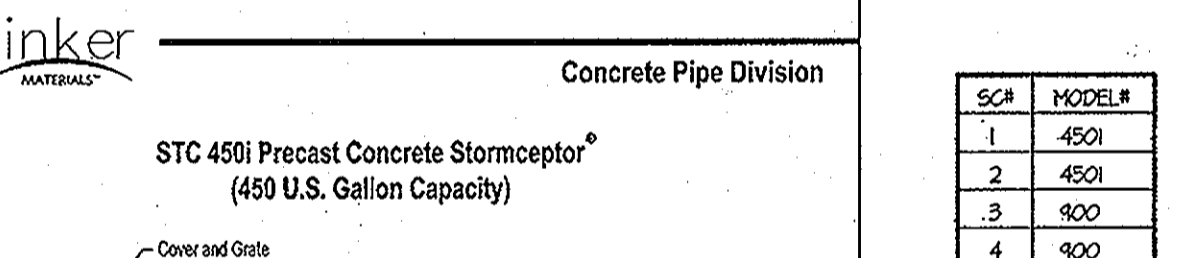
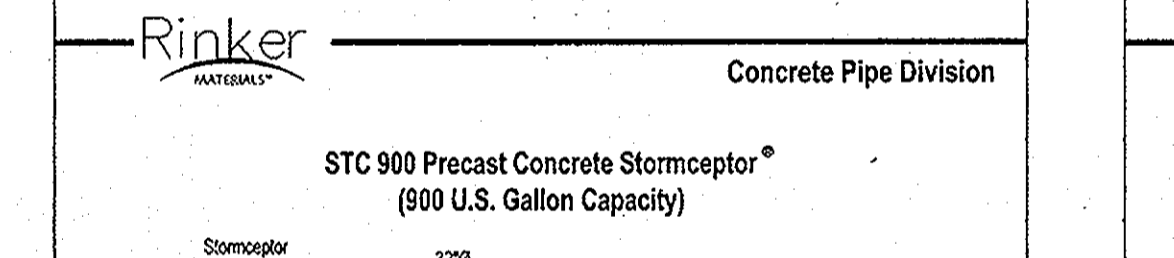
- THE FOLLOWING DETAILS APPLY TO BOTH RISERS:
 - SPILLWAY CONNECTION TO RISER STRUCTURE
 - HINGE DETAIL
 - DETAIL FOR SECURING TRASH RACK
 - TOP SLAB SUPPORT DETAIL
- FOR OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORM-WATER FILTRATION SYSTEMS SEE SHEET 26.

NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER MANUFACTURING

NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER MANUFACTURING

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Howard S.C.D.
DATE: 12/16/09

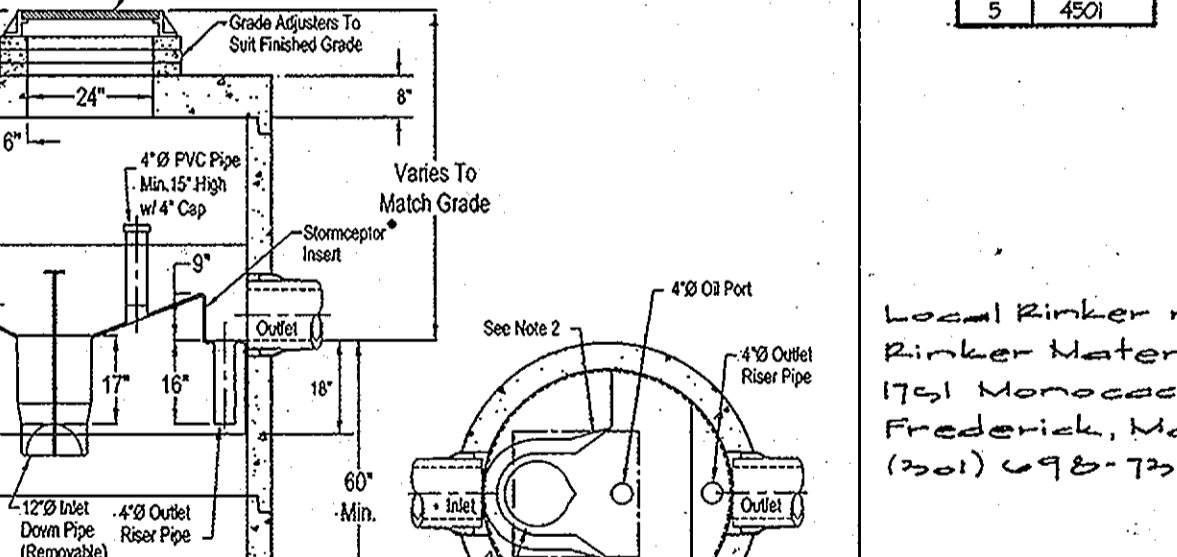
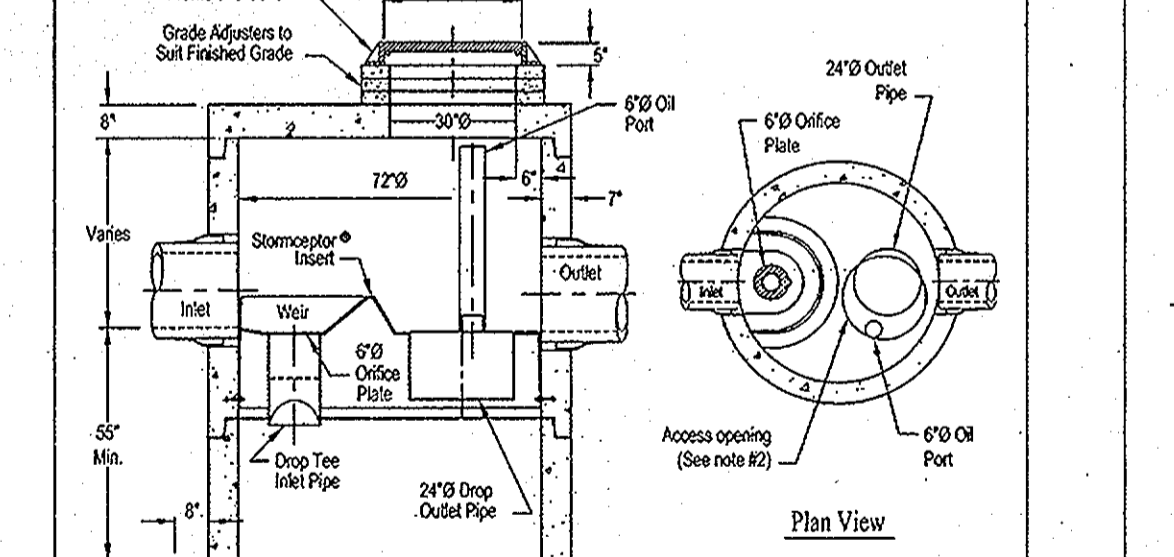


SCR	MODEL#
1	4501
2	4501
3	900
4	900
5	4501

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard S.C.D.
DATE: 12-2-09



Local Rinker representative:
Rinker Materials
1761 Monocacy Boulevard
Frederick, Maryland 21701
(301) 698-7970

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Howard S.C.D.
DATE: 12-2-09

NOTES:

- The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
- The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.
- The Stormceptor System is patented by one or more of the following U.S. Patents: #4953145, #5495331, #572760, #5753115, #5809181, #6067616, #6371000.
- Contact a Concrete Pipe Division representative for further details not listed on this drawing.

NOTES:

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- Contact a Concrete Pipe Division representative for further details not listed on this drawing.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Howard S.C.D.
Date: 2/16/10

Howard S.C.D.
Date: 2-18-10

Howard S.C.D.
Date: 1/15/10

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12475. EXPIRATION DATE: MAY 26, 2010.

Howard S.C.D.

Note:

The details shown for the stormceptors are to be used for general information only. The contractor shall contact Rinker Materials to prepare shop drawings and submit those drawings to Gutschick, Little, and Weber for review and approval.

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3809 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
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TEL: 301-421-4024 BALT: 410-363-1820 DC/VA: 301-388-2524 FAX: 301-421-4188

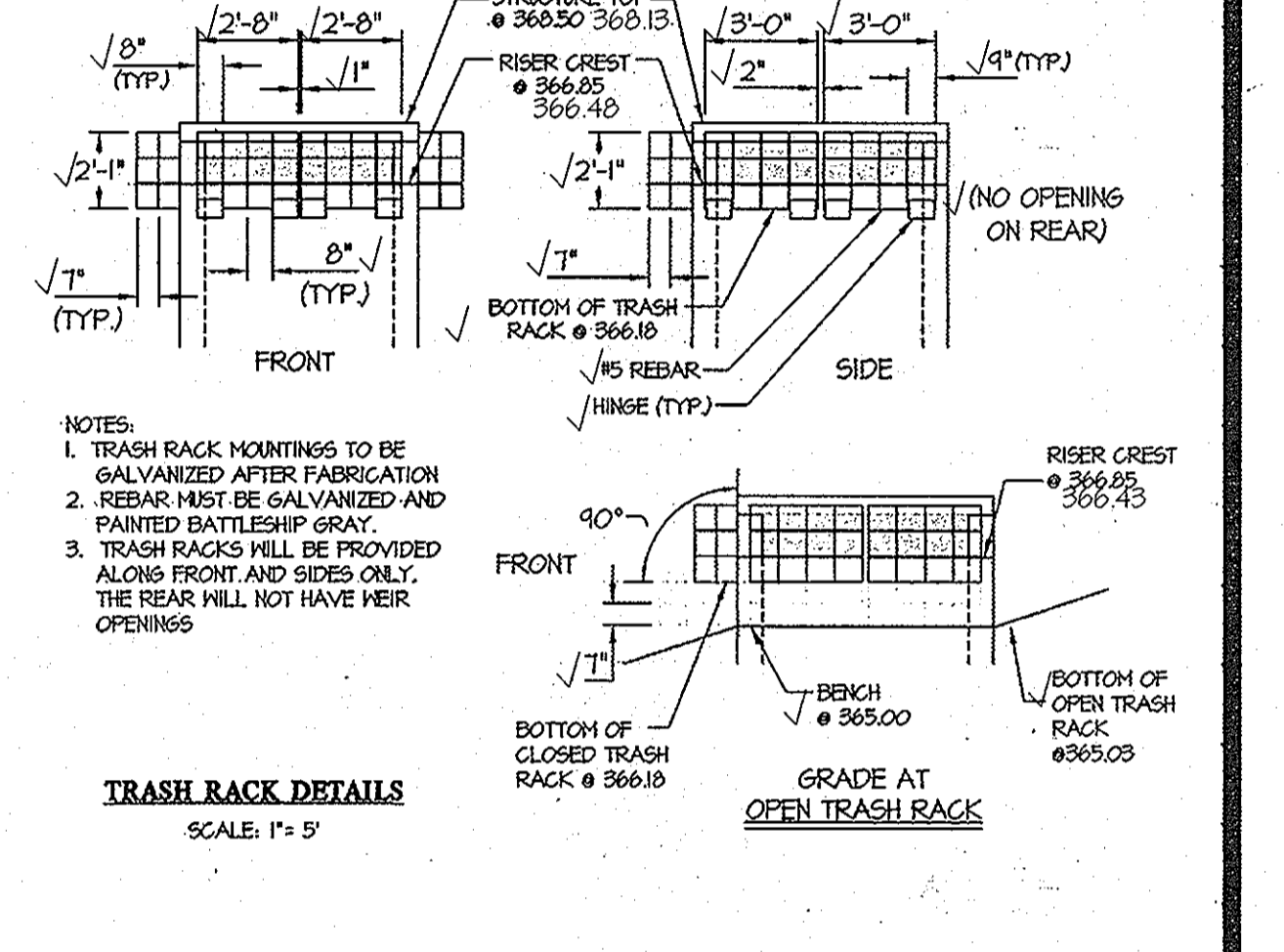
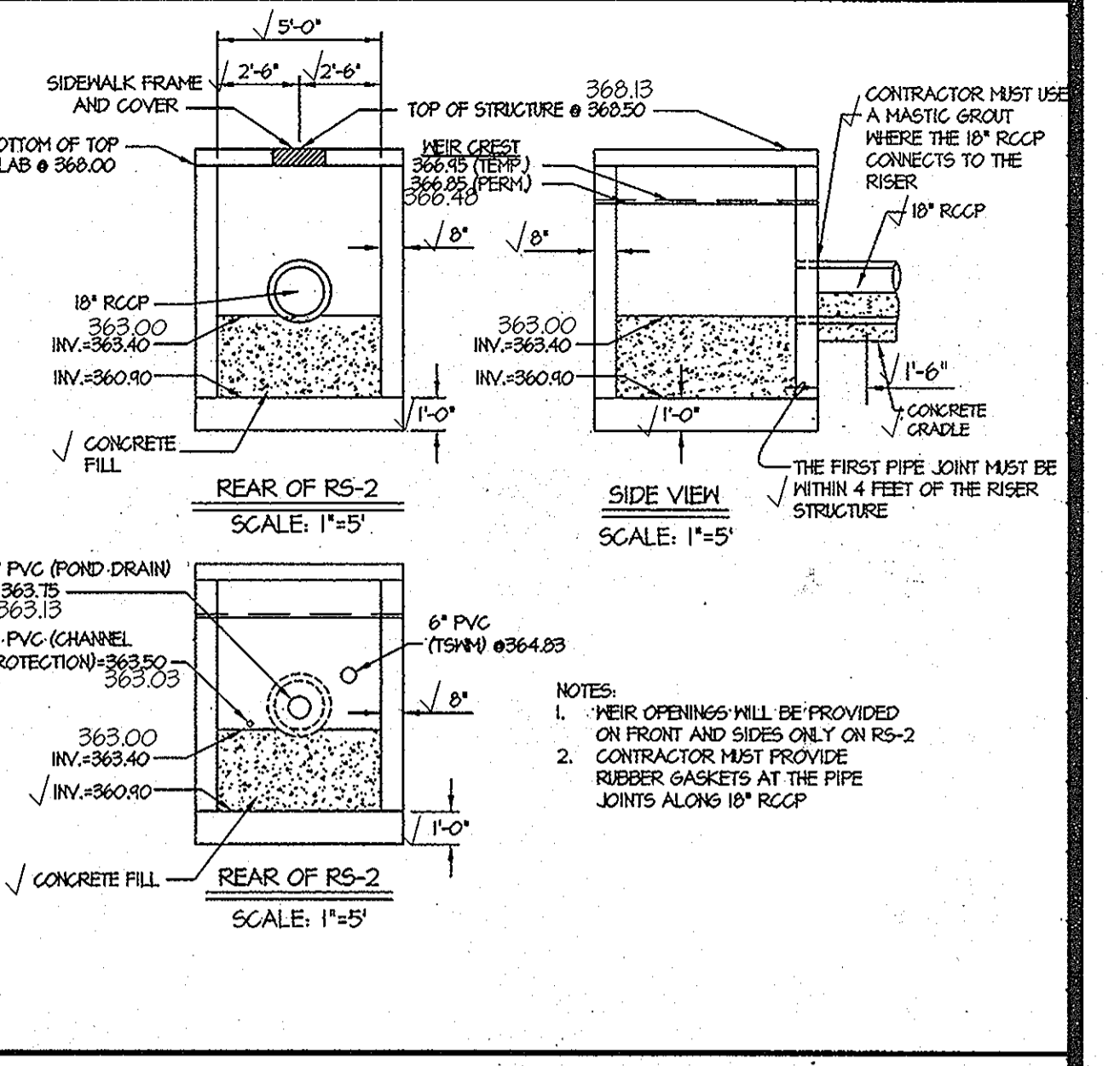
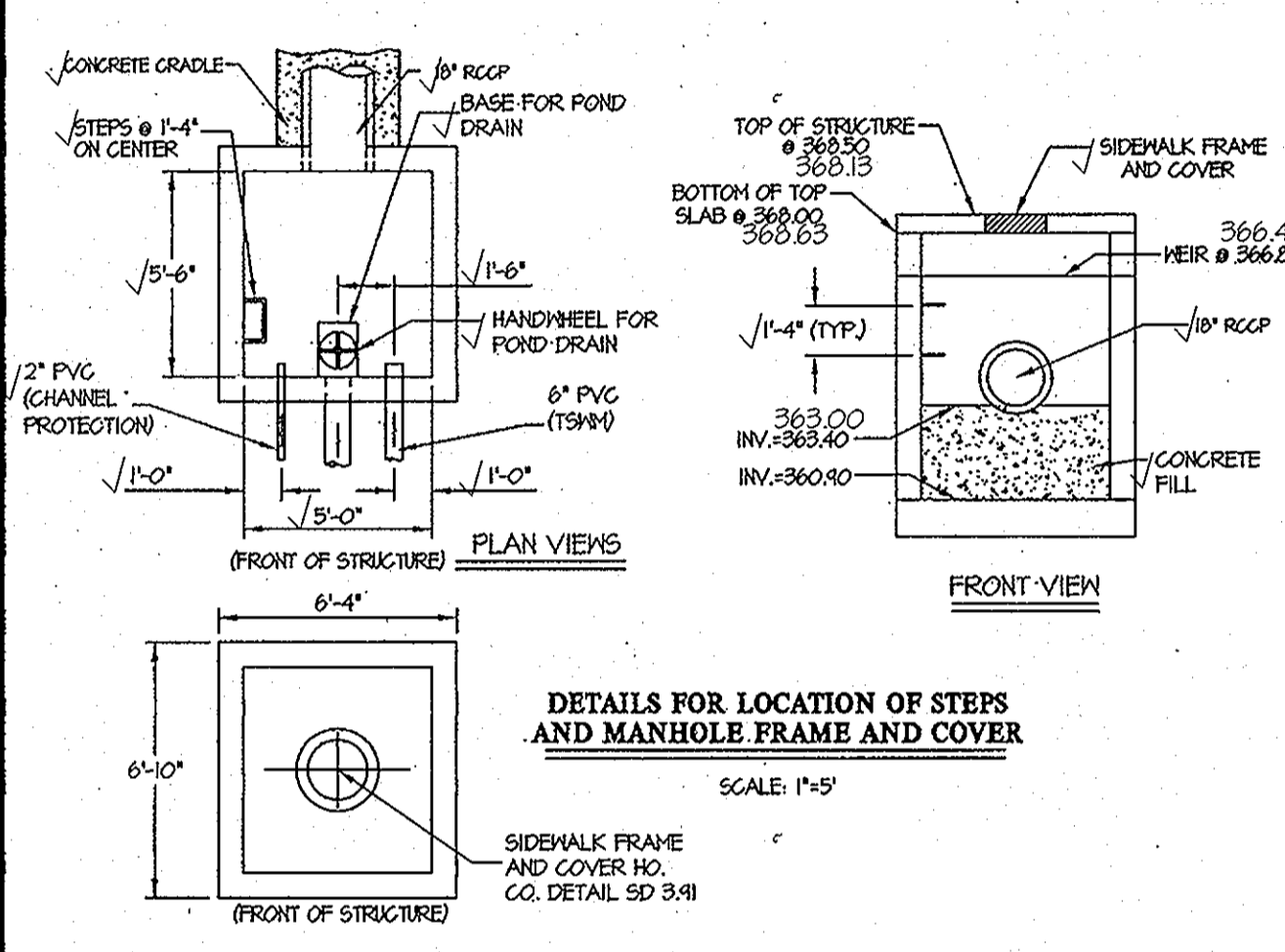
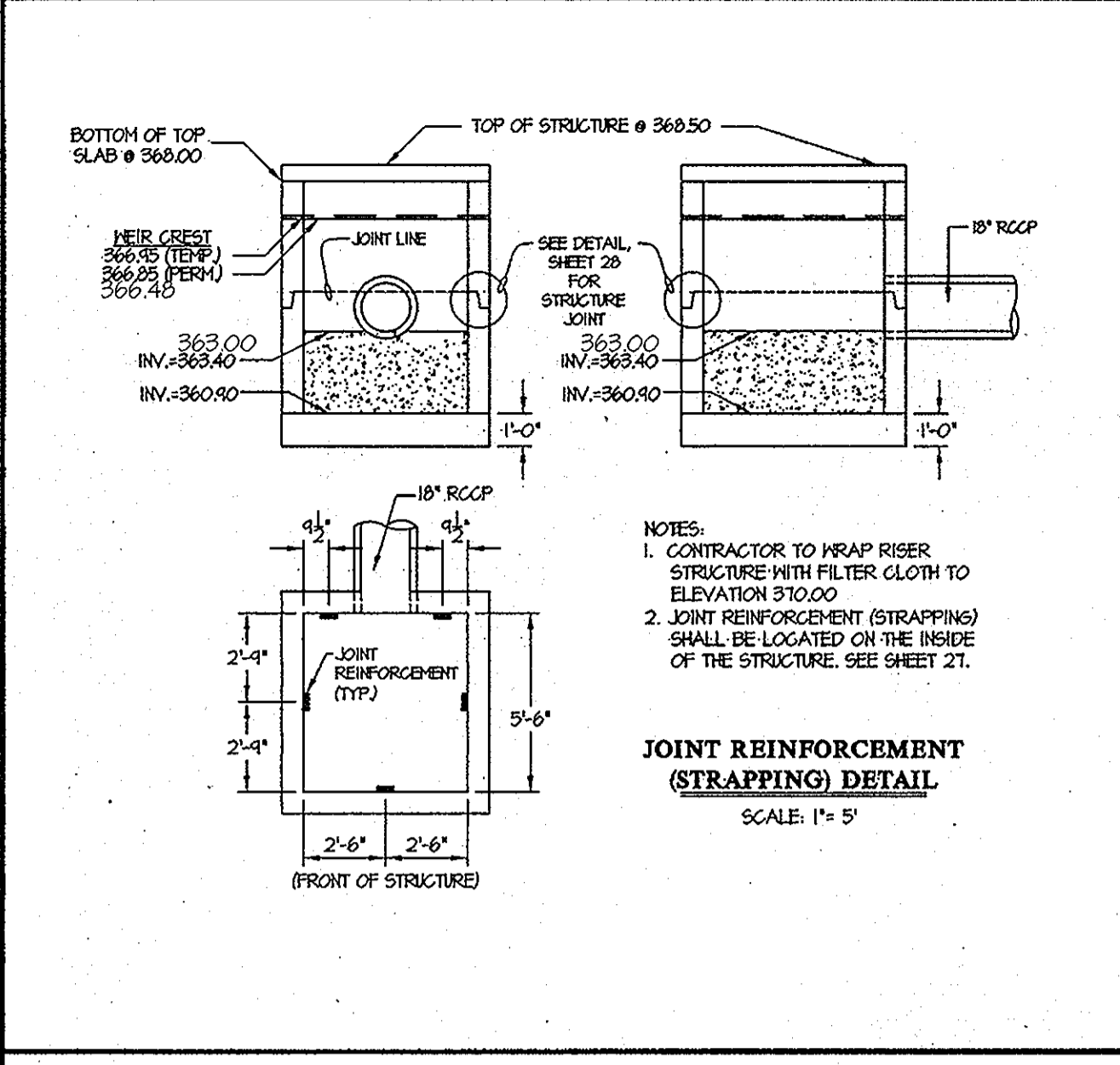
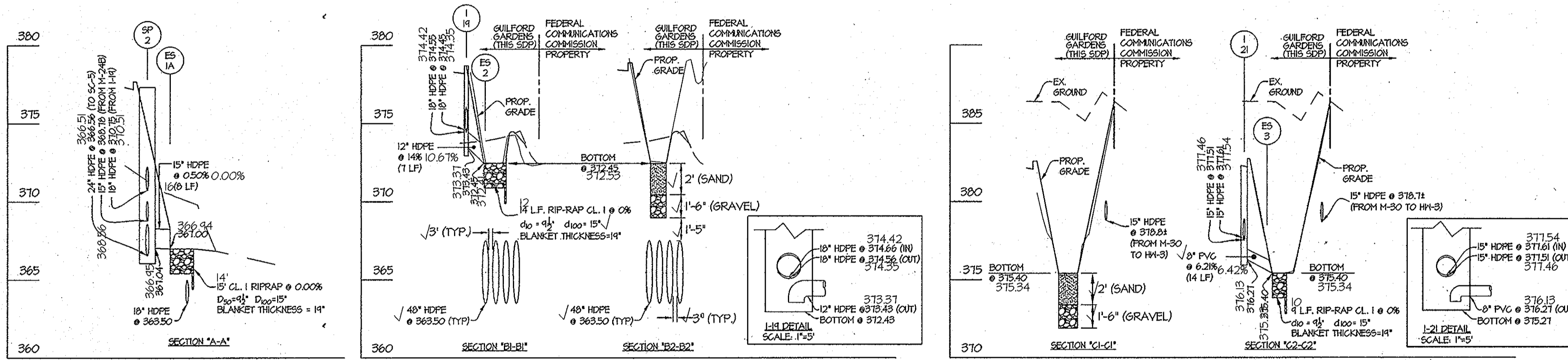
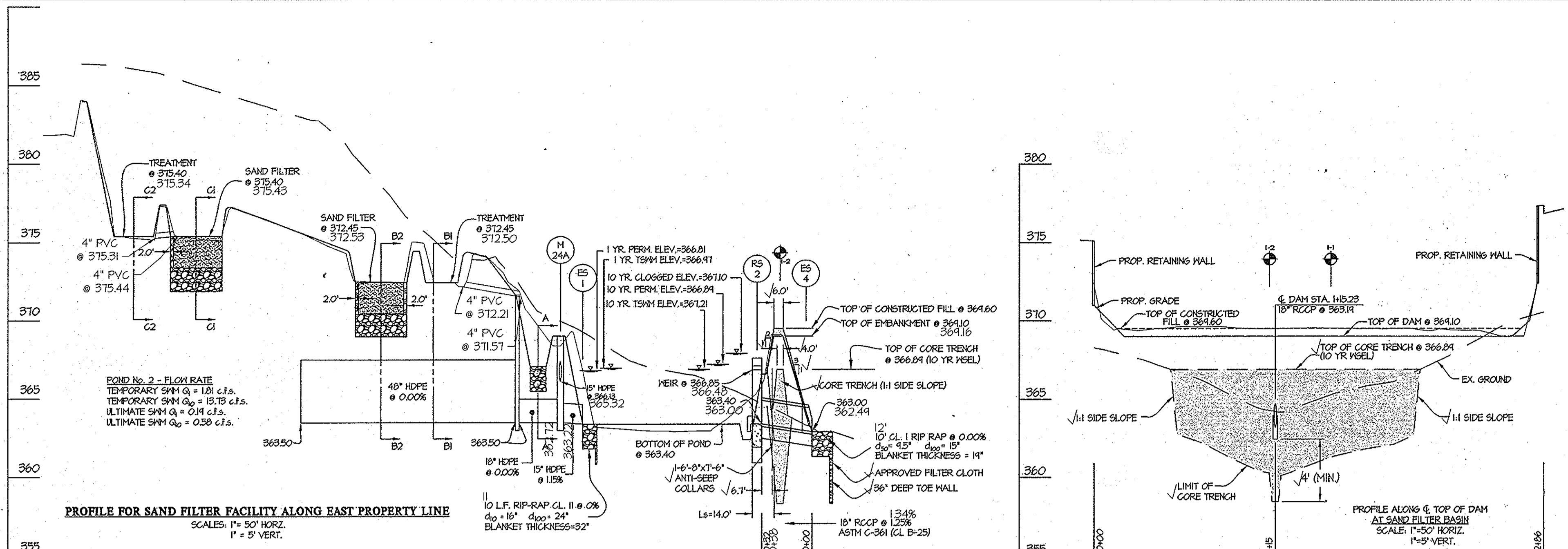
OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

SWM DETAILS - STORMCEPTORS, WATER HARVESTING and GENERAL
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 20002 & 20070
TAX MAP 42, PARCEL 361

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
JUN, 2013 Nov., 2009	42 - 11	27 OF 35

AS-Built



THESE PLANS FOR SMALL POND CONSTRUCTION SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 12/14/09
HOWARD S.C.D. DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 12-2-09
SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

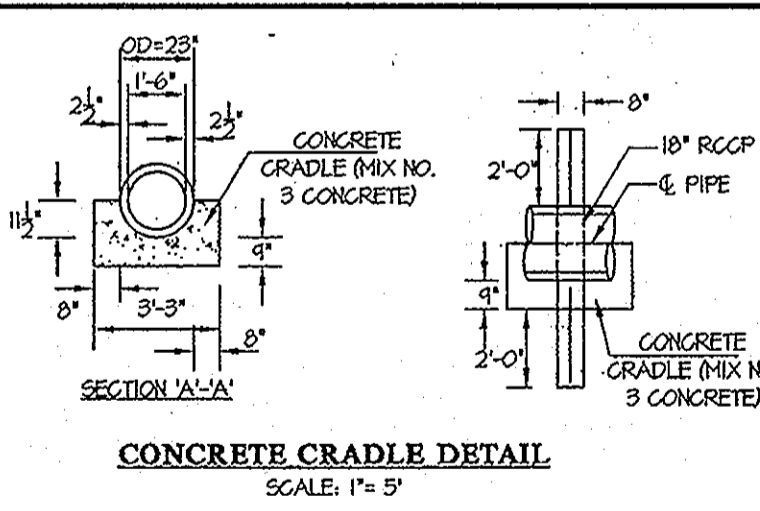
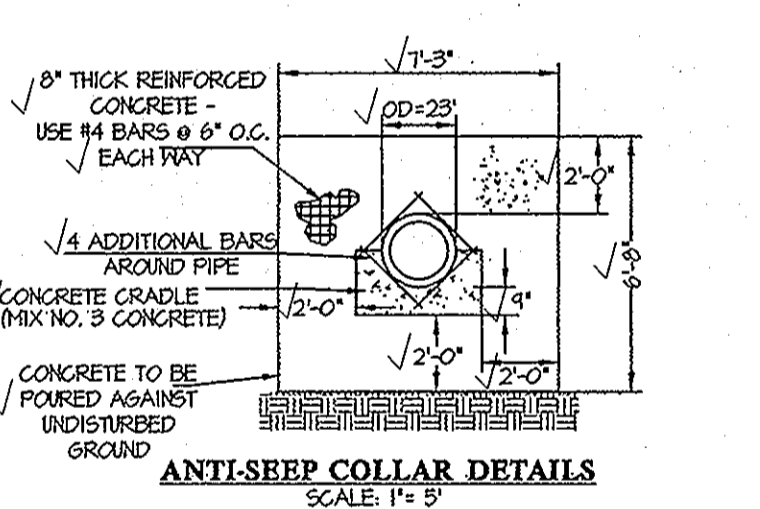
[Signature] 12-2-09
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 2/18/10
Director Date

[Signature] 2/18/10
Chief, Division of Land Development Date

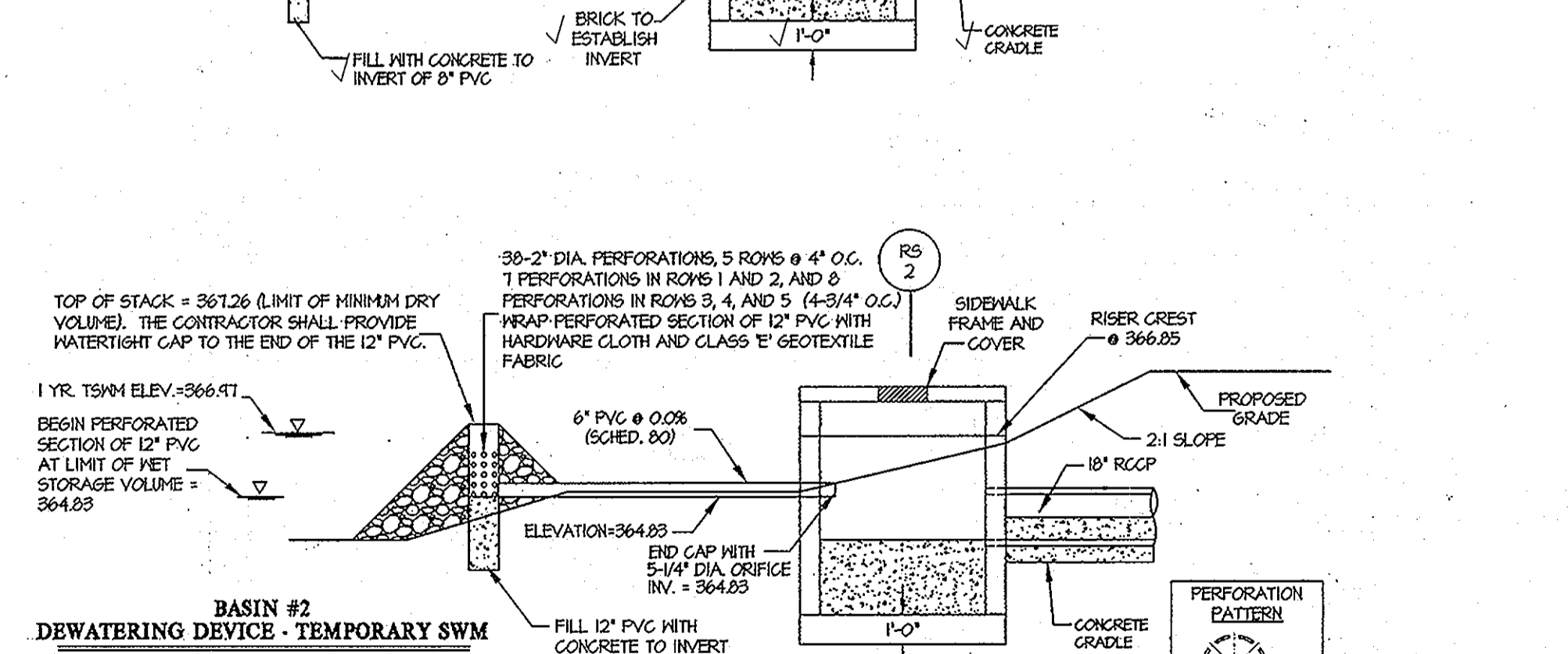
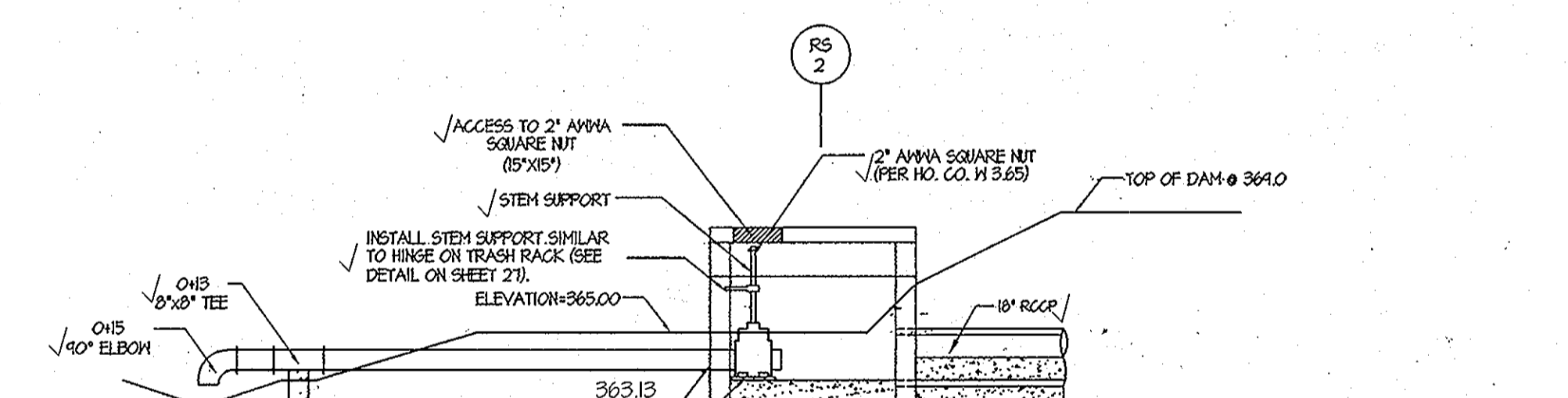
[Signature] 1/15/10
Chief, Development Engineering Division LE Date



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DILIGENT LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475, EXPIRATION DATE: MAY 26, 2010.

[Signature]
DATE



NOTE: THE DEWATERING DEVICE IS TO BE USED DURING CONSTRUCTION ONLY. AFTER ALL OF THE CONTRIBUTING AREAS HAVE BEEN STABILIZED, AND THE BASIN HAS BEEN CONVERTED TO A POND, THE DEWATERING DEVICE MAY BE REMOVED.

NOTE: FOR OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS SEE SHEET 26.

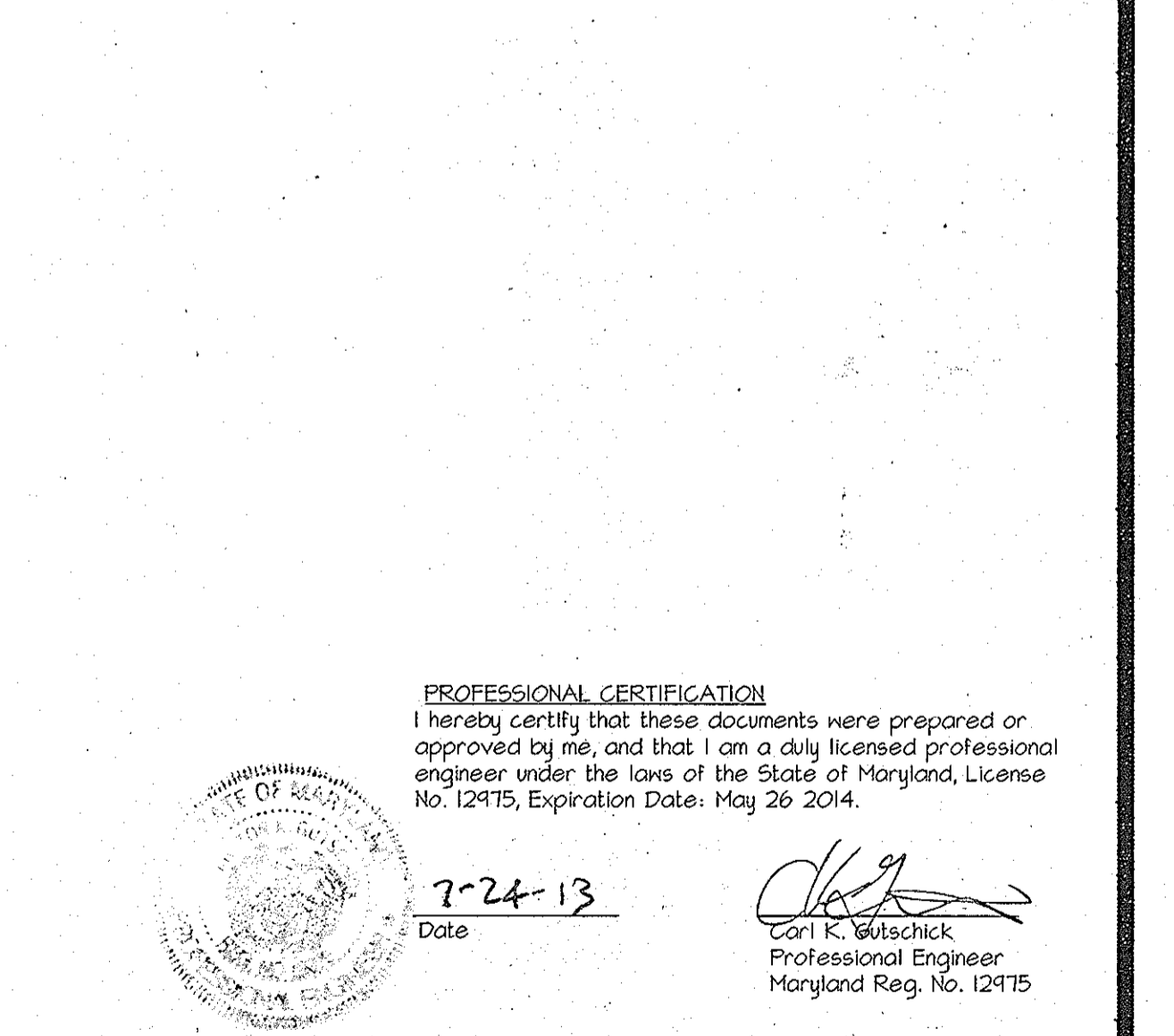


PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26, 2014.

[Signature] 7-24-13
DATE

[Signature]
Professional Engineer
Maryland Reg. No. 12475



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 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

OWNER:
The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Corbo
410-313-6318

PREPARED FOR:
The Shelter Group
218 North Charles Street
Suite 220
Baltimore, MD 21202-4019
ATTN: Donna Oredon
410-962-0595

ASBULTS		
SWM DETAILS - POND No. 2		
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units		
GUILFORD GARDENS SECTION 1, AREA 1		
PARCELS "A1" & "A2" FLAT No. 2-20-002 & 2-20-070 TAX MAP 42, PARCEL 361		
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	RA-15	08057
DATE	TAX MAP - GRID	SHEET
JUN, 2013 Nov., 2009	42 - 11	29 OF 35
ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND		

SCHEDULE A : PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	TOTAL	
LANDSCAPE TYPE	E-Buffer (PERIMETER 1)	B-Buffer (PERIMETER 2)	A-Buffer (PERIMETER 3)	A-Buffer (PERIMETER 4)
LINEAR FEET OF PERIMETER	898.00 LF - 70 LF Driveways = 828' Remaining	940.00 LF	800.00 LF	902.00 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	Yes: (11) Existing Evergreens (4) Existing Ornamental Tree	Yes: 180 LF SWM Landscaping 382 LF Forest Retention = 378' Remaining	Yes: 120 LF Forest Retention + 180 LF SWM 500' Remaining	Yes: (1) Ex. Shade (10) Ex. Evergreens = (5) Shade (3) Ex. Ornamental = (1) Shade
NUMBER OF PLANTS REQUIRED	21 SHADE TREES 0 EVERGREEN TREES 207 SHRUBS	8 SHADE TREES 10 EVERGREEN TREES 0 SHRUBS	8 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	15 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	7 SHADE TREES 0 EVERGREEN TREES + 11 EX. EVERGREENS 13 ORNAMENTAL TREES + 4 EX. ORNAMENTALS 207 SHRUBS	8 SHADE TREES 9 EVERGREEN TREES 2 ORNAMENTAL TREES 0 SHRUBS	6 SHADE TREES 0 EVERGREEN TREES 4 ORNAMENTAL TREES 0 SHRUBS	7 SHADE TREES + 1 EX. SHADE 0 EVERGREEN TREES + 10 EX. EVERGREENS 3 ORNAMENTAL TREES + 3 EX. ORNAMENTALS 0 SHRUBS
				28 + 1ex. 9 + 21 ex. 22 + 7ex. 207

SCHEDULE B : PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	575
NUMBER OF ISLANDS REQUIRED 1/10 SPACES	58
NUMBER OF ISLANDS PROVIDED 1/10 SPACES OR 200 SF/ ISLAND	58
NUMBER OF TREES REQUIRED	58
NUMBER OF TREES PROVIDED	45 SHADE TREES 26 ORNAMENTAL TREES 0 SHRUBS

SCHEDULE C : RESIDENTIAL INTERNAL LANDSCAPING

NUMBER OF DWELLING UNITS	269
NUMBER OF TREES REQUIRED (1: DU SFA; 1:3 DU APTS)	90 SHADE TREES OTHER TREES (2:1 SUBSTITUTION)
NUMBER OF TREES PROVIDED	62 SHADE TREES 56 ORNAMENTAL TREES 0 SHRUBS (2:1 SUBSTITUTION)

SCHEDULE D : STORMWATER MANAGEMENT AREA (1) LANDSCAPING

LINEAR FEET OF PERIMETER	588 LF PERIMETER
NUMBER OF TREES REQUIRED	10 SHADE TREES 12 EVERGREEN TREES 0 SHRUBS
CREDIT FOR EXISTING VEGETATION (NO, YES, %)	YES 118 LF EXISTING WOODS
CREDIT FOR OTHER LANDSCAPING (NO, YES, %)	NO
NUMBER OF TREES PROVIDED	4 SHADE TREES 9 EVERGREEN TREES 10 ORNAMENTAL TREES (2:1 SUBSTITUTION) 40 SHRUBS (10 SHRUBS = 1 SHADE TREE)

STORMWATER MANAGEMENT AREA (2) LANDSCAPING

LINEAR FEET OF PERIMETER	560 LF PERIMETER
NUMBER OF TREES REQUIRED	9 SHADE TREES 11 EVERGREEN TREES 0 SHRUBS
CREDIT FOR EXISTING VEGETATION (NO, YES, %)	YES 150 LF EXISTING WOODS
CREDIT FOR OTHER LANDSCAPING (NO, YES, %)	NO
NUMBER OF TREES PROVIDED	7 SHADE TREES 5 EVERGREEN TREES 10 ORNAMENTAL TREES (2:1 SUBSTITUTION) 30 SHRUBS (10 SHRUBS = 1 SHADE TREE)

UNIT PRICES FOR LANDSCAPE SURETY		
146 SHADE TREES	\$300 each	\$43,800
124 ORNAMENTAL TREES	\$150 each	\$18,600
23 EVERGREEN TREES	\$150 each	\$3,450
277 SHRUBS	\$30 each	\$8,310
TOTAL		\$74,160

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Donna E. Swille 2/18/10
Director Date

Ant Shuman 2-18-10
Chief, Division of Land Development Date

John Deussen 1/15/10
Chief, Development Engineering Division Date

FLOURA TEETER
landscape architects
306 West Franklin Street, STE 103
Baltimore, Maryland 21201
Phone: 410.528.8395
Fax: 410.528.8425

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTINSVILLE OFFICE PARK
BURTINSVILLE, MARYLAND 20869
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

- ARCHITECTURAL AREA LIGHTING: PROVIDENCE LIGHT FIXTURE
- VICTOR STANLEY BENCH: Model FRB-2
- VICTOR STANLEY BENCH: Model FB-324
- VICTOR STANLEY BENCH: Model FM-214
- EXISTING SHADE TREE TO REMAIN PER SDP-79-20
- ⊗ EXISTING SHADE TREE TO REMAIN: COUNTS TOWARD PERIMETER LANDSCAPING
- ⊕ EXISTING EVERGREEN TO REMAIN PER SDP-79-20
- ⊖ EXISTING EVERGREEN TO REMAIN: COUNTS TOWARD PERIMETER LANDSCAPING
- ⊙ EXISTING ORNAMENTAL TREE TO REMAIN: COUNTS TOWARD PERIMETER LANDSCAPING
- ▨ PERIMETER 1: (Name of tree)-a
- ▩ PERIMETER 2: (Name of tree)-b
- ▧ PERIMETER 3: (Name of tree)-c
- ▦ PERIMETER 4: (Name of tree)-d
- ▤ PARKING LOT INTERNAL LANDSCAPING
- ▣ RESIDENTIAL INTERNAL LANDSCAPING
- ▢ STORMWATER MANAGEMENT AREA 1: (Name of tree)-e
- STORMWATER MANAGEMENT AREA 2: (Name of tree)-f

GENERAL NOTE: TYPICAL PARKING AREA LANDSCAPE ISLAND: 12' IN WIDTH FROM FACE OF CURB TO FACE OF CURB

DEVELOPER/SOWNER'S LANDSCAPE CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING

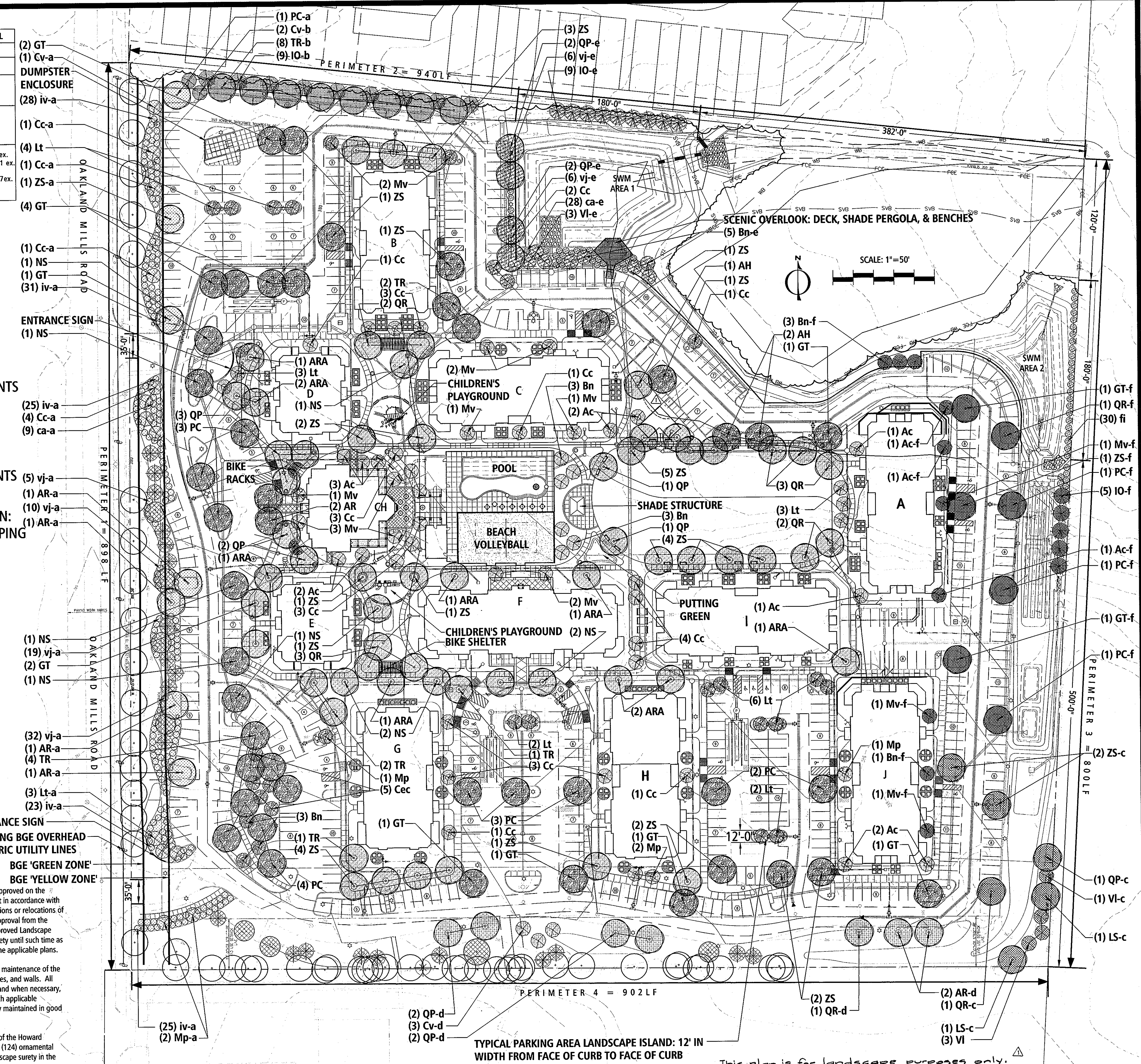
John P. Carbo
DEVELOPER/SOWNER'S NAME

At the time of plant installation, all shrubs and trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the department of Planning and Zoning. Any deviation from the approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the applicable plans.

"The Owner, tenants, and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials, 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."

This plan has been prepared in accordance with section 16.124 of the Howard County Code and the Landscape Manual with (146) shade trees, (124) ornamental trees, (23) evergreen trees, and (277) shrubs provided with landscape surety in the amount of \$74,160 with the DPW, Developer's Agreement."

NO.	REVISION	DATE	BY	APP'R.
1/10/10	Rev. maintenance block footprint added note over table block.			DEV.



LANDSCAPE PLAN

Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units

GUILFORD GARDENS SECTION I, AREA 1
PARCELS "A1" & "A2"
PLAT No. 20000 & 20010
TAX MAP 42, PARCEL 361

OWNER: The Howard County Housing Commission
6751 Columbia Gateway Dr., 3rd Floor
Columbia, MD 21046
ATTN: Tom Carbo
410-313-6318

PREPARED FOR: The Shelter Group
218 North Charles Street
Suite 220
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ATTN: Donna Creedon
410-962-0595

SCALE: 1" = 50'

ZONING: RA-15

G. L. W. FILE No. 08057

DATE: Nov., 2009

TAX MAP - GRID: 42 - 11

SHEET: 30 OF 35

ELECTION DISTRICT No. 6

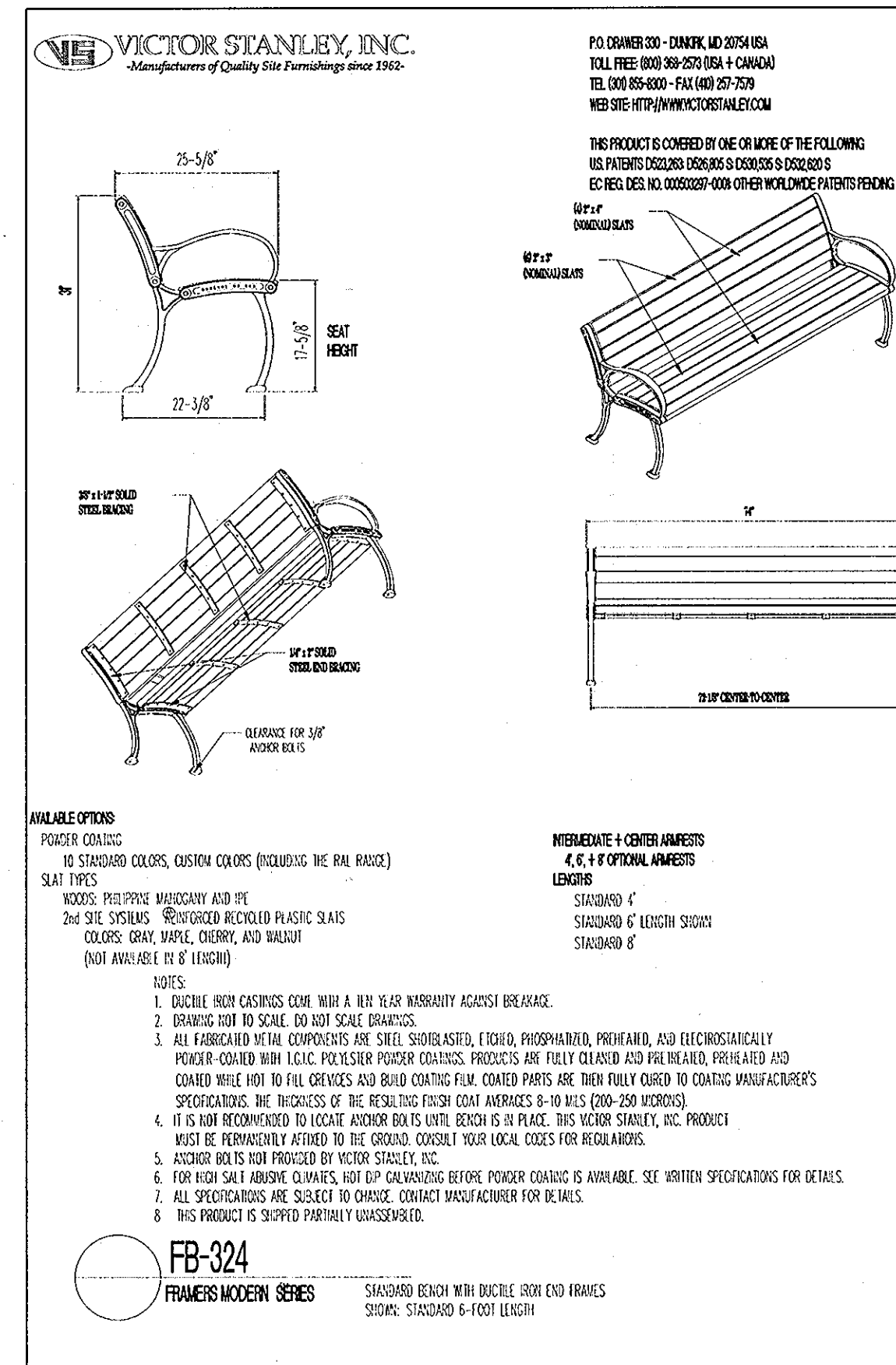
HOWARD COUNTY, MARYLAND

SDP-09-45

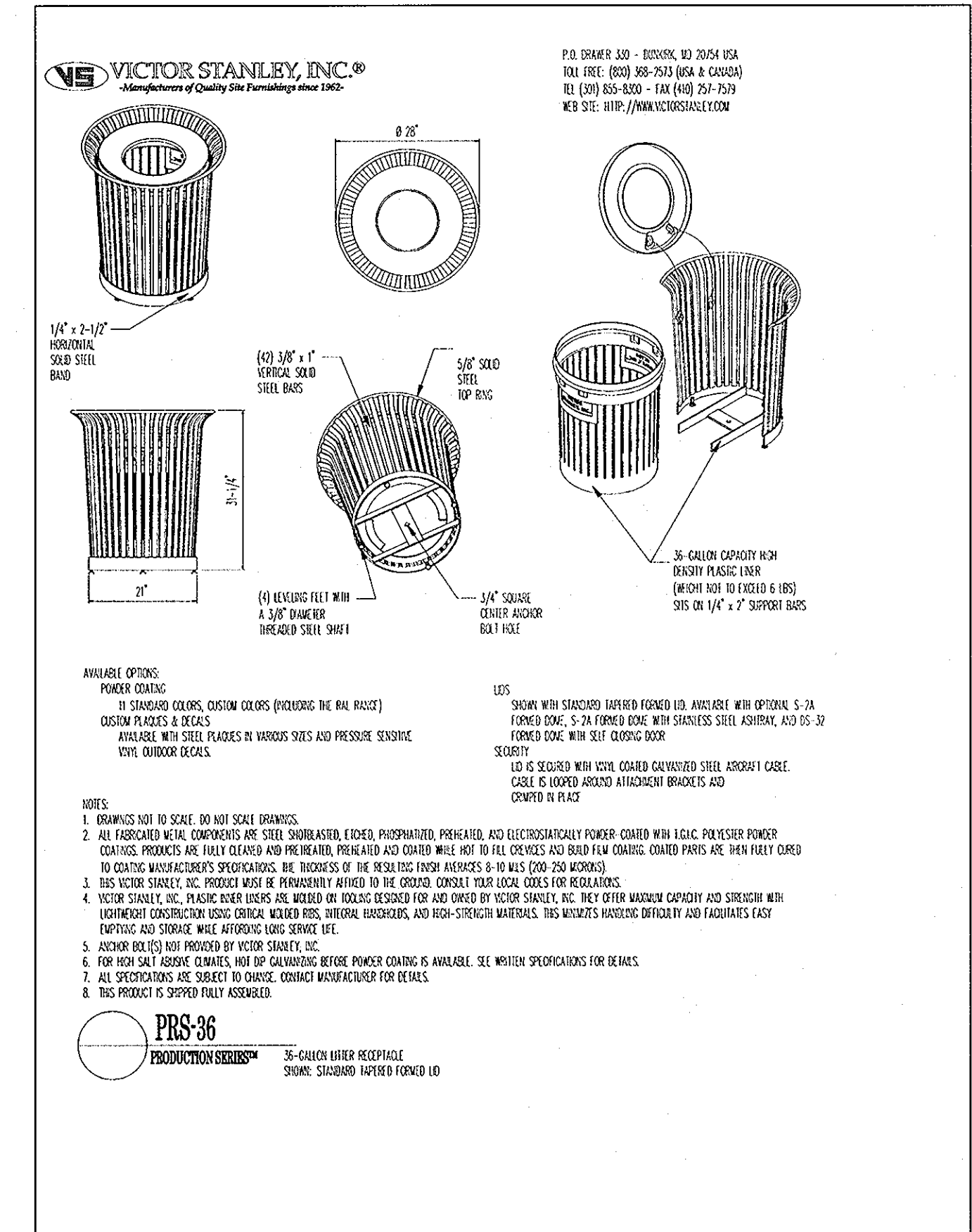
PLANTING & SEEDING NOTES:

- CLEAR & GRUB ALL PLANTING AREAS AS INDICATED ON THE DRAWINGS.
- PROVIDE PROTECTION FOR TREES, SHRUBS, AND PERENNIALS/GROUND COVERS THAT ARE TO BE PRESERVED.
- CONTRACTOR SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
- ALL PLANTING SHALL BE DONE AS PER PLANTING DETAILS AND SPECIFICATIONS; REFER TO DRAWING L4.0 FOR PLANTING DETAILS, AND SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.
- NO CHANGES SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR LANDSCAPE ARCHITECT.
- PRIOR TO CONSTRUCTION OF PLANTING BEDS, THE CONTRACTOR SHALL STAKE OUT PLANTING BED LINES IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANTING BED LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
- INSTALL ALL REQUIRED PLANTING AND LAWN SOILS AS PER DETAILS AND SPECIFICATIONS, AND ALL SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE PLANTED IN PLANTING BEDS PREPARED AS REQUIRED BY THE DETAILS (DRAWING L4.0) AND SPECIFICATIONS.
- MAINTAIN POSITIVE DRAINAGE OUT OF PLANTING BEDS AT A MINIMUM 2% SLOPE AND MAINTAIN POSITIVE DRAINAGE OF ALL LAWN AREAS, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL GRADES, DIMENSIONS, AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER.
- ALL PLANT BEDS SHALL BE CONTAINED WITH A SPADED EDGE UNLESS OTHERWISE NOTED ON DRAWINGS.
- IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE DRAWINGS AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE DRAWINGS SHALL APPLY. REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING.
- ALL PLANTS SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION.
- PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. PRIOR TO PLANTING, THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANT LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
- ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED, FOR SHADY AREAS RECEIVING SEED, USE A SHADE SEED MIX.
- CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND MAINTAINING ALL PLANTS DURING THE WARRANTY PERIOD; REFER TO SPECIFICATIONS.

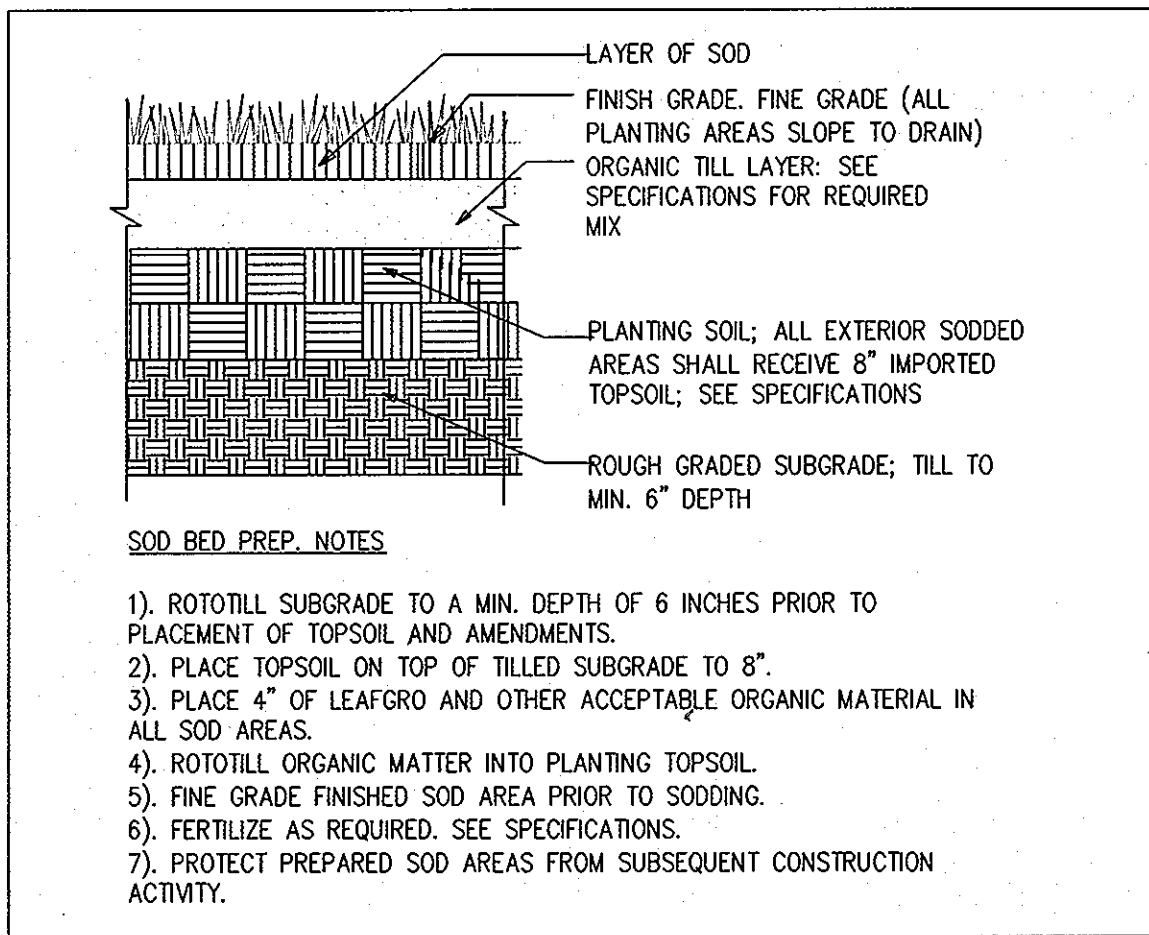
QTY.	SYM.	BOTANICAL/COMMON NAME	SIZE	CONT.	REMARKS
TREES - DECIDUOUS SHADE TREE					
10	ARA	<i>Acer rubrum</i> 'Armstrong' Armstrong Red Maple	2 1/2" - 3" cal.	B&B	specimen, matched
8	AR	<i>Acer rubrum</i> Red Maple	2 1/2" - 3" cal.	B&B	specimen, matched
3	AH	<i>Aesculus hippocastanum</i> 'Baumannii' Baumann's Horse Chestnut	2 1/2" - 3" cal.	B&B	specimen, matched
16	GT	<i>Gleditsia triacanthos inermis</i> 'Skyline' Skyline Honeylocust	2 1/2" - 3" cal.	B&B	specimen, matched
2	LS	<i>Liquidambar styraciflua</i> Sweetgum	2 1/2" - 3" cal.	B&B	specimen, matched
10	NS	<i>Nyssa sylvatica</i> Blackgum	2 1/2" - 3" cal.	B&B	specimen, matched
16	PC	<i>Platanus Occidentalis</i> Sycamore	2 1/2" - 3" cal.	B&B	specimen, matched
16	QP	<i>Quercus phellos</i> Willow Oak	2 1/2" - 3" cal.	B&B	specimen, matched
13	QR	<i>Quercus rubra</i> Red Oak	2 1/2" - 3" cal.	B&B	specimen, matched
18	TR	<i>Tilia americana</i> 'Redmond' Redmond's American Linden	2 1/2" - 3" cal.	B&B	specimen, matched
34	ZS	<i>Zelkova serrata</i> 'Green Vase' Zelkova Green Vase	2 1/2" - 3" cal.	B&B	specimen, matched
TREES - ORNAMENTAL					
14	Ac	<i>Amelanchier canadensis</i> 'Shadblow' Shadlow Serviceberry	8'-10' ht.	B&B	multi-stem, heavy
18	Bn	<i>Betula nigra</i> Heritage River Birch	8'-10' ht.	B&B	multi-stem, heavy
5	Cec	<i>Cercis canadensis</i> Eastern Redbud	8'-10' ht.	B&B	multi-stem, heavy
30	Cc	<i>Carpinus caroliniana</i> American Hornbeam	8'-10' ht.	B&B	multi-stem, heavy
6	Cv	<i>Chionanthus virginicus</i> Fringe Tree	8'-10' ht.	B&B	multi-stem, heavy
23	Lt	<i>Lagerstroemia indica</i> 'Tuskegee' Tuskegee Grape Myrtle	8'-10' ht.	B&B	multi-stem, heavy
6	Mp	<i>Malus 'Prairie Fire'</i> Prairie Fire Crab	1 1/2" - 2"	B&B	specimen
15	Mv	<i>Magnolia Virginiana</i> Sweetbay Magnolia	8'-10' ht.	B&B	multi-stem, heavy
7	VI	<i>Viburnum lentago</i> Sweetbay Magnolia	8'-10' ht.	B&B	multi-stem, heavy
TREES - EVERGREEN					
23	IO	<i>Ilex opaca</i> American Holly	6' ht.		unsheared, heavy
SHRUBS					
37	ca	<i>Clethra alnifolia</i> Sweet pepper bush	30"-36" ht.	Container	unsheared, heavy
30	f	<i>Forsythia x intermedia</i> Forsythia	30"-36" ht.	Container	unsheared, heavy
132	iv	<i>Itea virginica</i> 'Henry's Garnet' Virginia Sweetspire	30"-36" ht.	Container	unsheared, heavy
78	vj	<i>Viburnum x juddii</i> Judd Viburnum	30"-36" ht.	Container	unsheared, heavy



2 BENCH DETAIL
25 NTS

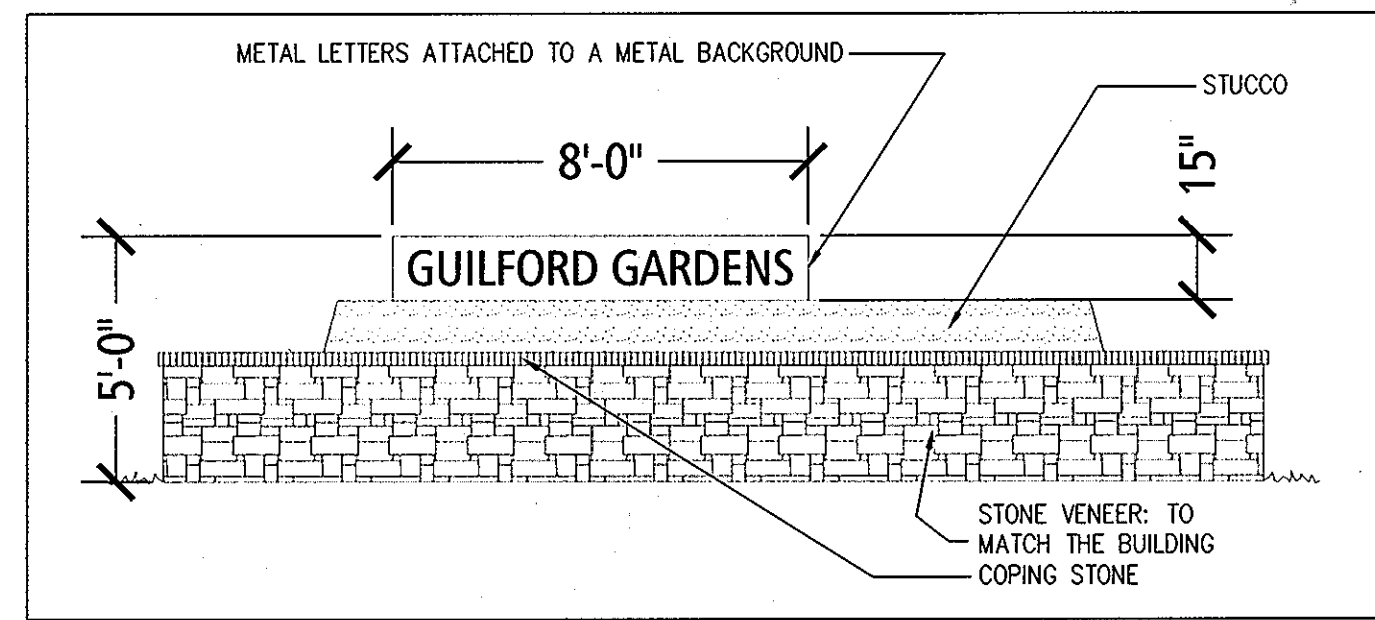


1 TRASH RECEPTACLE
25 NTS

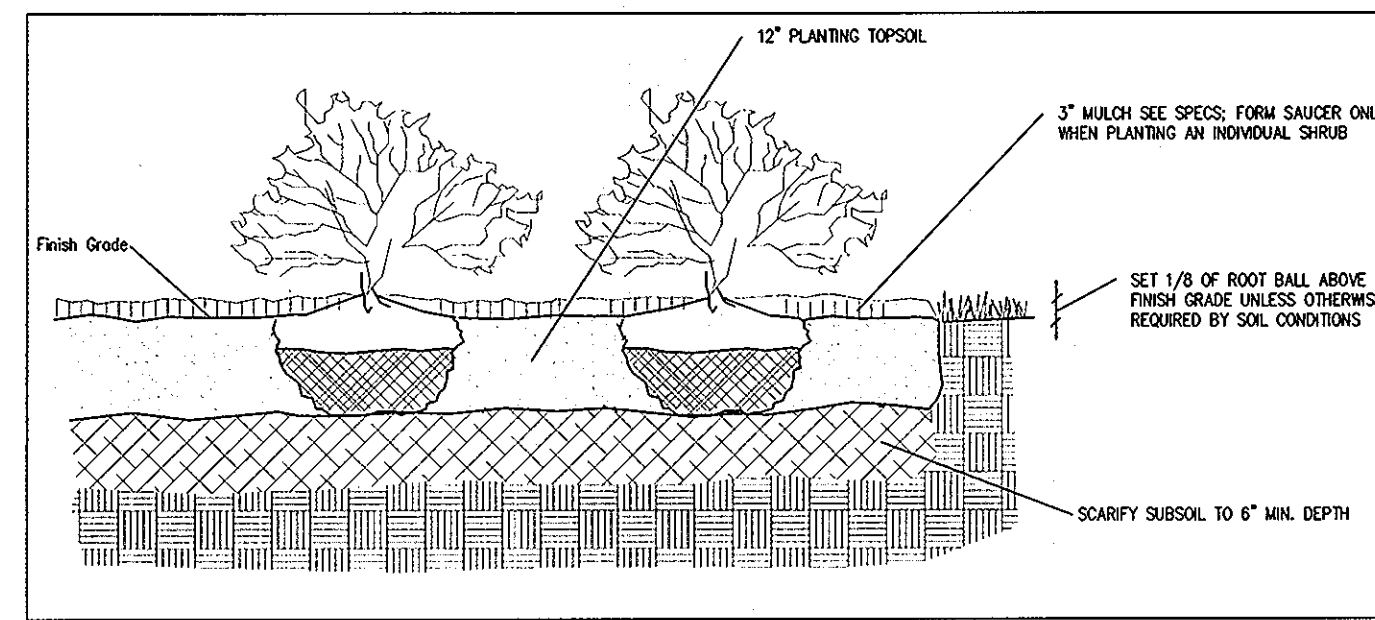


8 SOD DETAIL
25 NTS

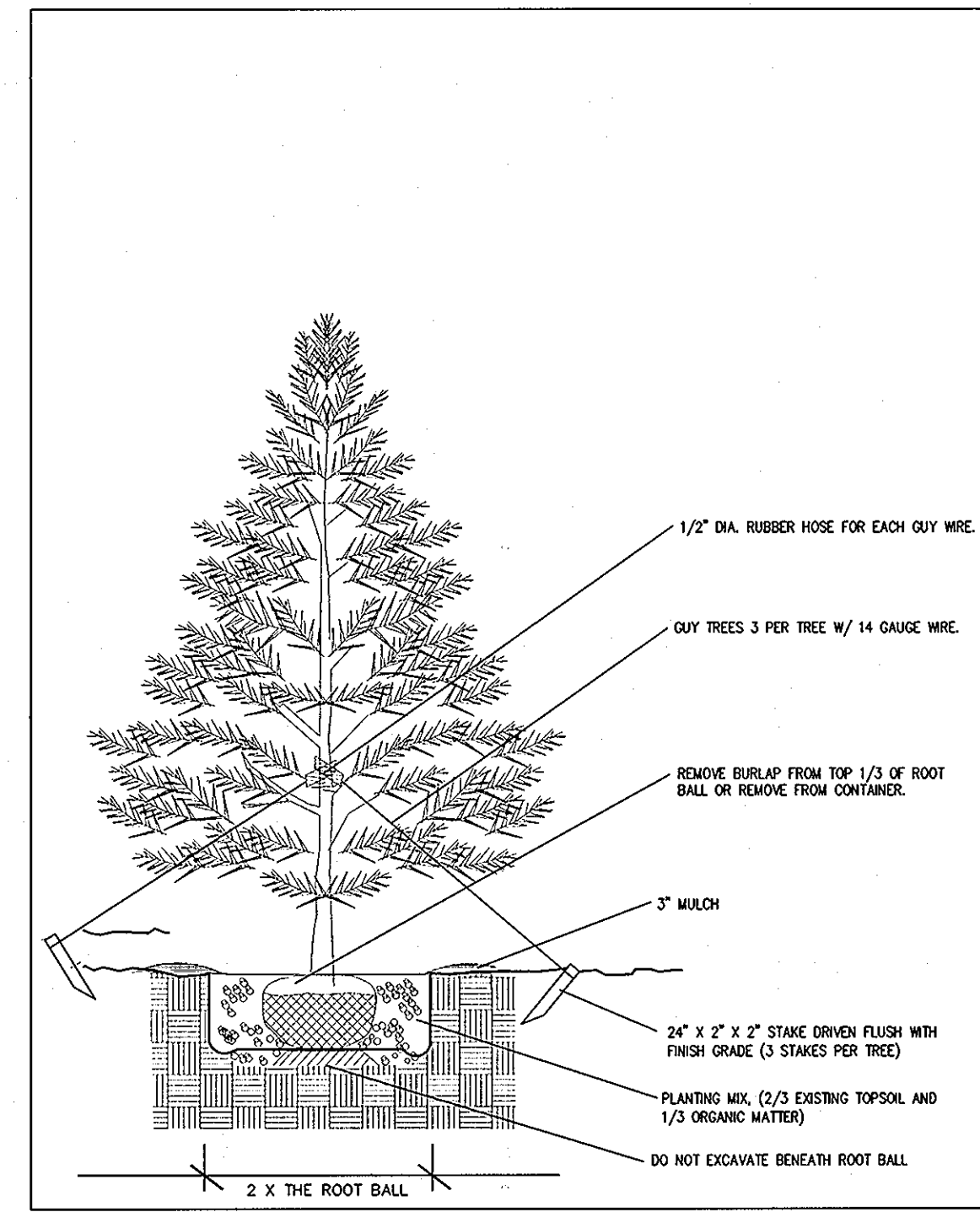
3 PLANT SCHEDULE
25 NTS



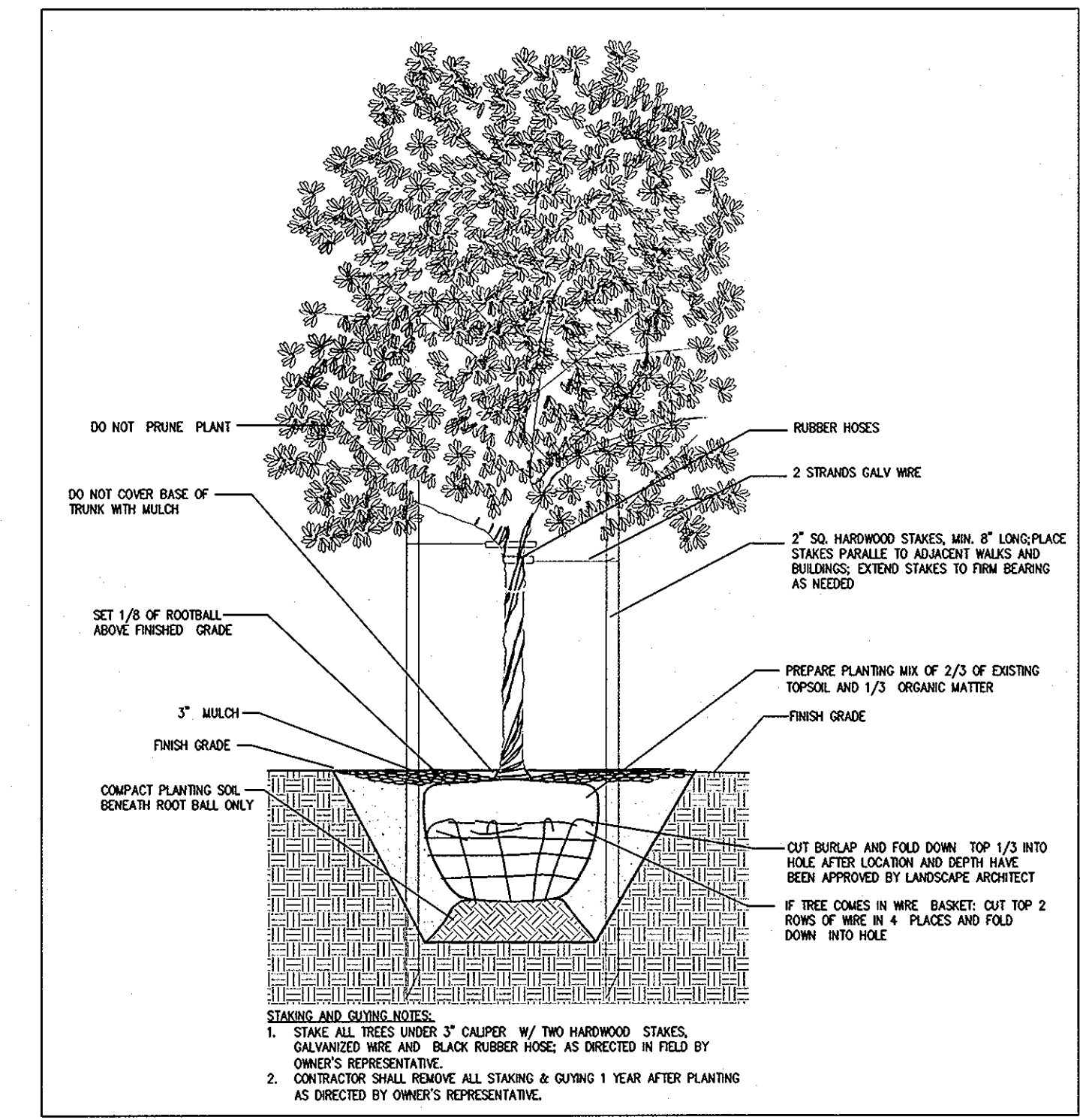
7 TYPICAL ENTRANCE SIGN DETAIL
25 NTS



6 SHRUB DETAIL
25 NTS

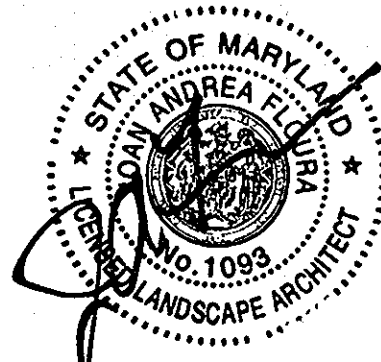


5 EVERGREEN DETAIL
25 NTS



4 TREE DETAIL
25 NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Trina E. Suttler* Date: 2/18/10
 Chief, Division of Land Development: *Neil Sheehy* Date: 2-18-10
 Chief, Development Engineering Division: *Chris Demaris* Date: 1/18/10



FLOURA TEETER
 landscape architects
 305 West Franklin Street, STE 103
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 BURTNSVILLE, MARYLAND 20866
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DES.	DRN.	CHK.	DATE	REVISION	BY	APPR.
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LANDSCAPE NOTES & DETAILS
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
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NTS	RA-15	08057
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Nov, 2009	42 - 11	31 OF 35

CONSTRUCTION PERIOD PROTECTION PROGRAM

- THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.
- A PRE-CONSTRUCTION MEETING AT THE SITE SHOULD BE HELD TO CONFIRM THE LIMITS OF CLEARING SPECIFIED. THE MEETING SHOULD INCLUDE THE OWNER OR THE OWNER'S REPRESENTATIVE, THE ON-SITE FOREMAN IN CHARGE OF LAND DISTURBANCE, THE ENVIRONMENTAL CONSULTANT AND THE APPROPRIATE HOWARD COUNTY INSPECTORS.
- FOREST PROTECTION DEVICES AND SIGNS (SEE DETAILS) SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING. THE PROTECTION DEVICES AND SIGNS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD. NONE OF THE DEVICES SHALL BE ANKORED OR ATTACHED IN ANY WAY TO THE TREES TO BE SAVED.
- EQUIPMENT, VEHICLES AND BUILDING MATERIALS SHALL NOT BE WITHIN THE PROTECTED AREA. ACTIVITIES STRICTLY TO IMPLEMENT ANY REFORESTATION PLANTING AND MAINTENANCE (IE. WATERING, FERTILIZING, TRIMMING, PRUNING, REMOVAL OF DEAD AND DISEASED TREES WHERE NECESSARY, ETC.) OF THE CONSERVATION AREA ARE PERMITTED. CLEARING FOR THE PURPOSE OF SODDING OR PLANTING GRASS IS NOT PERMITTED WITHIN THE FOREST CONSERVATION AREAS ONCE THEY'RE ESTABLISHED.
- AT THE END OF THE CONSTRUCTION PERIOD, THE DESIGNATED QUALIFIED PROFESSIONAL SHALL CONVEY TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM CERTIFICATION THAT ALL FOREST RETENTION AREAS HAVE BEEN PRESERVED, ALL REFORESTATION AND/OR AFFORESTATION PLANTINGS (IF APPLICABLE) HAVE BEEN INSTALLED AS REQUIRED BY THE FOREST CONSERVATION PLAN, AND THAT ALL PROTECTION MEASURES REQUIRED FOR THE POST-CONSTRUCTION PERIOD HAVE BEEN INSTALLED. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE PROGRAM COORDINATOR WILL NOTIFY THE OWNER OF RELEASE FROM THE CONSTRUCTION PERIOD OBLIGATIONS. THE 2-YEAR (MIN) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.

GENERAL NOTES

- THIS PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.
- IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN FOREST RETENTION TECHNIQUES AND PRACTICES.
- THE OWNER IS RESPONSIBLE FOR A 2-YEAR (MIN) POST-CONSTRUCTION MAINTENANCE PERIOD WHICH INVOLVES ACTIVITIES NECESSARY TO ENSURE THE GROWTH OF THE GROWN-IN AREA. TWO INSPECTIONS PER YEAR BY A QUALIFIED PROFESSIONAL AT BEGINNING AND END OF THE GROWING SEASON, ARE RECOMMENDED IN ORDER TO TAKE REMEDIAL STEPS AS NECESSARY. IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING (IF APPLICABLE) WILL NOT MEET SURVIVAL RATE STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS.
- THE FOREST CONSERVATION REQUIREMENTS OF SECTION 161200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL WILL BE SATISFIED WITH A "BREAK-EVEN POINT" OBLIGATION OF 0.91 ACRES (FOREST RETENTION FOR THIS PROJECT). THIS OBLIGATION WILL BE MET WITH A TOTAL OF 1.44 ACRES OF CREDITED RETENTION WITHIN THE FOREST CONSERVATION EASEMENT TO BE PROVIDED ON-SITE.
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 161200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

FOREST CONSERVATION PROGRAM SEQUENCE

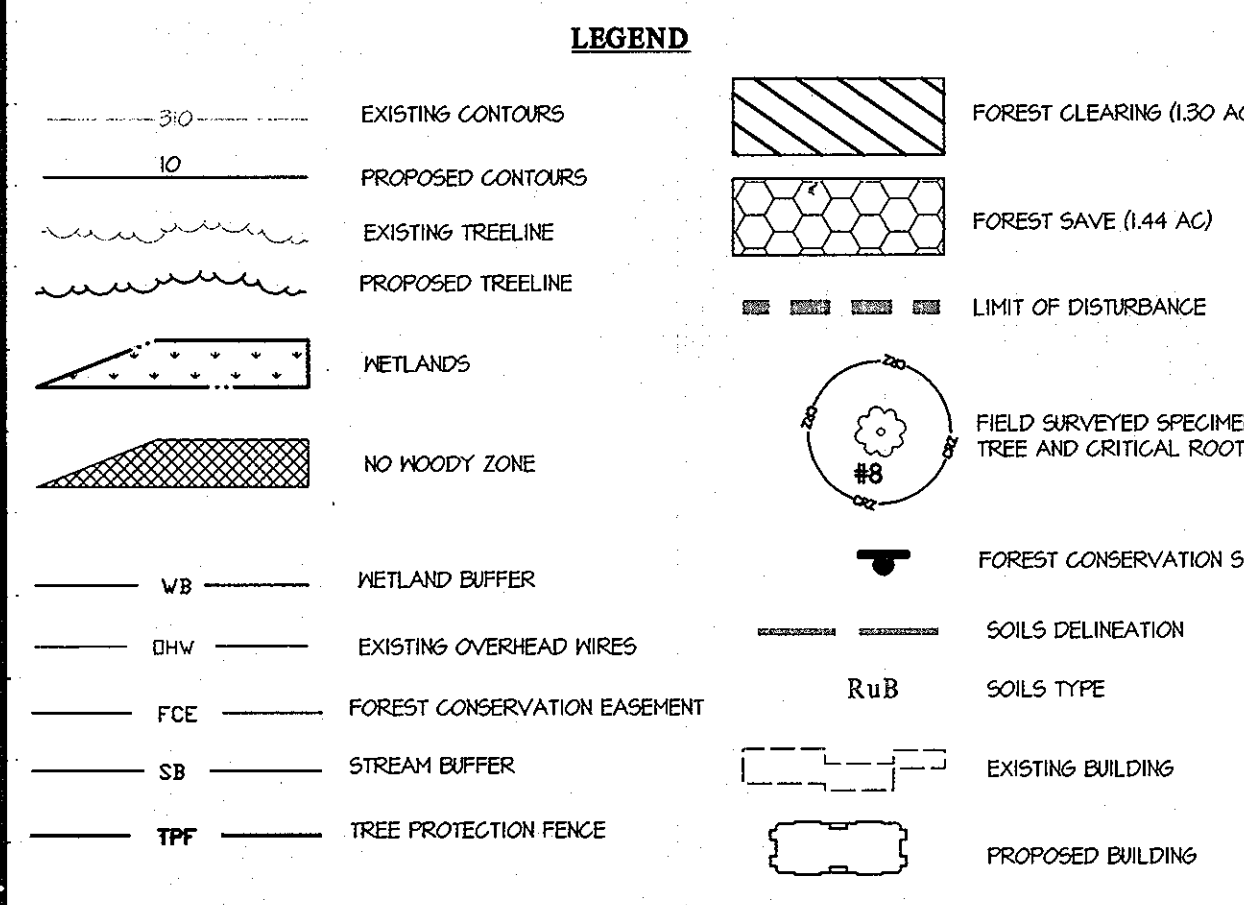
- OBTAIN ALL NECESSARY PERMITS.
- STAKEOUT LIMITS OF DISTURBANCE.
- FIELD MEETINGS TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADINGS AND CONSTRUCTION.
- INSTALL FOREST CONSERVATION SIGNS AND FOREST PROTECTION DEVICES (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE THAT INVOLVES CLEARINGS AND/OR RETENTION OF TREES.
- COMMENCE SITE CONSTRUCTION.
- INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS, START OF POST-CONSTRUCTION MANAGEMENT PERIOD.
- POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN).
- FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION SURETY.

SOIL TYPES

Fa FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 RuB - ROSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES
 SrC - SASSAPRAS AND CROOK SOILS, 5 TO 10 PERCENT SLOPES
 UsB - IRISH LAND-SASSAPRAS-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES

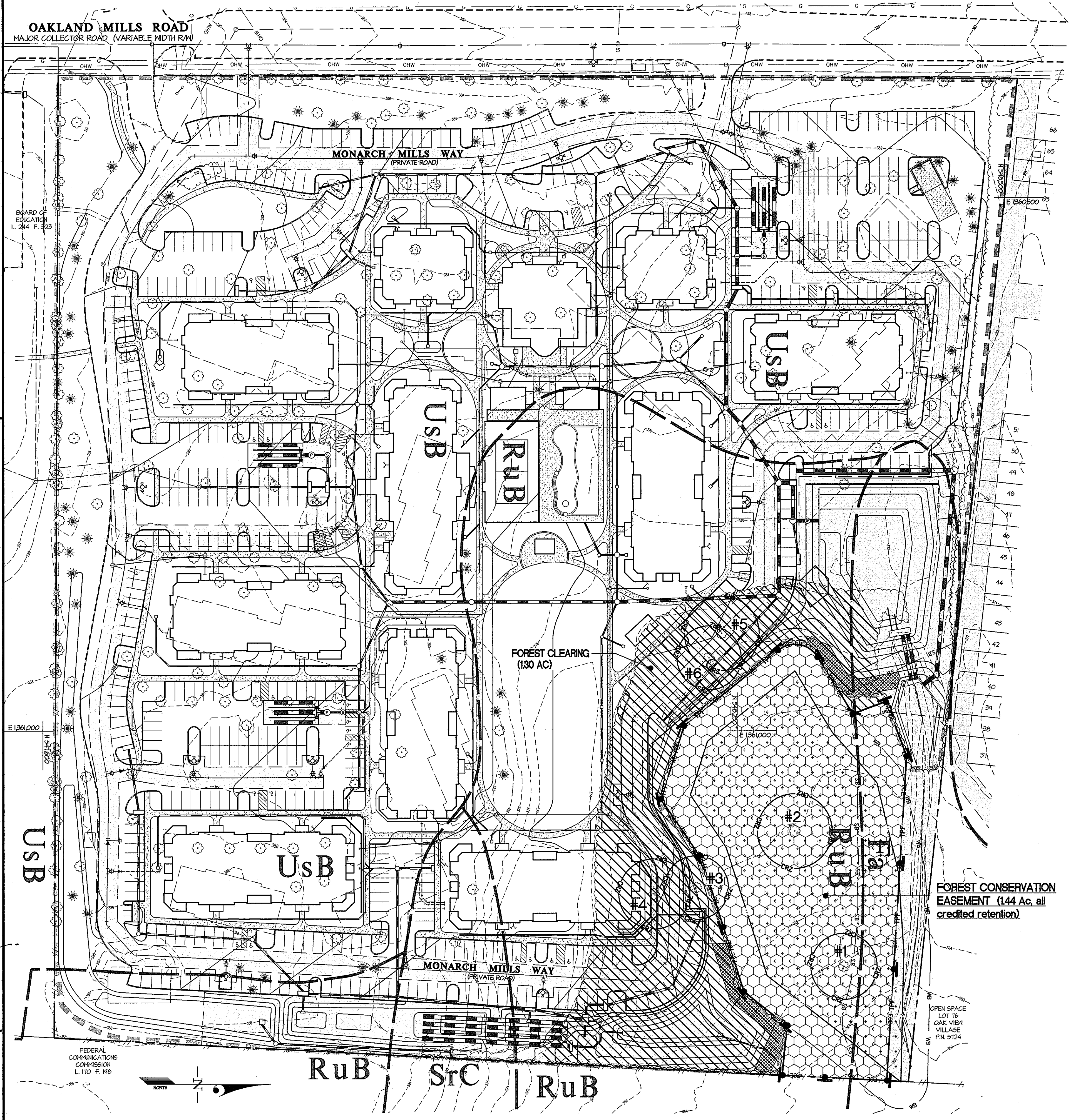
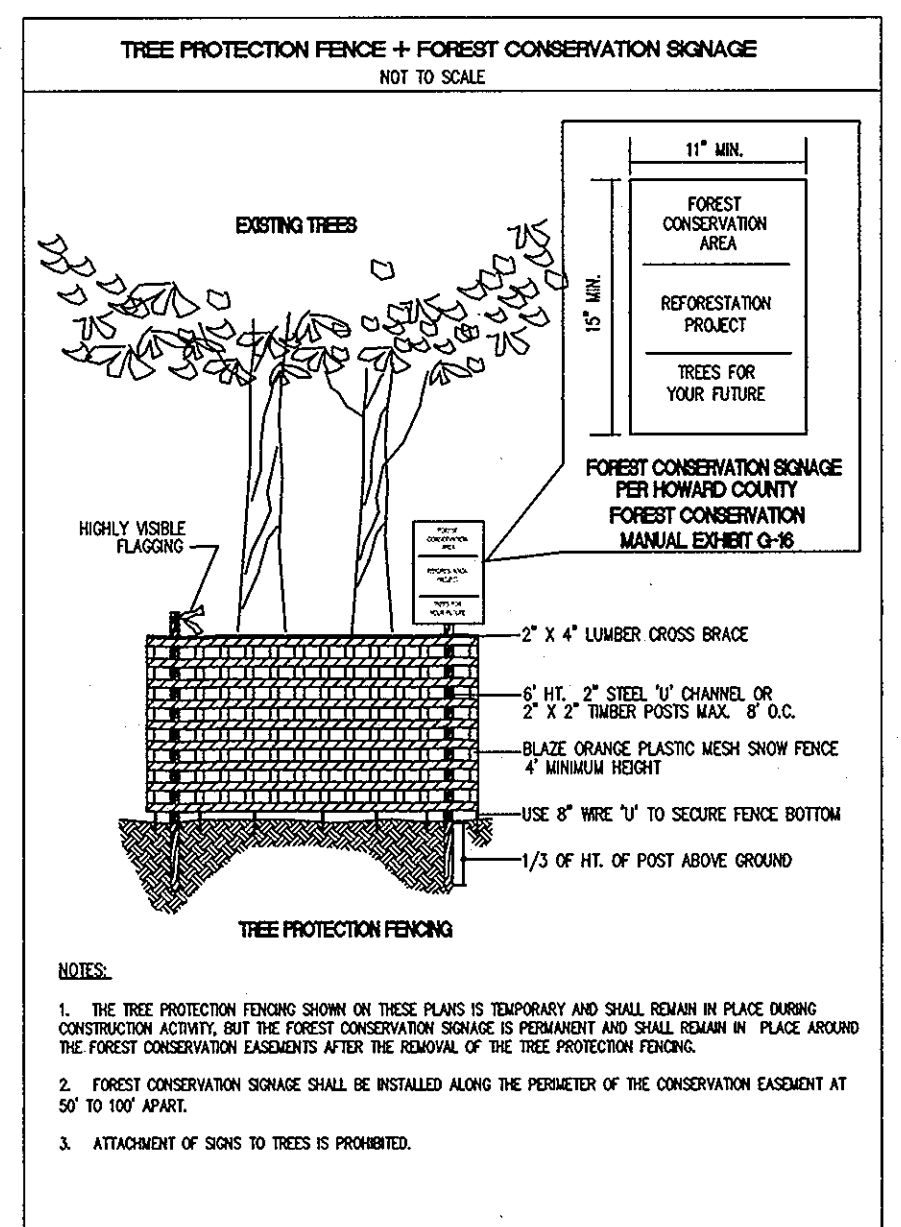
SIGNIFICANT/SPECIMEN TREE LIST

No.	COMMON NAME	SPECIES NAME	D.B.H. (in)	CONDITION
1	PIN OAK	QUERCUS PALustris	31	GOOD - TO BE SAVED
2	RED MAPLE	ACER RUBRUM	35	GOOD - TO BE SAVED
3	WHITE OAK	QUERCUS ALBA	30	GOOD - TO BE REMOVED
4	WHITE OAK	QUERCUS ALBA	33	GOOD - TO BE REMOVED
5	WHITE OAK	QUERCUS ALBA	36	GOOD - TO BE REMOVED
6	PIN OAK	QUERCUS PALustris	30	GOOD - TO BE REMOVED



Guildford Gardens Forest Conservation Worksheet

	Acres
1 Site Data	
Gross Site Area (Parcel A)	17.97
Area within 100-yr Flood Plain Easement	0.00
Area previously disturbed under SDP-79-20R	15.23
Net Tract Area	2.74
Land Use Category (R/A-15)	Residential-Suburban
2 Input Data	
A. Net Tract Area	2.74
B. Reforestation Threshold (20% of net tract)	0.55
C. Afforestation Threshold (15% of net tract)	0.41
D. Existing Forest on Net Tract Area	2.74
E. Forest Clearing on Net Tract Area	1.30
F. Forest Retention on Net Tract Area	1.44
3 Reforestation Calculations	
A. Net tract forest clearing above reforestation threshold	1.30
B. Net tract forest retention above reforestation threshold (2F-2B)	0.89
C. Reforestation planting required for clearing above threshold (0.20x3A)	0.27
D. Credit for retention above reforestation threshold (2F-2B)	0.89
E. Total reforestation planting required (3C + 3D)	NONE
4 Break Even Point (BEP) Calculations	
A. Maximum clearing allowed with no reforestation planting (2D-2B)/1.25	1.75
B. Minimum net tract retention at BEP (0.20x2B)/28 or 2D-4A	0.89
5 Forest Conservation Required	
A. Forest Retention Area (2F)	1.44
B. Forest Planting Area (3E)	NONE
C. Total minimum FCE required for retention and reforestation	1.44



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Mona E. Stiller 2/18/10
 Director Date

W. Stiller 2-18-10
 Chief, Division of Land Development Date

W. Stiller 1/15/10
 Chief, Development Engineering Division Date

FOREST CONSERVATION SURETY CALCULATIONS:
 0.20/5F x 0.91 AC. x 43560 = \$9625.00 FOR BEP. RETENTION
 TO BE PAID WITH THE FOREST CONSERVATION AGREEMENT.

STATE OF MARYLAND
 Michael B. Tran
 REGISTERED
 12/07/09
 933
 LANDSCAPE ARCHITECT

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.

OWNER:
 The Howard County Housing Commission
 6751 Columbia Gateway Dr., 3rd Floor
 Columbia, MD 21046
 ATTN: Tom Carbo
 410-313-6318

PREPARED FOR:
 The Shelter Group
 218 North Charles Street
 Suite 220
 Baltimore, MD 21202-4019
 ATTN: Donna Creadon
 410-962-0595

FOREST CONSERVATION PLAN
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILDFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 200700 & 20070
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov, 2009	42 - 11	32 OF 35

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SOIL TYPES

- Fa - Fallington sandy loam, 0% - 2% slopes
- RuB - Russell and Beltsville soils, 2% - 5% slopes
- SrC - Sassafras and Croom soils, 5% - 10% slopes
- UsB - Urban land-Sassafras-Beltsville complex, 0% - 5% slopes

FOREST STAND DELINEATION NARRATIVE

THIS SITE IS CURRENTLY DEVELOPED WITH A FORESTED AREA (F1) ALONG THE NORTH EAST CORNER OF THE SITE. THE REST OF THE SITE HAS NO FOREST, AND HAS BEEN LANDSCAPED. THE LANDSCAPE TREES ARE YOUNG, WITH THE MAJORITY HAVING A DBH OF LESS THAN 12 INCHES.

THE AREA OF FOREST (F1) ALONG THE NORTH EAST CORNER IS APPROXIMATELY 2.74 ACRES. THIS FOREST IS A MATURE, MIXED HARDWOOD FOREST (WHITE OAK, PIN OAK, AND RED MAPLE) IN GOOD CONDITION WITH AN AVERAGE DBH OF 12"-18". POISON IVY AND GREENBRIAR ARE PATCHY IN AREAS. BRAMBLES DOMINATE THE MIDDLE AREA AT GROUND LEVEL WHICH IS NOT FULLY SHADED.

THE FOREST IS LOCATED WITHIN AN ENVIRONMENTALLY SENSITIVE AREA (WETLANDS), AND ITS RETENTION IS IMPORTANT AS HABITAT FOR WILDLIFE AND AS A BUFFER FROM NEARBY EXISTING RESIDENTIAL DEVELOPMENT.

SIGNIFICANT/SPECIMEN TREE LIST

No.	Common Name	Species Name	DBH (in.)	Condition
1	Pin Oak	Quercus palustris	31	Good - TO BE SAVED
2	Red Maple	Acer rubrum	35	Good - TO BE SAVED
3	White Oak	Quercus alba	30	Good - TO BE REMOVED
4	White Oak	Quercus alba	33	Good - TO BE REMOVED
5	White Oak	Quercus alba	35	Good - TO BE REMOVED
6	Pin Oak	Quercus palustris	30	Good - TO BE REMOVED

GENERAL NOTE - SITE TABLE

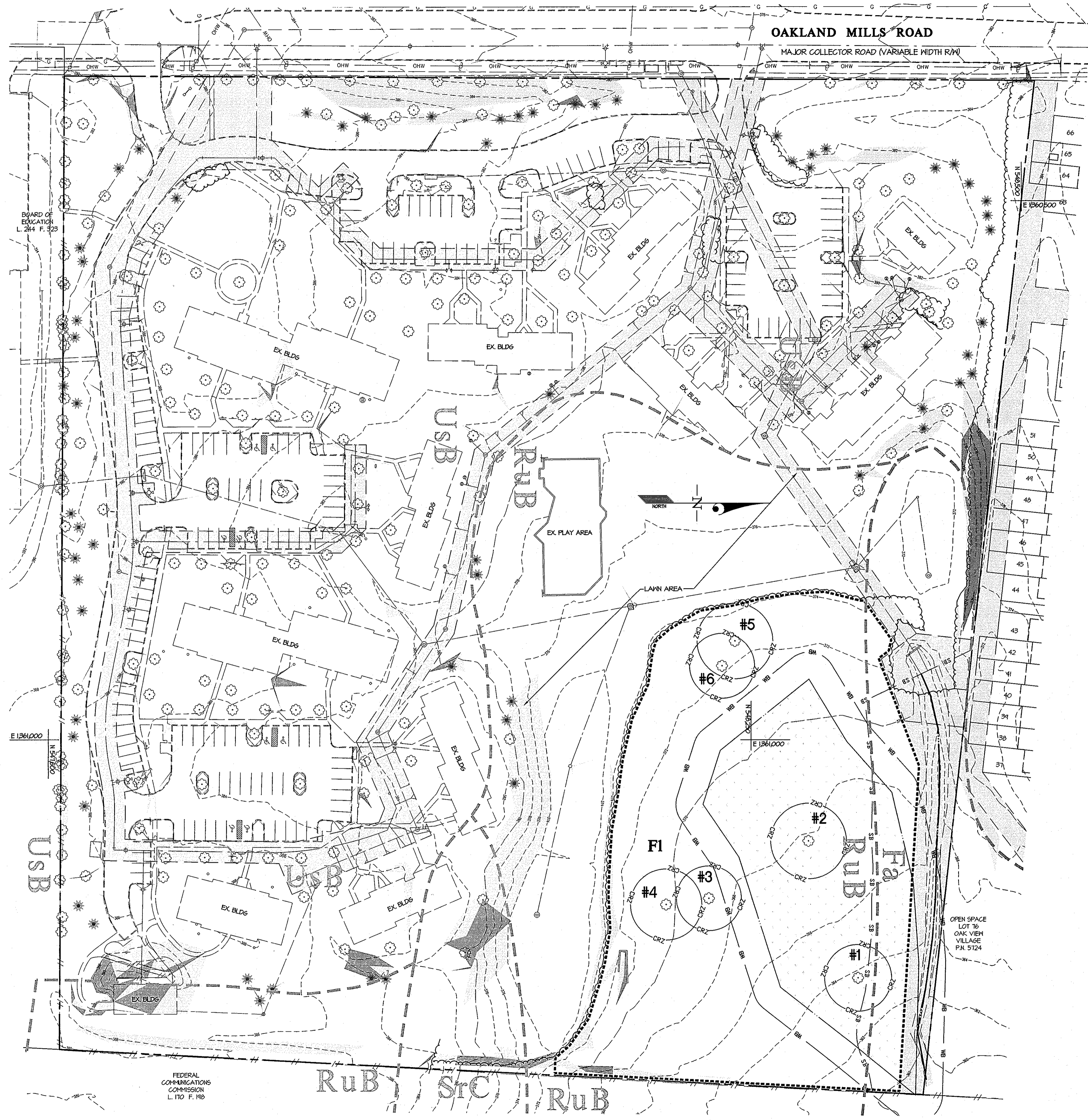
- A. GROSS AREA OF PROPERTY TRACT = 11.414 AC.
- B. AREA PREVIOUSLY DISTURBED BY SDP-74-20R = 15.23+ AC.
- C. NET AREA OF PROPERTY TRACT = 2.744 AC.

LEGEND

- CH22 SOIL TYPES
- EXISTING BUILDING
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- WETLANDS
- WETLAND BUFFER
- EXISTING OVERHEAD WIRES
- FIELD SURVEYED SPECIMEN TREE AND CRZ
- SLOPES 15-25%
- SLOPES 25% AND STEEPER
- FOREST STAND BOUNDARY

KEY	(A) TYPE OF COMMUNITY	(B) AREA*	(C) SOIL INFORMATION**			(D) EXISTING VEGETATION (Dominant Species and Approx. %)	(E) STAND CHARACTERISTICS			(F) FOREST AREA IN SENSITIVE ENVIRONMENTS* (Acres)
			1. Soil Types	2. Typical forest cover for soil type	3. Woodland Suitability Index	4. Habitat Value for soil type	1. Size (Dg.)	2. Age	3. General Conditions	
F1	Mixed hardwood riparian forest	Approx. 2.70 acres	Fa	Mixed Hardwood	Group 1: suitable for oaks, yellow poplar, and white pine. Site Index of 65-74 for mixed oaks.	Good as woodland for wildlife	12"-18" average DBH	predominantly 15 - 25 years	Good	All (2.72+ acres) of F1 is within sensitive environments (stream & wetland buffers + floodplains).
			RuB	N/A	N/A	N/A				
			SrC	N/A	N/A	N/A				
			UsB	N/A	N/A	N/A				

* AREA MEASURED TO THE NEAREST 1/10 ACRE
 ** SOURCE: HOWARD COUNTY SOIL SURVEY, USDA



STATE OF MARYLAND
 Michael B. Tren
 REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
 12/02/09
 933 LANESIDE DRIVE
 BALTIMORE, MD 21202

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Denise G. Butler* 2/18/10
 Chief, Division of Land Development: *Walt Seabrook* 2-18-10
 Chief, Development Engineering Division: *William J. ...* 1/15/10

GLW GUTSCHICK LITTLE & WEBER, P.A.
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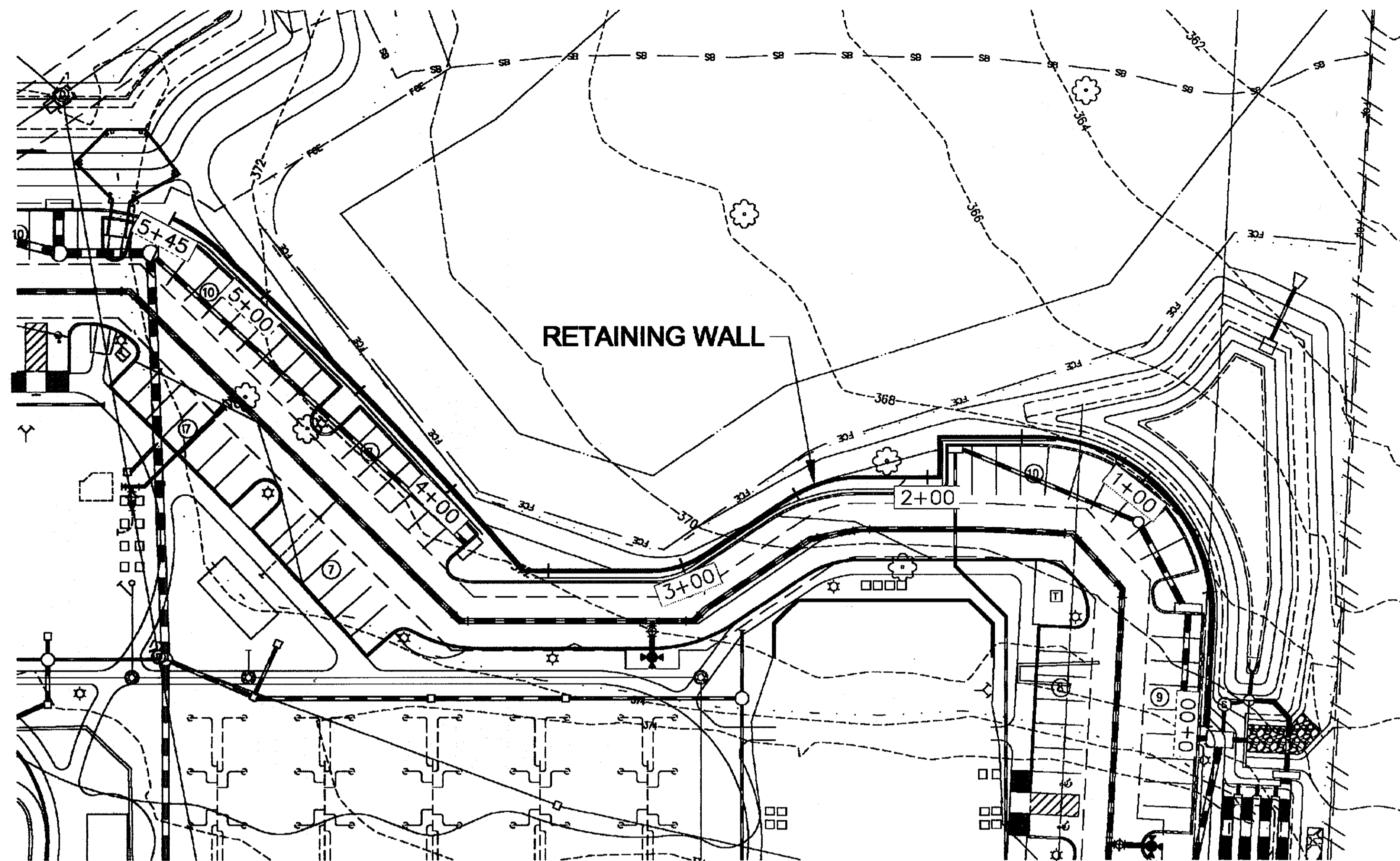
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 410-313-6316

PREPARED FOR:
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 ATTN: Donna Cresson
 410-962-0595

FOREST STAND DELINEATION
 Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
 SECTION 1, AREA 1
 PARCELS "A1" & "A2"
 PLAT No. 20700 & 20710
 TAX MAP 42, PARCEL 361
 ELECTION DISTRICT No. 6

SCALE	ZONING	G. L. W. FILE No.
1"=50'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov., 2009	42 - 11	33 OF 35

DATE	REVISION	BY	APP'R.



RETAINING WALL LOCATION PLAN

1" = 30'

RETAINING WALL ELEVATIONS

STATION	TOP OF WALL	BOTT. OF WALL
0+00	316.0	316.0
0+50	316.0	311.0
1+00	316.0	311.0
1+50	316.0	311.0
1+81 (BEND)	316.0	311.5
1+95 (BEND)	316.0	313.0
2+00	316.0	312.4
2+50	316.0	312.0
3+00	311.3	312.8
3+50	311.3	316.0
3+60 (BEND)	311.3	316.0
4+00	311.3	313.1
4+50	311.3	314.0
5+00	311.3	315.3
5+45 (END)	316.1	316.1

NOTES:

- No trees shall be planted within 10 feet of the top of the retaining wall.
- Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
- For "Critical" walls, one soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
- The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-368.
- The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 85% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
- Walls shall not be constructed on unclassified fill materials.
- Walls shall not be constructed within a Howard Co. right-of-way or easement.

HILLIS-CARNES
ENGINEERING ASSOCIATES
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(410) 880-4788 Fax: (410) 880-4088

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director *Donna E. Butler* 11/16/10
Date
Chief, Division of Land Development *Robert S. Dwyer* 2-19-10
Date
Chief, Development Engineering Division *William R. ...* 11/16/10
Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APPR.

OWNER:
The Howard County Housing Commission
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PREPARED FOR:
The Shelter Group
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Baltimore, MD 21202-4019
ATTN: Donna Creedon
410-962-0595

RETAINING WALL PLAN AND NOTES
Site Development Plan for 224 Apartment Units and 45 Age Restricted Adult Apartment Units
GUILFORD GARDENS
SECTION 1, AREA 1
PARCELS "A1" & "A2"
PLAT No. 20000 & 20070
TAX MAP 42, PARCEL 361
ELECTION DISTRICT No. 6
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 20'	RA-15	08057
DATE	TAX MAP - GRID	SHEET
Nov, 2009	42 - 11	34 OF 35

SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

- 1.01 Description
A. Work shall consist of furnishing and construction of a Modular Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

- 1.02 Delivery, Storage and Handling
A. Contractor shall check all materials upon delivery to ensure that the proper type, grade, color, and certification has been received.
B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

- 2.01 Modular Concrete Retaining Wall Units
A. Modular concrete units shall conform to the following architectural requirements:
Face color - tan - standard manufacturer's color may be specified by the Owner.
Face finish - sculptured rock face in angular tri-planer or flat configuration. Other face finishes will not be allowed without written approval of Owner.
Joint configuration - running with joints nominally located at midpoint vertically adjacent units, in both straight and curved alignments.
Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.
B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
compressive strength = 3000 psi minimum;
absorption = 8% maximum (9% in northern states) for standard weight aggregates;
dimensional tolerance = ± 1/8" from nominal unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
unit size - 8" (H) x 16" (W) x 12" (D) minimum;
unit weight - 75 lb/ft² minimum for standard weight

- aggregates;
Intra-unit shear strength - 1000 psi minimum at 2 psi normal pressure;
geogrid/unit peak connection strength - 1000 psi minimum at 2 psi normal force.
D. Modular concrete units shall conform to the following constructability requirements: (if applicable)
vertical setback = 1/2" per course (near vertical) or 1" per course per the design;
alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
maximum horizontal gap between erected units shall be 1/2 inch.

- 2.02 Shear Connectors (if applicable)
A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-primed fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units.
Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to +100 degrees F.
B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

- 2.03 Base Leveling Pad Material
A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

- 2.04 Unit Drainage Fill
A. Unit drainage fill shall consist of #07 crushed stone

- 2.05 Reinforced Backfill
A. Reinforced backfill shall type SM, be free of debris and meet the following gradation listed in accordance with ASTM D-422 and meet other properties shown on the plan:

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-40
No. 200	0-40

Plasticity Index (PI) < 10 and Liquid Limit < 36 per ASTM D-4318.

- B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plasticity clay or organic soils) shall not be used in the reinforced soil mass.

- 2.06 Geogrid Soil Reinforcement

- A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.

- 2.07 Drainage Pipe
A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1245.

PART 3: EXECUTION

- 3.01 Excavation
A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

- 3.02 Base Leveling Pad
A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6' in front and behind the modular wall unit.
B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

- 3.03 Modular Unit Installation
A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.
B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
C. Install shear/connecting devices per manufacturer's recommendations.

- D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

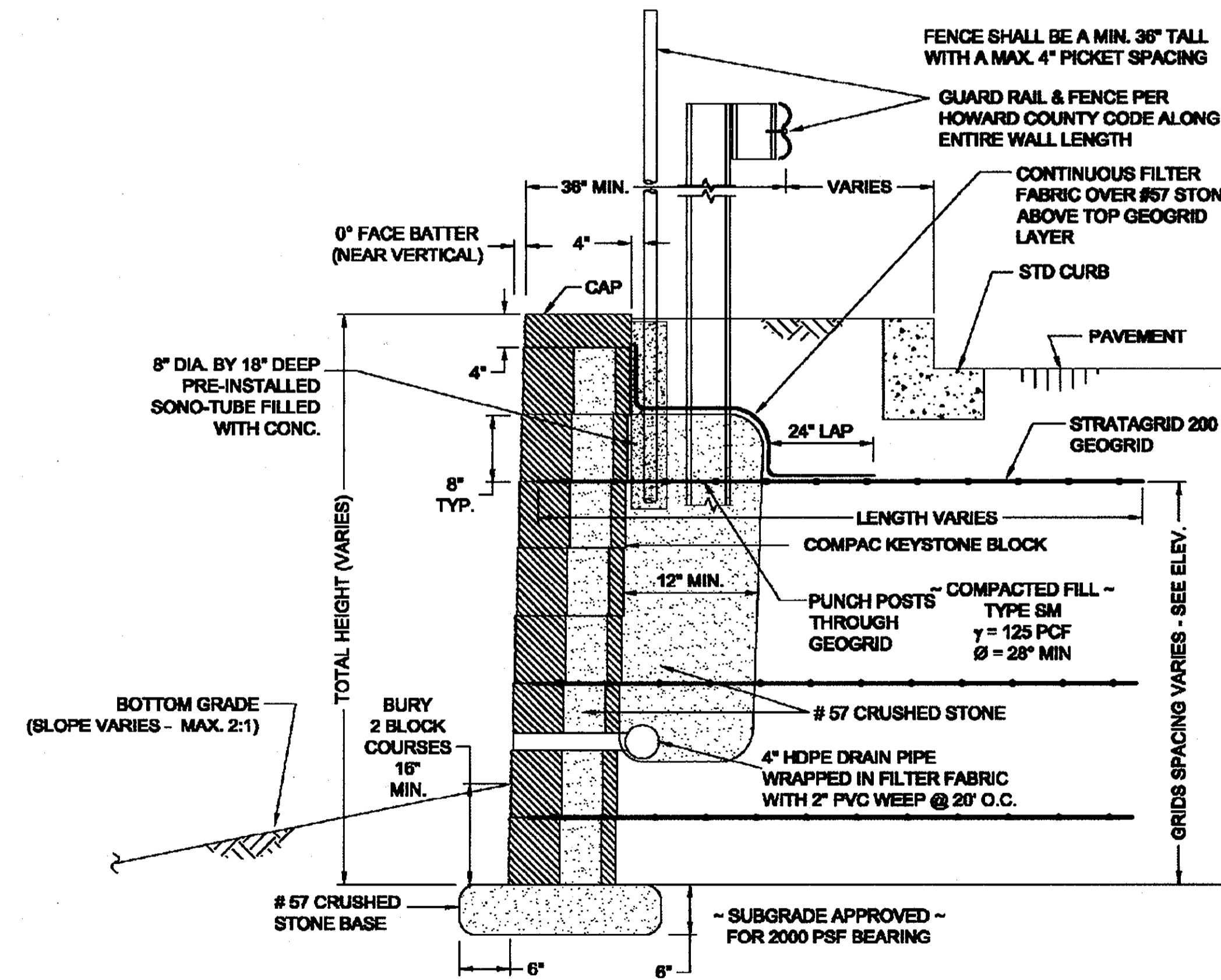
- 3.04 Structural Geogrid Installation
A. Geogrid shall be oriented with the highest strength edge perpendicular to the wall alignment.
B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to

- backfill placement on the geogrid.
D. Geogrid reinforcement shall be continuous throughout their embedded lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

- 3.05 Reinforced Backfill Placement
A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.
C. Reinforced backfill shall be compacted to 85% of the maximum density as determined by ASTM D883. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.
D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the face of the modular concrete unit.
E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum lift thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

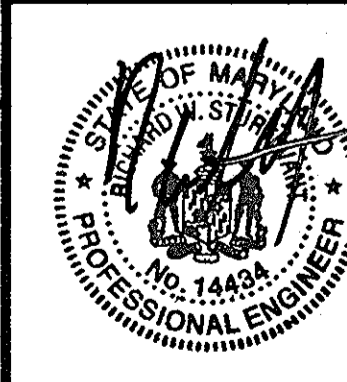
- 3.06 Cap Installation
A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

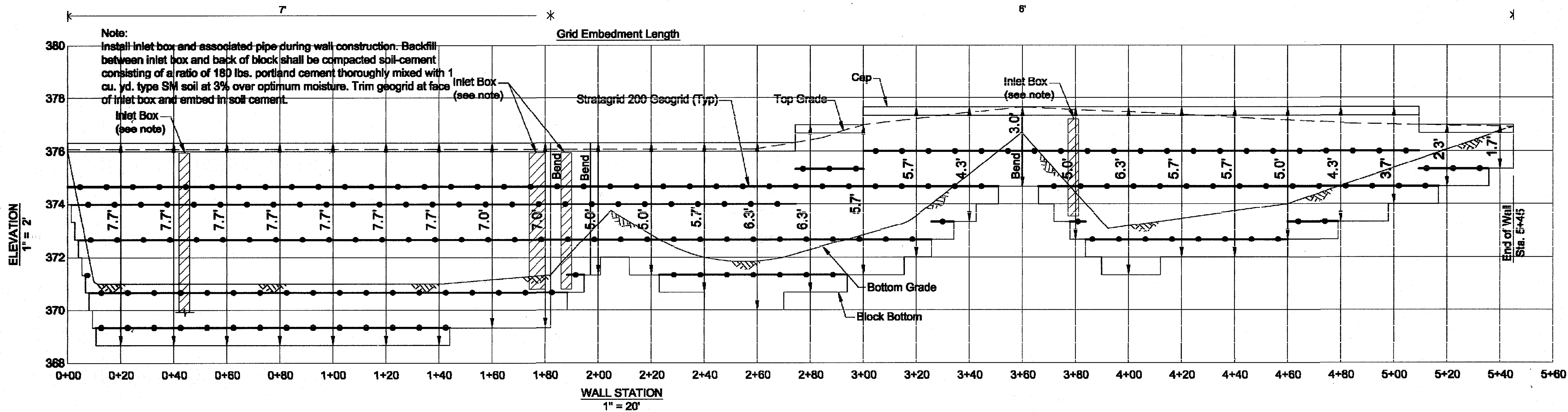
- 3.07 Field Quality Control
A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.
B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.



TYPICAL RETAINING WALL SECTION
N.T.S.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 14455
EXPIRATION DATE: 06/30/11



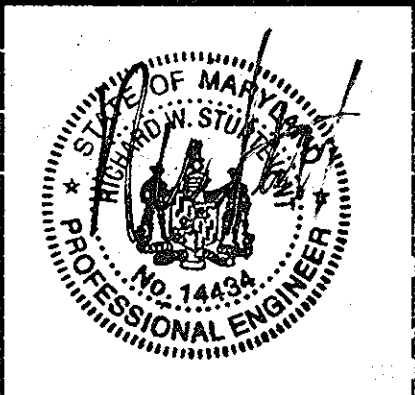


Note:
Install inlet box and associated pipe during wall construction. Backfill between inlet box and back of block shall be compacted soil-cement consisting of a ratio of 180 lbs. portland cement thoroughly mixed with 1 cu. yd. type SM soil at 3% over optimum moisture. Trim geogrid at face of inlet box and embed in soil cement.

HILLIS-CARNES
ENGINEERING ASSOCIATES
10876 Guilford Road, Suite A Annapolis Junction, MD
(410) 880-4788 Fax: (410) 880-4098

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Thomas F. Suller 2/18/10
 Director Date
Vest Shuland 2-18-10
 Chief, Division of Land Development Date
John M. ... 1/15/10
 Chief, Development Engineering Division Date

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14254, EXPIRATION DATE: 09/13/11.



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RETAINING WALL PROFILE
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GUILFORD GARDENS
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 HOWARD COUNTY, MARYLAND

SCALE 1" = 20'	ZONING RA-15	G. L. W. FILE No. 08057
DATE Nov, 2009	TAX MAP - GRID 42 - 11	SHEET 35 OF 35

DATE	REVISION	BY	APPR.