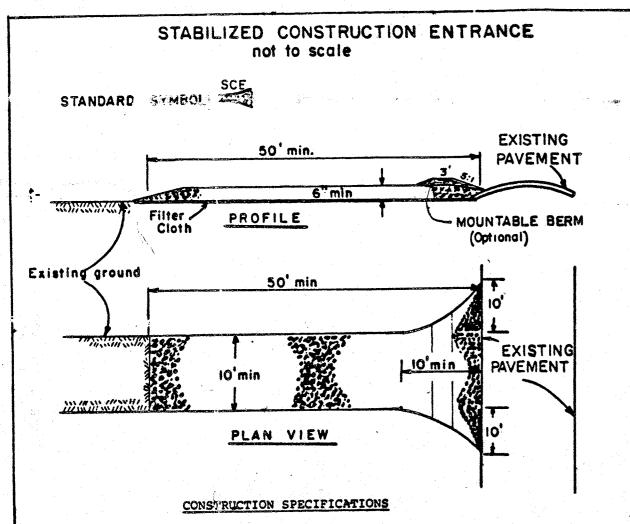


5DP 39-23



- 1. Stone Size Use 2" stone, or reclaimed or recycled concrete equivalent. 2. Length - As required, but not less than 50 feet (except on a single resi-
- dence lot where a 30 foot minimum length would apply). 3. Thickness - Not less than six (6) inches.
- 4. Width Ten (10) foo's minimum, but not less than the full width at
- points where ingress or egress occurs. Filter Cloth - Will be placed over the entire area prior to placing of stone Filter will not be required on a single family residence lot.
- Surface Water All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
- Maintenance The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Washing Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping
- 9. Periodic inspection and needed maintenance shall be provided after each rain.

PERIMETER DIKE/SWALE not to scale

CROSS SECTION

PLAN VIEW

1. ALL PERIMETER DIKE/SWALE SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.

2. DIVERTED RUNOFF FROM A DISTRUBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING

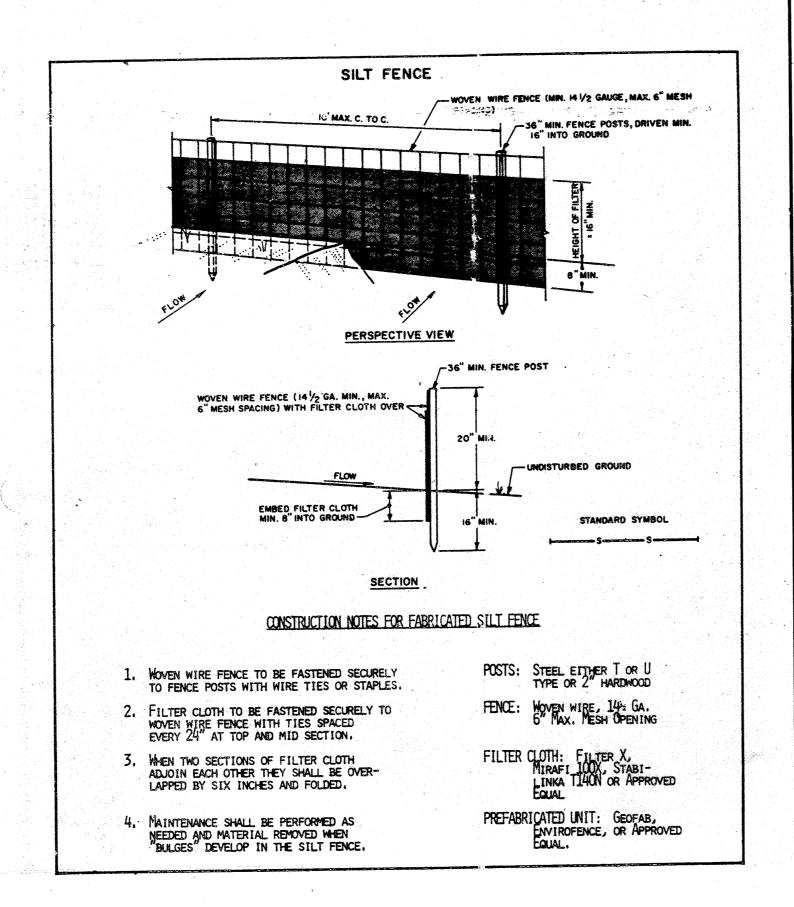
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSION VELOCITY.

4. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED IN THE STANDARD.

5. STABILIZATION OF THE AREA DISTURBED BY THE DIKE AND SWALE SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SEED AND STRAW MULCH, AND SHALL BE DONE WITHIN 10 DAYS.

6. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN

CONSTRUCTION SPECIFICATIONS

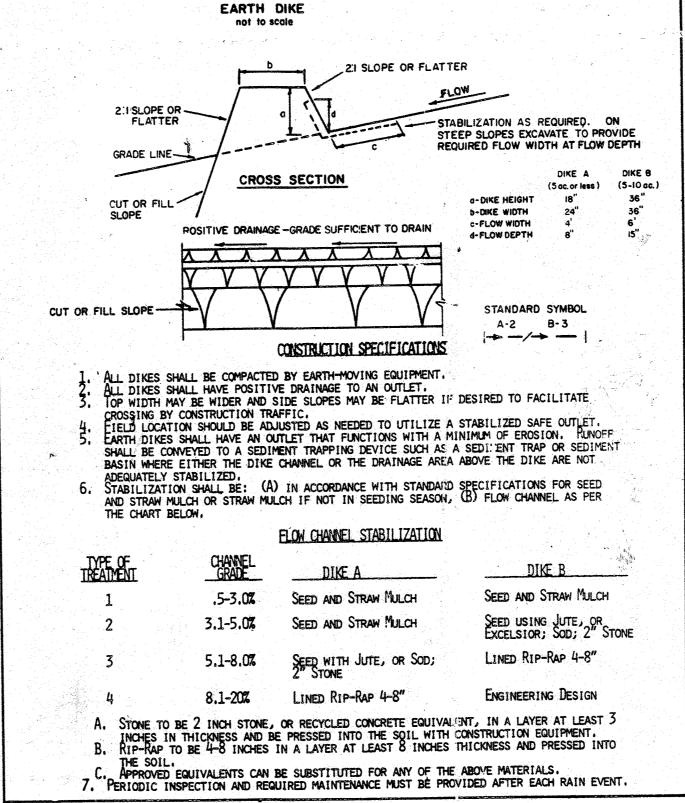


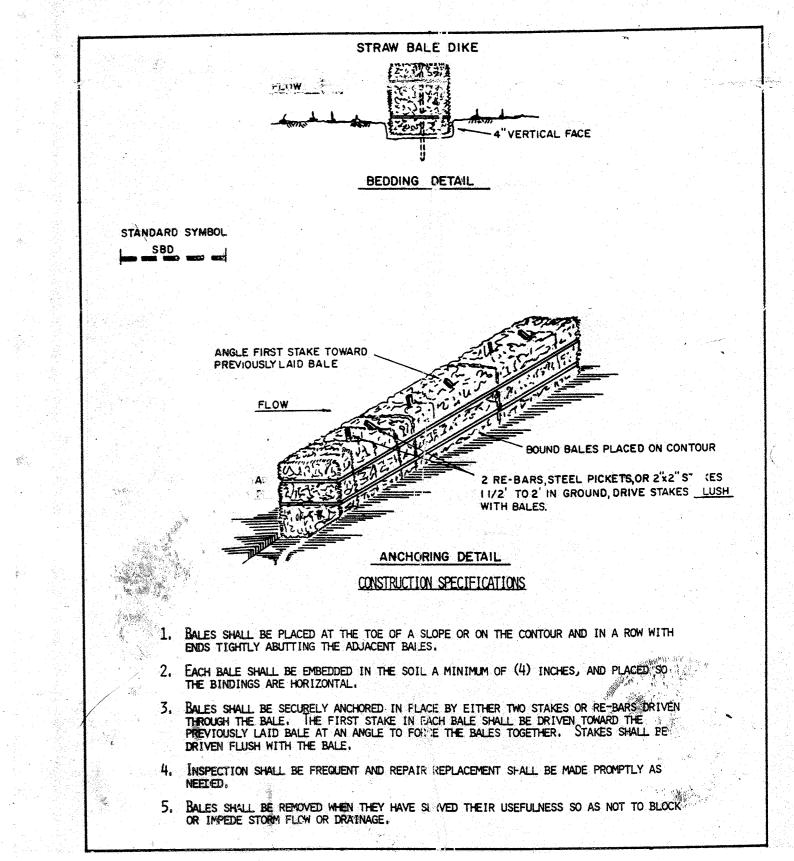
SEDIMENT CONTROL NOTES

- 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. (992-2437).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol.1. Chapter 12, of the HCWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec.51), sod (Sec.54), temporary seeding (Sec.50) and mulching (Sec.52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper commination and establishmended seeding dates do not allow for proper germination and establishment of grasses.
- 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- 7. Site Analysis: 3.48-AC Total Area of Site: 1.20 AC 0.29 AC Area Disturbed: Area to be roofed or paved: Area to be vegatatively stabilized:

turbance.

- *Total Cut: Offsite waste/borrow area location: TO BE SUBMITTED BY CONTRACTOR * These quantities are provided for the Howard County S.C.D. information only. The contractor shall not rely on these quantities and shall not
- be relieved from the terms of the Contract Documents. . Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of dis-
- Additional sediment controls must be provided, if deemed necessary by the Howard County D.P.W. sediment control inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. spection agency is made.





GENERAL NOTES

- The approximate location of all utilities is shown based on the information obtained from available records. The contractor shall locate, protect, and support the existing utilities and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the engineer/inspector at the contractor's expense.
- 2. The contractor shall locate existing utilities a minimum of two (2) weeks in advance of construction operations in the vicinity of the proposed utilities at his own expense.
- Contractor shall notify the following utilities or agencies at least five (5) working days before starting work shown on these plans.

531-5533 State Highway Administration: Baltimore Gas & Electric Co.: 561-2585 Contractor Service Underground Damage Control: 243-6313 298-9013 Trouble-Shooting: (800)257-7777Miss Utility: 725-9976 C&P Telephone Company: Bureau of Utilities/Howard Co.: 992-2366

- All details not shown on the drawings shall be constructed in accordance with Howard County Standard details.
- All materials and construction methods shall be in . accordance with Howard County specifications and Howard County Design Manual, Volume IV.
- All horizontal and vertical controls are based on Maryland State Plane Coordinates System provided by Howard County.
- 7. All pipe elevations are invert elevations. CONSTRUCTION SEQUENCE
- Obtain grading permit.
- Install SCE, clear perimeter for, and install silt fence and all other erosion and sediment controls. Complete this work without interruptions. - 7 DAYS
- Demolish existing pavement at the locations for the proposed building, tot lot and walk and handicapped access. 2 DAYS
- Rough grade site. 7 DAYS
- Contact MISS UTILITY and install utilities. -7 DAYS
- Construct building and pave areas to be paved .- 30 DAYS
- Construct infiltration trench.- 7 DAYS
- Fine grade and stabilize site. 15 DAYS
- Remove all sediment control measures with permission of sediment control inspector, and stabilize the area occupied by the measures. 7 DAYS

SEDIMENT CONTROL CERTIFICATION

By the Developer:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Or Cashingon & Carling 7.26 · 28 h Signature of Developer Print name below signature

By the Engineer:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

7-15-88 Singature of Engineer Print name below signature

Reviewed for HOWARD S.C.D. and meets/Technical Requirements

S. Soil Conservation THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE. COUNTY HEALTH OFFICER STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS APPAQUED: WHARD COUNTY OFFICE OF PLANNING & ZONING 7.27.88 7.25.44 In laught !-Chief, Division of Community Planning and Land Development CHIEF BUREAU OF ENGINEERING

SEDIMENT CONTROL & NOTES

2 OF 32/2

CAPITAL

PROJECT NO. C-0194

DATE: 07/14/88

DRAWING NO

C2

REVISIONS \

1 7/1/2021 REWSED PLANS TO SHOW SITE MODS FOR THE EX. BLDG, NEW SWM & SITE IMPROVEMENTS.

REVISED SITE DEVELOPMENT PLAN AUDITORIUM RENOVATIONS HARRIETTUBMAN BUILDING

8045 HARRIET TUBMAN LANE COLUMBIA, MARYLAND

Architects and Construction Consultants 8950 Route 108, Gorman Plaza, suite 114 Columbia, MD, 21045 (301)995-4067

Mcz. Drainege Area Limit: 2 Acres

USDA-SCS-WRA

Existing Ground



BEGAST2

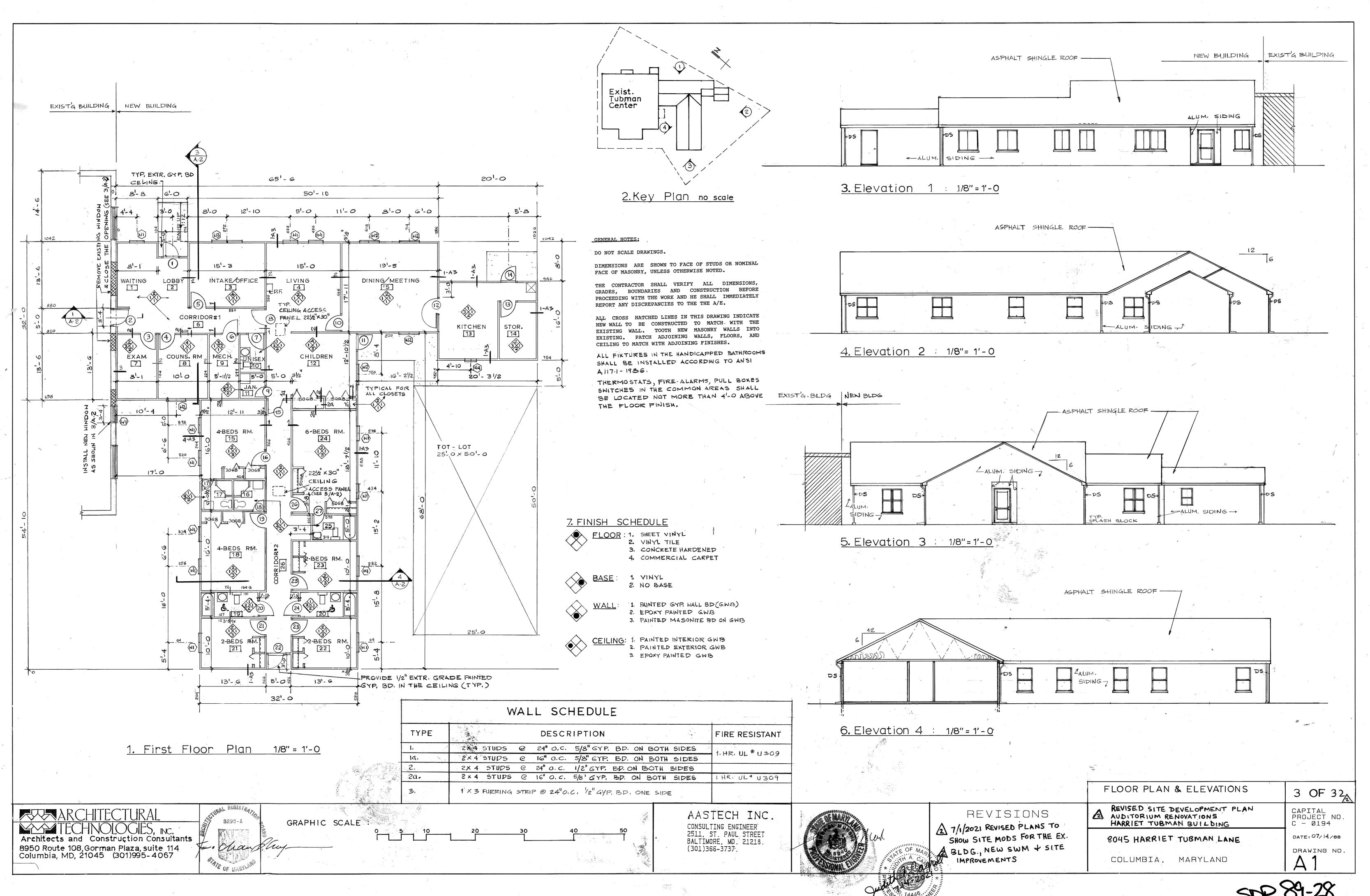
AASTECH INC. CONSULTING ENGINEER 2511, ST. PAUL STREET BALIMORE, MD, 21218 (301)366-3737

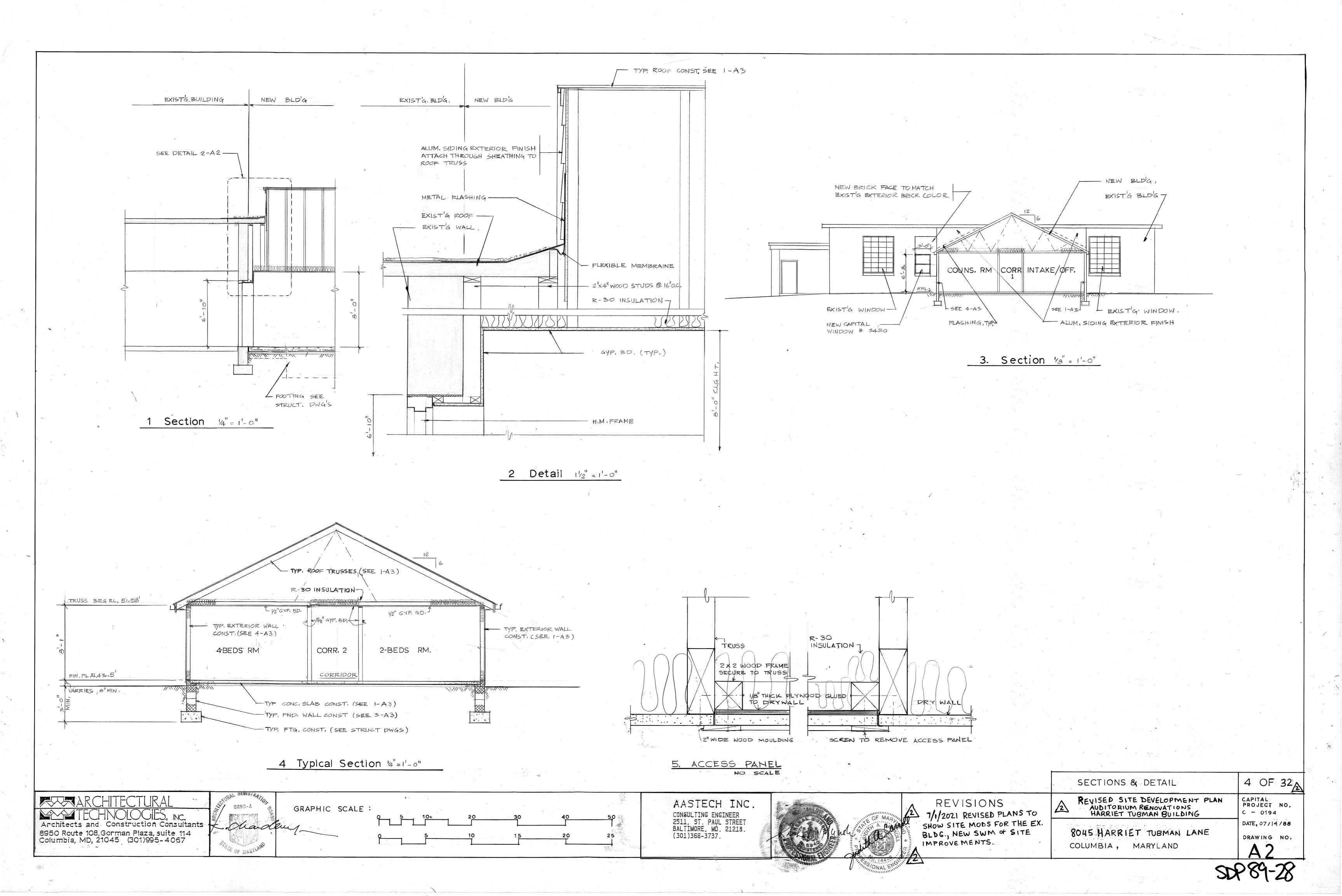
STANDARD SYMBOL

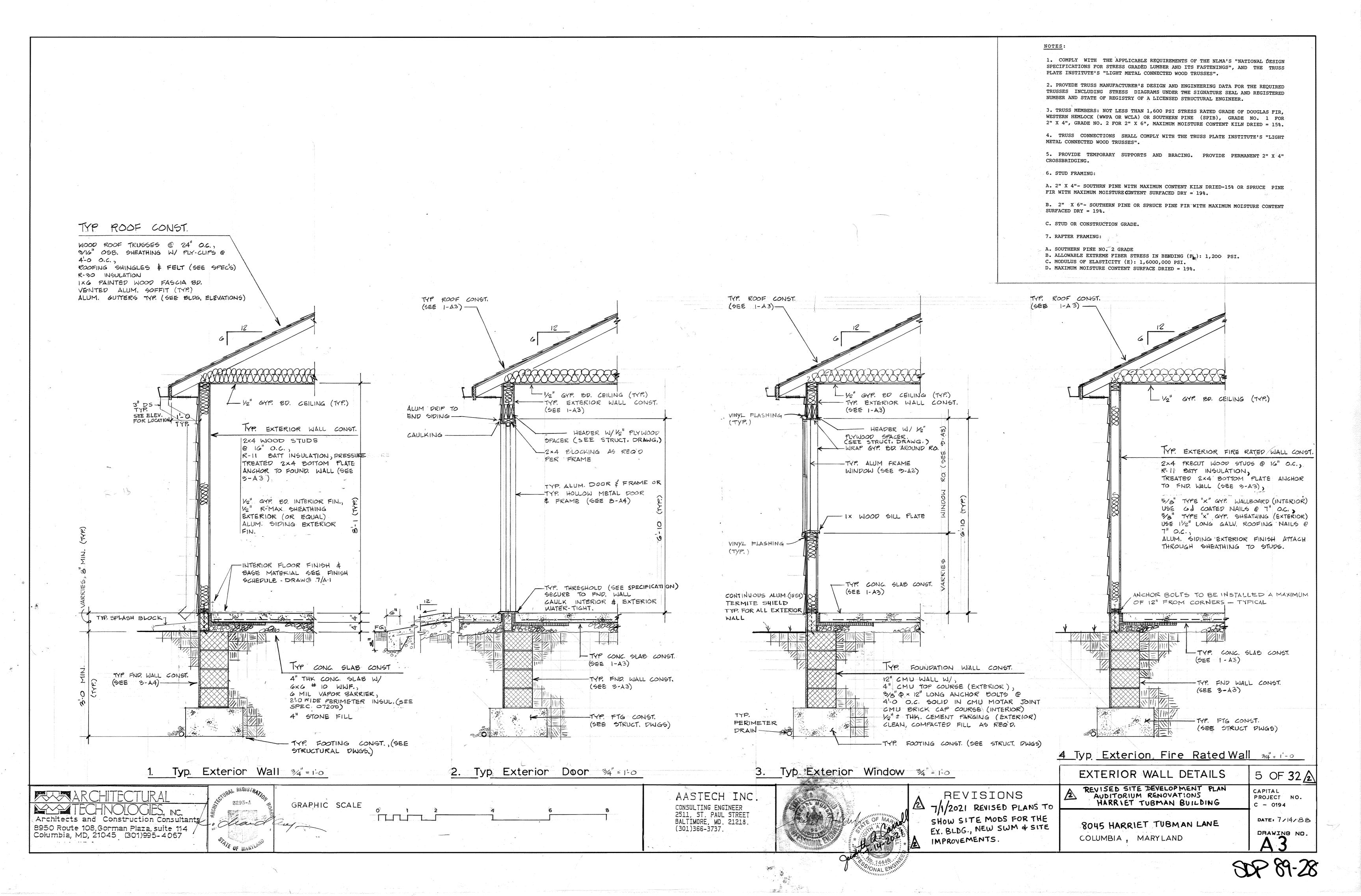


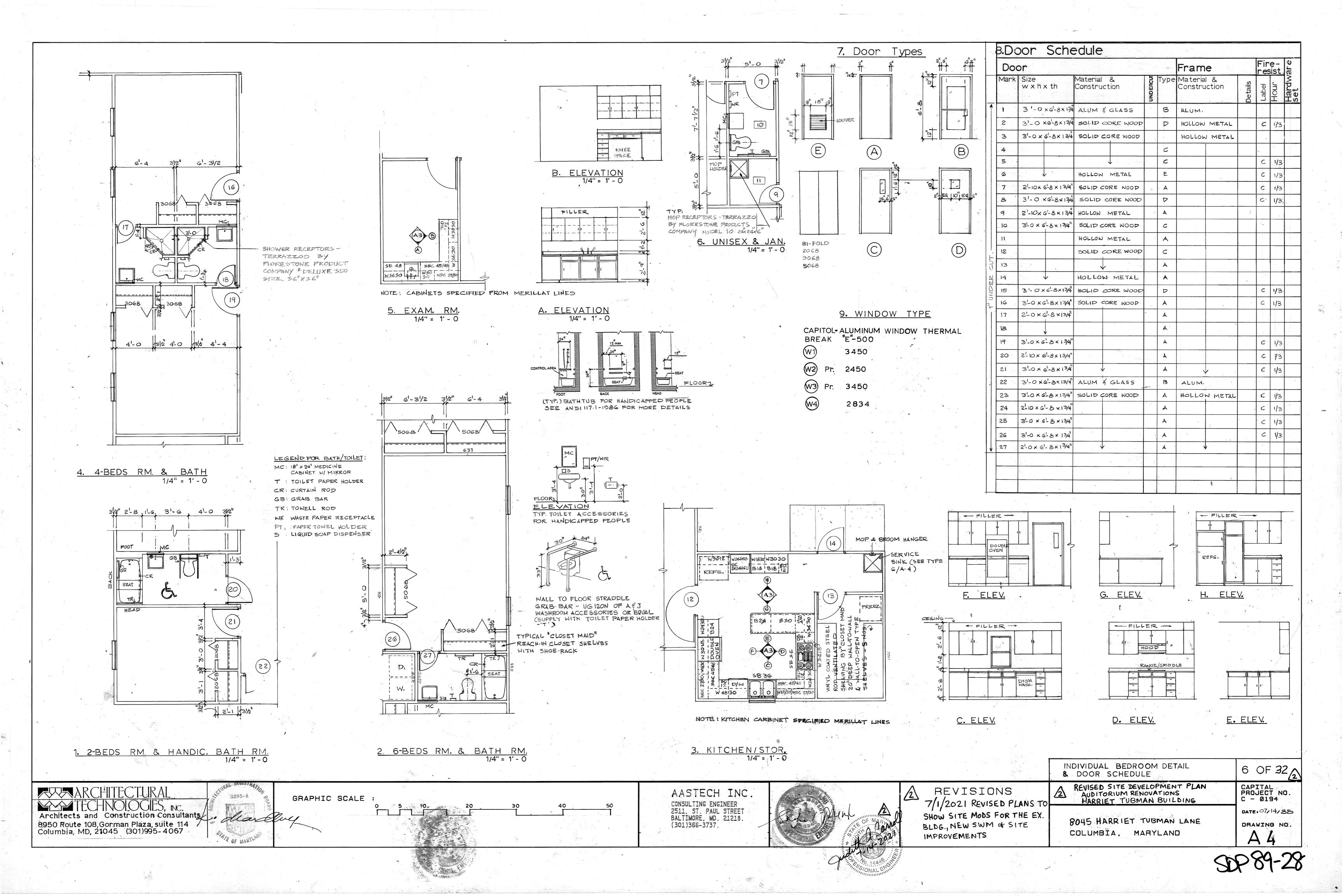


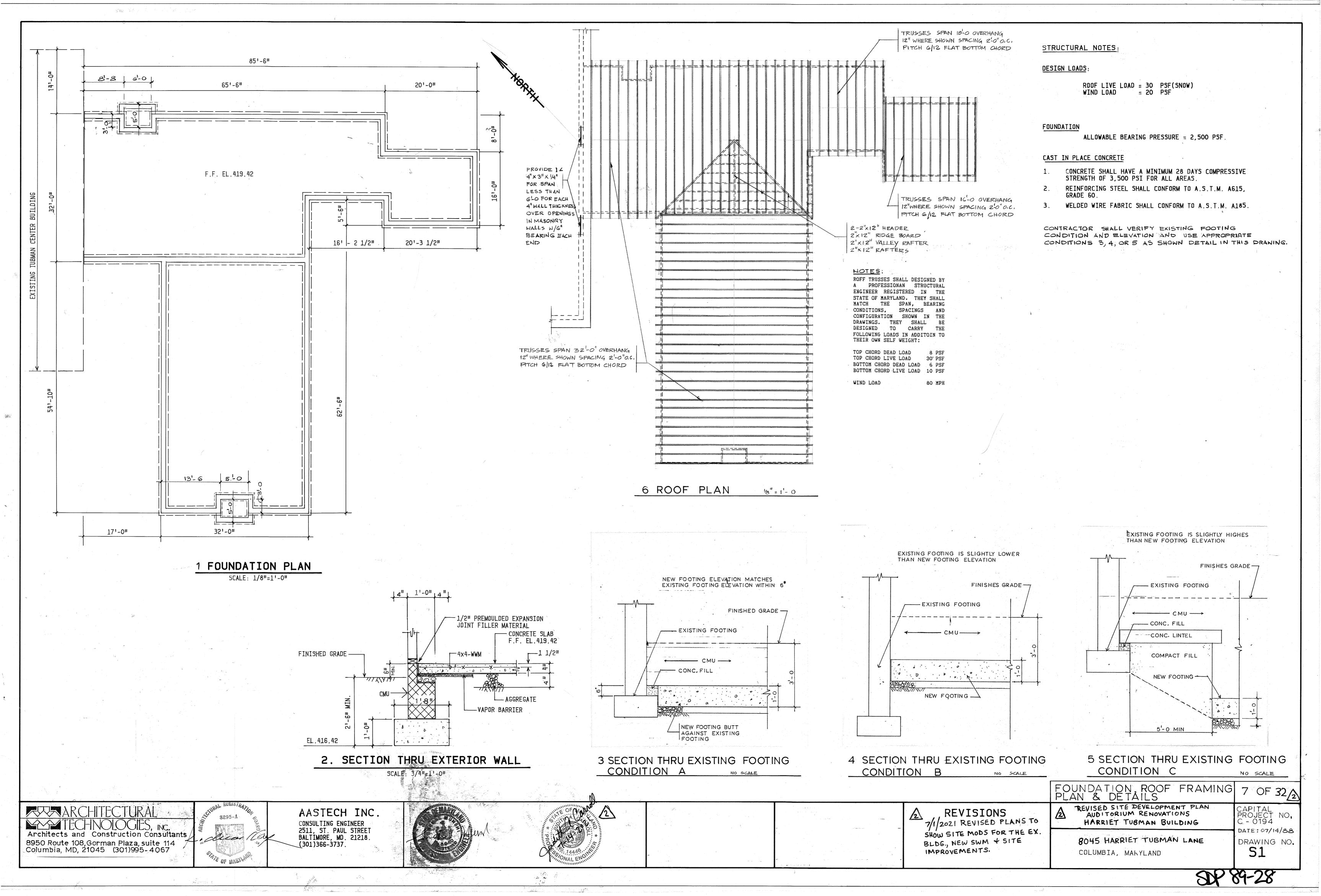


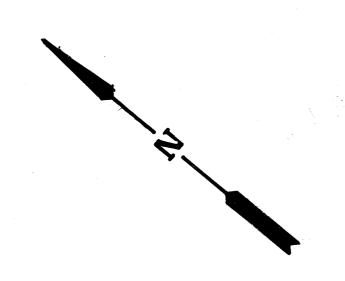


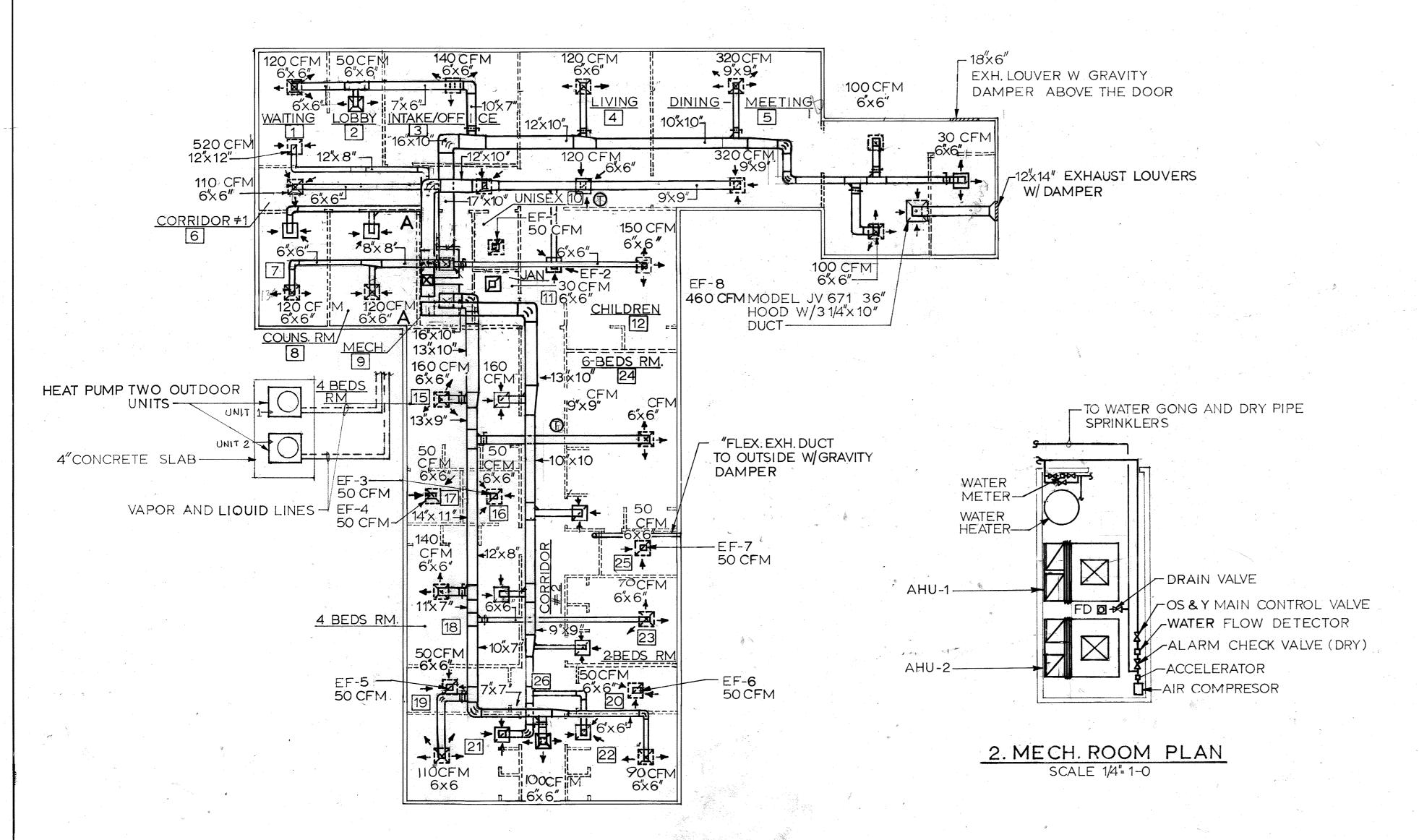






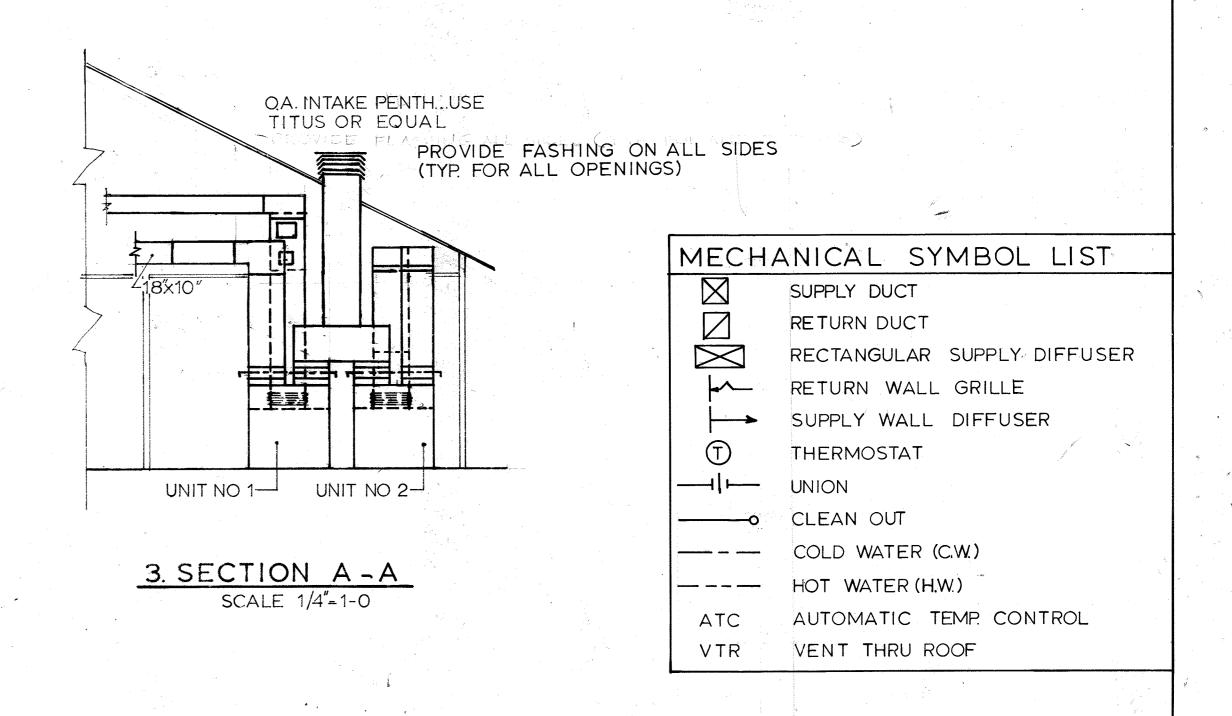






:	EXH	IAUST FAN SCH	IEDU	JLE		
ITEM	SERVICE :	LOCATION	CFM	STATIC PRES.	ELECTRICAL REQUIRMENT	REMARKS
EF-1	TOILET	ROOF	50	0 15	1/25 HP	
EF-2	BATHROOM	ROOF	30	0 15	1/25 HP	GREENHECK - PENN
EF-3	BATHROOM	ROOF	50	0 15	1/25 HP	OR EQUAL
EF-4	BATHROOM	ROOF	50	- 0 15	1 / 25 H P	
EF-5	BATHROOM	ROOF	50	0 15	1 / 25 HP	
EF-6	BATHROOM	ROOF	50	0 15	1 / 25 HP	
EF-7	BATHROOM	ROOF	50	O 15	1 / 25 HP	

		HEA	T PUMP	UNITS							
UNIT NO	COOL.CAP.	HE A T CAP BTUH	RESIST	CFM OA SUP	ES P IN WG	FN	OOL T. I WB	COLL LIV DB	ING.	COND UNIT EAT	REMARKS
1	55000	70 000	20 KW	250 1500	1.2	78	63	55	54	94	CARRIER
2	35000	50 000	15 KW	150 800	1.0	78	63	55	54	94	OR EQUAL



GRAPHIC SCALE

1/8"=1'0"

1/2"=1'-0"

0 1' 2' 4'

HVAC PLAN

REVISED SITE DEVELOPMENT PLAN
AUDITORIUM RENOVATIONS
HARRIET TUBMAN BUILDING

8045 HARRIET TUBMAN LANE

CAPITAL PROJECT NO. C - 0194 DATE: 7/14/88 DRAWING NO. M -1

8 OF 32 &

OF MANUEL A

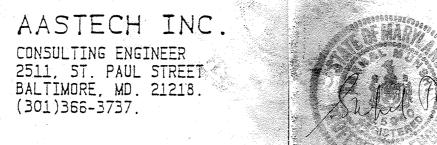
ARCHITECTURAL

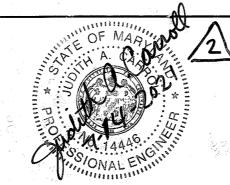
Architects and Construction Consultants

8950 Route 108, Gorman Plaza, suite 114

Columbia, MD, 21045 (301)995-4067

1. ATTIC PLAN - HVAC SCALE 1/8"-1-0





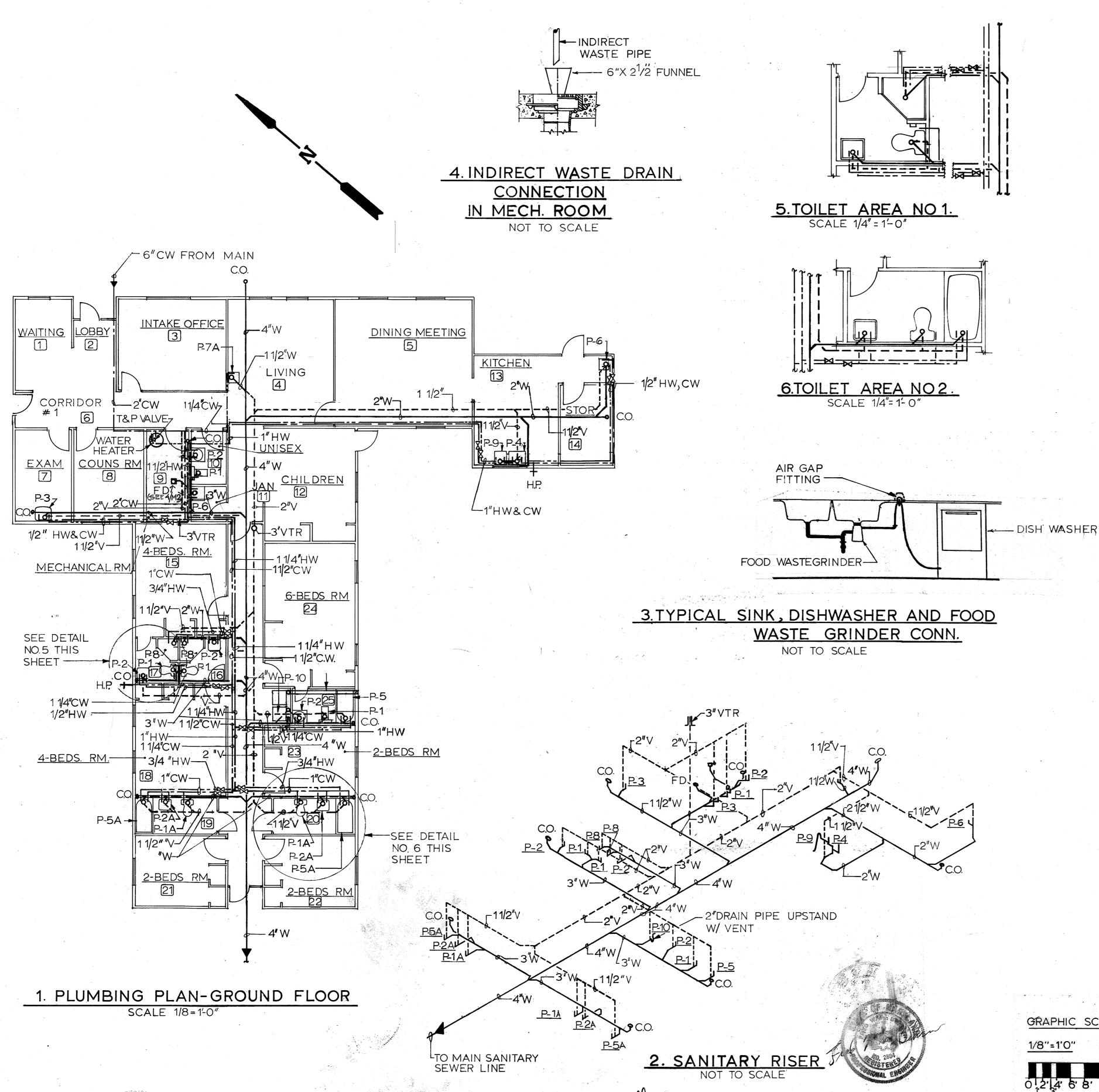
SIDHU ASSOCIATES INC. 2033 YORK RD. TIMONIUM, MD. 21093 (301) 561-5130



REVISIONS

7/1/2021 REVISED PLANS TO
SHOW SITE MODS FOR THE EX.

BLDG., NEW SWM & SITE
IMPROVEMENTS.



AASTECH INC.

CONSULTING ENGINEER 2511, ST. PAUL STREET BALTIMORE, MD. 21218. (301)366-3737.

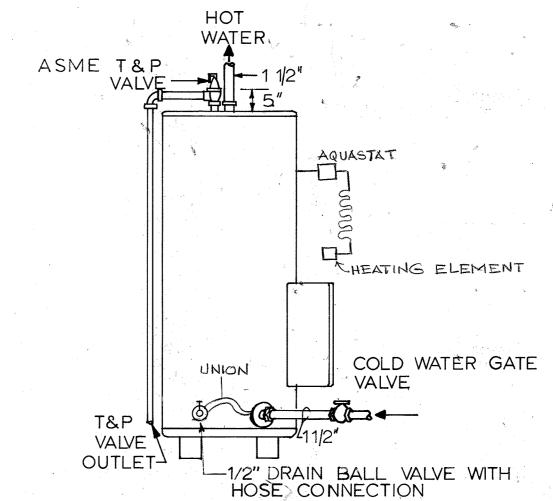
8950 Route 108, Gorman Plaza, suite 114 Columbia, MD, 21045 (301)995-4067

6. PLUI	ABING FIXTURE SO	CHEDULE			
ITEM	DESCRIPTION	CW	HW	DRAIN	VENT
P_1 & P_1A	WATER CLOSET	1/2 "	· 4	2"	1 1/2"
P2 & P-2A	LAVATORY	3/8″	3/8″	1 1/2 "	1 1/2"
P-3	COUNTER TOP SINK	1/2"	1/2"	2"	1 1/2"
P-4	KITCHEN SINK	1/2"	1/2"	2"	1 1/2"
P-5 & P-5A	BATHTUB	1/2 "	1/2"	2"	1 1/2"
P-6	MOP SERVICE SINK	1/2 "	1/2"	2"	1 1/2"
P- 7A	DRINKING FOUNTAIN	3/8″		1 1/2"	1 1/2 "
P-8	SHOWER	1/2"	1/2"	2"	, 1 1/2"
P-9	DISHWASHER	1.41	1"	1 1/2"	1 1/2"
P-10	LAUNDRY MACHINE	1"	1"	2"	1 1/2"
4.			<u> </u>		<u> </u>

NOTE: ITEMS WITH DESIGNATION "A" INDICATE HANDICAPPED FIXTURE.

	7	LEGEND
		SANITARY SEWER
		COLD WATER
i i		HOT WATER
		VENT PIPE
	СО	CLEAN-OUT
	FD	FLOOR DRAIN
	VTR	VENT THROUGH ROOF
	V ·	VENT
	CW	COLD WATER
	HW	HOT WATER
	W	SANITARY SEWER

45, 11	8. SCHEDULE
1,	WATER HEATER 120 GALS, STORAGE CAP 55 GALS HR. RECOVERY CAP AT 100° F RISE, 13,5 KW. MANUFAC — TURED BY STATE HEATERS OR EQUAL.
-	
1. ³ 	



8. ELECTRIC WATER HEATER DETAIL NOT TO SCALE

GRAPHIC SCALE

SIDHU ASSOCIATES INC.

2033 YORK RD. TIMONIUM, MD. 21093 (301) 561 - 5130

1/2"=1'-0"

BLDG., NEW SWM & SITE

IMPROVEMENTS,

PLUMBING & SCHEDULE

9 OF **32** CAPITAL PROJECT NO. C - 0194

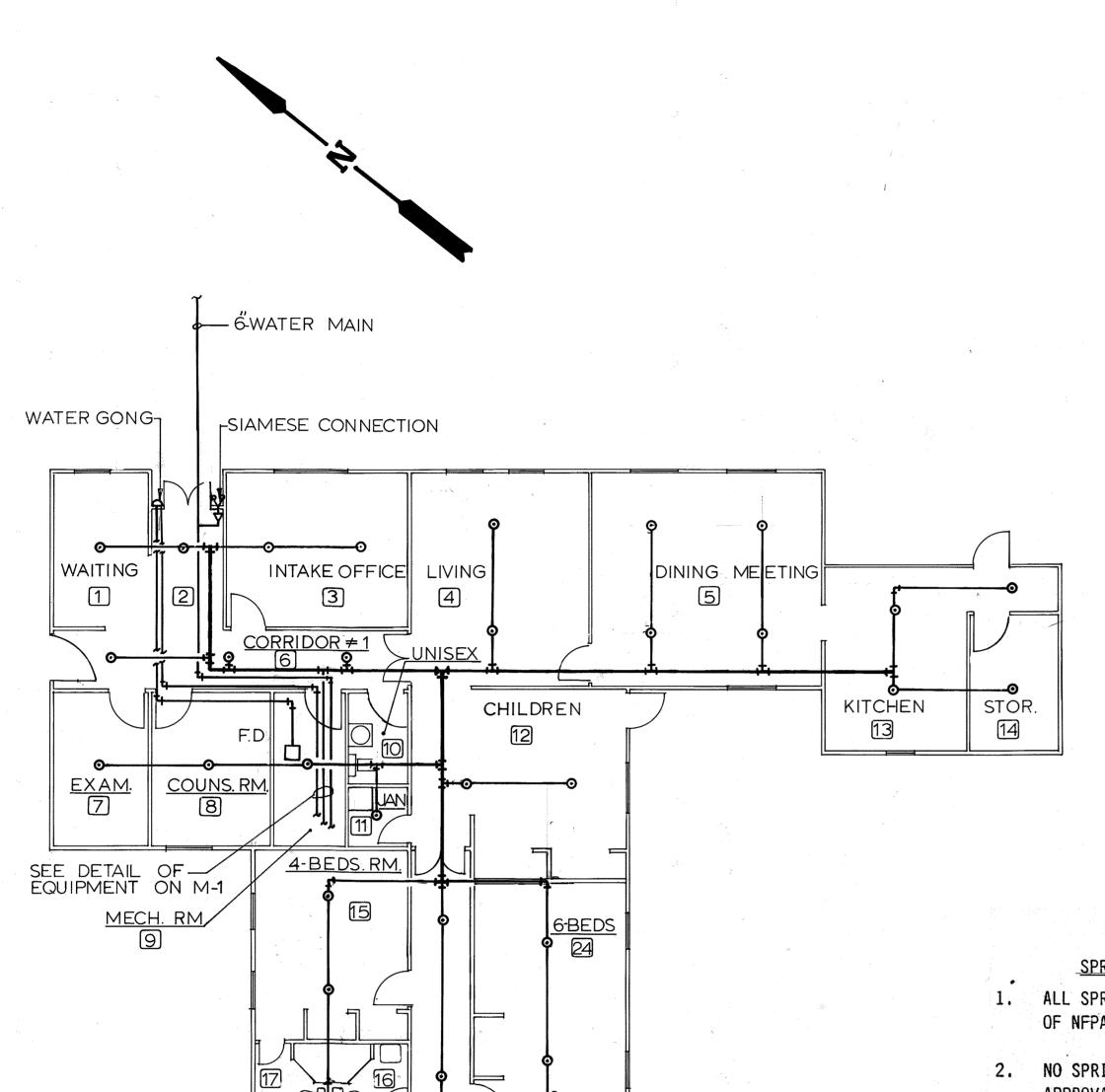
DATE: 7/14/88+

DRAWING NO.

M-2

REVISED SITE DEVELOPMENT PLAN AUDITORIUM RENOVATIONS HARRIET TUBMAN BUILDING REVISIONS 7/1/2021 REVISED PLANS TO SHOW SITE MODS FOR THE EX.

8045 HARRIST TUBMAN LANE COLUMBIA, MARYLAND



23

₽ 2BED RM

-OS & Y MAIN CONTROL GATE VALVE WITH TAMPER SWITCH - WATER FLOW DETECTOR METER---WATER GONG 6"WATER TO DOMESTIC SYSTEM TO DRY PIPE SPRINKLERS CHECK VALVE WITH BALL DRIP FIRE DEPARTM. -ACCELERATOR W/BALL DRIP ALARM CHECK -AIR COMPRESSOR VALVE (DRY) & TRIM KIT-OS & Y GATE VALVE DRAIN VALVE-

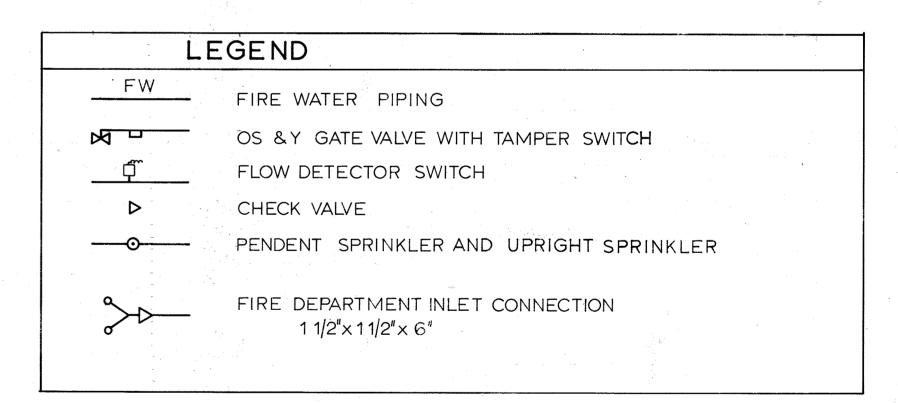
2. DRY PIPE SPRINKLERS RISER DIAGRAM

NOT TO SCALE

SPRINKLER - GENERAL REQUIREMENTS

- 1. ALL SPRINKLERS SHALL BE INSTALLED TO MEET CURRENT REQUIREMENTS OF NFPA AND MARYLAND STATE FIRE MARSHALL.
- 2. NO SPRINKLER SYSTEM COMPONENTS MAY BE INSTALLED BEFORE WRITTEN APPROVAL OF THE SHOP DRAWINGS HAVE BEEN OBTAINED FROM BOTH THE MARYLAND STATE FIRE MARSHALL AND ENGINEER.
- 3. SPRINKLER HEAD LAYOUTS ARE FOR GUIDANCE FOR SPRINKLERS INSTALLATION. THE FINAL ARRANGEMENT OF SPRINKLERS HEADS MAY VARY PROVIDED HEAD LOCATIONS ARE COORDINATED WITH THE OTHER DRAWINGS.

 THIS WILL REQUIRE PROVISION AND INSTALLATION OF GREATER NUMBER OF SPRINKLERS THAN ARE REQUIRED TO MEET MINIMAL REQUIREMENTS. THESE ADDITIONAL SPRINKLERS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 4. SPRINKLER PIPING LAYOUT MUST BE ARRANGED TO AVOID CONFLICT WITH OTHER MECHANICAL AND ELECTRICAL SERVICES, AND ADDITIONAL PIPING MUST BE PROVIDED TO MEET THIS REQUIREMENT.
- 5. SPRINKLER INSTALLER SHALL BE REGISTERED IN THE STATE OF MARYLAND.



Secretarion of the secretarion o

GRAPHIC SCALE

1/8"=1'0"

2' 4' 6' 8' 16' 0 1' 2' 4'

1/2"=1'-0"

FIRE PROTECTION PLAN

10 OF 32 🖄

ARCHITECTURAL

TECHNOLOGIES, INC.

Architects and Construction Consultants
8950 Route 108, Gorman Plaza, suite 114
Columbia, MD, 21045 (301)995-4067

AASTECH INC.
CONSULTING ENGINEER
2511, ST. PAUL STREET
BALTIMORE, MD. 21218.
(301)366-3737.

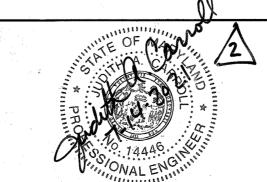
2 BEDS RM□

PENDENT SPRINKLERS.

FIRE PROTECTION PLAN

NOTE: IN ATTIC INSTALL UPRIGHT SPRINKLERS ABOVE

SCALE 1/8 = 1-0"



SIDHU ASSOCIATES INC. 2033 YORK RD. TIMONIUM , MD. 21093 (301) 561-5130 REVISION

7/1/2021 REVISED PLANS TO

SHOW SITE MODS FOR THE EX.

BLDG., NEW SWM + SITE

IMPROVEMENTS.

REVISED SITE DEVELOPMENT PLAN
AUDITORIUM RENOVATIONS
HARRIET TUBMAN BUILDING

8045 HARRIET TUBMAN LANE HOWARD COUNTY COLUMBIA, MARYLAND CAPITAL PROJECT NO. C - 0194

DATE: 7/14/88

DRAWING NO.

M - 3

ABBREVIATIONS

- AMPERE
- FF ABOVE FINISH FLOOR
- P BURGLAR PANEL CONDUIT
- CT CURRENT TRANSFORMER
- DRG DRAWING EOL END OF LINE
- EXIST EXISTING
- FAP FIRE ALARM PANEL GROUND
- GFCI GROUND FAULT CURRENT INTERUPTING
- MDP MAIN DISTRIBUTION PANEL NFSS NON FUSE SAFETY SWITCH
- PNL PANEL
- TC TELEPHONE TERMINAL CABINET
- WP WEATHER PROOF

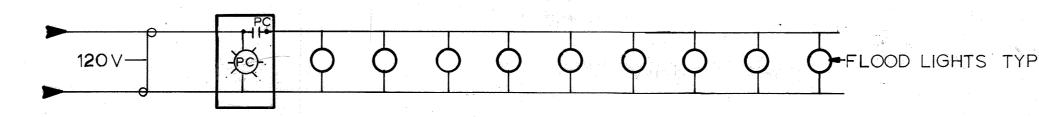
SCHEDULE OF LIGHTING FIXTURES

	SYMBOL	TECHNICAL DESCRIPTION	MANUFACTURER CAT. NO.
A .		SURFACE MOUNTED FLUORESCENT LIGHT FIXTURES 12"x49" WITH SHALLOW ONE PIECE DIE FORMED BODY FINISHED IN WHITE POLYESTER POWDER COATING & DIFFUSER ONE PIECE POLYESTER MOLDED PRISMATIC ACRYLIC, COMPLETE WITH HPF BALLAST & LAMPS AS SPECIFIED.	45257-4 DAYBRITE
В		SURFACE MOUNTED SQUARE FIXTURES 12'x12" WHITE FINISH WITH DROP OPEN GLASS DIFFUSER HELD BY TORSION SPRINGS & 2 NOS 60W LAMPS	P-3721-16 PROGRESS
С		WHITE CERAMIC GLASS WITH CLEAR DOUBLE RIBBED DIFFUSER, CHROME CANOPY GROUNDED CONVENIENCE OUTLET WITH TWO 75 WATT LAMPS.	P-3030 PROGRESS
D		EMERGENCY LIGHT SELF CONTAINED WITH 12 VOLTS CHARGEABLE BATTERY PACK WITH INPUT VOLTAGE 120 VOLTS AC. THE UNIT SHOULD BE RECESS TYPE WITH FACE PLATE FLUSHING TO THE WALL. LAMPS PAR - 36 INCANDESCENT SEALED BEAM. FACE PLATE FINISH IVORY WHITE.	ELR-4 LITHONIA
			ELU-4X LITHONIA
E		EXIT LIGHT SINGLE FACE WALLMOUNTED WITH GREEN INSCRIPTION ON WHITE STENCIL THE UNIT IS SELF CONTAINED WITH CHARGEABLE MAINTENANCE FREE BATTERY AND SUITABLE FOR 120 V AC PRIMARY INPUT AS SPECIFIED	EPIG LITHONIA
F	\bigoplus	AREA LIGHTING UNIT OUTDOOR TYPE PHOTOCELL CONTROLLED IN ONE PIECE DIE CAST ALUMINIUM HOUSING. HIGH POWER FACTOR BALLAST AND 100 WATT HIGH PRESSURE SODIUM LAMPS AS SPECIFIED	FLS10 HS DAYBRITE

NOTES

ÖN WALL

- CONNECT EMERGENCY LIGHTS AND EXIT LIGHTS TO THE LIGHTING CIRCUITS BEFORE THE SWITCH.
- THE PHOTOCELL FOR CONTROL OF FLOOD LIGHTS WILL HAVE 20AMPS CONTACT RATING.



6 PHOTOCELL CONTROL WIRING FOR FLOOD LIGHT

NOT TO SCALE

GRAPHIC SCALE

0' 2' 4' 6' 8

ELECTRICAL LIGHTING

DRAWING SYMBOLS

DESCRIPTION

CURRENT TRANSFORMER

DUPLEX RECEPTACLE

FIRE ALARM PANEL

SMOKE DETECTOR

HEAT DETECTOR

MIRROR LIGHTS

FLOOD LIGHT PHOTO CELL

SWITCH

EMERGENCY LIGHT

TOILET EXHAUST FAN

TELEPHONE OUTLET

END OF LINE RESISTOR

NONFUSED SAFETY SWITCH

FIRE ALARM PULL STATION
FIRE ALARM WITH CHIMES

BURGLAR ALARM DOOR UNIT

BURGLAR ALARM ANNUNUCIATOR

12'x12" INCANDESCENT FIXTURE

ROOM NUMBERS. DIGIT IN THE BOX IDENTIFIES THE ROOM. EXIT LIGHT

HOMERUN-LETTER DENOTES PANEL AND DIGIT FOR CIRCUIT NO. NUMBER OF CROSSLINES DENOTE NO. OF WIRES, NO. CROSSLINES MEANS 2#12 AND #12 GROUND.

TELEPHONE TERMINAL CABINET TO BE DEMOLISHED.

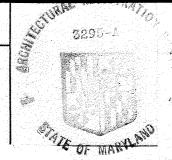
TAMPER SWITCH ON SPRINKLER VALVE

1'x 4' FLUORESENT LIGHT FIXTURE

208 VOLTS RECEPTACLE 30A,2P,3W,1Ø

ELECTRICAL PANEL

ARCHITECTURAL
TECHNOLOGIES, INC.
Architects and Construction Consultants
8950 Route 108, Gorman Plaza, suite 114
Columbia, MD, 21045 (301)995-4067

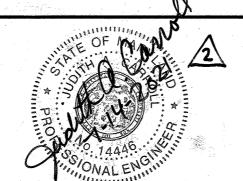


AASTECH INC. CONSULTING ENGINEER 2511, ST. PAUL STREET BALTIMORE, MD. 21218. (301)366-3737.

7 ELECTRICAL LIGHTING

SCALE 1/8" = 1'-0"





SIDHU ASSOCIATES, INC CONSULTING ENGINEERS

2033 YORK ROAD TIMONIUM, MD 21093 PHONE NO (301)-561-5130



PEVISIONS

7/1/2021 REVISED PLANS TO

SHOW SITE MODS FOR THE EX.

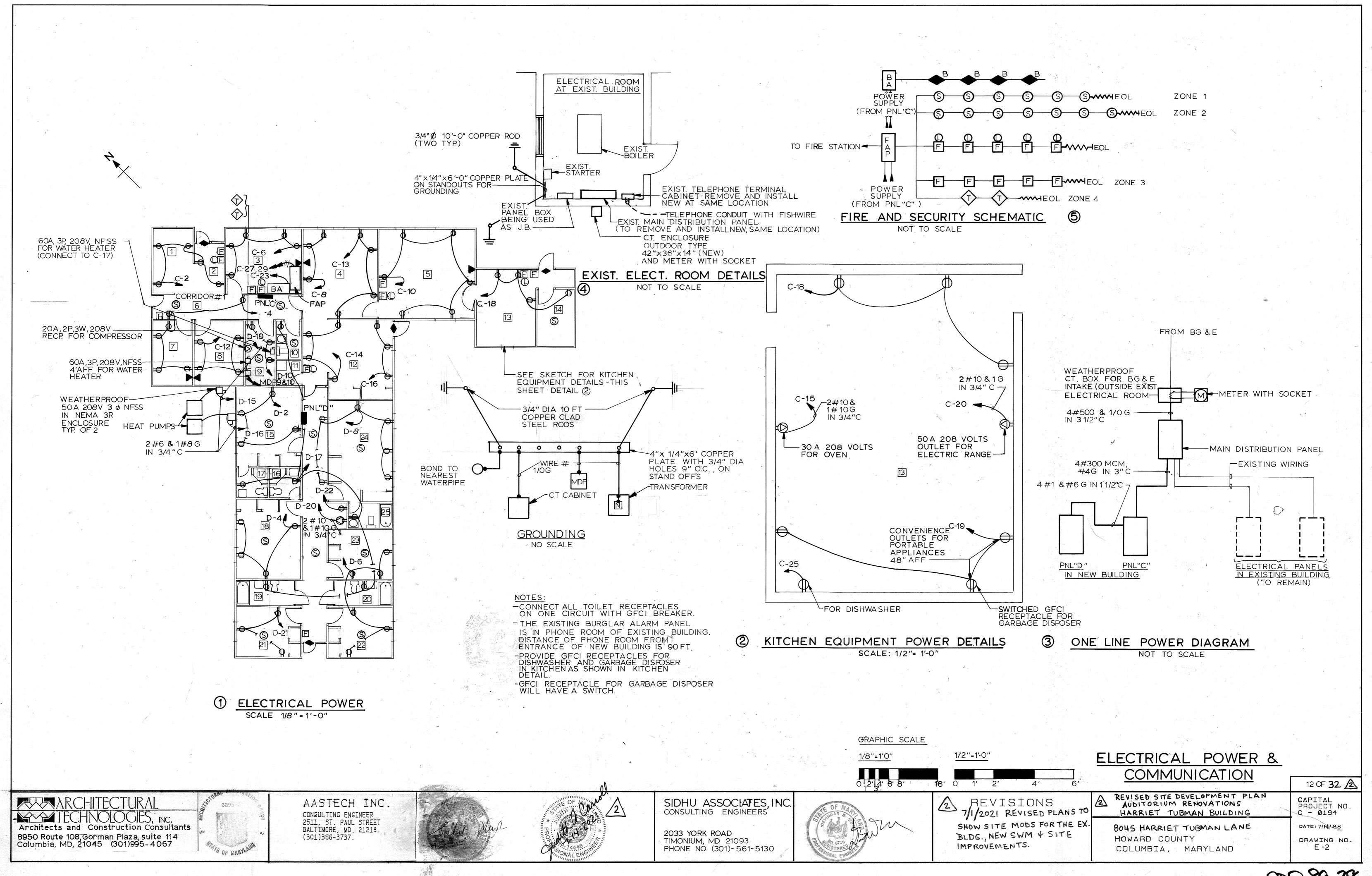
BLDG., NEW SWM & SITE

IMPROVEMENTS.

REVISED SITE DEVELOPMENT PLAN
AUDITORIUM RENOVATIONS
HARRIET TUBMAN BUILDING

8045 HARRIET TUBMAN LANE HOWARD COUNTY COLUMBIA, MARYLAND CAPITAL PROJECT NO. C - 0194 DATE: 7/14/88 DRAWING NO. E-1

11 OF 32 2

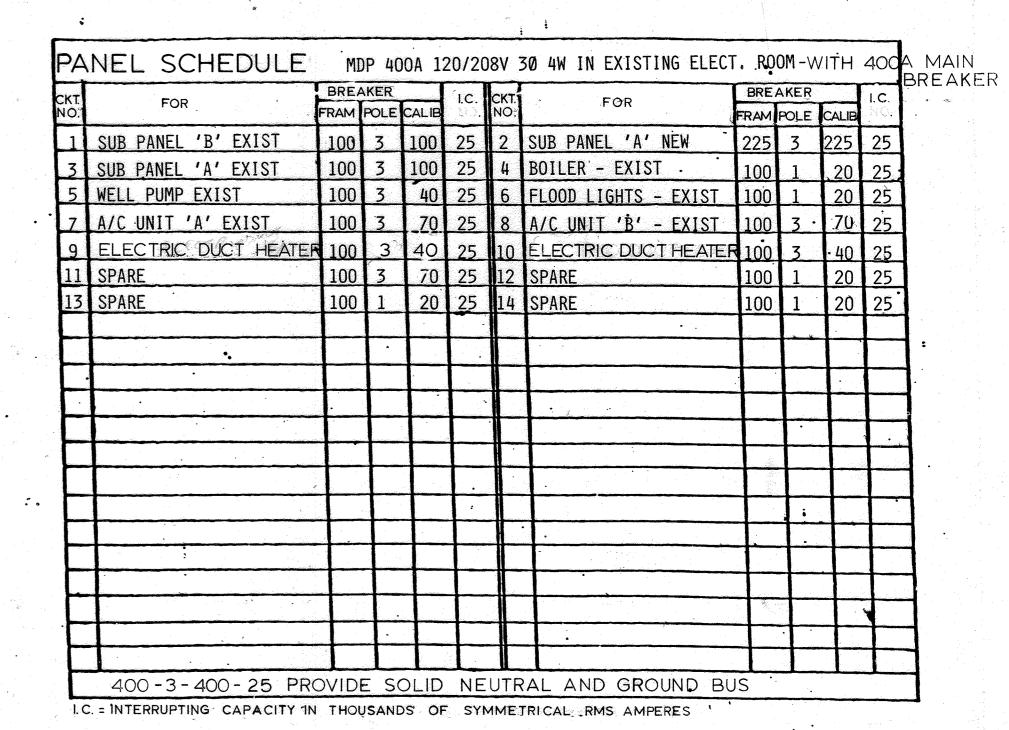


~ 6000a

(T.	NEL SCHEDULE	BREAK FRAM P	ER		i.c.		7		BRE	KER	CALIE	I.C
-}	SPARE	100	1	20	25.	2		ECP. WTG RM & LOBBY	100	1	20	25
	LTG WTG RM, LOBBY, OFFICE		1	20	25	4	R	ECP.EXM RM,CORR #1	100	1	20	25
5	LTG EXRM, CONSLG, MECH RM		ĺ	20	25	6	R	ECP. OFFICE	100	1	20	25
7	LTG LVG RM, CHILD RM	100	1	20	25	8	R	ECP LIVING ROOM	100	1	20	25
	LTG DINING, KITCH, STORE	100	1	20	25	1	0 F	ECP DINING ROOM	100	1	20	25
_	KITCHEN HOOD EAN&LGTS	100	1	20	25	1	2	RECP COUNSELING ROOM	100	1	20	25
	RECP. LVG RM.	100	1	20	25		4	RECP CHILDREN ROOM	100	1	20	25
	30A RECP FOR OVEN	100	2	30	25	_#	6	RECP KITCHEN STORE	100	2	20	25
17	ELECT DOUGEDANCED	1100	3	50	25		8	RECP IN KITCHEN	100	1	20	25
19	PANEL 'B'	100	3	100	25		20	50 AMP SUPPLY-RANGE	100		50	25
	SPARE	100	1	20	25	- #	22	RECP FOR KTCH APPLIAN	100	$\frac{1}{1}$	20	25
23	BURGLAR ALARM PANEL	100	1	20.	25	- 11	24	FIRE SUPPRE. EQUIP	100	2	20	25
25	DISHWASHER	100	1	20	25		26	SPARE	100		20	25
27	F.A. PANEL	100	11	20	25			SPARE	100	-}	20	25
29	F. A. PANEL	100	11	20	25		29	SPARE	100	1	20	25
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ΚΤ. Ο.	FOR	BREA FRAM		CALIB	i.c.	ÇKT. NO:	FOR	BRE/	-	CALIB	I.C.
$\overline{1}$	LTG BED ROOMS & TOILETS	100	1	20	25	2	RECP BDRM-15,	100	1	20	25
3	LTG BED RM & TOILETS	100	1	20	25	4	DO BDRM 18,21,	100	1	20	25
5	LTG BED RMS & TOILETS	100	1	20	25	6	DO BDRM 22,23,	100	1	20	25
7	FLOOD LIGHTS	100	_1_	20.	25	8	DO BDRM 24	100	1	20	2!
9	SPARE	100	1_	20	25	10	RECP INM/C ROOM	100	_1_	20	2!
11	SPARE	100	_1_	20	25	#	SPARE	100	2	20	2
13	AIR COMPRESSOR,M/C RM	100	1_	20	25	14	A/C EVAPORATOR	100	2	20	2!
15	50 A NFSS FOR HEAT PUMP	160	3	50	25		50A NESS FOR HEAT PUMP	100	3	50	2
	TOILET RECPTACLES	100	1_	20	25	18	A/C EVAPORATOR	100	2	20	2
	RECP.IN M/C RM	100	2	20	25	1	DRYER CORRIDOR #2	100	2	30	2
21	RECP. BED RM. 21	100	1_	20	25	22	WASHER CORR. #2	100	1	20	2
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ALL TOILET RECEPTACLES ON ONE CIRCUIT WITH GFCI BREAKER



230 FT. APPROX. TELEPHONE CONDUIT 2" DIA PVC APPROACH ROAD APPROX -NEW BG & E TRANSFORMER EXIST. -BOILER BUILDING STARTER TELEPHONE TERMINAL CABINET (REMOVE AND REPLACE) EXIST.
ELECT.
ROOM
(SEE
DRG
E-2) NEW TELEPHONE TERMINAL CABINET MAIN DISTRIBUTION PANEL
(REMOVE AND REPLACE)

PANEL BOX BEING USED AS JB. CEDAR NOTES

- PROVIDE FULL WIRE IN THE FVC CONDUIT FOR C & P USE.

- TERMINATE PVC CONDUIT AT EXIST. TELEPHONE POLE 2 FT ABOVE GROUND AND CLOSE IT.

- PROVIDE 6FT x 6FT LEVELLED GROUND FOR BG & E TRANSFORMER AS SHOWN ON THE DRG.

TELEPHONE CABLE ROUTE

NOT TO SCALE

Architects and Construction Consultants
8950 Route 108, Gorman Plaza, suite 114
Columbia, MD, 21045 (301)995-4067



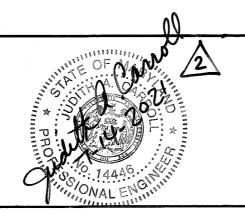
DEMOLITION DRAWING

NOT TO SCALE

(ELECTRICAL ROOM EXIST. BLDG)

AASTECH INC.
CONSULTING ENGINEER
2511, ST. PAUL STREET
BALTIMORE, MD. 21218.
(301)366-3737.





SIDHU ASSOCIATES, INC. CONSULTING ENGINEERS

2033 YORK ROAD TIMONIUM, MD. 21093 PHONE NO. (301)-561-5130



A REVISIONS
7/1/2021 REVISED PLANS TO
SHOW SITE MODS FOR THE EX.
BLDG., NEW SWM & SITE
IMPROVEMENTS.

REVISED SITE DEVELOPMENT PLAN AUDITORIUM RENOVATIONS HARRIET TUBMAN BUILDING

PANEL SCHEDULES

8045 HARRIET TUBMAN LANE HOWARD COUNTY COLUMBIA, MARYLAND

13 OF 32 2 CAPITAL PROJECT NO. C - 0194 DATE: 7/4/88 DRAWING ND.

E-3

N RRI

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT
THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME,
AND THAT I AM A DULY LICENSED PROFESSIONAL 18104A5

ICENSE No.: 14446 EXP. DATE: 5/25/2 PROJECT NO: DWM DRAWN BY: GWT CHECKED BY:

EXISTING CONDITIONS PLAN (ADDITIONAL SHEET)

> **C**3 SDP-89-028

REFER TO EROSION AND SEDIMENT CONTROL PLAN FOR

EROSION AND SEDIMENT CONTROL MEASURES

CHIEF, DIVISION OF LAND DEVELOPMENT LA

GENERAL NOTES:

1. FIELD RUN TOPOGRAPHICAL AND BOUNDARY SURVEY PERFOMED BY A/I/DATA, DATED APRIL/MAY 2020 . ADDITIONAL INFORMATION ON UTILITIES, BUILDINGS, AND HARDSCAPES LOCATIONS ARE BASED UPON, COUNTY GIS DATA, AS-BUILT DRAWINGS, UTILITY LOCATION AND FIELD OBSERVATION AND IS NOT GUARANTEED TRUE & CORRECT

ALL HORIZONTAL SURVEY DATA SHOWN HEREON ARE REFERENCED TO THE MARYLAND COORDINATE SYSTEM NAD83 (NA2011), AND ALL VERTICAL SURVEY DATA SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AS DERIVED FROM THE FOLLOWING POINTS PROVIDED BY THE HOWARD COUNTY BUREAU OF ENGINEERING:

555450.56 1346039.78 412.30 CONC MONUMENT 553504.39 1346160.58 414.35 CONC MONUMENT 41CC 552494.25 1347062.46 399.99 CONC MONUMENT

- EXISTING UNDERGROUND UTILITIES DESIGNATED ON THE PLANS ARE BASED ON CURRENTLY AVAILABLE INFORMATION AND ARE SHOWN FOR REFERENCE ONLY. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION BEYOND THE DESIGNATION INDICATED. THE QUALITY LEVEL DESIGNATED IS IN ACCORDANCE WITH ASCE "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA" (CI/ASCE 38-02). THE CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH THOSE STANDARDS PRIOR TO ANY RELIANCE ON THE INFORMATION SHOWN ON THESE PLANS. PRIOR TO ANY EXCAVATION, IN THE ABSENCE OF QUALITY LEVEL A OR B DESIGNATION, THE CONTRACTOR SHALL VERIFY, TO HIS OWN SATISFACTION, THE EXISTENCE, DEPTH, SIZE, MATERIAL, AND LOCATION OF ALL UNDERGROUND UTILITIES. AND DETERMINE WHETHER THOSE UTILITIES ARE LIVE. ANY EARTHWORK IN LOCATIONS WHERE UTILITIES ARE POSSIBLE SHALL BE DONE WITH EXTREME CAUTION. THE GIVING OF INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO SUPPORT AND PROTECT ALL DESIGNATED OR UNDESIGNATED EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITY BE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE UTILITY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE
- 4. LIVE UNDERGROUND UTILITIES MAY EXIST WITHIN THE WORK AREA. CONTRACTOR SHALL USE EXTREME CAUTION AND SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
- INFORMATION SHOWN ON THIS DRAWING HAS BEEN PROVIDED AS A GUIDE TO ASSIST THE CONTRACTOR IN ESTABLISHING THE LOCATIONS OF PROPOSED CONSTRUCTION WITH RESPECT TO EXISTING SITE IMPROVEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL CONSTRUCTION SURVEY STAKEOUT REQUIRED AND TO FIELD VERIFY ALL GRADES, ELEVATIONS, DIMENSIONS, ETC. PRIOR TO STARTING CONSTRUCTION.

SITE DEMOLITION NOTES:

- 1. PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL PROVIDE A DETAILED OUTLINE OF CONSTRUCTION PHASING AND MAINTENANCE OF ACCESS FOR OWNER'S REVIEW AND
- 2. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION/DEMOLITION AND NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES
- BETWEEN ACTÚAL FIELDS CONDITIONS AND THE APPROVED PLANS EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE OR DEMOLITION. ALL PROTECTIVE DEVICES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE OR DEMOLITION. REFER SHEET SET C600 FOR EROSION AND SEDIMENT
- 4. PERMITS AND FEES REQUIRED FOR ANY DEMOLITION/DISPOSAL WORK MUST BE OBTAINED BY
- THE CONTRACTOR AT HIS EXPENSE. 5. CONTRACTOR SHALL CONTACT OWNER TO SUBMIT A SCHEDULE 72 HOURS PRIOR TO COMMENCING ANY WORK
- THE CONTRACTOR SHALL COORDINATE DEMOLITION WITH PROPOSED NEW CONSTRUCTION AND SHALL BE RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL SHEETING AND SHORING REQUIRED TO STABILIZE EXCAVATION AND/OR DEMOLITION AREAS AND TO PROTECT EXISTING IMPROVEMENTS TO REMAIN
- 7. CONTRACTOR SHALL PROTECT ALL AREAS BEYOND THE LIMITS OF DISTURBANCE AND SHALL RESTORE ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL OR BETTER CONDITION.
- 8. CONTRACTOR SHALL STABILIZE ALL UNINTENTIONALLY DISTURBED AREAS OUTSIDE OF THE L.O.D. BY THE END OF THE SAME WORKING DAY.
- NO ITEMS ARE TO BE BURNED OR BURIED ON THE SITE 10. CONTRACTOR SHALL PROVIDE COMPACTED BACKFILL APPROVED BY THE GEOTECHNICAL
- ENGINEER IN ALL EXCAVATED AREAS. 11. CONTRACTOR SHALL PROTECT ALL FACILITIES AND UTILITIES TO REMAIN FROM DAMAGE WHETHER SHOWN HEREON OR NOT
- 12. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITY STRUCTURES REQUIRING THEIR RING & COVERS OR LIDS TO BE RESET TO FINISHED GRADE DURING DEMOLITION AND CONSTRUCTION ACTIVITIES AND TO PREVENT DEBRIS, SEDIMENT, OR WATER FROM ENTERING THE STRUCTURES.
- 13. CONTRACTOR TO VERIFY TYPE, SIZE, AND LOCATION OF ALL UTILITIES PRIOR TO START OF
- 14. CONTRACTOR SHALL COORDINATE WITH OWNER AND UTILITY PROVIDER TO MINIMIZE DURATION OF ALL UTILITY OUTAGES NECESSARY FOR CONSTRUCTION. UTILITIES CRITICAL TO OPERATIONS AND SECURITY SHALL HAVE TEMPORARY SERVICE CONNECTED TO PROVIDE UNINTERRUPTED SERVICE WHERE DEEMED NECESSARY BY THE OWNER.
- 15. ALL UTILITY WORK SHALL BE COORDINATED WITH THE OWNER, AND SHALL BE PERFORMED IN AN EXPEDITIOUS MANNER TO MINIMIZE ANY IMPACTS ON EXISTING FACILITY OPERATIONS. 16. ALL LINEAR UTILITY DISTURBANCE SHALL HAVE PAVEMENT / GROUND MATERIAL REPLACED IN KIND. ALL LINEAR UTILITY CONSTRUCTION SHALL HAVE BOUNDARIES OF THE EXCAVATION
- SAWCUT AND SHALL HAVE SAME DAY STABILIZATION. 17. CONTRACTOR SHALL EMPLOY A PRIVATE UTILITY LOCATOR TO IDENTIFY ALL UTILITIES WITHIN THE AREA PRIOR TO ANY DISTURBANCE 18. SAWCUT AND REMOVE PAVED AREA AS INDICATED, ALL SAWCUTS ARE TO BE NEAT, CLEAN,
- STRAIGHT AND FULL DEPTH. 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTAINMENT OF DUST AND DEBRIS DURING THE DEMOLITION. DAILY CLEANING SHALL BE COMPLETED ALONG WITH ANY ADDITIONAL CLEANING AS REQUIRED BY THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY STRUCTURES AND NECESSARY SHORING, BRACING & SUPPORT FOR EXISTING STRUCTURES THROUGHOUT DEMOLITION AND CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL ENGAGE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND TO DESIGN AND SEAL THE PLANS AND
- DRAWINGS FOR ALL SHORING, BRACING AND TEMPORARY STRUCTURES. CONTRACTOR TO GRIND ALL STUMPS OF TREES / SHRUBS TO BE REMOVED.
 CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING AROUND EXISTING TREES TO
- REMAIN SO AS TO NOT DAMAGE THE TREES, TREE BRANCHES OR TREE ROOT SYSTEM. 23. CONTRACTOR SHALL COORDINATE WITH SITE OWNER, OWNERS OF ADJACENT PROPERTIES AND UTILITY PROVIDERS TO MINIMIZE DURATION OF UTILITY OUTAGES. UTILITIES CRITICAL TO OPERATIONS AD SECURITY SHALL HAVE TEMPORARY SERVICE CONNECTIONS TO PROVIDE
- UNINTERRUPTED SERVICE WHERE DEEMED NECESSARY BY THE OWNER. 24. ALL SUB-BASE MATERIAL ASSOCIATED WITH ANY EXISTING MATERIALS TO BE REMOVED SHALL
- REMOVED AND DISCARDED. 25. CONTRACTOR SHALL RECYCLE ALL RECYCLABLE MATERIALS AND PROVIDE DATA REPORT OF THE RECYCLED MATERIAL PER "ALL ATAR PROGRAM OF MARYLAND RECYCLING ACT".
- 26. CONTRACTOR SHALL DISPOSE OF ALL DEMOLISHED AND DELETERIOUS MATERIALS IN A SAFE AND LEGAL MANNER. CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS FOR DEMOLITION PURPOSES.
- 28. CONTRACTOR SHALL RESTORE ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL CONDITION OR BETTER 29. ALL EXISTING PAINT MARKINGS ADJACENT TO THE PROJECT AREA WHICH BECOME FADED OR
- OBSCURED DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAINTED OR RESTORED AT NO ADDITIONAL COST TO THE OWNER. 30. REFER TO ARCHITECTURAL MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR
- ADDITIONAL DEMOLITION DETAILS. THE LIMIT OF DISTURBANCE AS SHOWN ON THIS PLAN VARIES FROM THE LIMIT OF DISTURBANCE USED FOR THE STORMWATER MANAGEMENT CALCULATIONS IN THE STORMWATER

/ARD	COUNTY	REFERENCE	DRAWINGS:	

MANAGEMENT STUDY.

GRAPHIC SCALE IN FEET

WATER: 24-0553, 34-3273, 24-3265, 24-4942 SEWER: 20-0915-D SDP-08-050, SDP-06-137, SDP-01-116, SDP-89-028, SDP-76-020, ECP-20-052

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RECREATIONAL BUILDING	_ 804 LAN		RRIET	TUBMAN
				-
BDIVISION NAME ATHOLTON HIGH SCHO	OL.	1	n/area /a	LOT/ PARCEL NO. 2/0292
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8045 HARRIET TUBMAN LANE COLUMBIA, MD 21044

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SDP-89-028

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY M

ICENSE No.: 14446 EXP. DATE: 5/25/2

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AND THAT I AM A DULY LICENSED PROFESSIONAL

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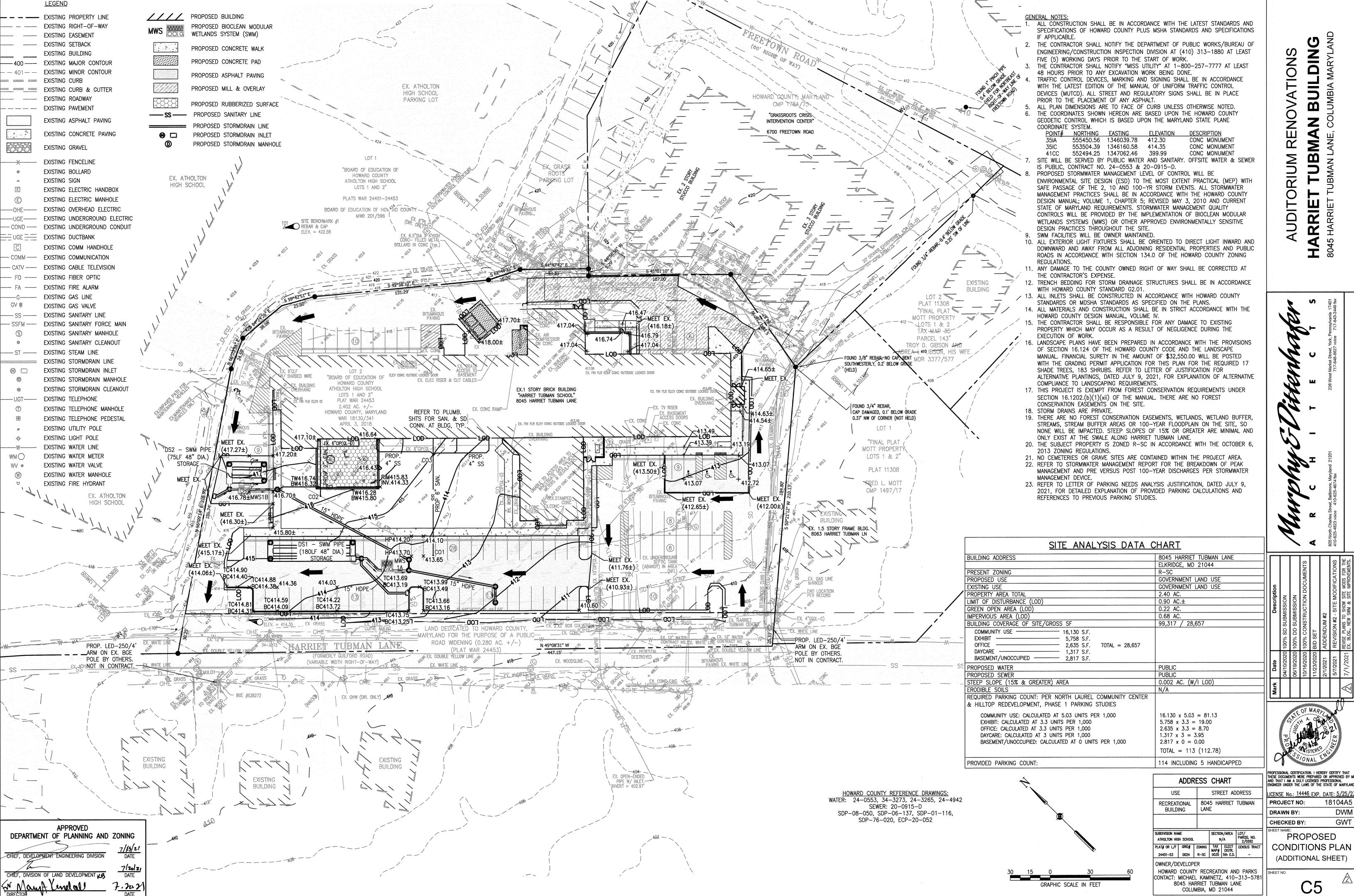
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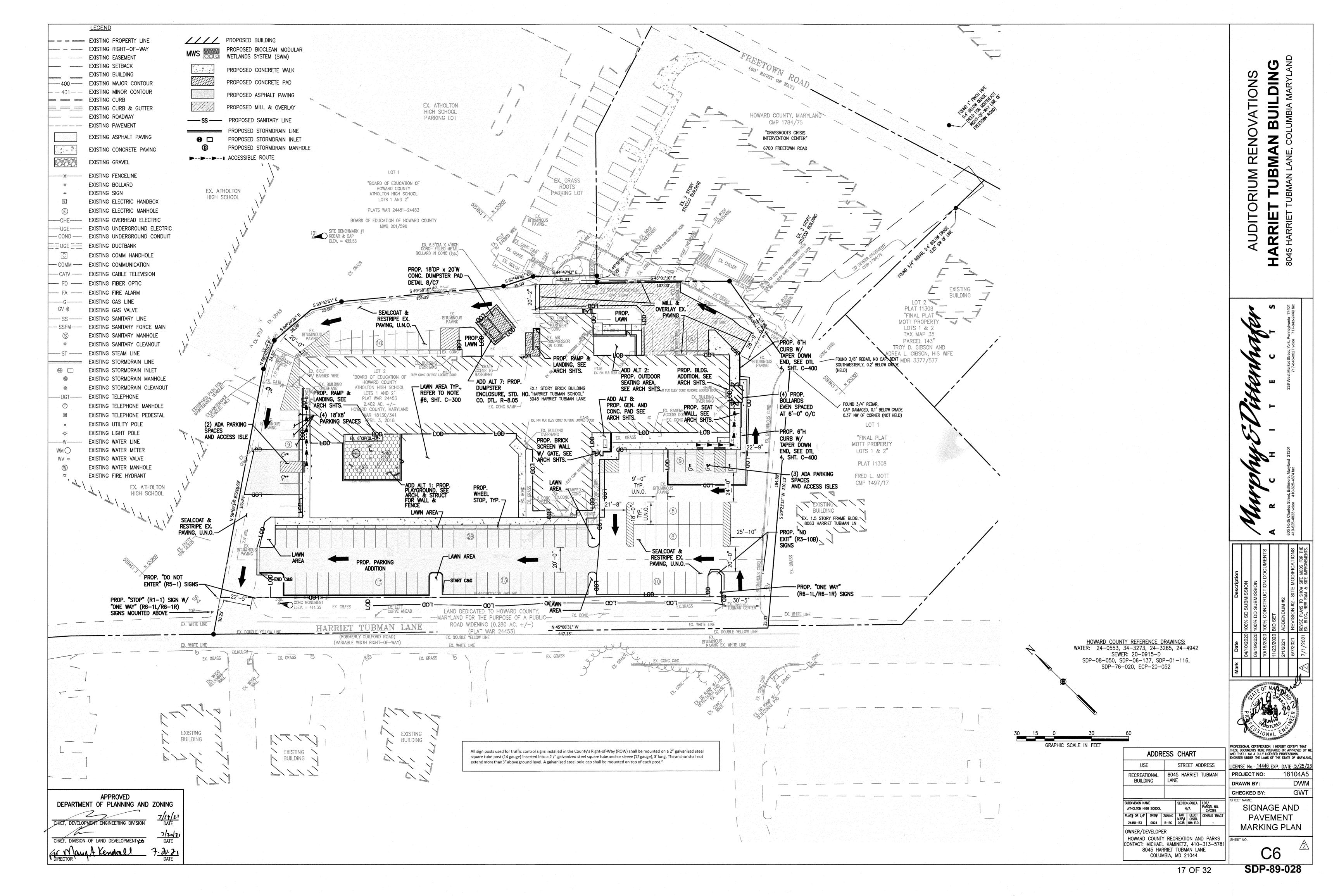
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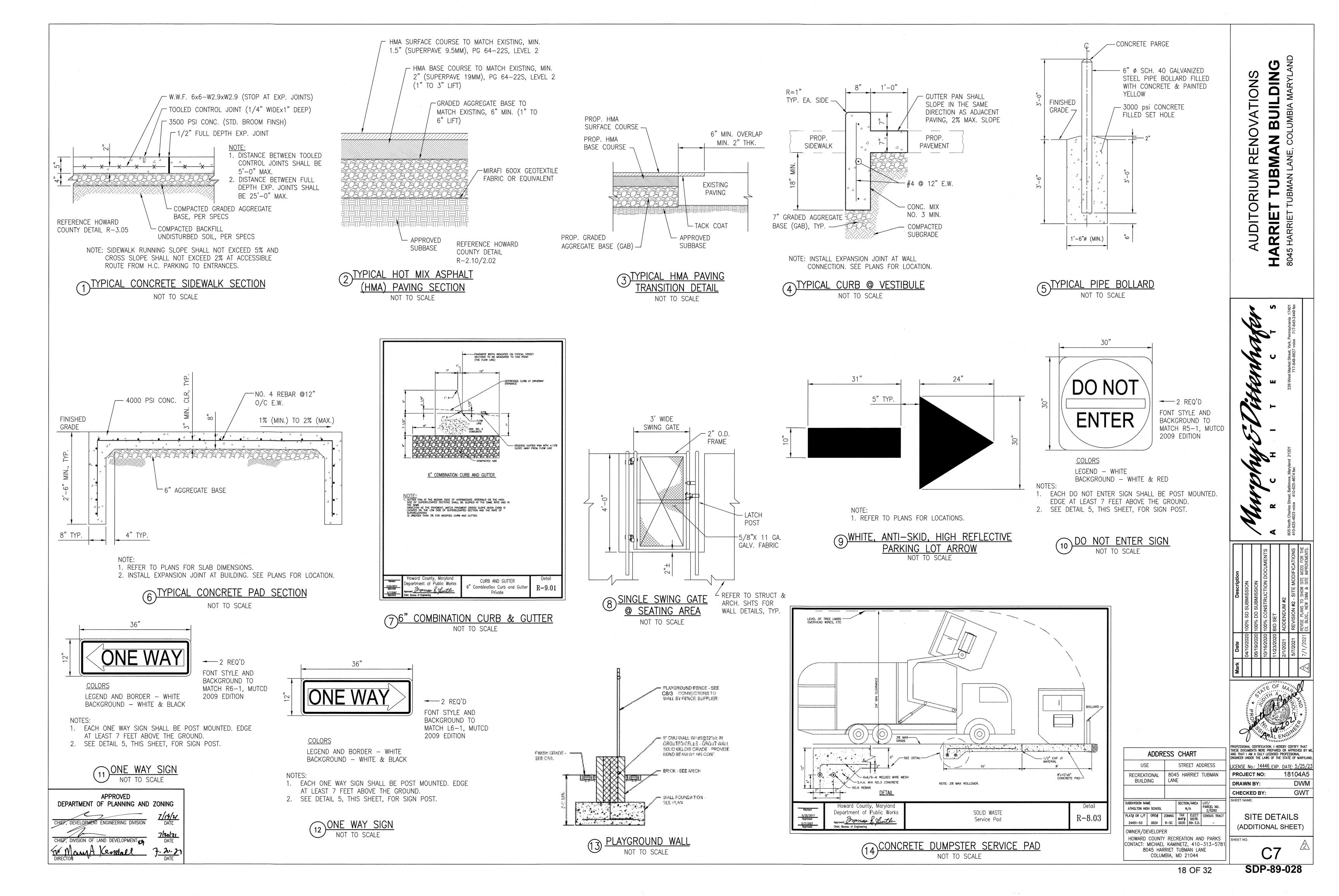
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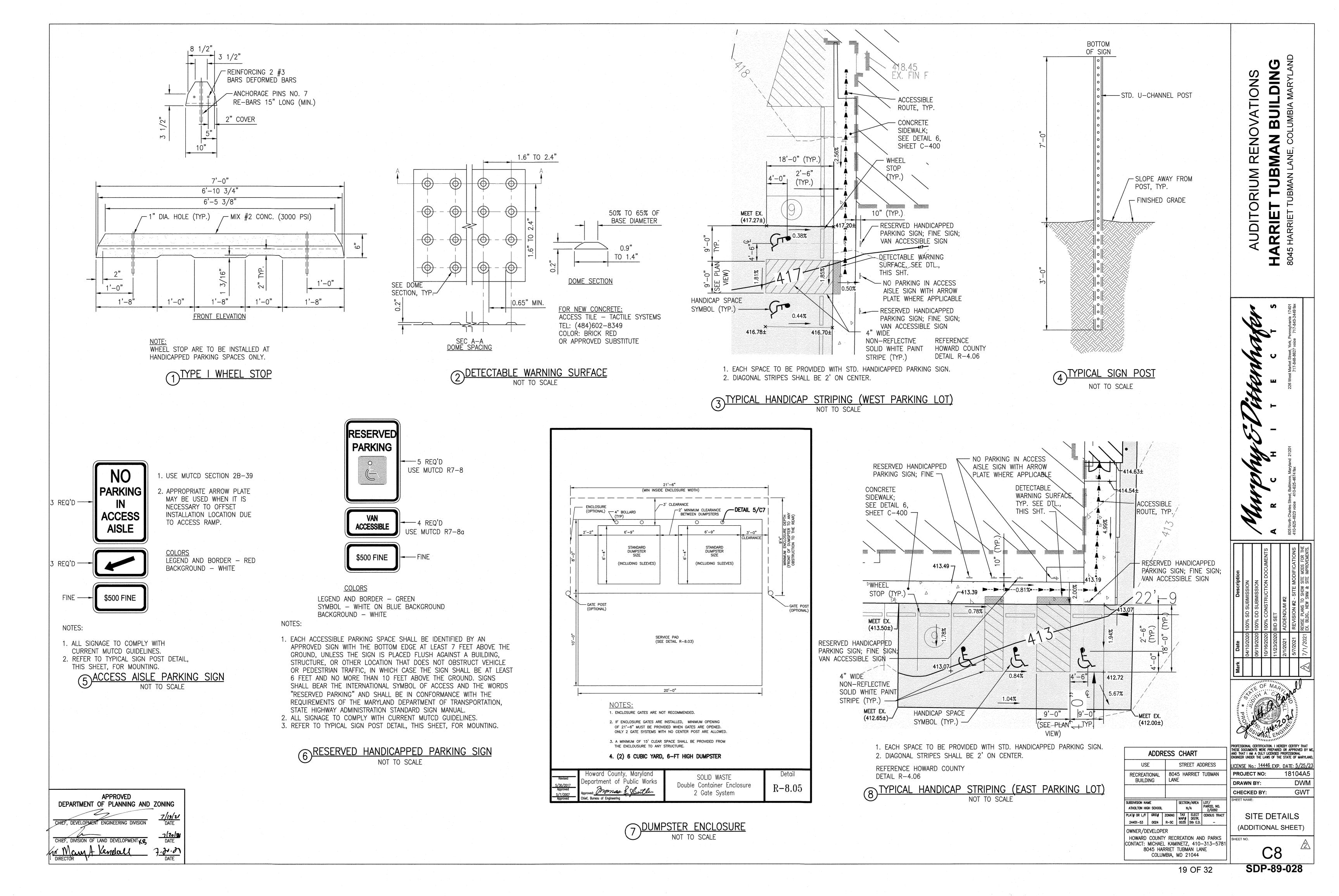
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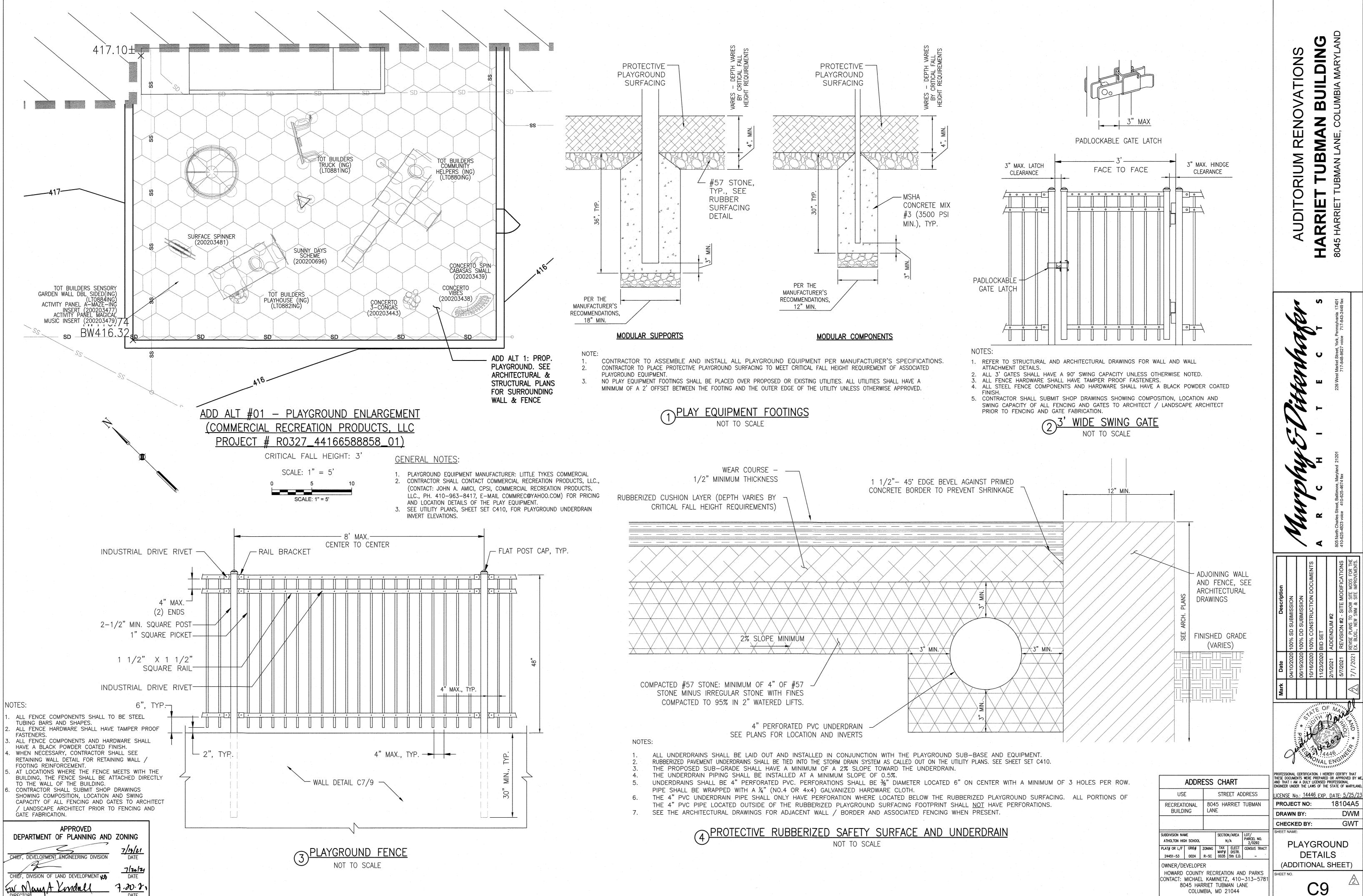
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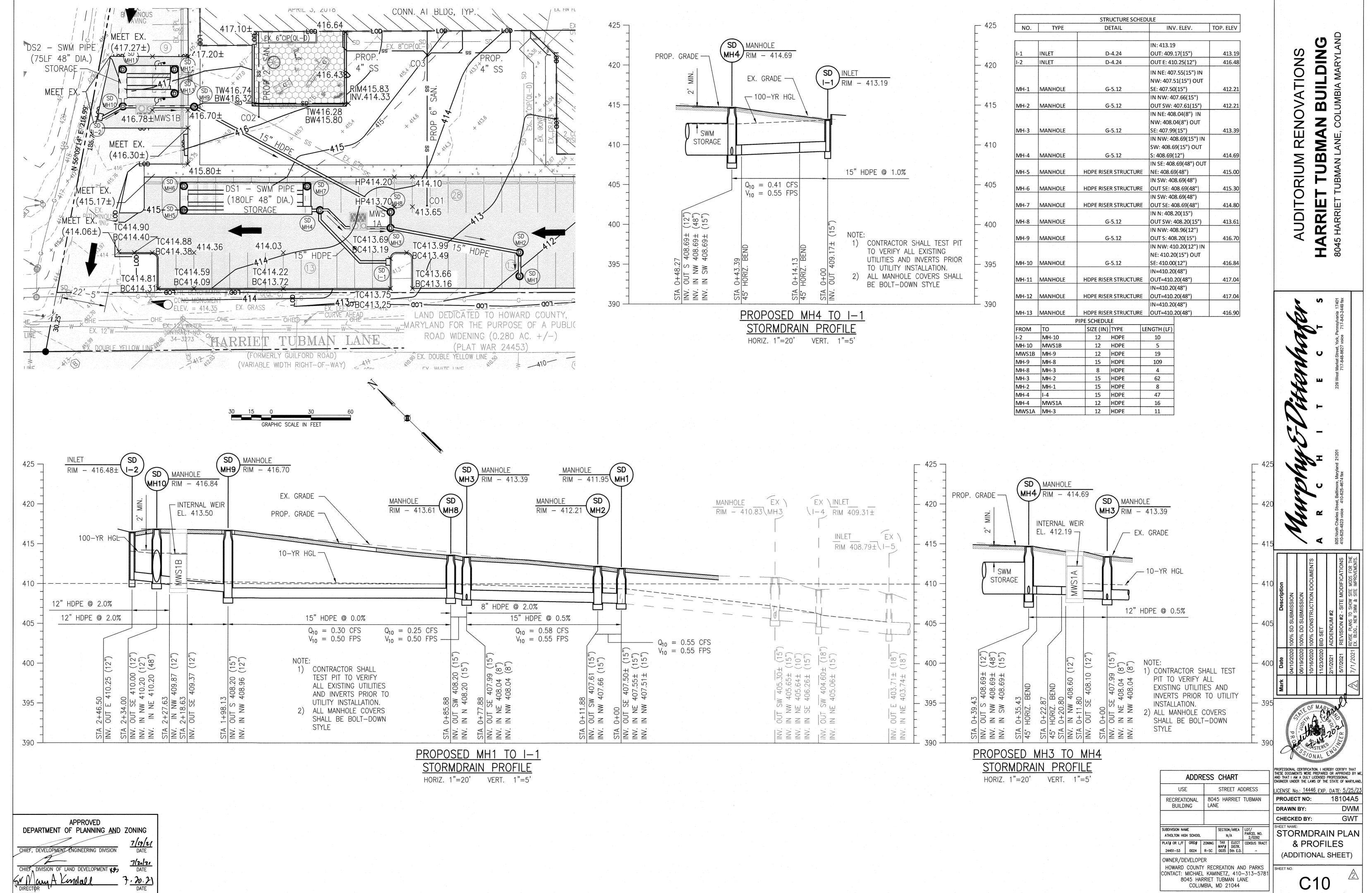


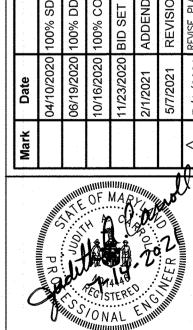
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RECREAT BUILD	••	8045 HARRIET TUBMAN LANE						
SUBDIVISION NAI ATHOLTON HIG			N/AREA /A	LOT/ PARCEL NO. 2/0292				
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT			

STRUCTURE SCHEDULE STRUCTURE DETAIL CO - 1S-2.22, S-2.23 CO - 2S-2.22, S-2.23 CO - 3S-2.22, S-2.23

- 430

- 425

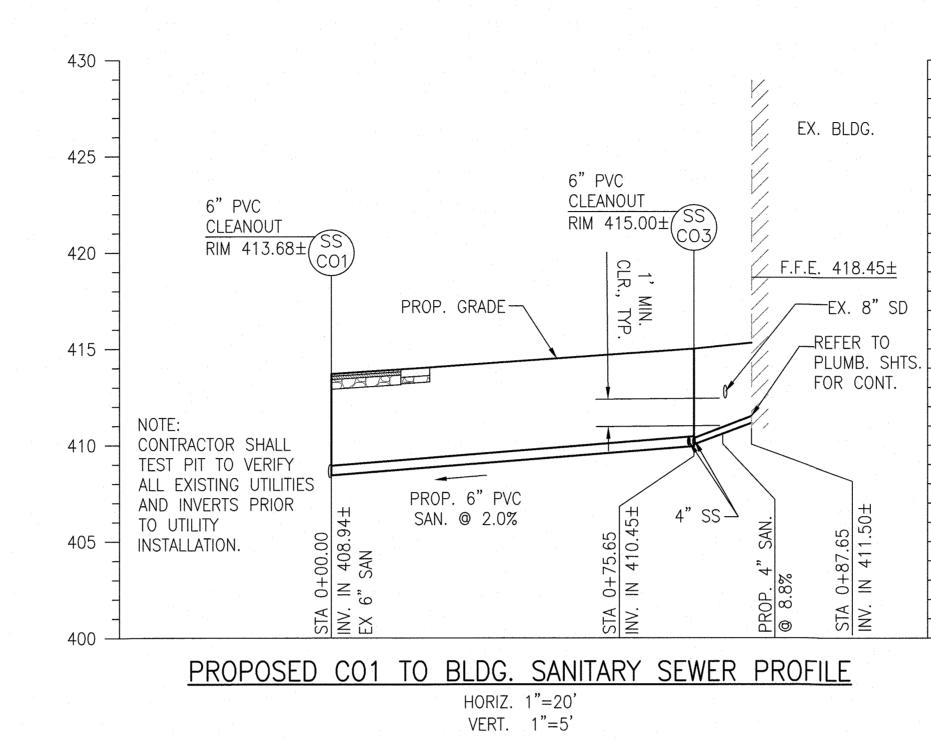
420

- 415

- 410

- 405

STA 0+87.65 INV. IN 411.504



430 —	F 430	EX. BLDG. F.F.E. 418.45±	— 420 –
EX. BLDG. 6" PVC CLEANOUT DIVIDANT ALTERNAL (SS)	- - - 425 - -	PROP. GRADE REFER TO PLUMB. SHTS. FOR CONT.	- - - - 415 - -
420 — F.F.E. 418.45± SS CO3	- - 420 -	410	- 410 -
PROP. GRADE NOTE: CONTRACTOR SHALL TEST PIT TO VERIFY ALL EXISTING UTILITII AND INVERTS PRIOR TO UTILITY	ES -	PROP. 4" PVC SAN. @ 1.8% PROP. 2" PVC SAN. @ 1.8% WW YJ	- - - - 405 -
410 - INSTALLATION.	- - 410 -	400 - NOTE: CONTRACTOR SHALL TEST PIT TO VERIFY	- 400 -
PROP. 2" SS STA 0+00.00 INV. IN 411.50± PROP. 2" PVC © 2.0% 45° BEND PROP. 4" SS STA 0+07.83 STA 0+07.83 STA 0+49.17 INV. IN 411.50± INV. IN 411.50± INV. IN 410.45±	- - - 405 - -	P. 4" SS IN 410.45± O+00.00 O+00.00 O+02.83 DF. 2" SS TEE O+62.50 O+62.50 IN 411.50± IN	- - - - 395 - -
PROP. STA 0- STA	400	390 - STA	- 390
PROPOSED CO3 TO BLDG. NW SANITARY SEWER PROFIL	<u>LE</u>	PROPOSED CO3 TO BLDG. NE SANITARY SEWER PROFILE	
HORIZ. 1"=20' VERT. 1"=5'		HORIZ. 1"=20' VERT. 1"=5'	

- 430

- 425

420

- 415

- 410

405

APPROVED
DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION CHEF, DIVISION OF LAND DEVELOPMENT KES

430 —

425 -

420 -

415 -

410 -

405 -

6" PVC PRO
CLEANOUT SS
RIM 416.11± SS
CO2

PROP. GRADE -

PROP. 2" PVC

SAN. @ 1.50%

PROPOSED CO2 TO BLDG. SANITARY SEWER PROFILE

HORIZ. 1"=20' VERT. 1"=5'

EX. BLDG.

F.F.E. 418.45±

NOTE: CONTRACTOR SHALL TEST PIT TO VERIFY

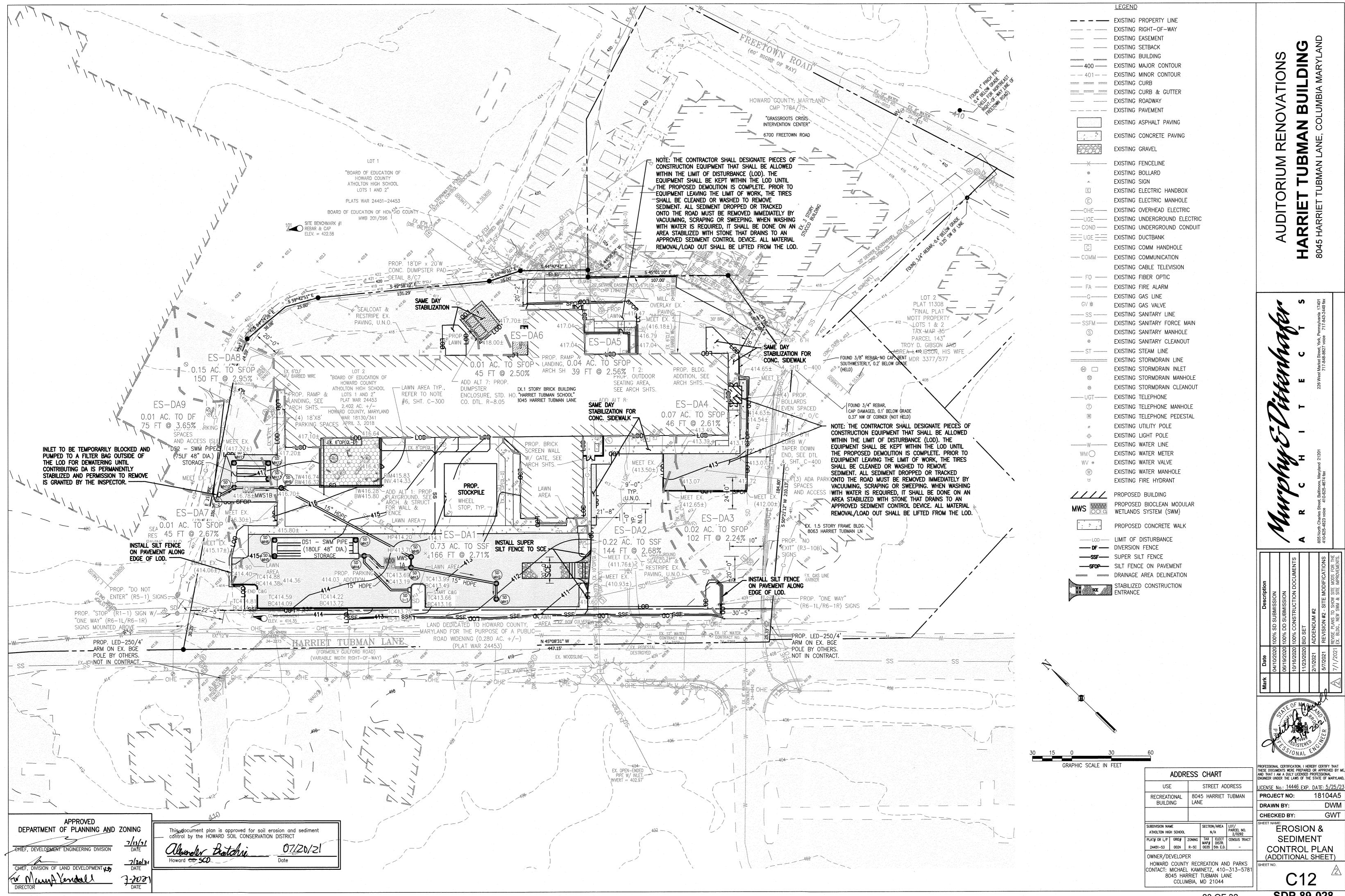
TO UTILITY

INSTALLATION.

REFER TO
PLUMB. SHTS.
FOR CONT.

ALL EXISTING UTILITIES
AND INVERTS PRIOR

	ADDRI	ESS	CH	4RT			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
USI	Ε		STR	EET AD	DRESS		LICENSE No.: 14446 EXP. DATE: 5/25/23
RECREAT		1		RRIET	TUBMAN		PROJECT NO: 18104A5
BUILDING LANE							DRAWN BY: DWM
							CHECKED BY: GWT
SUBDIVISION NA ATHOLTON HIG		,		N/AREA /A		SANITARY	
PLAT# OR L/F GRID# ZONING TAX ELECT CENSUS TRACT 24451-53 0024 R-SC 0035 5th E.D							PROFILES
OWNER/DI		R		1		(ADDITIONAL SHEET)	
CONTACT:		KAM	inetz Tubm	, 410- AN LA	ID PARKS -313-5781 NE		C11



SEDIMENT

CONTROL DETAILS (ADDITIONAL SHEET)

DETAIL B-1 STABILIZED CONSTRUCTION STANDARD SYMBOL SCE ENTRANCE 50 FT MIN. EXISTING PAVEMENT EXISTING GROUND — NONWOVEN **GEOTEXTILE** AGGREGATE OVER LENGTH AND WIDTH OF ENTRANCE -PIPE (SEE NOTE 6) **PROFILE** 50 FT MIN. LENGTH * EXISTINGPAVEMENT

CONSTRUCTION SPECIFICATIONS

APPROVED DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

PLAN VIEW

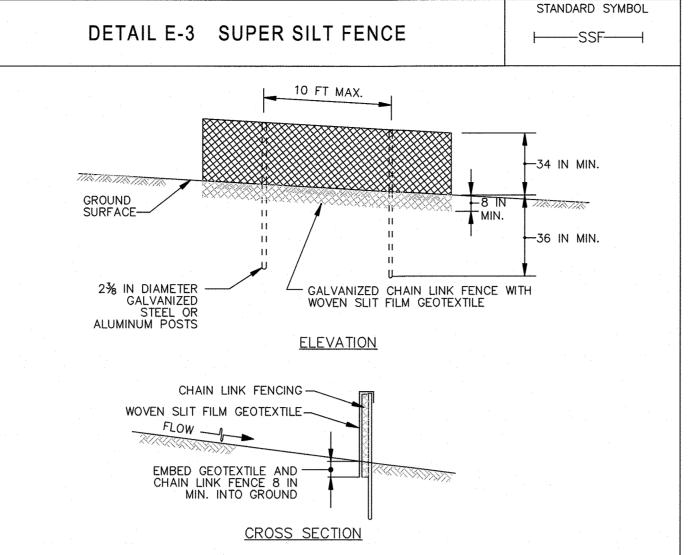
- 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- 3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- 4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

This document plan is approved for soil erosion and sediment

control by the HOWARD SOIL CONSERVATION DISTRICT

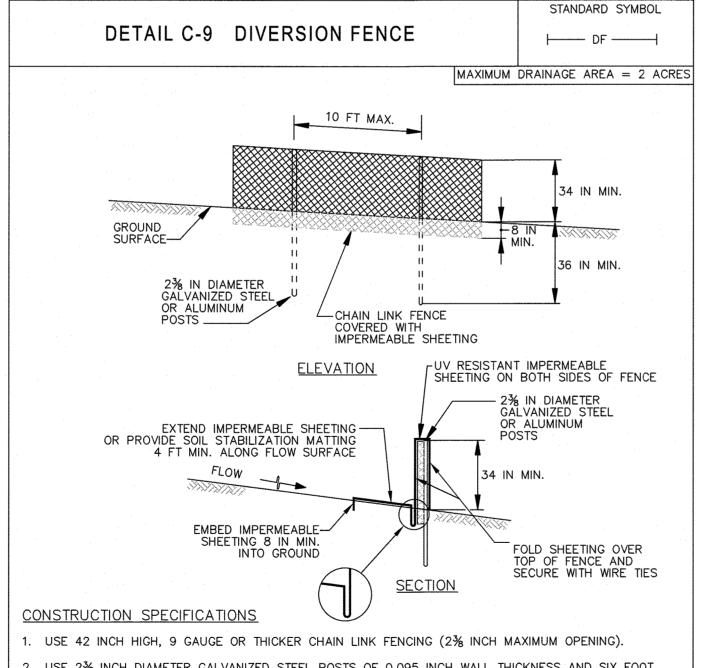
U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



CONSTRUCTION SPECIFICATIONS

- INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND S	PECIFICATIONS FOR SOIL EF	ROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE JATURAL RESOURCES CONSERVATION SERVICE	F 2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



- FACING DOWNGRADE. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-2 SILT FENCE ON PAVEMENT 2 IN x 4 IN ACROSS-TOP OF STONE ISOMETRIC VIEW SUPPORT CONSTRUCTION SPECIFICATIONS SECTION A-A 1. USE NOMINAL 2 INCH X 4 INCH LUMBER. 2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. REQUIREMENTS IN SECTION H-1 MATERIALS.

- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE
- . SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
- PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.

STANDARD SYMBOL

├──SF0P──

-WOVEN SLIT

SILT FENCE

-WOVEN SLIT FILM

GEOTEXTILE ---MASTIC SEAL

FILM GEOTEXTILE

- KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2×4.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
- PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
- 9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
- 10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

10 FT MAX.
GROUND SUPPACE 8 IN
SURFACE II II II II II II II JA6 IN MIN. 23/8 IN DIAMETER GALVANIZED STEEL OR ALUMINUM POSTS CHAIN LINK FENCE COVERED WITH IMPERMEABLE SHEETING
ELEVATION JUV RESISTANT IMPERMEABLE SHEETING ON BOTH SIDES OF FENCE
EXTEND IMPERMEABLE SHEETING OR PROVIDE SOIL STABILIZATION MATTING 4 FT MIN. ALONG FLOW SURFACE FLOW EMBED IMPERMEABLE SHEETING 8 IN MIN. INTO GROUND CONSTRUCTION SPECIFICATIONS 2% IN DIAMETER GALVANIZED STEEL OR ALUMINUM POSTS 4 IN MIN. FOLD SHEETING OVER TOP OF FENCE AND SECURE WITH WIRE TIES
1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2% INCH MAXIMUM OPENING).
2. USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM

ADDRESS CHART STREET ADDRESS USE 8045 HARRIET TUBMAN RECREATIONAL BUILDING ATHOLTON HIGH SCHOOL

COLUMBIA, MD 21044

PLAT# OR L/F GRID# ZONING TAX ELECT C MAP# DISTR.
24451-53 0024 R-SC 0035 5th E.D. OWNER/DEVELOPER HOWARD COUNTY RECREATION AND PARKS CONTACT: MICHAEL KAMINETZ, 410-313-5781 8045 HARRIET TUBMAN LANE

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<u>Definition</u>

Reshaping the existing land surface to provide suitable topography for building facilities and other site improvements.

<u>Purpose</u>

To provide erosion control and vegetative establishment for extreme changes in grade.

Conditions Where Practice Applies Earth disturbances or extreme grade modifications on steep or long slopes.

<u>Design Criteria</u> The grading plan should be based on the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, adjacent properties, drainage patterns, measures for water removal, and vegetative treatment, etc.

Many jurisdictions have regulations and design procedures already established for land grading that must be followed. The plan must show existing and proposed contours for the area(s) to be graded including practices for erosion control, slope stabilization, and safe conveyance of runoff (e.g., waterways, lined channels, reverse benches, grade stabilization structures). The grading/construction plans are to include the phasing of these practices and consideration of the following:

- 1. Provisions to safely convey surface runoff to storm drains, protected outlets or stable water courses to ensure that surface runoff will not damage slopes or other graded
- 2. Cut and fill slopes, stabilized with grasses, no steeper than 2:1. (Where the slope is to be moved, the slope should be no steeper than 3:1, but 4:1 is preferred because of safety factors related to moving steep slopes.) Slopes steeper than 2:1 require special design and stabilization considerations to be shown on the plans.
- 3. Benching per Detail B-3-1 whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slopes, when it exceeds 30 feet; and for 4:1 slopes, when it exceeds 40 feet. Locate benches to divide the slope face as equally as possible and to convey the water to a stable outlet. Soils, seeps, rock outcrops, etc. are to be taken into consideration when designing benches.
- a. Provide benches with a minimum width of six feet for ease of maintenance. b. Design benches with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Grade the longitudinal slope of the bench between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
- c. The maximum allowable flow length within a bench is 800 feet unless accompanied by appropriate design and computations.
- 4. Diversion of surface water from the face of all cut and fill slopes using earth dikes or swales. Convey surface water down slope using a designed structure, and: a. Protect the face of all graded slopes from surface runoff until they are stabilized
- b. Do not subject the slope's face to any concentrated flow of surface water such as from natural drainage ways, graded swales, downspouts, etc. c. Protect the face of the slope by special erosion control materials to include, but not
- be limited to, approved vegetative stabilization practices, riprap or other approved stabilization methods. 5. Serrated slope as shown in Detail B-3-2. The steepest allowable slope for ripable rock is 1.5:1. For non rock surfaces, the slopes are to be 2:1 or flatter. These steps will
- weather and act to hold moisture, lime, fertilizer and seed thus producing a much guicker and longer lived vegetative cover and better slope stabilization. 6. Subsurface drainage provisions. Provide subsurface drainage where necessary to
- intercept seepage that would otherwise adversely affect slope stability or create 7. Proximity to adjacent property. Slopes must not be created close to property lines without adequate protection against sedimentation, erosion, slippage, settlement,
- subsidence, or other related damages. 8. Quality of fill material. Fill material must be free of brush, rubbish, logs, stumps,
- building debris, and other objectionable material. Do not place frozen materials in the fill nor place the fill material on a frozen foundation
- 9. Stabilization. Stabilize all disturbed areas structurally or vegetatively in compliance with Section B4 Standards and Specifications for Stabilization Practices.

The line, grade, and cross section of benching and serrated slopes must be maintained. Benches and serrated slopes must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization.

APPROVED DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT LA

N/Cunf Vindall

TEMPORARY DIKE/ SWALE TO BE PLACED AT THE END OF EACH WORK DAY TO BE USED UNTIL SLOPE IS PHASE 3 EXCAVATION COMPLETELY STABILIZED - SILT FENCE PHASE 2 EXCAVATION SUPER SIL PHASE 1 EXCAVATION FENCE EXISTING GROUND Figure B.2: Incremental Stabilization - Fill

This document plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover to protect exposed soil from erosion.

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

- 1. Adequate vegetative stabilization requires 95 percent groundcover. 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
- 3. If an area has between 40 and 94 percent aroundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6. B-4-1 STANDARDS AND SPECIFICATIONS

INCREMENTAL STABILIZATION

Establishment of vegetative cover on cut and fill slopes.

To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

<u>Criteria</u>

- A. Incremental Stabilization Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
- 2. Construction sequence example (Refer to Figure B.1): a. Construct and stabilize all temporary swales or dikes that will be used
- to convey runoff around the excavation. b. Perform Phase 1 excavation, prepare seedbed, and stabilize
- c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary. d. Perform final phase excavation, prepare seedbed, and stabilize.

Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

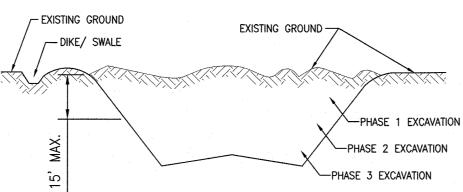


Figure B.1: Incremental Stabilization - Cut

- B. Incremental Stabilization Fill Slopes 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses
- 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
- 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2):
- a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area. b. At the end of each day, install temporary water conveyance
- practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- c. Place Phase 1 fill, prepare seedbed, and stabilize.
- d. Place Phase 2 fill, prepare seedbed, and stabilize. e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.
- Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies Where vegetative stabilization is to be established.

<u>Criteria</u>

A. Soil Preparation

- 1. Temporary Stabilization a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to
- b. Apply fertilizer and lime as prescribed on the plans.
- c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- 2. Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material
 - (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight.
- v. Soil contains sufficient pore space to permit adequate root penetration b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
- c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. d. Apply soil amendments as specified on the approved plan or as indicated by the
- results of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be necessary on newly disturbed areas.
- B. Topsoiling 1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials
- toxic to plants, and/or unacceptable soil gradation. 2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- 3. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce
- b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies 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. 4. Areas having slopes steeper than 2:1 require special consideration and design. 5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria: a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or
- loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
- b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified. c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

- a. Erosion and sediment control practices must be maintained when applying topsoil. b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 must be corrected in order to prevent the formation of depressions or water pockets.
- c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- C. Soil Amendments (Fertilizer and Lime Specifications) 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil
- samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be

delivered to the site fully labeled according to the applicable laws and must bear the

- name, trade name or trademark and warranty of the producer. 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will
- pass through a #20 mesh sieve. 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS

SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

A. Seeding

1. Specifications a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.

Criteria

- b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the
- c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
- d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

- a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to
- provide good seed to soil contact. b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with
- i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after
- ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and
- i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P205 (phosphorous), 200 pounds per acre; K20 (potassium), 200
- ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when
- iii. Mix seed and fertilizer on site and seed immediately and without interruption. iv. When hydroseeding do not incorporate seed into the soil.

B. Mulchina

- 1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty Note: Use only sterile straw mulch in areas where one species of grass is
- b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
- i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
- iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
- v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

2. Application

- a. Apply mulch to all seeded areas immediately after seeding b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a
- uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with
- a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. Anchorina a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed
- by preference), depending upon the size of the area and erosion hazard: i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the
- ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100
- gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

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PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT						
24451-53 0024 R-SC 0035 5th E.D											
OWNER/DEVELOPER HOWARD COUNTY RECREATION AND PARKS CONTACT: MICHAEL KAMINETZ, 410-313-578											

COLUMBIA, MD 21044

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 MARYLANI ICENSE No.: 14446 EXP. DATE: 5/25/2 PROJECT NO: DRAWN BY: **CHECKED BY:**

SEDIMENT CONTROL NOTES (ADDITIONAL SHEET)

SDP-89-028

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To use fast growing vegetation that provides cover on disturbed soils Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

1. Select one or more of the species or seed mixtures listed in Table B.1 for

the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

	iness Zone (from Figu Mixture (from Table I		n with other vivos reads		Fertilizer Rate	Lime Rate	
No.	Species	Application Rate (lb/ac)	Seeding Depths	(10-20-20)	·		
	Annual Ryegrass	40	Feb 15 to Apr 30; Aug 15 to Nov 30	0.5			
	Barley	96	Feb 15 to Apr 30; aug 15 to Nov 30	1.0	436 lb/ac (10 lb/1000sf)	2 tons/ac (90 lb/1000sf)	
	Foxtail Millet	30	May 1 to Aug 14	0.5	.*		

B-4-5 STANDARDS AND SPECIFICATIONS PERMANENT STABILIZATION

<u>Definition</u>

To stabilize disturbed soils with permanent vegetation

<u>Purpose</u> To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

<u>Criteria</u>

A. Seed Mixtures 1. General Use

DEPARTMENT OF PLANNING AND ZONING

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CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

- a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
- b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
- c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
- d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0)at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary. 2. Turfgrass Mixtures
- a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of
- b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan. i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive
- intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture
- iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland

Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best augrantee of cultivar purity. The

certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

<u>Western MD</u>: March 1 to June 1, August 1 to October 1 (Hardiness Zone:

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1% inches in diameter. The resulting seedbed must be in such condition that future moving of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on

	iness Zone (from Figu I Mixture (from Table I					Lime Rate		
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	- N	P ₂ O ₅	K ₂ O	
	Tall Fescue	60	Feb 15 to Apr 30; Aug 15 to Oct 31; Nov 1 to Nov 30	1/4-1/2 inch				
	Kentucky Bluegrass	40	Feb 15 to Apr 30; Aug 15 to Oct 31; Nov 1 to Nov 30	1/4-1/2 inch	45 lb/ac (1.0 lb/ 1000sf)	90 lb/ac (2.0 lb/ 1000sf)	90 lb/ac (2.0 lb/ 1000sf)	2 tons/a (90 lb/ 1000sf)
	Perennial Ryegrass	20	Feb 15 to Apr 30; Aug 15 to Oct 31; Nov 1 to Nov 30	1/4-1/2 inch		-		

Permanent Seeding Summary

- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must
- be made available to the job foreman and inspector. b. Sod must be machine cut at a uniform soil thickness of 34 inch, plus or
- minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
- c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- d. Sod must not be harvested or transplanted when moisture content
- (excessively dry or wet) may adversely affect its survival. e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
- 2. Sod Installation
- a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod. b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to
- prevent voids which would cause air drying of the roots. c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
- d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.
- 3. Sod Maintenance
- a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting. b. After the first week, sod watering is required as necessary to maintain
- adequate moisture content. c. Do not mow until the sod is firmly rooted. No more than % of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-6 STANDARDS AND SPECIFICATIONS

SOIL STABILIZATION MATTING

Material used to temporarily or permanently stabilize channels or steep slopes until aroundcover is established.

<u>Purpose</u>

To protect the soils until vegetation is established.

Conditions Where Practice Applies On newly seeded surfaces to prevent the applied seed from washing out; in channels and on steep slopes where the flow has erosive velocities or conveys clear water; on temporary swales, earth dikes, and perimeter dike swales as required by the respective design standard; and, on stream banks where moving water is likely to wash out new vegetative plantings.

<u>Design Criteria</u>

- 1. The soil stabilization matting that is used must withstand the flow velocities and shear stresses determined for the area, based on the 2-year, 24-hour frequency storm for temporary applications and the 10-year, 24-hour frequency storm for permanent applications. Designate on the plan the type of soil stabilization matting using the standard symbol and include the calculated shear stress for the respective treatment area.
- 2. Matting is required on permanent channels where the runoff velocity exceeds two and half feet per second (2.5 fps) or the shear stress exceeds two pounds per square foot (2 lbs/ft2). On temporary channels discharging to a sediment trapping practice, provide matting where the runoff velocity exceeds four feet per second (4 fps).
- 3. Temporary soil stabilization matting is made with degradable (lasts 6 months minimum), natural, or manmade fibers of uniform thickness and distribution of fibers throughout and is smolder resistant. The maximum permissible
- velocity for temporary matting is 6 feet per second. 4. Permanent soil stabilization matting is an open weave, synthetic material consisting of nondegradable fibers or elements of uniform thickness and
- distribution of weave throughout. The maximum permissible velocity for permanent matting is 8.5 feet per second. 5. Calculate channel velocity and shear stress using the following procedure:

Shear Stress (T) is a measure of the force of moving water against the

$t = v \times R \times S w$ where:

substrate and is calculated as:

- $\tau = \text{shear stress (lb/ft2)}$ y = weight density of water (62.4 lb/ft3)
- R = average water depth (hydraulic radius) (ft) Sw = water surface slope (ft/ft)
- Velocity (v) measures the rate of flow through a defined area and is

calculated as:

- - v = velocity (ft/sec)n = Manning's roughness coefficient
 - R = hydraulic radius (ft) s = channel slope (ft/ft)
- 6. Use Table B.7 to assist in selecting the appropriate soil stabilization matting for slope applications based on the slope, the slope length, and the soil-erodibility K factor.

Table B.7: Soil Stabilization on Slopes

Slope	20	:1 Fla (≥5%)			:1 to ≥5–25			1 to 25-33			to 2			5:1 to 40-50	
Slope Length (feet)*	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
Straw Mulch/Wood Cellulose Fiber	1				for	K ≥ 0.3!	5***								
Temporary Matting with Design Shear Stress ≥ 1.5 lb/sf															
Temporary Matting with Design Shear Stress ≥ 1.75 lb/sf															.:
Temporary Matting with Design Shear Stress ≥ 2.0 lb/sf															
Temporary Matting with Design Shear Stress ≥ 2.25 lb/sf															

- Effective range for all K values unless otherwise specified
- * Slope length includes contributing flow length.
- ** Slopes steeper than 2:1 must be engineered. *** Soil having a K value less than or equal to 0.35 can be stabilized effectively with straw mulch or wood cellulose fiber when located on slopes steeper than 5%. Soil stabilization matting is required on all slopes steeper than 5% that have soil with a K factor greater than 0.35. K factor ratings are published in the NRCS Soil Survey Http://Websoilsurvey.nrcs.usda.gov/app. During construction or reclamation, the soilerodibility K value should represent the upper 6 inches of the final fill material re-spread as the last lift. Only the effects of rock fragments within the soil profile are considered in the
- estimation of the K value. Do not adjust K values to account for rocks on the soil surface or increases in soil organic matter related to management

<u>Maintenance</u>

Vegetation must be established and maintained so that the requirements for Adequate Vegetative Establishment are continuously met in accordance with Section B-4 Vegetative Stabilization.

B-4-8 STANDARDS AND SPECIFICATIONS

STOCKPILE AREA

<u>Definition</u> A mound or pile of soil protected by appropriately designed erosion and <u>sediment control measures.</u>

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

- 1. The stockpile location and all related sediment control practices must be
- clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1.
- Benching must be provided in accordance with Section B-3 Land Grading. 3. Runoff from the stockpile area must drain to a suitable sediment control
- 4. Access the stockpile area from the upgrade side.
- 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive
- 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
- 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

<u>Maintenance</u>

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land

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		04/10/2020	04/10/2020 100% SD SUBMISSION
		06/19/2020	06/19/2020 100% DD SUBMISSION
		10/16/2020	10/16/2020 100% CONSTRUCTION DOCUMENTS
		11/23/2020 BID SET	BID SET
_		2/1/2021	ADDENDUM #2
4	•	5/7/2021	REVISION #2 - SITE MODIFICATIONS
	V	7/1/2021	7/1/2001 REVISE PLANS TO SHOW SITE MODS FOR THE

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ADDD	TOO OLUBE
ADDRI	ESS CHART
USE	STREET ADDRESS
RECREATIONAL BUILDING	8045 HARRIET TUBMAN LANE

SECTION/AREA LOT/ PARCEL NO. 2/0292 SUBDIVISION NAME ATHOLTON HIGH SCHOOL PLAT# OR L/F GRID# ZONING TAX ELECT CENSUS TRACT 24451–53 0024 R–SC 0035 5th E.D. OWNER/DEVELOPER HOWARD COUNTY RECREATION AND PARKS

CONTACT: MICHAEL KAMINETZ, 410-313-5781 8045 HARRIET TUBMAN LANE COLUMBIA, MD 21044

EROSION & SEDIMENT CONTROL NOTES (ADDITIONAL SHEET)

PROJECT NO:

CHECKED BY:

DRAWN BY:

SDP-89-028

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This document plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

Table H.1: Geotextile Fabrics

		SLIT	VEN FILM Extile	MONOFI GEOTE	LAMENT	NONW GEOTE	OVEN EXTILE
			MINII	MUM AVERA	GE ROLL V	ALUE	
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
GRAB TENSILE STRENGTH	ASTM D-4632	200lb	200lb	370lb	250lb	200lb	200lb
GRAB TENSILE ELONGATION	ASTM D-4632	15%	10%	15%	15%	50%	50%
TRAPEZOIDAL TEAR STRENGTH	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
PUNCTURE STRENGTH	ASTM D-6241	450) lb	900 lb 4		450) lb
APPARENT OPENING SIZE 2	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Si (0.21	eve 70 mm)	1	eve 70 mm)
PERMITTIVITY	ASTM D-4491	0.05 sec		0.28	sec	1.1 sec	
ULTRAVIOLET RESISTANCE RETAINED AT 500 HOURS	ASTM D-4355	70% strength		70 stre)% ngth		0% ngth

1 All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

2 Values for AOS represent the average maximum opening

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

Table H.2: Stone Size

TYPE	SIZE RANGE	d	d	AASHT0	MIDSIZE WEIGHT ³
NUMBER 57 ¹	3/8 TO 1 1/2INCH	1 1/2 IN	1 1/2 IN	M-43	N/A
NUMBER 57	2 TO 3 INCH	2 1/2 IN	3 IN	M-43	N/A
RIPRAP 2 (CLASS 0)	4 TO 7 INCH	5 1/2 IN	7 IN	N/A	N/A
CLASS I	N/A	9 1/2 IN	15 IN	N/A	40 lb
CLASS II	N/A	16 IN	24 IN	N/A	200 lb
CLASS III	N/A	23 IN	34 IN	N/A	600 lb

1 This classification is to be used on the upstream face of stone outlets and check dams.

2 This classification is to be used for gabions

3 Optimum gradation is 50 percent of the stone being above and 50 percent

Stone must be composed of a well graded mixture of stone sized so that fifty (50) percent of the pieces by weight are larger than the size determined by using the charts. A well graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone in such a mixture must not exceed the respective d100 selected from Table H.2. The d50 refers to the median diameter of the stone. This is the size for which 50 percent, by weight, will be smaller and 50 percent will be larger.

Note: Recycled concrete equivalent may be substituted for all stone classifications for temporary control measures only. Concrete broken into the sizes meeting the appropriate classification, containing no steel reinforcement, and having a minimum density of 150 pounds per cubic foot may be used as an equivalent.

H-5 STANDARDS AND SPECIFICATIONS DUST CONTROL

Controlling the suspension of dust particles from construction activities

To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off—site damage including health and traffic hazards.

Conditions Where Practice Applies

Areas subject to dust blowing and movement where on and off-site damage is likely without treatment

Specifications

- Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent
- 2. Vegetative Cover: see Section B-4-4 Temporary Stabilization. 3. Tillage: Till to roughen surface and bring clods to the surface. Begin
- plowing on windward side of site. Chisel-type plows spaced about 12" inches apart, spring—toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
- 4. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff
- 5. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar materials can be used to control air currents and soil blowing.
- 6. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

ENGINEER'S CERTIFICATE "I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District." idith () Course **S**ignature of Engineer (print name below signature) DEVELOPER'S CERTIFICATE I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the environment approved training program for the control f sediment and erosion before beginning the project. I also authorize periodic Apsite/inspection by the Howard Soil Conservation District." Signature of Developer MICHAEL. name below signature) KAMINETZ

APPROVED DEPARTMENT OF PLANNING AND	ZONING		
HIEF, DEVELOPMENT ENGINEERING DIVISION	7/12/21 DATE	This document plan is approved for soil	erosion and
CHIEF, DIVISION OF LAND DEVELOPMENT	7/20/21 DATE	control by the HOWARD SOIL CONSERVAT	
Mary & Sendall	7.20.21	Howard CHD SCD	

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855)
- 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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO
- 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC.B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

6. SITE ANALYSIS:

TOTAL AREA OF SITE 2.402± ACRES $0.85\pm$ (ON-SITE) $0.05\pm$ (OFF-SITE) ACRES AREA DISTURBED 0.56 ACRES AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED 0.44 ACRES TOTAL CUT 1550 CU. YDS 1700 CU. YDS TOTAL FILL OFFSITE WASTE/BORROW ARE LOCATION TBD CU. YDS.

- 7. ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE
- 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 9. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS. BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 10. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- 11 ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 12. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BE STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- 13. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT.

INLET PROTECTION NOTE

- THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:
- *1. ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE. STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL 2. INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC. ALL INLET PROTECTION WILL
- BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE "1994 MARYLAND" STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PAGE E-16-5A OR E-16-5B. THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRED APPROVAL FROM THE
- * STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL.

UTILITY CONSTRUCTION NOTE

- 1. CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY, IF THE TRENCH IS TO REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH 2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH
- 3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

TRAP FLOW DIVERSION NOTE

"TO PREVENT SLOPE EROSION, WITHIN SEDIMENT TRAPPING DEVICES, ADEQUATELY SIZED AND STABILIZED FLOW DIVERSION MEASURES (I.E., EARTH DIKE, TEMPORARY SWALE, PERIMETER DIKE/SWALE) SHALL BE INSTALLED AT THE UPSLOPE EXTENT OF TRAP, AND BASIN STORAGE AREAS TO DIVERT ALL FLOWS TO APPROPRIATE INFLOW PROTECTION DEVICES.

TEMPORARY STOCKPILES

- IF TEMPORARY STOCKPILES ARE REQUIRED, THEY SHALL BE:
 - LOCATED WITHIN THE LIMITS OF DISTURBANCE (L.O.D.) DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.
 - POSITIONED TO NOT IMPEDE UPON. OR IMPAIR THE FUNCTION OF SAID DEVICE.
 - POSITION TO NOT ALTER DRAINAGE DIVIDES.

SEQUENCE OF OPERATIONS/CONSTRUCTION

OBTAIN A GRADING PERMIT NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS/LICENSES/PERMITS (DILP) AT 410-313-1823 AT LEAST 7 DAYS PRIOR TO COMMENCING WORK FOR ADDITIONAL

NOTIFICATIONS AND PRE-CONSTRUCTION MEETING REQUIREMENTS. NOTIFY THE DPW SEDIMENT CONTROL DIVISION AT 410-313-1855 SEVEN DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY, AND UNLESS WAIVED BY THE DISTRICT. SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES. THE ON-SITE PRE-CONSTRUCTION MEETING WITH ALL PARTIES SHALL BE TO DISCUSS SITE ISSUES INCLUDING, BUT NOT LIMITED TO, SECURITY, CIRCULATION, WAYS AND MEANS, LIMITS OF RESPONSIBILITIES AND WORK,

AND TO INSPECT SITE FOR ANY UNFORESEEN CONDITIONS. 4. PROVIDE SURVEY AND LAYOUT OF THE LIMIT OF DISTURBANCE (LOD) AND SEDIMENT CONTROL DEVICES. THE LOD MUST BE FIELD MARKED PRIOR TO AND INSPECTED AT THE PRE-CONSTRUCTION MEETING. —

CONDUCT ON-SITE PRE-CONSTRUCTION MEETING WITH ALL PARTIES TO DISCUSS ISSUES INCLUDING, BUT NOT LIMITED TO PHASES OF CONSTRUCTION RELATIVE TO EROSION AND SEDIMENT CONTROL (ESC), WAYS AND MEANS AND LIMITS OF RESPONSIBILITIES AND WORK. AND TO INSPECT THE SITE FOR ANY UNFORESEEN

6. WITH THE PERMISSION OF THE CID INSPECTOR, CLEAR AND GRUB FOR INSTALLATION OF INITIAL PERIMETER CONTROLS. INSTALL EROSION AND SEDIMENT CONTROL DEVICES INCLUDING STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE AND SILT FENCE ON PAVING BEFORE COMMENCING ANY WORK. — 7. BEGIN CONSTRUCTION OF BUILDING ADDITION, OUTDOOR SEATING AREA AND

CONCURRENT WITH STEP 7. BEGIN CONSTRUCTION OF NEW UTILITIES, INCLUDING MODULAR WETLANDS SYSTEM. INSTALL AT-GRADE INLET PROTECTION AT NEW INLET AND TEMPORARILY PLUG DRAIN.

CONCURRENT WITH STEPS 7 AND 8, COMPLETE BUILDING, CURB & GUTTERS, PEDESTRIAN WALKWAYS, VEHICULAR PAVING AND SEALCOATING. — 10. COMPLETE FINE GRADING AND TOPSOIL OF PROPOSED LAWN AND PLANTING AREAS INSTALL LANDSCAPE PLANT MATERIAL. COMPLETE SEEDING AND MULCHING OF LAWN

11. ONCE SITE IS STABILIZED AND WITH THE APPROVAL OF CID INSPECTOR, UNPLUG STORMWATER MANAGEMENT PRACTICES. NOTE - A THREE DAY DRY FORECAST MUST BF FSTABLISHED PRIOR TO START OF WORK PER NATIONAL OCEANIC AND ATMOSPHERIC ASSOCIATION (NOAA) WEATHER FORECAST. IN THE EVENT OF RAINFALL, REMOVABLE PUMP STATION AND PORTABLE SEDIMENT TANKS TO BE EMPLOYED TO

TREAT WATER REMOVED FROM EXCAVATION. 12. ONLY UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. REMOVE REMAINING SEDIMENT CONTROL DEVICES AND IMMEDIATELY STABILIZE ALL AREAS DISTURBED BY DEVICE REMOVAL.

LIONS

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BUILDIN

			UMENTS			ICATIONS	יייייייייייייייייייייייייייייייייייייי
Description	04/10/2020 100% SD SUBMISSION	06/19/2020 100% DD SUBMISSION	10/16/2020 100% CONSTRUCTION DOCUMENTS	BID SET	ADDENDUM #2	REVISION #2 - SITE MODIFICATIONS	THE COL COM THE WOLLD OF OUR IC TOWNED
Date	04/10/2020	06/19/2020	10/16/2020	11/23/2020 BID SET	2/1/2021	5/7/2021	
Mark							<
	PROPERTY.	AFE	OF	MAN	2000	NEER CHIM	

ADDRESS CHART									
US	Ξ .		STRE	ET AD	DRESS				
RECREATIONAL 8045 HARRIET TUBMAN LANE					TUBMAN				
	-								
SUBDIVISION NAME SECTION/AREA LOT/									
ATHOLTON HIG	SCHOOL		N	/A	PARCEL NO. 2/0292				
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT				
24451-53	0024	R-SC	0035	5th E.D.					
OWNER/DEVELOPER									
	MICHAE 045 HAI	L KAM	INETZ TUBM	, 410- AN LA	-313-5781				

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, ICENSE No.: 14446 EXP. DATE: 5/25/2 18104A5 PROJECT NO: DRAWN BY: CHECKED BY:

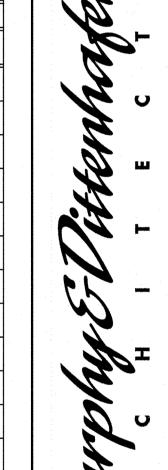
EROSION & SEDIMENT **CONTROL NOTES** (ADDITIONAL SHEET)

C16

DWM

GWT

27 OF 32

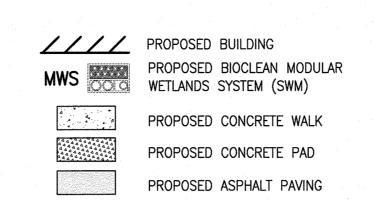


PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, ICENSE No.: 14446 EXP. DATE: 5/25/2

STREET ADDRESS PROJECT NO: 18104A5 8045 HARRIET TUBMAN DWM **DRAWN BY: CHECKED BY:** SECTION/AREA LOT/ PARCEL NO. 2/0292

GWT STORMWATER **MANAGEMENT** PLAN - MWS1A

(ADDITIONAL SHEET) C17



PROPOSED MILL & OVERLAY STORMWATER MANAGEMENT DRAINAGE AREA

AUU ALI /. FRUF.

CO. DTL. R-8.05

ENCLOSURE, STD. HO.

EX. CONC RAMP-

LEGEND

- - EXISTING PROPERTY LINE

---- EXISTING RIGHT-OF-WAY

—— 400 — EXISTING MAJOR CONTOUR

--401-- EXISTING MINOR CONTOUR

EXISTING CURB & GUTTER

EXISTING BUILDING

EXISTING ASPHALT PAVING

EXISTING CONCRETE PAVING

EXISTING ELECTRIC HANDBOX

EXISTING ELECTRIC MANHOLE

EXISTING COMM HANDHOLE

EXISTING GRAVEL

EXISTING BOLLARD

EXISTING SIGN

----OHE---- EXISTING OVERHEAD ELECTRIC

----UGE --- EXISTING UNDERGROUND ELECTRIC --- COND --- EXISTING UNDERGROUND CONDUIT

---- EXISTING EASEMENT

----- EXISTING SETBACK

=== EXISTING CURB

---- EXISTING ROADWAY

----- EXISTING PAVEMENT

----X EXISTING FENCELINE

EXISTING DUCTBANK

— COMM — EXISTING COMMUNICATION

--- FO --- EXISTING FIBER OPTIC

--- FA --- EXISTING FIRE ALARM

------SS ------ EXISTING SANITARY LINE

----ST ---- EXISTING STEAM LINE

SITE SPECIFIC DATA

PROJECT NUMBER

PROJECT NAME

STRUCTURE IL

INLET PIPE 2

TREATMENT HGL AVAILABLE (F

WETLANDMEDIA VOLUME (CY)

VSTALLATION NOTES

MANUFACTURER'S CONTRACT.

PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE

408.60

EXISTING STORMDRAIN LINE

----G----EXISTING GAS LINE

---- CATV ---- EXISTING CABLE TELEVISION

EXISTING GAS VALVE

EXISTING SANITARY MANHOLE

EXISTING SANITARY CLEANOUT

EXISTING STORMDRAIN MANHOLE

EXISTING STORMDRAIN CLEANOUT

EXISTING TELEPHONE MANHOLE

EXISTING TELEPHONE PEDESTAL

AUDITORIUM RENOVATIONS,

HARRIET TUBMAN BUILDING

COLUMBIA, MD

N/A

414.00

3.68

ø2.17"

HDPE

414.00

PRETREATMENT BIOFILTRATION

CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND

APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS' SPECIFICATIONS. UNLESS OTHERWISE STATED IN

UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED

BY THE PROJECT ENGINEER, CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS. PIPES, ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S

CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS.

MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.

ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO

CHANGE, FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS

MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED

VEGETATION SUPPLIED AND INSTALLED BY MANUFACTURER.

PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

AND ACCESSORIES PLEASE CONTACT BIO CLEAN.

CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT

NCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND

N/A

WETLANDMEDIA

PATENTED-PERIMETER

VOID AREA

SEE NOTES

DRAIN DOWN LINE

PLAN VIEW

ELEVATION VIEW

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE
PROPERTY OF FORTERERA AND ITS COMPANIES. THIS DOCUMENT
WORK ANY PART THEREOF, MAY BE USED, REPRODUCED OR MODIFIED
WORK MAY PART THEREOF, MAY BE USED, REPRODUCED OR MODIFIED
WAT MANNER WITH OUT THE WRITTEN CONCENT OF FORTERPRA.

NOTE: PLANTING ARE NOT REQUIRED FOR

REDEVELOPMENT. TOP TO BE CONCRETE

EXISTING UTILITY POLE

EXISTING LIGHT POLE

DUMPSTER

-LAWN AREA TYP.,

PLAYGROUND. SEE ARCH. & STRUCT OR WALL &

LAWIN AREA 7

S FX GRASS - 5 19

MH3

WATERTIGHT SEAL MADE WITH FLEXIBLE

BOOT STYLE MANHOLE CONNECTOR (TYP)

EX. GRADE

12" HDPE @ 0.5%

INTERNAL WEIR ELEV. = 412.19

REFER TO NOTE

#6, SHT. C-300

EX. (2) ELEC RISERS TO

-START C&G

ÉEX. DOUBLE YELLOW LINE &

A/G EBOX.(NAU)

WHEEL

STOP, TYP. 7

ROAD WIDENING (0.280 AC. +/-

(PLAT WAR 24453)

420

405

- 400

ATHOLTON HIGH SCHOOL

LOTS 1 AND 2"

PLAT WAR 24453

2.402 AC. +/-

EK. 6"CIP(QL-D)

(FORMERLY GUILFORD ROAD)

(VARIABLE WIDTH RIGHT-OF-WAY)

\MH4

WARD COUNTY, MARYLAND

OVERHANG PROP. RAMP &

LANDING, SEE

(4)18′X8′

415.80±

PROP. GRADE -

STORAGE

65 LF OF 48" HDPE @ 0.0%

2 LF OF 15" HDPE @ 0.0%

 $(416.30\pm)$

. DOUBLE YELLOW LI

100 Yr WSE = 412.60

PARKING SPACES

AS-BUILT NOTE:

THE CONTRACTOR SHALL SUPPLY ALL OF THE FOLLOWING INFORMATION DURING AND AFTER THE CONSTRUCTION OF THE SWM SYSTEM. ALL REQUIRED DOCUMENTS SHALL BE SUBMITTED WITHIN NINETY (90) DAYS OF THE DATE OF SUBSTANTIAL COMPLETION AS ACCEPTED BY THE OWNER:

- 1. AS-BUILT TOPOGRAPHIC SURVEY BASED ON THE SAME DATUM AND BENCHMARKS AS THE ORIGINAL SURVEY USED IN DESIGN. THE AS-BUILT SURVEY SHALL SHOW THE FOLLOWING:
 - a. SIZE, ELEVATIONS, AND GRADES OF EXCAVATION FOR BMP(S) b. SURFACE ELEVATIONS AND GRADES FOR EACH LAYER OF DIFFERENT
 - MATERIAL N THE BMP(S) c. INVERT ELEVATIONS FOR ALL UNDERDRAINS, STORM PIPING, AND
 - APPURTENANCE STRUCTURES IN THE BMP(S). d. SURFACE ELEVATIONS AND SPOT GRADES OF THE COMPLETED BMP(S) IN LOCATIONS TO MATCH THE APPROVED SWM PLANS AND DETAILS.
 - e. THE SURVEY SHALL BE IN AUTOCAD FORMAT. CONTACT THE ENGINEER FOR CADD STANDARDS TO BE USED.
- 2. MATERIAL TICKETS FOR ALL MATERIALS USED IN CONSTRUCTION OF THE
- PHOTOGRAPHS OF CRITICAL INSPECTIONS INCLUDING, BUT NOT LIMITED TO: a. PHOTOS OF EACH LAYER OF DIFFERENT MATERIAL IN THE BMP(S)
- b. PHOTOS OF PLACEMENT OF ALL UNDERDRAINS, STORM PIPING, AND APPURTENANT STRUCTURES IN THE BMP(S)
- c. PHOTOS OF THE COMPLETED BMP(S) INCLUDING ALL STABILIZATION AND LANDSCAPING.

LEFT END VIEW

RIGHT END VIEW

MWS-L-8-8-5'-2"-V-UG

STORMWATER BIOFILTRATION SYSTEM

STANDARD DETAIL

4. COMPLETED AS-BUILT TABLES WITH THE INSPECTOR'S INITIALS IN ORIGINAL HANDWRITING - SEE THIS SHEET FOR REQUIRED INFORMATION.

AS BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITIES (BOTH BMP AND ESD PRACTICES) SHOWN ON THE PLANS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY HOWARD COUNTY, EXCEPT AS NOTED IN RED ON THE "AS-BUILT" DRAWINGS.

MWS1, MODULAR WETLANDS

SYSTEM #1A

ESD/BMP TREATMENT SUMMARY

REDEVELOPMENT

DRAINAGE AREA = 14561 S.F.

ESDv PROVIDED = 1187 c.f. (Reg. = 664 c.f.)

IMP. AREA TREATED = 10894 S.F

SIGNATURE MARYLAND REGISTRATION NUMBER (PE OR LS) FACILITY BEING CERTIFIED: MWS1 MODULAR WETLAND FACILITY

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

PR	OJECT NAME: HARRIET TUBMAN	SDP NO.: 89-0	28
	AS-BUILT DATA FOR MOI	DULAR WETLAND FACI	LITY
	*TO BE COMPLETED B	Y THE PROJECT CONTRACTOR	
В	MP ID: MWS1A		
	FEATURE	DESIGN	*AS-BUILT
FA	ACILITY DETAIL	MWS-L-8-8	
FA	ACILITY LxW	8'x8'	
TO	OP OF FACILITY	412.44	
В	OTTOM OF FACILITY (INTERNAL)	408.44	
В	OTTOM OF FACILITY (EXTERNAL)	407.94	
· IN	ILET SIZE & TYPE	15" HDPE	
IN	ILET INVERT	412.90	
Pl	RETREATMENT CHAMBER SIZE & TYPE	48" HDPE	
TO	OTAL PRETREATMENT CHAMBER PIPE LENGTH	210 LF	
PI	RETREATMENT CHAMBER INVERT	408.56	
0	UTLET PIPE/ORIFICE SIZE & TYPE	6" HDPE	
0	UTLET INVERT	407.50	

1. ALL MATERIALS AND CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH THE CURRENT MARYLAND STORMWATER DESIGN MANUAL AND CITY STANDARDS. 2. UNDERDARAINS SHALL BE 4" PERFORATED PVC. PERFORATIONS SHALL BE 34" DIAMETER

LOCATED 6" ON CENTER WITH A MINIMUM OF 4 HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO.4 OR 4x4) GALVANIZED HARDWARE CLOTH ROOF DRAINS SHALL NOT BE CONNECTED UNTIL APPROVAL BY THE COUNTY INSPECTOR, ALL ROOF AREAS SHALL BE FREE OF DEBRIS, AND OUTLET PIPE INSTALLATION HAS BEEN

4. SEE EROSION AND SEDIMENT CONTROL PLAN FOR EROSION AND SEDIMENT CONTROL MEASURES.

STORMWATER MANAGEMENT AS-BUILT NOTE:

DATE AS-BUILT ACCEPTED BY HOWARD COUNTY:

THE CONTRACTOR SHALL SUPPLY ALL OF THE FOLLOWING INFORMATION DURING AND AFTER THE CONSTRUCTION OF THE SWM SYSTEMS. ALL REQUIRED DOCUMENTS SHALL BE SUBMITTED WITHIN NINETY (90) DAYS OF THE DAY OF SUBSTANTIAL COMPLETION AS ACCEPTED BY THE OWNER: 1. AS-BUILT TOPOGRAPHIC SURVEY BASED ON THE SAME DATUM USED IN THE DESIGN. THE

AS-BUILT SURVEY SHALL SHOW THE FOLLOWING: A. INVERT AND/OR RIM ELEVATIONS OF ALL PIPES, FITTINGS, AND INLETS/OUTLET B. SURFACE ELEVATIONS AND SPOT GRADES OF THE COMPLETED FACILITIES IN LOCATIONS

TO MATCH THE APPROVED SWM PLANS AND DETAILS. THE SURVEY SHALL BE IN AUTOCAD FORMAT. CONTACT THE ENGINEER FOR CADD STANDARDS. MATERIAL TICKETS FOR ALL MATERIALS USED IN CONSTRUCTION OF THE FACILITIES.

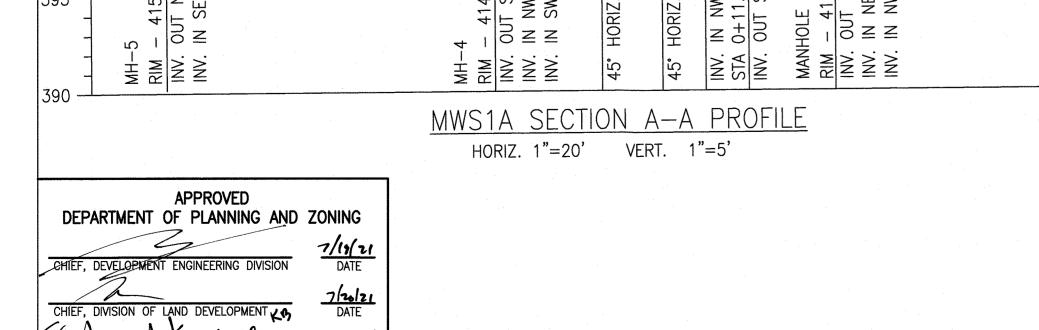
3. PHOTOGRAPHS OF CRITICAL INSPECTIONS INCLUDING, BUT NOT LIMITED TO: A. THE INSIDE OF EACH FACILITY (PRETREATMENT CHAMBER, MEDIA, ETC.)

4. COMPLETED AS-BUILT TABLES WITH THE INSPECTORS INITIALS IN ORIGINAL HANDWRITING.

PIPES AND FITTINGS IN PLACE AFTER TRENCHING, PRIOR TO BACKFILLING. C. THE COMPLETED FACILITIES AND SLOT DRAINS SURFACES.

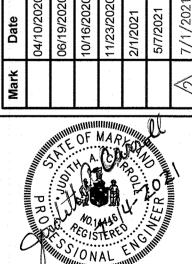
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7				USE			STR	ET AD	DRESS
				RECREAT BUILDI		804 LAN		RRIET	TUBMAN
	3			Subdivision NAI Atholton Hig				n/area /a	LOT/ PARCEL NO. 2/0292
				PLAT# OR L/F 24451-53	GRID# 0024	ZONING R-SC	TAX MAP# 0035	ELECT DISTR. 5th E.D.	CENSUS TRACT
				OWNER/DE	VELOP	ER		.	
20 10	0 GRAPHIC SCA	20 F IN FFFT	40	CONTACT: 1		L KAM	INETZ	, 410-	

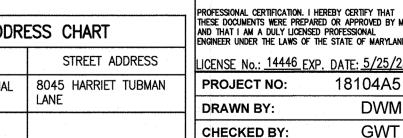
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8045 HARRIET TUBMAN LANE COLUMBIA, MD 21044

*AS-BUILT





OWNER/DEVELOPER HOWARD COUNTY RECREATION AND PARKS

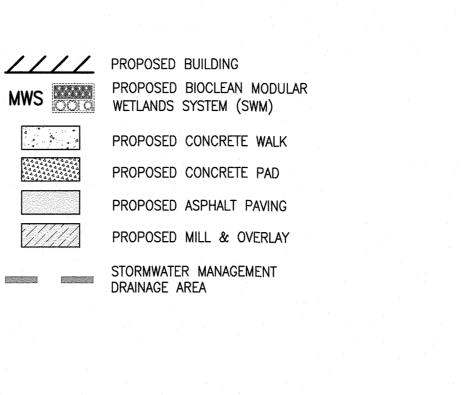
SECTION/AREA LOT/ PARCEL NO. 2/0292 STORMWATER **MANAGEMENT** CONTACT: MICHAEL KAMINETZ, 410-313-5781 8045 HARRIET TUBMAN LANE

PLAN - MWS1B (ADDITIONAL SHEET)

18104A5

DWM

GWT



AS-BUILT NOTE:

- AS-BUILT TOPOGRAPHIC SURVEY BASED ON THE SAME DATUM AND BENCHMARKS AS THE ORIGINAL SURVEY USED IN DESIGN. THE
- c. INVERT ELEVATIONS FOR ALL UNDERDRAINS, STORM PIPING, AND
- d. SURFACE ELEVATIONS AND SPOT GRADES OF THE COMPLETED BMP(S) IN LOCATIONS TO MATCH THE APPROVED SWM PLANS AND DETAILS.
- e. THE SURVEY SHALL BE IN AUTOCAD FORMAT. CONTACT THE
- 2. MATERIAL TICKETS FOR ALL MATERIALS USED IN CONSTRUCTION OF
- b. PHOTOS OF PLACEMENT OF ALL UNDERDRAINS, STORM PIPING,
- STABILIZATION AND LANDSCAPING.

LEGEND

— — — EXISTING PROPERTY LINE ---- EXISTING RIGHT-OF-WAY

---- EXISTING EASEMENT

---- EXISTING SETBACK

—— 401—— EXISTING MINOR CONTOUR

EXISTING CURB & GUTTER

== EXISTING CURB

----- EXISTING ROADWAY

---- EXISTING PAVEMENT

EXISTING FENCELINE

EXISTING DUCTBANK

-- COMM -- EXISTING COMMUNICATION

--- FO --- EXISTING FIBER OPTIC

--- FA --- EXISTING FIRE ALARM

------SS ------ EXISTING SANITARY LINE

-----ST ---- EXISTING STEAM LINE

EXISTING STORMDRAIN LINE

----G---- EXISTING GAS LINE

--- CATV --- EXISTING CABLE TELEVISION

EXISTING BUILDING

EXISTING ASPHALT PAVING

EXISTING CONCRETE PAVING

EXISTING ELECTRIC HANDBOX

EXISTING ELECTRIC MANHOLE

EXISTING COMM HANDHOLE

EXISTING GRAVEL

EXISTING BOLLARD

EXISTING SIGN

-----OHE----- EXISTING OVERHEAD ELECTRIC

----UGE---- EXISTING UNDERGROUND ELECTRIC

--- COND --- EXISTING UNDERGROUND CONDUIT

EXISTING GAS VALVE

EXISTING SANITARY MANHOLE

EXISTING SANITARY CLEANOUT

EXISTING STORMDRAIN INLET

EXISTING STORMDRAIN MANHOLE

EXISTING STORMDRAIN CLEANOUT

EXISTING TELEPHONE MANHOLE

EXISTING TELEPHONE PEDESTAL

EXISTING UTILITY POLE

EXISTING LIGHT POLE

SEALCOAT &

RESTRIPE EX.

PAVING, U.N.O.-

"BOARD OF EDUCATION OF ELEV CONC OUTSIDE LOCKED BOOR

HOWARD COUNTY

LOTS 1 AND 2"

PLAT WAR 24453

2.402 AC. +/-

DWARD COUNTY, MARYLAND

PROP. RAMP &

PARKING SPACES

180LF 48"

LANDING, SEE

• ^ 415.80±

ATHOLTON HIGH SCHOOL

EX. ELEC RIS

-LAWN AREA TYP

-ADD ALT 1: PROP.

PLAYGROUND. SEE ARCH. & STRUCT OR WALL &

LAWIN AREA 7

REFER TO NOTE

#6, SHT. C-300

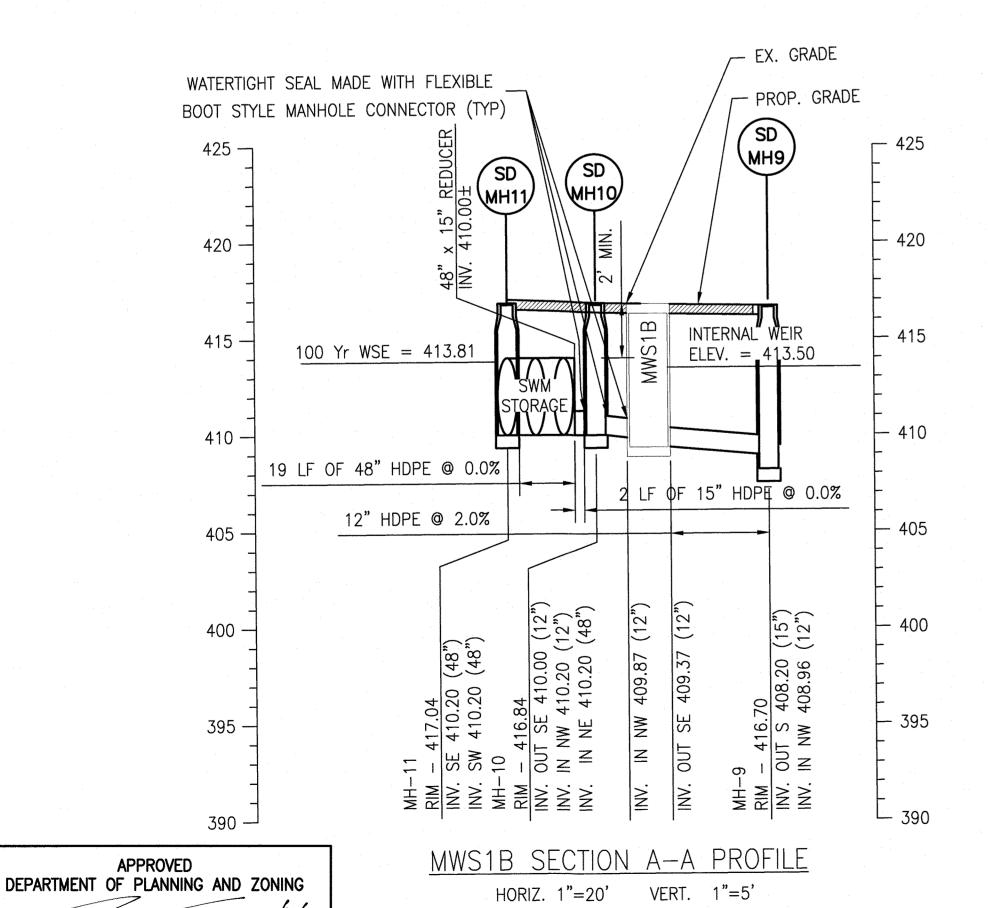
REFER TO

SHTS FOR S

CONN. AT E

THE CONTRACTOR SHALL SUPPLY ALL OF THE FOLLOWING INFORMATION DURING AND AFTER THE CONSTRUCTION OF THE SWM SYSTEM. ALL REQUIRED DOCUMENTS SHALL BE SUBMITTED WITHIN NINETY (90) DAYS OF THE DATE OF SUBSTANTIAL COMPLETION AS ACCEPTED BY THE OWNER:

- AS-BUILT SURVEY SHALL SHOW THE FOLLOWING:
- b. SURFACE ELEVATIONS AND GRADES FOR EACH LAYER OF DIFFERENT MATERIAL N THE BMP(S).
- APPURTENANCE STRUCTURES IN THE BMP(S)
- ENGINEER FOR CADD STANDARDS TO BE USED.
- 3. PHOTOGRAPHS OF CRITICAL INSPECTIONS INCLUDING, BUT NOT LIMITED
- a. PHOTOS OF EACH LAYER OF DIFFERENT MATERIAL IN THE BMP(S)
- AND APPURTENANT STRUCTURES IN THE BMP(S) c. PHOTOS OF THE COMPLETED BMP(S) INCLUDING ALL
- 4. COMPLETED AS-BUILT TABLES WITH THE INSPECTOR'S INITIALS IN ORIGINAL HANDWRITING - SEE THIS SHEET FOR REQUIRED INFORMATION.



AND ACCESS, ISLE

RESTRIPE EX.

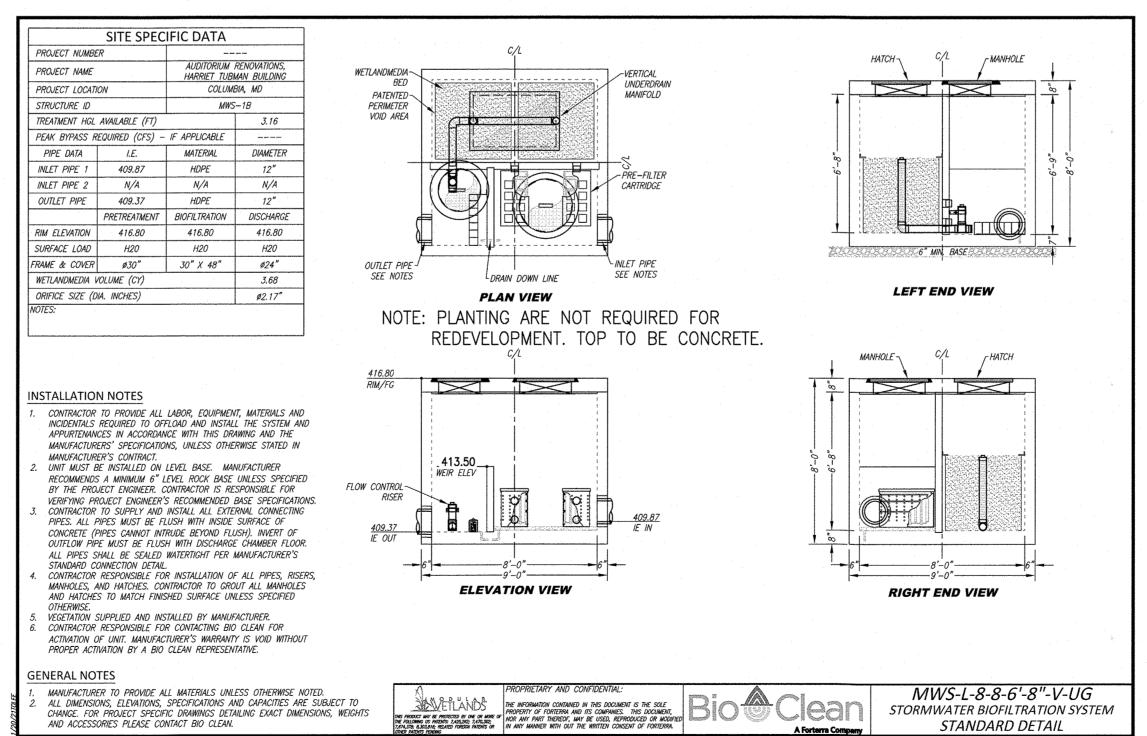
EX. ATHOLTON

HIGH SCHOOL

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

Kendall



AS-BUILT SURVEY SHALL SHOW THE FOLLOWING:

	4					
		R	■ <			
		, y				
20	10	0 GRAPHIC	SCALE	20 IN FEET	40	

	ADDR	ESS	СН
USI	= .		STR
RECREAT BUILD		804 LAN	5 H/ E
SUBDIVISION NA ATHOLTON HIG			SECTION
PLAT# OR L/F 24451-53	GRID# 0024	ZONING R-SC	TAX MAP# 0035

COLUMBIA, MD 21044

29 OF 32

DURING CONSTRUCTION a. SIZE, ELEVATIONS, AND GRADES OF EXCAVATION FOR BMP(S). PROJECT NAME: HARRIET TUBMAN SDP NO.: 89-028 AS-BUILT DATA FOR MODULAR WETLAND FACILITY *TO BE COMPLETED BY THE PROJECT CONTRACTOR BMP ID: MWS1B **DESIGN** FEATURE FACILITY DETAIL MWS-L-8-8

FACILITY LxW	8'x8'	
TOP OF FACILITY	412.44	
BOTTOM OF FACILITY (INTERNAL)	408.44	
BOTTOM OF FACILITY (EXTERNAL)	407.94	
INLET SIZE & TYPE	15" HDPE	
INLET INVERT	412.90	
PRETREATMENT CHAMBER SIZE & TYPE	48" HDPE	
TOTAL PRETREATMENT CHAMBER PIPE LENGTH	210 LF	
PRETREATMENT CHAMBER INVERT	408.56	
OUTLET PIPE/ORIFICE SIZE & TYPE	6" HDPE	

407.50

ESD/BMP TREATMENT SUMMARY

REDEVELOPMENT

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITIES (BOTH BMP AND

ESD PRACTICES) SHOWN ON THE PLANS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS APPROVED BY HOWARD COUNTY, EXCEPT AS NOTED IN RED ON

SIGNATURE

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON

SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED

MWS1, MODULAR WETLANDS

SYSTEM #1B

AS BUILT CERTIFICATION

THE "AS-BUILT" DRAWINGS.

MARYLAND REGISTRATION NUMBER (PE OR LS)

FACILITY BEING CERTIFIED: MWS1 MODULAR WETLAND FACILITY

DRAINAGE AREA = 10559 S.F.

ESDv PROVIDED = 651 c.f. (Req. = 251 c.f.)

IMP. AREA TREATED = 3830 S.F

OUTLET INVERT DATE AS-BUILT ACCEPTED BY HOWARD COUNTY:

1. ALL MATERIALS AND CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH THE CURRENT MARYLAND STORMWATER DESIGN MANUAL AND CITY STANDARDS. 2. UNDERDARAINS SHALL BE 4" PERFORATED PVC. PERFORATIONS SHALL BE 3/4" DIAMETER

LOCATED 6" ON CENTER WITH A MINIMUM OF 4 HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO.4 OR 4x4) GALVANIZED HARDWARE CLOTH.

3. ROOF DRAINS SHALL NOT BE CONNECTED UNTIL APPROVAL BY THE COUNTY INSPECTOR, ALL ROOF AREAS SHALL BE FREE OF DEBRIS, AND OUTLET PIPE INSTALLATION HAS BEEN

4. SEE EROSION AND SEDIMENT CONTROL PLAN FOR EROSION AND SEDIMENT CONTROL MEASURES.

STORMWATER MANAGEMENT AS-BUILT NOTE:

THE CONTRACTOR SHALL SUPPLY ALL OF THE FOLLOWING INFORMATION DURING AND AFTER THE CONSTRUCTION OF THE SWM SYSTEMS. ALL REQUIRED DOCUMENTS SHALL BE SUBMITTED WITHIN NINETY (90) DAYS OF THE DAY OF SUBSTANTIAL COMPLETION AS ACCEPTED BY THE OWNER: 1. AS-BUILT TOPOGRAPHIC SURVEY BASED ON THE SAME DATUM USED IN THE DESIGN. THE

A. INVERT AND/OR RIM ELEVATIONS OF ALL PIPES, FITTINGS, AND INLETS/OUTLET B. SURFACE ELEVATIONS AND SPOT GRADES OF THE COMPLETED FACILITIES IN LOCATIONS

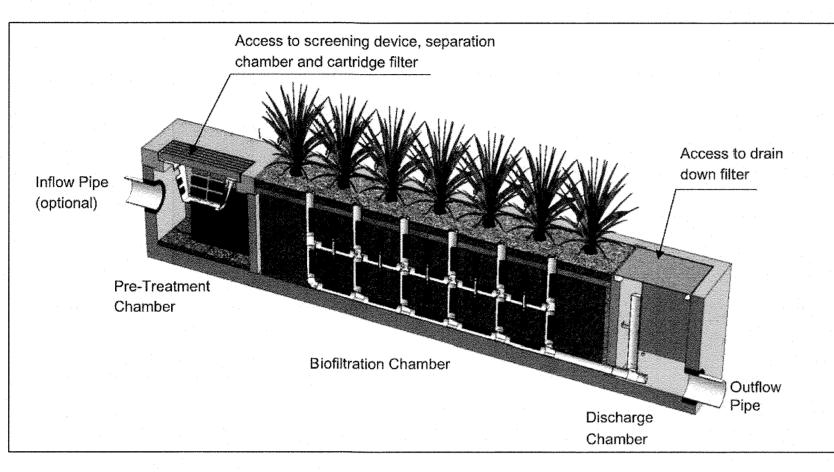
TO MATCH THE APPROVED SWM PLANS AND DETAILS. THE SURVEY SHALL BE IN AUTOCAD FORMAT. CONTACT THE ENGINEER FOR CADD STANDARDS. 2. MATERIAL TICKETS FOR ALL MATERIALS USED IN CONSTRUCTION OF THE FACILITIES.

3. PHOTOGRAPHS OF CRITICAL INSPECTIONS INCLUDING, BUT NOT LIMITED TO: A. THE INSIDE OF EACH FACILITY (PRETREATMENT CHAMBER, MEDIA, ETC.) B. PIPES AND FITTINGS IN PLACE AFTER TRENCHING, PRIOR TO BACKFILLING.

 THE COMPLETED FACILITIES AND SLOT DRAINS SURFACES. 4. COMPLETED AS-BUILT TABLES WITH THE INSPECTORS INITIALS IN ORIGINAL HANDWRITING. 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,

- 3. REPLACE CARTRIDGE FILTER MEDIA MAINTENANCE INTERVAL IS 12 TO 24 MONTHS.
- 4. REPLACE DRAIN DOWN FILTER MEDIA MAINTENANCE INTERVAL IS 12 TO 24 MONTHS.

SYSTEM DIAGRAM



MAINTENANCE PROCEDURES

- 1. REMOVE GRATE OR MANHOLE COVER TO GAIN ACCESS TO THE SCREENING DEVICE IN THE PRE-TREATMENT CHAMBER. VAULT TYPE UNITS DO NOT HAVE SCREENING DEVICE. MAINTENANCE CAN BE PERFORMED WITHOUT ENTRY.
- 2. REMOVE ALL POLLUTANTS COLLECTED BY THE SCREENING DEVICE. REMOVAL CAN BE DONE MANUALLY OR WITH THE USE OF A VACUUM TRUCK. THE HOSE OF THE VACUUM TRUCK WILL NOT DAMAGE THE SCREENING DEVICE
- 3. SCREENING DEVICE CAN EASILY BE REMOVED FROM THE PRE-TREATMENT CHAMBER TO GAIN ACCESS TO SEPARATION CHAMBER AND MEDIA FILTERS BELOW. REPLACE GRATE OR MANHOLE COVER WHEN COMPLETED.

SEPARATION CHAMBER

- 1. PERFORM MAINTENANCE PROCEDURES OF SCREENING DEVICE LISTED ABOVE BEFORE MAINTAINING THE SEPARATION CHAMBER.
- WITH A PRESSURE WASHER, SPRAY DOWN POLLUTANTS ACCUMULATED ON WALLS AND CARTRIDGE FILTERS.
- 3. VACUUM OUT SEPARATION CHAMBER AND REMOVE ALL ACCUMULATED POLLUTANTS. REPLACE SCREENING DEVICE, GRATE OR MANHOLE COVER WHEN COMPLETED

CARTRIDGE FILTERS

- 1. PERFORM MAINTENANCE PROCEDURES ON SCREENING DEVICE AND SEPARATION CHAMBER BEFORE MAINTAINING CARTRIDGE
- 2. ENTER SEPARATION CHAMBER.
- 3. UNSCREW THE TWO BOLTS HOLDING THE LID ON EACH CARTRIDGE FILTER AND REMOVE LID.
- 4. REMOVE EACH OF 4 TO 8 MEDIA CAGES HOLDING THE MEDIA IN PLACE.
- 5. SPRAY DOWN THE CARTRIDGE FILTER TO REMOVE ANY ACCUMULATED POLLUTANTS. 6. VACUUM OUT OLD MEDIA AND ACCUMULATED POLLUTANTS.
- 7. REINSTALL MEDIA CAGES AND FILL WITH NEW MEDIA FROM MANUFACTURER OR OUTSIDE SUPPLIER. MANUFACTURER WILL
- PROVIDE SPECIFICATION OF MEDIA AND SOURCES TO PURCHASE.
- 8. REPLACE THE LID AND TIGHTEN DOWN BOLTS. REPLACE SCREENING DEVICE, GRATE OR MANHOLE COVER WHEN COMPLETED.

DRAIN DOWN FILTER

- 1. REMOVE HATCH OF MANHOLE COVER OVER DISCHARGE CHAMBER AND ENTER CHAMBER.
- 2. UNLOCK AND LIFT DRAIN DOWN FILTER HOUSING AND REMOVE OLD MEDIA BLOCK. REPLACE WITH NEW MEDIA BLOCK. LOWER DRAIN DOWN FILTER HOUSING AND LOCK INTO PLACE.
- 3. EXIT CHAMBER AND REPLACE HATCH OR MANHOLE COVER.

MAINTENANCE NOTES

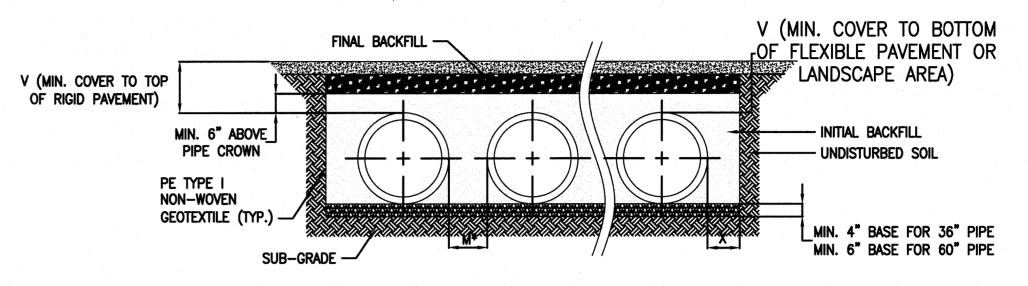
- 1. FOLLOWING MAINTENANCE AND/OR INSPECTION, IT IS RECOMMENDED THE MAINTENANCE OPERATOR PREPARE A MAINTENANCE/INSPECTION RECORD. THE RECORD SHOULD INCLUDE ANY MAINTENANCE ACTIVITIES PERFORMED, AMOUNT AND DESCRIPTION OF DEBRIS COLLECTED, AND CONDITION OF THE SYSTEM AND ITS VARIOUS FILTER MECHANISMS.
- 2. THE OWNER SHOULD KEEP MAINTENANCE/INSPECTION RECORD(S) FOR A MINIMUM OF FIVE YEARS FROM THE DATE OF MAINTENANCE. THESE RECORDS SHOULD BE MADE AVAILABLE TO THE GOVERNING MUNICIPALITY FOR INSPECTION UPON REQUEST AT ANY TIME.
- 3. TRANSPORT ALL DEBRIS, TRASH, ORGANICS AND SEDIMENTS TO AN APPROVED FACILITY FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS.
- 4. ENTRY INTO CHAMBERS MAY REQUIRE CONFINED SPACE TRAINING BASED ON STATE AND LOCAL REGULATIONS.
- 5. NO FERTILIZER SHALL BE USED IN THE BIOFILTRATION CHAMBER.
- 6. IRRIGATION SHOULD BE PROVIDED AS RECOMMENDED BY THE MANUFACTURER AND/OR LANDSCAPE ARCHITECT. THE AMOUNT OF IRRIGATION REQUIRED IS DEPENDENT ON PLANT SPECIES. SOME PLANTS MAY REQUIRE IRRIGATION.

MEDIA MATERIAL SPECIFICATION FOR MODULAR WETLANDS:

MEDIA SHALL CONSIST OF CERAMIC MATERIAL PRODUCED BY EXPANDING AND VITRIFYING SELECT MATERIAL IN A ROTARY KILN MEDIA MUST BE PRODUCED TO MEET THE REQUIREMENTS OF ASTM C330, ASTM C331, AND AASHTO M195. AGGREGATES MUST HAVE A MINIMUM 24-HOUR WATER ABSORPTION OF 10.5% MASS. MEDIA SHALL NOT CONTAIN ANY ORGANIC MATERIAL. FLOW THROUGH MEDIA SHALL BE HORIZONTAL FROM THE OUTER PERIMETER OF THE CHAMBER TOWARD THE CENTRALIZED AND VERTICALLY EXTENDING UNDERDRAIN. THE RETENTION TIME IN THE MEDIA SHALL BE AT LEAST 3 MINUTES. DOWNWARD FLOW FILTERS ARE NOT ACCEPTABLE ALTERNATIVES. THE THICKNESS OF THE MEDIA SHALL BE AT LEAST 19" FROM INFLUENT END TO EFFLUENT END. THE LOADING RATE ON THE MEDIA SHALL NOT EXCEED 1.1 GALLONS PER MINUTE PER SQUARE FOOT SURFACE AREA. MEDIA MUST BE CONTAINED WITHIN STRUCTURE THAT SPACES THE SURFACE OF THE MEDIA AT LEAST 2" FROM ALL VERTICALLY EXTENDING WALLS OF THE CONCRETE STRUCTURE. MEDIA MUST BE CONTAINED WITHIN STRUCTURE THAT SPACES THE SURFACE OF THE MEDIA AT LEAST 2" FROM ALL VERTICALLY EXTENDING WALLS OF THE CONCRETE STRUCTURE. MEDIA SHALL BE PROPRIETARY MEDIA FROM MODULAR WETLAND SYSTEM MANUFACTURER OR APPROVED EQUAL.

MAINTENANCE SCHEDULE - PIPE STORAGE

- 1. REMOVE TRASH FROM PIPE/RISER MAINTENANCE INTERVAL IS 6 TO 12 MONTHS.
- 2. REMOVE SEDIMENT FROM PIPE/RISER MAINTENANCE INTERVAL IS 12 TO 24 MONTHS.



1. RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM D2321

- AND THE MANUFACTURER'S INSTALLATION GUIDELINES. 5. SUB-GRADE: TRENCH BOTTOMS WITH UNSTABLE OR UNYIELDING MATERIAL SHALL BE EXCAVATED TO A DEPTH DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH SUITABLE MATERIAL. FOR UNSTABLE MATERIALS, GEOTEXTILE MAY BE USED TO STABILIZE THE TRENCH BOTTOM, IF DIRECTED BY THE ENGINEER.
- 4. BASE MATERIAL: SUITABLE MATERIAL SHALL BE CLASS I OR II, AS SPECIFIED BY ASTM D2321.

PRECAST CONCRETE COLLAR

(H-20 TRAFFIC RATED)

(NOT TO EXCEED 8')

PPROVED BACKFILL AND COMPACTION PER

HDPE PIPE PER PLANS

MANUFACTURER'S

HDPE RISER STRUCTURE DETAIL

RECOMMENDATIONS

FRAME AND COVER PER

APPROVED BACKFILL AND COMPACTION PER

MANUFACTURER'S

RECOMMENDATIONS

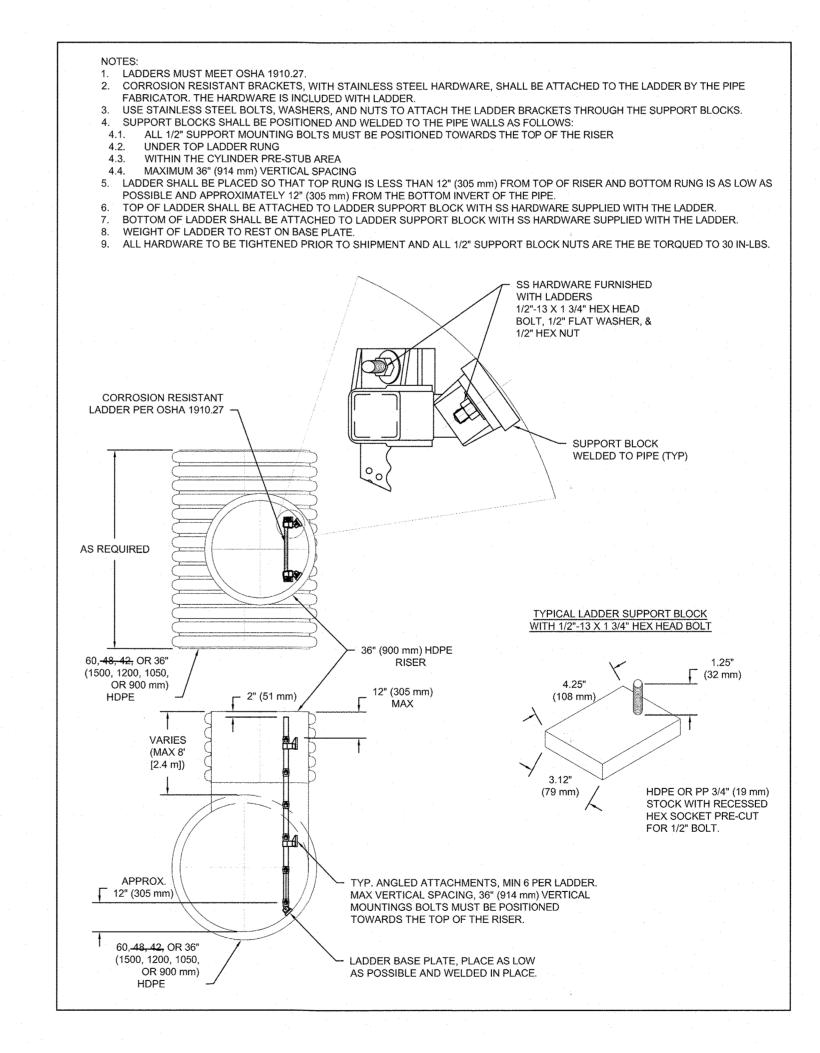
36" HDPE RISER PIPE -

STANDARD DETAIL D-3.91 ---

- 5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II, AS SPECIFIED BY ASTM D2321. COMPACTION AND BACKFILL LIFTS SHALL BE IN ACCORDANCE WITH ASTM D2321. INITIAL BACKFILL SHALL EXTEND TO NOT LESS THAN 6" ABOVE THE TOP OF THE PIPE.
- 6. MINIMUM COVER: FOR UP TO H-25 TRAFFIC APPLICATIONS A MINIMUM OF 12" FOR PIPE DIAMETER UP TO 36" DIAMETER, AND 18" FOR 60" DIAMETER. MINIMUM COVER, V, SHALL BE MEASURED FROM THE TOP OF THE PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO THE TOP OF RIGID PAVEMENT. ADDITIONAL COVER MAY BE REQUIRED FOR CONSTRUCTION LOADS, VEHICLES OVER 25T, OR TO PREVENT FLOATATION.
- 7. FINAL BACKFILL: SUITABLE MATERIALS DIRECTED BY THE ENGINEER SHALL BE USED IN LANDSCAPE OR NON-TRAFFIC APPLICATIONS. FOR AREAS SUBJECTED TO TRAFFIC A HIGHER DEGREE OF COMPACTION IS REQUIRED AND A SEPARATION LAYER OF NON-WOVEN GEOTEXTILE MAY BE REQUIRED. COMPACTION LEVELS AND/OR GEOTEXTILE MAY BE SPECIFIED AT THE DISCRETION OF THE DESIGN ENGINEER.

NOMINAL I.D.	APPROX O.D.	MIN. DISTANCE TO SIDE WALL "X"	*SPACING "M"	MIN. COVER
36"	40.6"	18"	21"	12"
48"	54.1"	18"	23"	18"
60"	66.8"	18"	27"	18"

. STORAGE PIPE SECTION



HDPE RISER STRUCTURE LADDER DETAIL

	ADDF	RESS	ESS CHART				
USI		STREET ADDRESS					
RECREAT BUILD	'	8045 HARRIET TUBMAN LANE					
SUBDIVISION NA ATHOLTON HIG		•	ı	n/area /a	LOT/ PARCEL NO. 2/0292		
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRAC		

24451-53 | 0024 | R-SC | 0035 | 5th E.D. OWNER/DEVELOPER HOWARD COUNTY RECREATION AND PARKS CONTACT: MICHAEL KAMINETZ, 410-313-5781 8045 HARRIET TUBMAN LANE COLUMBIA, MD 21044

C19

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,

ICENSE No.: 14446 EXP. DATE: 5/25/2

STORMWATER

MANAGEMENT PLAN

- DETAILS

(ADDITIONAL SHEET)

18104A5

DWM

GWT

PROJECT NO:

CHECKED BY:

DRAWN BY:

BUILDIN

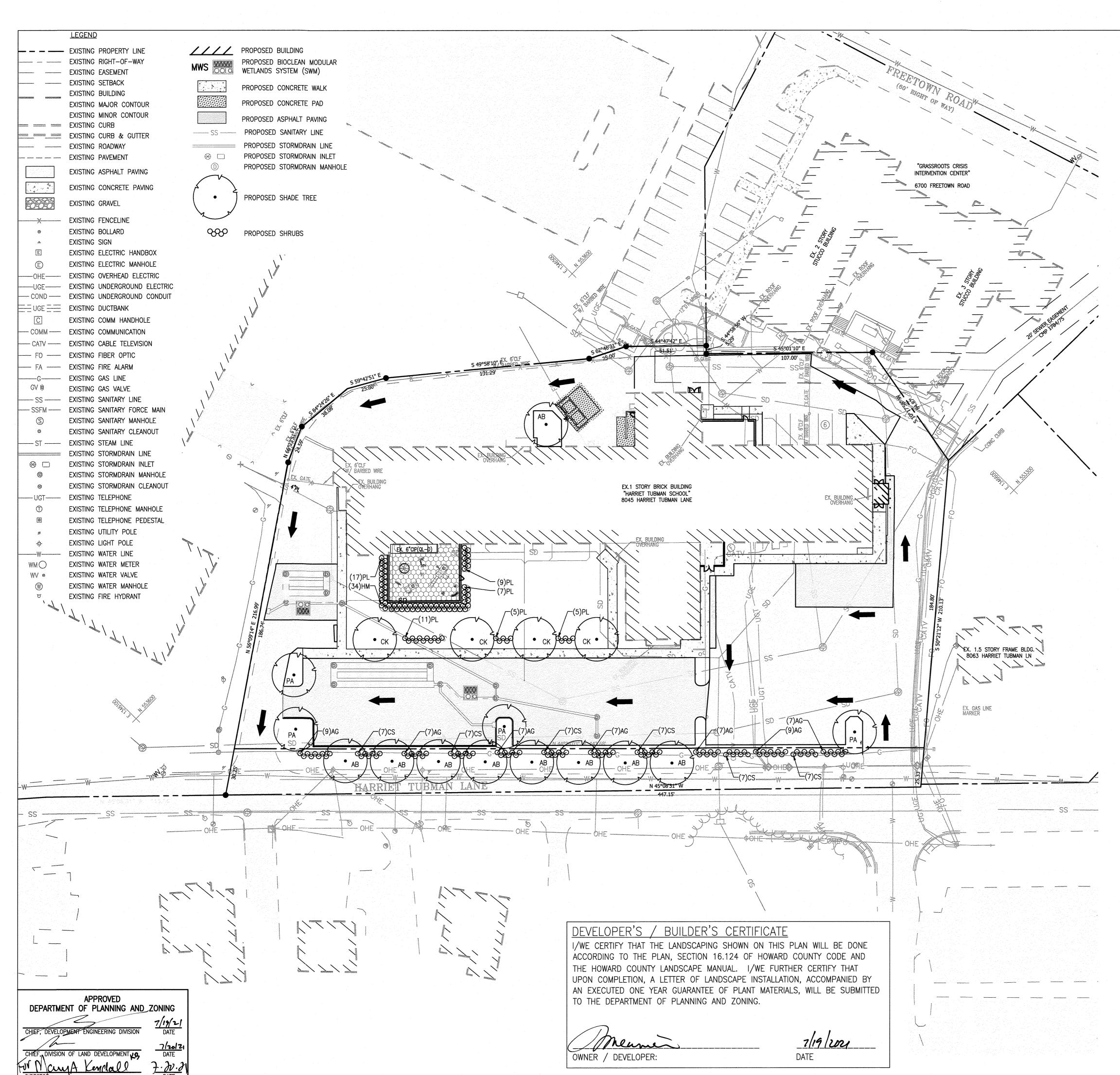
30 OF 32

SDP-89-028

CHIEF, DEVELOPMENT ENGINEERING DIVISION CHIEF DIVISION OF LAND DEVELOPMENT 7.200

APPROVED DEPARTMENT OF PLANNING AND ZONING



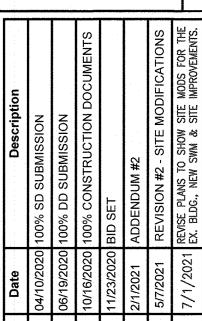


GENERAL LANDSCAPE NOTES

- DAMAGE TO EXISTING CONDITIONS TO REMAIN AND NEW CONSTRUCTION SHALL BE REPAIRED AND RESTORED AT THE SOLE EXPENSE OF THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL VERIFY ACCURACY OF INFORMATION SHOWN ON THE DRAWINGS AND EXISTING CONDITIONS IN THE FIELD TO HIS OWN SATISFACTION
- QUANTITIES SHOWN ON THE PLANT LIST ARE FOR THE CONTRACTOR'S CONVENIENCE SYMBOLS ON THE PLAN SHALL TAKE PRECEDENCE OVER QUANTITIES NOTED FOR ALL PLANT MATERIALS EXCEPT FOR GROUND COVERS, ANNUALS, AND CONTRACTOR SHALL CONFIRM ALL PLANT QUANTITIES TO HIS OWN SATISFACTION AND NOTIFY THE OWNER IF THERE IS A DIFFERENCE IN QUANTITIES NOTED AND SYMBOLS SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH INSTALLATION.
- PLANT MATERIAL SHALL BE TAGGED AT THE SOURCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE UNLESS THE REQUIREMENT IS SPECIFICALLY WAIVED
- PROPOSED PLANT MATERIAL SUBSTITUTIONS ARE SUBJECT TO WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO DELIVERY AND INSTALLATION.
- ALL SHRUB AND GROUNDCOVER AREAS SHALL BE PLANTED IN CONTINUOUS, PREPARED BEDS AND MULCHED WITH DOUBLE SHREDDED HARDWOOD BARK MULCH AS DETAILED AND AS SPECIFIED.
- STAKES AND WIRES MUST BE REMOVED NO LATER THAN 12 MONTHS AFTER PLANTING.
- DO NOT DAMAGE OR CUT LEADER OF TREES OR SHRUBS ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL COMPLY WITH THE
- AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA).
- PLANTING SEASON SCHEDULE SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA).
- 11. ALL PLANTING PROCEDURES SHALL COMPLY WITH THE LATEST EDITION OF "LANDSCAPE CONSTRUCTION ASSOCIATION GUIDELINES FOR THE BALTIMORE/WASHINGTON METROPOLITAN AREA."
- 12. NO TREES SHALL BE PLACED CLOSER THEN 5' TO EXISTING OR PROPOSED UTILITIES UNLESS OTHERWISE NOTED.
- 13. EACH LANDSCAPED AREA MUST BE READILY ACCESSIBLE TO A WATER SUPPLY. THE LANDSCAPE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT NECESSARY TO TRANSPORT THE WATER FROM SOURCE TO REQUIRED LOCATIONS. THE LANDSCAPE CONTRACTOR SHALL WATER ALL PLANTS PROMPTLY, ADEQUATELY AND AS OFTEN AS NECESSARY TO INSURE PROPER PLANT GROWTH AND TO KEEP THE SOIL MOIST AND IN GOOD CONDITION SATISFACTORY TO THE OWNER'S REPRESENTATIVE. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR WATERING AND MAINTAINING THE HEALTHY CONDITION OF ALL PLANTS FROM THE TIME OF PLANTING AND SUBSTANTIAL COMPLETION AND ACCEPTANCE THROUGH END OF MAINTENANCE PERIOD.
- CONTAINERIZED TREES AND SHRUBS SHALL BE CHECKED FOR WRAPPED OR KINKED ROOTS, AND SHALL BE REPLACED IF PRESENT
- 15. PLANTING SHOULD OCCUR WITHIN 24 HOURS OF DELIVERY OF PLANT MATERIAL TO SITE. PLANT MATERIAL LEFT UNPLANTED FOR MORE THAN 24 HOURS SHOULD BE PROTECTED FROM DIRECT SUN AND WEATHER AND KEPT MOIST
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL LANDSCAPE WARRANTY WORK FOR THE ENTIRE WARRANTY PERIOD
- 17. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR THE DURATION OF ONE FULL YEAR AFTER FINAL INSPECTION AND ACCEPTANCE OF THE WORK. PLANTS SHALL BE ALIVE AND IN GOOD GROWING CONDITION AT THE END OF THE GUARANTEE WHEN NECESSARY, PLANT MATERIAL SHALL BE REPAIRED OR REPLACED WITH NEW MATERIAL TO ENSURE CONTINUED COMPLIANCE WITH APPLICATION REGULATIONS AT THE EXPENSE OF THE CONTRACTOR.
- 18. LANDSCAPE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$32,550.00 WILL BE POSTED WITH THE GRADING PERMIT APPLICATION FOR THIS PLAN FOR THE REQUIRED 17 SHADE TREES, 183 SHRUBS. REFER TO LETTER OF JUSTIFICATION FOR ALTERNATIVE PLANTINGS, DATED JULY 9, 2021, FOR EXPLANATION OF ALTERNATIVE COMPLIANCE TO LANDSCAPING REQUIREMENTS.

HOWARD COUNTY REFERENCE DRAWINGS: WATER: 24-0553, 34-3273, 24-3265, 24-4942 SEWER: 20-0915-D SDP-08-050, SDP-06-137, SDP-01-116, SDP-76-020, ECP-20-052

GRAPHIC SCALE IN FEET





		0.3621 .66
ADDRI	ESS CHART	
USE	STREET ADDRESS	
RECREATIONAL	8045 HARRIET TUBMAN	PROJECT NO:
BUILDING	LANE	DRAWN BY:

RECREATIONAL			PROJECT NO: 18104A5
BUILDING	LANE		DRAWN BY: DWM
			CHECKED BY: GWT
SUBDIVISION NAME ATHOLTON HIGH SCHOOL	SECTION/ARI	EA LOT/ PARCEL NO. 2/0292	SHEET NAME: PROPOSED
"	ZONING TAX ELE MAP# DIST R-SC 0035 5th	IR.	LANDSCAPE PLAN
OWNER/DEVELOPE			(ADDITIONAL SHEET)

HOWARD COUNTY RECREATION AND PARKS | SHEET NO. | SHEET NO. |

31 OF 32

OWNER/DEVELOPER

8045 HARRIET TUBMAN LANE COLUMBIA, MD 21044

ONE-YEAR MAINTENANCE AND MONITORING AGREEMENT

THE COMPANY RESPONSIBLE FOR TREE CARE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND TREE CARE FOR A PERIOD OF ONE YEARS. SERVICES SHALL INCLUDE, BUT NOT BE LIMITED TO:

WATERING:

- WATERING SHALL BE PROVIDED DURING THE GROWING SEASON (LATE SPRING EARLY FALL) AS REQUIRED TO KEEP TREES
- FIRST GROWING SEASON: ONCE PER WEEK
- · SECOND GROWING SEASON: AS NEEDED, BUT NOT LESS THAN ONCE PER MONTH DURING JULY AND AUGUST.
- · METHOD OF PROVIDING WATER SHALL INCLUDE HAND WATERING AND/OR SLOW RELEASE IRRIGATION BAGS

REINFORCEMENT PLANTING PROVISIONS:

• A MINIMUM OF 100% OF THE TOTAL NUMBER OF TREES AND SHRUBS PLANTED PER ACRE IS REQUIRED TO SURVIVE AT THE END OF THE ONE YEAR MAINTENANCE PERIOD.

PROTECTION FROM DISEASE AND INJURY:

- · PERIODIC INSPECTION SHALL BE MADE FOR ANY EVIDENCE OF DISEASE OR DAMAGE.
- · PERIODIC INSPECTION OF STAKES AND GUYS WIRES DAMAGE SHALL BE MADE.

WARRANTY PERIODS FROM DATE OF PLANTING COMPLETION AS DETERMINED BY THE OWNER: TREES AND SHRUBS: 12 MONTHS.

• GROUND COVERS, BIENNIALS, PERENNIALS, AND OTHER PLANTS: 12 MONTHS.

INCLUDE THE FOLLOWING REMEDIAL ACTIONS AS A MINIMUM:

- · IMMEDIATELY REMOVE DEAD PLANTS AND REPLACE UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING SEASON.
- REPLACE PLANTS THAT ARE MORE THAN 25 PERCENT DEAD OR IN AN UNHEALTHY CONDITION AT END OF WARRANTY PERIOD.
- · PRUNE ALL CROSSING BRANCHES, SUCKERS, AND WATER SPROUTS TO MAINTAINS PLANT HEALTH.
- · A LIMIT OF ONE REPLACEMENT OF EACH PLANT WILL BE REQUIRED EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH REQUIREMENTS.
- PROVIDE EXTENDED WARRANTY FOR PERIOD EQUAL TO ORIGINAL WARRANTY PERIOD, FOR REPLACED PLANT MATERIAL.
- REMOVE WEEDS NOT LESS THAN ONCE PER MONTH
- · REMOVAL OF TREE STAKES AND GUY WIRE AT THE END OF THE WARRANTY PERIOD 1) IMMEDIATELY REMOVE AND REPLACE DAMAGED TREES DUE TO GUY WIRE

SOIL CARE / FERTILIZATION

- 1. INITIAL SOIL TESTING IS REQUIRED. SOIL TEST SHALL BE A REPRESENTATIVE SAMPLE FROM EACH AREA.
- 2. TREATMENTS SHALL BE BASED ON THE RESULTS OF THE SOIL ANALYSIS. SOIL ANALYSIS SHALL BE CONDUCTED BY A UNIVERSITY OR LAB AS LISTED IN THE SPECIFICATIONS. CONTRACTOR SHALL IMPORT SOIL TO THE SITE FOR USE IN LANDSCAPE PLANTING BEDS AS NECESSARY PER THE RECOMMENDATIONS OF A CERTIFIED PROFESSIONAL SOIL SCIENTIST (CPSS).
- 3. FERTILIZATION SHALL BE CONSISTENT WITH THE RECOMMENDATIONS OF THE ANSI A-300 (PART 2) TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (FERTILIZATION), LATEST EDITION.
- 4. APPLICATION RATES SHALL NOT EXCEED A RATE OF 1 LB OF ACTUALLY NITROGEN PER 1,000 SQUARE FEET ANNUALLY TO REDUCE THE RISK OF EXCESSIVE NITROGEN LOSS THROUGH LEACHING. FERTILIZER USED SHALL INCLUDE HUMIC ACIDS, SOLUBLE SEAWEED EXTRACTS AND SOIL BIOLOGICAL INOCULANTS SUCH AS PHC OR APPROVED EQUAL. ORGANIC MATTER SHALL BE APPLIED AT A RATE OF 1 CUBIC FOOT MINIMUM PER TREE PIT.

PLANT SCHEDULE

	T			·		
KEY	QTY	SCIENTIFIC NAME	COMMON NAME	SIZE	ROOT	COMMENT
SHADE	E TREES					
AB	9	ACER BUERGERIANUM	TRIDENT MAPLE	2.5" CAL.	B&B	EVENLY BRANCHED, MATCHED SPECIMENS
СК	4	CLADRASTIS KENTUKEA	YELLOWWOOD	2.5" CAL.	B&B	EVENLY BRANCHED, SINGLE STEM
PA	4	PLATANUS X ACERIFOLIA 'COLUMBIA'	COLUMBIA LONDON PLANE TREE	3" CAL.	B&B	EVENLY BRANCHED, MATCHED SPECIMENS
SHRUI	BS			•	:	
AG	53	ABELIA X GRANDIFLORA 'LITTLE RICHARD'	LITTLE RICHARD GLOSSY ABELIA	#5	CONT.	EVENLY BRANCHED, MATCHED SPECIMENS
cs	42	CORNUS SERICEA 'FARROW'	ARCTIC FIRE RED-TWIG DOGWOOD	#5	CONT.	EVENLY BRANCHED, MATCHED SPECIMENS
НМ	34	HYDRANGEA MACROPHYLLA 'ALL SUMMER BEAUTY'	ALL SUMMER BEAUTY BIGLEAF HYDRANGEA	#5	CONT.	EVENLY BRANCHED, MATCHED SPECIMENS
PL	54	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	#5	CONT.	EVENLY BRANCHED, MATCHED SPECIMENS

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	PARKING ADJACENT TO ROADWAY (PERIMETER P1)
LANDSCAPE TYPE	TYPE E 1 SHADE TREE PER 40 LF 0 EVERGREEN TREE 1 SHRUB PER 4 LF
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	377 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	9 0 94
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES	9*
OTHER TREES (2:1 SUBSTITUTION)	0
SHRUBS (10:1 SUBSTITUTION)	95
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

PERIMETER 1: ONE (1) SHADE TREES HAVE BEEN LOCATED IN THE REAR OF THE BUILDING AS EXISTING UNDERGROUND UTILITIES PREVENT THE PLACEMENT OF TREES ALONG THE EASTERN MOST PORTION OF THE PERIMETER.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

I ANNINO LOT INTLIMA	L LANDSCALING
NUMBER OF PARKING SPACES	114 SPACES TOTAL
NUMBER OF TREES / ISLANDS REQUIRED (1 PER 20 SPACES)	6
NUMBER OF TREES PROVIDED LANDSCAPE ISLANDS*	7
SHADE TREES	4 SHADE TREES
SHRUBS	21 SHRUBS
OTHER TREES (2:1 SUBSTITUTION)	0

1) EACH LANDSCAPED ISLAND IS A MINIMUM OF 10' WIDE AND 175 SF OF PLANTABLE SPACE PER COUNTY APPROVAL.

STREET TREE REQUIREMENT

377 LF OF PUBLIC ROAD

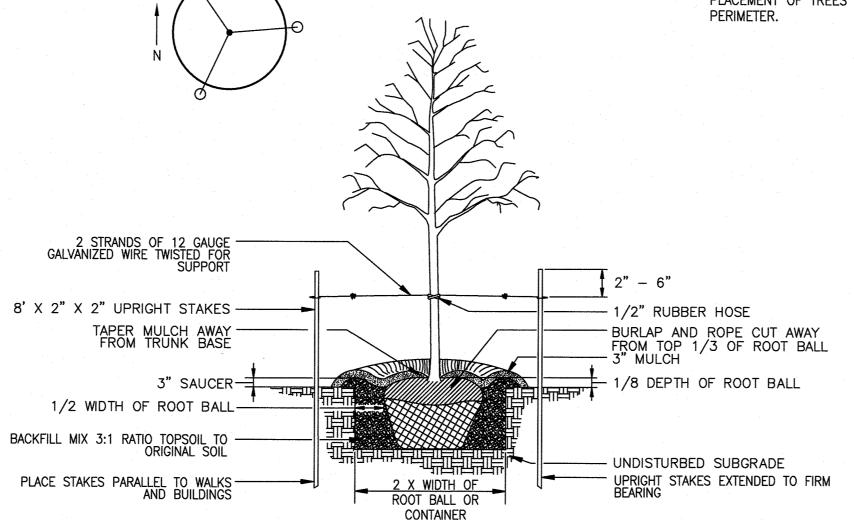
REQUIRED:

9 MAJOR TREES REQUIRED (40 LF APART)

13 MINOR TREES REQUIRED (30 LF APART)

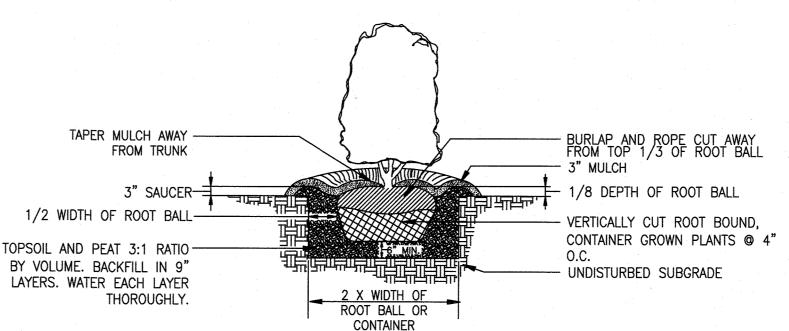
4 MAJOR SHADE TREES PROVIDED @ 25± LF APART** 67 SHRUBS PROVIDED ADJACENT TO PLAYGROUND**

** 4 SHADE TREES AND 67 SHRUBS LOCATED AROUND THE PROPOSED PLAYGROUND AND BETWEEN THE PROPOSED PARKING LOT AND EXISTING BUILDING HAVE BEEN SUBSTITUTED FOR THE REQUIRED STREET TREES DUE TO THE LACK OF SPACE AND THE PRESENCE OF EXISTING UNDERGROUND UTILITIES OBSTRUCTION.



DECIDUOUS TREE PLANTING DETAIL B & B

NOT TO SCALE



SHRUB PLANTING DETAIL B & B AND CONTAINER GROWN NOT TO SCALE

HOWARD COUNTY REFERENCE DRAWINGS: WATER: 24-0553, 34-3273, 24-3265, 24-4942 SEWER: 20-0915-D SDP-08-050, SDP-06-137, SDP-01-116, SDP-76-020, ECP-20-052

STREET ADDRESS					USE			
N	TUBMA	RRIET		804 LAN	''''			
	LOT/ PARCEL I 2/029	N/AREA /A			SUBDIVISION NAME ATHOLTON HIGH SCHOOL			
TRACT	CENSUS	ELECT DISTR.	TAX MAP#	ZONING	LAT# OR L/F GRID# ZOI			
	-	5th E.D.	0035	R-SC	24451-53 0024 R			

8045 HARRIET TUBMAN LANE COLUMBIA, MD 21044

BUILDING

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RENOVATIONS

					1			
US	E		STR	EET AC	DRESS	1		
			RRIET	TUBMAN	1	PROJECT NO:	18104A5	
BUILD	ING	LAN	L				DRAWN BY:	DWM
							CHECKED BY:	GWT
				N/AREA I/A	LOT/ PARCEL NO. 2/0292		PROPO	
PLAT# OR L/F	GRID#	ZONING	TAX MAP#	ELECT DISTR.	CENSUS TRACT	1	LANDSCAPE	NOTES
24451-53	0024	R-SC	0035	5th E.D.	-	-	AND DET	[AILS
OWNER/DI							(ADDITIONAL	SHEET)
HOWARD COUNTY RECREATION AND PARKS CONTACT: MICHAEL KAMINETZ, 410-313-5781						SHEET NO.	\triangle	

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SDP-89-028

DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION CHIEF, DIVISION OF LAND DEVELOPMENT Want Kerdall

APPROVED