WORCESTER COUNTY DEPARTMENT OF PUBLIC WORKS CENTRAL LANDFILL CELL 1 PUMP STATIONS AND LEACHATE FORCEMAIN UPGRADES WORCESTER COUNTY, MARYLAND



LOCATION MAP



GENERAL NOTES:

- EXISTING SURVEY DATA GATHERED IN THE LOCATION BETWEEN FOREBAY NO. 1 AND THE RAILROAD TRACKS WAS PROVIDED BY BENCHMARK LAND SURVEYING INC. IN APRIL 2021. THE REMAINDER OF THE EXISTING SITE SURVEY DATA WAS GATHERED FROM AERIAL SURVEY PROVIDED FROM AXIS GEOSPATIAL LLC. ON MARCH 21, 2021.
- 2. THE CENTRAL LANDFILL FACILITY HAS AN ESTABLISHED LOCAL HORIZONTAL AND VERTICAL DATUM. BENCHMARKS FOUND ON THESE PLANS SHALL BE ADHERED TO.
- FOREST CONSERVATION WILL NOT BE REQUIRED FOR THIS PROJECT.
- UTILITY INFORMATION IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL LOCATE AND TAKE THE NECESSARY PRECAUTIONS TO LOCATED AND PROTECT THE EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT LEAST THREE DAYS BEFORE INITIATING ANY SITE IMPROVEMENT WORK, (1-800-257-7777).
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, AND PROCEDURES, UTILIZED FOR THE CONSTRUCTION UNDER THE SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY OF THE PUBLIC AND CONTRACTOR'S EMPLOYEES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.
- FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH WORK.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY WORCESTER COUNTY STANDARDS.
- ALL DIMENSIONS, LOCATIONS, AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ON THE CONTRACT DRAWINGS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH WORK.
- 9. ALL ASPECTS OF CONSTRUCTION AND EQUIPMENT INSTALLATION SHALL BE PERFORMED / INSTALLED PLUM AND TRUE AND SHALL CONFORM TO THE PRACTICES OF GOOD WORKMANSHIP.
- 10. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS CONCERNING SAFETY AND PRESERVATION OF EXISTING UTILITIES ADJACENT TO ANY WORK AND IS RESPONSIBLE FOR THE PROTECTION OF EXISTING STRUCTURES (BELOW GRADE AND ABOVE GRADE) DURING THE COURSE OF DEMOLITION AND CONSTRUCTION. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AND THE COSTS OF SUCH REPAIR SHALL BE BORNE BY THE CONTRACTOR.
- 11. CONTRACTOR SHALL TAKE EVERY MEASURE TO PREVENT ANY AND ALL DAMAGE TO NEIGHBORING PROPERTIES. CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL SUCH DAMAGE AND WILL REPAIR AND / OR REPLACE ANY OBJECT, PLANT OR PIECE OF PROPERTY TO ORIGINAL STATE ON ADJACENT PROPERTIES THAT IS DAMAGED IN ANY WAY DUE TO THIS CONSTRUCTION. 12. ALL WORK SHALL BE COORDINATED WITH WORCESTER COUNTY DEPARTMENT OF PUBLIC WORKS.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE CONSTRUCTION SITE SECURE AT ALL TIMES.
- 14. JOB SITE SAFETY SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- 15. CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK IN ACCORDANCE WITH STATE AND FEDERAL CONFINED SPACE SAFETY REGULATIONS AS REQUIRED. 16. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF SURFACES IN ALL DISTURBED AREAS.
- 17. ANY AND ALL IMPROVEMENTS, SUCH AS ASPHALT OR CONCRETE PAVEMENT, SOD, ETC., IF DAMAGED, SHALL BE RESTORED TO ITS ORIGINAL CONDITION BY THE CONTRACTOR.
- 18. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. 19. THE CONTRACTOR SHALL ESTABLISH PROJECT SURVEY CONTROL WITH THE EXISTING BENCHMARKS, PERFORM
- CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINE, GRADES, AND ELEVATIONS OF THE PROPOSED FACILITIES. 20. THE CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" DRAWING RECORD OF THE PROPOSED CONSTRUCTION. THE CONTRACTOR
- SHALL RECORD ALL DEVIATIONS FROM THE CONTRACT DOCUMENTS AS THEY OCCUR, TO CLEARLY DEPICT HOW WORK WAS ACTUALLY CONSTRUCTED. PARTICULAR ATTENTION SHALL BE GIVEN TO ACCURATE RECORDINGS OF CONCEALED WORK. THE "AS-BUILT" RECORD SHALL INCLUDE DESCRIPTIONS, DRAWINGS, SKETCHES, MARKED PRINTS, AND SIMILAR DATA SHALL BE MAINTAINED AT THE JOB SITE AND SHALL BE KEPT CURRENT ON A DAILY BASIS AS WORK PROGRESSES. ALL "AS-BUILT" DRAWINGS AND RELATED DATA SHALL BE SUBJECT TO REGULAR SURVEILLANCE BY THE OWNER'S ON-SITE REPRESENTATIVE.
- 21. THE CONTRACTOR IS RESPONSIBLE FOR TEST PITTING FOR ALL UTILITIES WITHIN THE PROJECT LIMITS. 22. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH DEPARTMENT OF SOLID WASTE FOR MATERIAL STAGING AND STOCKPILING.



SHEET I IST

			UNLET LIGT	
	DRAWING NO.	SHEET NO.	DRAWING TITLE	
	G-001	1	TITLE SHEET	
	C-101	2	CENTRAL LANDFILL FACILITY PROJECT LOCATION PLAN	NROA
	C-102	3	EXISTING CONDITIONS PLAN	MOAD
	C-201	4	PROPOSED CELL 1 PUMP STATIONS SITE PLAN	
	C-202	5	PROPOSED LEACHATE FORCEMAIN SITE PLANS	
	C-203	6	PROPOSED LEACHATE FORCEMAIN PROFILES	
	C-204	7	PROPOSED LEACHATE PUMP BUILDING PLAN INSETS	
	C-301	8	TYPICAL PUMP STATION DEMOLITION SECTIONS AND DETAILS	
	C-302	9	TYPICAL PROPOSED PUMP STATION PLAN AND DETAILS	
A. Plan Approval	C-303	10	TYPICAL PROPOSED PUMP STATION SECTIONS AND DETAILS	
ter County Environmental Programs	C-501	11	DETAIL SHEET	
d by Volut Charhle	C-502	12	DETAIL SHEET	
3/20/24	C-701	13	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS	
APPHUVAL EXPIRES IN TWU (2) TEARS.	E-1	14	NOTES, ABBREVIATIONS, AND LEGEND	
WAIVER	E-2	15	SITE PLAN, SECTIONS, AND DETAILS	
RECOMMENDED	E-3	16	ELEVATIONS AND MODIFIED SCADA CONTROL PANEL	
And the second	E-4	17	EXISTING SCADA CONTROL PANEL ELEMENTARY I	
Sediment Control Plan Approval	trict E-5	18	EXISTING SCADA CONTROL PANEL ELEMENTARY II	
Snow Hill, MD 21863	E-6	19	MODIFIED SCADA CONTROL PANEL ELEMENTARY LEACHATE PUMP INSET PLAN AND ELEMENTARY	
Approved by	<u> </u>	20	MODIFIED SCADA CONTROL PANEL ELEMENTARY II	
Date 3/20/24	E-8	21	MODIFIED SCADA CONTROL PANEL ELEMENTARY III	

CITE DATA

SITE	DATA					B	ENCHMARK	DATA	
4	OWNER	COLIN	TY COMMISSIONERS OF	BENCHMA	RK#	ELEVATION	NORTHING	EASTING	DESCRIPTION
1.	OWNER	WOR	CESTER COUNTY MARYLAND						
		1 WES	ST MARKET STREET	BM1		34.86	18420.1686	8969.9174	CONCRETE MNT
		SNOV	V HILL MARYLAND 21863						
		CONT	TACT: MR. DALLAS BAKER, P.E.	BM2		33.83	18349.167	10007.823	60D GALV. NAIL
		EMAIL	L: DBAKER@CO.WORCESTER.MD.US	BM3		34.64	18133.0211	11020.8919	CONCRETE MNT.
		PHON	NE: 410-641-5623	PMA		30.00	17310 6318	0866 4770	1/2" REBAR
				DIVI4		38.88	17519.0510	3000.4773	1/2 NEDAN
2.	SURVEYOR:	BENC	CHMARK LAND SURVEYING, INC.						
		24 BR	ROAD STREET						
		BERL	IN, MARYLAND 21811				LEGE	IND	
		CONT	IAGT: CAL HALLOWAY, PLS		DESCH	RIPTION		EXISTING	PROPOSED
		EMAI			COMM	CATV PEDESTAL		C	N/A
		FHOR	NE. 410-041-5515		COMM	TELEPHONE PEDE	STAL	ПТ	N/A
3	ENGINEER	FA EN	NGINEERING SCIENCE AND TECHNOLOGY, INC. PBC		ELECT	RIC OVHD LINE		OHE OHE	N/A
0.	Enonteen	11200	RACETRACK ROAD, UNIT 101A		PROP	ERTY MARKER		0	N/A
		OCEA	AN PINES, MARYLAND 21811		PROP	ERTY BOUNDARY			N/A
		CONT	TACT: DARL O. KOLAR, P.E.		PROP	ERTY BOUNDARY A	DJOINER -		N/A
		EMAI	L: DKOLAR@EAEST.COM		SANIT	ARY SEWER CLEAN	OUT	OSCO	N/A
		PHON	NE: 410-641-5341		SEWE	DI INE			NIA
					FORCI	EMAIN		EM EM	
4.	SITE ADDRESS:	7091	CENTRAL SITE LANE		SITES			0	N/A
		NEW	ARK, MARYLAND 21841		SITER				N/A
F	DDODEDTV.	TAV			SITE S	POT FLEVATION		+ 76	N/A
5.	PROPERTY	DROD	VIAP 46, PARUEL 56 DERTY AREA - 710 59 ACRES		SITEC	CONTOUR	_	6	N/A
		DEED	PEEERENCE: 1307 / 438		SITE C	ONCRETE			N/A
		DEEL	THE ENERGE. 1007 / 400		SITE F	ENCE	——X	XXX	N/A
6.	ZONING:	A-1: A	AGRICULTURAL DISTRICT		STOR	M DRAIN CATCH BA	SIN		N/A
					STOR	M DRAIN LINE	_		N/A
7.	EXISTING USE:	WOR	CESTER COUNTY CENTRAL SOLID WASTE LANDFILL FACILITY		WATE	RLINE			N/A
					WATE	R VALVE			2 w
8.	FLOODPLAIN:	SITE:	ZONE X UNSHADED- AREAS DETERMINED TO BE OUTSIDE		FIRE H	YDRANT		\bigcirc	N/A
		THE	0.2% ANNUAL CHANCE FLOODPLAIN.		PLAN	NORTH ARROW		N/A	
		FIVE	MILE BRANCH: ZONE A - FLOODPLAIN AREAS WITH NO BASE						
		FLOC	D ELEVATIONS DETERMINED.		PLAN	KEYNOTE CALLOUT		N/A	$\langle 1 \rangle$
		DAGE	D ON FIRM MAP 24047 C0255H LAST REVISED JULT 10, 2015.		ESC LI	IMIT OF DISTURBAN	CE	N/A	LOD
9	PRIMARY SOILS	CeB	CEDARTOWN-ROSEDALE COMPLEX		BUHUD	ING HATCH AND OU	TUNE		N/A
0.	Transaction Conco.	KeA	KENTUCK SILT LOAM		BUILD	ING TATCHAND CO			
		MpA	MATTAPEX FINE SANDY LOAM (0%-2%)		INLINE	E FLUSHING CONNE	CTION	N/A	O IFC
		MpB	MATTAPEX FINE SANDY LOAM (2%-5%)		FORC	EMAIN BRASS BALL	VALVE	N/A	FMV
		MtdA	MATTAPEX SILT LOAM		TEDM		NECTION	NIA	TEC
		OtA	OTHELLO SILT LOAM		ERIVI	INAL FLUSHING CUI		13/75	
		UzB	UDORTHENS LOAMY						
		Za	ZEKIAH SANDY LOAM		PUMP	STATION, VALVE V	ULT, AND PANEL	N/A	

10. THIS PROPERTY IS NOT LOCATED IN THE ATLANTIC COASTAL BAYS CRITICAL AREA.



VICINITY MAP SCALE 1" = 2.000"

CENTRAL LANDFILL FACILITY BOUNDARY

ABBREVIATIONS

AC	ACRES
APPRX	APPROXIMATELY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BLDG	BUILDING
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
DA	DRAINAGE AREA
D.I.	DUCTILE IRON
DIA	DIAMETER
EL/ELEV	ELEVATION
EX/EXIST	EXISTING
FM	FORCEMAIN
FT	FEET

V.	GALVANIZED
	INVERT
т	MEAN HIGH WATER
	MONUMENT
1	MEAN HIGH WATER
	NOT APPLICABLE
	PROPOSED
	POUNDS PER SQUARE INCH
r.	REINFORCED CONCRETE PIPE
	SCHEDULE
	STORM DRAIN
	STAINLESS STEEL
٨	STORMWATER MANAGEMENT
	TYPICAL
	WITH

OWNER/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. ADDITIONALLY, THE OWNER OR DEVELOPER SHALL CERTIFY RIGHT OF ENTRY TO PERIODIC ON-SITE EVALUATION BY THE APPROPRIATE ENFORCEMENT AUTHORITY AND/OR MDF

SIGNATURE: Dally Buker L

3/19/24

PRINTED NAME: DALLAS BAKER, P.E.

TITLE: DIRECTOR OF PUBLIC WORKS

410-641-5623 PHONE:

COMPLETE ADDRESS: 6113 TIMMONS ROAD, SNOW HILL MARYLAND 21863

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT AS A PROFESSIONAL ENGINEER, LAND SURVEYOR, LANDSCAPE ARCHITECT, ARCHITECT, OR FORESTER (FOR FOREST HARVEST OPERATIONS ONLY) REGISTERED IN THE STATE THAT THE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS. THE ONLY EXCEPTION TO THIS REQUIREMENT MAY BE IF A STORMWATER WAIVER IS APPROVED, AND IT WILL BE AT THE DISCRETION OF THE APPROVAL AUTHORITY.

DIRECTOR OF PUBLIC WORKS

PRINTED NAME:	STEVEN LEMASTERS, P.E.

TITLE: PROJECT ENGINEER

DATE: 3/19/2024

THIS FACILITY IS TO BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS ARE APPROVED BY WORCESTER COUNTY DEPARTMENT OF PUBLIC WORKS. Dully Buter 3/19/24 WORCESTER COUNTY, DATE



SHEET: 1 OF 21 19







PATH: (IOCEANPINES)PROJECTS)DOCS)WORCESTER COUNTY(61060951 - CELL 1 PUMP STATION UPGRADES)CADI PRODUCTION/DESIGN SETIC-201 - PROPOSED PLAN AND PROFILE.DWG [C-201] LEMASTERS, STEVEN 3/19/2024 11:37 AM

)% PLANS - FOR CONSTRUCTION



6 PLANS - FOR CONSTRUCT





- 2. SHOULD IT BECOME NECESSARY TO DEWATER AN OPEN TRENCH OR OTHER EXCAVATED PIT, AN APPROVED SEDIMENT FILTERING BAG OR SUMP PIT SHALL BE UTILIZED PER DETAILS ON DRAWING C-701.
- 3. CONTRACTOR SHALL DEFLECT 2" HDPE PIPE ALONG FORCEMAIN ALIGNMENT PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY.

ISTRUCT CO OR

100

PROJECT NUMBER: 61060951

C-203

SHEET: 6 OF -2119

GRAPHIC SCALE IN FEET

GRAPHIC SCALE IN FEET







	10
ALE IN FEET	

SHEET: 7 OF -21 19





ALARM LEVEL TO. OPERATIONS BUILDING

and the second s



1. SECTION OBTAINED FROM PLANS ENTITLED "PERMIT APPLICATION, LANDFILL CELL NUMBER ONE & RUBBLE FILL CONSTRUCTION" PREPARED BY EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. DATED 1988.



DEMOLITION SECTION OF CELL No. 1 PUMP STATIONS (TYPICAL OF FOUR LOCATIONS) NOT TO SCALE

DEMOLITION NOTES:

- (1) DEMOLISH AND REMOVE EXISTING SUBMERSIBLE PUMPS, PUMP WIRING, AND PUMP CONTROLS. COORDINATE WITH THE COUNTY FOR ITEMS TO BE SALVAGED AND KEPT.
- $\langle 2 \rangle$ DEMOLISH AND REMOVE EXISTING PUMP SLIDE RAILS, BASE PLATES, HARDWARE, AND ASSOCIATED PIPING. PIPING SHALL BE TRANSITIONED FROM EXISTING TO THE PROPOSED PUMPSTATION WITHIN THE EXISTING FIBERGLASS TANK.
- 3 DEMOLISH AND REMOVE LEVEL SENSORS, ALARMS CONTROLS, AND ALL ELECTRICAL COMPONENTS WITHIN THE EXISTING FIBERGLASS TANK.
- $\langle 4 \rangle$ REMOVE EXISTING LADDER AND LIFTING CHAINS.
- $\langle 5 \rangle$ REMOVE EXISTING LID, HATCH, VENT PIPE, AND ANY FIBERGLASS TO STEEL LID CONNECTIONS.
- $\langle 6 \rangle$ POWER WASH, CLEAN, AND EVALUATE EACH OF THE FOUR EXISTING FIBERGLASS TANKS. PROVIDE ENGINEER AN EVALUATION OF EACH OF THE FOUR EXISTING TANKS AND PROVIDE METHODS OF REPAIR FOR APPROVAL PRIOR TO FIXING. MAKE REPAIRS USING AN APPROVED FIBERGLASS TANK REPAIR KIT.
- (7) DEMOLISH AND REMOVE EXISTING CONTROL CONSOLE AND ELECTRICAL RACK. SEE SHEET E-2 FOR PROPOSED ELECTRICAL WORK.
- $\langle 8 \rangle$ LOCATE, REMOVE, AND REPLACE MAGNESIUM ANODE, CONNECTION, AND WIRING.









C-302 SHEET: 9 OF 21 19

EA Engineering, Science, and Technology, Inc., PBC

11200 Racetrack Road, Unit A101 Ocean Pines, Maryland 21811 (410) 641-5341

www.eaest.com

SCALE AS SHOWN

FULL SIZE PLOT: 24" x 36"

DATE: MARCH 2024

PROJECT NUMBER: 61060951

		В	UTTRI	ESS F	OR H	ORIZO	ONTAL I	BENDS	5	
BEND	D	6"	8"	10"	12"	16"	20"	24"	30"	36"
1/64	Α						1'-8"	2'-0"	2'-6"	3'-0"
(5 5/8°)	в						10"	1'-0"	1'-3"	1'-6"
	С						10"	1'-0"	1'-1"	1'-2"
1/22	А	6"	8"	10"	10"	1'-4"	1'-8"	2'-0"	2'-6"	3'-0"
(11 1/4°)	в	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	1'-11"
、 <i>,</i>	С	7"	7"	8"	8"	9"	10"	1'-0"	1'-1"	1'-2"
1/16	А	9"	1'-0"	1'-6"	1'-9"	2'-3"	3'-0"	3'-6"	4'-2"	5'-4"
(22 1/2°)	в	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	2'-0"
· · ·	С	8"	9"	10"	11"	1'-2"	1'-4"	1'-6"	1'-9"	2'-0"
1/8	A	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"	4'-2"	5'-0"	6'-3"	7'-6"
(45°)	в	7"	8"	9"	11"	1'-3"	1'-6"	1'-8"	2'-0"	2'-6"
	С	7"	8"	10"	11"	1'-2"	1'-4"	1'-9"	2'-3"	2'-8"

BUTTRESS FOR CAPS

			BUT	TRES	S FOR	CAP	S		
D	6"	8"	10"	12"	16"	20"	24"	30"	36"
E	6"	8"	8"	10"	1'-0"	1'-4"	1'-8"	2'-0"	2'-0"
F	1'-0"	1'-4"	1'-8"	2'-0"	2'-8"	3'-3"	4'-0"	4'-9"	5'-9"
G	1'-5"	1'-11"	2'-5"	2'-10"	3'-9"	4'-9"	5'-8"	7'-6"	8'-10"

BUTTRESS DIMENSIONS SHOWN ARE MINIMUM. DIMENSIONS ARE BASED UPON A SOIL BEARING PRESSURE OF 3000 PSF AND STATIC PRESSURE OF 150 PSI. WHERE PRESSURE EXCEEDS 150 PSI OR WHERE SOIL BEARING PRESSURE IS LESS THAN 3000 PSF. A SPECIAL BUTTRESS DESIGN IS REQUIRED. MINOR VARIATIONS IN BUTTRESS SHAPE WILL BE PERMITTED. PROVIDED THE MINIMUM BEARING PRESSURE OF 3,000 PSF AND A STATIC PRESSURE OF 150 PSI AGAINST UNDISTURBED EARTH IS MAINTAINED.

LOW PRESSURE SEWER IN-LINE FLUSHING CONNECTION DETAIL

NOT TO SCALE

LOW PRESSURE SEWER TERMINAL FLUSHING CONNECTION DETAIL NOT TO SCALE

LEACHATE FORCEMAIN PUMP PERFORMANCE CURVE -FRANKLIN ELECTRIC 10VRL-09

NOTE: THE PUMP CURVE SHOWN IS FOR THE LEACHATE PUMP AND FORCEMAIN FROM THE PUMP BUILDING TO THE NEWARK WWTP. IT IS NOT ASSOCIATED WITH THE CELL 1 PUMP STATION MAINTENANCE.

B-4 STANDARDS AND SPECIFICATIONS

VEGETATIVE STABILIZATIC

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 AREAS.

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 CHEMICAL 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 GROUNDCOVER, 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-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED

CRITERIA

- A. SOIL PREPARATION
- 1. TEMPORARY STABILIZATION 1.a. SEED 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 SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- 1.b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. 1.c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS
- 2. PERMANENT STABILIZATION 2.a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT
 - VEGETATIVE ESTABLISHMENT AR a. SOIL PH BETWEEN 6.0 TO 7.0.

ON NEWLY DISTURBED AREAS.

- b. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
- c. 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 d. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
- e. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION
- 2.a. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
- 2.b. 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. 2.c. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
- 2.d. 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 UNNECESSARY
- 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 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: 3.a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH
- 3.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 MATERIAL.
- 3.c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH
- 3.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: 5.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 1 ½ INCHES IN DIAMETER.
- 5.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.
- 5.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 6.a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL
- 6.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.

- 6.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 ANAI YSFS
 - 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 FOR SEEDING AND MULCHING

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER

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.

- <u>CRITERIA</u> A. SEEDING 1. SPECIFICATIONS
 - 1.a. ALL SEED MUST MEET THE REQUIREMENT 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.
 - 1.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 GROUND THAWS.
 - 1.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
 - 1.d. SOD AND 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.
- 2. APPLICATION 2.a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. a. 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 b. 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 2.B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND
- COVER SEED WITH SOIL a. 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 PLANTING. b. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER.
- APPLY HALF THE SEEDING RATE IN EACH DIRECTION. 2.C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
- a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD BE EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K₂O (POTASSIUM), 200 POUNDS PER ACRE.
- b. 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 HYDROSEEDING. c. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
- d. WHEN HYDROSEEDING, DO NOT INCORPORATE INTO THE SOIL.
- B. MULCHING 1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
 - 1.a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLE BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEE LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS
 - 1.b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - a. 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 SPREAD SLURRY. b. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH
 - INHIBITING FACTORS. c. 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 HOMOGENOUS 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. d. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BY PHYTO-TOXIC. e. 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

3. ANCHORING

- 2.a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. 2.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. 2.c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 100 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.
- 3.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

- a. 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 CONTOUR.
- b. 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. c. 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 d. 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

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

ONDITIONS WHERE PRACTICE APPLIE 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.

<u>CRITERIA</u>

- A. 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 THE SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT
- ON THE PLAN B. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOILS TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING
- C. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONG AS PRESCRIBED IN SECTION B-4-3.A.1.1B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT COVER ON DISTURBED SOILS ..

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES 1. GENERAL USE

- 1.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
- 1.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.
- 1.c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
- 1.d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZEF (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
- 2.a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- 2.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: a. 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 TOTAL MIXTURE BY WEIGHT.
- b. 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 BY WEIGHT
- c. 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.
- d. 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 60 TO 70 PERCENT. SEEDING RATE: 1 ½ 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 GUARANTEE 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.
- 3. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MARYLAND: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)

CENTRAL MARYLAND: 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 (HARDNESS ZONES: 7A, 7B)
- 4. 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 ½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- 5. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVER 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 ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER). 1. GENERAL SPECIFICATIONS

- 1.a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. 1.b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF $\frac{3}{4}$ INCHES, PLUS OR MINUS $\frac{1}{4}$ 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 1.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 1.d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- 1.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 2.a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR
- TO LAYING THE SOD. 2.b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACE 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. 2.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
- 2.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 OPERATION OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
- 3. SOD MAINTENANCE 3.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.
- 3.b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- 3.c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 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.

PERMANENT SEEDING SUMMARY

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HA	ARDINESS ZONE:	7B			FER	
SE	EED MIXTURE:	TABLE B-3 #9				(10-20-20)
NO.	SPECIES	APPLICATION RATE(LB/AC)	SEEDING DATES	SEEDING DEPTHS	Ν	P ₂ O ₅
9	TALL FESCUE (COYOTE, GENESIS, LANCER)	60		¼ TO ½ IN.	45 LB/	
	KENTUCKY BLUEGRASS (AMERICA, FREEDOM, MIDNIGHT)	40	2/15-4/30 8/15-10/30	¼ TO ½ IN.	AC (1 LB/ 1000	90 LB/ AC (2 LB/ 1000 SF)
	PERENNIAL RYE GRASS (PENNFINE)	20		¼ TO ½ IN.	SF)	
		TEMPO	DRARY S	EEDING	SUMMA	RY

	HARDINESS ZONE: SEED MIXTURE:				FERTILIZER RATE	
NO.	SPECIES	APPLICATION RATE(LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	
	ANNUAL RYEGRASS	40	2/15-4/30 8/15-11/30	1/2"		
	FOXTAIL MILLET	30	5/1-8/14	1/2"	436 LB/AC	2 TONS/AC
					1000SF)	(00 EB/ 1000SF)

	VALUES (MARV) FOR THE FOLLOWING	SECTEMBLE THAT MEETS OR EXCEEDS	MIIN
	GRAB TENSILE PUNCTURE FLOW RATE PERMITTIVITY (SEC ⁻¹) UV RESISTANCE APPARENT OPENING SIZE (AOS) SEAM STRENGTH	250 LB 150 LB 70 GAL/MIN/FT ² 1.2 SEC ⁻¹ 70% STRENGTH @ 500 HOURS 0.15-0.18 MM 90%	A A A A A A A A
6.	REPLACE FILTER BAG IF BAG CLOGS CONNECTION BETWEEN PUMP HOSE	OR HAS RIPS, TEARS, OR PUNCTURES. AND FILTER BAG WATER TIGHT. REPLACE	DU E BI

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SED U.S. DEPARTMENT OF AGRICULTURE ITURAL RESOURCES CONSERVATION SERVICE MARYLAND DEF 2011 WATER MANA

DISPLACED

- RATE LIME RATE K₂O 2 TONS/ 90 LB/ AC AC (2 LB/ (90 LB/ 1000 SF) 1000 SF)

- STANDARD STABILIZATION NOTE: a. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL AND 1 VERTICAL. (3:1).
- b. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
- SEQUENCE OF CONSTRUCTION
- 1. CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT 410-901-4020, WORCESTER COUNTY DEPARTMENT OF ENVIRONMENTAL PROGRAMS AT 410-632-1220, WORCESTER COUNTY DEPARTMENT OF PUBLIC WORKS AT 410-641-5623M AND THE ENGINEER OF RECORD AT 410-641-5341 TO SCHEDULE A PRE CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO COMMENCING ANY WORK AT THE SITE. FAILURE TO DO SO MAY RESULT IN A "STOP WORK" ORDER.
- 2. OBTAIN ALL PROPER PERMITS AND CONTACT MISS UTILITY 800-257-7777 AT LEAST 24 HOURS PRIOR TO STARTING ANY WORK. 3. ALL MATERIALS STORED ON SITE SHALL BE PROTECTED AND PROPER
- SAFETY MEASURES SHALL BE PROVIDED TO ENSURE MATERIALS DO NOT FAIL TO REMAIN ONSITE. 4. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, COMMENCE WORK.
- 5. CUT, MOW, CLEAR, AND / OR GRUB AREAS AROUND THE PUMP STATIONS, ALONG THE PERIMETER ACCESS ROAD, AND ALONG THE PROPOSED FORCEMAIN ROUTE AS NEEDED TO START THE PROPOSED WORK. 6. INSTALL EROSION AND SEDIMENT CONTROLS AS SHOWN ON THE PLANS
- **CELL 1 PUMP STATION IMPROVEMENTS**
- LEVEL PERIMETER ROADS, INSTALL COMPACTED FILL MATERIALS, FABRIC AND CRUSHED CONCRETE. WORK AREA SHALL BE STABILIZED AT THE END OF THE WORK DAY WITH EITHER EROSION CONTROL MATTING OR WITH THE RECYCLED CONCRETE SURFACE.
- 8. ONCE PERIMETER ACCESS ROADS ARE COMPLETED AND STABILIZED CONTRACTOR SHALL BEGIN DEMOLITION OF ONE STATION AT A TIME. CONTRACTOR SHALL KEEP 3 PUMP STATIONS OPERATIONAL AT ALL TIMES. 9. CONTRACTOR SHALL PROCEED WITH STARTING AT CELL No.1 STATION 104D
- AND FINISHING AT STATION 101A. 10. PERFORM DEMOLITION OF CELL 1 PUMP STATION EQUIPMENT AS SHOWN ON THE PLANS.
- 11. PROCEEDED WITH INSTALLATION OF MECHANICAL AND ELECTRICAL ITEMS LOCATED WITHIN THE WETWELL.
- 12. INSTALL ELECTRICAL CONDUITS AND CONCRETE PAD 13. INSTALL PROPOSED PACKAGE PUMPING STATION. INSTALL ELECTRICAL CONTROLS, EQUIPMENT RACK, AND VERIFY OPERATIONS OF THE THAT
- STATION. 14. GRADE, LEVEL, TOPSOIL, SEED, AND STABILIZE AREA BEFORE PROCEEDING TO THE NEXT STATION.
- 15. COMPLETE ALL 4 PUMP STATIONS AND PROVIDE FINE GRADING AND FINAL STABILIZATION.

LEACHATE FORCEMAIN

- 16. BEGIN THE INSTALLATION OF THE PROPOSED FORCEMAIN STARTING AT THE EXTERIOR FACE OF THE PUMP BUILDING AND WORKING DOWNSTREAM SAME DAY STABILIZATION SHALL BE UTILIZED.
- 17. COMPLETE INSTALLATION OF FORCEMAIN AND APPURTENANCES MAKING THE CONNECTION AT THE RAILROAD. GRADE, LEVEL, TOPSOIL, SEED, AND STABILIZE ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION OF THE FORCEMAIN.
- 18. PERFORM PUMP BUILDING PENETRATION AND PERFORM PUMP BUILDING MECHANICAL AND ELECTRICAL UPGRADES.
- 19. COMMENCE START UP AND PERFORMANCE TESTING. 20. UPON 95% VEGETATIVE ESTABLISHMENT AND WITH THE WRITTEN APPROVAL FROM THE WORCESTER COUNTY DEPARTMENT OF ENVIRONMENTAL PROGRAMS, REMOVE ANY EROSION AND SEDIMENT CONTROLS AND STABILIZE ANY RE-DISTURBED AREAS.

LIMIT OF DISTURBANCE = 130.488 SF OR 3.0 AC

ESTIMATED CUT = ± 0 CY ESTIMATED FILL = ± 1,500 CY NET EARTHWORK = 1,500 CY

STANDARD SYMBOL	DETAIL B-1 STABILIZED CONSTRUCTION STANDARD SYMBOL
⊠FB	ENTRANCE
	EXISTING GROUND NONWOVEN GEOTEXTILE MIN. 6 IN OF 2 TO 3 IN AGGREGATE OVER LENGTH AND WIDTH OF ENTRANCE PROFILE PROFILE
12 IN MIN. MOOD COMPOST, AND, OR STRAW BALES	50 FT MIN. LENGTH *
BAG SLOPE 5% MAX.	
SIMILAR DEVICE.	
DCHIPS, SAND, OR ARGE TO A	
AG IN ACCORDANCE , REDUCE PUMPING OPERATIONS OR WATERED SEDIMENT MULCH BY THE END L CONDITION UPON H THREAD. SIZE THE BAG MUST BE UM AVERAGE ROLL M D-4632 M D-4491 M D-4632 IM D-4632 NG OPERATION KEEP DING IF IT BECOMES	 CONSTRUCTION SPECIFICATIONS 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. 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. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS. 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. 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.
ENT CONTROL	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

GENERAL NOTES

- ALL UNDERGROUND CELL AREAS SHALL BE CONSIDERED A CLASS I, DIVISION 2, GROUP D CLASSIFIED AREA AS DEFINED BY ARTICLE 500 OF THE NEC. ALL WORK SHALL COMPLY WTH APPLICABLE REQUIREMENTS OF THE NEC (NFPA 70).
- ALL WORK IS NEW UNLESS OTHERWISE NOTED AS EXISTING. FOR THE CONVENIENCE OF THE CONTRACTOR, ON DRAWINGS WHICH CONTAIN NEW AND EXISTING FEATURES, A DISTINCTION BETWEEN NEW AND EXISTING MATERIALS, EQUIPMENT, AND STRUCTURES HAS BEEN MADE BY LINE WEIGHT. HEAVY LINE WEIGHT REPRESENTS NEW FEATURES (OR WORK TO BE DONE ON EXISTING FEATURES) AND LIGHT LINE WEIGHT REPRESENTS EXISTING FEATURES.
- INFORMATION FOR EXISTING UTILITIES IS FROM AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OR HER SATISFACTION PRIOR TO CONSTRUCTION ACTIVITIES. INFORMATION FOR EXISTING UTILITIES IS FROM AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO THEIR SATISFACTION PRIOR TO
- CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT EXISTING UTILITIES AND STRUCTURES AND ANY DAMAGE TO THEM SHALL BE REPAIRED IMMEDIATELY (WITHIN 24 HOURS) BY THE CONTRACTOR AT NO COST TO THE OWNER.
- CONDUITS ENTERING OR EXITING CLASSIFIED AREAS SHALL BE INSTALLED WITH CONDUIT SEAL-OFF FITTINGS IN ACCORDANCE WITH ARTICLE 500 OF THE NATIONAL ELECTRICAL CODE.
- ALL WORK SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NFPA 70). MATERIALS, DEVICES, APPLIANCES, FITTINGS, AND EQUIPMENT INSTALLED SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC. (UL), FACTORY MUTUAL (FM), EDISON TESTING LABORATORIES (ETL), OR ANOTHER NATIONALLY RECOGNIZED TESTING LABORATORY ACCEPTABLE TO THE OWNER
- AND ENGINEER. ALL PRODUCTS SHALL BE USED ONLY IN THE MANNER IN WHICH THEY HAVE BEEN TESTED AND FOUND SUITABLE FOR THE INTENDED USE. 8. NO MECHANICAL EQUIPMENT SHALL BE USED WITHIN 18" OF THE MARKS INDICATING UTILITY LOCATION. HAND EXCAVATE UNTIL THE UTILITY IS FULLY LOCATED.
- 9. EQUIPMENT AND SYSTEMS SHALL BE BONDED AND GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, APPLICABLE LOCAL CODES, THE ELECTRICAL UTILITY PROVIDER, AND THE MANUFACTURER'S RECOMMENDATIONS.
- 10. CONDUIT AND CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS UNLESS SPECIFICALLY NOTED OTHERWISE
- 11. VOLTAGE DROP CALCULATIONS ARE BASED ON CIRCUIT LOADS AND DISTANCES FOR THE CIRCUIT ROUTING AS SHOWN. IF ALTERNATE CIRCUIT ROUTING, LOADING, OR CONDUCTOR MATERIAL ARE USED, VERIFY THAT THE VOLTAGE DROP IS ACCEPTABLE
- 12. UNLESS OTHERWISE NOTED, CONDUCTORS HAVE NOT BEEN DERATED FOR BUNDLING OF CONDUCTORS, OR SIZED FOR MULTIPLE CIRCUITS. IF MULTIPLE CIRCUITS ARE INSTALLED IN A SINGLE RACEWAY, DERATE THE CONDUCTOR AMPACITY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AND PROVIDE THE CORRECT CONDUCTOR AND CONDUIT SIZES.
- 13. SEALING FITTINGS AND SEALING COMPOUND SHALL BE UL LISTED AND INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. SEAL CONDUIT PENETRATIONS OF FIRE RATED-WALLS WITH AN APPROVED FIRE STOPPING MATERIAL WHICH HAS BEEN APPROVED FOR USE IN FIRE RATED ASSEMBLIES. 14. THE CONSTRUCTION CODE REQUIREMENTS OF STATE, COUNTY, OR OTHER POLITICAL SUBDIVISION WHICH EXCEED THE REQUIREMENTS OF NATIONAL
- CODES, STANDARDS, AND APPROVING BODIES SHALL BE MET AND COMPLIED WITH. 15. THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, REQUIREMENTS, AND GUIDELINES AND SHALL CONFORM TO THE PARTICULAR APPLICATION INVOLVED. IN ACCORDANCE WITH DETAILS SHOWN ON THE DRAWINGS. INSTALLATION OF EQUIPMENT CONNECTIONS TO EQUIPMENT SHALL BE COMPLETE IN EVERY DETAIL IN ACCORDANCE WITH APPLICABLE AND ACCEPTED INDUSTRY STANDARDS AND PRACTICES. PRIOR TO ACCEPTANCE OF ALL OR ANY PART OF THE WORK, THE CONTRACTOR SHALL TEST EACH PIECE OF EQUIPMENT AND SUBMIT WRITTEN CERTIFICATION THAT IT HAS BEEN INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND IS READY TO BEGIN OPERATION.
- 16. ALL EQUIPMENT SHALL BE FURNISHED BY MANUFACTURERS WHO HAVE AT LEAST THREE YEARS' EXPERIENCE IN THE DESIGN, PRODUCTION, ASSEMBLY, AND FIELD SERVICE OF EQUIPMENT OF LIKE TYPE AND SIZE. PRODUCTS SHALL HAVE BEEN IN SATISFACTORY COMMERCIAL OR INDUSTRIAL USE FOR TWO YEARS PRIOR TO BID OPENING. THE TWO-YEAR PERIOD SHALL INCLUDE APPLICATIONS OF EQUIPMENT AND MATERIALS UNDER SIMILAR CIRCUMSTANCES AND OF SIMILAR SIZE. THE PRODUCT SHALL HAVE BEEN ON SALE ON THE COMMERCIAL MARKET THROUGH ADVERTISEMENTS, MANUFACTURER'S CATALOGS, OR BROCHURES DURING THE TWO-YEAR PERIOD. PRODUCTS HAVING LESS THAN A TWO-YEAR FIELD SERVICE RECORD WILL BE ACCEPTABLE IF A CERTIFIED RECORD OF SATISFACTORY FIELD OPERATION FOR NOT LESS THAN 6,000 HOURS, EXCLUSIVE OF THE MANUFACTURER'S FACTORY OR LABORATORY TESTS, IS FURNISHED.
- 17. UNLESS OTHERWISE SPECIFIED, EQUIPMENT OR MATERIAL OF THE SAME TYPE OF CLASSIFICATION, USED FOR THE SAME PURPOSE SHALL BE THE PRODUCT OF THE SAME MANUFACTURER. ALL MATERIAL SHALL BE NEW AND OF THE CURRENT DESIGN OF THE MANUFACTURER PROVIDING EQUIPMENT OR MATERIAL. 18. EQUIPMENT AND ACCESSORIES NOT SPECIFICALLY DESCRIBED OR IDENTIFIED BY MANUFACTURER'S CATALOG NUMBERS SHALL BE DESIGNED IN
- CONFORMITY WITH NEMA, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, OR OTHER APPLICABLE TECHNICAL STANDARDS AND SHALL HAVE A NEAT AND FINISHED APPEARANCE.
- 19. ERECT EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER; ALIGN, LEVEL, AND ADJUST FOR SATISFACTORY OPERATION. INSTALL EQUIPMENT SO THAT PARTS ARE EASILY ACCESSIBLE FOR INSPECTION, OPERATION, MAINTENANCE, AND REPAIR. MINOR DEVIATIONS FROM THE INDICATED ARRANGEMENTS MAY BE MADE, BUT ONLY AFTER OBTAINING APPROVAL FROM THE ENGINEER.
- 20. MAINTAIN A MINIMUM 1 FOOT VERTICAL SEPARATION BETWEEN ELECTRICAL CONDUIT AND UNDERLYING UTILITIES WHERE CONDUIT MUST CROSS EXISTING SUBSURFACE UTILITIES.

LEGEND - PLANS & DETAILS DESCRIPTION SYMBOL CONDUIT EXPOSED CONDUIT CONCEALED ____ CONDUIT DOWN CONDUIT UP CONDUIT BODY J JUNCTION BOX **GROUND GRID** _____ GROUND ROD GROUND TEST WELL UNDERGROUND DUCT BANK HEAT TRACE CABLE MOTOR SOLENOID VALVE LIQUID LEVEL SENSOR LEVEL ELEMENT PRESSURE SENSOR VACUUM SENSOR LIMIT SWITCH TERMINAL BOX **DISCONNECT SWITCH - NON-FUSED** F **DISCONNECT SWITCH - FUSED** ELECTRIC MANHOLE ELECTRIC HANDHOLE ELECTRIC PULL BOX ELECTRIC METER ELECTRIC OVHD LINE ----- OHE ------ OHE -----ELECTRIC UGND LINE —— – Е – – – Е – —— EQUIPMENT TO BE REMOVED **?** CODED NOTE GROUP OF ITEMS HOME RUN TO PANELBOARD LP#-# OR PP#-#

LEGEND - DIAGRAMS & ELEMENTARIES

DESCRIPTION	SYMBOL
CIRCUIT CONNECTION CIRCUIT LUG / SCREW CONNECTION CIRCUIT CONTINUATION / BREAK LINE	 ⊘
CIRCUIT BREAKER FUSE	
GROUND	<u> </u>
OVERLOAD	
RELAY CONTACT	
SINGLE SWITCH	
MOMENTARY PUSHBUTTON	
LIMIT SWITCH	0~0
PRESSURE SWITCH	
FLOAT SWITCH	
TEMPERATURE SWITCH	
TIMING RELAY	
RELAY COIL	CR
INDICATING LIGHT	— <u> </u>
INDICATING LIGHT - PUSH-TO-TEST	
REMOTE CONTACT	
REMOTE INSTRUMENTATION SIGNAL	

ABBREVIATIONS AMPERE

	ALTERNATING CURRENT
	AMPS FRAME
	ANALOG INPUT
	ALUMINUM
	ANALOG OUTPUT
X.	APPROXIMATELY
	AMPS TRIP
	ABOVEGROUND STORAGE TANK
	AMERICAN WIRE GAGE
	BUILDING
	CIRCUIT BREAKER
	CONCRETE EQUIPMENT PAD

AWG

BLDG.

C.E.P.

CB

SITE PLAN	
SCALE: 1" = 60'	

CFR	CODE OF FEDERAL REGULATIONS	GRD	GROUND	NEC	NATIONAL ELECTRICAL CO
CKT, CIRC.	CIRCUIT	HOA	HAND-OFF-AUTOMATIC	NEMA	NATIONAL ELECTRICAL
CP, C.P.	CONTROL PANEL	HZ	HERTZ		MANUFACTURERS ASSOC
СРТ	CONTROL POWER TRANSFORMER	JB, JB-()	JUNCTION BOX OR JUNCTION BOX WITH	NFPA	NATIONAL FIRE PROTECTI ASSOCIATION
DC	DIRECT CURRENT			NFSS	NON-FUSED SAFETY SWIT
DI	DIGITAL INPUT	KCMIL		NO.	NUMBER
DIA	DIAMETER	KVA	KILOVOLT AMPERE	NTS	NOT TO SCALE
DO	DIGITAL OUTPUT	KW	KILOWATT	OI	
ns		LP	LIGHTING PANELBOARD	02	
D.S. DWG	DRAWING	M-()	MOTOR STARTER COIL WITH DESIGNATION	PF-()	DESIGNATION AND CIRCUI
ELEC	ELECTRICAL	MAX	MAXIMUM	PH	PHASE
ENCL.	ENCLOSURE	MCM	THOUSAND CIRCULAR MILS	PP-()	POWER PANELBOARD
EX., EXIST	EXISTING	MIN.	MINIMUM	PT	POTENTIAL TRANSFORME
G	GREEN OR GROUNDING CONDUCTOR	MTG	MOUNTING	P-()	PUMP WITH DESIGNATION

- CONDUITS ENTERING OR EXITING CLASSIFIED AREAS SHALL BE INSTALLED WITH CONDUIT SEAL-OFF FITTINGS IN ACCORDANCE WITH ARTICLE 500 THE NATIONAL ELECTRIC CODE.

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SHEET: 15 OF 19

SCADA CONTROL PANEL PARTIAL PARTS LIST				
ITEM #	QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	CONTROL MICROSYSTEMS	294034	MODEL 1206 12V 6AH BATTERY
2	1	CONTROL MICROSYSTEMS	294000	MODEL ACS-24 120:24VAC, 40VA TRANSFORMER
3	1	CONTROL MICROSYSTEMS	5103	UNINTERRUPTIBLE POWER SUPPLY
4	1	CONTROL MICROSYSTEMS	P1-130-01-1-1	SCADA PACK, 16 BIT CONTROLLER 3 RS-232 COMMUNICATIONS PORTS MODBUS PROTOCOL WITH TELEPACE LADDER LOGIC 8 ANALOG INPUTS, 16 120 VAC INPUTS 12 DRY CONTACT DIGITAL OUTPUTS, 2-4-20 mA OUTPUTS
5	1	CONTROL MICROSYSTEMS	_	5405–120 32 POINT DIGITAL INPUT MODULE (120VAC)
6	61CONTROL MICROSYSTEMS-5401 CONFIGURABLE DIGITAL INPUT/OUTPUT MODULE (120VAC) (8 CHANNEL)			
7	7 1 CONTROL MICROSYSTEMS - DIAL UP MODEM (TO BE REMOVED)			
8	8 1 KEP (KESSLER-ELLIS PRODUCTS) MMI8056 OIT GRAPHIC INTERFACE, 256 COLOR LCD DISPLAY AND TOUCH SCREEN			
	NOTE: NOTE: NOTE: NEEDED FOR THE CONFIGURABLE DIGITAL INPUT/OUTPUT MODULE AS NEEDED FOR THE CELL 1 PUMP STATION UPGRADES PROJECT. CONNECT INDICATED HIGH LEVEL TANK ALARM SIGNAL WIRES TO EACH OF THE NEW PUMP STATIONS. MODIFY THE PLC AND TOUCH SCREEN PROGRAM AS NECESSARY.			

- PROPOSED WORK.

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-	— 120V AC 60HZ FROM P1——		FROM PUMP S P101-HWL HIGH WATER L
			THE RUNNIN
POWER ON	•	POWER ON CRO (CR)	FROM PUMP S P101-PF POWER FAILUF
		POWER ON	FROM RUMP S R102-HWL HIGH WATER L
	DI-1		FROM PUMP S P102-1M PUMP RUNNIN
•			FROM PUMP
	120:24VAC		FROM PUMP S R103-HWL HIGH WATER L
			FROM PUMP S P103-1M PUMP RUNNIN
	UNINTERRUPTIBLE POWER SUPPLY		FROM PUMP S P103-PF POWER FAILUF
	12V 6AH		FROM PUMP S P104-HWL HIGH WATER L
	GELLED ELECTROLYTE BATTERY		FROM PUMP S P104-1M PUMP RUNNIN
			FROM PUMP
FROM POWER ON SWITCH {-	<pre></pre>	ĊR1 (CR)	TO RUMP STAT
R101-HWL	Ø DI−2 D0−2 Ø	CR2 (CR)	RUN PERISSIVE
P101-1M (1)		CR3	TO PUMP STA
P101-2M P101-PF (1)		CR4	RUN PERISSIVE
	Ø DI−4 DO−4 ⊗	CR	CR4 RUN PERISSIVE
P102-HWL (1)	Ø DI−5 DO−5 Ø	CR5 CR	TO PUMP STA CR5 RUN PERISSIVE
	Ø DI-6 DO-6 ⊗	CR6 (CR)	TO PUMP STA
P102-2M P102-PF 1		CR7	TO PUMP STAT
	Ø DI−7 DO−7 Ø	(CR)	
R103-HWL	Ø DI-8 DO-8 ⊗	CR	TO PUMP STAT
P103-1M (1)	Ø DI-9 DO-9 Q	CR9	TO PUMP STA
P103-2M		CR10	
	Ø DI−10 DO−10 ⊗	CR	- TO PUMP STA CR10 CR10 RUN PERISSIVE
R104-HWL(1)	Ø DI−11 D0−11 Q	CR11	TO PUMP STAT
		CR12	
P104-2M	Ø DI−12 DO−12 ⊗	CR	CR12 RUN PERISSIVE
P104-PF (1)	Ø DI−13		
P201-HWL	⊘ DI−14		FROM PUMP S P201-HWL HIGH WATER L
P201-1M	Ø DI-15		FROM PUMP S
P201-2M			
P201-PF			FROM PUMP S

RERISSIVE CONTACT JMP STATION 104 PERISSIVE CONTACT JMP STATION 201 PERISSIVE CONTACT JMP STATION 202 PERISSIVE CONTACT JMP STATION 203 PERISSIVE CONTACT JMP STATION 204 PERISSIVE CONTACT JMP STATION 301 PERISSIVE CONTACT JMP STATION 302 PERISSIVE CONTACT JMP STATION 401 PERISSIVE CONTACT JMP STATION 402 PERISSIVE CONTACT PUMP STATION 201 -HWL WATER LEVEL PUMP STATION 201 -1M RUNNING PUMP STATION 201 -PF

P203-2M

P204-2M

P203-PF

P204-HWL

P204-1M

P204-PF

MAGNETIC FLOW METER

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-(CONTINUED A-A THIS SHEET)—

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EXISTING SCADA CONTROL PANEL ELEMENTARY NOT TO SCALE

-(CONTINUED B-B ON SHEET E-502)-

____⊘ DI-24

— Ø DI-25

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DIGITAL INPUTS FROM CELL 1 STATIONS 101A, 102B, 103C, AND 104D WHICH OCCUPY DI-2 TO DI-13 AND ARE LOCATED IN THE EXISTING SCADAPACK PLC PROCESSOR WITH 16 DI, 12 DO, 8AI, AND 2 AO SHALL BE DISCONNECTED AND RECONNECTED AS OUTLINED ON E-503, E-504, AND E-505. CONTRACTOR SHALL INSTALL NEW SCADAPACK PLC PROCESSOR IN LOCATION IDENTIFIED ON DRAWING E-506 WITH ADDITION DIGITAL INPUTS AR REQUIRED.

2 DIGITAL OUTPUTS FROM CELL 1 STATIONS 101A, 102B, 103C, AND 104D WHICH OCCUPY DO-1 TO DO-4 AND ARE LOCATED IN THE EXISTING SCADAPACK PLC PROCESSOR WITH 16 DI, 12 DO, 8AI, AND 2 AO SHALL BE DISCONNECTED AND RECONNECTED AS OUTLINED ON E-503.

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www.eaest.com

FULL SIZE PLOT: 24" x 36"

DATE: MARCH 2024

PROJECT NUMBER: 61060951

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OCEANPINES/PROJECTS/DOCS/WORCESTER COUNTY/61060951 - CELL 1 PUMP STA'

۷.	7 5405 DIGITAL INPUT MODULE 32 INPUTS
P301-HWL	—Ø DI-26
P301-1M	— Ø DI-27
P301-2M	—Ø DI−28
P301–1HT	— ⊘ DI-29
P301–2HT	—@ DI-30
P301-PF	— Ø DI−31
P301-AL	—Ø DI-32
P302-HWL	— Ø DI-33
P302-1M	— Ø DI−34
P302-2M	—Ø DI-35
P302-1HT	—Ø DI-36
P302-2HT	— Ø DI−37
P302-PF	—Ø DI-38
P302-AL	— ⊘ DI-39
P401-HWL	— Ø DI−40
P401-1M	— ⊘ DI-41
P401-2M	— Ø DI-42
P401 - THT	— Ø DI−43
P401-261	— Ø DI−44
P401-AI	— Ø DI-45
SPARE	— Ø DI−46
SPARE	— ⊗ DI-47
	— Ø DI−48
(CONTINUED TO B-B ON	THIS SHEET)

•	FROM PUMP STATION P301-HWL HIGH WATER LEVEL	301
•	FROM PUMP STATION P301-1M PUMP 1 RUNNING	301
•	FROM PUMP STATION P301–2M PUMP 2 RUNNING	301
•	FROM PUMP STATION P301–IHT PUMP 1 HIGH TEMP	301
•	FROM PUMP STATION P301–2HT PUMP 2 HIGH TEMP	301
•	FROM PUMP STATION P301–PF PHASE FAILURE	301
•	FROM PUMP STATION P301-AL ALARM	301
•	FROM PUMP STATION P302-HWL HIGH WATER LEVEL	302
•	FROM PUMP STATION P302-1M PUMP 1 RUNNING	302
•	FROM PUMP STATION P302-2M PUMP 2 RUNNING	302
•	FROM PUMP STATION P302–IHT PUMP 1 HIGH TEMP	302
•	FROM PUMP STATION P302–2HT PUMP 2 HIGH TEMP	302
•	FROM PUMP STATION P302–PF PHASE FAILURE	302
•	FROM PUMP STATION P302-AL ALARM	302
•	FROM PUMP STATION P401—HWL HIGH WATER LEVEL	401
•	FROM PUMP STATION P401-1M PUMP 1 RUNNING	401
•	FROM PUMP STATION P401–2M PUMP 2 RUNNING	401
•	FROM PUMP STATION P401—IHT PUMP 1 HIGH TEMP	401
	FROM PUMP STATION P401–2HT PUMP 2 HIGH TEMP	401
•	FROM PUMP STATION P401–PF PHASE FAILURE	401
	FROM PUMP STATION P401-AL ALARM	401

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	INPUT DIGITAL MODULE 32 INPUTS	
401-HWL	⊘ DI−49	FROM PUMP STATION 402 P402-HWL HIGH WATER LEVEL
2401–1M	Ø DI−50	FROM PUMP STATION 402 P402-1M PUMP 1 RUNNING
401–2M	⊘ DI−51	FROM PUMP STATION 402 P402-2M
401−1HT	⊘ DI-52	FROM PUMP STATION 402 P402-IHT
+01-2HT	Ø DI−53	FROM PUMP STATION 402
401–PF	⊘ DI−54	FROM PUMP STATION 402
401-AL		FROM PUMP STATION 402
LT-HL		ALARM
	⊘ DI−56	
	─────────────────────────────────────	PH-HL PUMP HOUSE HIGH LEVEL
	⊘ DI−58	FROM PUMP HOUSE RUNNING PUMPS RUNNING
PH-PF	───Ø DI-59	FROM PUMP HOUSE PH-PF POWER FAILURE
01–HWL 	Ø DI−60	FROM PUMP STATION 501 P501-HWL HIGH WATER LEVEL
501—1M —	⊘ DI−61	FROM PUMP STATION 501 P501-1M PUMP 1 RUNNING
501—2M —	Ø DI−62	FROM PUMP STATION 501 P501-2M PUMP 2 RUNNING
501–1HT	⊘ DI−63	FROM PUMP STATION 501 P501-IHT PUMP 1 HIGH TEMP
501–2HT	Ø DI−64	FROM PUMP STATION 501 P501-2HT PUMP 2 HIGH TEMP
501–PF	⊘ DI−65	FROM PUMP STATION 501 P501-PF DHASE FAILURE
501–AL	Ø DI−66	FROM PUMP STATION 501
01—HWL —	⊘ DI−69	FROM PUMP STATION 502
501—1M —	⊘ DI-70	FROM PUMP STATION 502
401–2M	⊘ DI−71	FROM PUMP STATION 502
-01 – 1 HT	Ø DI−72	FROM PUMP STATION 502
-01–2HT	——————————————————————————————————————	FROM PUMP STATION 502
401–PF		FROM PUMP STATION 502
401-AL	UI-/4	FROM PUMP STATION 502
	────Ø DI−75	P502-AL ALARM

_____(CONTINUED FROM B-B ON THIS SHEET)___

- TO PUMP STATION 101A CR13-1 (RUN PERMISSIVE CONTACT)
- TO PUMP STATION 102B
- (RUN PERMISSIVE CONTACT)
- TO PUMP STATION 103C CR15-1 (RUN PERMISSIVE CONTACT)
- TO PUMP STATION 104D CR16-1 (RUN PERMISSIVE CONTACT)
- TO LEACHATE PUMP MOTOR STARTER CR17-1 (RUN LEACHATE PUMP)

EXISTING SCADA CONTROL PANEL ELEMENTARY NOT TO SCALE

DATE: MARCH 2024 PROJECT NUMBER: 61060951

> **E-5** SHEET: 18 OF 19

FULL SIZE PLOT: 24" x 36"

