GENERAL NOTES

- ALL GRADING FOR THIS PROJECT SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
- THERE IS A 10 WIDE DRAINAGE AND UTILITIES EASEMENT ALONG ALL FRONT LOT LINES AND AN 8 WIDE DRAINAGE AND UTILITIES EASEMENT ALONG ALL SIDE AND REAR LOT LINES HEREBY RESERVED UNLESS OTHERWISE SHOWN HEREON. A PUBLIC WORKS AGREEMENT AND PERFORMANCE SECURITY WILL BE REQUIRED FOR ALL IMPROVEMENTS WITHIN THE COUNTY RIGHT-OF-WAY THAT ARE NOT
- OTHERWISE REGULATED UNDER A UTILITY PERMIT OR ENTRANCE PERMIT. A UTILITY PERMIT WILL BE REQUIRED FOR ANY PROPOSED UTILITY WORK LOCATED WITHIN THE COUNTY RIGHT-OF-WAY.
- A COMPLETE SET OF APPROVED PLANS AND A COPY OF THE GRADING PERMIT MUST BE ON SITE AND AVAILABLE FOR USE BY THE INSPECTOR, OR OTHER REPRESENTATIVE OF WASHINGTON COUNTY DIVISION OF ENGINEERING & CONSTRUCTION.
- PLEASE BE ADVISED THAT ANY PROJECT WHICH CREATES A DISTURBANCE OF ONE (1) ACRE OR MORE WILL REQUIRE A NOTICE OF INTENT TO COMPLY WITH THE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NOI). THE NOI IS REQUIRED UNDER THE CLEAN WATER ACT AS STATED IN 40 CFR 122.26 AND CODE OF MARYLAND REGULATIONS COMAR 26.08.04.09A AND IS REGULATED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT (MDE). THE NOI IS TO BE SUBMITTED WITH THE APPROPRIATE FEES DIRECTLY TO THE MDE PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. NO LAND DISTURBING ACTIVITY THAT REQUIRES A GRADING PERMIT FROM WASHINGTON COUNTY SHOULD PROCEED UNTIL THE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (MDR10) HAS BEEN ISSUED BY MDE.
- NO PERMANENT STRUCTURES (FENCES, SHEDS, PLAY EQUIPMENT, RETAINING WALLS, ETC.) SHALL BE PERMITTED WITHIN ANY STORM DRAINAGE EASEMENT EITHER SHOWN OR DESCRIBED ON THE FINAL PLAT OF SUBDIVISION.
- DEVELOPER/CONTRACTOR MUST CONTACT THE CERTIFYING ENGINEER AND THE COUNTY AT LEAST 5 DAYS PRIOR TO THE START OF CONSTRUCTION OF THE STORM WATER MANAGEMENT SYSTEM TO SCHEDULE AND COORDINATE INSPECTION TIME TABLES.
- IN CONFORMANCE WITH THE STORM WATER MANAGEMENT ORDINANCE OF WASHINGTON COUNTY, A PERFORMANCE SECURITY AND EXECUTED MAINTENANCE AND ACCESS AGREEMENT SHALL BE REQUIRED FROM THE DEVELOPER PRIOR TO ISSUANCE OF ANY BUILDING OR GRADING PERMIT FOR CONSTRUCTION PER THESE PLANS. . CONTRACTOR IS RESPONSIBLE FOR CONTACTING "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- . MAXIMUM SLOPES SHALL BE NOT GREATER THAN THREE (3) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL OUT SIDE THE ROAD RIGHT—OF—WAY. SLOPES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE NOT GREATER THAN TWO (2) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL, OR UNLESS SPECIFIED ON THE PLANS.
- 2. CERTIFIED COMPACTION TESTS ARE REQUIRED FOR ALL TRENCH/FILL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE SPECIFICATIONS MANUAL AND GRADING ORDINANCE. FINAL REPORTS AND CERTIFICATIONS SHALL BE PROVIDED PRIOR TO PRE-FINAL INSPECTIONS. 3. CERTIFIED COMPACTION TESTS AND GEOTECHNICAL REPORTS SHALL BE SUBMITTED ON A REGULAR BASIS THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED
- BY THE SPECIFICATIONS MANUAL. 4. AS-BUILT PLANS SHALL BE SUBMITTED PRIOR TO PRE-FINAL INSPECTIONS FOR ALL DISCIPLINES.
- 5. WITH APPROVAL FROM THE WCSCD, ALL EROSION AND SEDIMENT CONTROL STRUCTURES MUST BE REMOVED PRIOR TO THE RELEASE OF BONDS. . MHT FOUND THAT THERE ARE NO KNOWN HISTORIC SITES LOCATED WITHIN THIS SITE.
- . OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION. IN THE EVENT THAT INFORMATION IS IN CONFLICT WITH INFORMATION OUTLINED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT PRIOR TO STARTING ANY WORK 8. ADJUST TOP OF CURB GRADES TO SMOOTH TRANSITION.
- 9. STRIP AND RESURFACE EXISTING PAVING AS NEEDED TO PROVIDE SMOOTH TRANSITION TO EXISTING SURFACE. O. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT
- SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK. . IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY WCSCD AND WASHINGTON COUNTY OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE COUNTY WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- 3. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL TIE—IN ELEVATIONS.
- 24. FILL IN STRUCTURAL AND PAVEMENT AREAS SHALL BE PLACED IN HORIZONTAL, EIGHT—INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR, MAXIMUM DRY DENSITY PER ASTM D-1557. IN AREAS TO SUPPORT FLOOR SLABS AND PAVEMENTS THE UPPERMOST ONE FOOT (AFTER COMPACTION) SHALL BE COMPACTED TO 98 PERCENT OF THE MAXIMUM DRY DENSITY. THE MOISTURE CONTENT OF THE FILL SHALL BE PROPERLY CONTROLLED DURING PLACEMENT. IN BUILDING AREAS FILL SHALL EXTEND A MINIMUM OF 10 FEET BEYOND THE BUILDING LIMITS AND FILL SLOPES NO STEEPER THAN 2:1 SHALL BE USED. SEE THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 25. CONTRACTOR WILL ADJUST ALL FRAMES, GRATES AND COVERS OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF THE CONTRACT TO THE PROPOSED GRADES, AS REQUIRED.
- 26. THE CONTRACTOR WILL MAINTAIN POSITIVE DRAINAGE TO SWALES AND/OR STORM DRAIN SYSTEMS AT ALL TIMES.
- 28. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON AVAILABLE RECORD PLATS AND A FIELD RUN SURVEY PERFORMED BY KCI TECHNOLOGIES INC. DATED AUGUST
- 29. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY KCI TECHNOLOGIES DATED AUGUST 2017. 30. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN HEREON BEFORE STARTING ANY WORK ON THESE PLANS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL
- EXISTING UTILITIES TO REMAIN. 1. WATER IS PUBLIC (CITY OF HAGERSTOWN). EXISTING USAGE=200G/D(TO BE ABANDONED). PROPOSED=UP TO 1,500GPM
- 32. SEWER IS PUBLIC (WASHINGTON COUNTY). 33. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT
- SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK. 34. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 35. ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED. 36. THE CONTRACTOR SHALL NOTE THAT IN CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED
- 7. TRENCH BACKFILL IN GRASS AREAS SHALL BE COMPACTED TO A MINIMUM 90% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH A.A.S.H.T.O. VERIFY DESIGNATION T-180, METHOD C. TRENCH BACKFILL IN STRUCTURAL AND PAVEMENT AREAS SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF
- THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557). IN PAVED AREAS, FILL BELOW THE TOP 12 INCHES SHOULD BE COMPACTED TO 97%. 38. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING STRUCTURES AT ALL TIMES. 39. CONTRACTOR SHALL COORDINATE ALL DISCONNECTIONS AND REMOVAL OF EXISTING GAS, ELECTRIC AND TELEPHONE SERVICES AND EQUIPMENT WITH POTOMAC EDISON
- 40. CONTRACTOR SHALL INSTALL SEDIMENT CONTROLS PRIOR TO BEGINNING ANY WORK AND MAINTAIN SEDIMENT CONTROLS THROUGHOUT THE ENTIRE DURATION OF
- DEMOLITION AND CONSTRUCTION ACTIVITIES. 41. ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE
- CONTRACTOR SHALL TERMINATE AND CAP TO THE LIMITS INDICATED IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS. 42. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- 43. STORMWATER MANAGEMENT QUANTITY AND QUALITY HAS BEEN PROVIDED IN ACCORDANCE WITH THE 2010 MARYLAND STORMWATER MANAGEMENT ORDINANCE AND REVISED 2010 STORMWATER MANAGEMENT DESIGN MANUAL. ALL PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED IN THEIR ENTIRETY.
- 44. EXISTING UTILITIES ARE BASED ON AVAILABLE EXISTING PLANS AND FIELD RUN TOPOGRAPHY PERFORMED BY KCI TECHNOLOGIES ON OR ABOUT AUGUST 2017 5 A GEOTECHNICAL REPORT PREPARED BY ECS MID—ATLANTIC LLC IS INCLUDED IN THE PLAN SUBMITTAL 46. A WATERWAY AND WETLAND DELINEATION WAS COMPLETED BY KCI TECHNOLOGIES, INC. IN AUGUST 2017. NO WATERWAYS OR WETLANDS WERE IDENTIFIED.
- 47. MDE PREFORMED A SITE REVIEW ON AUGUST 14, 2017 AND CONCURRED THAT NO JURISDICTIONAL WETLAND OR WATERWAY RESOURCES EXIST ONSITE. THEREFORE NO AUTHORIZATION IS NEEDED FROM MDE'S WATERWAY CONSTRUCTION DIVISION FOR ANY WORK AT THE SITE.
- 48. THE 100-YR FLOODPLAIN IS SOUTH OF LAPPANS ROAD, WHICH IS APPROXIMATELY 4,200' SOUTH OF THE SITE. FEMA PANEL NUMBER 240070 0155 A. 49. FOREST STANDS WERE DELINEATED BY KCI TECHNOLOGIES, INC. DURING AUGUST 2017. 5 FOREST STANDS WERE FOUND WITHIN THE STUDY AREA FOR COUNTY FILE
- 50. THE SITE IS LOCATED WITHIN AN AREA OF KARST LIMESTONE GEOLOGY WITH MAPPED SINKHOLES AND CLOSED DEPRESSIONS BEING MAPPED IN THE VICINITY OF THE SITE. REPAIR OF KARST FEATURES DURING CONSTRUCTION SHOULD BE EXPECTED AND BUDGETED FOR. 51. STORMWATER MANAGEMENT REQUIREMENTS (QUALITY AND QUANTITY) WILL BE ADDRESSED THROUGH MULTIPLE PRACTICES WHICH INCLUDE BIORETENTION, SWALES, AND
- NON-ROOFTOP DISCONNECTION.
- 2. GROUNDWATER WAS ENCOUNTERED 15—20 FEET BELOW FINISHED GRADE SO GROUNDWATER SHOULD NOT BE EXPECTED DURING CONSTRUCTION 53. THE ONSITE LOW PLASTICITY CLAY, SILT, AND SAND SOILS MAY BE SUITABLE FOR REUSE AS ENGINEERED FILL DEPENDING ON MOISTURE CONDITIONING. THE HIGHER PLASTICITY CLAY SOILS (CH, CL/CH) MAY BE SUITABLE FOR REUSE IN NON-STRUCTURAL AREAS. NO SOILS ARE TO BE HAULED OFF SITE. SEE GEOTECH REPORT
- 54. HIGH PLASTIC CLAY (CL/CH, CH) SOILS ARE EXPECTED TO BE ENCOUNTERED AT FOOTING SUBGRADE ELEVATIONS IN SOME AREAS. WHEN ENCOUNTERED, SUBGRADE WILL REQUIRE UNDERCUTTING TO COMPETENT MATERIAL OR UNDERCUT AND RESTORED TO FOUNDATION ELEVATIONS WITH LEAN CONCRETE
- 5. ALL LIGHTING SHALL BE DIRECTED SO AS TO AVOID GLARE AND LIGHT TRESPASS ON ADJACENT PROPERTIES AND ROADS. APPROVED FOREST CLEARING ON THE SITE CURRENTLY FALLS BELOW FOREST CLEARING PERMITTED W/O MITIGATION. ADDITIONAL FOREST CLEARING BEYOND PERMITTED LINES DURING THIS PHASE OF THE PROJECT MAY NECESSITATE MITIGATION UNDER THE WASHINGTON COUNTY FOREST CONSERVATION ORDINANCE. FUTURE PHASES OF SITE DEVELOPMENT SHALL BASE FOREST MITIGATION ON THE CUMULATIVE AMOUNT OF FOREST CLEARING WHICH HAS OCCURRED AND UTILIZE THE ORIGINAL TRACT AREA TO DETERMINE MITIGATION REQUIREMENTS. A PERMANENT FOREST EASEMENT MUST BE ESTABLISHED WHEN CUMULATIVE PERMITTED FOREST CLEARING EXCEEDS THE CUMULATIVE PERMITTED
- 66. A VARIANCE WAS GRANTED BY THE WASHINGTON COUNTY PLANNING COMMISSION AT THEIR MARCH 4TH. 2019 MEETING FOR THE REMOVAL OF 2 SPECIMEN TREES (#1 AND 2 IN THE TABLE), DESCRIBED AS A 35" WHITE MULBERRY AND A 34" BLACK CHERRY

OWNER/DEVELOPER CERTIFICATION - EROSION CONTROL

"I/WE CERTIFY ALL/ANY PARTIES RESPONSIBLE FOR CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL; BE DONE PURSUANT TO THIS PLAN AND RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVAL TRAINING PROGRAM FOR THE CONTROL OF SOIL EROSION AND SEDIMENT"

PRINTED NAME OF DEVELOPER

DATE

SIGNATURE

SIGNATURE

ENGINEER AS-BUILT STORM WATER MANAGEMENT CERTIFICATION I VERIFY AND AFFIRM THAT THE CONSTRUCTION FOR THE STORM WATER MANAGEMENT FACILITIES AS PERFORMED EITHER MEETS OR EXCEEDS THE REQUIREMENTS AND DESIGN INTENT OF THIS PLAN, INCLUDING ALL THE SPECIFICATIONS AND REFERENCED STANDARDS AND HAS BEEN COMPLETED IN ACCORDANCE WITH GOOD CONSTRUCTION INSPECTION DOCUMENTATION AND THE AS-BUILT INFORMATION; THAT IT HAS BEEN DONE IN ACCORDANCE WITH WASHINGTON COUNTY REQUIREMENTS AND AT A LEVEL DISCREPANCIES

BEEN NOTED AND ARE CONSIDERED ACCEPTABLE TO THE CONSULTANT PRINTED NAME SIGNATURE

BETWEEN THE AS-BUILT INFORMATION AND APPROVED PLANS HAVE

<u>APPROVED</u>

WASHINGTON COUNTY DIVISION OF PLAN REVIEW & PERMITTING

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND IN ACCORDANCE WITH THE STORM WATER MANAGEMENT ORDINANCE OF WASHINGTON COUNTY AND THE POLICY ON CONSTRUCTION OF SUBDIVISION INFRASTRUCTURE FOR ACCEPTANCE AND OWNERSHIP BY WASHINGTON COUNTY (S-3)

ENGINEER CERTIFICATION - EROSION CONTROL

SEDIMENT CONTROL AND POND CONSTRUCTION HAS BEEN DESIGNED

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION

SIGNATURE

OWNER/DEVELOPER CERTIFICATION—WASHINGTON COUNTY

HEREBY CERTIFY THAT THIS PLAN FOR SOIL EROSION AND

IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01.07,

AND SEDIMENT CONTROL

WASHINGTON COUNTY

SAFETY TRAINING CENTER

WASHINGTON COUNTY MARYLAND

18350 PUBLIC SAFETY PLACE, HAGERSTOWN MARYLAND 21740

ADDRESS: 9238 SHARPSBURG PIKE

TAX IDENTIFICATION NO.: 018579

TAX MAP/GRID:

ELECTION DISTRICT:

LIBER/FOLIO:

SEWER

HAGERSTOWN, MD 21740

0062/0010

COUNTY

05374/00077

OWNER/APPLICANT:

100 W. WASHINGTON STREET

CONTACT: BRENNAN GARRETT

11830 WEST MARKET PLACE, SUITE F

HAGERSTOWN, MD 21740

PHONE: (240) 313-2200

KCI TECHNOLOGIES, INC.

FULTON, MARYLAND 20759

CONTACT: TIMOTHY H. MILLER

PHONE: (410) 792-8086

WASHINGTON COUNTY BOARD OF COMMISSIONERS

VICINITY MAF SCALE: 1"=2000'

ADC MAP: 26 GRID: C-6

POINT	NORTHING	EASTING	ELEVATION
KCI#11	693147.85	1106438.79	492.68
KCI#12	693777.99	1104456.26	491.79
KCI#5	692636.73	1105640.07	482.60

SITE ANALYSIS DATA CHART

- A. TOTAL SITE AREA: 49.29 AC. OR 2,147,072 SQ.FT AREA OF PLAN SUBMISSION: 49.29 AC. OR 2,147,072 SQ.FT LIMIT OF DISTURBED AREA: 10.81 AC OR 470,978 SQ.FT
- EXISTING IMPERVIOUS AREA: 0.00 AC
- PROPOSED IMPERVIOUS AREA: 4.30 AC OR 187,310 SQ.FT PRESENT ZONING DESIGNATION: R-T
- PROPOSED USES FOR SITE AND STRUCTURES: TRAINING CENTER
- H. OPEN SPACE ON SITE: 5.05 ACRES AND 54% OF DISTURBED AREA.

 I. BASE BID BUILDING AREA: 28,450 SF

WASHINGTON COUNTY SOIL CONSERVATION DISTRICT SOIL

EROSION AND SEDIMENT CONTROL PLAN APPROVAL

(PLAN IS VALID FOR TWO YEARS FROM DATE OF APPROVAL)

- J. POTENTIAL BUILDING AREA: 44,165 SF K. HOURS OF OPERATION: 7AM TO 10PM M-F, 830M TO 330PM SAT/SUN.
- L. BUILDING ADDRESS: 18350 PUBLIC SAFETY PLACE
- SWM SUMMARY TABLE ESD VOLUME AREA OF EX. IMP. AREA (Ac.

DISTURBANCE AREA (Ac.) REQUIRED | PROVIDED 28,904 0.00 4.30 28,504

DISTURBED AREA QUANTITIES

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 10.81 ACRES AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 27,050 C.Y. OF EXCAVATION AND 42,350 C.Y. OF FILL

CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION



- FUTURE STAIR

TOWER

PÓTÉNTIÁL

FUTURE

ADDITION

60´

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 51972 EXP. DATE: 12/11/2021

SHEET INDEX

SHEET DESCRIPTION

SHEET NUMBER

1 C-0.00 TITLE SHEET

3 | C-1.00 | OVERALL SITE PLAN

4 | C-1.01 | DETAILED SITE PLAN

5 | C-1.02 | DETAILED SITE PLAN

6 | C-1.03 | DETAILED SITE PLAN

7 | C-1.04 | DETAILED SITE PLAN

10 | C-1.07 | UTILITY PLAN

11 | C-1.08 | WATER PROFILES

12 | C-1.09 | SEWER PROFILES

17 C-1.14 LANDSCAPE PLAN

-19 | C-1.16 | PHOTOMETRIC PLAN

38 C-3.07 SOIL BORING LOGS

39 | C-3.08 | SOIL BORING LOGS

ALTERNATE

<u>ADDITION</u>

PARKING SPACE REQUIREMENT RATIONALE:

SEATS RESULTING IN 169 SPACES

170 PARKING SPACES REQUIRED.

176 SPACES

170 SPACES

BIKE RACK FOR 7

6 SPACES

PARKING SPACES PROVIDED:

NORMAL SPOTS=

BIKE SPACES=

MD-104.02-09 - FLAGGING OPERATION 2-LANE,2 WAY GREATER THAN 40 MPH

THE BOOK OF STANDARDS WHICH WILL HAVE THE MOST CURRENT VERSION. ALL

LONGITUDINAL UNDERDRAIN LOCATED AT SHOULDER

FOR ALL STANDARDS REFERRED TO ON THE PLANS THE CONTRACTOR MUST GO TO

ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF

<u>SHA NOTE</u> THE FOLLOWING SHA STANDARDS ARE REQUIRED FOR THIS PROJECT:

MD-104.02-03 - LANE SHIFT GREATER THAN 40 MPH

THE REFERENCED STANDARD AT THE TIME OF CONSTRUCTION.

MD-104.02-01 - SHOULDER WORK/ 2-LANE, 2-WAY GREATER THAN 40

HANDICAP =

TOWER

-13 C-1.10 STORM DRAIN PROFILES

14 C-1.11 CONSTRUCTION DETAILS

15 C-1.12 CONSTRUCTION DETAILS

16 C-1.13 CONSTRUCTION DETAILS

18 C-1.15 LANDSCAPE DETAILS AND NOTES

20 C-2.00 STORMWATER MANAGEMENT PLAN

21 C-2.01 OVERALL EXISTING DRAINAGE AREA MAP

22 | C-2.02 | OVERALL PROPOSED DRAINAGE AREA MAP

24 | C-2.04 | STORMWATER MANAGEMENT FACILITY PLAN

23 | C-2.03 | STORMWATER MANAGEMENT FACILITY PLAN

25 C-2.05 STORMWATER MANAGEMENT FACILITY PLAN

-26 | C-2.06 | STORMWATER MANAGEMENT FACILITY PLAN -27 | C-2.07 | STORMWATER MANAGEMENT FACILITY PLAN

28 | C-2.08 | STORMWATER MANAGEMENT FACILITY PLAN

-29 | C-2.09 | STORMWATER MANAGEMENT DETAILS & NOTES

-30 | C-2.10 | STORMWATER MANAGEMENT DETAILS & NOTES

96.66

31 C-3.00 OVERALL EROSION AND SEDIMENT CONTROL PLAN

32 | C-3.01 | FINAL GRADING, EROSION AND SEDIMENT CONTROL PLAN

33 | C-3.02 | FINAL GRADING, EROSION AND SEDIMENT CONTROL PLAN

34 | C-3.03 | FINAL GRADING, EROSION AND SEDIMENT CONTROL PLAN

35 | C-3.04 | FINAL GRADING, EROSION AND SEDIMENT CONTROL NOTES & DETAILS

36 | C-3.05 | FINAL GRADING, EROSION AND SEDIMENT CONTROL NOTES & DETAILS

37 | C-3.06 | FINAL GRADING, EROSION AND SEDIMENT CONTROL NOTES & DETAILS

BASE BID=28,450 SF

MAX HEIGHT=38'-4"

PARKING TABULATION

1. TOTAL SEATS SHOWN IN BUILDING DESIGN = 507 COLLEGE AND

2. BASED ON THE ORGANIZATIONAL CHARTS FOR THE WASHINGTON

CONFERENCE CENTERS ARE PARKED AT 1 PARKING SPACE PER 3

COUNTY SHERIFFS OFFICE, JUDICIAL SYSTEM AND DETENTION CENTER,

ARE ON THE JOB AT ONE TIME AND A COMBINED CLASS IS HELD FOR

THE REST, THEN THIS EQUATES TO 170 IN ATTENDANCE RESULTING IN

THERE ARE CURRENTLY 258 EMPLOYEES. IF $\frac{1}{3}$ OF THE EMPLOYEES

8 C-1.05 ROAD PROFILES AND DETAILS

9 C-1.06 ROAD PROFILES AND DETAILS

2 C-0.01 EXISTING CONDITIONS / DEMOLITION PLAN



ALL REPORTS PLANS SPECIFICATIONS AND COMPUTER FILES RELATING TO THIS PROJECT ARE THE PROPERTY OF CRABTREE, ROHRBAUGH & ASSOCIATES. CRABTREE ROHRBAUGH & ASSOCIATES RETAINS ALL COMMON LAW. STATUTE AND OF THE MATERIAL HERIN OR SUBSTANTIAL USE WITHOUT WRITTEN PERMISSION OF UNITED STATES AND WILL BE SUBJECT TO LEGAL PROSECUTION.

1 MM-DD-YR	R NAME	DESCRIPTION OF CHANGES

02

%00

RB

CIVIL WASHINGTON KCI TECHNOLOGIES, **COUNTY BOARD OF COMMISSIONERS** 11830 W. MARKET

PLACE, SUITE F 100 W. WASHINGTON ST **FULTON, MD 20759** HAGERSTOWN, MD 21740 410-792-8086 (P) 240-313-220 410-792-7419 (F)

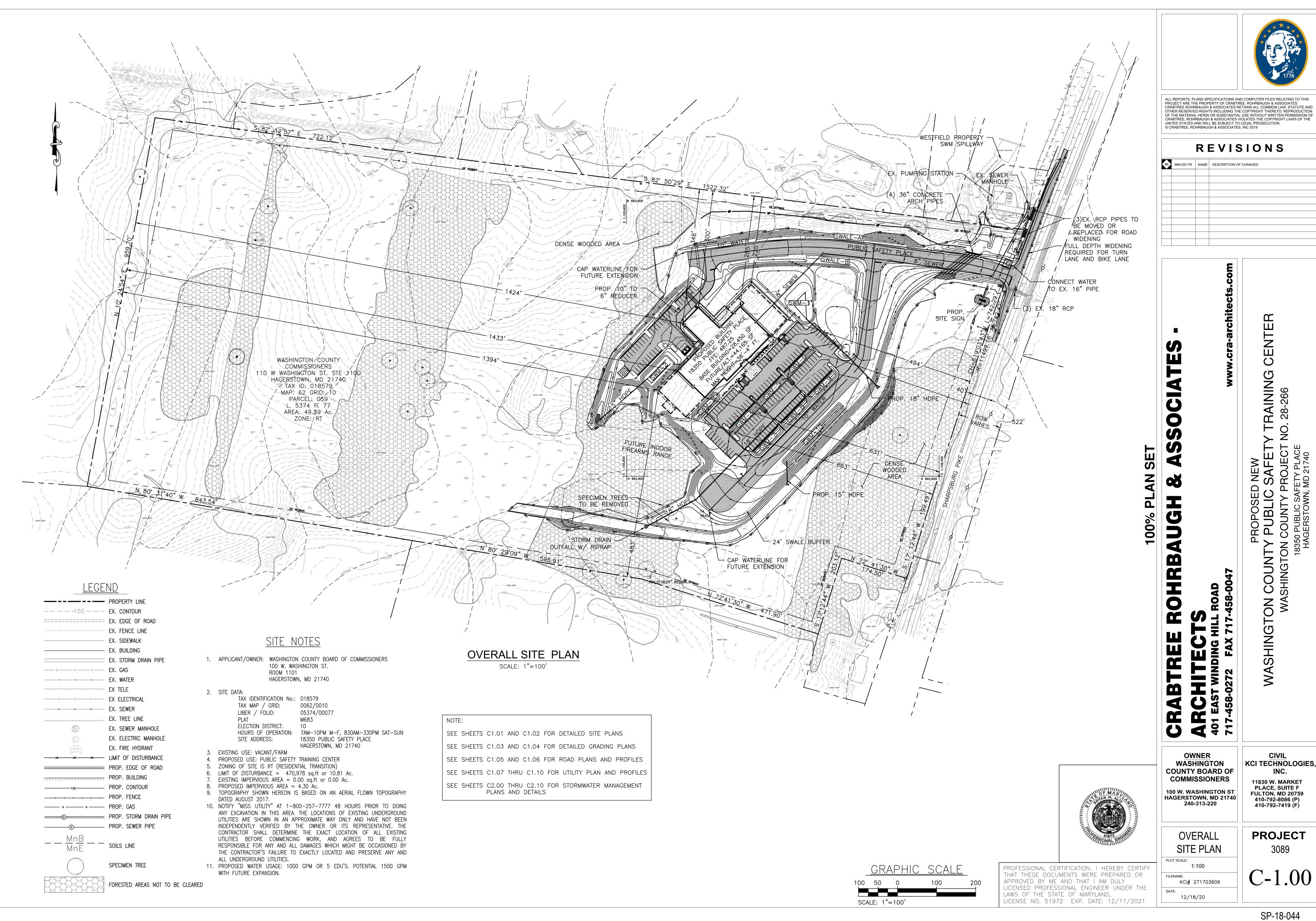
KCI# 271703606

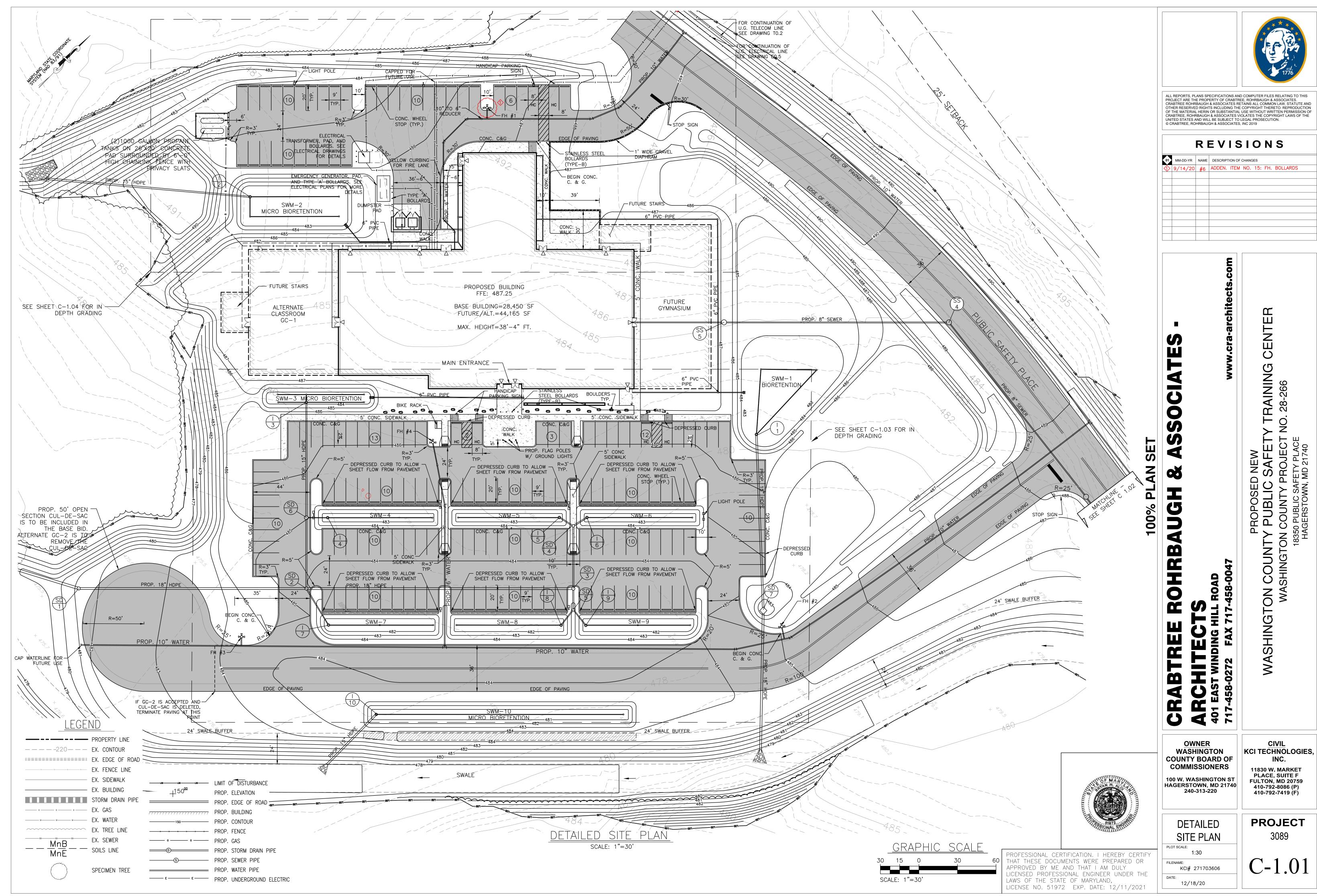
12/18/19

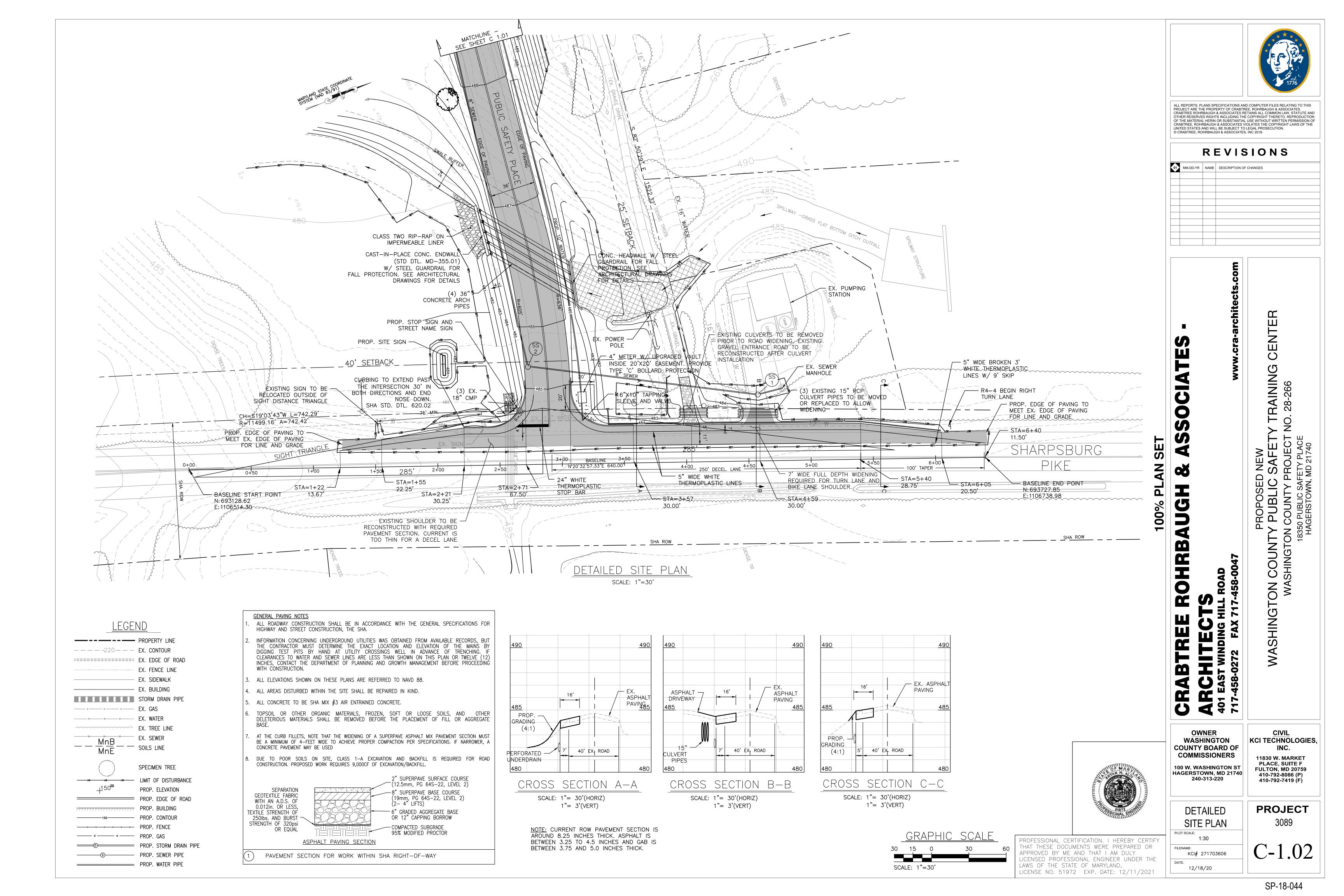
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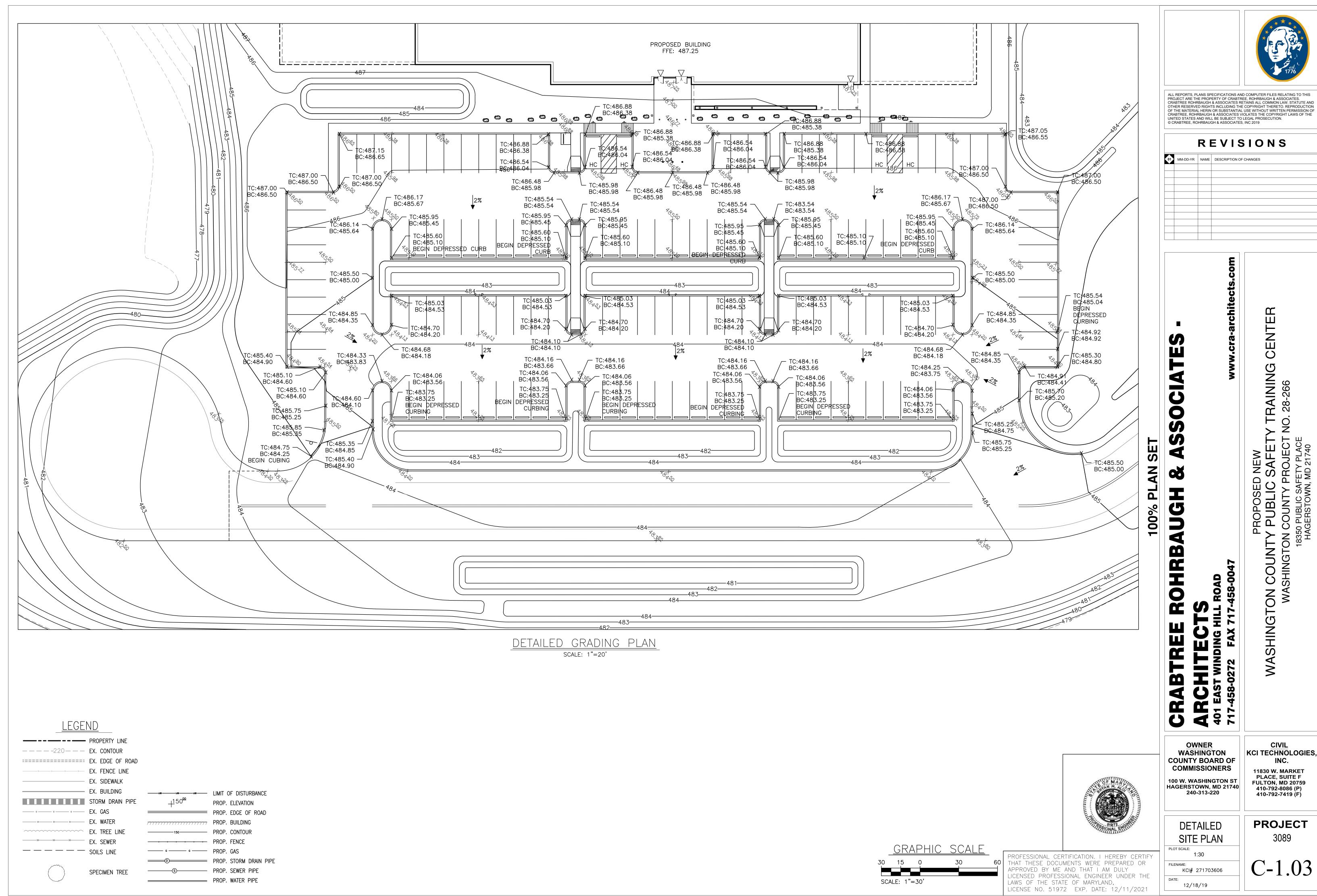
3089

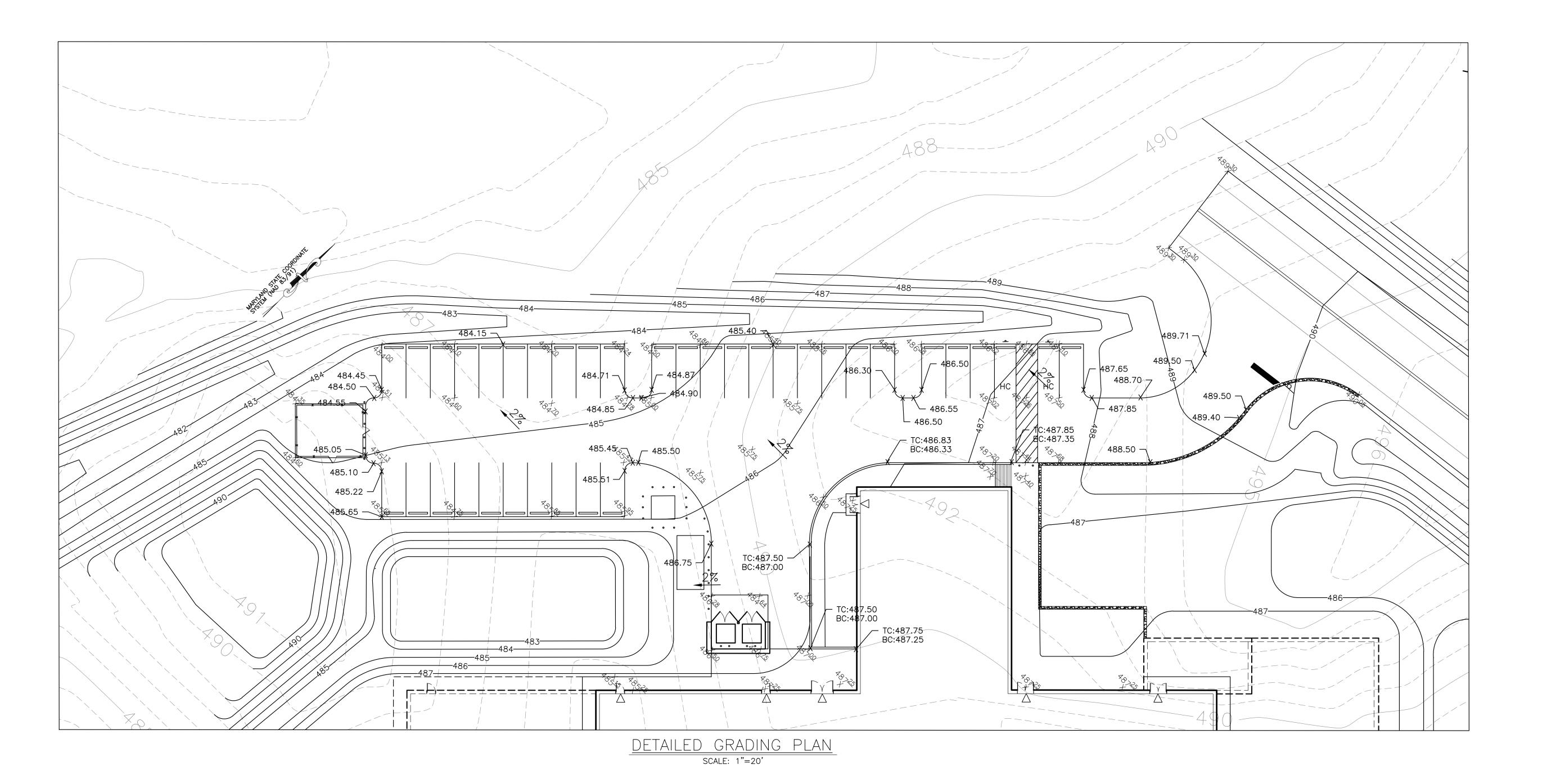
PROJECT











100%

05 HRBAUG

OWNER

CIVIL WASHINGTON KCI TECHNOLOGIES, COUNTY BOARD OF COMMISSIONERS 100 W. WASHINGTON ST HAGERSTOWN, MD 21740 240-313-220

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REVISIONS

01 MM-DD-YR NAME DESCRIPTION OF CHANGES

11830 W. MARKET PLACE, SUITE F FULTON, MD 20759 410-792-8086 (P) 410-792-7419 (F)

PROJECT DETAILED 3089 1:20 C-1.04

FILENAME: DATE:

SITE PLAN KCI# 271703606 12/18/20

SCALE: 1"=20'

<u>LEGEND</u>

PROP. ELEVATION

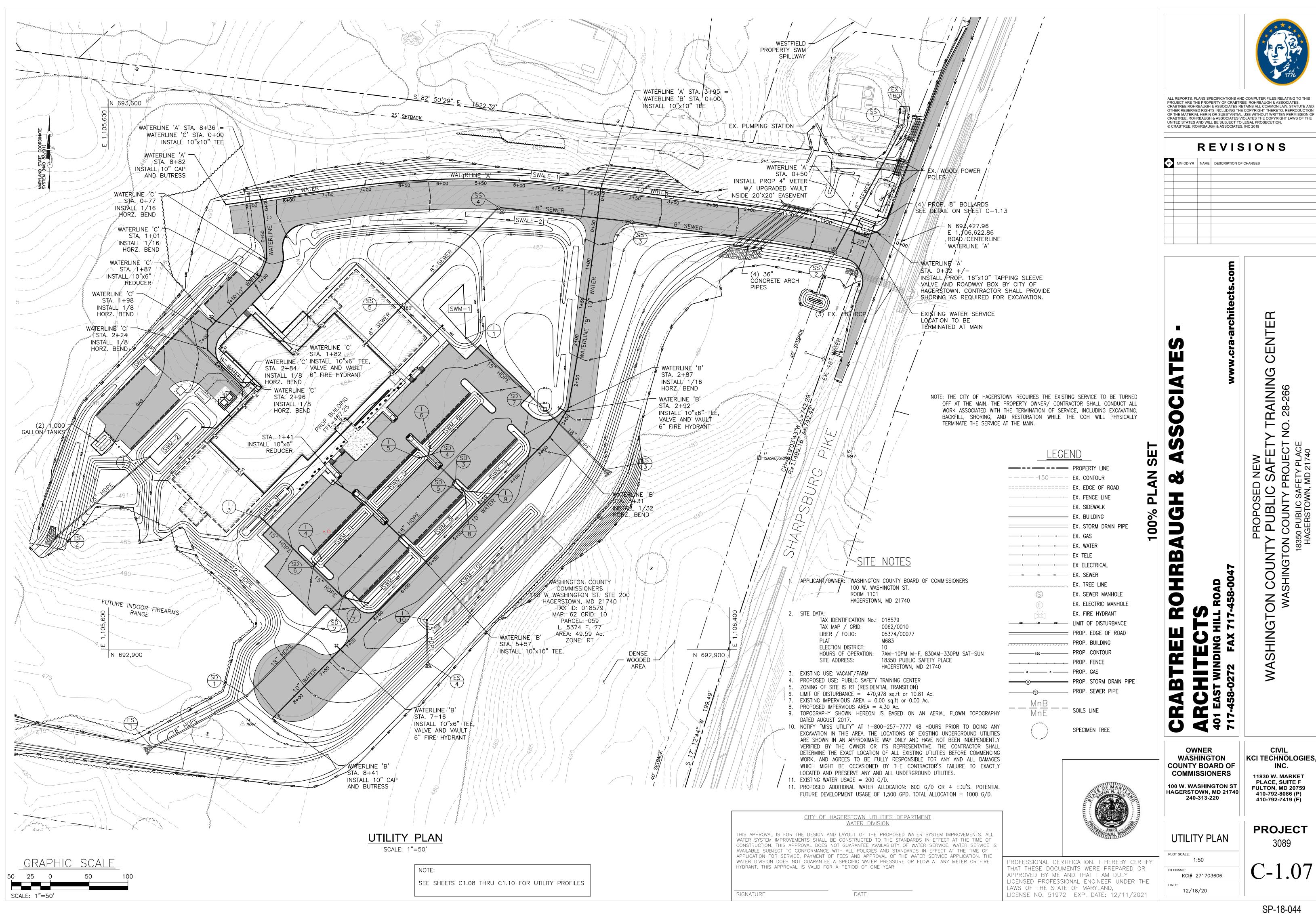
PROP. EDGE OF ROAD

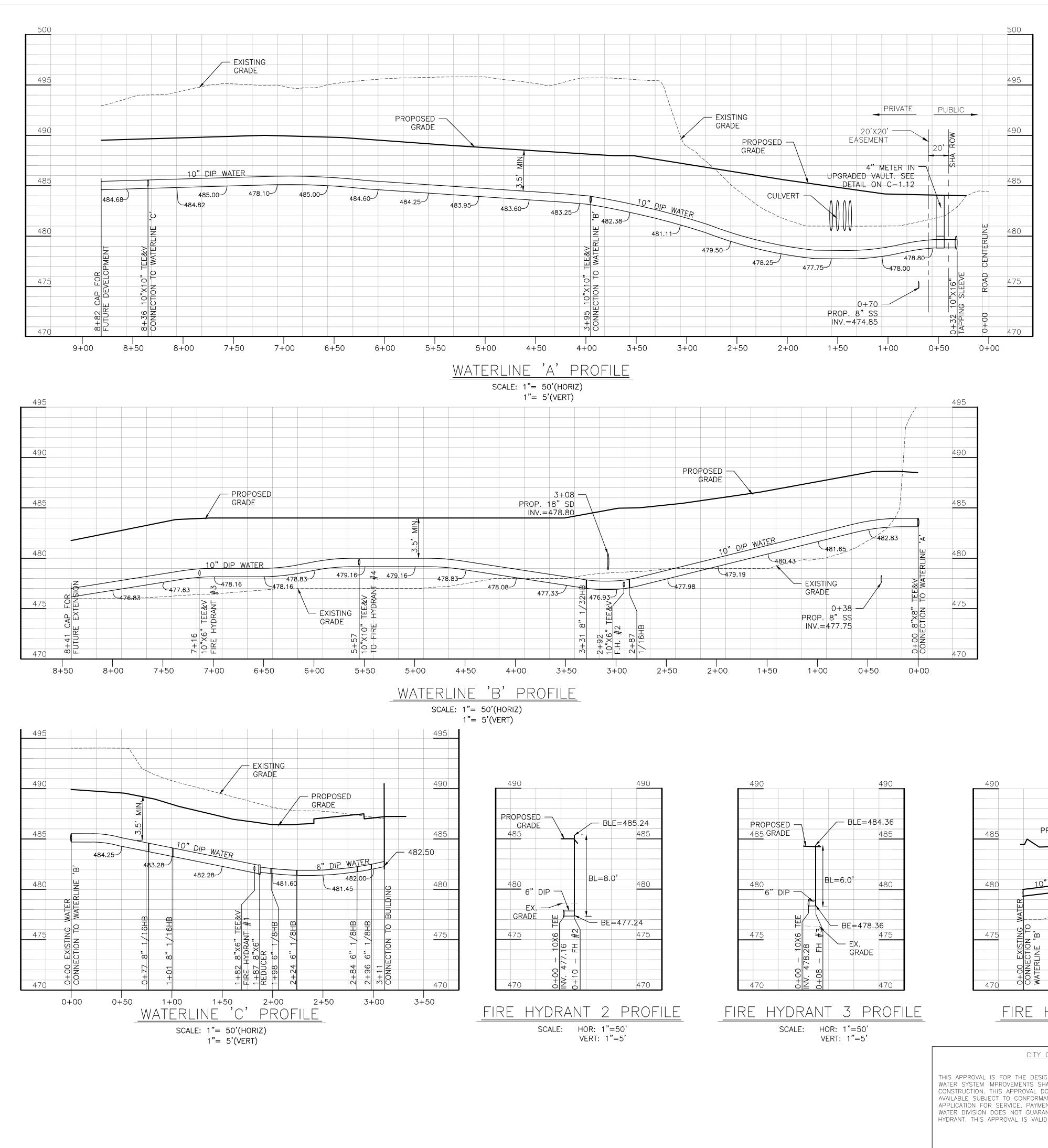
PROP. BUILDING PROP. CONTOUR

PROPERTY LINE

_____ **EX. CONTOUR**

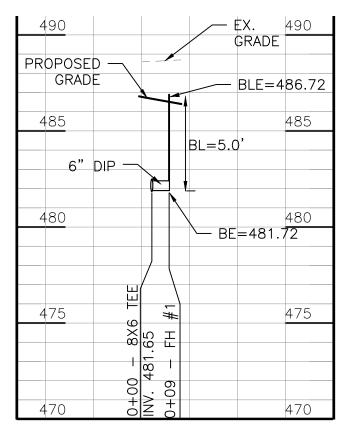
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY
THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME AND THAT I AM DULY
LICENSED PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51972 EXP. DATE: 12/11/2021



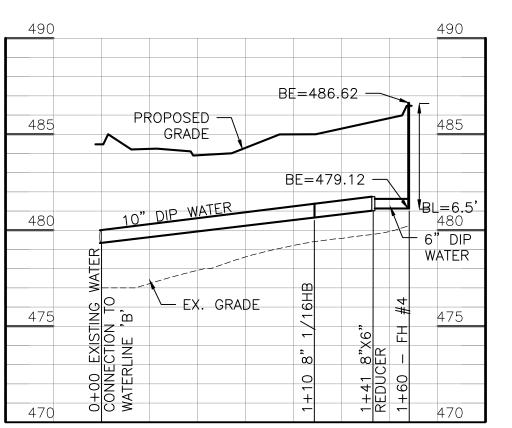


FITTINGS CHART									
FITTING TYPE	STATION	NORTHING	EASTING						
10X16" TS & V	0+32 (A)	693438.30	1106591.04						
4" METER & VAULT	0+48 (A)	693443.27	1106575.38						
10"X10" TEE&V	3+95 (A)	693495.41	1106234.53						
10"X10" TEE&V	8+36 (A)	693480.79	1105796.96						
10" CAP	8+82 (A)	693474.30	1105751.00						
10" 1/16 H.B.	2+87 (B)	693211.37	1106192.38						
10"X6" TEE&V	2+92 (B)	693207.32	1106189.16						
8" 1/32 H.B.	3+31 (B)	693174.22	1106168.97						
10"X10" TEE&V	5+57 (B)	693013.02	1106009.95						
10"X6" TEE&V	7+16 (B)	692900.40	1105898.76						
10" CAP	8+41 (B)	692811.90	1105810.59						
10" 1/16 H.B.	0+77 (C)	693403.80	1105803.90						
10" 1/16 H.B.	1+01 (C)	693381.98	1105795.10						
10"X6" TEE&V	1+82 (C)	693323.76	1105738.35						
10" TO 6" REDUCER	1+87 (C)	693320.43	1105735.11						
6" 1/8 H.B.	1+98 (C)	693312.22	1105727.07						
6" 1/8 H.B.	2+24 (C)	693286.96	1105727.47						
6" 1/8 H.B.	2+84 (C)	693244.75	1105770.83						
6" 1/8 H.B.	2+96 (C)	693244.83	1105783.11						
8" 1/16 H.B.	1+10 (FH4)	693090.10	1105931.07						
10" TO 6" REDUCER	1+41 (FH4)	693106.61	1105905.63						

NOTE: PIPE SHALL BE DUCTILE IRON CLASS 52 (CL 52), CENTRIFUGALLY CAST IN 18 OR 20 FOOT NOMINAL LENGTHS, CONFORMING TO ASA A21.51-1965 (AWWA C151) AND SHALL BE GRIFFIN, ATLANTIC STATES OR APPROVED EQUAL.



FIRE HYDRANT 1 PROFILE SCALE: HOR: 1"=50' VERT: 1"=5'



FIRE HYDRANT 4 PROFILE SCALE: HOR: 1"=50' VERT: 1"=5'

CITY OF HAGERSTOWN UTILITIES DEPARTMENT WATER DIVISION

THIS APPROVAL IS FOR THE DESIGN AND LAYOUT OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED TO THE STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION. THIS APPROVAL DOES NOT GUARANTEE AVAILABILITY OF WATER SERVICE. WATER SERVICE IS AVAILABLE SUBJECT TO CONFORMANCE WITH ALL POLICIES AND STANDARDS IN EFFECT AT THE TIME OF APPLICATION FOR SERVICE, PAYMENT OF FEES AND APPROVAL OF THE WATER SERVICE APPLICATION. THE WATER DIVISION DOES NOT GUARANTEE A SPECIFIC WATER PRESSURE OR FLOW AT ANY METER OR FIRE HYDRANT. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR

SIGNATURE



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51972 EXP. DATE: 12/11/2021

HRB/

OWNER

WASHINGTON

100 W. WASHINGTON ST HAGERSTOWN, MD 21740

240-313-220

WATER

PROFILES

1:50

KCI# 271703606

12/18/19

PLOT SCALE:

DATE:

COUNTY BOARD OF COMMISSIONERS

100%

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		RI	EVISIONS
01	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

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CIVIL

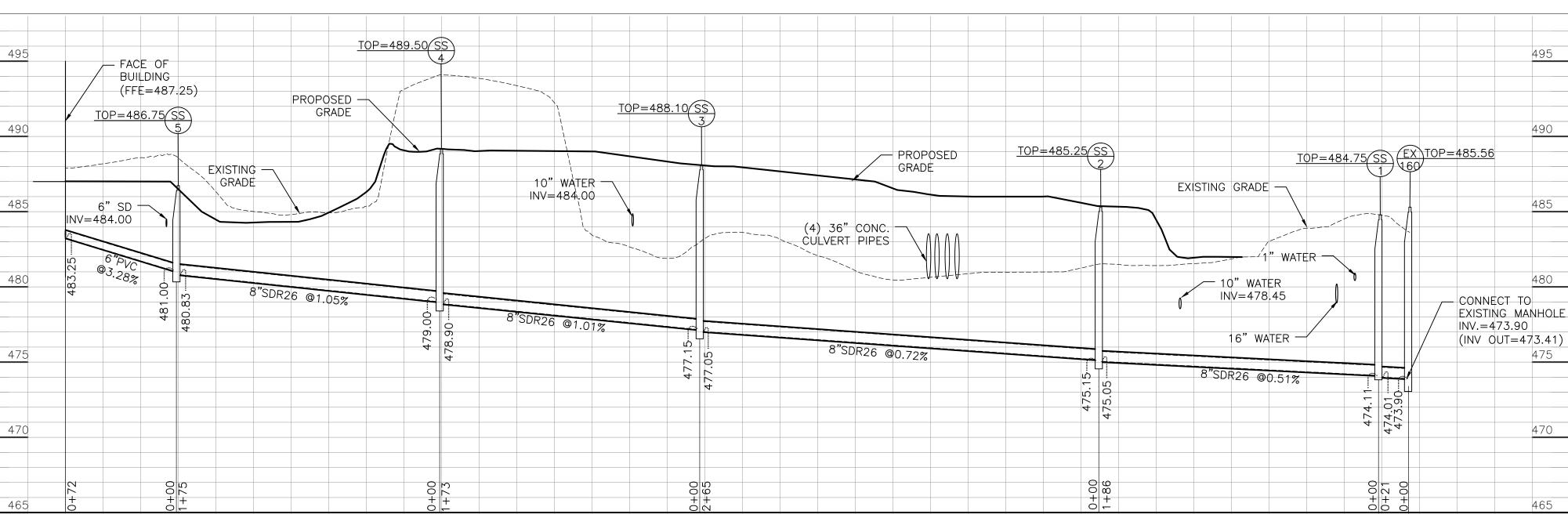
KCI TECHNOLOGIES,

11830 W. MARKET PLACE, SUITE F

FULTON, **MD** 20759 410-792-8086 (P)

410-792-7419 (F)

PROJECT



SEWER LINE PROFILE SCALE: 1"= 50'(HORIZ) 1"= 5'(VERT)

-BRUSH FINISH

TROWEL FINISH

NO SCALE

Plans of Flow Channels (Typical)

RADIUS (R) EQUAL TO 1/2 D MINIMUM

Detail

CHANNELS

EVENLY TAPER CHANNEL WIDTHS

FROM INVERT IN TO INVERT OUT

Washington County, MD Div.of

FOR DIFFERING PIPE DIAMETERS.

REVISED

REVISED

BENCHES

(4) 1" DIA BOLT HOLES EQUALLY

APART ON A 36".

DIA BOLT CIRCLE

SPACED 90°

PICKHOLES

PICKBARS

---- 32" DIA -----

NEOPRENE GASKET

31 1/4" DIA OD.

OF GROOVE

SECTION

-- 30 1/4" DIA. --

SECTION

Washington County, MD Div.of

Environmental Management

√ 1/4" DIA

BOTTOM VIEW OF COVER

PICKHOLE & GASKET

PICKBAR DETAIL

5/8" DIA, SS

Detail

PICKBAR

4 3/8" DIA -

Standard Manhole

Frame & Cover

SEWER STRUCTURE TABLE

- 1							
	STRUCTURE NAME	TOP ELEVATION	INVERT IN	INVERT OUT	NORTHING	EASTING	DESCRIPTION
	EX-160	485.56	473.90	_	693597.31	1106627.88	EX. MANHOLE AT PUMP STATION
	SS-1	484.75	474.11	474.01	693576.02	1106625.00	48" STD. MANHOLE (S-2.1)
	SS-2	485.25	475.15	475.05	693412.37	1106536.85	48" STD. MANHOLE (S-2.1)
	SS-3	488.10	477.15	477.05	693452.42	1106274.45	48" STD. MANHOLE (S-2.1)
	SS-4	489.50	479.00	478.90	693470.63	1106102.52	48" STD. MANHOLE (S-2.1)
	SS-5	486.75	481.00	480.83	693345.24	1105980.36	48" STD. MANHOLE (S-2.1)

MANHOLE

AT 3/4 DIAMETER OF

PIPE, BEGIN 2" RADIUS ROUNDING —

REVISED

Washington County, MD Div.of

Environmental Management

SEE NOTE 1

SECTION A-A

NO SCALE

Typical Bench and Flow

Channel Section Precast Base

1. ALL BENCHES SHALL SLOPE AT 1/4" /FT. TOWARD FLOW

SLOPE 0.1 FT. FROM INVERT IN

SHALL MATCH GRADE FOR

PIPE ROUNDNESS & DIAMETER.

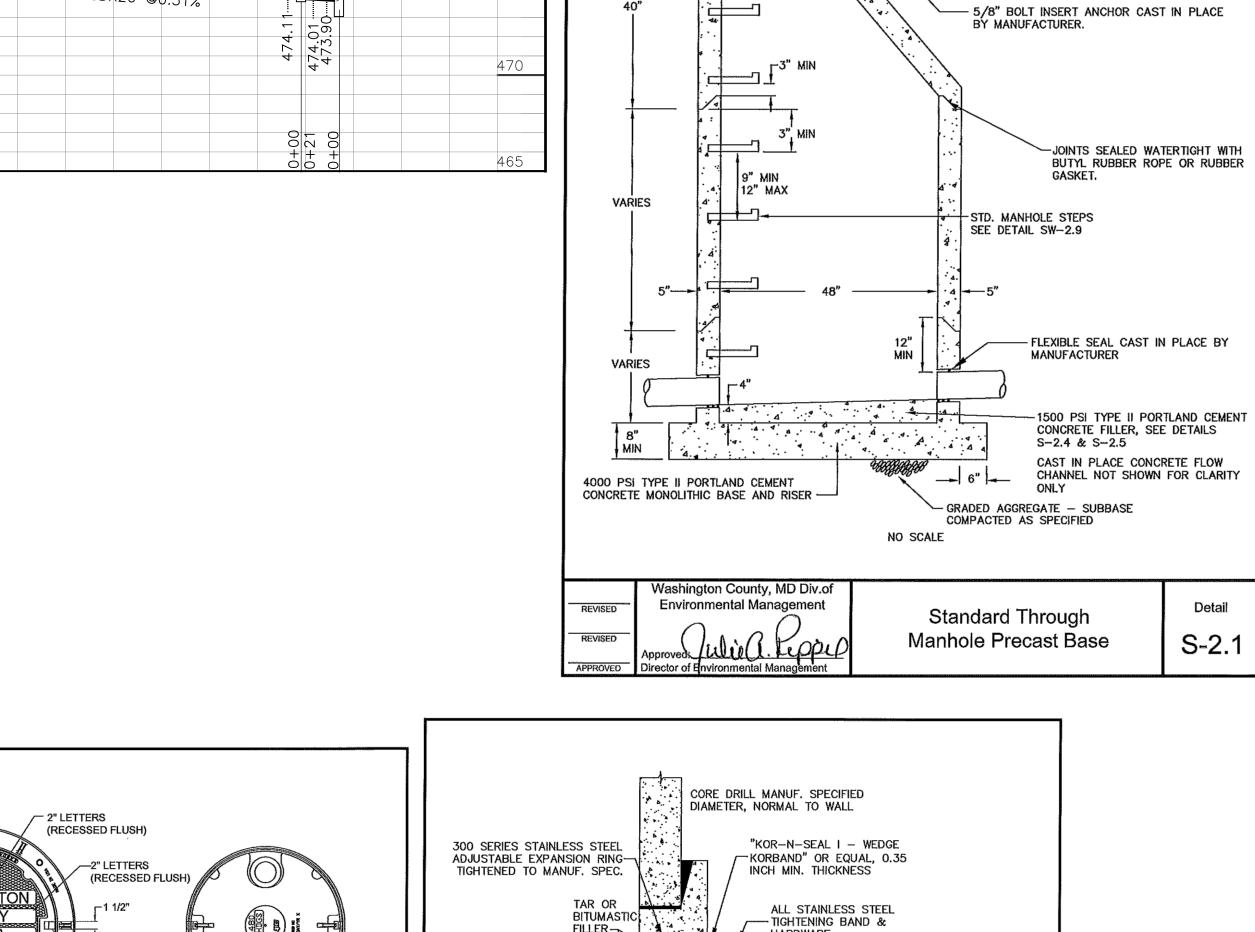
DIFFERING DIAMETERS.

I. SEE DETAIL S-2.5 FOR TYPICAL CONFIGURATIONS.

3. CHANNEL SHALL CONFORM

TO INVERT OUT OR PIPE CROWN

2. FLOW CHANNELS SHALL



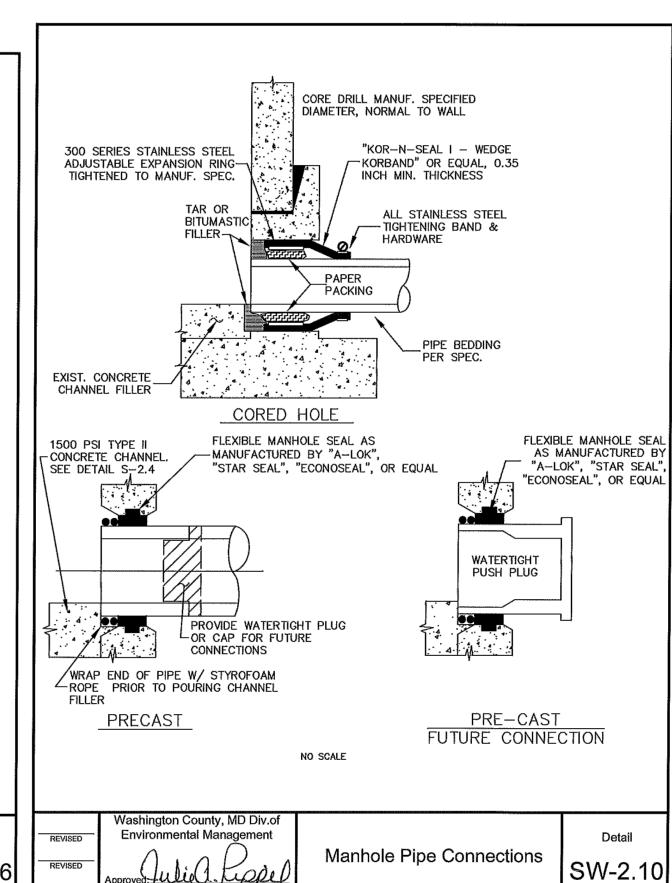
-ADJUST TO FINAL GRADE WITH CONCRETE

ONLY PORTLAND TYPE II CEMENT MORTAR.

LEVELING RINGS, NOT TO EXCEED 12" UTILIZING

PARGE WITH PORTLAND CEMENT MORTAR

_MANHOLE FRAME & COVER



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1. PRECAST MANHOLE SHALL BE MANUFACTURED IN ACCORDANCE WITH

2. 0.1' FALL TYPICAL INVERT IN TO INVERT OUT OR MATCH CROWNS FOR DIFFERING

CEMENT. 4000 PSI MIX MINIMUM.

VACUUM TEST PRIOR TO COUNTY

ACCEPTANCE.
4. MANHOLE TO BE LINED WITH HDPE

PIPE DIAMETERS.
3. COMPLETE MANHOLE SHALL PASS

ASTM C 478 UTILIZING TYPE II PORTLAND

LINER, SHALL NOT HAVE STEPS INSTALLED

4 0 SE 02 Д %00 HRB/

OWNER

WASHINGTON

COUNTY BOARD OF

COMMISSIONERS

100 W. WASHINGTON ST

HAGERSTOWN, MD 21740

240-313-220

SEWER PROFILE

1:50

KCI# 271703606

12/18/19

PLOT SCALE:

DATE:

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	T	
MM-DD-YR	NAME	DESCRIPTION OF CHANGES
	1	

CIVIL

KCI TECHNOLOGIES,

11830 W. MARKET

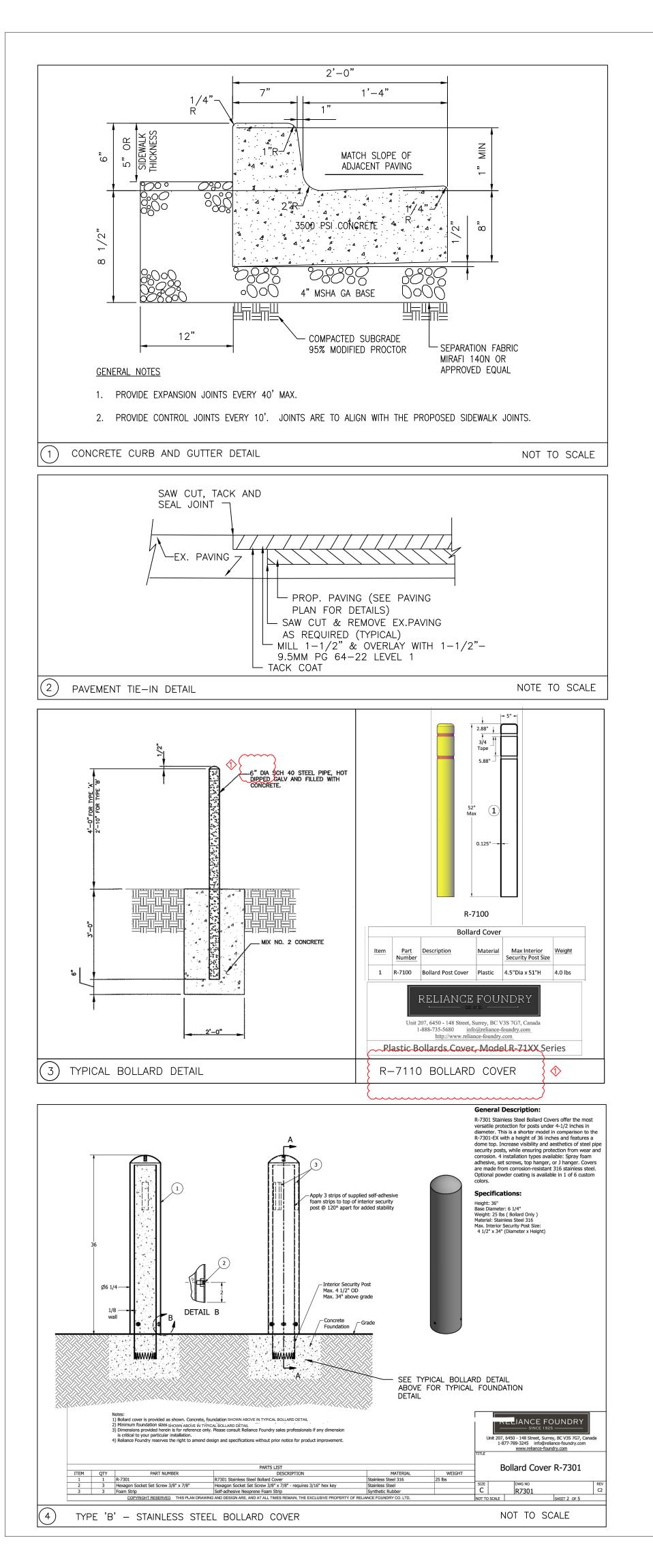
PLACE, SUITE F

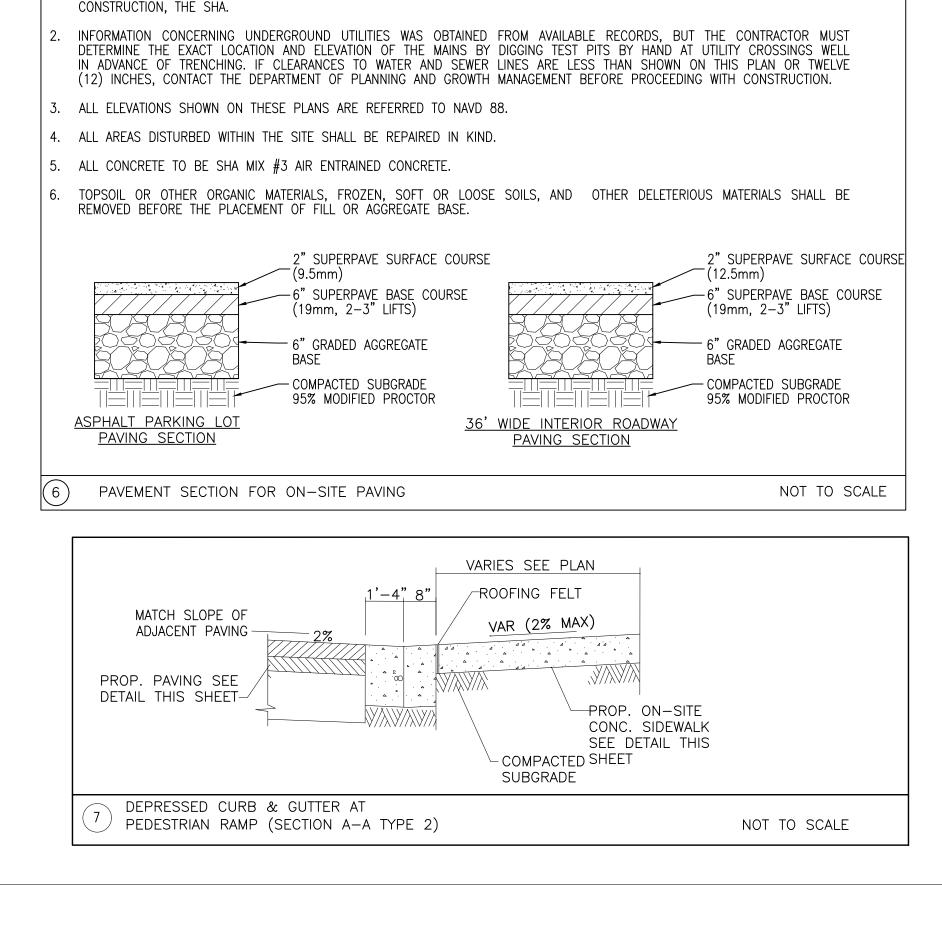
FULTON, MD 20759

410-792-8086 (P)

410-792-7419 (F)

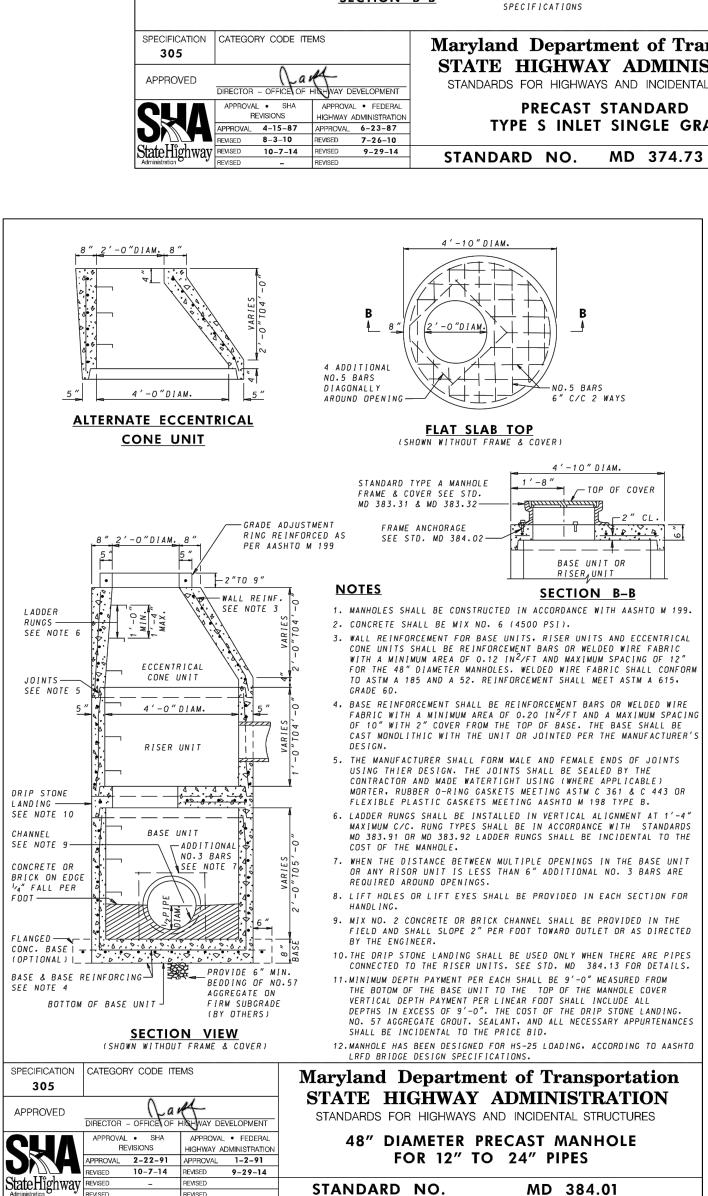
PROJECT





ALL ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE GENERAL SPECIFICATIONS FOR HIGHWAY AND STREET

GENERAL PAVING NOTES



BASE UNIT OR

OWNER WASHINGTON **COUNTY BOARD OF** COMMISSIONERS 100 W. WASHINGTON ST **HAGERSTOWN, MD 21740**

240-313-220

DATE:

CIVIL KCI TECHNOLOGIES, 11830 W. MARKET PLACE, SUITE F

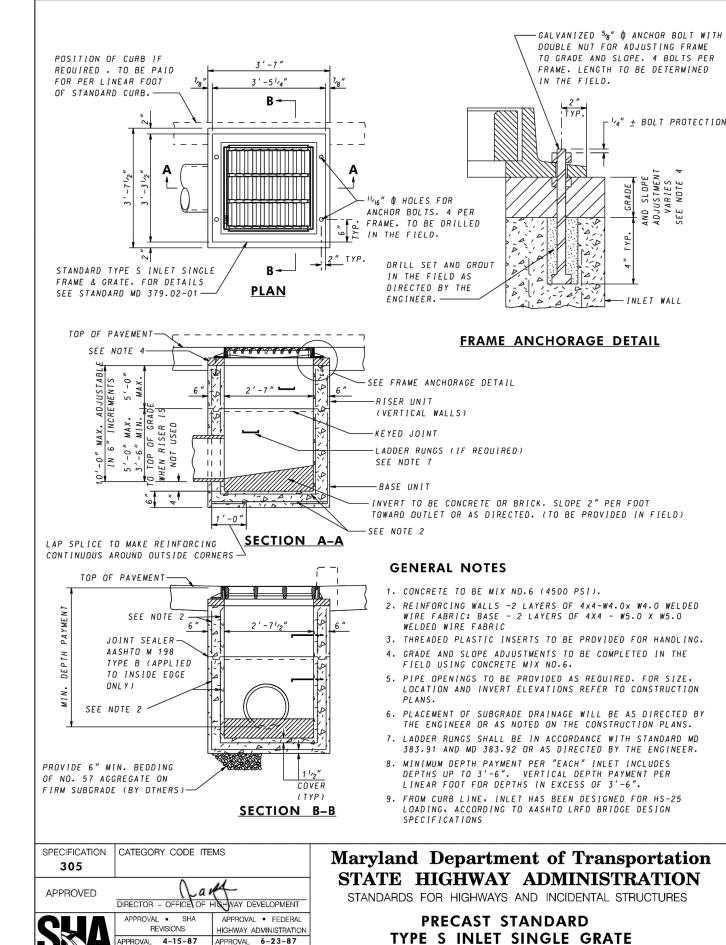
FULTON, MD 20759 410-792-8086 (P) 410-792-7419 (F)

PROJECT 3089

KCI# 271703606

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51972 EXP. DATE: 12/11/2021

CONSTRUCTION **DETAILS** 12/18/20





01 MM-DD-YR NAME DESCRIPTION OF CHANGES /14/20 #6 ADDEN. ITEM NO. 16: BOLLARD DETAIL

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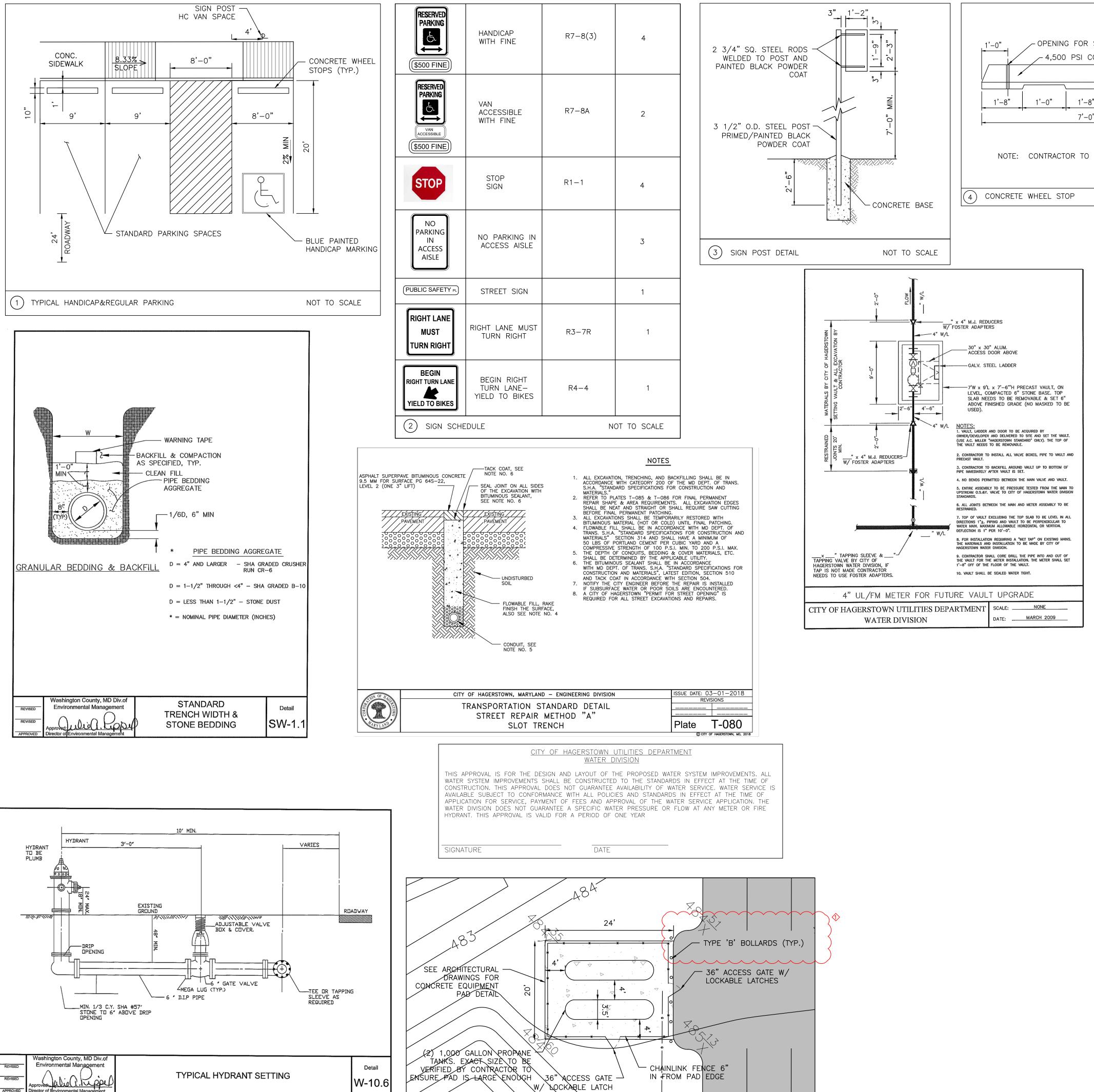
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UNITED STATES AND WILL BE SUBJECT TO LEGAL PROSECUTION.

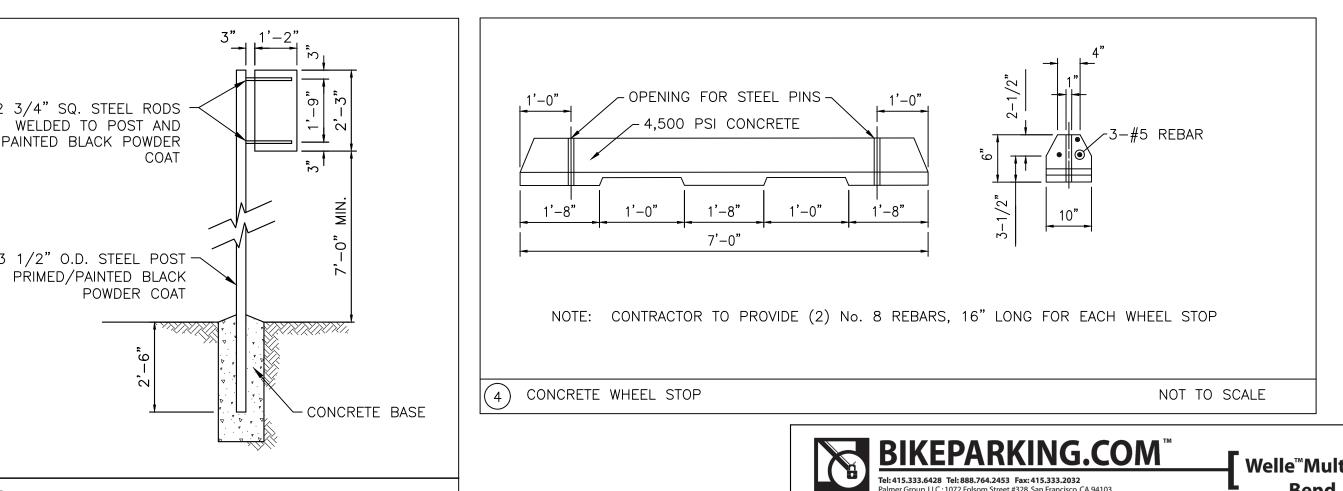
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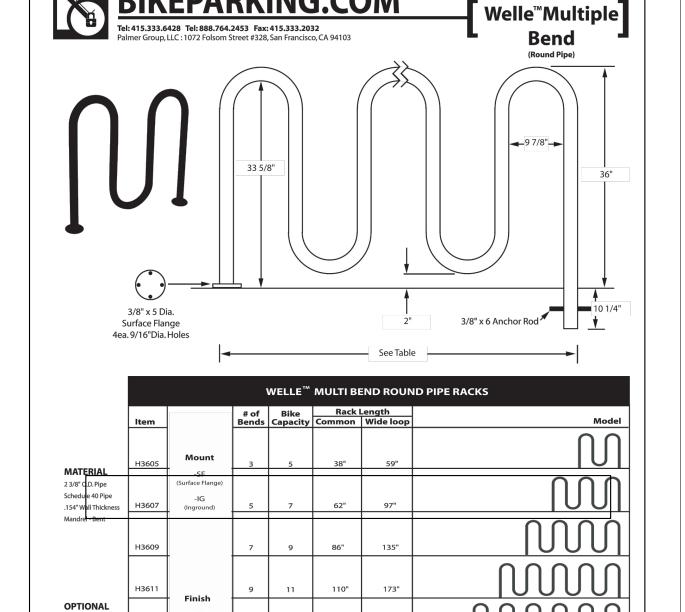
SP-18-044



5) GAS TANK ENCLOSURE

SCALE: 1"=10'





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05 HRB/ **m**

OWNER

WASHINGTON

100 W. WASHINGTON ST

HAGERSTOWN, MD 21740

240-313-220

CONSTRUCTION

DETAILS

07/20/2018

1:30

PLOT SCALE:

FILENAME:

DATE:

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY

THAT THESE DOCUMENTS WERE PREPARED OR

LICENSED PROFESSIONAL ENGINEER UNDER THE

LICENSE NO. 51972 EXP. DATE: 12/11/2021

APPROVED BY ME AND THAT I AM DULY

LAWS OF THE STATE OF MARYLAND,

COUNTY BOARD OF COMMISSIONERS

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JNITED STATES AND WILL BE SUBJECT TO LEGAL PROSECUTION.	
CRABTREE. ROHRBAUGH & ASSOCIATES VIOLATES THE COPYRIGHT LAWS OF TH	ΗE
OF THE MATERIAL HERIN OR SUBSTANTIAL USE WITHOUT WRITTEN PERMISSION	Ol
OTHER RESERVED RIGHTS INCLUDING THE COPYRIGHT THERETO. REPRODUCTI	OΝ
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PROJECT ARE THE PROPERTY OF CRABTREE, ROHRBAUGH & ASSOCIATES.	
ALL REPORTS, PLANS SPECIFICATIONS AND COMPUTER FILES RELATING TO THIS	5

01	MM-DD-YR	NAME	DESCRIPTION OF CHANGES
1	9/14/20	#6	ADDEN. ITEM NO. 17: BOLLARD TYPE

SP-18-044

CIVIL

KCI TECHNOLOGIES,

11830 W. MARKET

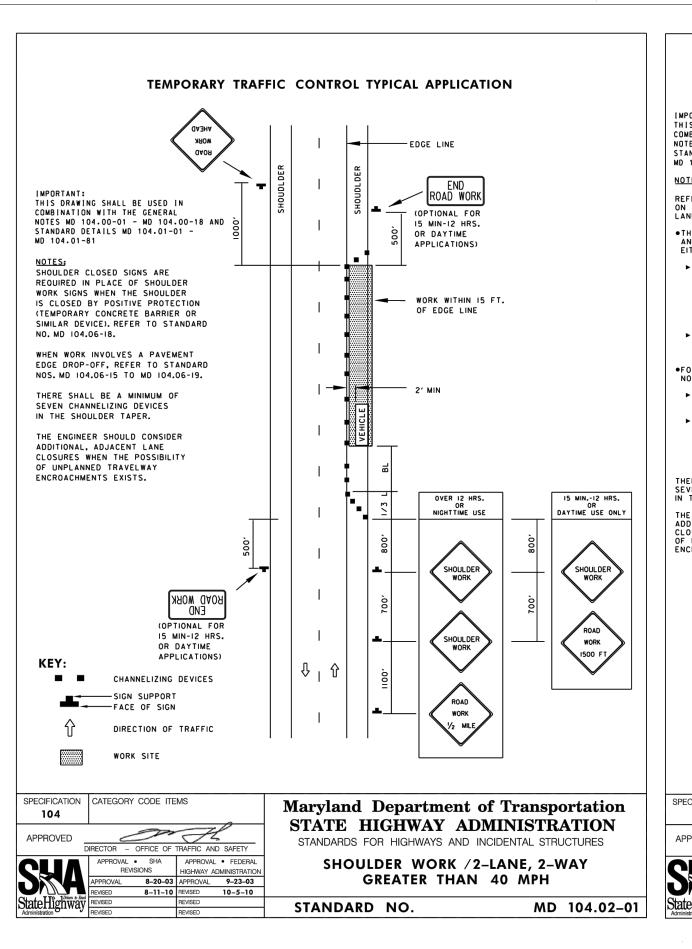
PLACE, SUITE F

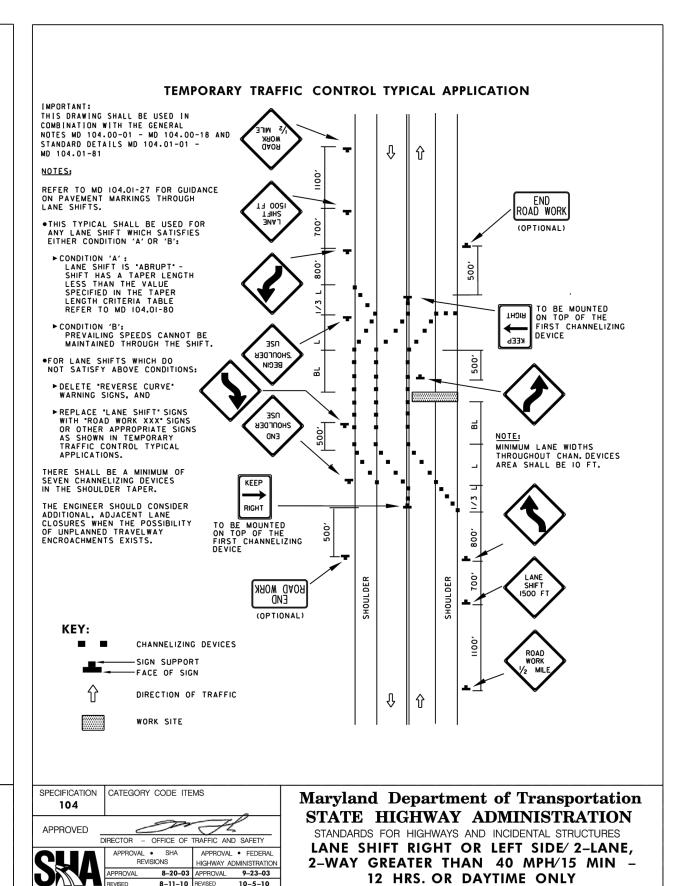
FULTON, **MD** 20759

410-792-8086 (P)

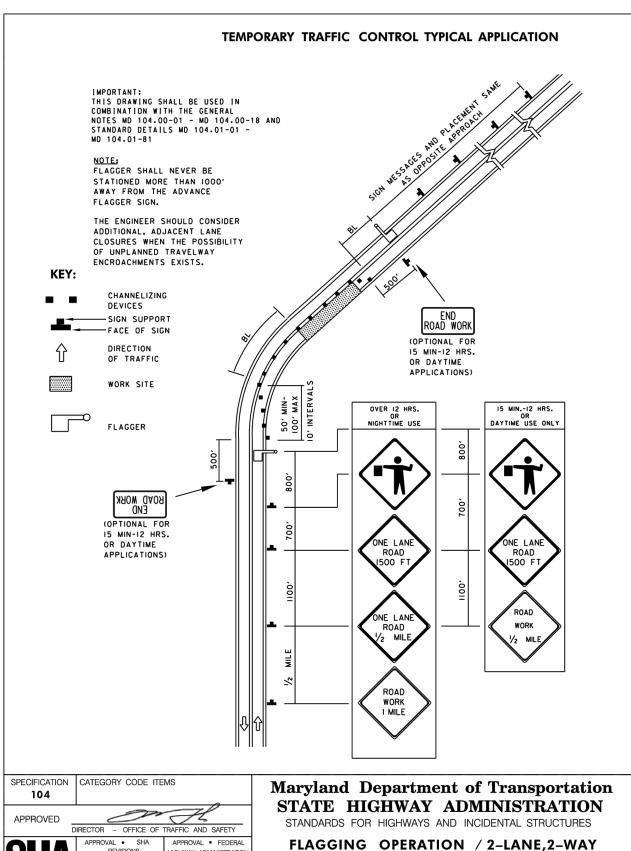
410-792-7419 (F)

PROJECT





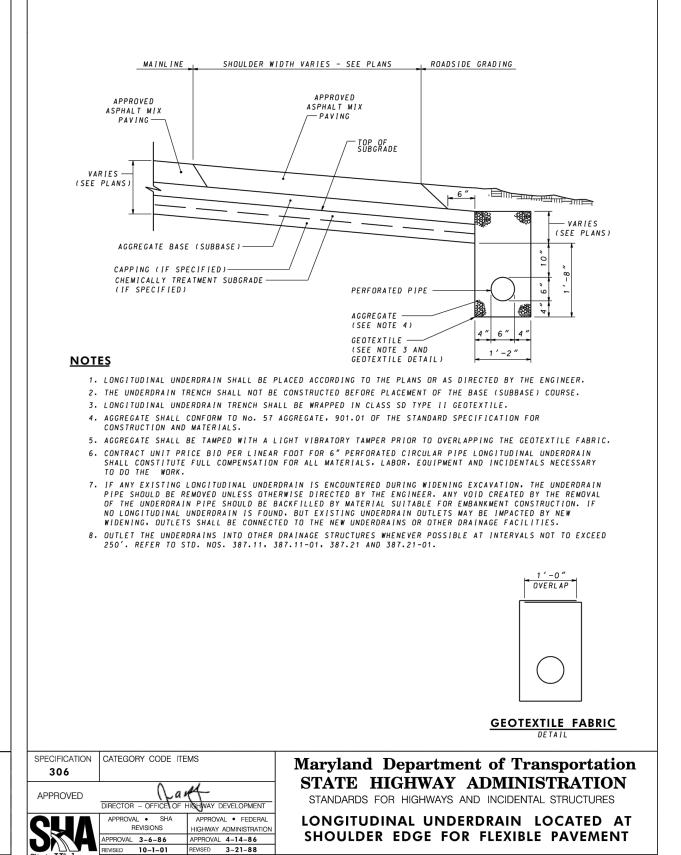
STANDARD NO.



GREATER THAN 40 MPH

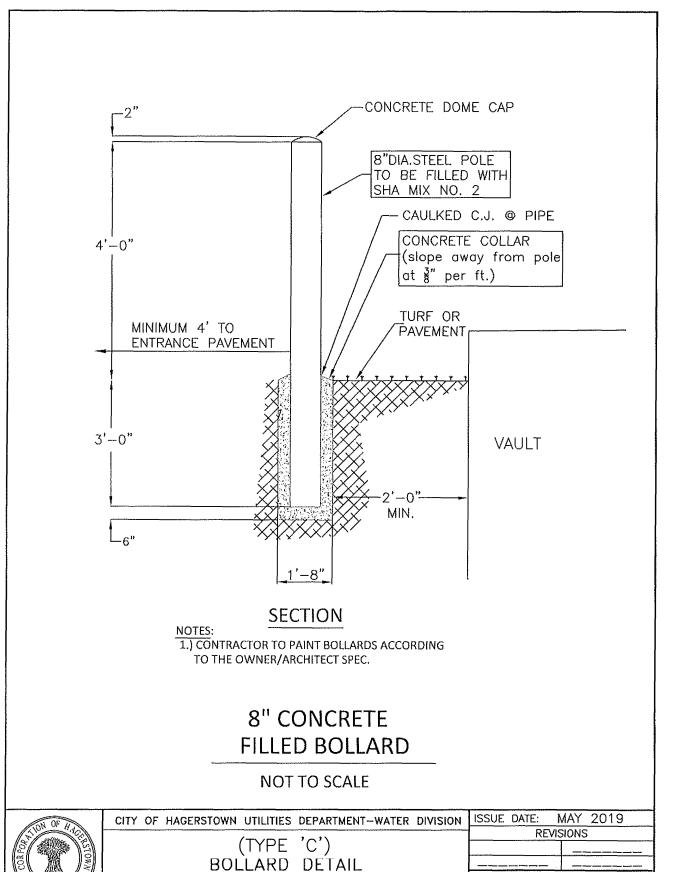
MD 104.02-09

STANDARD NO.



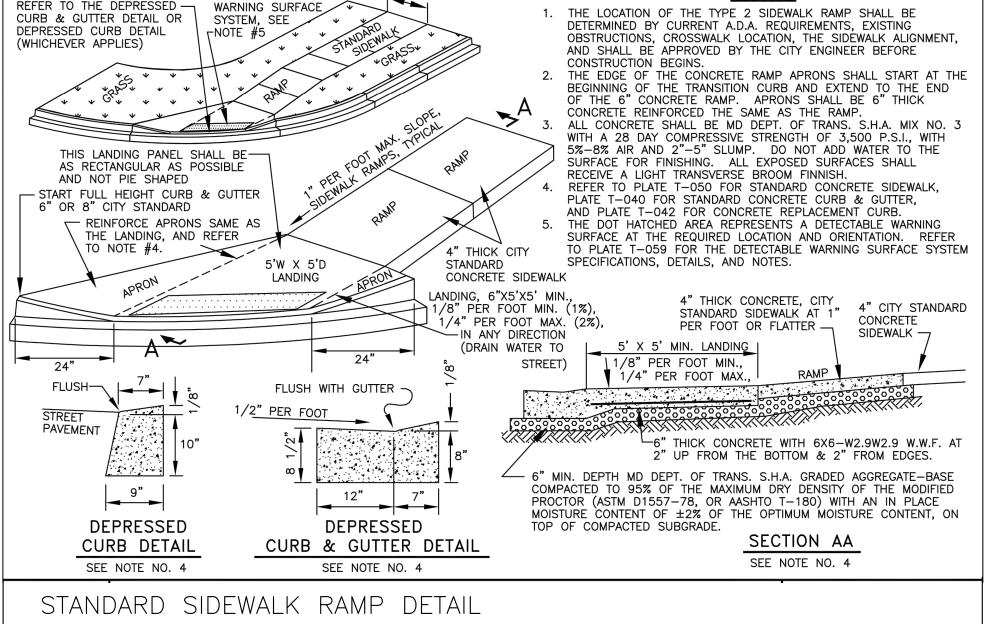
STANDARD NO.

MD 387.11

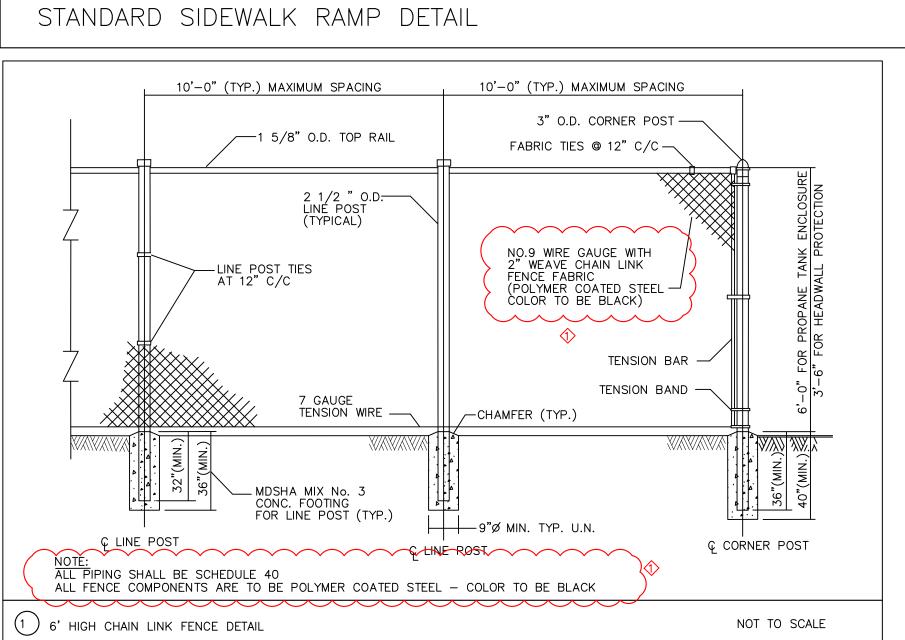


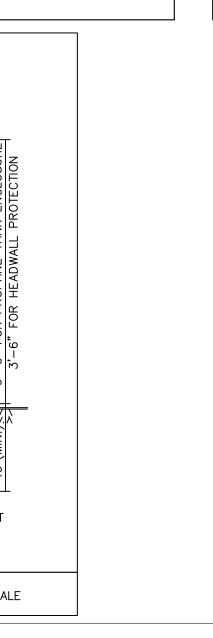
FOR WATER METER VAULT PROTECTION

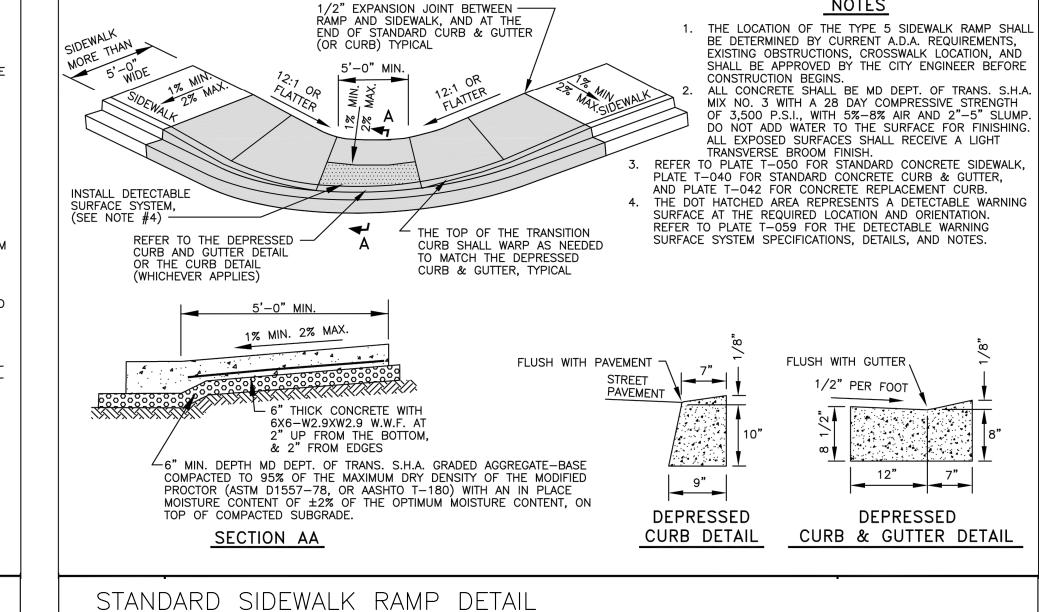
Plate W-021



MD 104.02-03







CITY OF HAGERSTOWN UTILITIES DEPARTMENT <u>WATER DIVISION</u>

THIS APPROVAL IS FOR THE DESIGN AND LAYOUT OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL

CONSTRUCTION. THIS APPROVAL DOES NOT GUARANTEE AVAILABILITY OF WATER SERVICE. WATER SERVICE IS

WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED TO THE STANDARDS IN EFFECT AT THE TIME OF

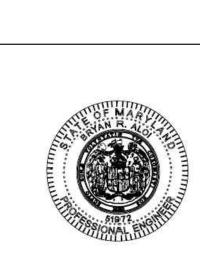
AVAILABLE SUBJECT TO CONFORMANCE WITH ALL POLICIES AND STANDARDS IN EFFECT AT THE TIME OF

WATER DIVISION DOES NOT GUARANTEE A SPECIFIC WATER PRESSURE OR FLOW AT ANY METER OR FIRE

HYDRANT. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR

SIGNATURE

APPLICATION FOR SERVICE, PAYMENT OF FEES AND APPROVAL OF THE WATER SERVICE APPLICATION. THE



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51972 EXP. DATE: 12/11/2021

M **COUNTY BOARD OF** COMMISSIONERS 100 W. WASHINGTON ST **HAGERSTOWN, MD 21740** 240-313-220

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CIVIL KCI TECHNOLOGIES, 11830 W. MARKET PLACE, SUITE F

FULTON, MD 20759 410-792-8086 (P) 410-792-7419 (F)

PROJECT 3089

SP-18-044

OWNER WASHINGTON

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CRABTREE ROHRBAUGH & ASSOCIATES RETAINS ALL COMMON LAW. STATUTE AND

OF THE MATERIAL HERIN OR SUBSTANTIAL USE WITHOUT WRITTEN PERMISSION OI

REVISIONS

14/20 #6 ADDEN. ITEM NO. 18: FENCE COATING

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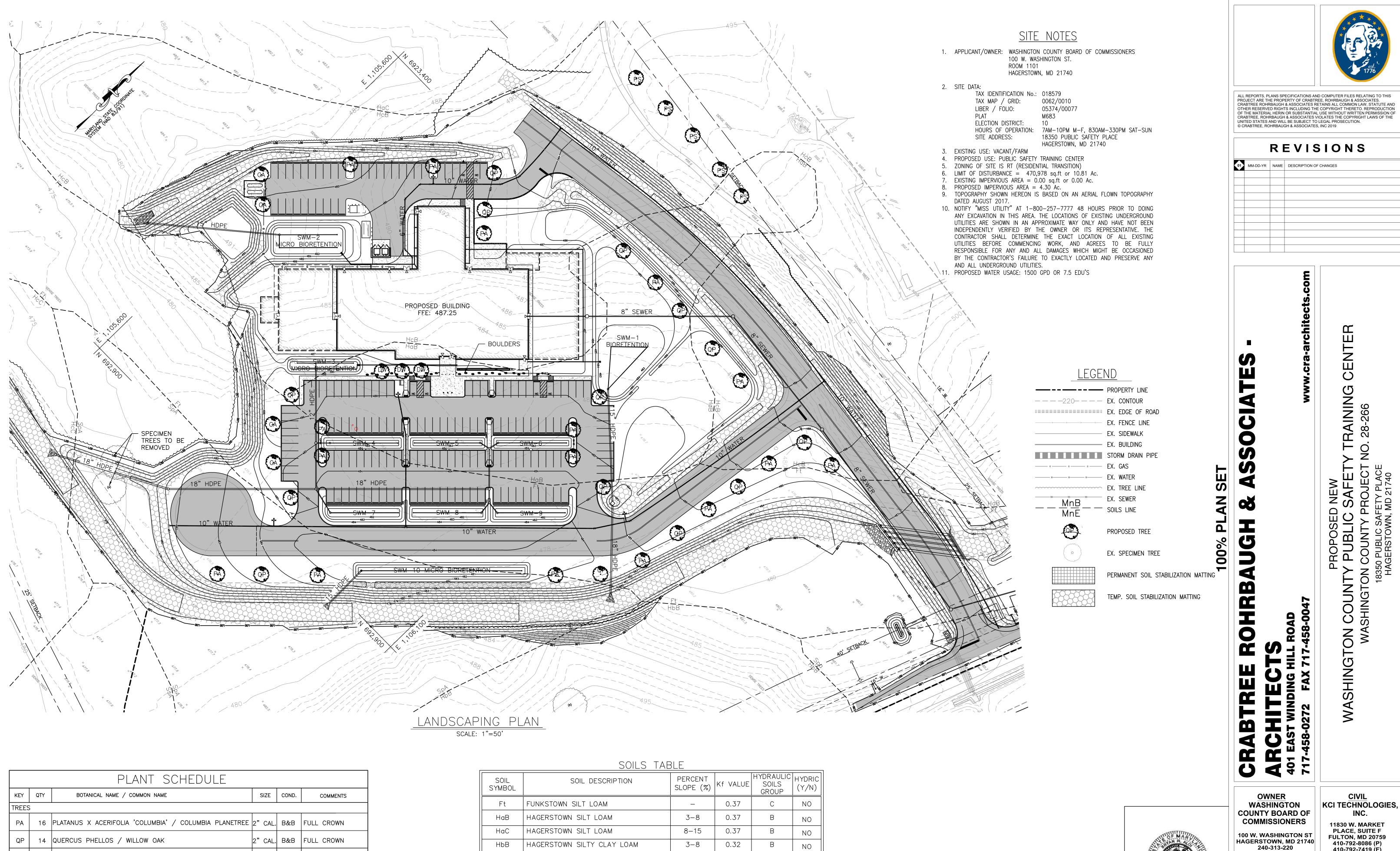
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01 MM-DD-YR NAME DESCRIPTION OF CHANGES

CONSTRUCTION

DETAILS PLOT SCALE: 1:30 FILENAME: DATE:

07/20/2018



4 THUJA STANDISHII x PLICATA / GREEN GIANT ARBORVITAE

NOTE: SEE SHEET C-2.03 TO 2.08 FOR PLANTINGS WITHIN STORMWATER FACILITIES

5 PINUS STROBUS/ EASTERN WHITE PINE

3 CORNUS FLORIDA/ DOGWOOD

HGT. B&B SHEAR TO GROUND

HGT. B&B SHEAR TO GROUND

' HGT. B&B SHEAR TO GROUND

HbC

НсВ

HcC

HAGERSTOWN SILTY CLAY LOAM

SWANPOND SILT LOAM

HAGERSTOWN-ROCK OUTCROP COMPLEX

HAGERSTOWN-ROCK OUTCROP COMPLEX

SWANPOND-FUNKSTOWN SILT LOAMS

8-15

3-8

8-15

0 - 3

0 - 3

0.32

0.32

0.32

0.43

0.43

NO

NO

NO

NO

NO

GRAPHIC SCALE

SCALE: 1"=50'

SP-18-044

OWNER CIVIL WASHINGTON **COUNTY BOARD OF COMMISSIONERS**

KCI TECHNOLOGIES, 11830 W. MARKET PLACE, SUITE F

FULTON, **MD** 20759 410-792-8086 (P) 410-792-7419 (F)

LANDSCAPING PLAN 1:50

12/18/20

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY

LICENSED PROFESSIONAL ENGINEER UNDER THE

LICENSE NO. 51972 EXP. DATE: 12/11/2021

LAWS OF THE STATE OF MARYLAND,

PROJECT 3089

KCI# 271703606

PLANTING NOTES

- 1. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED, INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT. LAYOUT TO BE APPROVED BY OWNERS' REPRESENTATIVE PRIOR TO INSTALLATION.
- PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS, WELL-DEVELOPED DENSELY FOLIATED BRANCHES, AND VIGOROUS ROOT SYSTEMS; AND BE FREE FROM DEFECTS AND INJURIES.
- 4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO GROWTH OF PLANT
- 5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE FOR TREES AND SHRUBS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
- 6. PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY IF/WHEN PRACTICAL. IN THE EVENT THAT THIS IS NOT POSSIBLE. THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE-DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD SHALL BE REJECTED, UNLESS OWNER AND CONTRACTOR PROVIDE OTHERWISE BY WRITTEN AGREEMENT.
- 7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF ROOTBALL SHALL BE IN ACCORDANCE WITH THE RECENT VERSION OF ANSI Z60 "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- 8. ALL PLANTS SHALL BE PLANTED IN AMENDED TOP SOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACK-FILLING PROGRESSES. PLANTING MIX TO BE AS SHOWN ON PLANTING DETAILS. LARGE PLANTING AREAS TO INCORPORATE FERTILIZER AND SOIL CONDITIONERS AS STATED IN PLANTING SPECIFICATIONS.
- 9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FORM THE BOTTOM OF THE BALL ONLY.
- 10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOP SOIL THAT IS IN A MUDDY OR FROZEN CONDITION. ALL PLANT MATERIAL SHALL BE SPRAYED WITH "WILT-PRUF" OR EQUAL AS PER MANUFACTURERS INSTRUCTIONS.
- 11. NO PLANT, EXCEPT GROUNDCOVERS, SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND
- 12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT A NORMAL OR NATURAL RELATIONSHIP TO THE GROUND IF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE THE PLANT IN THE CENTER OF
- 13. ALL INJURED ROOTS SHALL BE PRUNED TO MAKE CLEAN ENDS BEFORE PLANTING UTILIZING CLEAN, SHARP TOOLS. IT IS ADVISABLE TO PRUNE APPROXIMATELY 1/3 OF THE GROWTH OF LARGE TREES (2" CALIPER AND GREATER) BY THE REMOVAL OF SUPERFLUOUS BRANCHES, THOSE WHICH CROSS, THOSE WHICH RUN PARALLEL, ETC. MAIN LEADER OF TREES SHALL NOT BE CUT BACK. LONG SIDES BRANCHES SHALL BE SHORTENED.
- 14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE THE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
- 15. TREES SHALL BE SUPPORTED IMMEDIATELY AFTER PLANTING. ALL TREES 6" AND GREATER IN CALIPER SHALL BE GUYED, SMALLER TREES SHALL BE STAKED. GUYING WIRES AND STAKES SHALL BE INSTALLED AS INDICATED, THE LANDSCAPE CONTRACTOR SHALL REMOVE STAKING, GUYING AND TREE WRAP AT THE END OF ONE YEAR MAINTENANCE AND GUARANTEE PERIOD.
- 16. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH.
- 17. NEW PLANTING AREAS AND SOD SHALL BE ADEQUATELY IRRIGATED OR WATERED TO ESTABLISH THE PROPOSED PLANTS AND LAWN.
- 18. ALL PLANTS SHOWN ON THE APPROVED LANDSCAPE PLAN SHALL BE INSTALLED, INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT OR HIS REPRESENTATIVE. THE LANDSCAPE ARCHITECT SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD. TREES, SHRUBS, VINES AND GROUNDCOVER AS REQUIRED BY OR ASSOCIATED WITH A SUBDIVISION OR SITE PLAN APPROVED BY THE PLANNING AUTHORITIES SHALL BE INSTALLED DURING THE FOLLOWING PLANTING SEASONS: <u>TYPE</u>

03/15 TO 12/15 PLANTS 03/15 TO 06/15 09/15 TO 12/01

THE FOLLOWING TREE VARIETIES SHALL NOT BE PLANTED DURING THE FALL PLANTING SEASON DUE TO THE ASSOCIATED WITH PLANTING THESE TREES IN THIS SEASON:

ACER RUBRUM POPULUS SPP. BETULA SPP. PRUNUS SPP. CARPINUS SPP PYRUS SPP. CRATECUS SPP. QUERCUS SPP KOELREUTERIA PANICULATA SALIX SPP. LIQUIDAMBAR STYRACIFILIA TILIA TOMENTOSA LIRIODENDRON TULIPIFERA ZELKOVA PLATANUS ACERIFOLIA

ANY PLANTING INSTALLED IN CONFLICT WITH THIS REQUIREMENT MUST RECEIVE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL REQUIRE THE REMOVAL OF THE PLANTING IN QUESTION. THIS REQUIREMENT DOES NOT APPLY TO SEEDING OR SODDING OR PLANTINGS SPECIFICALLY FOR SOIL STABILIZATION PURPOSES. PLANTINGS ASSOCIATED WITH ANY LOT GIVEN A CERTIFICATE OF OCCUPANCY OUTSIDE THESE PERIODS SHALL BE PROVIDED DURING THE PREVIOUS OR NEXT

19. ALL DISTURBED AREAS SHALL BE TREATED WITH 4" TOP SOIL AND SEEDED IN ACCORDANCE WITH PERMANENT STABILIZATION METHODS INDICATED ON SOIL EROSION AND SEDIMENT CONTROL SHEET.

LANDSCAPE MAINTENANCE

- A. ALL PLANTING AREAS, INCLUDING LAWNS, BUFFERS, AND PARKING LOTS, SHALL BE PERIODICALLY INSPECTED A MINIMUM OF ONCE PER MONTH, EVERY TWO (2) WEEKS DURING THE GROWING SEASON, OR AFTER EACH MOWING SESSION. A FALL CLEAN-UP SHALL BE PERFORMED EACH YEAR.
- REMOVE ALL LITTER, DEBRIS AND WEEDS. MAINTAIN A MINIMUM OF A 2-INCH DEPTH OF ORGANIC HARDWOOD MULCH OR EQUAL IN ALL PLANTING BEDS.
- II. IRRIGATION (IF APPLICABLE)
 - A. AUTOMATIC SPRINKLERS SHALL BE CLEANED OUT AND TURNED OFF IN THE FALL PRIOR TO THE FIRST FROST, AND TESTED WHEN TURNED ON IN THE SPRING
 - B. EVALUATE SUCCESS OF IRRIGATION SYSTEM AND MODIFY AS NECESSARY. WATER REQUIREMENTS:

NEW TURF: KEEP MOIST UNTIL ALL SEED GERMINATES AND BECOMES AN ESTABLISHED STAND OF TURF. EXISTING TURF: DURING DRY PERIODS, WATER TWICE A WEEK FOR 20 MINUTES AT A TIME, OR SET IRRIGATION FOR COVERAGE OF 1-2 INCHES OF WATER PER WEEK.

III. SEASONAL FLOWERS

ANNUAL FLOWER BEDS SHALL BE PERIODICALLY MULCHED AND THE SOIL AMENDED ANNUALLY. NEW PLANTINGS SHALL BE PROVIDED IN MAY OF EACH YEAR. DURING THE GROWING SEASON, ALL BEDS SHALL RECEIVE PERIODIC INSPECTIONS PER NOTE I, IRRIGATION AND WEEDING TO MAINTAIN A NEAT APPEARANCE.

- A. LAWN AREAS SHALL NOT EXCEED A HEIGHT OF 4 INCHES. APPROXIMATELY 12-15 MOWINGS PER YEAR WILL BE REQUIRED. FERTILIZER AND SOIL AMENDMENTS SHOULD BE ADDED A NECESSARY AND/OR ON A SEASONAL BASIS.
- FERTILIZER IS OPTIMALLY APPLIED TO LAWN AND TURF AREAS THREE TUNES PER SEASON. TIMING, FREQUENCY AND RATE OF APPLICATION SHALL BE ADJUSTED ACCORDING TO WEATHER AND TO HORTICULTURAL AND SOIL TEST CONDITIONS FOR EACH SPECIFIC SITE. FERTILIZER SHALL BE APPLIED BY ACCEPTED METHODS ONLY. SAFETY SHALL BE OF PRIME CONSIDERATION. CARE SHALL BE TAKEN NOT TO APPLY FERTILIZER WHEN THE GROUND IS WET.
- SOIL AMENDMENTS SUCH AS LIME, GYPSUM OR PEAT MOSS MAY BE TO BE ADDED TO THE SOILS OF LAWNS, TURF OR PLANITNG AREAS PERIODICALLY. THE NEED FOR SUCH SOIL AMENDMENTS SHALL BE ANALYZED DURING THE
- PERIODIC INSPECTIONS AND IN CONJUNCTION WITH SOIL TESTS. SOIL AMENDMENTS SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS OR BASED UPON SOIL TEST RESULTS.

APPLY A 3-1-2 (21-7-14, 10-4-6, OR 24-4-B) 50% ORGANIC FERTILIZER TWICE A YEAR BETWEEN MARCH 15 TO APRIL 15 AND SEPTEMBER 1 TO OCTOBER 1. IF NECESSARY, TWO ADDITIONAL APPLICATIONS MAY BE MADE IN MAY AND NOVEMBER. DO NOT APPLY FERTILIZER OR SOIL AMENDMENTS WHILE TURF IS EITHER WET OR UNDER EXTREME STRESS, IN

WINDY CONDITIONS, OR WHEN CHILDREN ARE PRESENT. PRUNING

REMOVAL OF DEAD, DISEASED, INSECT INFESTED OR WEAK WOOD SHALL TAKE PLACE IN THE DORMANT SEASON OR AFTER FLOWERING. EXCESSIVE SHOOTS AND SUCKERS SHALL BE REMOVED.

SHRUB MATERIAL USED AS A SCREEN SHALL BE PRUNED AS A MASS TO ENHANCE THEIR NATURAL FORM. HEDGES ROOT PRUNING OF TREES ADJACENT TO CURBS OR SIDEWALKS SHALL OCCUR DURING PERIODIC INSPECTIONS WITH KNOWLEDGE OF MOST RECENT PRUNING. NO MORE THAN 1/3 OF ROOT SYSTEM SHALL BE PRUNED DURING A YEAR.

VI. INSECT AND DISEASE CONTROL

THE CONTROL OF INSECTS AND DISEASE ASSOCIATED WITH ALL PLANTING AREAS SHALL ALWAYS BE A MAINTENANCE PRIORITY. ALL PLANTINGS, INCLUDING EXISTING MATURE TREES, SHALL BE PERIODICALLY INSPECTED FOR INSECT OR DISEASE INFESTATION. METHODS UTILIZED TO CONTROL INSECTS OR DISEASE MAY RANGE FROM SPRAYING AND PRUNING TO PLANT REMOVAL. WHATEVER METHOD IS UTILIZED, SAFETY AND CONTROL SHALL BE OF PRIME CONCERN. TRAINED AND CERTIFIED PERSONNEL SHALL PERFORM THESE TASKS.

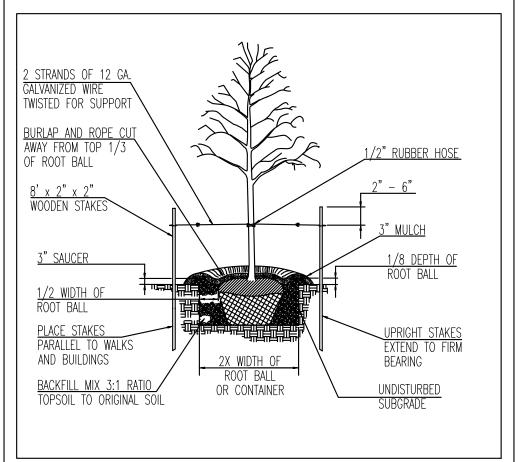
VII. RENOVATION

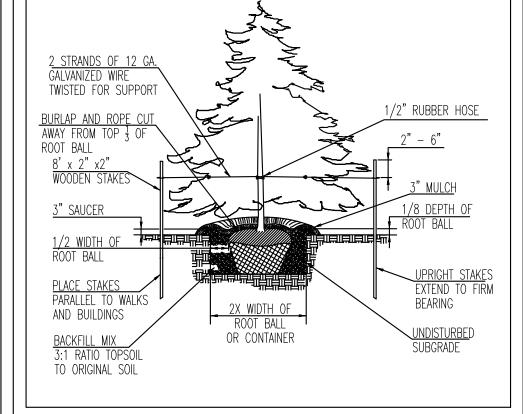
- RENOVATION INCLUDES THE RESEEDING OR REPLANTING OF LANDSCAPE AREAS DAMAGED, DESTROYED OR FAILING DUE TO INSECTS, DISEASE, WEATHER OR PHYSICAL DAMAGE.
- LAWN -- ALL AREAS WHERE SOIL HAS BEEN EXPOSED SHALL BE RENOVATED DURING THE NEXT PLANNING SEASON. PROPER HORTICULTURAL AND SOIL EROSION PREVENTION METHODS SHALL BE UTILIZED. IF SOIL EROSION
- OCCURRED, THE AREA SHALL BE REPAIRED WITH A SEED MIXTURE COMPATIBLE TO EXISTING PLANTINGS SHALL BE UTILIZED. PLANTINGS -- ALL PLANTINGS WHICH ARE DAMAGED OR DESTROYED SHALL BE REPLACED DURING THE NEXT GROWING SEASON. A FAILING, DAMAGED OR DESTROYED LANDSCAPE SCREEN OR BUFFER MUST BE RENOVATED OR

REPLACED WITHIN A REASONABLE PERIOD OF TIME, BUT NOT TO EXCEED THE SUBSEQUENT GROWING SEASON.

- VIII. SITE AMENITIES
- BENCHES, PATHS, BICYCLE RACKS, TRASH RECEPTACLES AND SIGNS SHALL BE INSPECTED AT LEAST TWICE A YEAR, ONCE IN MARCH AND ONCE IN AUGUST, TO DETERMINE THEIR CONDITION. ANY DAMAGED, WORN OR UNSAFE CONDITIONS SHALL BE RECTIFIED IMMEDIATELY.
- IX. PAVED SURFACES
- ALL PAVED SURFACES, CONCRETE SIDEWALKS, ASPHALT PAVEMENT AND DECORATIVE PAVEMENT SHALL BE INSPECTED ON A REGULAR BASIS. ALL SÚCH SURFACES SHALL BE INSPECTED AT LEAST ONCE PER MONTH.
- TRASH, STAINS AND/OR OBSTRUCTIONS SHALL BE REMOVED IMMEDIATELY. PAVEMENT SHALL BE INSPECTED FOR CRACKS, AND/OR POT HOLES, AND RETURNED TO THEIR ORIGINAL CONDITIONS.

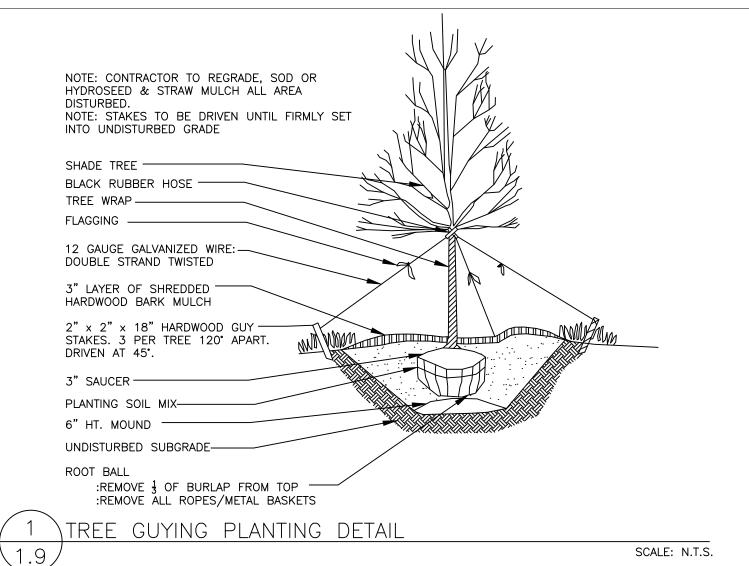




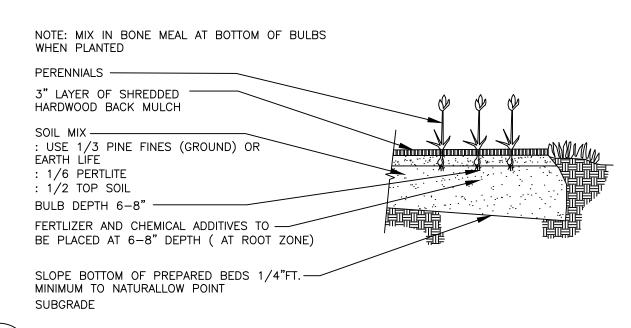


DECIDUOUS TREE PLANTING DETAIL NOT TO SCALE

EVERGREEN TREE PLANTING DETAIL NOT TO SCALE



: PLANT SPACING VARIES (SEE PLANS) PRUNE ALL BROKEN, DISEASED & WEAK BRANCHES : ALL SHRUB BEDS TO BE COMPLETED EXCAVATED OF ALL EXISTING SOIL TO DEPTH REQUIRED FOR SOIL MIX BACKFILL. : REMOVE ALL STRINGS, RIBBONS & TAGS FROM PLANTS SPECIMEN SHRUBS ---3" LAYER OF SHREDDED -HARDWOOD BARK MULCH SOIL MIX ROOT BALL-:REMOVE 3 OF BURLAP FROM TOP :REMOVE ALL ROPES/METAL BASKETS TAMP EXISTING SOIL AT 85% OPTIMUM MOISTURE CONTENT SHRUB PLANTING DETAII SCALE: N.T.S



#OF PLANTS PER

SQUARE FOOT

2.60 1.66

1.15

ANNUALS AND PERENNIALS PLANTING

SPACING "D"
6" o.c.
8" o.c.
10" o.c.
12" o.c.

PLANT SPACING

ROW "A" 5.20" 6.93"

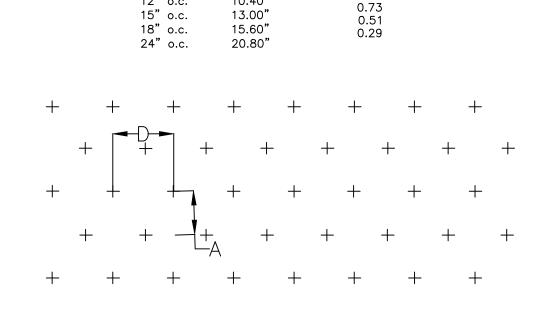
8.66"

10.40"

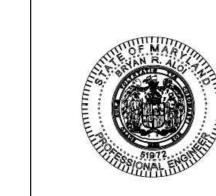
: SCARIFY ROOTS OF ROOT BOUND PLANTS

SCALE: N.T.S.

SCALE: N.T.S.



TRIANGULAR SPACING FOR SHRUBS. GROUND COVERS, BULBS AND PERENNIALS



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, ICENSE NO. 51972 EXP. DATE: 12/11/2021

ALL REPORTS PLANS SPECIFICATIONS AND COMPUTER FILES RELATING TO THIS

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01 MM-DD-YR NAME DESCRIPTION OF CHANGES

 \Box

%00

RB

DATE:

OWNER WASHINGTON

CIVIL KCI TECHNOLOGIES, **COUNTY BOARD OF** 11830 W. MARKET PLACE, SUITE F

COMMISSIONERS 100 W. WASHINGTON ST **FULTON, MD 20759 HAGERSTOWN, MD 21740** 410-792-8086 (P) 240-313-220 410-792-7419 (F)

LANDSCAPING **DETAILS** 1:50 FILENAME:

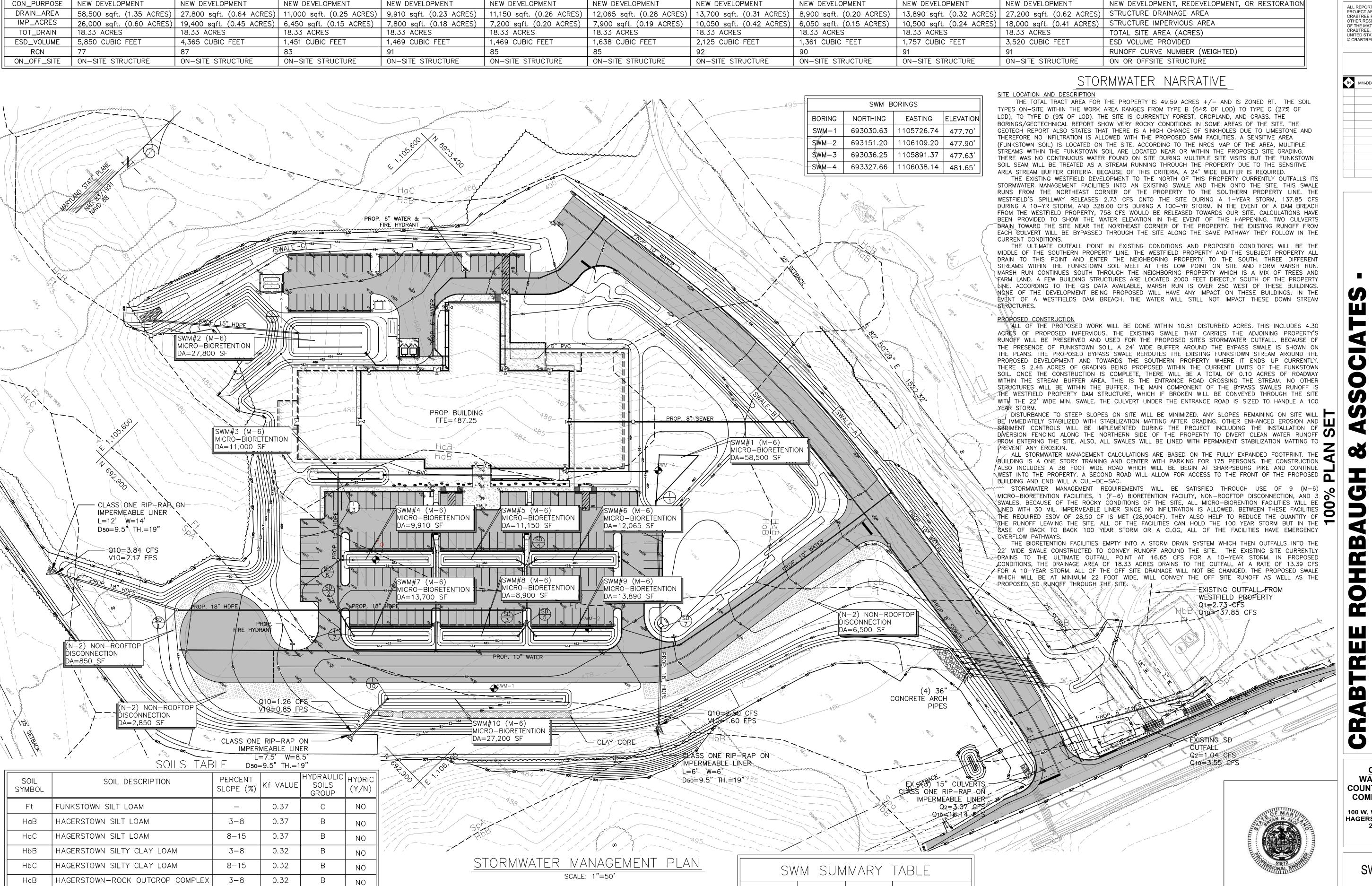
12/18/19

3089 KCI# 271703606

SP-18-044

PROJECT

BMP ID/ID RANGE											DESCRIPTION
STRU_NAME	(SWM-1)	(SWM-2)	(SWM-3)	(SWM-4)	(SWM-5)	(SWM-6)	(SWM-7)	(SWM-8)	(SWM-9)	(SWM-10)	STRUCTURE NAME
ADDRESS	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	9238 SHARPSBURG PIKE	STRUCTURE ADDRESS
CITY/ZIP	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	HAGERSTOWN, MD 21740	STRUCTURE ADDRESS
MD_NORTH	693,303	693,149	693,069	693,018	693,147	693,163	692,964	693,095	693,107	692,948	MARYLAND COORDINATE (NAD83 METERS) NORTHING
MD_EAST	1,106,061	1,105,653	1,105,798	1,105,874	1,106,000	1,106,014	1,105,930	1,106,056	1,106,070	1,106,003	MARYLAND COORDINATE (NAD83 METERS) NORTHING
VATERSHED_CODE	02140503	02140503	02140503	02140503	02140503	02140503	02140503	02140503	02140503	02140503	MARYLAND 8 OR 12-DIGIT HYDROLOGIC UNIT CODE
STRU_TYPE	BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	MICRO-BIORETENTION	IDENTIFY STRUCTURE OR BMP TYPE
LAND_USE	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	16-INSTITUTIONAL	PREDOMINANT LAND USE
CON_PURPOSE	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT	NEW DEVELOPMENT, REDEVELOPMENT, OR RESTORATION
DRAIN_AREA	58,500 sqft. (1.35 ACRES)	27,800 sqft. (0.64 ACRES)	11,000 sqft. (0.25 ACRES)	9,910 sqft. (0.23 ACRES)	11,150 sqft. (0.26 ACRES)	12,065 sqft. (0.28 ACRES)	13,700 sqft. (0.31 ACRES)	8,900 sqft. (0.20 ACRES)	13,890 sqft. (0.32 ACRES)	27,200 sqft. (0.62 ACRES)	STRUCTURE DRAINAGE AREA
IMP_ACRES	26,000 sqft. (0.60 ACRES)	· · · · · · · · · · · · · · · · · · ·	, ,	7,800 sqft. (0.18 ACRES)	7,200 sqft. (0.20 ACRES)		 	6,050 sqft. (0.15 ACRES)	10,500 sqft. (0.24 ACRES)	' '	STRUCTURE IMPERVIOUS AREA
TOT_DRAIN	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	18.33 ACRES	TOTAL SITE AREA (ACRES)
ESD_VOLUME	5,850 CUBIC FEET	4,365 CUBIC FEET	1,451 CUBIC FEET	1,469 CUBIC FEET	1,469 CUBIC FEET	1,638 CUBIC FEET	2,125 CUBIC FEET	1,361 CUBIC FEET	1,757 CUBIC FEET	3,520 CUBIC FEET	ESD VOLUME PROVIDED
RCN	77	87	83	91	85	85	92	90	91	91	RUNOFF CURVE NUMBER (WEIGHTED)
ON_OFF_SITE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON-SITE STRUCTURE	ON OR OFFSITE STRUCTURE



AREA OF

(Ac.)

HAGERSTOWN-ROCK OUTCROP COMPLEX

SWANPOND-FUNKSTOWN SILT LOAMS

SWANPOND SILT LOAM

SpA

8-15

0 - 3

0 - 3

0.32

0.43

0.43

NO

NO

NO

NOTE: SEE SHEETS C-2.03 TO C-2.08 FOR MICRO-BIORETENTION

FACILITY DETAILS AND PLANTINGS.

EX. IMP. DISTURBANCE AREA (Ac.) AREA (Ac.)

0.00

4.30

ESD VOLUME

(CF)

| REQUIRED | PROVIDED

28,504

28,904

50 25 0

SCALE: 1"=50'



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MM-DD-YR	NAME	DESCRIPTION OF CHANGES

OWNER WASHINGTON **COUNTY BOARD OF** COMMISSIONERS

CIVIL KCI TECHNOLOGIES

100 W. WASHINGTON ST **HAGERSTOWN, MD 21740** 240-313-220

11830 W. MARKET PLACE, SUITE F **FULTON, MD 20759** 410-792-8086 (P) 410-792-7419 (F)

SWM PLAN 1:50 KCI# 271703606

12/18/20

DATE:

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY

THAT THESE DOCUMENTS WERE PREPARED OR

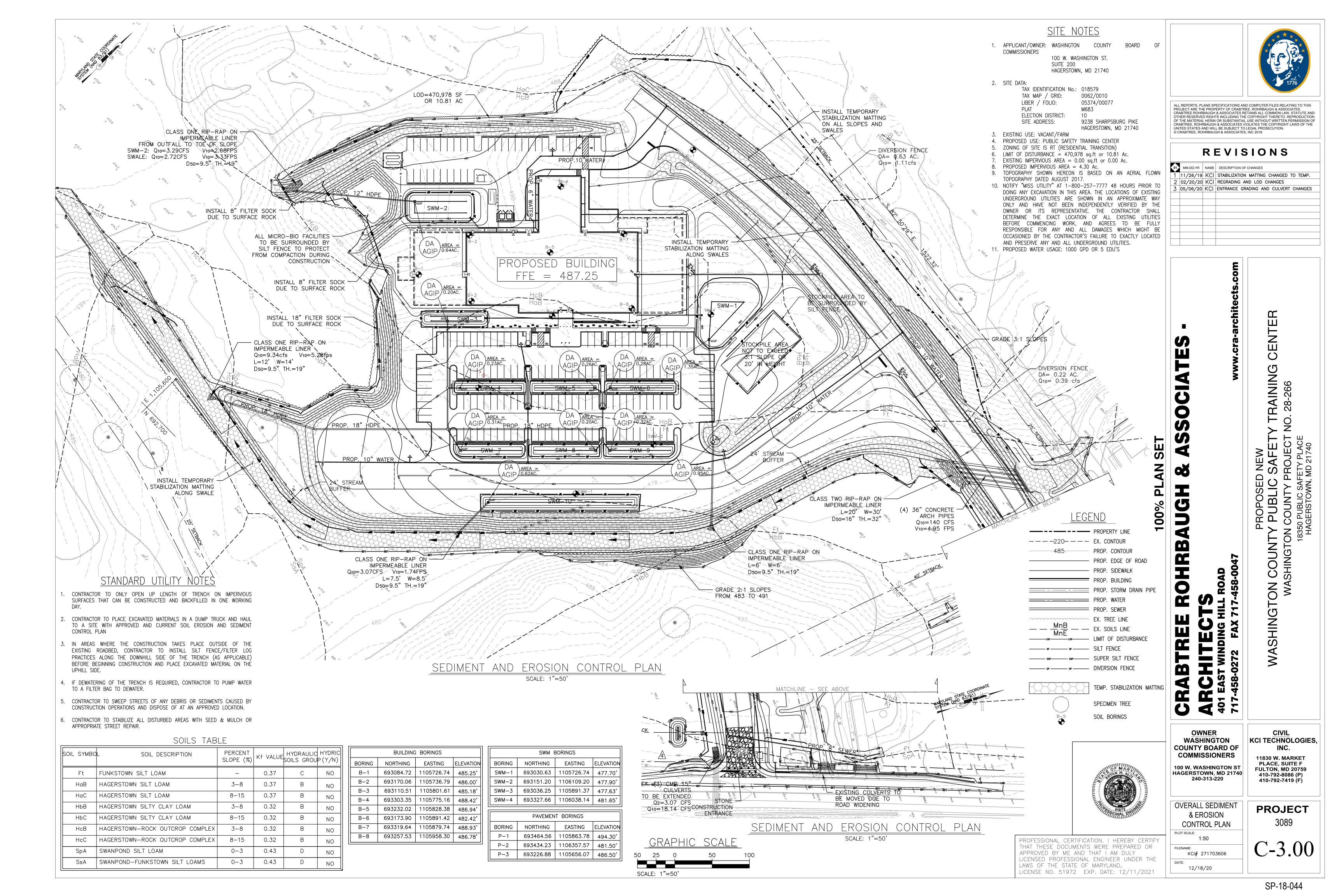
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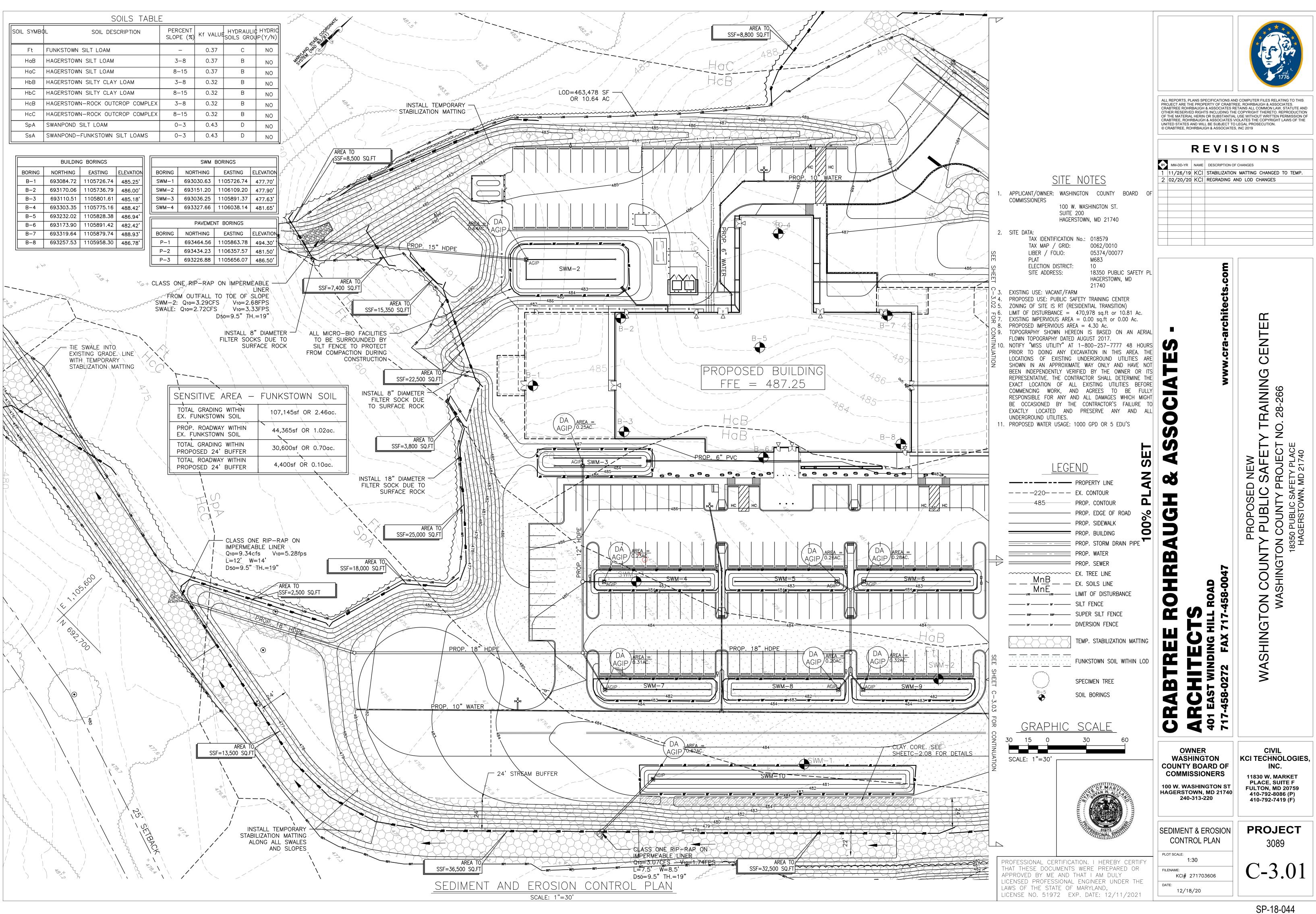
LICENSE NO. 51972 EXP. DATE: 12/11/2021

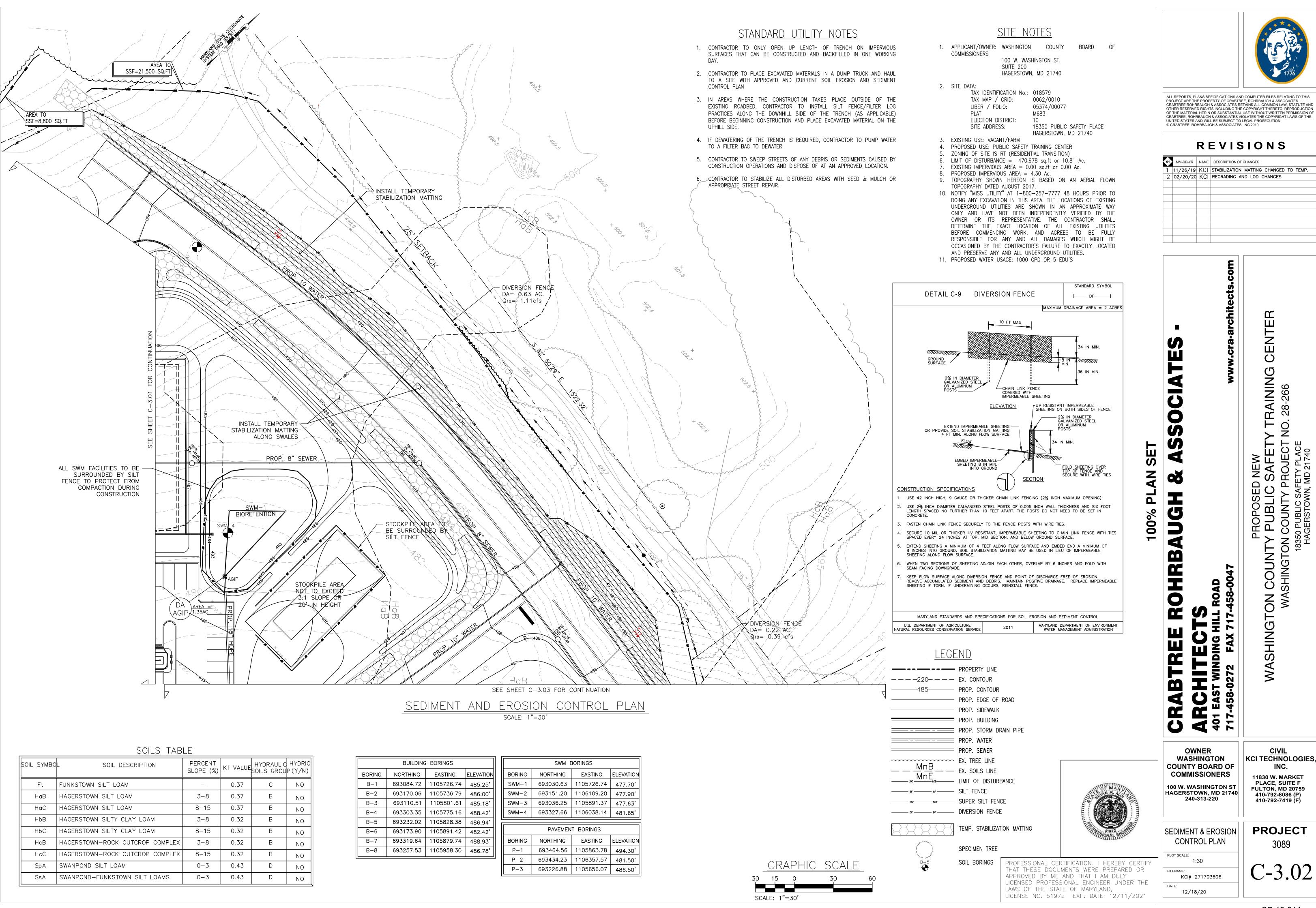
APPROVED BY ME AND THAT I AM DULY

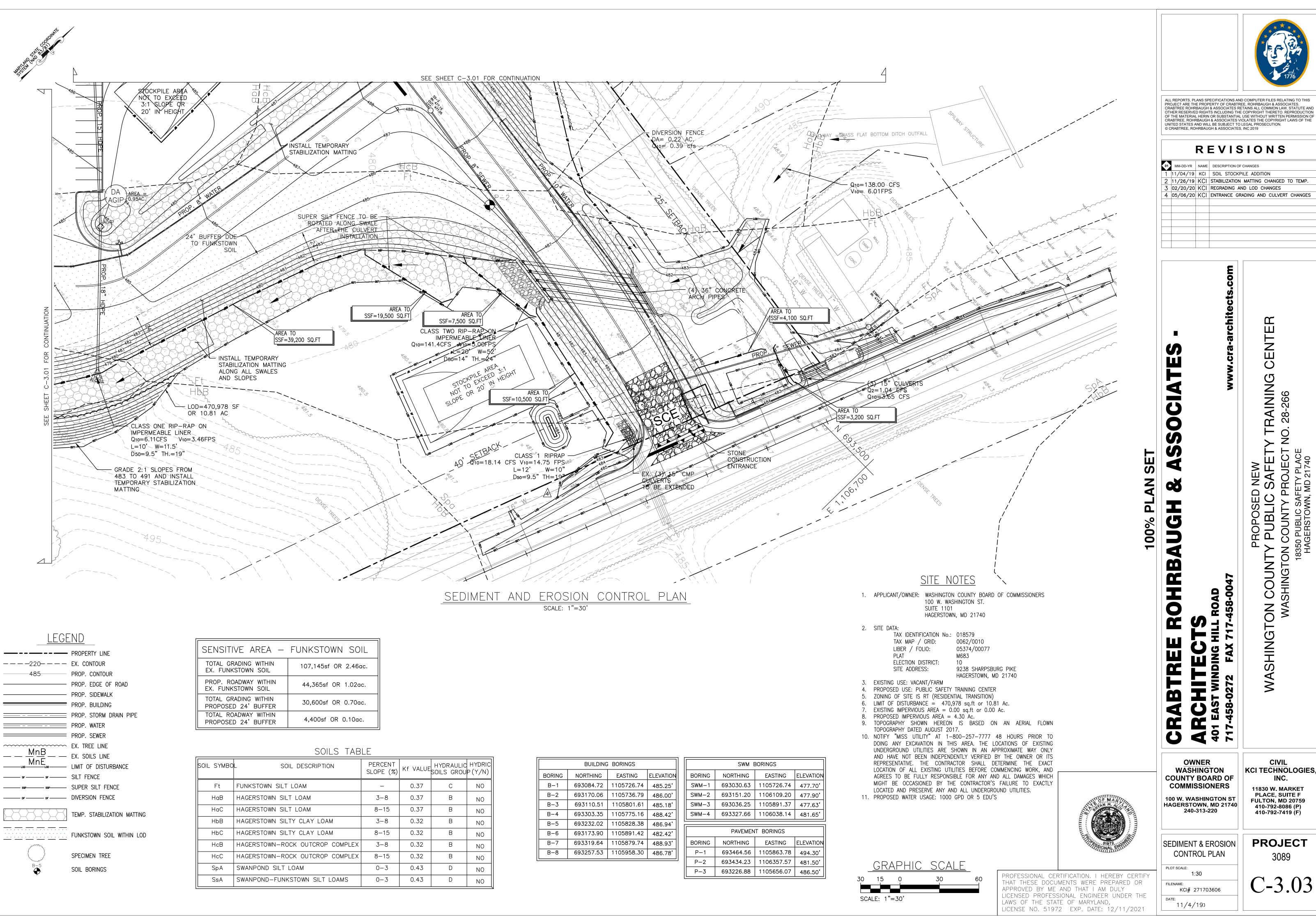
LAWS OF THE STATE OF MARYLAND,

PROJECT 3089









STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

<u>PURPOSE</u>

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.

CRITERIA

SEEDING A. 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.
- 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. 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.

B. APPLICATION

- a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. 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 SOIL. 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 PLANTING.
- 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 FERTILIZER).
- 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 POUNDS PER ACRE. 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 HYDROSEEDING. iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT
- INTERRUPTION iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

MULCHING

- A. 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 DESIRED.
- o. 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 SPREAD SLURRY.
- 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.

B. 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. C. ANCHORING
- 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, PFTROSET. 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.

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

<u>PURPOSE</u>

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. <u>CRITERIA</u>

- 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 TABLE

HARE	DINESS ZONE (FROM	FIGURE B.3):		FERTILIZER RATE	LIME RATE		
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	LIME IVATE	
1	BARLEY	96	2/15-4/30 8/15-11/30	1.0"			
2	CEREAL RYE	112	2/15-4/30 8/15-12/15	1.0"	436 LB/AC (10LB/1000SF)	2 TONS/AC (90LB/1000SF)	
3	FOXTAIL MILLET	30	5/1-8/14	0.5"			

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

<u>PURPOSE</u>

<u>CRITERIA</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.

1. SEED MIXTURES A. GENERAL USE

- 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 SFEDING 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. a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS. PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH
- LEVEL OF MAINTENANCE. 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. 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
- 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

BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE

FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH

- MIXTURE BY WEIGHT. 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: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET. NOTES:
- 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
- c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS
 - ZONES: 5B, 6A) 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 ZONES: 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 11/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 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 ADVERSE SITES.

	PERMANENT SEEDING TABLE										
HARD	DINESS ZONE (FROM		F	LIME RATE							
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P2O5	K20	LIVIL NATE			
4	DEERTONGUE CREEPING RED FESCUE VIRGINIA WILD RYE	15 20 : 5	3/1-5/15 8/15-10/15	0.5"							
6	TALL FESCUE PERENNIAL RYEGRASS WHITE CLOVER	40 25 5	3/1-5/15 8/15-10/15	0.5"	45LB/AC (1LB/ 1000SF)	90LB/AC (2LB/ 1000SF)	90LB/AC (2LB/ 1000SF)	2 TONS/AC (90LB/ 1000SF)			
9	TALL FESCUE KENTUCKY BLUEGRASS	60 40	3/1-5/15 8/15-10/15	0.5"							

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

TABLE H.1 - GEOTEXTILE FABRICS

		SILT	VEN FILM EXTILE	MONOFI	VEN LAMENT EXTILE	l	VOVEN EXTILE
			MININ	IUM AVE	RAGE RO	DLL VAL ¹ U	JE
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
GRAB TENSILE STRENGTH	ASTM D-4632	200 LB	200 LB	370 LB	250 LB	200 LB	200 LB
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	45	450 LB 900 LB 450					
APPARENT OPENING SIZE ²	ASTM D-4751		IEVE 30 9 mm)		IEVE 70 I mm)		IEVE 70 I mm)
PERMITTIVITY ASTM D-4491			0.05 SEC ¹ 0.28 SEC ¹ 1.1 SEC				SEC ¹
ULTRAVIOLET RESISTEANCE RETAINED AT 500 HOURS	ASTM D-4355	70% S	TRENGTH	70% S	TRENGTH	70% S	TRENGTH

¹ALL 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.

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	D50	D100	AASHTO	MIDSIZE WEIGHT
NUMBER 57	3/8 TO 1-1/2 INCH	1/2 IN	1-1/2 IN	M-43	N/A
NUMBER 1	2 TO 3 INCH	2-1/2 IN	3 IN	M-43	N/A
RIPRAP (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 BELOW THE MIDSIZE.

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.

_		TABLE H.3 - COMPOST
	PARAMETERS	ACCEPTABLE RANGE
	рН	5.0 - 8.5
	MOISTURE CONTENT	30% - 60%, WET WEIGHT BASIS
	ORGANIC MATTER CONTENT	25% - 65%, DRY WEIGHT BASIS
	PARTICLE SIZE	% PASSING A SELECTED MESH SIZE, DRY WEIGHT BASIS 3 IN (75MM), 100% PASSING 1 IN (25MM), 90 - 100% PASSING 0.75 IN (19MM), 70 - 100% PASSING 0.25 IN (6.4MM), 30 - 60% PASSING 0.04 IN (1MM), 30% MIN. PASSING
	PHYSICAL CONTAMINANTS (MANMADE INERTS)	<1% DRY WEIGHT BASIS

ADAPTED FROM AASHTO STANDARDS SPECS FOR COMPOST FILTER SOCKS AND EPA EXAMPLE COMPOST FILTER PARAMETERS

RECOMMENDED TEST METHODOLOGIES ARE PROVIDED IN TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST (TMEC, THE U.S. COMPOSTING COUNCIL)

WASHINGTON COUNTY <u>EROSION, SEDIMENT CONTROL</u> & SEEDING NOTES

- 1. ALL SOIL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND THE PROVISIONS OF THE APPROVED PLAN.
- 2. ALL GRADING AND STABILIZATION SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", "SECTION B - GRADING AND STABILIZATION" AND THE PROVISIONS OF THE APPROVED PLAN.
- 3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES (BMP'S) ARE TO BE CONSTRUCTED AND/OR INSTALLED PRIOR TO OR AT THE INITIATION OF GRADING IN ACCORDANCE WITH "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND THE APPROVED PLAN.
- 4. A GRADING UNIT IS THE MAXIMUM CONTIGUOUS AREA ALLOWED TO BE GRADED AT A GIVEN TIME AND IS LIMITED TO 20 ACRES. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY AND/OR THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT (APPROVAL AUTHORITY). UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN
- 5. FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION MUST BE COMPLETED WITHIN: a) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND b) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
- 6. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITHIN THE 7 DAY STABILIZATION REQUIREMENT, AS WELL AS, STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION (AS APPLICABLE).
- 7. ALL CONSTRUCTED CHANNELS AND SWALES SHALL HAVE SPECIFIED TREATMENT INSTALLED TO THE DESIGN FLOW DEPTH COMPLETED DOWNSTREAM TO UPSTREAM AS CONSTRUCTION PROGRESSES. AN INSTALLATION DETAIL SHALL BE SHOWN ON THE PLANS. 8. ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS ARE
- TO BE MULCHED AND SEEDED WITHIN 3 DAYS OF INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS. 9. ELECTRIC POWER, TELEPHONE, AND GAS LINES ARE TO BE COMPACTED, SEEDED, AND MULCHED WITHIN 3 DAYS AFTER INITIAL BACKFILL UNLESS
- OTHERWISE SPECIFIED ON PLANS. 10. NO SLOPE SHALL BE GREATER THAN 2:1. 11. AS REQUIRED BY SECTION B, OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, "ADEQUATE VEGETATIVE STABILIZATION". IS DEFINED AS 95 PERCENT GROUND COVER. THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT REQUIRES THE PROJECT
- AND/OR RELEASE OF THE SITE FOR SOIL EROSION AND SEDIMENT CONTROL. FOR SITES 1.0 ACRE OR MORE, THE FOLLOWING ARE REQUIRED: 12. MARYLAND DEPARTMENT OF THE ENVIRONMENT, GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH A CONSTRUCTION ACTIVITY, NPDES PERMIT NUMBER MDRC, STATE DISCHARGE PERMIT NUMBER 14GP, OR AN INDIVIDUAL PFRMIT

ADHERE TO THIS FOR SCHEDULING OF THE FINAL SITE CLOSEOUT REVIEW.

- 13. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (GENERAL/INDIVIDUAL PERMIT - NOTICE OF INTENT- NOI) APPLICATION AND PERMIT SHALL BE POSTED AND/OR AVAILABLE ON-SITE AT ALL TIMES.
- 14. DURING CONSTRUCTION, ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES (BMP'S) SHALL BE INSPECTED AND RECORDED ON THE "STANDARD INSPECTION FORM", "GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY" PER THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (GENERAL/INDIVIDUAL PERMIT - NOTICE OF INTENT - NOI).
- 15. FOLLOWING CONSTRUCTION AND RELEASE OF THE SITE FOR SOIL EROSION AND SEDIMENT CONTROL BY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT, I.E., ALL PORTIONS OF A SITE HAVE BEEN PERMANENTLY STABILIZED, AND ALL STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED, THE AUTHORIZED PERMITTEE SHALL SUBMIT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, GENERAL/INDIVIDUAL PERMIT - NOTICE OF TERMINATION-NOT.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY

THAT THESE DOCUMENTS WERE PREPARED OR

LICENSED PROFESSIONAL ENGINEER UNDER THE

LICENSE NO. 51972 EXP. DATE: 12/11/2021

APPROVED BY ME AND THAT I AM DULY

LAWS OF THE STATE OF MARYLAND,



ALL REPORTS PLANS SPECIFICATIONS AND COMPLITER FILES RELATING TO THIS PROJECT ARE THE PROPERTY OF CRABTREE, ROHRBAUGH & ASSOCIATES. CRABTREE ROHRBAUGH & ASSOCIATES RETAINS ALL COMMON LAW, STATUTE AND OTHER RESERVED RIGHTS INCLUDING THE COPYRIGHT THERETO. REPRODUCTION OF THE MATERIAL HERIN OR SUBSTANTIAL USE WITHOUT WRITTEN PERMISSION OF CRABTREE, ROHRBAUGH & ASSOCIATES VIOLATES THE COPYRIGHT LAWS OF THE UNITED STATES AND WILL BE SUBJECT TO LEGAL PROSECUTION.

	REVISIONS									
01	MM-DD-YR	NAME	DESCRIPTION OF CHANGES							

00

m

DATE:

12/18/19

OWNER 100 W. WASHINGTON ST HAGERSTOWN, MD 21740

240-313-220

CIVIL WASHINGTON KCI TECHNOLOGIES, **COUNTY BOARD OF** COMMISSIONERS 11830 W. MARKET PLACE, SUITE F

SEC NOTES AND

DETAILS PLOT SCALE: KCI# 271703606

PROJECT 3089

FULTON, MD 20759

410-792-8086 (P)

410-792-7419 (F)

SP-18-044

STANDARDS AND SPECIFICATIONS FOR LAND GRADING

DESIGN CRITERIA

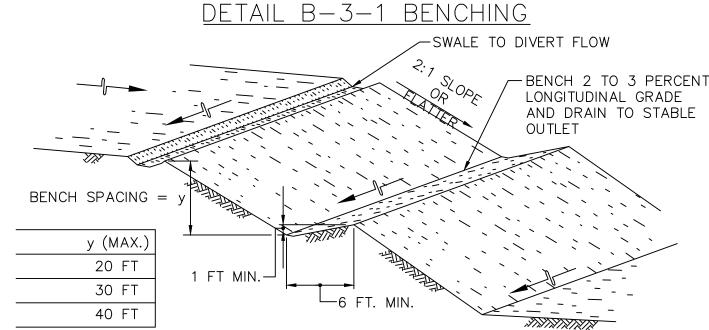
THE GRADING PLAN SHOULD BE BASED ON THE INCORPORATION OF BUILDING DESIGNS AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADE MODIFICATIONS. INFORMATION SUBMITTED MUST PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE 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 AREAS.
- 2. CUT AND FILL SLOPES, STABILIZED WITH GRASSES, NO STEEPER THAN 2:L. (WHERE THE SLOPE IS TO BE MOWED, THE SLOPE SHOULD BE NO STEEPER THAN 3:L, BUT 4:L IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOWING STEEP SLOPES.) SLOPES STEEPER THAN 2:L 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:L SLOPE EXCEEDS 20 FEET; FOR 3:L SLOPES, WHEN IT EXCEEDS 30 FEET; AND FOR 4:L 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. PROVIDE BENCHES WITH A MINIMUM WIDTH OF SIX FEET FOR EASE OF MAINTENANCE.
 - DESIGN BENCHES WITH A REVERSE SLOPE OF 6:L 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.
- 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.
- DO NOT SUBJECT THE SLOPE'S FACE TO ANY CONCENTRATED FLOW OF SURFACE WATER SUCH AS FROM NATURAL DRAINAGE WAYS, GRADED SWALES, DOWNSPOUTS,
- 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 QUICKER 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 EXCESSIVELY WET SITE CONDITIONS.
- 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 B-4 STANDARDS AND SPECIFICATIONS FOR STABILIZATION PRACTICES.

<u>MAINTENANCE</u>

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.

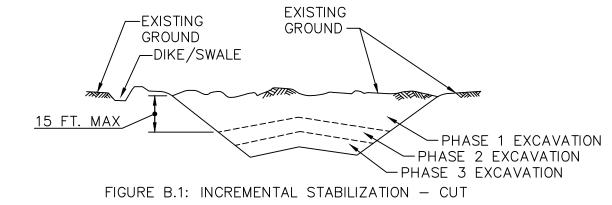


CONSTRUCTION SPECIFICATIONS

- 1. USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- 2. DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
- 3. PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
- 4. COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- 5. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED MEII-IODS.
- 6. MAINTAIN LINE, GRADE, AND CROSS SECTION OF BENCHING. STABILIZE IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION CRITERIA OR AS SPECIFIED ON II-IE APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF EROSION CONTROL MATTING MAY BE NECESSARY IN BENCH/SWALE INVERTS. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- 7. KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.

PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

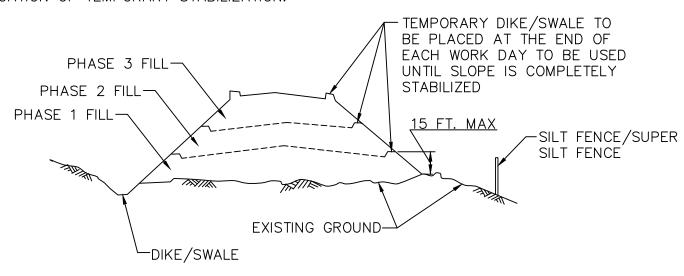
NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.



1. INCREMENTAL STABILIZATION - FILL SLOPES

- A. 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
- STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
- C. 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.
- D. 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. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE
- PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
- 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.



STANDARDS AND SPECIFICATIONS FOR SOIL

FIGURE B.2: INCREMENTAL STABILIZATION - FILL

PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

<u>PURPOSE</u>

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

<u>CRITERIA</u>

1. SOIL PREPARATION

- A. 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 THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - 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
 - SOIL PH BETWEEN 6.0 AND 7.0.
- SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM). 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. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT
- PENETRATION. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
- 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. 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 ON NEWLY DISTURBED AREAS.

- A. 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.
- B. 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.
- C. 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 VEGETATIVE GROWTH. e. 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.
- THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

ÅREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

- E. 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 11/2 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
 - 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.
- F. TOPSOIL APPLICATION a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING
- 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 GRADINGAND SEEDBED PREPARATION.
- 3. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
- A. 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.
- 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
- C. 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.
- D. 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.
- E. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE
- F. RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL

SEQUENCE OF CONSTRUCTION

- 1. NOTIFY WCSCD AT 301-797-6821 (EXT. 3) AT LEAST (5) DAYS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRCUTION MEETING. NOTIFY THE WASHINGTON COUNTY ENGINEERING DEPARTMENT (240-313-2460) AT LEAST (5) DAYS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRE CONSTRUCTION MEETING.
- 2. NOTIFY NOTIFY MISS UTILITY (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO STARTING WORK AT THE SITE.
- 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE (SCE)
- 8. PRIOR TO ANY CLEARING AND GRUBBING, THE LIMITS OF CLEARING MUST BE CLEARLY MARKED IN THE FIELD.
- 9. INSTALL ALL PERIMETER SUPER SILT FENCE, SILT FENCE, AND DIVERSION FENCING.
- 10. TEMPORARY SEED AND MULCH ALL TOPSOIL STOCKPILES IN ACCORDANCE WITH THE SOIL EROSION, SEDIMENT CONTROL. & SEEDING NOTES AND SUMMARIES.
- 11. UPON THE INSTALLATION OF THE SEDIMENT CONTROL MEASURES. BEGIN GRADING FOR ENTRANCE ROAD AND INSTALL CULVERT PIPES. ONCE CULVERT PIPES ARE INSTALLED, GRADE BYPASS SWALE SO THAT RUNOFF IS DIRECTED AROUND THE SITE. DURING THE GRADING OF THE BYPASS SWALE, INSTALL CLAY CORE ALONG THE LOCATION OF SWM-10 SINCE THE FACILITY IS IN A FILL CONDITION.GRADING DONE WITHIN THE SWALE CHANNEL IS TO BE LINED WITH PERMANENT STABILIZATION MATTING.
- 12. ONCE THE BYPASS SWALE IS STABILIZED, GRADING FOR THE NEW BUILDING, PARKING AND ENTRANCE ROADS IS TO BE COMPLETED. ALL SLOPES GREATER THAN 4:1 ARE TO BE STABILIZED WITH TEMPORARY STABILIZATION MATTING. ALL GRADING DONE WITHIN A SWALE NEEDS PERMANENT STABILIZATION MATTING. STORMWATER FACILITIES ARE TO BE SURROUNDED BY SILT FENCE AND PROTECTED FROM COMPACTION DURING CONSTRUCTION.
- 13. CONSTRUCT PROPOSED UTILITIES FROM MD-65 ONTO THE SITE, EXCAVATING ONLY WHAT IS REQUIRED FOR INSTALLATION EACH DAY. BACKFILL TRENCH ONCE PIPE HAS BEEN INSTALLED AND INSPECTED. USE STEEL PLATES AS NECESSARY WITH PROPER TRAFFIC CONTROLS. NO STOCKPILING ALLOWED WITHIN RIGHT-OF-WAY.
- 14. PERFORM PERMANENT SEEDING AND MULCHING IN ACCORDANCE WITH THE SOIL EROSION, SEDIMENT CONTROL, & SEEDING NOTES AND SUMMARIES.
- 15. NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821, EXT 3 AND THE WASHINGTON COUNTY ENGINEERING DEPARTMENT AT 240-313-2460 AT LEAST (5) DAYS PRIOR TO THE CONSTRUCTION OF WATER QUALITY PRACTICES TO SCHEDULE AN INTERIM INSPECTION.
- 16. ONCE ALL DISTURBED AREAS ARE STABILIZED, CONSTRUCT THE 9 MICRO-BIORETENTION FACILITES AND THE ONE BIORETENTION FACILITY.
- 17. NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821, EXT 3 AND THE WASHINGTON COUNTY ENGINEERING DEPARTMENT AT 240-313-2460 AT LEAST (5) DAYS PRIOR TO THE REMOVAL OF ANY SOIL EROSION AND SEDIMENT CONTROL FEATURES TO SCHEDULE A FINAL SITE CLOSEOUT REVIEW MEETING. VEGETATION MUST MEET THE 95% OVERALL STABILIZATION REQUIREMENT PER THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL PRIOR TO SCHEDULING MEETING.
- 18. APPLY FINAL SURFACE PAVING TO ALL PAVED AREAS. INSTALL ALL FEATURES PER THE SITE PLAN.
- STABILIZE AREAS OF SOIL EROSION AND SEDIMENT CONTROL REMOVAL



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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR KCI# 271703606 LICENSED PROFESSIONAL ENGINEER UNDER THE

APPROVED BY ME AND THAT I AM DULY

LICENSE NO. 51972 EXP. DATE: 12/11/2021

LAWS OF THE STATE OF MARYLAND,

OWNER CIVIL WASHINGTON KCI TECHNOLOGIES **COUNTY BOARD OF** COMMISSIONERS 11830 W. MARKET PLACE, SUITE F 100 W. WASHINGTON ST **FULTON, MD 20759** HAGERSTOWN, MD 21740 410-792-8086 (P)

SEC NOTES **PROJECT** AND DETAILS

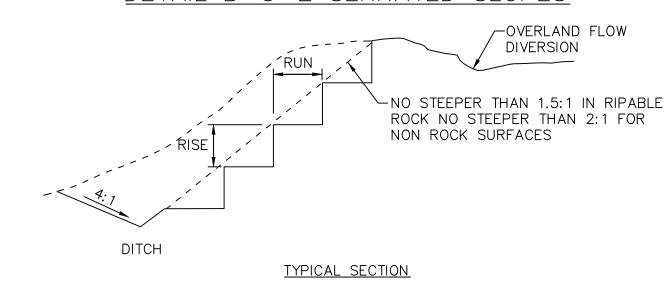
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12/18/19

SP-18-044

410-792-7419 (F)

DETAIL B-3-2 SERRATED SLOPES



CONSTRUCTION SPECIFICATIONS

- 1. DIVERT OVERLAND FLOW FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRY TO A SUITABLE OUTLET.
- 2. MAKE SERRATIONS AS THE EXCAVATION PROGRESSES.
- 3. CONSTRUCT EACH STEP OR SERRATION ON THE CONTOUR. RISE & RUN DIMENSIONS WILL VARY DEPENDING ON THE FINAL SLOPE RATIO. FOR RIPABLE ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND THREE FOOT HORIZONTAL (RUN) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 1.5:1. FOR NON ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND FOUR FOOT HORIZONTAL (RUNS) SERRATIONS AT A SLOPE RAIIO NO STEEPER
- 4. KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
- 5. HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
- MAINTAIN LINE, GRADE, AND CROSS SECTION OF SERRATED SLOPES. TEMPORARILY OR PERMANENTLY STABILIZE ALL GRADED, NON ROCK SURFACES IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENTS OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

<u>PURPOSE</u>

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 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 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.

STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

<u>PURPOSE</u>

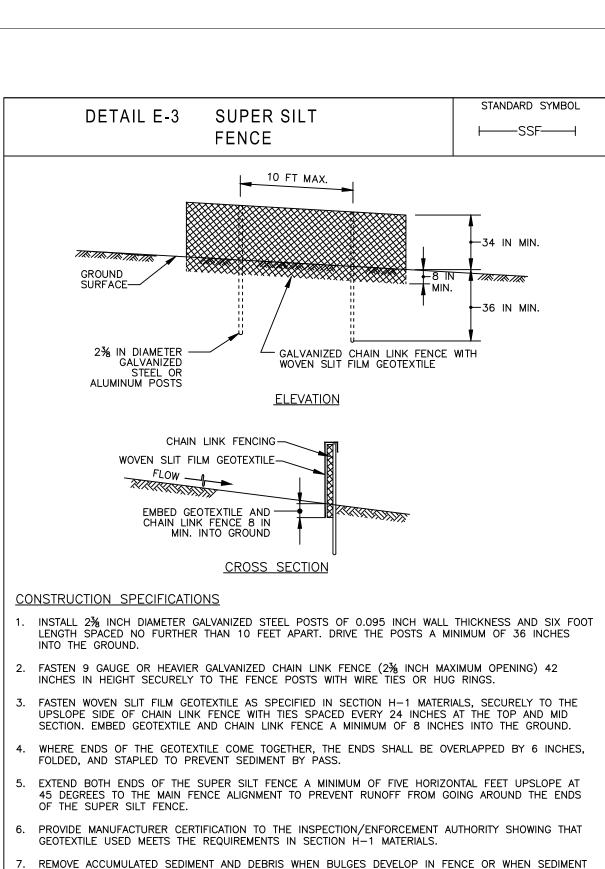
TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES

ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

<u>CRITERIA</u>

- 1. INCREMENTAL STABILIZATION CUT SLOPES
- A. 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.
- B. 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.



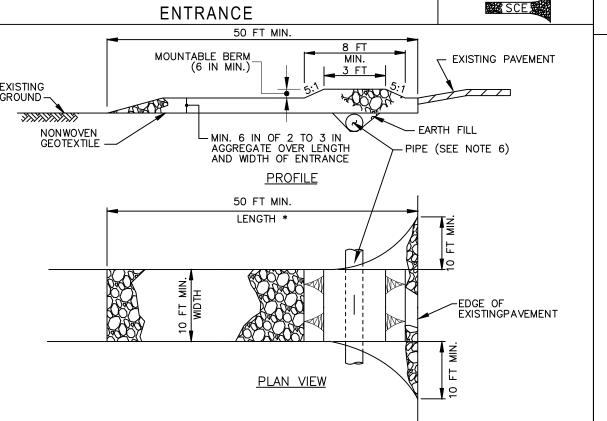
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION TURAL RESOURCES CONSERVATION SERVICE DETAIL B-4-6-C DETAIL E-9-3 CURB INLET CIP ر PROTECTION MAXIMUM DRAINAGE AREA = 1/4 ACRE — 2 FT MIN. LENGTH OF 2 IN x 4 IN SANDBAG OR OTHER APPROVED 2 IN x 4 IN WEIR-ANCHORING METHOD T MAX. SPACING OF ¾ TO 1½ STONE -2 IN x 4 IN ANCHORS, 2 FT MIN. LENGTH END (TYP.

REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL

NONWOVEN — GEOTEXTILE 7 -2 IN x 4 IN SPACEF — GALVANIZED HARDWARE CLOTH NONWOVEN — GEOTEXTILE -2 IN x 4 IN SPACER GAI VANIZED ∠ 2 IN × 4 IN WEIR SECTION A-A **HARDWARE** ∠EDGE OF GUTTER PAN **ISOMETRIC**

- CONSTRUCTION SPECIFICATIONS
- 1. USE NOMINAL 2 INCH x 4 INCH LUMBER
- 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- 3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
- 4. ATTACH A CONTINUOUS PIECE OF 1/4 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
- . PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
- 5. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2×4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR
- OTHER APPROVED ANCHORING METHOD. . INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- 8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
- 9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET
- 10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE

MARYLAND STANDARDS AND SPE	CIFICATIONS FOR SOIL ER	ROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



STABILIZED CONSTRUCTION

STANDARD SYMBO

CONSTRUCTION SPECIFICATIONS

OVERLAP AT ROLL

CHANNEL WITH SEED IN PLACE

CONSTRUCTION SPECIFICATIONS

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

DETAIL B-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.
- 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 CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT
- 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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

STABILIZATION MATTING

ISOMETRIC VIEW

LANDLOK 435 TURF REINFORCEMENT MAT OR APPROVED EQUAL (8 LB/FT^2 SHEER STRENGTH, 12 FT/SEC VELOCITY,

USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OF ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF

PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND

SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO

SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL

WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE
1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM

8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT

ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE.

WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS

. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

D. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT

. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN

225X175 LBS/FT TENSILE STRENGTH, 50% ELONGATION, 80% RESILIENCY)

PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

CHANNEL APPLICATION

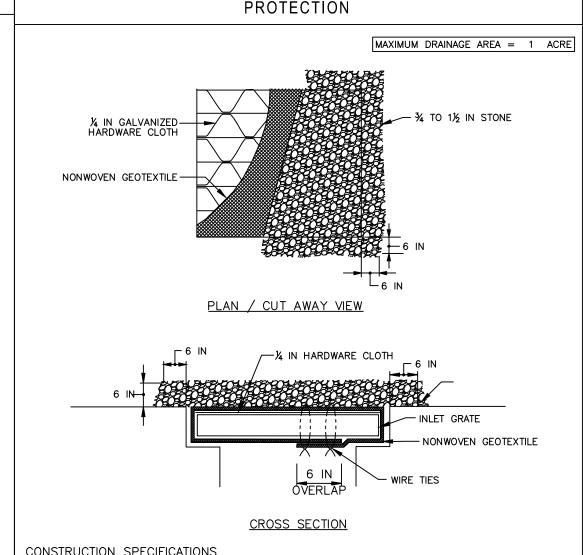
PERMANENT SOIL

MARYLAND DEPARTMENT OF ENVIRONMENT

L MAT VOIDS

MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION



AT-GRADE INLET

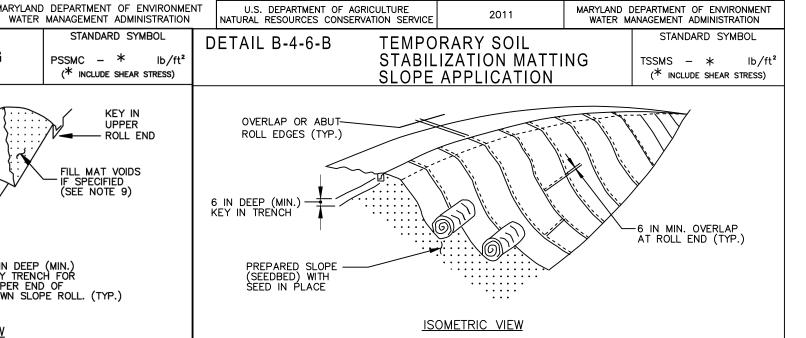
CONSTRUCTION SPECIFICATIONS

DETAIL E-9-2

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE
- PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMENT



CONSTRUCTION SPECIFICATIONS

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

- 2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM)
 NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- . SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD,
- 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM. . PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING
- SEDIMENT CONTROL PLAN. . UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID

OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION &

- STRETCHING THE MATTING. S. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY
- 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT. ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND
 - TAMPING TO SECURE THE MAT END IN THE KEY 3. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
 - 3. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE

 - ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPE	CIFICATIONS FOR SOIL ER	ROSION AND SEDIMENT CONTROL
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		·



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 51972 EXP. DATE: 12/11/2021

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PLACE, SUITE F **FULTON, MD 20759** 410-792-8086 (P) 410-792-7419 (F)

PROJECT

3089

SEC NOTES AND DETAILS PLOT SCALE

OWNER

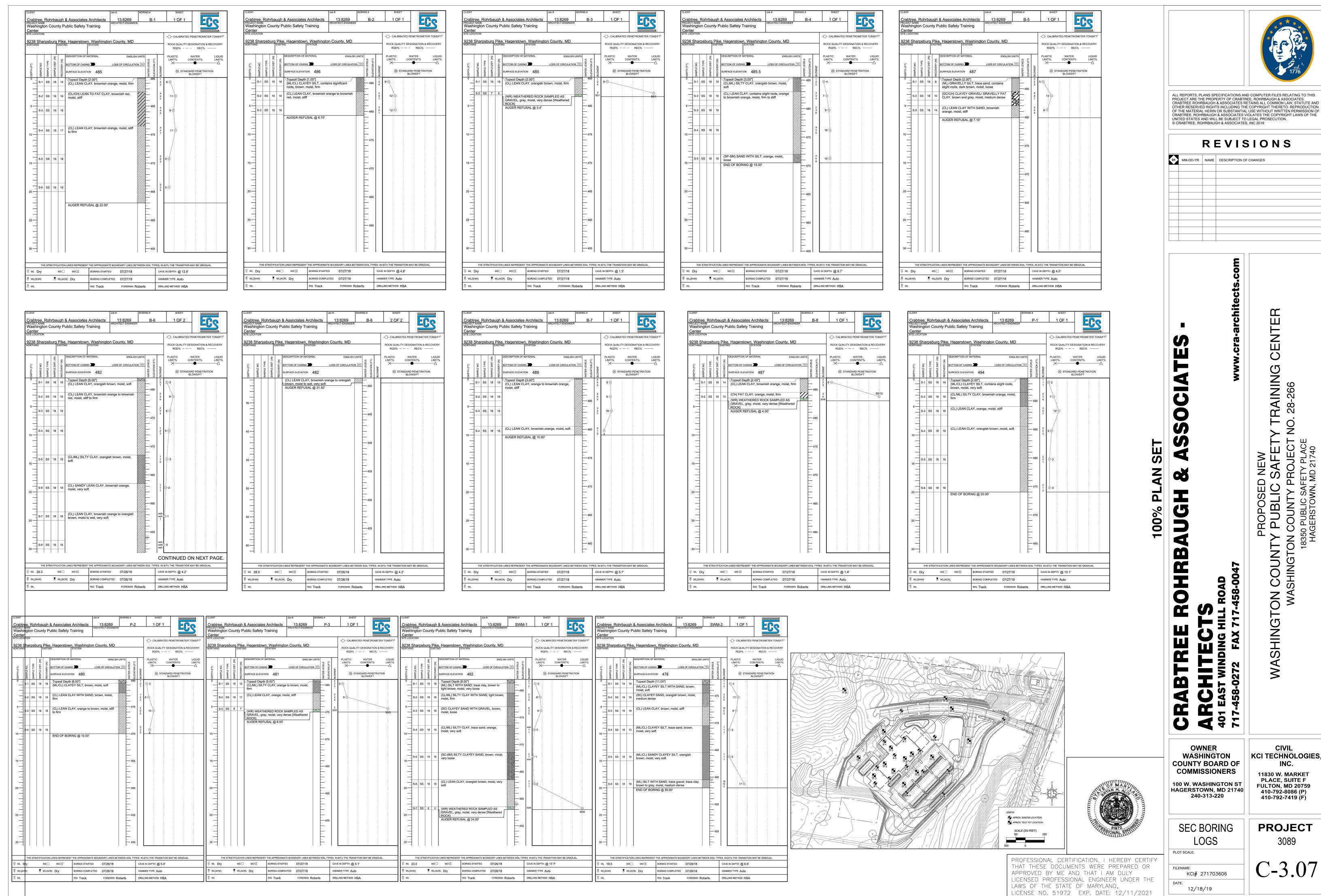
WASHINGTON

HAGERSTOWN, MD 21740

240-313-220

KCI# 271703606 DATE: 12/18/19

SP-18-044



Washington County PSTC - Change Order #1 CLIENT: Job #:	9.0		Washington County PSTC - Change Order #1 CUENT: Job #:	SURFACE ELEVATION (FT).	S	ashington County PSTC - Change Order #1	TP-3 SURFACE ELEVATION (F1)		Washington County PSTC - Change Order #1	TP-4 SURFACE ELEVATION (FT)	EC _S		TP-5	- ECS				***
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482-			BUCKET REFUSAL @ 3"			E-99-09-T			486			(CH) FAT CLAY, orange, moist					*	Ŋ
(CL) LEAN CLAY, contains slight roots, orange, moist			482			(CL) LEAN CLAY, orange; moist	E		(CL) LEAN CLAY, orange, moist			4 -						INI 266
6=			6-			6-			65	JMI	TP-9 5- 20.2	6 - (ML/MH) SILT/ELASTIC SILT, orange / yellowish, moist						RA 28-
478 -			480 -			480-			482-			480 7				S		→ O
8 - END OF TEST PIT @ 8			8-			END OF TEST PIT @ 8"			END OF TEST PIT @ 7.5			8-4			H			ET ECT ACE 40
10+						10±			480 -			10 - END OF TEST PIT @ 10			U U	•		AF AF OJE
474			476			€476 ÷			478			476 -			<	3		S C C C C C C C C C C C C C C C C C C C
12			12			12 - 474 -			32			12-			٥			OSEI SLIC VTY I
472-			4/4			1			476 -			14-			%			OUI
REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU TO			REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEE		RE	THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU			REMARKS: THE STRATIFICATION LINES REPRESENT. THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-S			REMARKS: THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN SITU THE TRANSIT			7			PF PF PF PF PF PF PF PF
GROUND WATER: ENCOUNTERED PRIOR TO BACKFILL CONTRACTOR: OPERATOR: MAKEMODEL: RE Client Provided Washington County John Deere/310 SL ECS REP: UNITS: Cave-in Depth: Groundwater Enco	REACH:	Prior to Backfill:	GROUND WATER ENCOUNTERED PRIOR TO BACKFILL EXCAVATION EFFE CONTRACTOR OPERATOR MAKE/MODEL Client Provided Washington County John Deere/310 SL ECS REP. DATE UNITS Cave-in Depth	ORT: E - EASY M - MEDIUM O - DIFFICULT VD - VERY DIFFICULT REACH: 12 Groundwater Encountered Groundwater Prior to Backfill:	EC	GROUND WATER: ENCOUNTERED PRIOR TO BACKFILL EXCAVATION EFFORT: E - EASY M - MEL TIRACTOR: OPERATOR: MAKEMODEL: Client Provided Washington County John Deere/310 SL Cave-in Depth: Groundwater En	REACH:	2 Prior to Backfill:	GROUND WATER ENCOUNTERED PRIOR TO BACKFILL EXCAVATION EFFORT: E - EASY M - II CONTRACTOR: OPERATOR: MAKEMODEL: Client Provided Washington County: JOhn Deere/310 SL ECS REP: DATE: UNITS: Cave-in Depth; Groundwater	MEDIUM D - DIFFICULT VI	12	GROUND WATER: ENCOUNTERED. PRIOR TO BACKFILL. EXCAVATION EFFORT. E - EASY M - MEDIUM b - DIFF CONTRACTOR: OPERATOR Client Provided Washington County John Deere/310 SL ECS REP: DATE: UNITS: Cave in Depth: Groundwater Encountered	12			M		JNI STC
PROJECT NAME Washington County PSTC - Change Order #1	TEST PIT#	100	NB 10/19/18 Feet PROJECT NAME: Washington County PSTC - Change Order #1	TEST PIT #	PR W	NB 10/19/18 Feet JECT NAME: Shington County PSTC - Change Order #1	TEST PIT#	Fra	NB 10/19/18 Feet PROJECT NAME: Washington County PSTC - Change Order #1	TEST PIT #		NB 10/19/18 Feet PROJECT NAME: Washington County PSTC - Change Order #1] Эт# TP-15				D 0047	O N
Washington County PSTC - Change Order #1 CLENT. Crabtree, Rohrbaugh & Associates Architects DEPTH ELEV. LOCATION 9238 Sharpsburg Pike, Hagerstown, ARCHIENG:	SURFACE ELEVATION (FT). 479	OP SAMPLE MOIS CONT	Crient Crabtree, Rohrbaugh & Associates Architects DEPTH ELEV. 9238 Sharpsburg Pike, Hagerstown, 9238 Sharpsburg Pike, Hagerstown,	SURFACE ELEVATION (FT) 478.6	Cr	btree, Rohrbaugh & Associates Architects Associates Architects 13:8269-A	SURFACE ELEVATION (FT). 483	OP SAMPLE MOIST	Crabtree, Rohrbaugh & Associates Architects Crabtree, Rohrbaugh & Associates Architects 13:8269-A DEPTH ELEV LOCATION 9238 Sharpsburg Pike, Hagerstown, ARCHIENG:	SURFACE ELEVATION (F.T) 492 EXCAV. EFFORT	OP SAMPLE MOIST	Crabtree, Rohrbaugh & Associates Architects DEPTH ELEV 13:8269-A	496	P. SAMPLE MOIST CONT.		1	OAI 58-0	N C
Washington County, MD DESCRIPTION OF MATERIAL Topsoil Thickness [10.00"]	EFFOR	(157) - NO (26)			(79)	DESCRIPTION OF MATERIAL Topsoil Thickness [10.001]			DESCRIPTION OF MATERIAL Topsoil Thickness [6.00]			Washington County, MD DESCRIPTION OF MATERIAL Topsoil Thickness [10.00*]	3			M M	N - 4	D ≥
478 – (CH) FAT CLAY, orange, moist			(CL) LEAN CLAY WITH SAND, brown, moist			482 - (CL) LEAN CLAY, orange, moist			(ML) SILT; trace clay, trace gravel, brown, moist			(CH) FAT CLAY, orange, moist		TP-15		ш		5
2-			2= 476 - (CL) GRAVELLY LEAN CLAY, trace sand, brown, moist	E.		480	E		(CL) LEAN CLAY, orange, moist			2 494 -						
	M		(SP) SAND WITH GRAVEL, brown, moist			4			4 = 488	E		4 492				Œ		/AS
474-			474	(M)		478 -					TP-14 5-7	(CL/ML) SILTY CLAY, orangish brown, moist					T	>
BUCKET REFUSAL @ 6'			END OF TEST PIT @ 6	(50)		6 - END OF TEST PIT @ 6'			65 486			6- 490- (CL) LEAN CLAY, contains slight rock fragments, orange, moist					EAS 458	
8+			8=			8-			END OF TEST PIT @ 7.5			8 BUCKET REFUSAL @ 8')				₩ 5 5 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
470			470			474												
€10 -			468			10=			10 - 482 -			10 + 486 -				_ WAS	VNER HINGTON	CIVIL KCI TECHNOLOGIE
468			12.0			12-			12- 480-			12- 484-				COMM	Y BOARD OF ISSIONERS	INC.
466 -			466			470 -								STATE OF MAR	THE STATE OF THE S	HAGERST	ASHINGTON ST OWN, MD 21740 D-313-220	PLACE, SUITE F FULTON, MD 20759 410-792-8086 (P)
REMARKS:			14- REMARKS		RE	14-			14 478 - REMARKS			14 482 - REMARKS:				2-4	7-313-220	410-792-7419 (F)
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU TO GROUND WATER: ENCOUNTERED PRIOR TO BACKFILL EXCAVATION EFFORT: E-EASY M-MEDIL CONTRACTOR: OPERATOR: MAKEMODEL: RE-	THE TRANSITION MAY BE O	GRADUAL JERY DIFFICULT	THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETV GROUND WATER: ENCOUNTERED PRIOR TO BACKFILL CONTRACTOR: OPERATOR: MAKEMODEL:	FFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT REACH:	co	THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU GROUND WATER: ENCOUNTERED PRIOR TO BACKFILL FOR THE PRIOR TO BACKFILL FOR THE PRIOR TO STRATEGY AND THE P	THE TRANSITION MAY BE ON THE TRANSITION MAY BE ON THE TRANSITION MAY BE OF THE TRANSITION MAY BE	GRADUAL. VERY DIFFICULT	THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-S GROUND WATER: ENCOUNTERED PRIOR TO BACKFILL X CONTRACTOR: DEPRATOR MAKEMODEL MAKEMODEL			THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSIT GROUND WATER ENCOUNTERED. PRIOR TO BACKFILL EXCAVATION EFFORT: E EASY M - MEDIUM D - DIFF CONTRACTOR: OPERATOR: MAKEMODEL REACH:			of the same	SEC	BORING	PROJECT
Client Provided Washington County John Deere/310 SL ECS REP. DATE: UNITS Cave-in Depth: Groundwater Enco	countered Groundwater P	2 Prior to Backfill:	Client Provided Washington County John Deere/310 SL ECS REP: DATE: UNITS: Cave-in Depth: NB 10/19/18 Feet	Groundwater Encountered Groundwater Prior to Backfill:	EC	Client Provided Washington County John Deere/310 St. REP: UNITS Cave-in Depth: Groundwater End NB 10/19/18 Feet	countered Groundwater Pr	2 Prior to Backfill:	Client Provided Washington County John Deere/310 SL ECS REP. DATE: UNITS: Cave-in Depth: Groundwater NB 10/19/18 Feet	Encountered; Groundwat	12 ster Prior, to Backfill:	Client Provided Washington County John Deere/310 SL ECS REP: DATE: UNITS: Cave-in Depth: Groundwater Encountered NB 10/19/18 Feet	Groundwater Prior to	r to Backfill:		L	OGS	3089
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													LIC	CENSE NO. 51972 EXP. DATE: 12/	11/2021	12/	8/19	

	REVISIONS									
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