

HARRIET TUBMAN LANE SEWER EXTENSION CAPITAL PROJECT NO. S-6296 CONTRACT NO. 30-4997 HOWARD COUNTY, MARYLAND

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON 05/19/2016 BY KCI TECHNOLOGIES, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/07 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL POINTS 35F1 AND 35I2. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 35F1 AND 35I2.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS REQUIRED. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- ALL EXISTING UTILITIES SHALL BE TEST PITTED / LOCATED AS NECESSARY AND IN ADVANCE OF THE PROPOSED CONSTRUCTION, IN ORDER TO PROPERLY MAKE ALL REQUIRED UTILITY CROSSINGS AND / OR CONNECTIONS. ANY DISCREPANCIES OR UTILITY CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS OR IN THE SPECIFICATIONS. LOCATIONS OF OTHER EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN NOTED SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
AT&T.....1-800-252-1133
BG&E (CONSTRUCTION SERVICES).....410-637-8713
BG&E (EMERGENCY).....410-685-0123
BUREAU OF UTILITIES (DPW).....410-313-4900
COLONIAL PIPELINE CO.....410-795-1390
MISS UTILITY.....1-800-257-7777
STATE HIGHWAY ADMINISTRATION.....410-531-5533
VERIZON.....1-800-743-0033 / 410-224-9210
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LINES, GRADES AND ELEVATIONS, AND CUT SHEETS SHALL BE PREPARED BASED ON THE LINES AND GRADES SHOWN ON THE CONTRACT DRAWINGS.
- SPOIL FROM TRENCHING OPERATIONS SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- THE CONTRACTOR SHALL USE THE AREA DESIGNATED ON THE PLANS AS THE STAGING / STORAGE AREA. THE WORK SHALL BE CONDUCTED UNDER STRICT ADHERENCE TO SECTION 308 - EROSION AND SEDIMENT CONTROL OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV. PRECONSTRUCTION CONTOURS SHALL BE RESTORED ONCE THE UTILITY HAS BEEN INSTALLED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND REPLACING THE EXISTING GUARDRAIL THAT IS DAMAGED OR REMOVED DURING CONSTRUCTION.

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SEWER PLAN & PROFILE
3	EROSION & SEDIMENT CONTROL PLAN AND DETAILS
4	EROSION & SEDIMENT CONTROL NOTES
5	TRAFFIC CONTROL PLAN

BILL OF MATERIALS

ITEM	UNIT	ESTIMATE	AS-BUILT	MANUFACTURER
8" PVC SEWER	L.F.	366	366	NORTH AMERICAN
48" (4' DIA.) PRECAST MANHOLE	EA.	3	3	ATLANTIC PRECAST
48" (4' DIA.) MANHOLE RISER > 6'	V.F.	10	10	ATLANTIC PRECAST
8" PVC SHC	L.F.	19	19	NORTH AMERICAN
8" PVC CLEANOUT	V.F.	7	7	NORTH AMERICAN

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED

CHECKBOX

AS-BUILT DATE: 8/31/2017

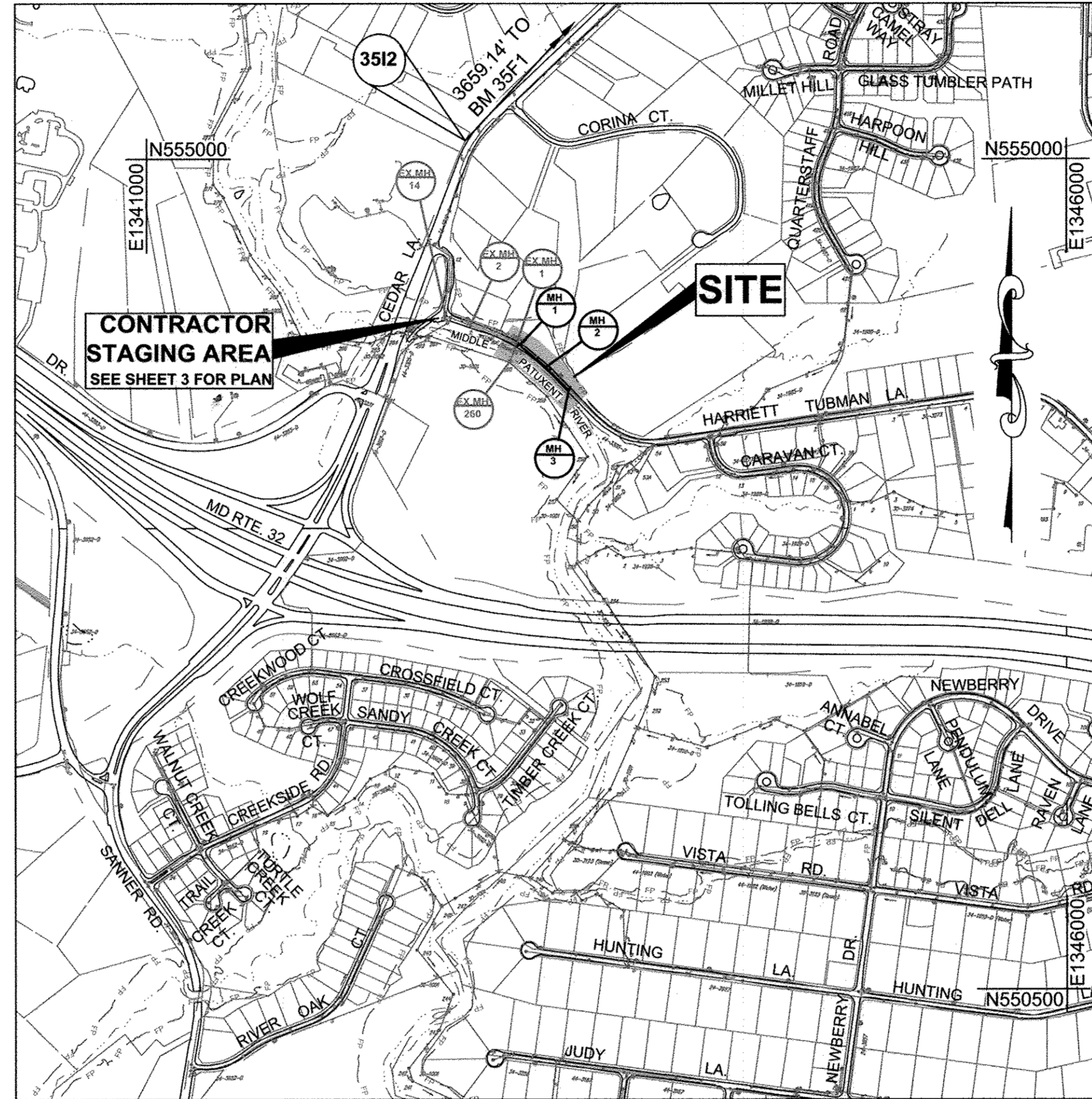
SURVEY AND DRAFTING DIVISION

RESTORATION SCHEDULE

LOCATION	DISTANCE	TYPE
HARRIET TUBMAN LANE	415'	MACADAM
	437'	

LEGEND

EXISTING	PROPOSED
DECIDUOUS TREE	SEWER MAIN
CONIFEROUS TREE	SEWER MANHOLE
EXISTING UTILITY POLE	SILT FENCE
EXISTING FIRE HYDRANT	LIMIT OF DISTURBANCE
EXISTING VALVE	LIMIT OF DISTURBANCE AND SILT FENCE
EXISTING WATER MAIN	AT GRADE INLET PROTECTION
EXISTING SEWER MAIN	SOIL BORING
EXISTING STORM DRAIN	
EXISTING OVERHEAD WIRE	
EXISTING SEWER EASEMENT	
PROPERTY BOUNDARY	
MAJOR CONTOUR	
MINOR CONTOUR	
WETLAND LIMITS	
WETLAND BUFFER	
100 YR. FLOODPLAIN	
GUARD RAIL	
TRAVERSE POINT	



VICINITY MAP

SCALE: 1" = 600'

TYPE OF BUILDING:	RESIDENTIAL/COMMERCIAL
NUMBER OF PARCELS:	1
NUMBER OF SEWER HOUSE CONNECTIONS:	1
NUMBER OF WATER HOUSE CONNECTIONS:	NA
DRAINAGE AREA:	MIDDLE PATUXENT

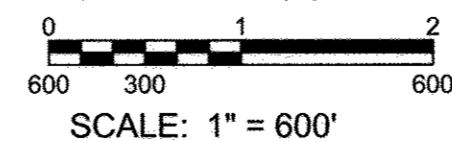
CONTROL NOTE

THE HORIZONTAL AND VERTICAL DATUM SHOWN HEREON ARE BASED ON GPS OBSERVATIONS FROM HOWARD COUNTY GEODETIC SURVEY CONTROL POINTS.

NAD83/91(HORIZONTAL)
NAVD 88 (VERTICAL)

35F1	N 557787.367	35I2	N 555100.776
	E 1345217.309		E 1342733.049
	ELEV. 400.475		ELEV. 329.782

GRAPHIC SCALE



SCALE: 1" = 600'

SANITARY SEWER MAIN NOTES

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER. STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- DISTANCES SHOWN FOR THE SANITARY SEWER MANHOLES AND STRUCTURES IN PROFILE ARE ALONG THE CENTERLINE OF THE PIPE FROM CENTER OF MANHOLE OR STRUCTURE TO THE CENTER OF MANHOLE OR STRUCTURE. ESTIMATED QUANTITIES SHOWN ON THE BILL OF MATERIALS EXCLUDE DISTANCES WITHIN MANHOLE INTERIORS.

OWNER'S/DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO THE BEGINNING OF THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

Silvan Chai 6/12/2017
OWNERS / DEVELOPERS SIGNATURE DATE
PRINTED NAME & TITLE
Silvan Chai Project Manager

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Guihua Wang 8/09/2017
DESIGNERS SIGNATURE DATE
PRINTED NAME
MD REGISTRATION NO. 31363
(P.E./R.L.S. OR R.L.A. (CIRCLE ONE))

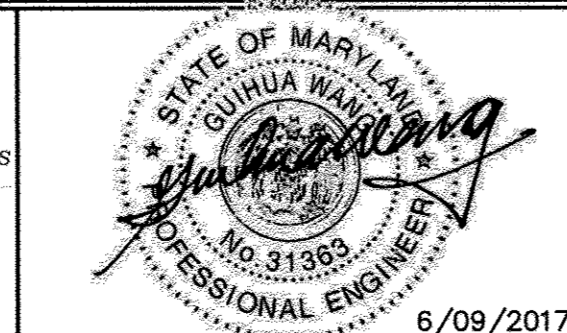
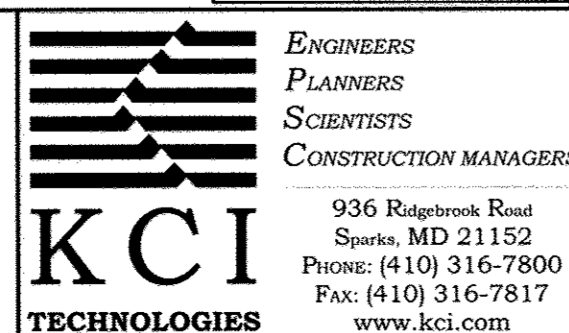
HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

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

Guihua Wang 6/9/17
HOWARD SOIL CONSERVATION DISTRICT DATE

AS-BUILT
DATE 8-31-2017

PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 31363, Expiration Date 1/16/2018.



DES: KJ
DRN: KJ
CHK: GW
DATE: JUNE, 2017
BY NO. AS-BUILT
REVISION
DATE: 8-31-17

TITLE SHEET

HARRIET TUBMAN LANE SEWER EXTENSION

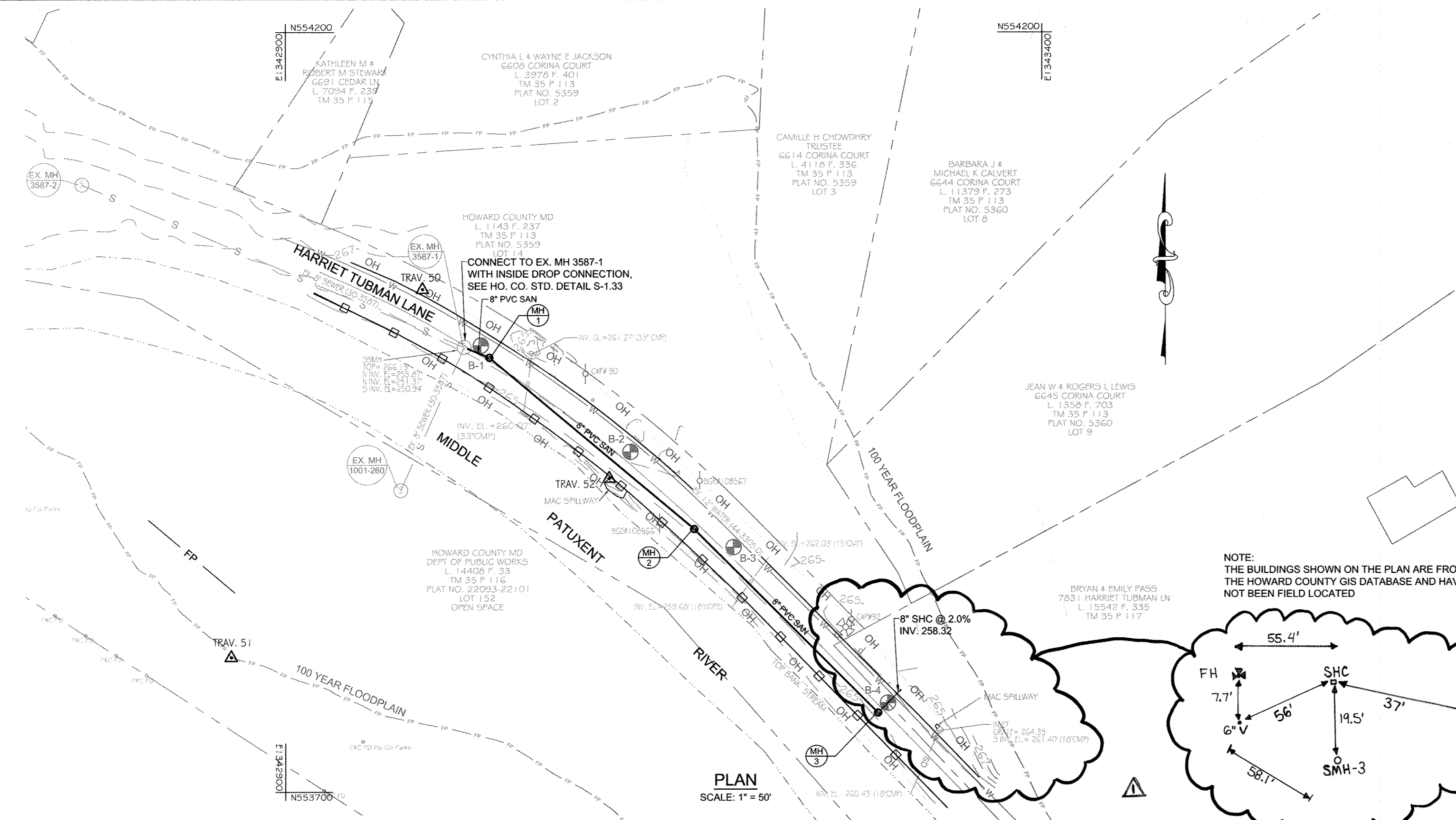
CAPITAL PROJECT No. S-6296
CONTRACT No. 30-4997

ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

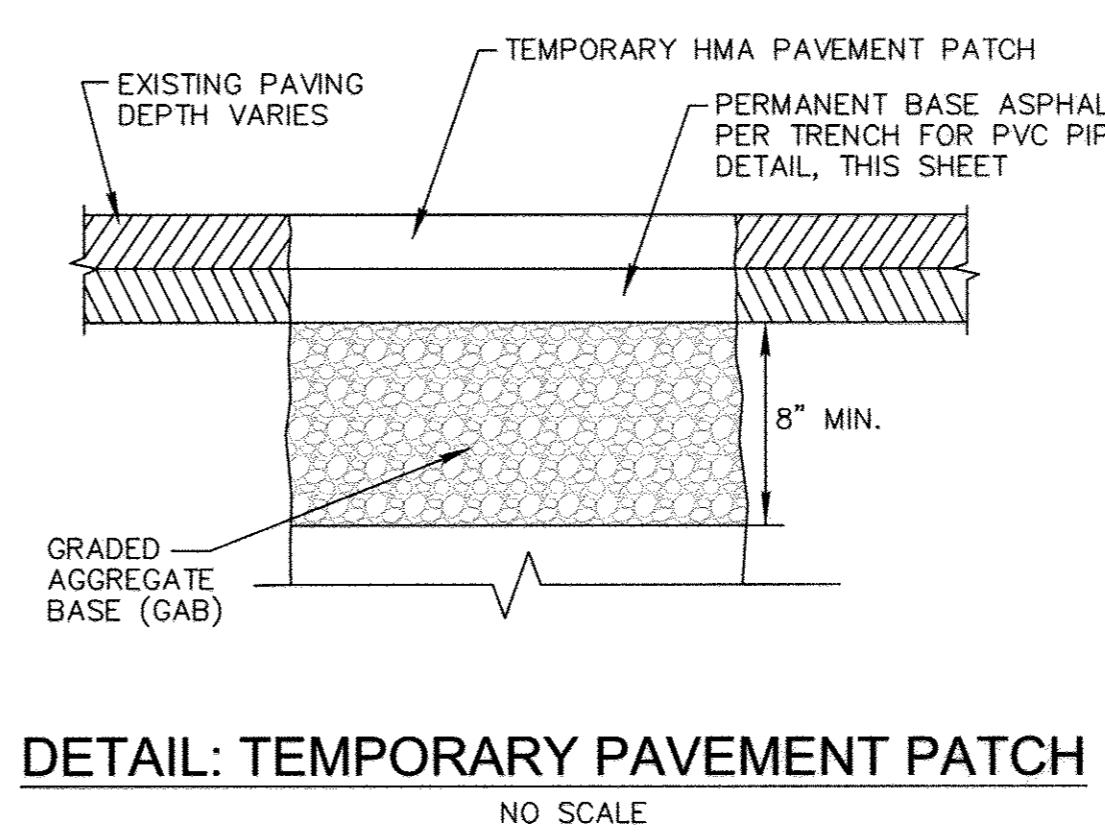
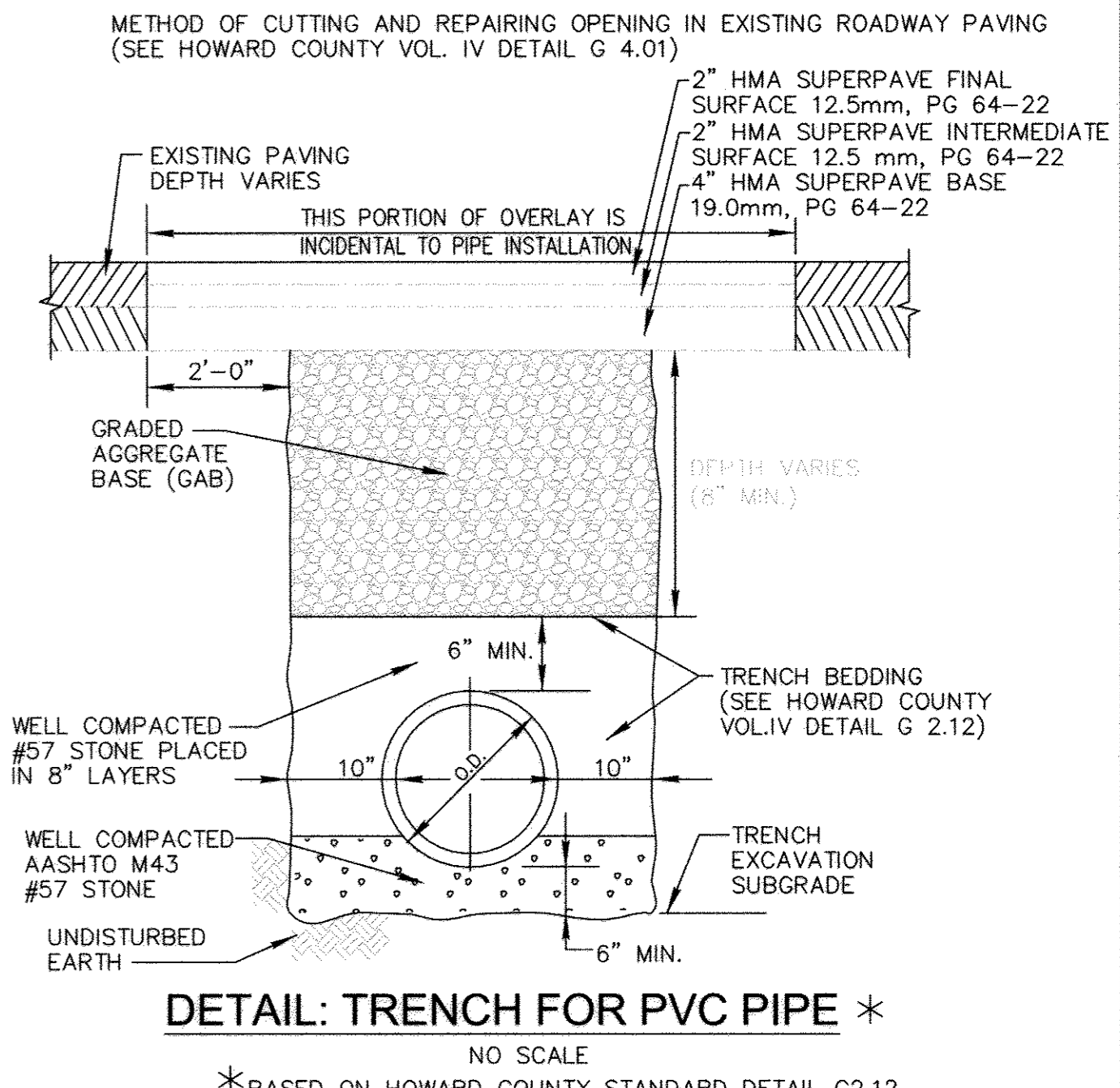
SCALE
AS SHOWN
SHEET
1 of 5

KCI TECHNOLOGIES PROJECT No.: 13122677.41

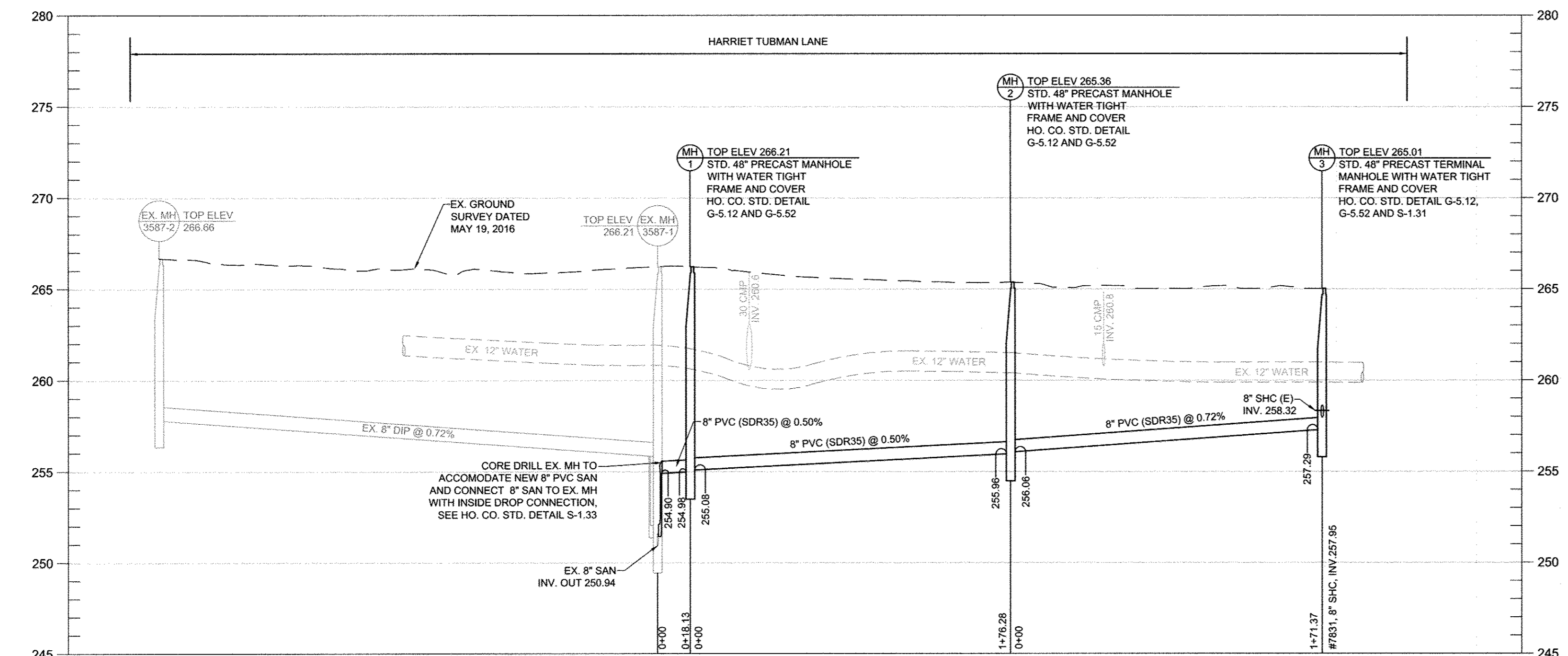
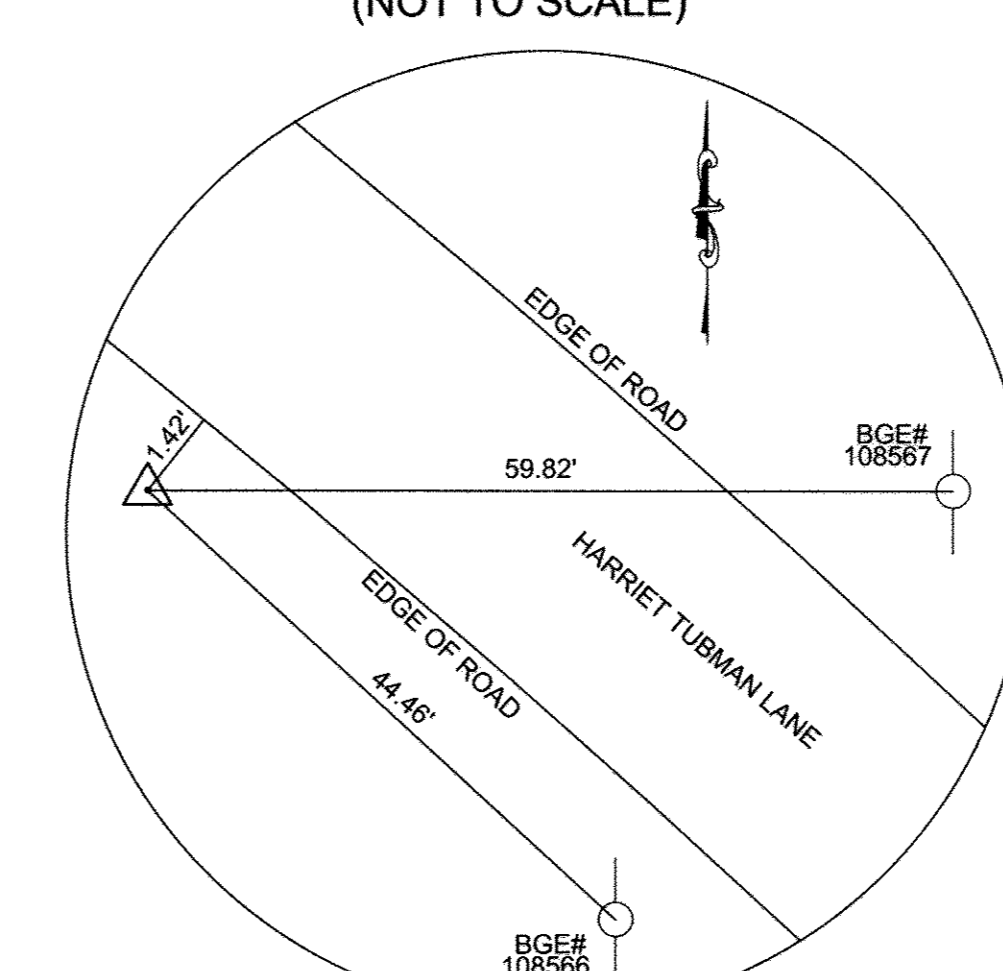
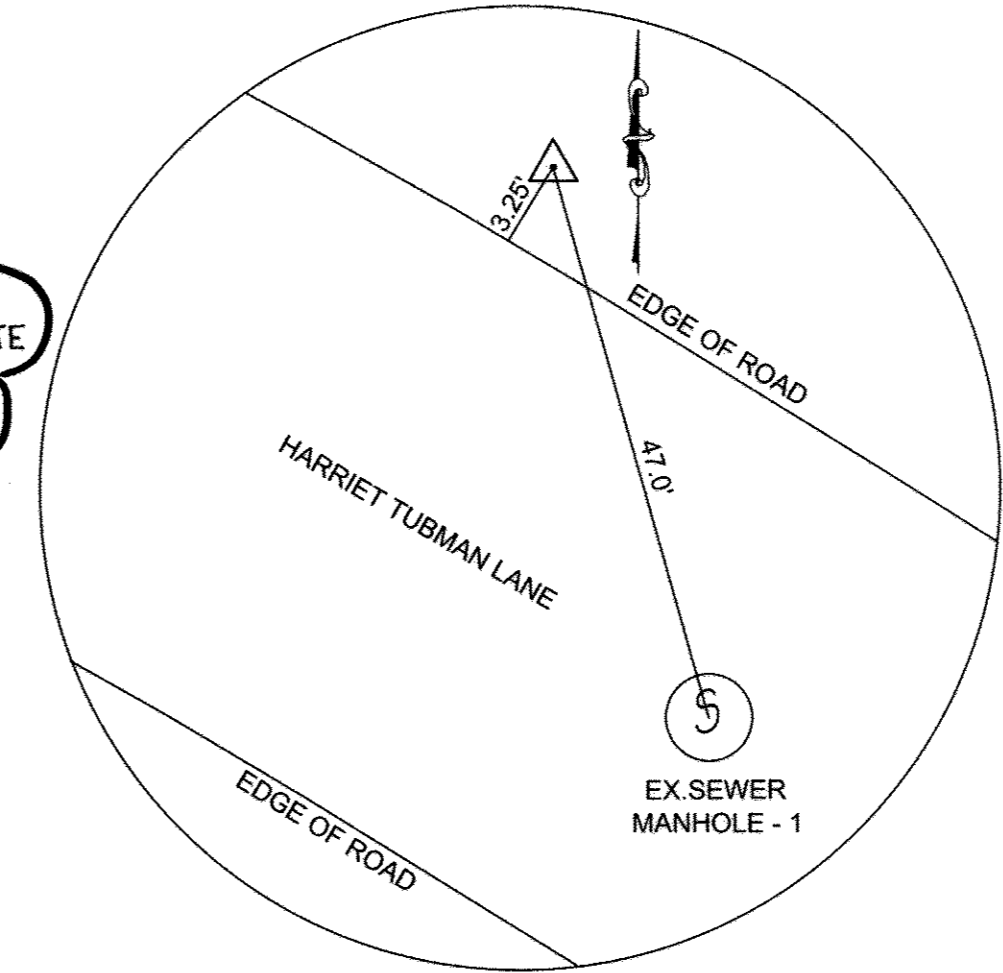
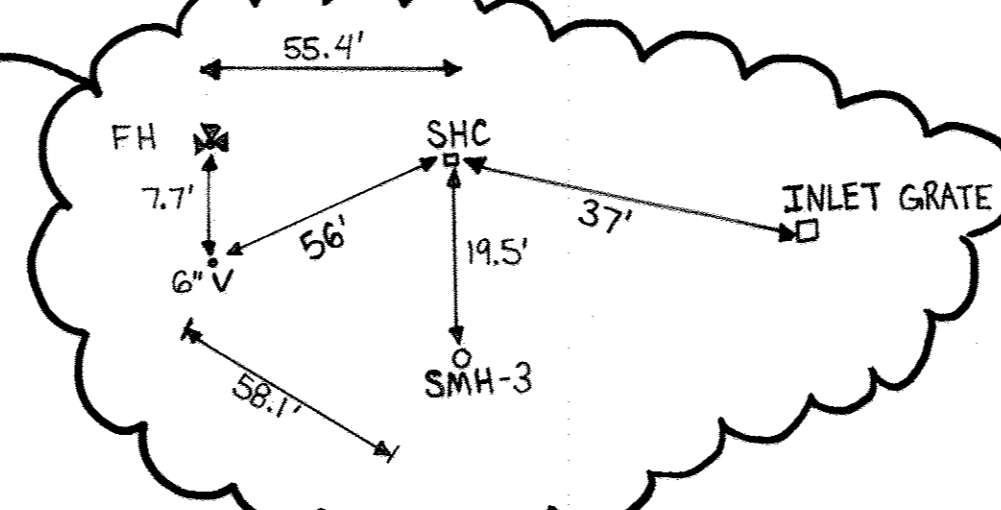
Jun 09, 2017 - 10:37am User: Kevin Johnson
 File: 2017\13122677.41\Drawings\C-002_Plan_Profile.dwg



MANHOLE STAKE-OUT SCHEDULE		
DESCRIPTION	NORTHING	EASTING
MH-1	553985.94	1343034.69
MH-2	553873.04	1343170.08
MH-3	553752.14	1343291.52
CO #7831	553766.70	1343306.23



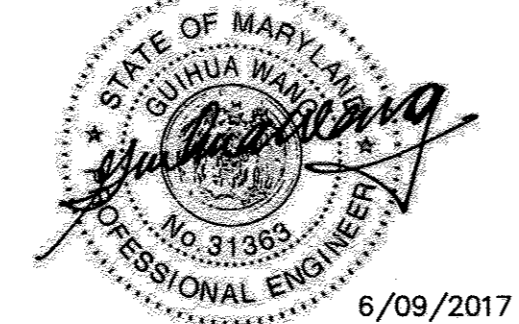
NOTE: THE BUILDINGS SHOWN ON THE PLAN ARE FROM THE HOWARD COUNTY GIS DATABASE AND HAVE NOT BEEN FIELD LOCATED



PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 31363, Expiration Date 1/16/2018.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: [Signature] DATE: 6/15/17
 Chief, Bureau of Engineering: [Signature] DATE: 6/12/17
 Chief, Bureau of Utilities: [Signature] DATE: 6/12/17
 Chief, Utility Design Division: [Signature] DATE: 6/12/17

KCI TECHNOLOGIES
 936 Ridgebrook Road
 Sparks, MD 21152
 Phone: (410) 316-7800
 Fax: (410) 316-7817
 www.kci.com



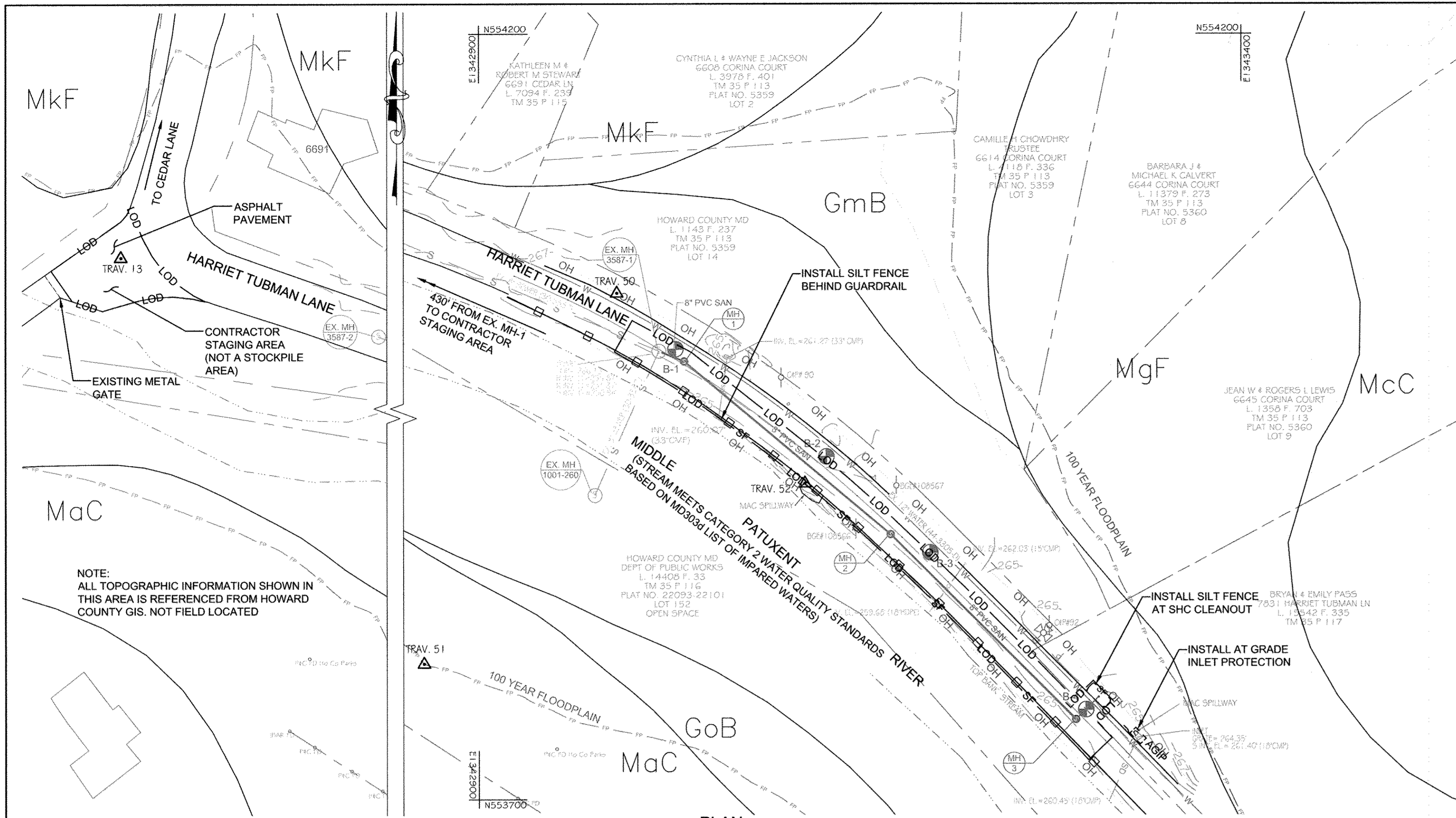
DES: KJ	DATE: JUNE, 2017
DRN: KJ	BY: KCI
CHK: GW	NO. AS-BUILT
DATE: JUNE, 2017	REVISION: 8-3H7

SEWER PLAN & PROFILE
 600' SCALE MAP NO. 35 BLOCK NO. 23

HARRIET TUBMAN LANE
 SEWER EXTENSION
 CAPITAL PROJECT No. S-6296
 CONTRACT No. 30-4997
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 SHEET: 2 OF 5

AS-BUILT
 DATE: 8-31-2017

KCI TECHNOLOGIES PROJECT No.: 13122677.41

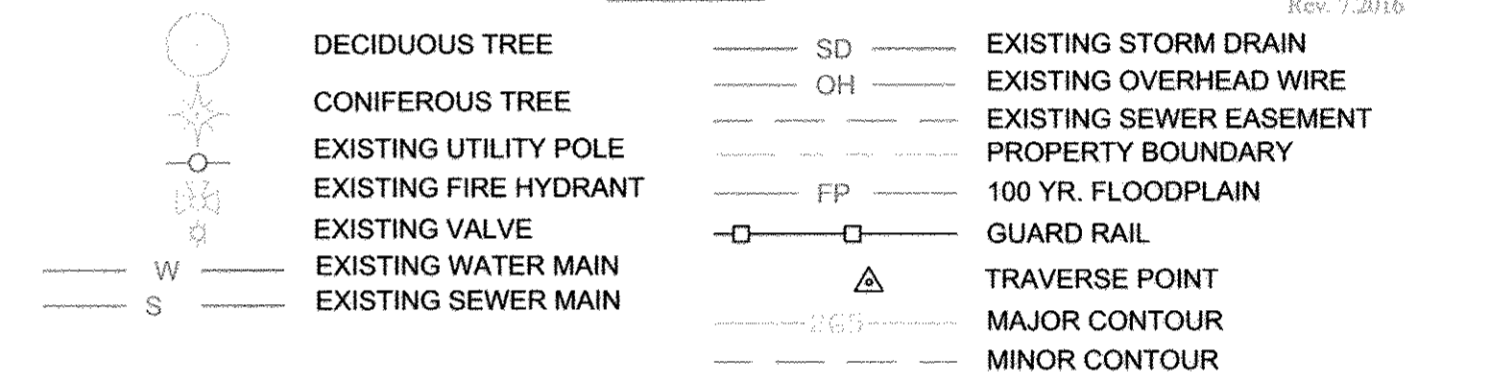


HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

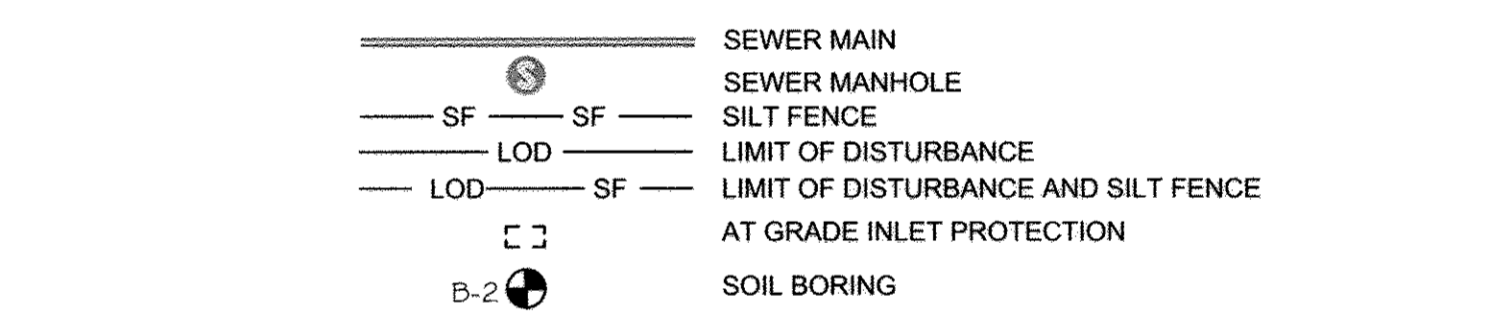
- 1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:
a. Prior to the start of earth disturbance,
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit,
d. Prior to the removal or modification of sediment control practices.
Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outcrop. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
6. Site Analysis:
Total Area of Site: 0.28 Acres
Area Disturbed: 0.05 Acres
Area to be roofed or paved: 0.046 Acres
Area to be vegetatively stabilized: 0.004 Acres
Total Cut: 330 Cu. Yds.
Total Fill: 330 Cu. Yds.
Offsite waste/borrow area location: CONTRACTOR COORDINATE SITE WITH GRADING PERMIT
7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:

- Inspection date
• Inspection type (routine, pre-storm event, during rain event)
• Name and title of inspector
• Weather information (current conditions as well as time and amount of last recorded precipitation)
• Brief description of project's status (e.g., percent complete) and/or current activities
• Evidence of sediment discharges
• Identification of plan deficiencies
• Identification of sediment controls that require maintenance
• Identification of missing or improperly installed sediment controls
• Compliance status regarding the sequence of construction and stabilization requirements
• Photographs
• Monitoring/sampling
• Maintenance and/or corrective action performed
• Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
• Use I and II March 1 - June 15
• Use III and IIIP October 1 - April 30
• Use IV March 1 - May 31
16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

LEGEND EXISTING



PROPOSED



SOIL MAPPING UNIT

Table listing soil mapping units: GMB (Glenville Silt Loam, 3 to 8 percent slopes, Kw=0.43), GOB (Glenville - Codorus Silt Loam, 0 to 8 percent slopes, Kw=0.43), MAC (Manor Loam, 8 to 15 percent slopes, Kw=0.37), MCC (Manor Loam, 15 to 25 percent slopes, very rocky, Kw=0.37), MGF (Manor-Bannertown Sandy Loams, 25 to 65 percent slopes, Kw=0.24), MKF (Manor-Brinklow Complex 25 to 65 percent slopes, very rocky, Kw=0.24).

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT.
2. LAYOUT ALIGNMENT AT SITE. (2 DAYS)
3. REQUEST PRE-CONSTRUCTION MEETING ON-SITE WITH REPRESENTATIVE OF HOWARD COUNTY DPW CONSTRUCTION INSPECTION DIVISION. (1 DAY)
4. THE CONTRACTOR SHALL INSTALL SEDIMENT CONTROL DEVICES AT THE DIRECTION OF THE HOWARD DPW CID INSPECTOR. (1 DAY)
5. EXCAVATE TRENCH TO THE GRADE SPECIFIED ON THE PROFILE. INSTALL SEWER MAIN AND BACKFILL AND STABILIZE TRENCH AND RESURFACE WITH BITUMINOUS PAVING AS APPROPRIATE (15 DAYS). TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 LENGTHS OF PIPE OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER. AT THE END OF EACH WORK DAY, ALL VEGETATED AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE TEMPORARY SEEDING SUMMARY SHOWN ON SHEET 4 OF 5 AND THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, SECTION B-4-4. AT THE END OF EACH WORKING DAY ALL DISTURBED PAVING AREAS WITHIN THE EXISTING ROAD SHALL BE REPLACED WITH PERMANENT SUBGRADE AND BASE ASPHALT, THEN TEMPORARILY PATCHED, SEE TEMPORARY PAVING DETAIL ON SHEET 2 OF 5.
6. UPON COMPLETION OF PIPE INSTALLATION AND INSPECTOR'S APPROVAL, PERMANENTLY STABILIZE ALL DISTURBED VEGETATED AREAS IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION SHOWN ON SHEET 4 OF 5 AND THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, SECTION B-4-5. (1 DAY)
7. CLEAN UP CONSTRUCTION SITE. (1 DAY)
8. REMOVE SEDIMENT CONTROL DEVICES AFTER PERMISSION IS GRANTED BY THE HOWARD SCD INSPECTOR. (1 DAY)

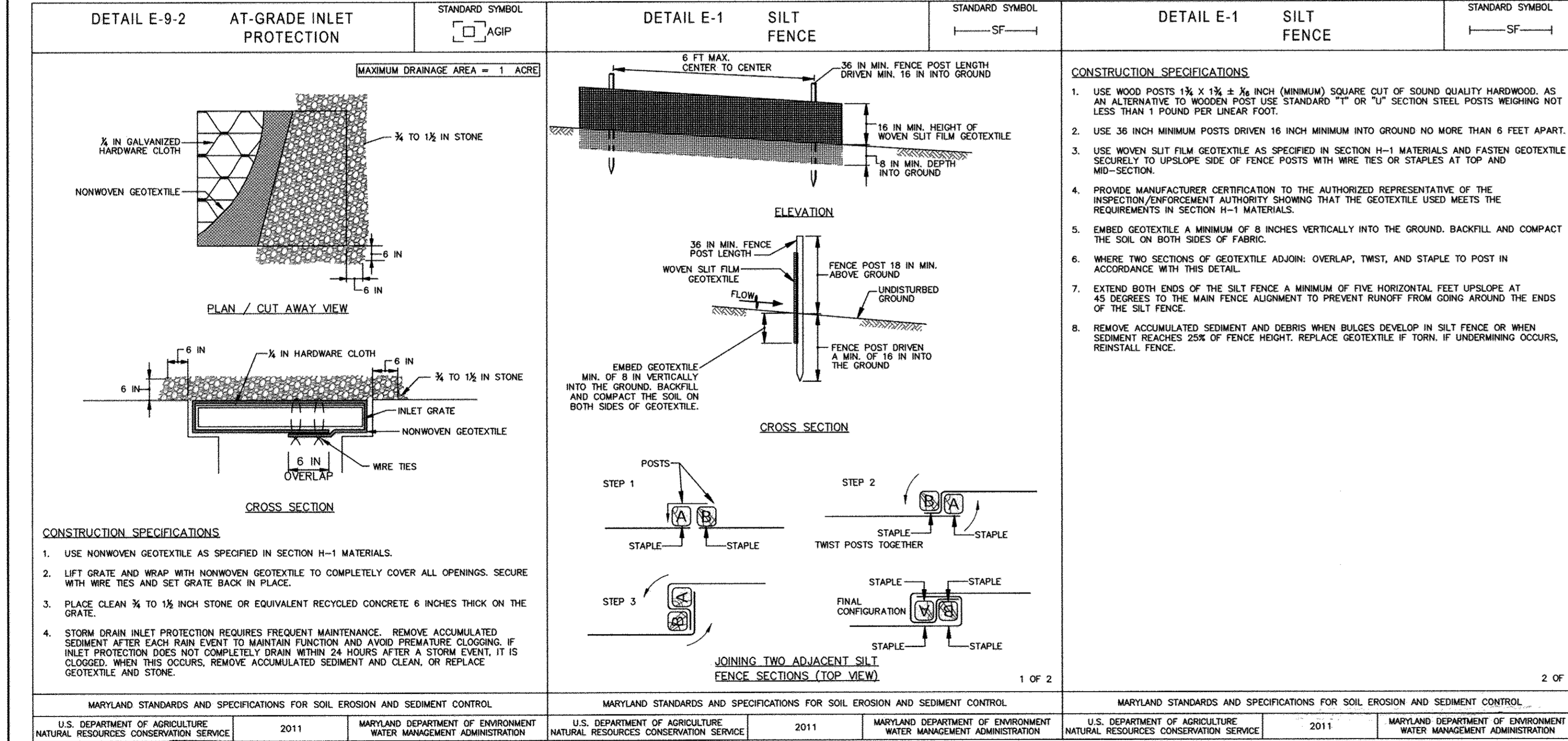
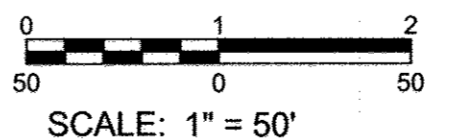


Table of Maryland Standards and Specifications for Soil Erosion and Sediment Control, listing standards for U.S. Department of Agriculture and Maryland Department of Environment.

AS-BUILT DATE 8-31-2017

PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 31363, Expiration Date 1/16/2018.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Includes signatures and dates for Director of Public Works, Chief Bureau of Engineering, and Chief Bureau of Utilities.

KCI TECHNOLOGIES logo and contact information: 936 Ridgeway Road, Sparks, MD 21152, Phone: (410) 316-7800, Fax: (410) 316-7817, www.kci.com

Professional Engineer seal for G. J. W. No. 31363, State of Maryland, dated 6/09/2017.

Table with columns for DES, DRN, CHK, DATE, BY, NO., REVISION.

EROSION & SEDIMENT CONTROL PLAN AND DETAILS. Includes scale map information: 600' SCALE MAP NO. 35, BLOCK NO. 23.

HARRIET TUBMAN LANE SEWER EXTENSION. CAPITAL PROJECT No. S-6296, CONTRACT No. 30-4997. ELECTION DISTRICT NO. 5, HOWARD COUNTY, MARYLAND. SCALE AS SHOWN, SHEET 3 OF 5.

Jan 09, 2017 10:38am User: kevin.johnson File: 13122677_41 Drawings - 003 ESC.dwg

B-4.2 STANDARDS AND SPECIFICATIONS

FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

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

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

- A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

- B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation...

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF UTILITIES

- 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

B-4.3 STANDARDS AND SPECIFICATIONS

FOR

SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

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

Conditions Where Practice Applies

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

Criteria

- A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project...

- B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.

- 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.
3. 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:

B-4.4 STANDARDS AND SPECIFICATIONS

FOR

TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

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.

Criteria

- 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 plan.

Table with 5 columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for ANNUAL RYEGRASS, BARLEY, OATS, FOXTAIL MILLET.

NOTES:
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.
2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

B-4.5 STANDARDS AND SPECIFICATIONS

FOR

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

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.

Criteria

- A. Seed Mixtures
1. 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 Seeding Summary. The Summary is to be placed on the plan.

- 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 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

Notes:
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

- 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 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

Table with 5 columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Includes rows for TALL FESCUE, PERENNIAL RYEGRASS, WHITE CLOVER.

- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
1. 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 3/4 inch, plus or minus 1/8 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.

AS-BUILT
DATE 8-31-2017

PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 31363, Expiration Date 1/16/2018.

KCI TECHNOLOGIES PROJECT NO.: 13122677.41

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF UTILITIES

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
KCI TECHNOLOGIES

STATE OF MARYLAND
PROFESSIONAL ENGINEER
6/09/2017

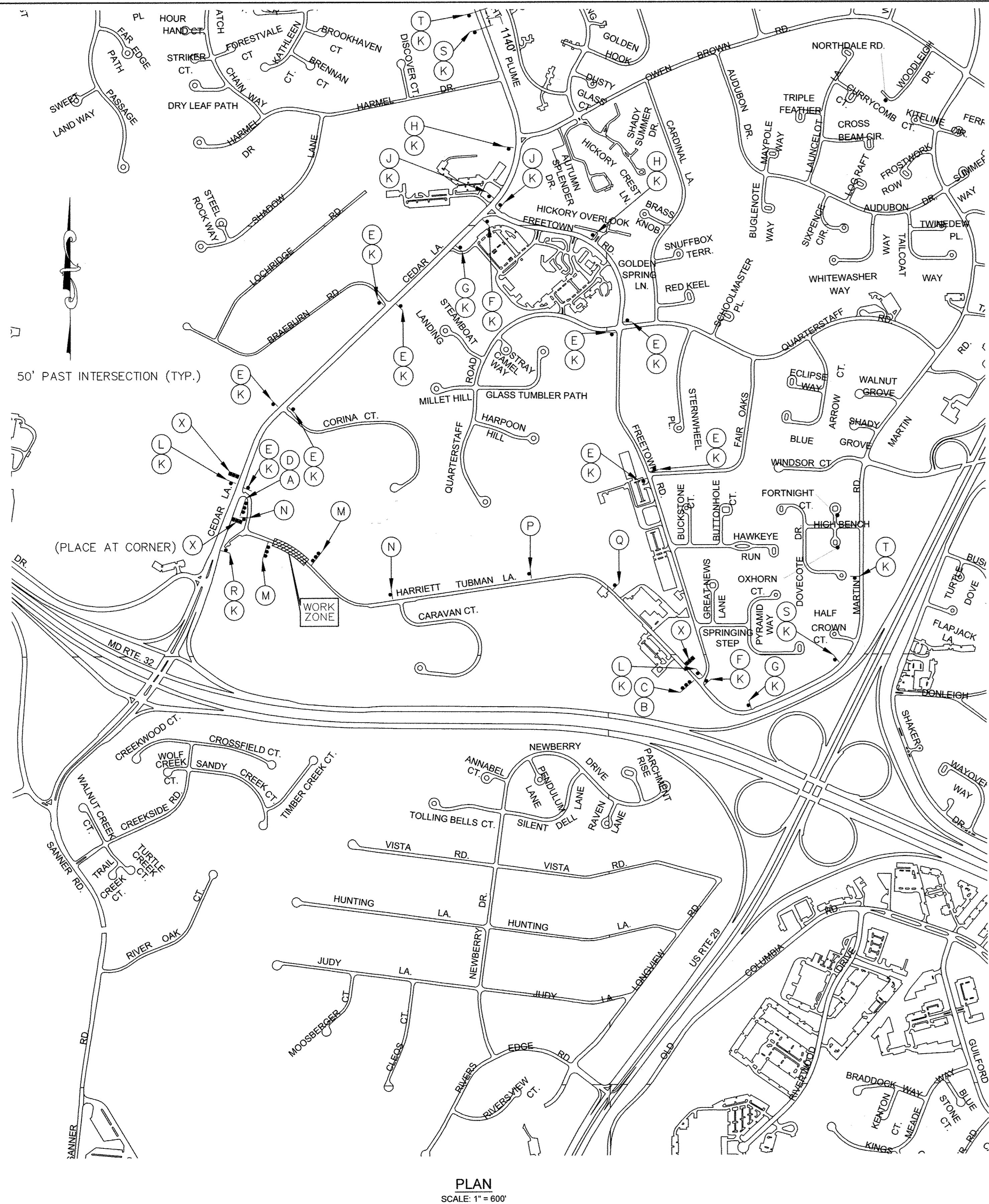
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CHK: GW
DATE: JUNE, 2017

EROSION & SEDIMENT CONTROL NOTES
600' SCALE MAP NO. 35 BLOCK NO. 23

HARRIET TUBMAN LANE SEWER EXTENSION
CAPITAL PROJECT No. S-6296
CONTRACT No. 30-4997
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 4 of 5

KCI TECHNOLOGIES PROJECT NO.: 13122677.41



PLAN
SCALE: 1" = 600'

AS-BUILT
DATE 8-31-2017

PROFESSIONAL CERTIFICATION. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 16303, Expiration Date 12/21/2018.

SEQUENCE OF CONSTRUCTION

1. CONSTRUCT SEWER MAIN EXTENSION FROM EX-MH-1 TO MH-3 BY CLOSING HARRIET TUBMAN LANE AND DETOURING TRAFFIC AS SHOWN.

TRAFFIC CONTROL NOTES

1. ALL STANDARD REGULATORY AND WARNING SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
2. ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED IN ACCORDANCE TO MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, MSHA BOOK OF STANDARDS, AND NCHRP 350. ALL BARRICADES MUST MEET AND HAVE BEEN TESTED UNDER THE NCHRP 350 CRASH CRITERIA.
3. ALL TEMPORARY SIGNS SHOWN ON THIS PLAN SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES (MINIMUM 200' SPACING).
4. ANY CORRECTIONS, MODIFICATIONS, OR ADDITIONS TO THIS PLAN MUST BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TRAFFIC DIVISION.
5. MISS UTILITY MUST BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.
6. SIGN INSTALLATION SHALL NOT LAST ANY LONGER THAN 15 MINUTES PER LOCATION. IF LONGER THAN 15 MINUTES APPROPRIATE TRAFFIC CONTROL AND PERMITS MUST BE USED.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES. AT ANYTIME THE CONTRACTOR DOES NOT MAKE NECESSARY REPAIRS WITHIN 24 HOURS OF NOTIFICATION, APPROPRIATE WORK TIME REDUCTION AND/OR FINES MAY BE APPLIED.
8. THE HOWARD COUNTY TRAFFIC ENGINEER SHALL DETERMINE EXACT PLACEMENT OF THE TYPE III BARRICADES.
9. ALL DRIVEWAY ENTRANCES MUST BE MAINTAINED AT ALL TIMES.
10. THE DAILY TRENCHING OPERATION SHALL NOT EXTEND MORE THAN 30 FEET IN ADVANCE OF THE PIPE LAYING OPERATION. THE ROADWAY SHALL BE OPENED TO TWO FULL LANES AT THE END OF EACH WORK DAY.
11. IT IS ESTIMATED THAT THE ROAD CLOSURE WILL BE IN EFFECT FOR FOURTEEN (14) DAYS.
12. VARIABLE MESSAGE SIGNS "X" TO BE INSTALLED 14 DAYS PRIOR TO APPROVAL DAY OF CLOSURE.
13. ALL SIGN LOCATIONS SHALL BE MARKED AND/OR APPROVED BY HOWARD COUNTY TRAFFIC (410-313-2430) PRIOR TO THE INSTALLATION OF ANY SIGNS.
14. ALL FLAGGERS SHALL BE CERTIFIED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION.
15. ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL THE ROAD IS CLOSED.
16. ROADWAY CLOSURE NOTIFICATION:
THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AT LEAST 4 WEEKS IN ADVANCE:
HOWARD COUNTY DPW - TRAFFIC DIVISION-410-313-2430
HOWARD COUNTY PUBLIC SCHOOLS/TRANSPORTATION DIVISION-410-313-6728 (IF DURING SCHOOL TIMES)
HOWARD COUNTY TRANSIT SERVICES-240-581-5800
HOWARD COUNTY BUREAU OF ENVIRONMENTAL SERVICES-410-313-6470
HOWARD COUNTY EMERGENCY COMMUNICATIONS/911 CENTER-410-313-2300

TRAFFIC SIGNS USAGE TABLE

	SIGN	SIZE	QUANTITY	TOTAL S.F.	REMARKS		SIGN	SIZE	QUANTITY	TOTAL S.F.	REMARKS
A	DETOUR	M4-10L 48"x18" (6 S.F.) BK/O	1	6.0	MOUNT ON TYPE III BARRICADE	P	ROAD CLOSED 1500 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	1	16.0	
B	DETOUR	M4-10R 48"x18" (6 S.F.) BK/O	1	6.0	MOUNT ON TYPE III BARRICADE	Q	ROAD CLOSED 1/2 MILE	W20-3(1) 48"x48" (16 S.F.) BK/O	1	16.0	
C	ROAD CLOSED 0.8 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a 60"x30" (12.5 S.F.) BK/W	1	12.5	MOUNT ON TYPE III BARRICADE	R	DETOUR 500 FT	W20-2 48"x48" (16 S.F.) BK/O	1	16.0	
D	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	R11-3a(MOD.) 60"x30" (12.5 S.F.) BK/W	1	12.5	MOUNT ON TYPE III BARRICADE	S	DETOUR 1500 FT	W20-2 48"x48" (16 S.F.) BK/O	2	32.0	
E	DETOUR	M4-9(MOD.) 30"x24" (5 S.F.) BK/O	9	45.0		T	DETOUR 1/2 MILE	W20-2 48"x48" (16 S.F.) BK/O	2	32.0	
F	DETOUR	M4-9R 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	V	ONE LANE ROAD 1500 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0	SIGN NOT SHOWN ON PLAN TO BE USED DURING FLAGGING OPERATION
G	DETOUR	M4-9R(MOD.) 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 200' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	W		W20-7a 48"x48" (16 S.F.) BK/O	2	32.0	SIGN NOT SHOWN ON PLAN TO BE USED DURING FLAGGING OPERATION
H	DETOUR	M4-9L(MOD.) 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 200' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	X	VARIABLE MESSAGE SIGN	V.M.S.	3		INSTALL 14 DAYS PRIOR TO APPROVAL DAY FOR CLOSURE. SIGN TO DISPLAY THE FOLLOWING MESSAGES: 10 DAYS BEFORE CLOSURE: HARRIET TUBMAN LANE TO BE CLOSED XX-XX FOR 3 DAYS STARTING WITH THE CLOSURE: HARRIET TUBMAN LANE CLOSED FOLLOW DETOUR
J	DETOUR	M4-9L 30"x24" (5 S.F.) BK/O	2	10.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY						
K	HARRIET TUBMAN LA	M4-9(1) 30"x18" (3.75 S.F.) BK/W	24	90.0	MIN. 6 INCH LETTER SIZE. SIGN SHALL BE PLACED ABOVE ALL M4-9 SERIES SIGNS. WIDTH MAY NOT EXCEED 30 INCHES.						
L	END DETOUR	M4-8a(1) 36"x24" (6 S.F.) BK/O	2	12.0							
M	ROAD CLOSED	R11-2 48"x30" (10 S.F.) BK/W	2	20.0	MOUNT ON TYPE III BARRICADE (USE TWO TYPE III PER DIRECTION)						
N	ROAD CLOSED 800 FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0							

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James K. Glick 6/15/17
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Suttler 6/15/17
CHIEF, BUREAU OF ENGINEERING DATE

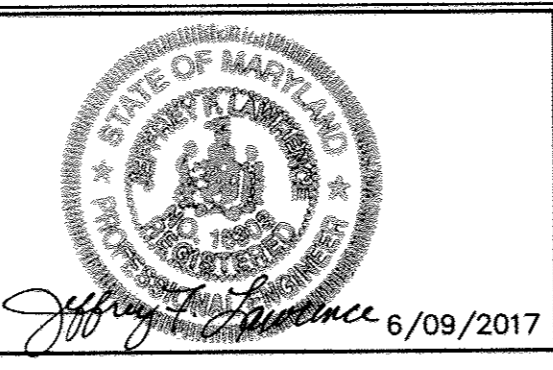
Chris Slings 6/15/17
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 6/15/17
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

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Fax: (410) 316-7817
www.kci.com



DES: AMH	
DRN: JN	
CHK: JFL	
DATE: JUNE, 2017	BY NO.
REVISION	DATE

TRAFFIC CONTROL PLAN

600' SCALE MAP NO. 35 BLOCK NO. 23

**HARRIET TUBMAN LANE
SEWER EXTENSION**

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SCALE
AS SHOWN

SHEET
5 OF 5