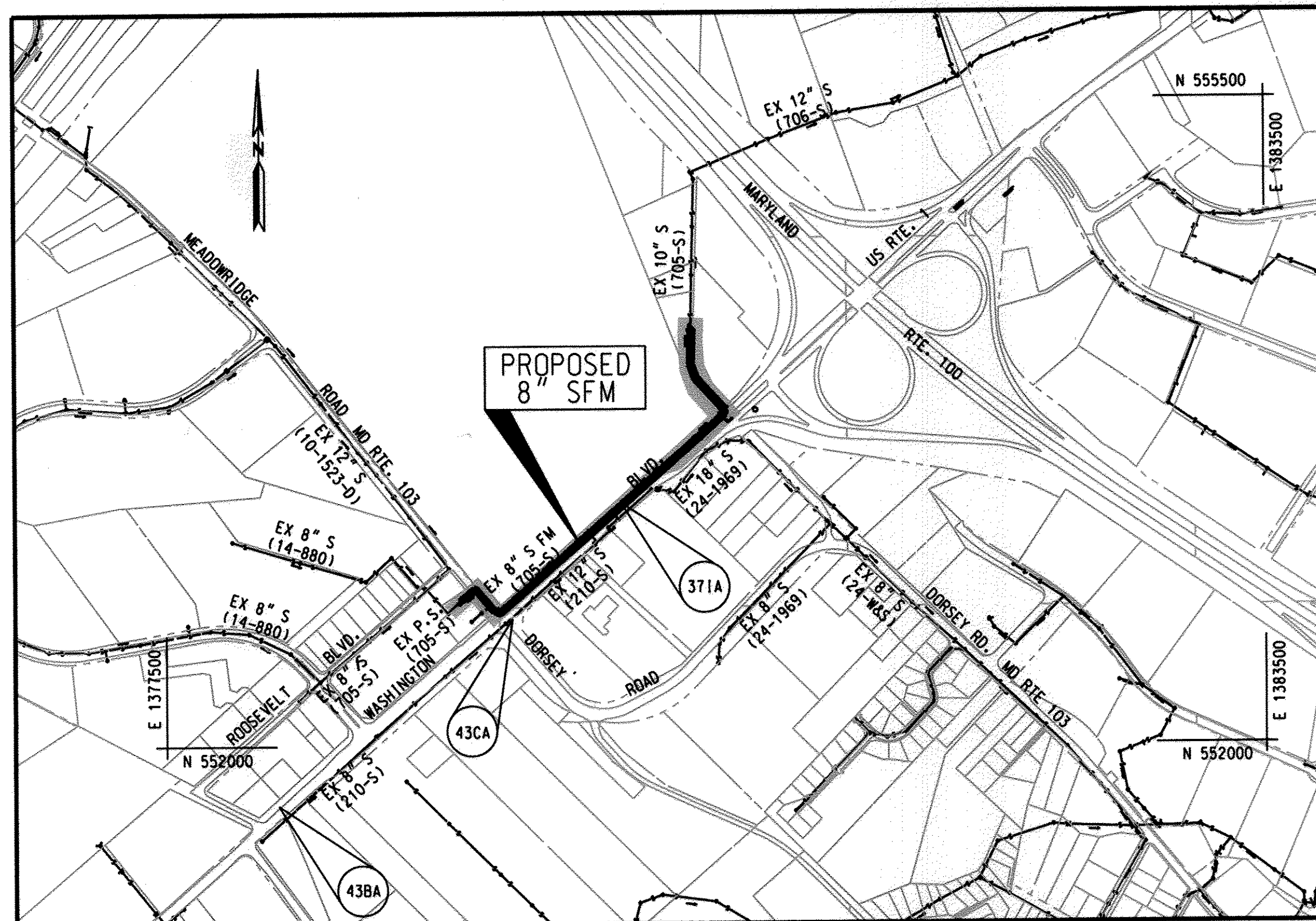
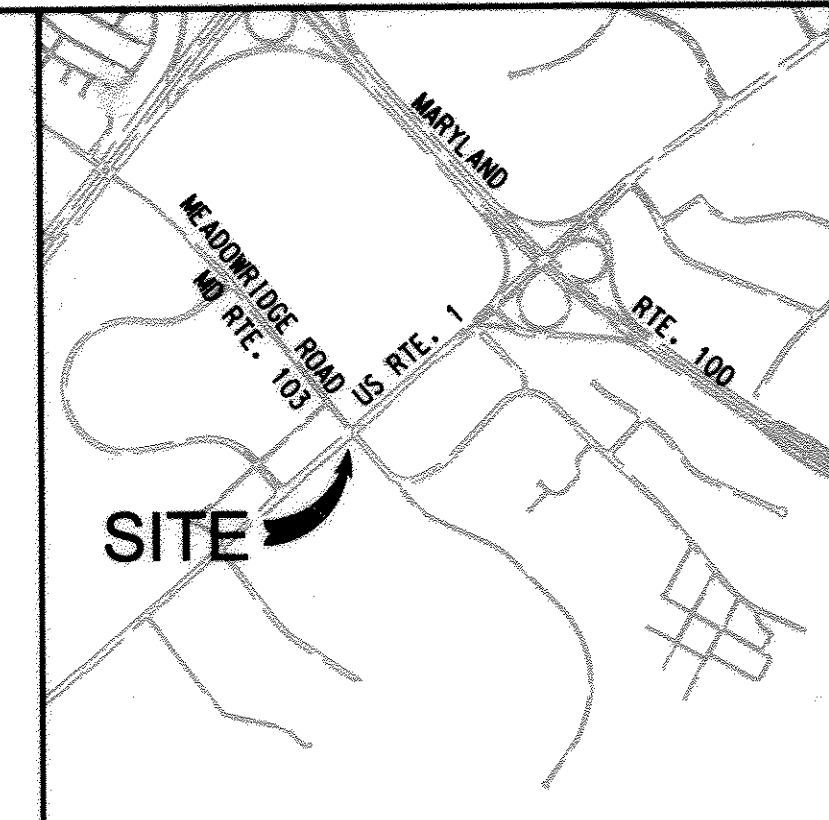


GENERAL NOTES

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON FEB 2013 BY KCI TECHNOLOGIES, INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/ADJUSTED 2007 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 438A, NO. 371A AND NO. 43CA.
ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE REBAR & CAPS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- UNLESS OTHERWISE SHOWN, SPECIFIED, OR DIRECTED, CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL UTILITY 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 SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR 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.
- WHEN TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE 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
BGE (CONSTRUCTION SERVICES).....410-637-8713
BGE (UNDERGROUND DAMAGE CONTROL).....410-787-9068
BGE (EMERGENCY).....410-685-0123
BUREAU OF UTILITIES.....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
MCI WORLDWIDE.....1-800-624-9675
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE TEMPORARY CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS WITHIN THE HOWARD COUNTY SEWER EASEMENT. 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 OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS SECTION 18.1141(A) OF HOWARD COUNTY CODE.
- THE CONTRACTOR SHALL PROVIDE SURVEY CONSTRUCTION STAKEOUT FOR ALL NECESSARY LINES, GRADES AND ELEVATIONS OF THE PROPOSED FACILITIES.
- EXISTING STORM DRAINS DISTURBED BY THE CONSTRUCTION SHALL BE REPLACED IN KIND AT THE SAME LINE AND GRADE AS THE EXISTING STORM DRAINS. STORM DRAIN REPLACEMENT SHALL BE INCIDENTAL TO THE WORK OF THE CONTRACT.
- ANY TREES OUTSIDE OF EXISTING EASEMENTS, DISTURBED BY CONSTRUCTION SHALL BE REPLACED IN KIND (3" CALIPER MINIMUM).
- THE CONTRACTOR MUST FOLLOW ALL CONDITIONS AND REQUIREMENTS AS SET FORTH IN THE REQUIRED PERMITS FOR THIS PROJECT.
- THE CONTRACTOR SHALL NOT ENTER UPON PUBLIC OR PRIVATE PROPERTY (OUTSIDE OF THE RIGHT-OF-WAY OR CONSTRUCTION STRIP) FOR ANY PURPOSE WITHOUT OBTAINING PERMISSION AND IT SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY, TREES, MONUMENTS, SIGNS AND MARKERS AND FENCES THEREON, AND SHALL USE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE OR INJURY THEREON.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN IT'S MANNER OR METHOD OF EXECUTING SAID WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY SHALL NOT BE RELEASED UNTIL THE WORK SHALL HAVE BEEN COMPLETED AND ACCEPTED.

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT No. S-6279
CONTRACT No. 10-4844



DRAINAGE AREA: MIDDLE PATUXENT

LOCATION MAP
SCALE: 1" = 600'

HOWARD COUNTY GEODETIC SURVEY CONTROL

THE HORIZONTAL AND VERTICAL DATUM BASED ON NAD 83/ADJUSTED 2007 (HORIZONTAL) NAVD 88 (VERTICAL)
438A N 551876.40 E 1378108.39 ELEV. 209.43
371A N 553315.18 E 1379982.09 ELEV. 195.01
43CA N 552686.12 E 1379388.37 ELEV. 191.59

LEGEND

PROPOSED FEATURES	EXISTING FEATURES
SEWER HOUSE CONNECTION	DECIDUOUS TREE
CONTINUITY TEST STATION	CONIFEROUS TREE
TEST PIT LOCATION	FIRE HYDRANT
CORROSION TEST STATION	WATER VALVE
LIMIT OF DISTURBANCE	WATER MAIN
SEWER MAIN	GAS MAIN
SEWER MANHOLE	UNDERGROUND ELECTRIC
BYPASS PUMPING PIPE	SEWER MAIN
TEMPORARY CONSTRUCTION EASEMENT	UNDERGROUND CABLE TV
PROPOSED SEWER EASEMENT	MANHOLE
	WATER METER
	SANITARY CLEANOUT
	TELEPHONE
	STORM DRAIN
	FIBER OPTIC
	GUARD RAIL
	TREELINE
	OVERHEAD UTILITY WIRE

RESTORATION SCHEDULE

LOCATION	DISTANCE	TYPE
ACCESS ROAD	97'	ASPHALT
MEADOWRIDGE RD.	193'	ASPHALT
WASHINGTON BLVD.	1634'	ASPHALT
SEWER EASEMENT	500'	SEED & MULCH*

* REFER TO PERMANENT SEEDING NOTES ON SHEET 6 OF 15

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

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

John R. Robertson / 1/21/15
HOWARD SOIL CONSERVATION DISTRICT DATE APPROVED

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. 31383, EXPIRATION DATE: 10/18/2016

PLOTTED: 08:05 AM on Friday, December 12, 2014
By: Kevin Jackson Division: P042 Water-WW Emp. #13728277
FILE: \\s01p13128277\B-C-001 TITLE.dwg

SEWER NOTES (CONTINUED)

- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF ANNA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
- PIPE TRENCHING SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS INCLUDING STANDARD DETAIL G-2.12. "PIPE TRENCH PLASTIC AND COPPER". PAVEMENT REPLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY AND SHA STANDARDS AND THE DETAILS ON SHEET 2.
- THE CONTRACTOR SHALL MILL AND OVERLAY ASPHALT FOR THE FULL LANE WIDTH FOR ANY LANE ENCRoACHED BY THE UTILITY TRENCH MORE THAN 1 FOOT, PER SHA SPECIFICATIONS. PRIOR TO EXCAVATION, CONTRACTOR SHALL NOTIFY ENGINEER IF UTILITY TRENCH WILL ENCRoACH MORE THAN ONE LANE. THE CONTRACTOR SHALL ALSO MILL AND OVERLAY 50 LINEAR FEET BEYOND THE LIMITS OF THE NEW 8-INCH FORCE MAIN.
- THE HMA MATERIALS SHALL MEET THE TYPICAL SUPERPAVE MIX SPECIFIED IN HOWARD COUNTY STANDARD DETAIL R2-02, P-5 AND SHA 64-22 FOR US RTE 1 AND MD RTE 103 BASE SURFACE AND SHA PG 76-22 FOR US ROUTE 1 FINAL SURFACE & SHA PG 64-22 FOR MD RTE 103 FINAL SURFACE.
- TEMPORARY BYPASS OPERATIONS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 960.10.
- THE CONTRACTOR SHALL ABANDON EXISTING FORCEMAIN IN PLACE UNLESS OTHERWISE INDICATED ON THE PLANS. CONTRACTOR SHALL CAP ALL CUT OR OPEN ENDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF EXISTING FORCE MAINS WHERE INDICATED TO BE REPLACED IN-KIND.

TRAFFIC NOTES

- THE WORKING HOURS FOR THIS PROJECT ARE 9:00 AM TO 3:00 PM MONDAY-FRIDAY FOR DAYTIME WORK AND 9:00 PM TO 5:00 AM SUNDAY-THURSDAY FOR NIGHTTIME WORK.
- THE CONTRACTOR SHALL COORDINATE WITH THE SHA INSPECTOR FOR THE PLACEMENT OF ALL TRAFFIC CONTROL DEVICES AND FOR THE CLOSURE OF ANY LANE OR ROADWAY WHICH MAY BE NECESSARY TO COMPLETE THE PROJECT.
- THE CONTRACTOR SHALL CONSTRUCT THE FORCE MAIN FROM STATION 0+50 TO STATION 4+00 AT NIGHT. REFER TO THE TRAFFIC CONTROL PLAN FOR THE CLOSURE OF MEADOWRIDGE ROAD

QUANTITIES

ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
MOBILIZATION	L.S.	1	1	WF WILSON & SONS
M.O.T.	L.S.	1	1	WF WILSON & SONS
8" FORCE MAIN (PVC)	L.F.	2424	2430	LB WATER
CORROSION PROTECTION SYSTEM	L.S.	1	1	PIPELINES CORROSION SPECIALTIES, INC.
PUMPING STATION REHABILITATION	L.S.	1	1	SHERWOOD LOGAN
EX. EMERGENCY CONNECTION VALVE VAULT UPGRADE	L.S.	1	1	LB WATER
BYPASS PUMPING SYSTEM	L.S.	1	1	THOMPSON PUMP

NAME OF UTILITY CONTRACTOR: WF WILSON & SONS, INC.
AS-BUILT DATE: 12-5-2016

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.....G-01	TITLE SHEET
2.....C-01	8" SEWER FORCEMAIN PLAN & PROFILE STA. 0+00 TO STA. 9+50
3.....C-02	8" SEWER FORCEMAIN PLAN & PROFILE STA. 9+50 TO STA. 18+50
4.....C-03	8" SEWER FORCEMAIN PLAN & PROFILE STA. 18+50 TO STA. 24+21
5.....C-04	SEDIMENT AND EROSION CONTROL PLAN
6.....C-05	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
7.....T-01	TRAFFIC CONTROL PLAN
8.....T-02	TRAFFIC CONTROL DETAILS
9.....M-01	MECHANICAL PROCESS LEGEND, ABBREVIATIONS AND GENERAL NOTES
10.....M-02	PUMPING STATION DEMOLITION PLANS AND SECTION
11.....M-03	PUMPING STATION NEW WORK PLANS AND SECTION
12.....E-01	ELECTRICAL GENERAL NOTES AND ABBREVIATIONS
13.....E-02	ELECTRICAL DEMOLITION AND NEW WORK
14.....I-01	INSTRUMENT PLANS & DETAILS
15.....I-02	ELECTRICAL CONTROL DIAGRAM

OWNER'S/DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THE PLAN AND THAT A RESPONSIBLE PERSON INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE, BEFORE BEGINNING THE PROJECT, A CERTIFICATION OF TRAINING AT A PROGRAM APPROVED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR THE CONTROL OF SEDIMENT AND EROSION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Kevin K. Denmore / 1/15/2015
BUREAU OF ENGINEERING DATE
DEPARTMENT OF PUBLIC WORKS

ENGINEER'S CERTIFICATION

"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Guohua Wang / 1/8/2015
DATE
GUIHUA WANG
KCI TECHNOLOGIES, INC.
936 RIDGEBROOK ROAD
SPARKS, MD 21152

AS-BUILT
DATE 12-5-2016

600 0 600 1200
SCALE: 1" = 600'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Janet K. Butler / 1/20/15
DIRECTOR OF PUBLIC WORKS DATE
Steve C. Carr / 1/20/15
CHIEF, BUREAU OF UTILITIES DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS
KCI
TECHNOLOGIES
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

STATE OF MARYLAND
PROFESSIONAL ENGINEER
Guohua Wang / 1/15/15
DATE

DES: GS			
DRN: KFJ			
CHK: GW			
DATE: DEC., 2014			
BY: KCI	AS-BUILT	12-9-16	
NO.			
REVISION			

TITLE SHEET

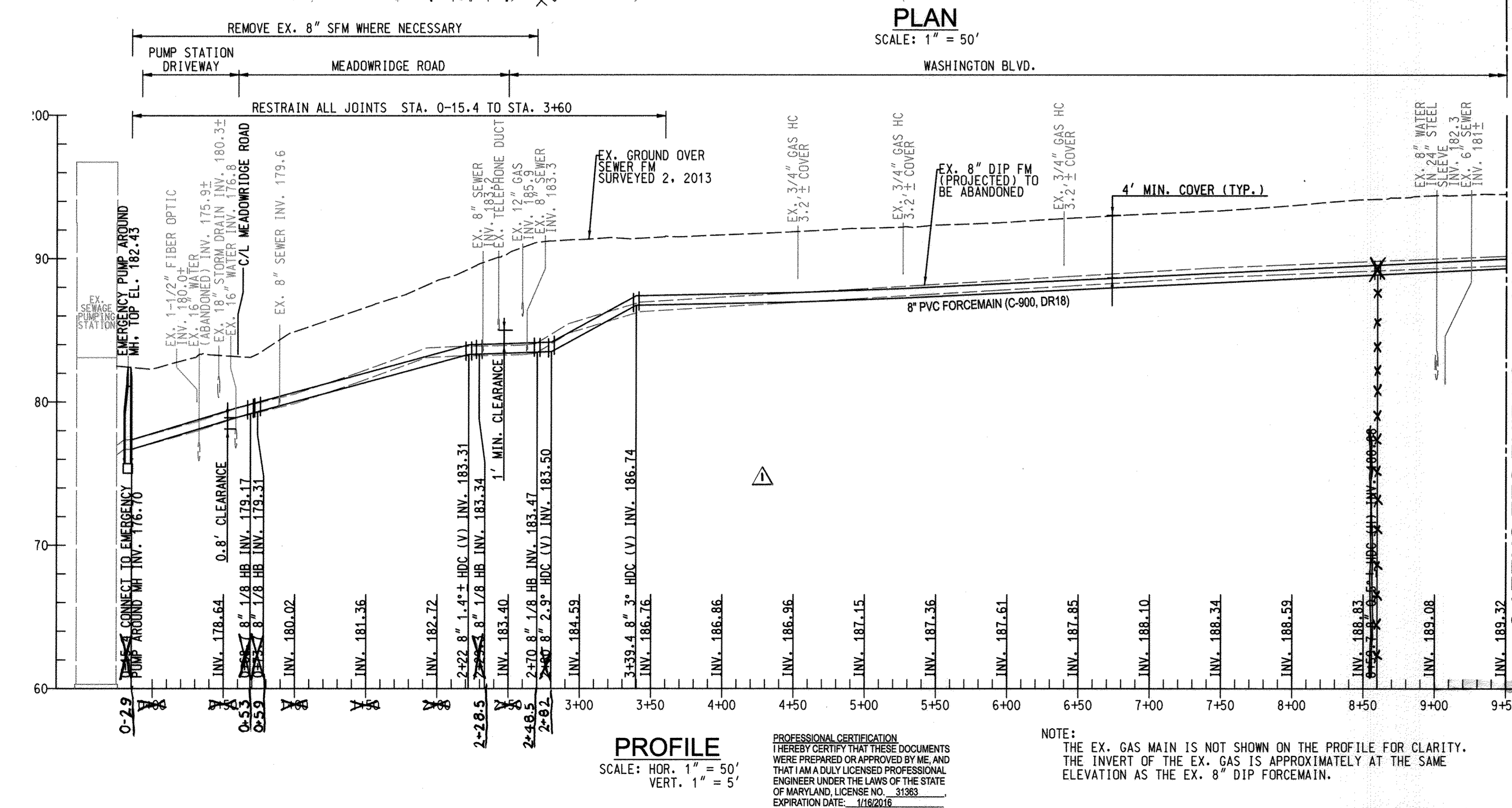
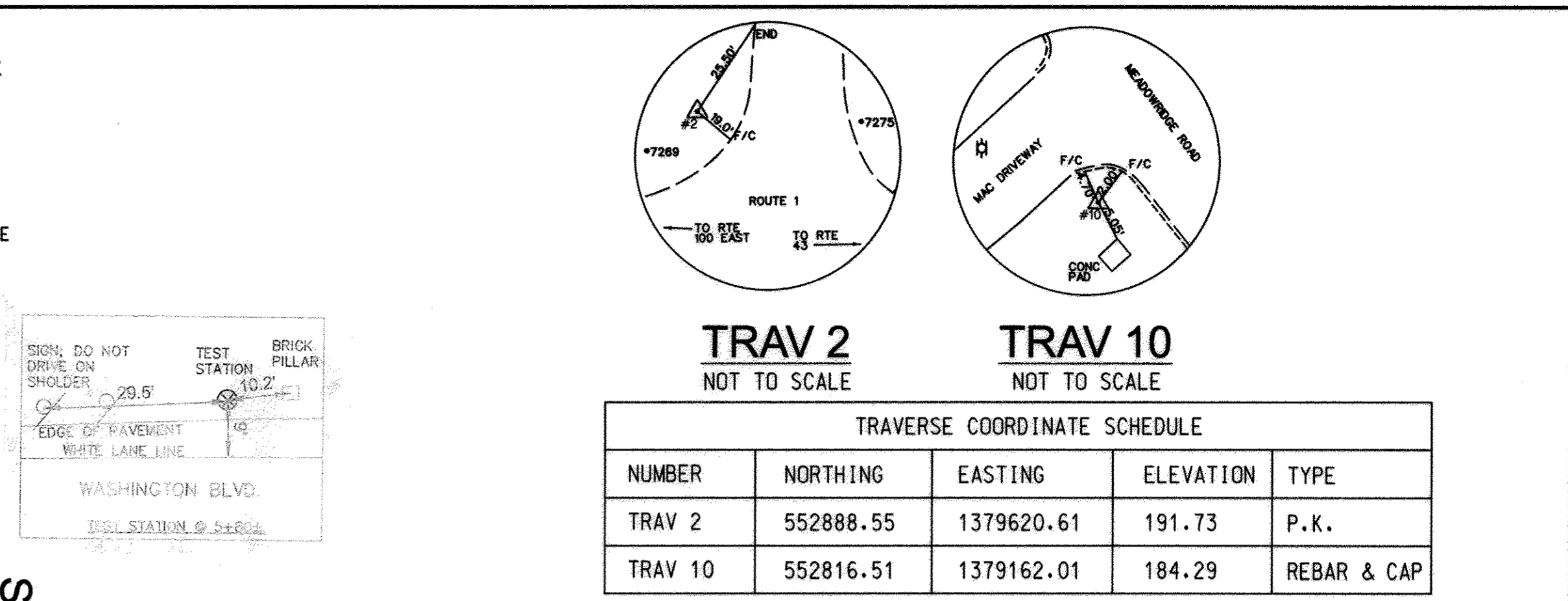
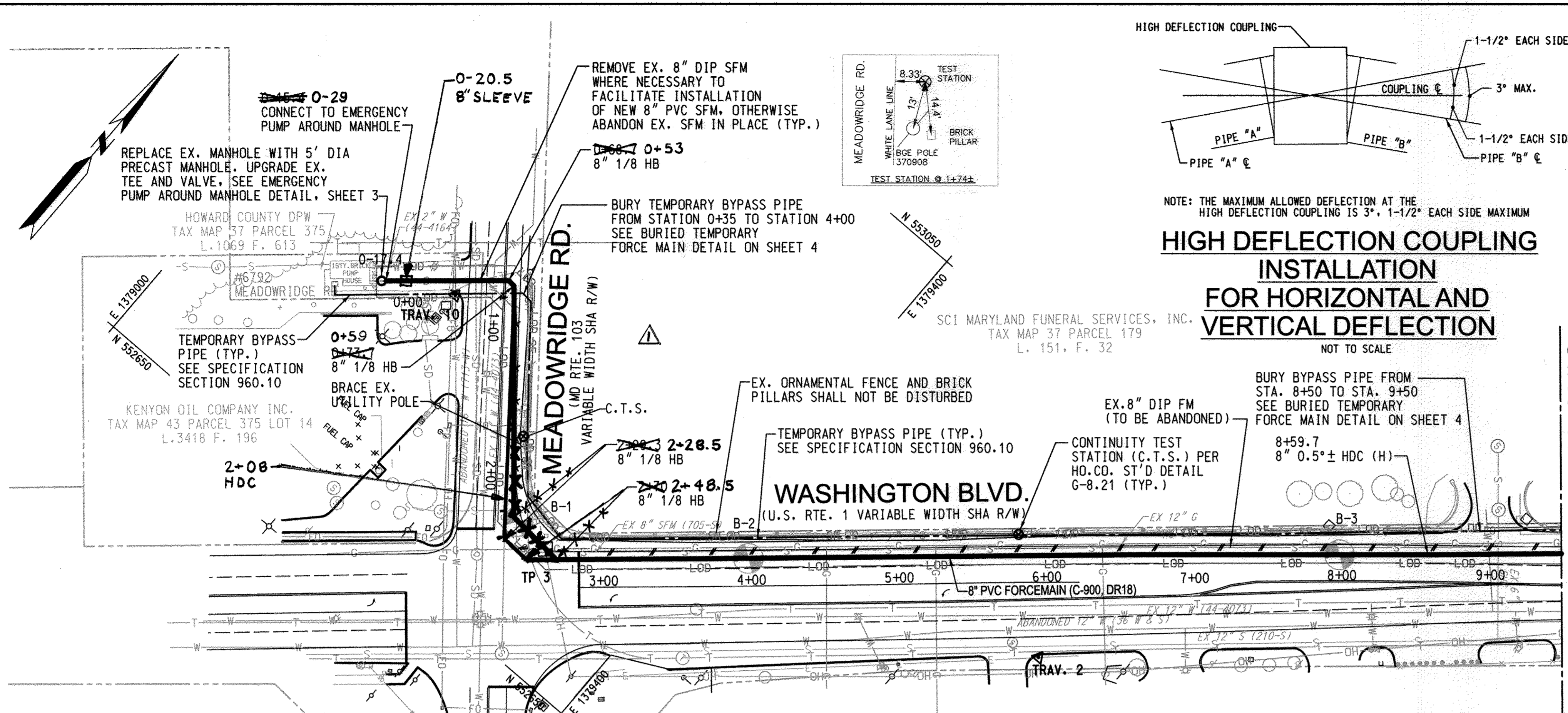
MEADOWRIDGE WASTEWATER PUMP STATION
UPGRADE AND FORCE MAIN REPLACEMENT

CAPITAL PROJECT No. S-6279
CONTRACT No. 10-4844

ELECTION DISTRICT No. 78

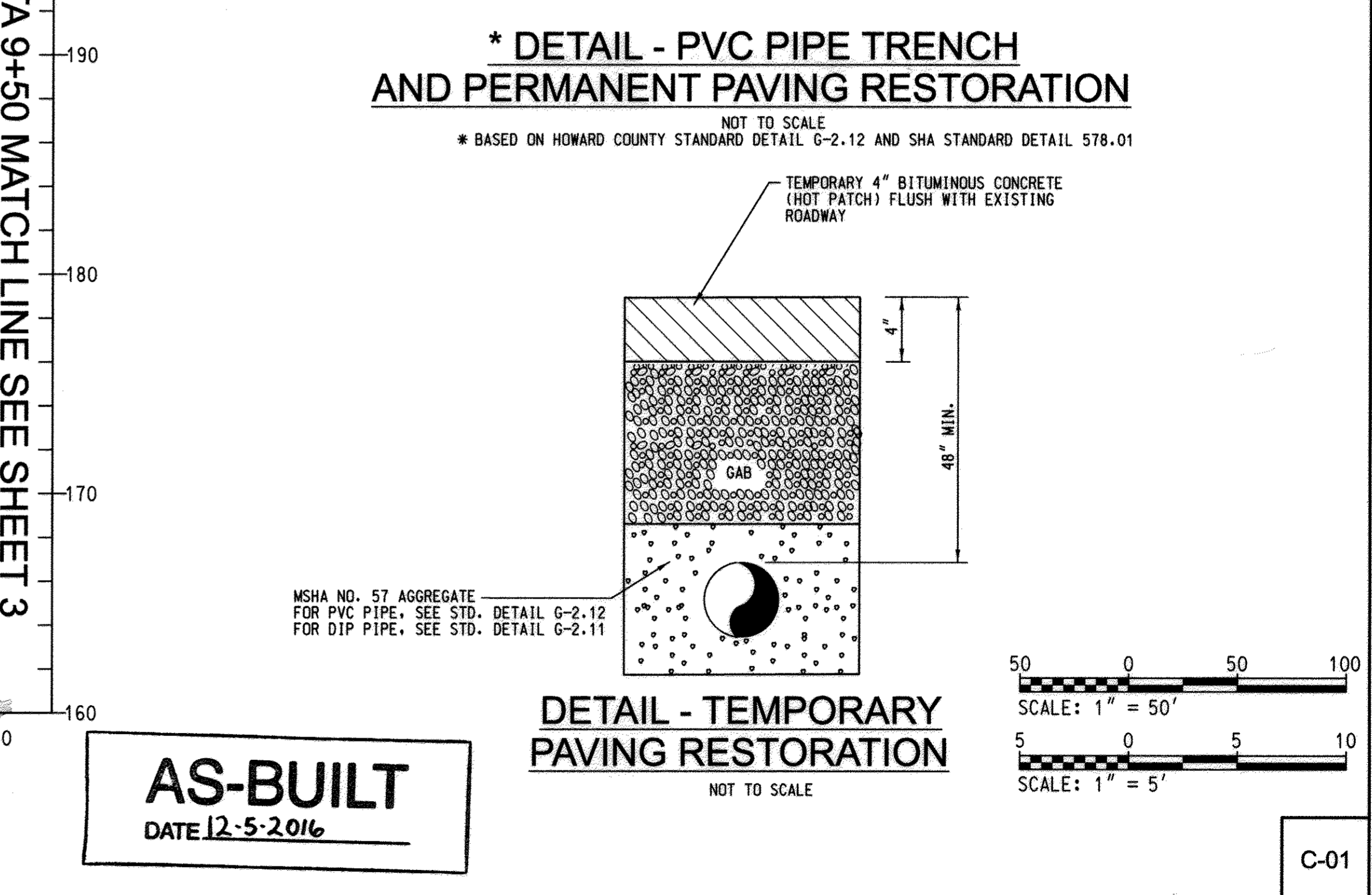
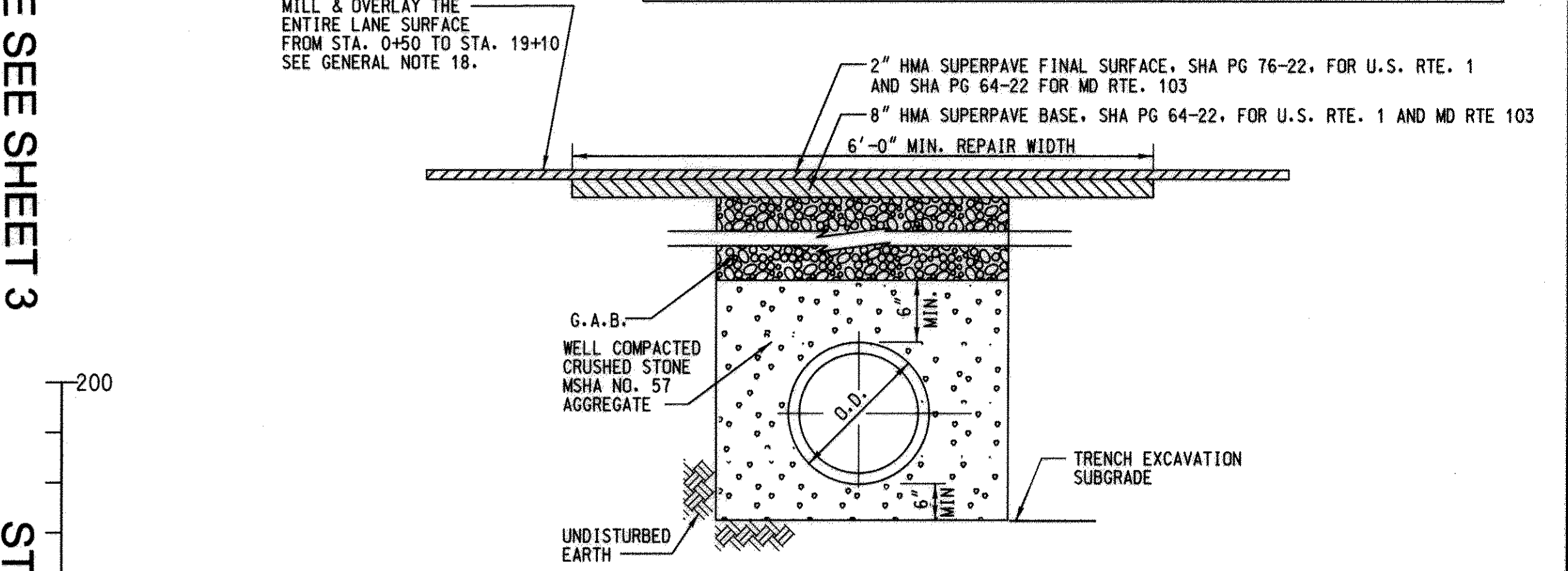
HOWARD COUNTY, MARYLAND

G-01
SCALE AS SHOWN
SHEET 1 OF 15



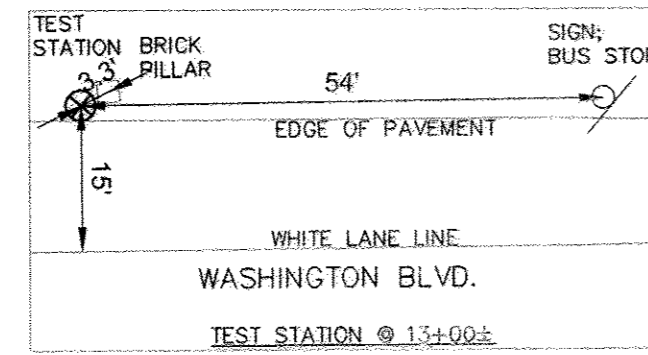
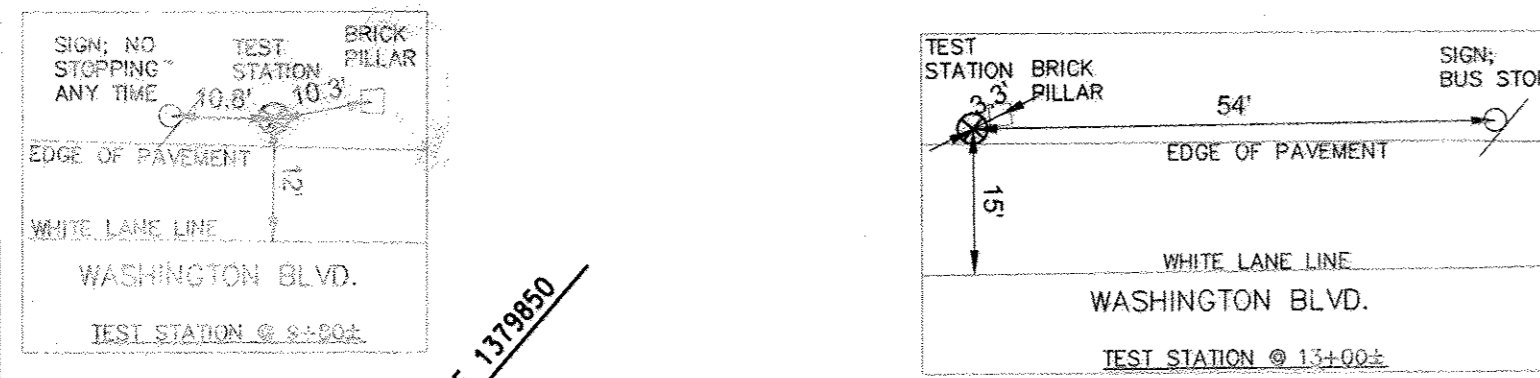
SEWER FORCE MAIN STAKEOUT COORDINATE SCHEDULE

STATION	FITTING	NORTHING	EASTING
0+00	TIE-IN	552888.55	1379620.61
0+59	8" 1/8 HB	552847.51	1379162.01
1+00	8" 1/8 HB	552847.51	1379162.01
1+50	8" 1/8 HB	552823.41	1379269.47
2+00	8" 1/8 HB	552823.41	1379269.47
2+50	8" 1/8 HB	552766.20	1379336.06
3+00	8" 1/8 HB	552766.20	1379336.06
3+50	8" 1/8 HB	552726.20	1379375.87



AS-BUILT
DATE 12-5-2016

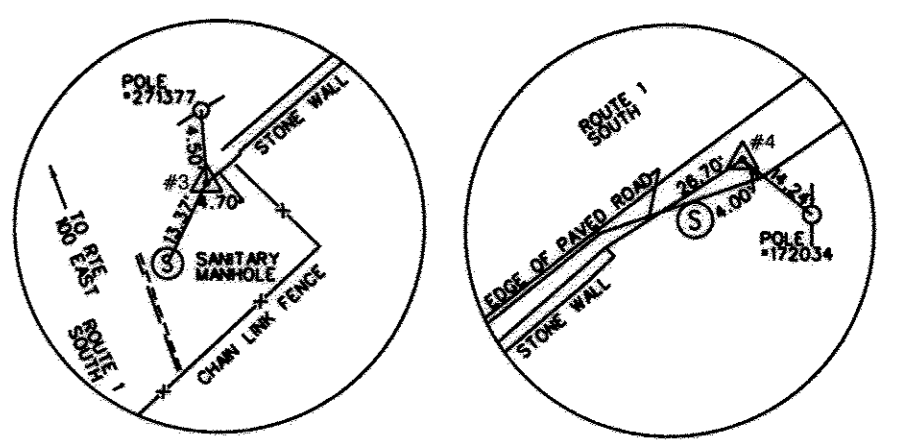
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director: <i>John A. ...</i> Chief, Bureau of Utilities: <i>...</i> Chief, Utility Design Division: <i>...</i>	ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS KCI TECHNOLOGIES 936 RIDGEBROOK ROAD SPRINGFIELD, MARYLAND 21152 TELEPHONE (410) 316-7800 FAX (410) 316-7818 www.kci.com	DES: GS DRN: KFJ CHK: GW DATE: DEC, 2014 BY: NO. AS-BUILT REVISION: 12/5/16	8" SEWER FORCEMAIN PLAN & PROFILE STA. 0+00 TO STA. 9+50	MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT CAPITAL PROJECT No. S-6279 CONTRACT No. 10-4844 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND	SCALE: AS SHOWN SHEET: 2 OF 15
---	--	--	---	--	-----------------------------------



SCI MARYLAND FUNERAL SERVICES, INC.
TAX MAP 37 PARCEL 179
L. 151. F. 32

TRAVERSE COORDINATE SCHEDULE				
NUMBER	NORTHING	EASTING	ELEVATION	TYPE
TRAV 3	553167.34	1379918.16	195.13	REBAR & CAP
TRAV 4	553391.87	1380178.87	195.59	P.K.

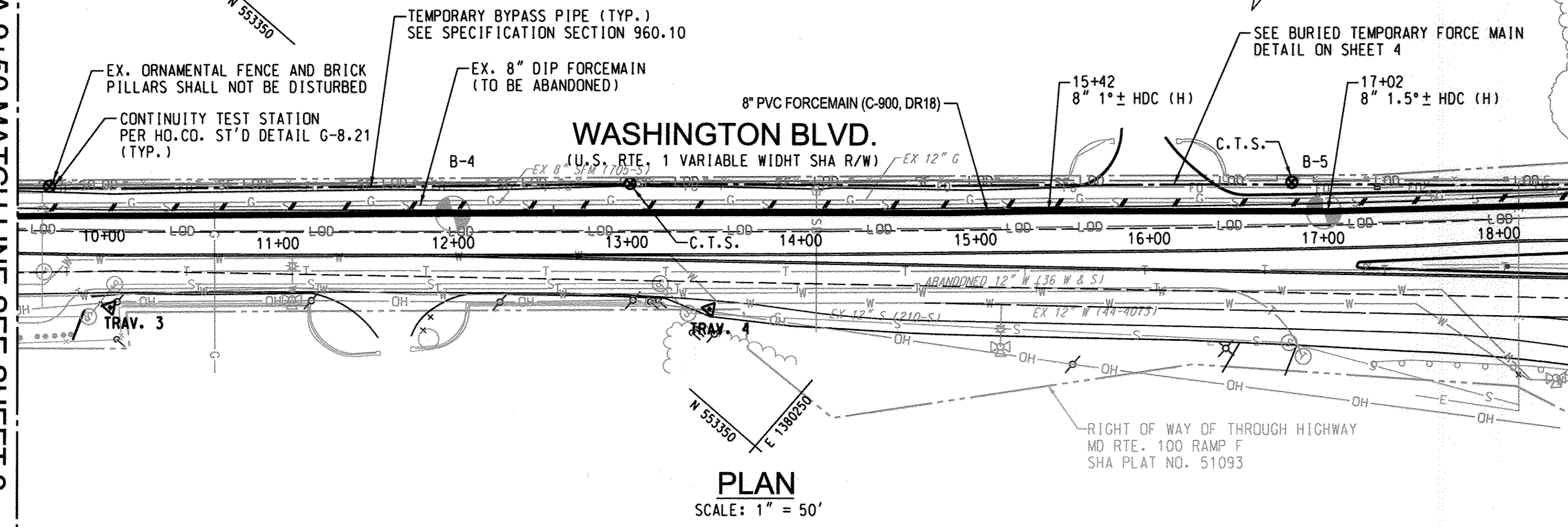
SEWER FORCE MAIN STAKEOUT COORDINATE SCHEDULE			
STATION	FITTING	NORTHING	EASTING
15+42	1"± HD COUPLING (HORIZ.)	553561.58	1380289.32
17+02	1.5"± HD COUPLING (HORIZ.)	553666.42	1380410.28



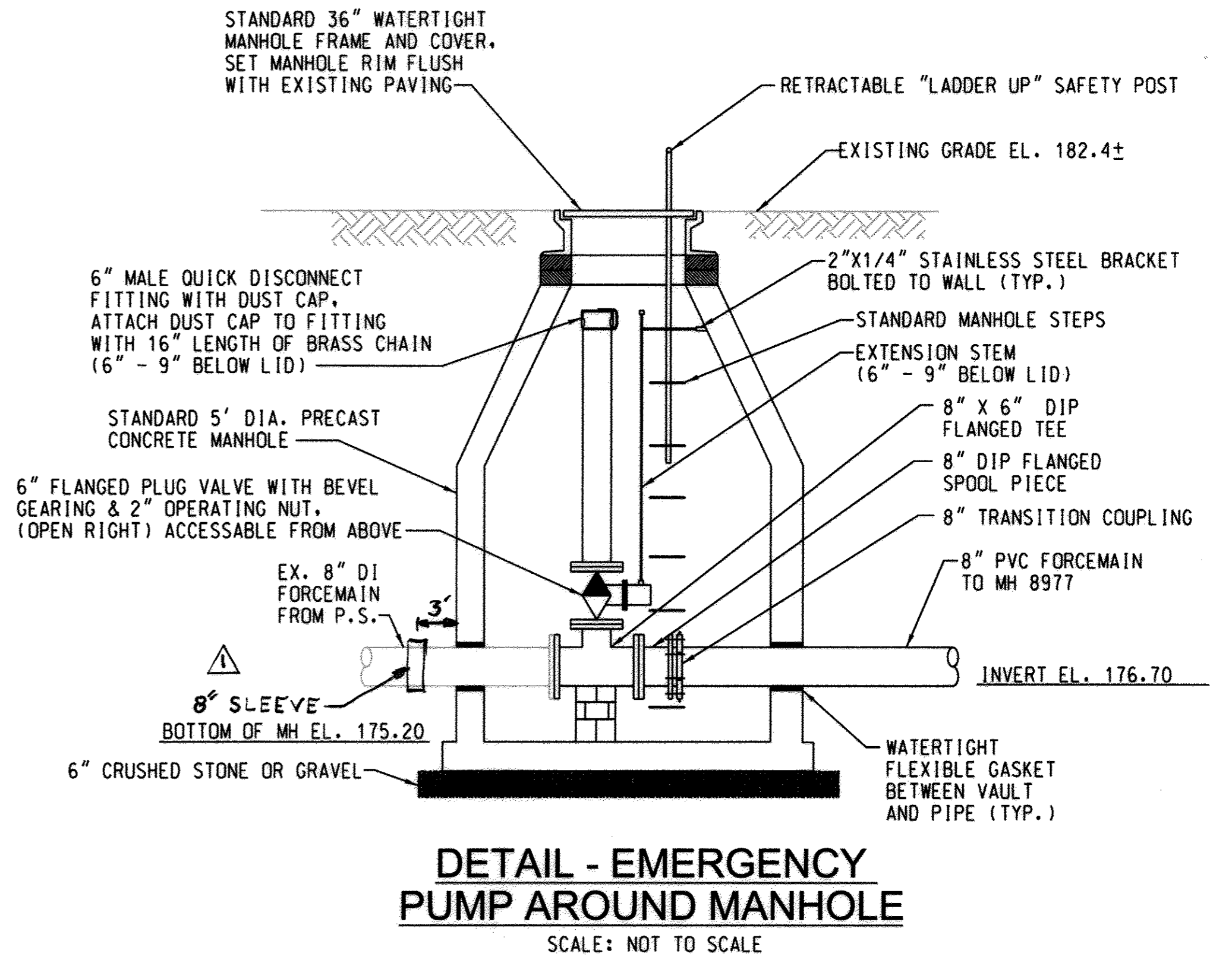
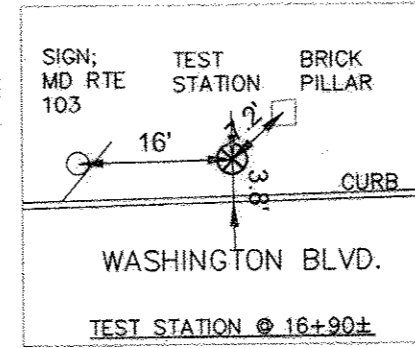
TRAV 3 NOT TO SCALE
TRAV 4 NOT TO SCALE

STA 9+50 MATCH LINE SEE SHEET 2

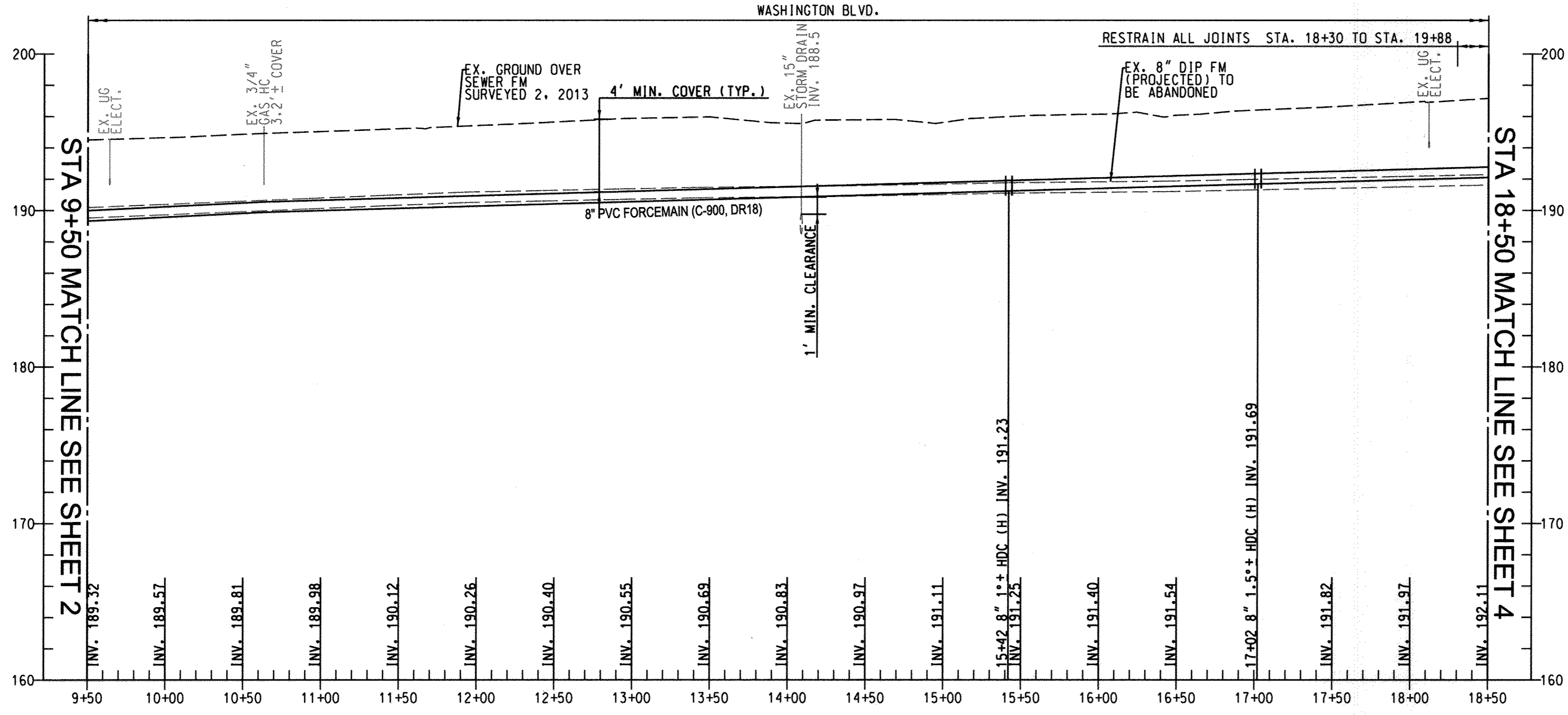
STA 18+50 MATCH LINE SEE SHEET 4



PLAN
SCALE: 1" = 50'



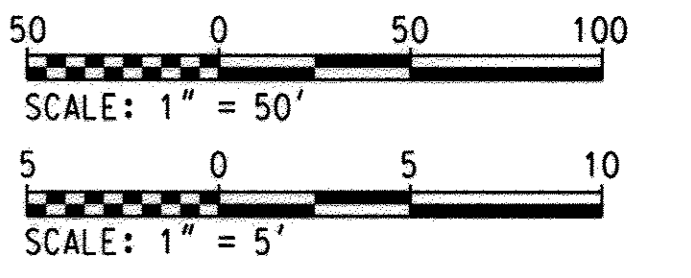
DETAIL - EMERGENCY PUMP AROUND MANHOLE
SCALE: NOT TO SCALE



PROFILE
SCALE: HOR. 1" = 50'
VERT. 1" = 5'

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: 1/16/2016

NOTE:
THE EX. GAS MAIN IS NOT SHOWN ON THE PROFILE FOR CLARITY. THE INVERT OF THE EX. GAS IS APPROXIMATELY AT THE SAME ELEVATION AS THE EX. 8" DIP FORCEMAIN.



AS-BUILT
DATE 12-5-2016

PLOTTED: 08:06 AM on Friday, December 12, 2014
BY: kva...
FILE: H:\2014\12\05\1205237.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: [Signature] DATE: 12/15/15
Chief, Bureau of Engineering: [Signature] DATE: 11/15/15
Chief, Utility Design Division: [Signature] DATE: 11/15/15

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES
936 RIDGEBROOK ROAD
SPRINGFIELD, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

DES: GS			
DRN: KJF			
CHK: GW			
DATE: DEC, 2014	BY: KCI	NO. AS-BUILT	REVISION: 12/5/16

8" SEWER FORCEMAIN
PLAN & PROFILE
STA. 9+50 TO STA. 18+50

MEADOWRIDGE WASTEWATER PUMP STATION
UPGRADE AND FORCE MAIN REPLACEMENT
CAPITAL PROJECT No. S-6279
CONTRACT No. 10-4844
ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

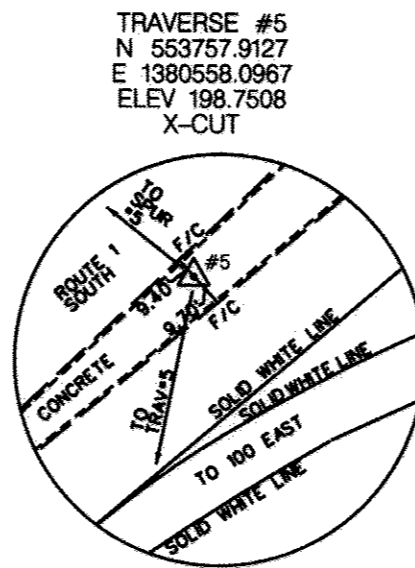
C-02
SCALE AS SHOWN
SHEET 3 OF 15

TRAVERSE COORDINATE SCHEDULE				
NUMBER	NORTHING	EASTING	ELEVATION	TYPE
TRAV 5	553757.91	1380558.09	198.75	X-CUT

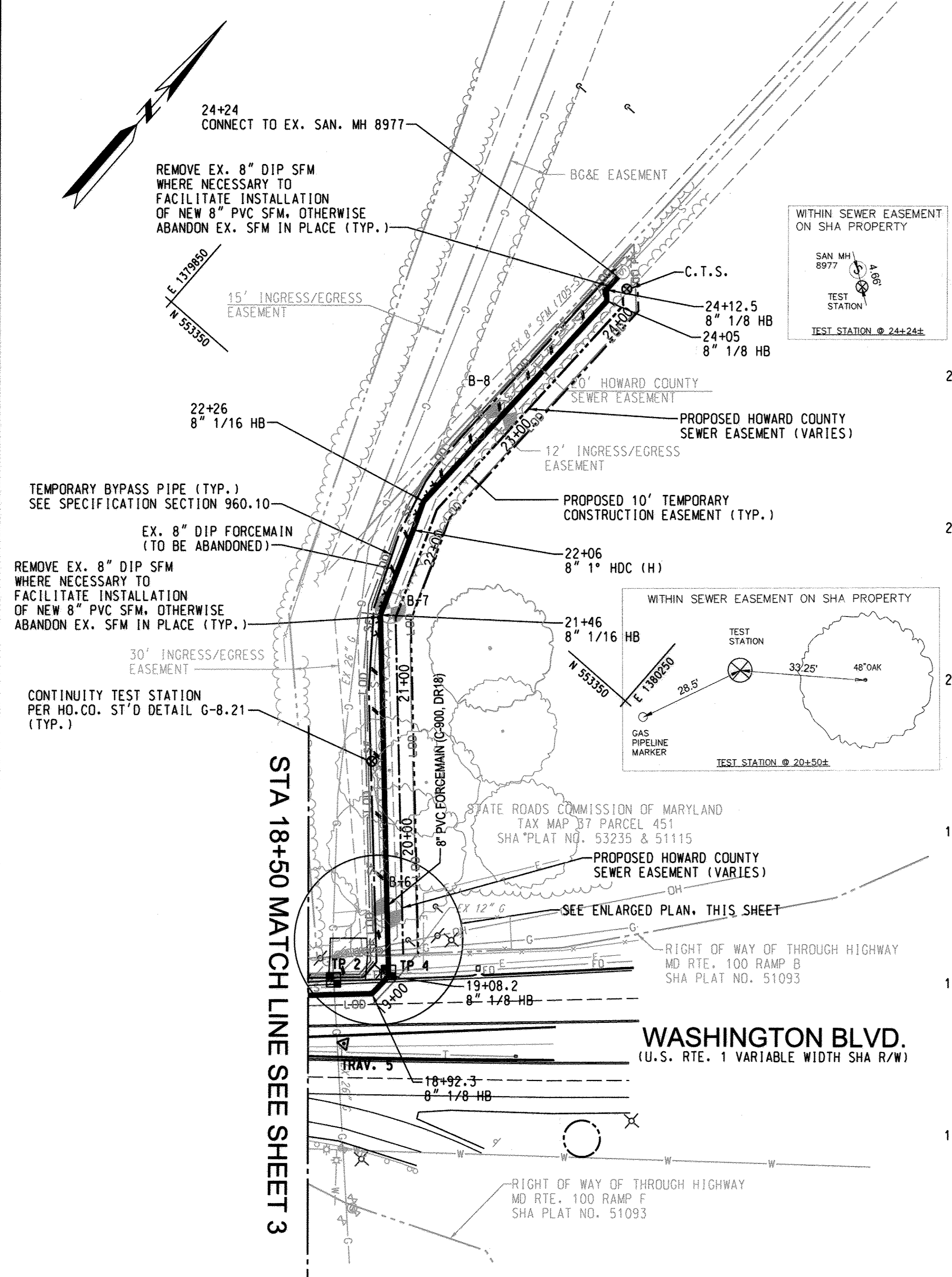
TEST PIT DATA			
TEST PIT NUMBER	UTILITY	MATERIAL	DEPTH
TP 2	GAS	26" STEEL	16'*
TP 4	FIBER OPTIC	2" PLOY	1.94'

* DURING TEST PIT OPERATIONS, ON-SITE BGE INSPECTOR STATED THAT THE EX. 26" GAS HAS 16' ± COVER

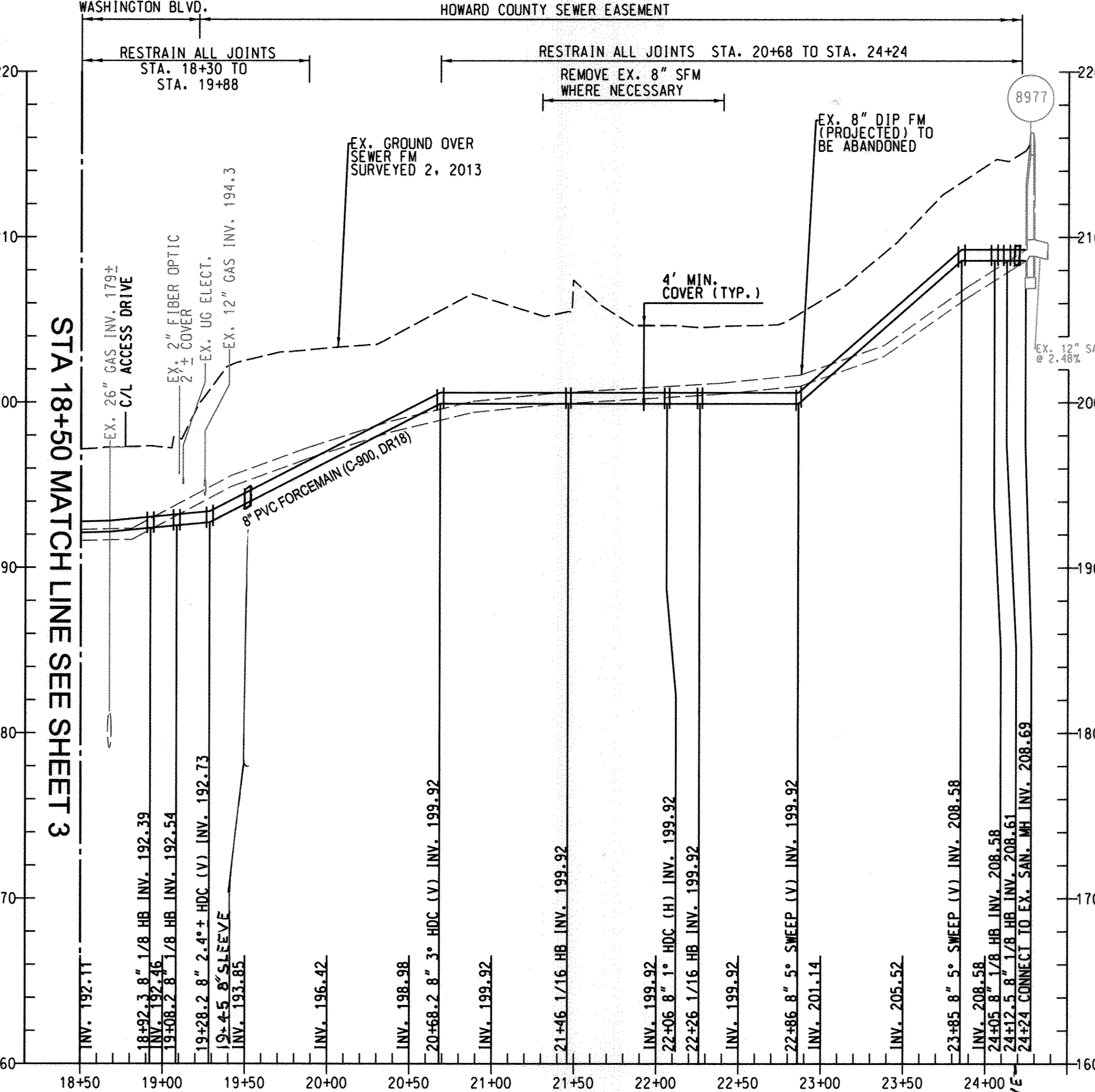
SEWER FORCE MAIN STAKEOUT COORDINATE SCHEDULE				
STATION	FITTING	NORTHING	EASTING	
18+92.3	8" 1/8 HB	553794.75	1380550.46	
19+08.2	8" 1/8 HB	553810.67	1380551.16	
21+46	8" 1/16 HB	553986.03	1380390.52	
22+06	8" 1" HD COUPLING (HORIZ.)	554042.41	1380370.00	
22+26	8" 1/16 HB	554061.07	1380362.81	
24+05	8" 1/8 HB	554240.02	1380367.24	
24+12.5	8" 1/8 HB	554245.39	1380362.13	
24+24	CONNECT TO EX. SAN MH	554256.86	1380362.41	



TRAV 5
NOT TO SCALE

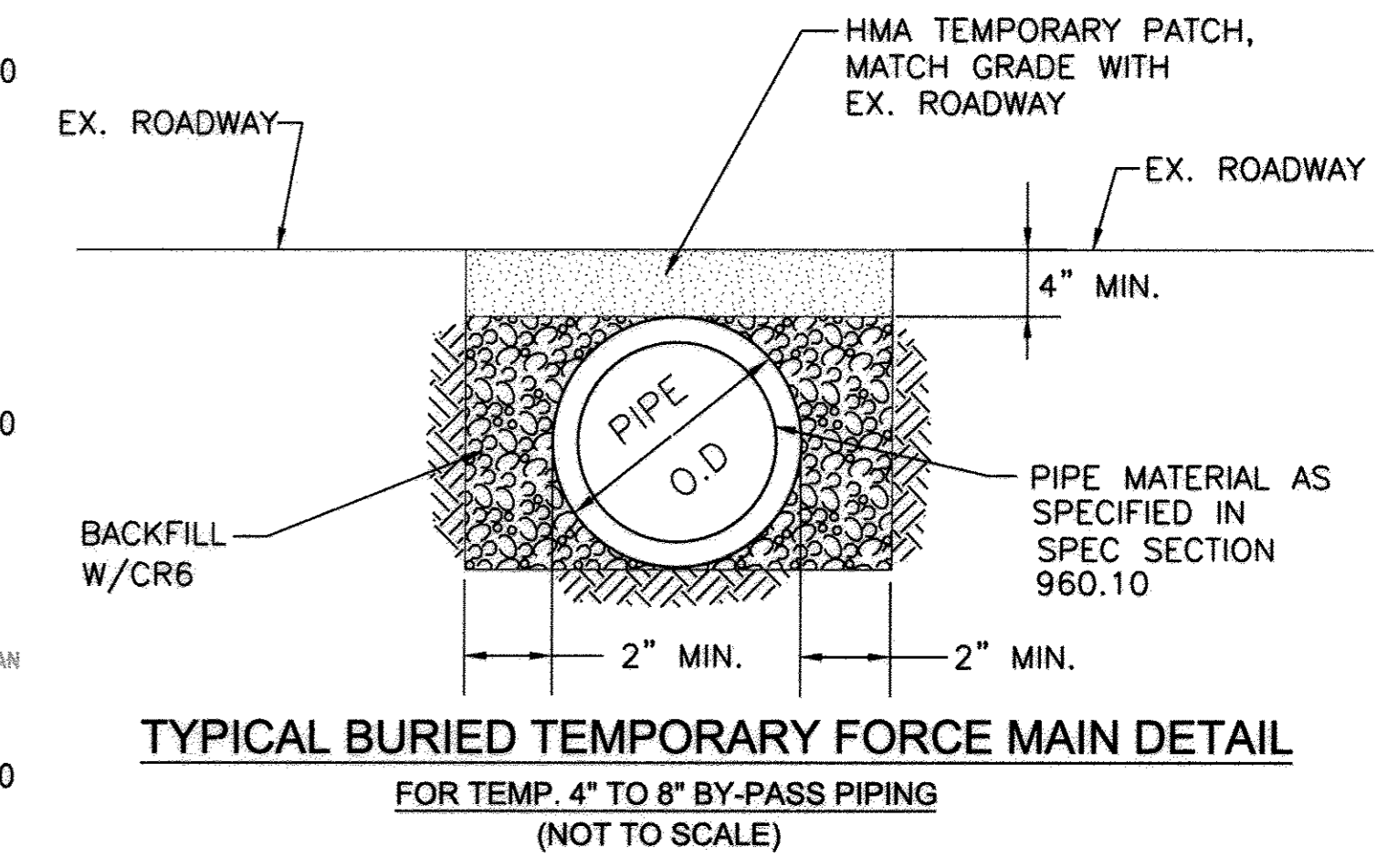


PLAN
SCALE: 1" = 50'

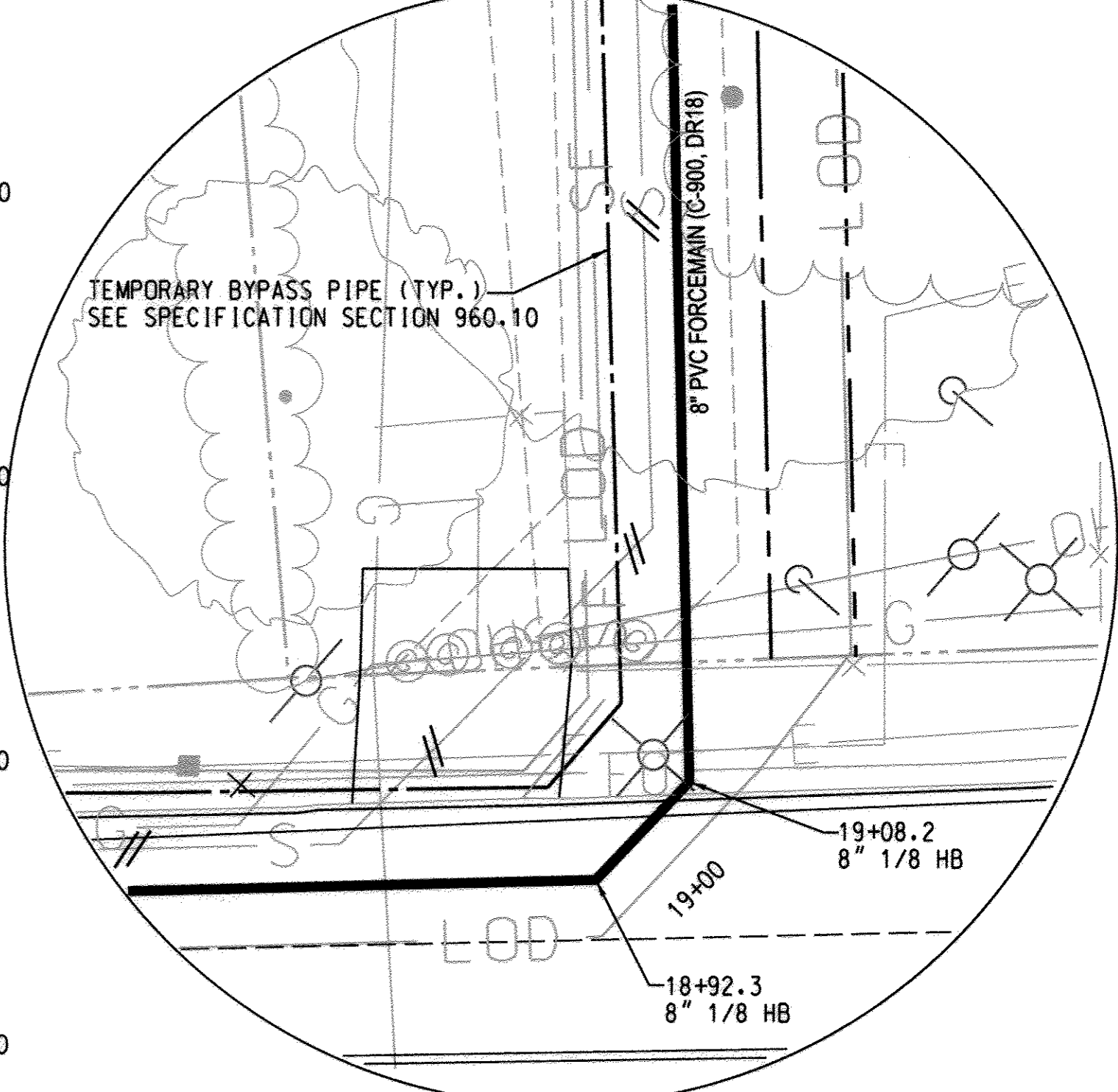


PROFILE
SCALE: HOR. 1" = 50'
VERT. 1" = 5'

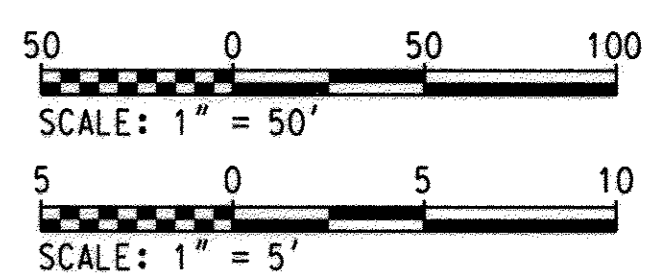
NOTE:
THE EX. GAS MAIN IS NOT SHOWN ON THE PROFILE FOR CLARITY.
THE INVERT OF THE EX. GAS IS APPROXIMATELY AT THE SAME
ELEVATION AS THE EX. 8" DIP FORCEMAIN.



TYPICAL BURIED TEMPORARY FORCE MAIN DETAIL
FOR TEMP. 4" TO 8" BY-PASS PIPING
(NOT TO SCALE)



ENLARGED PLAN
NOT TO SCALE



AS-BUILT
DATE 12-5-2016

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. 31383
EXPIRATION DATE: 11/6/2016

PLOTTED: 08:07 AM on Friday, December 12, 2014
FILE: C:\Users\jgibson\OneDrive\Documents\1310267718-C-003_Plan_Profile.dwg

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John DeWitt 11/15/15
DIRECTOR OF PUBLIC WORKS DATE

Thomas Butler 11/15/15
CHIEF, BUREAU OF ENGINEERING DATE

Steve Genn 11/20/15
CHIEF, BUREAU OF UTILITIES DATE

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES

936 RIDGEBROOK ROAD
SHARPS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

STATE OF MARYLAND
QUINCY WARD
PROFESSIONAL ENGINEER
NO. 31383
EXPIRATION DATE: 11/6/2016

John Wong 11/8/15
PROFESSIONAL ENGINEER

DES: GS			
DRN: KJF			
CHK: GW			
DATE: DEC., 2014	KCI	AS-BUILT	12/5/16
BY NO.			
REVISION			

**8" SEWER FORCEMAIN
PLAN & PROFILE
STA. 18+50 TO STA. 24+21**

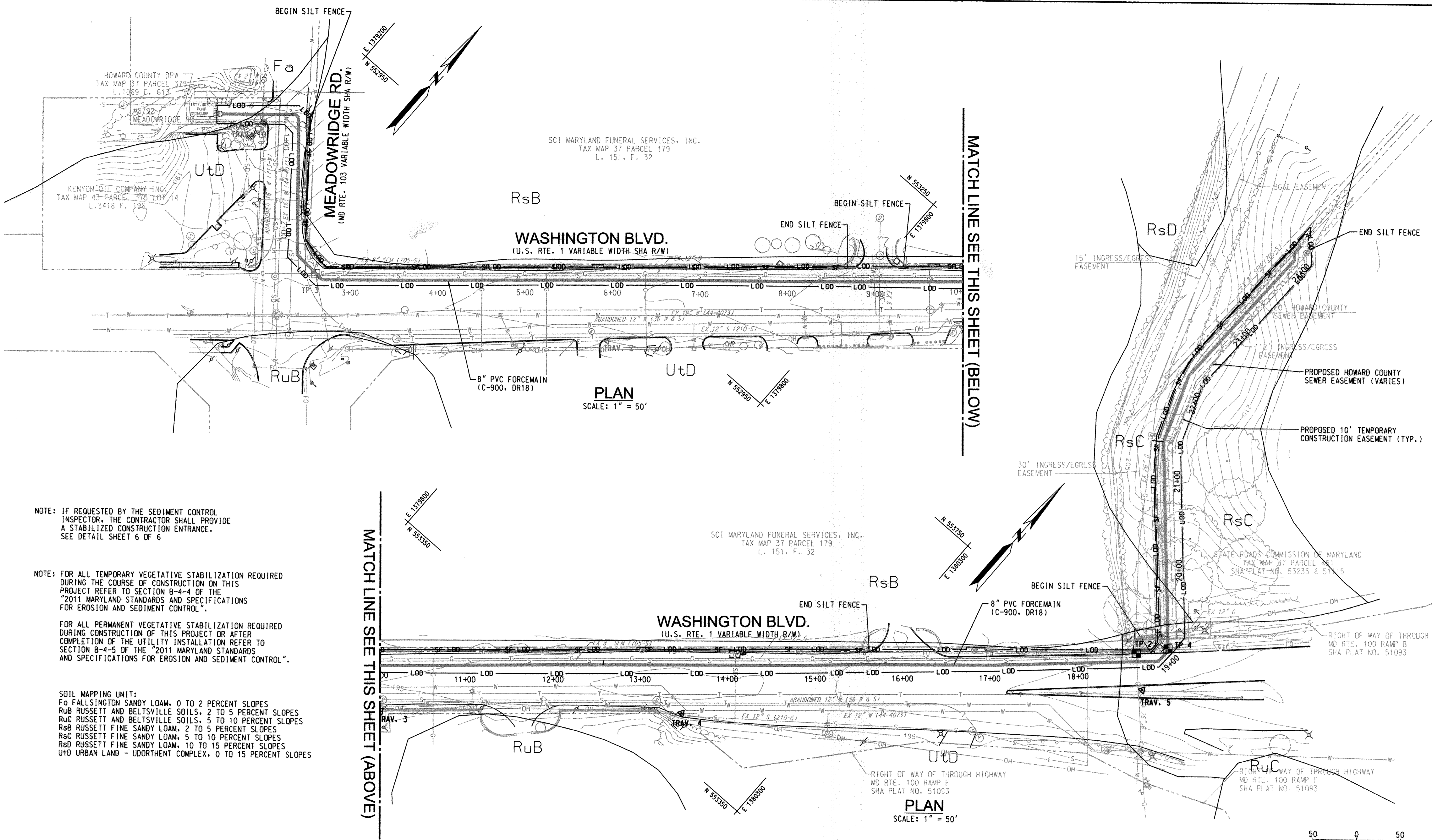
600' SCALE MAP NO. 37 & 43 BLOCK NO. 23 & 5

**MEADOWRIDGE WASTEWATER PUMP STATION
UPGRADE AND FORCE MAIN REPLACEMENT**

CAPITAL PROJECT No. S-6279
CONTRACT No. 10-4844

ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 4 OF 15



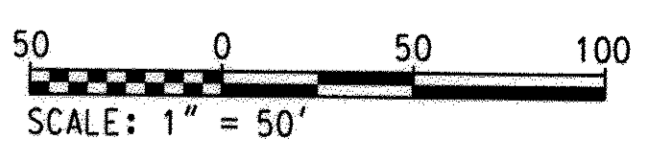
NOTE: IF REQUESTED BY THE SEDIMENT CONTROL INSPECTOR, THE CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL SHEET 6 OF 6

NOTE: FOR ALL TEMPORARY VEGETATIVE STABILIZATION REQUIRED DURING THE COURSE OF CONSTRUCTION ON THIS PROJECT REFER TO SECTION B-4-4 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

FOR ALL PERMANENT VEGETATIVE STABILIZATION REQUIRED DURING CONSTRUCTION OF THIS PROJECT OR AFTER COMPLETION OF THE UTILITY INSTALLATION REFER TO SECTION B-4-5 OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

SOIL MAPPING UNIT:
 Fa FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
 RuB RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES
 RuC RUSSETT AND BELTSVILLE SOILS, 5 TO 10 PERCENT SLOPES
 RsB RUSSETT FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
 RsC RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES
 RsD RUSSETT FINE SANDY LOAM, 10 TO 15 PERCENT SLOPES
 UtD URBAN LAND - UDORTMENT COMPLEX, 0 TO 15 PERCENT SLOPES

AS-BUILT
 DATE 12-5-2016



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. 31383, EXPIRATION DATE: 1/18/2016

PLOTTED: 08:07 AM on Friday, December 12, 2014
 BY: Kevin Jackson, Division: P042 Water-WW Emp
 FILE: M:\2012\122677\B\Drawings\122677-B-C-004_ESC_PLAN.dgn

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 11/15/15
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 11/15/15
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 11/15/15
 CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

KCI
 TECHNOLOGIES

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 WWW.KCI.COM

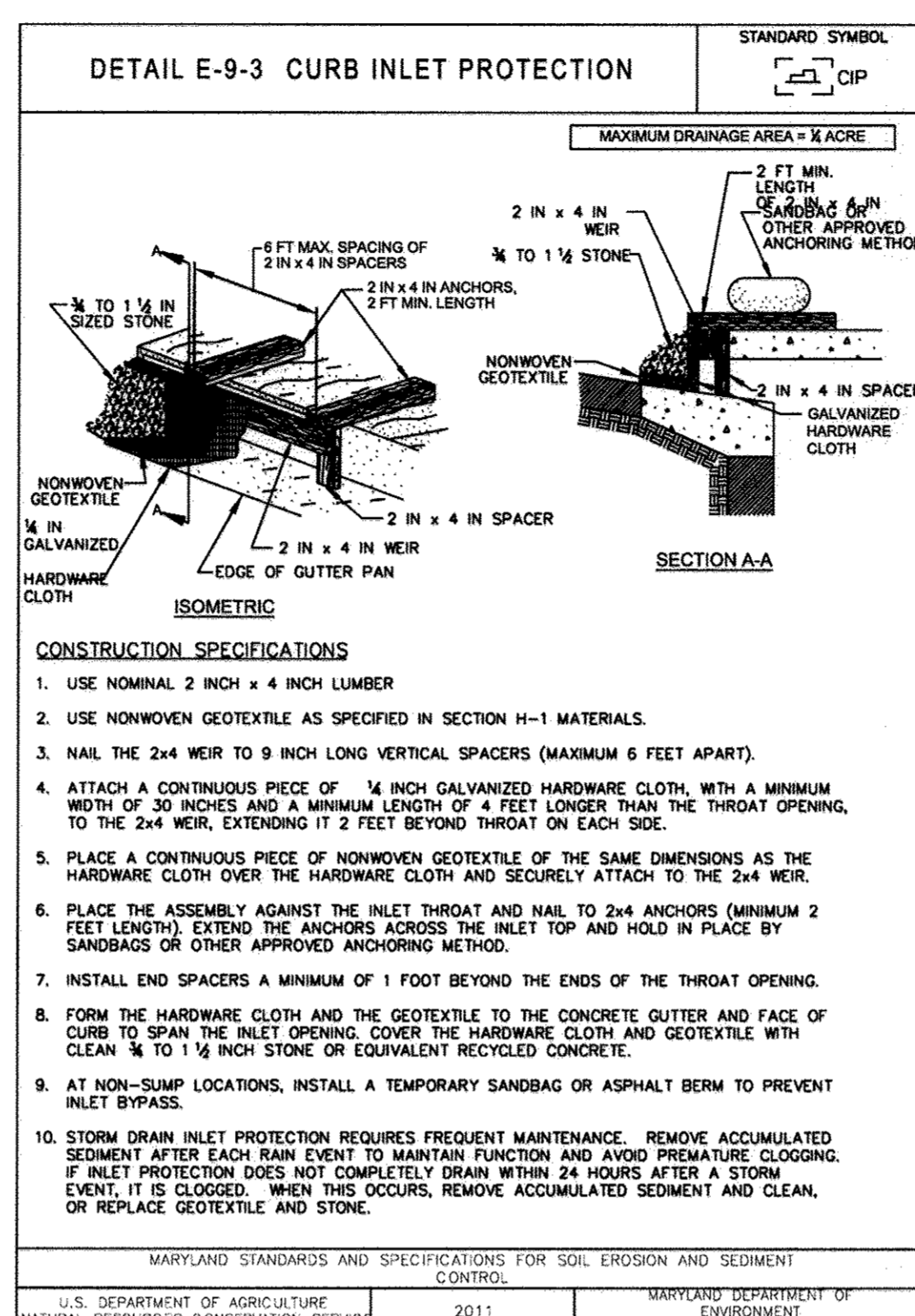
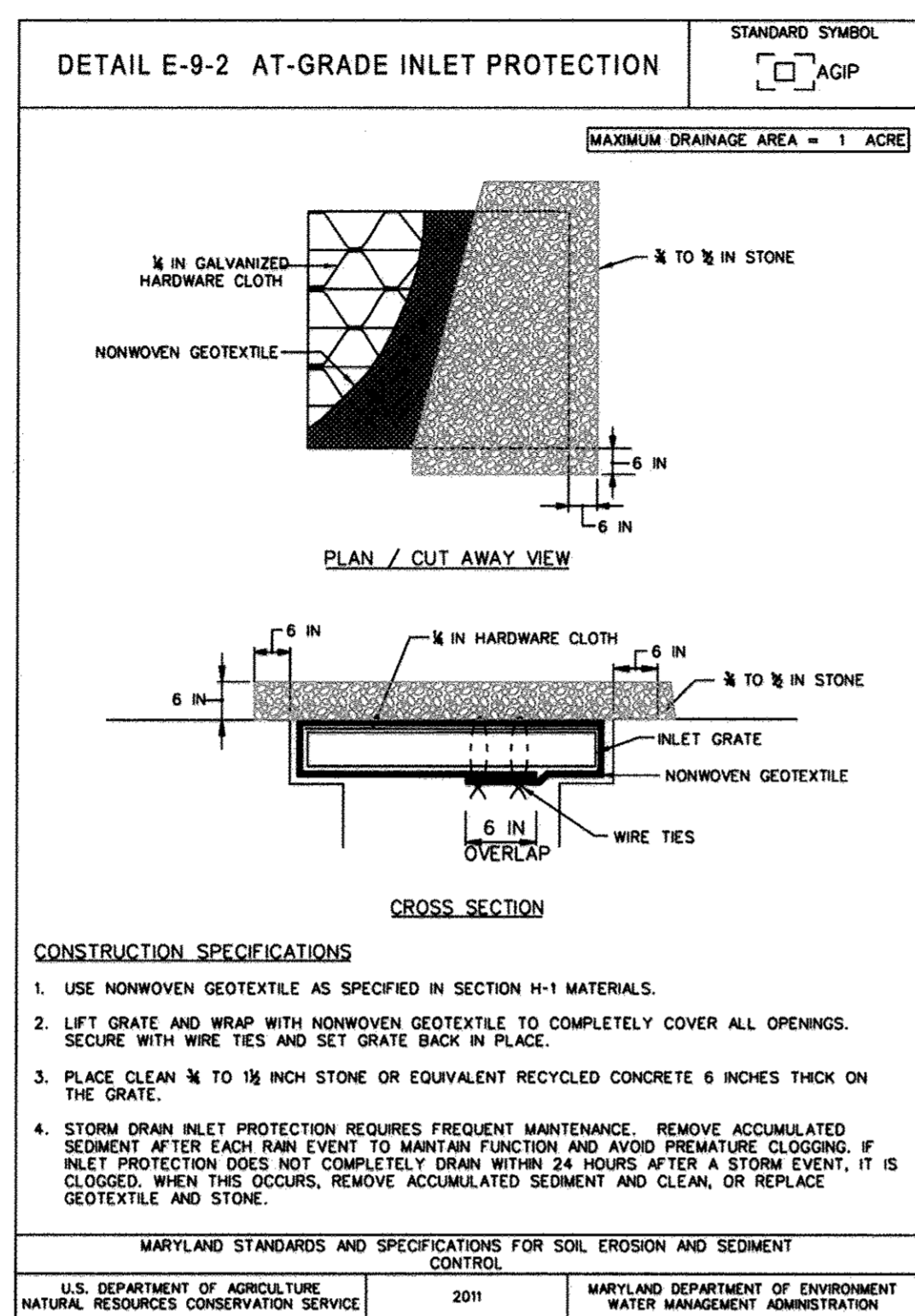
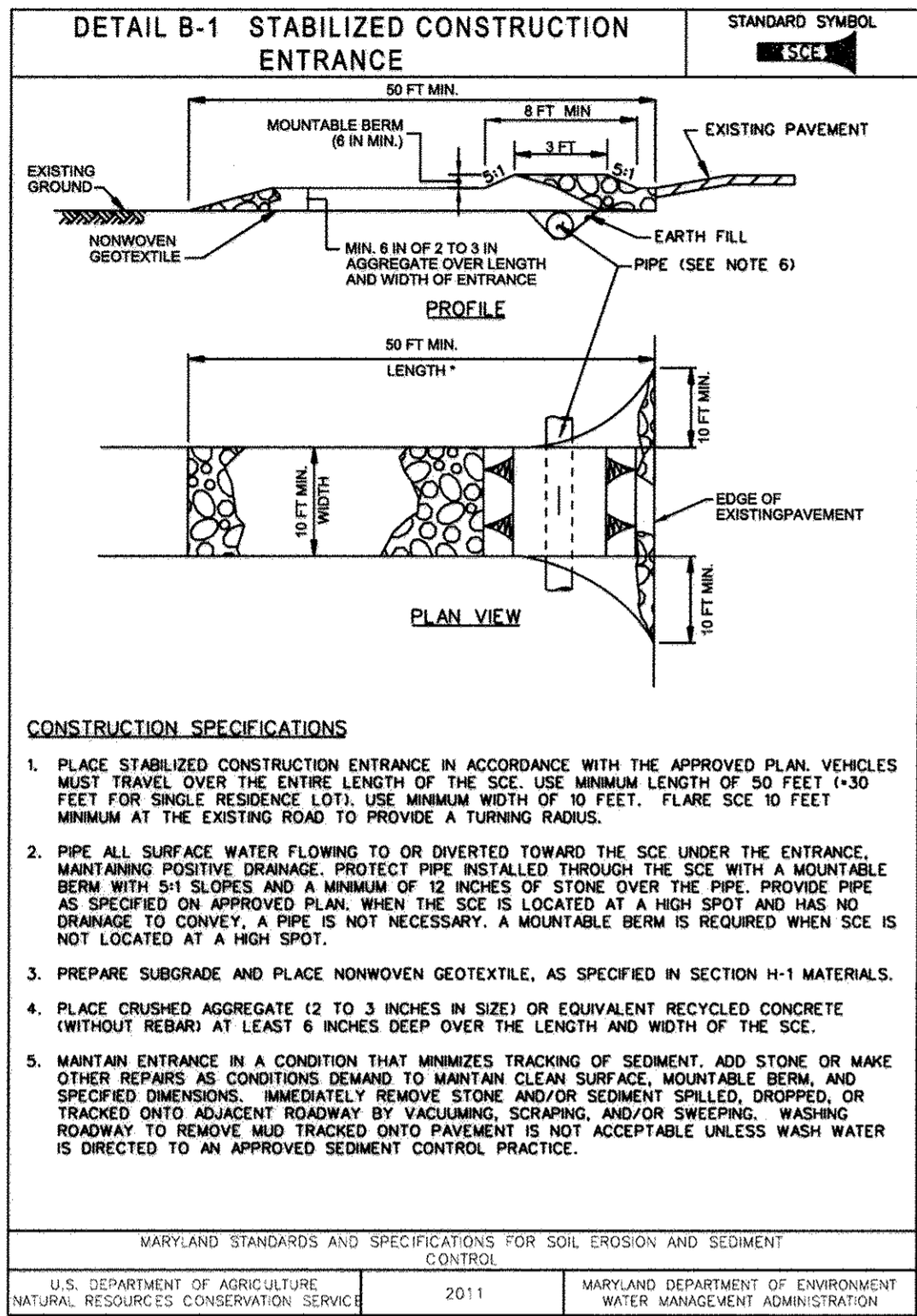
STATE OF MARYLAND
 GUYHUA WANG
 PROFESSIONAL ENGINEER
 NO. 31383
 EXPIRATION DATE: 1/18/15

DES: GS			
DRN: KFJ			
CHK: GW			
DATE: DEC, 2014	BY:	NO.	REVISION

SEDIMENT AND EROSION CONTROL PLAN

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT
 CAPITAL PROJECT No. S-6279
 CONTRACT No. 10-4844

C-04
 SCALE AS SHOWN
 SHEET 5 OF 15



**HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 314-5), temporary seeding (Sec. 314-4) and mulching (Sec. 314-3). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	1.30	Acres
Area Disturbed	0.24	Acres
Area to be roofed or paved	0.17	Acres
Area to be vegetatively stabilized	0.07	Acres
Total Cut	N/A	Cu. Yds.
Total Fill	N/A	Cu. Yds.

CONTRACTOR TO COORDINATE

- Any sediment control practice that is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.
- 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 30 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

Rev. #2013

B-4.5. STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition:
To stabilize disturbed soils with permanent vegetation.

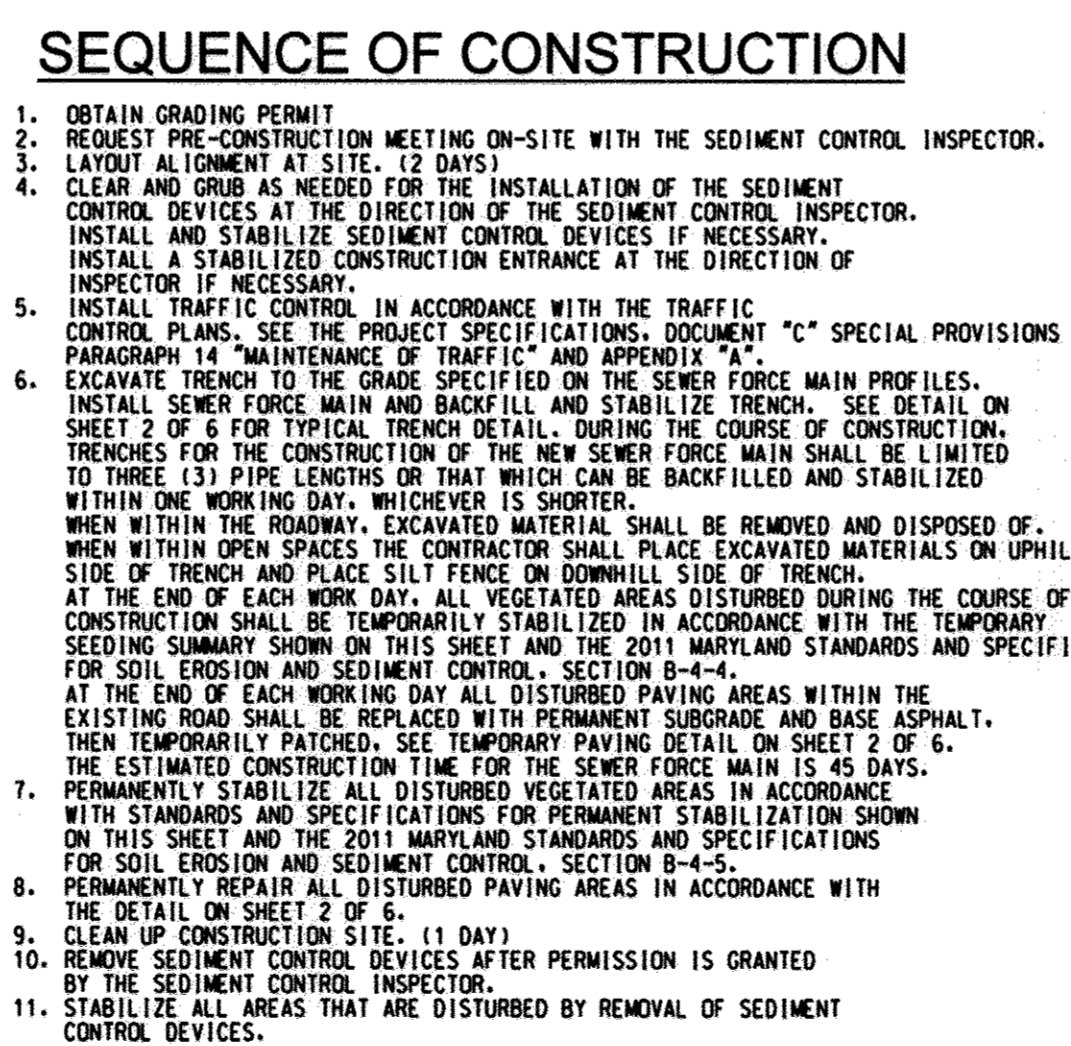
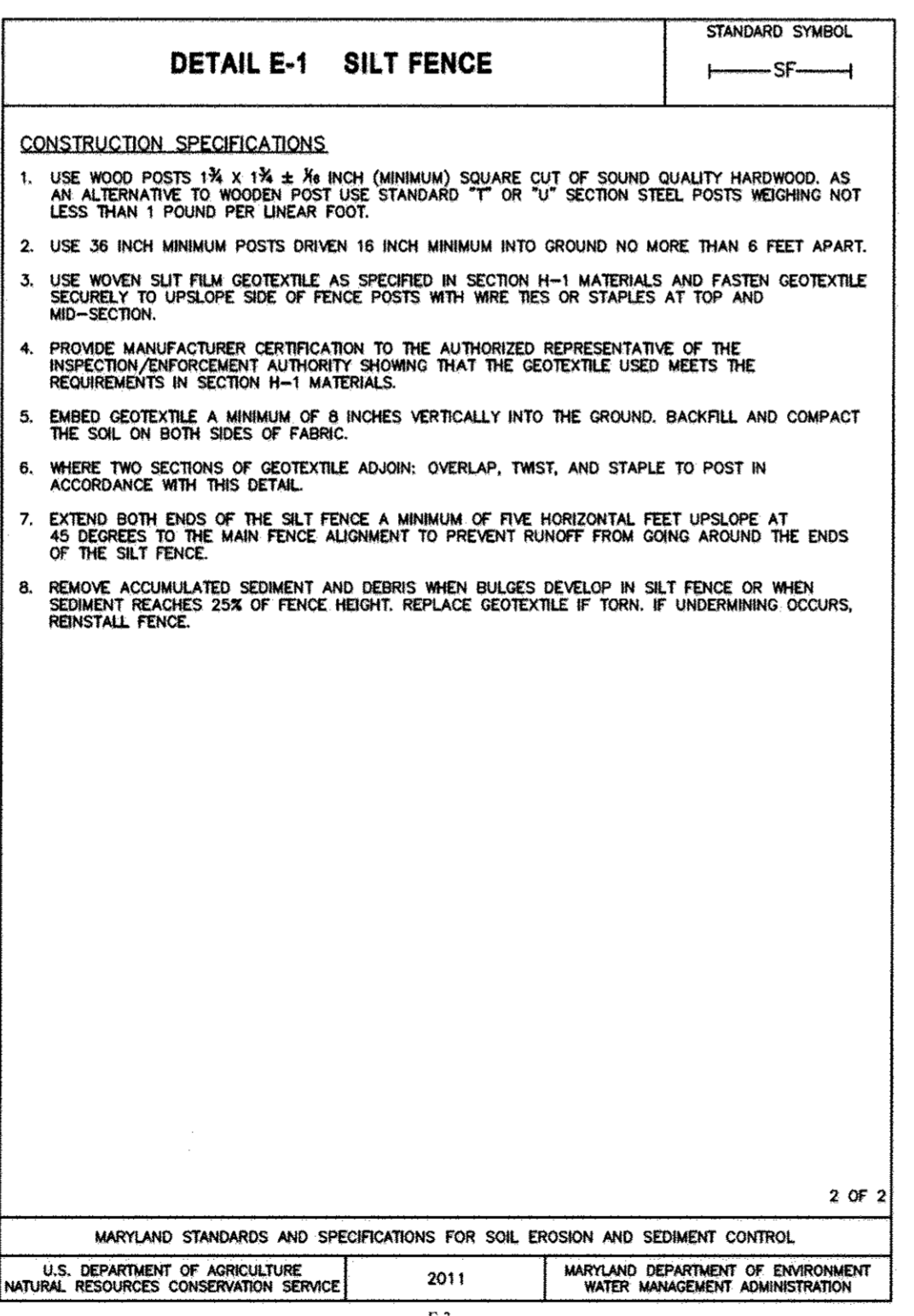
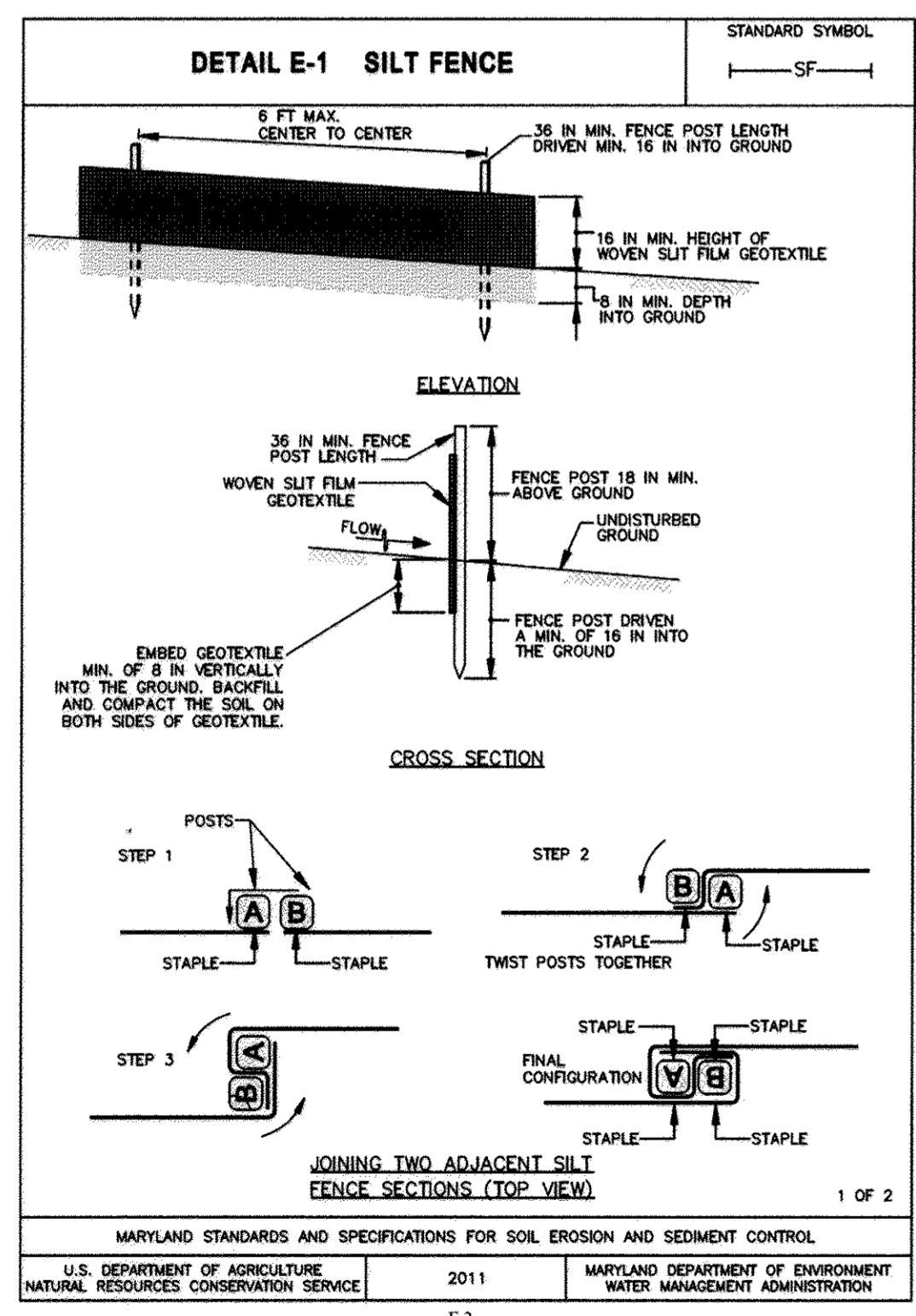
Purpose:
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies:
Exposed soils where ground cover is needed for 6 months or more.

Criteria:

- General Use
 - 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 conditions 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.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dikes or the special purpose such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - For sites having disturbed area over 5 acres, use and show the zones recommended by the soil testing agency.
 - 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.
- Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - 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 Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Ryegrass: 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/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - 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.
 - 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: 1 1/2 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.



TEMPORARY SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3):				SEEDING DEPTHS	SEEDING RATES	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES			
	COOL-SEASON GRASS					
	ANNUAL RYE GRASS (LOLIUM PERENNE SSP. MULTIFLORUM)	40	MAR 1 TO MAY 15 AUG 1 TO SEP 30	0.5	436 LB/AC (10LB/1000 SF)	2 TONS/AC (90LB/1000 SF)
	BARLEY (HORDEUM)	96	MAR 1 TO MAY 31 AUG 1 TO SEP 30	1.0		
	OATS (AVENA SATIVA)	72	MAR 15 TO MAY 31 AUG 1 TO SEP 30	1.0		
	WHEAT (TRITICUM AESTIVUM)	120	MAR 15 TO MAY 31 AUG 1 TO SEP 30	1.0		
	CEREAL RYE (SECALE CEREALE)	112	MAR 15 TO MAY 31 AUG 1 TO OCT 30	1.0		
	WARM-SEASON GRASS					
	FOXTAIL MILLET (SETARIA ITALICA)	30	JUN 1 TO JUL 31	0.5		
	PEARL MILLET (PENNISETUM GLAUCUM)	20	JUN 1 TO JUL 31	0.5		

NOTES:

- Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Annual seeding rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually needed for the cool-season grasses.
- Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seedings, use 1/2 of the seeding rate listed above for the nurse crop, and double the rate for the permanent seeding. For multi-year grasses (perennial ryegrass, fine fescue, etc.), double the seeding rate for the permanent seeding. Control any herbicide application that could inhibit the germination and growth of other plants. If it must be used on a nurse crop, use at 1/2 of the listed above. Consult the manufacturer's label for application rates and restrictions.
- For steady soils, plant seeds at twice the depth listed above.
- The seeding dates listed are averages for each zone and may require adjustment to reflect local conditions, especially near the boundaries of the zones.
- The contractor shall refer to http://howard.sod.org/SD/seed_and_seeding_documents.htm for Permanent and Temporary Seeding Notes.

AS-BUILT
DATE 12-5-2016

**MEADOWRIDGE WASTEWATER PUMP STATION
UPGRADE AND FORCE MAIN REPLACEMENT**

CAPITAL PROJECT No. S-6279
CONTRACT No. 10-4844

ELECTION DISTRICT NO. 2
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET: 6 OF 15

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. 31383, EXPIRATION DATE: 11/15/20

KCI TECHNOLOGIES
ENGINEERS, PLANNERS, SCIENTISTS, CONSTRUCTION MANAGERS
936 RIDGEBROOK ROAD
SHWES, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com

STATE OF MARYLAND
CURTIS W. HANCOCK
No. 31383
PROFESSIONAL ENGINEER

DES: GS				
DRN: KJF				
CHK: GW				
DATE: DEC., 2014	BY	NO.	REVISION	

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS	
DATE: 600' SCALE MAP NO. 37 & 43	BLOCK NO. 23 & 5

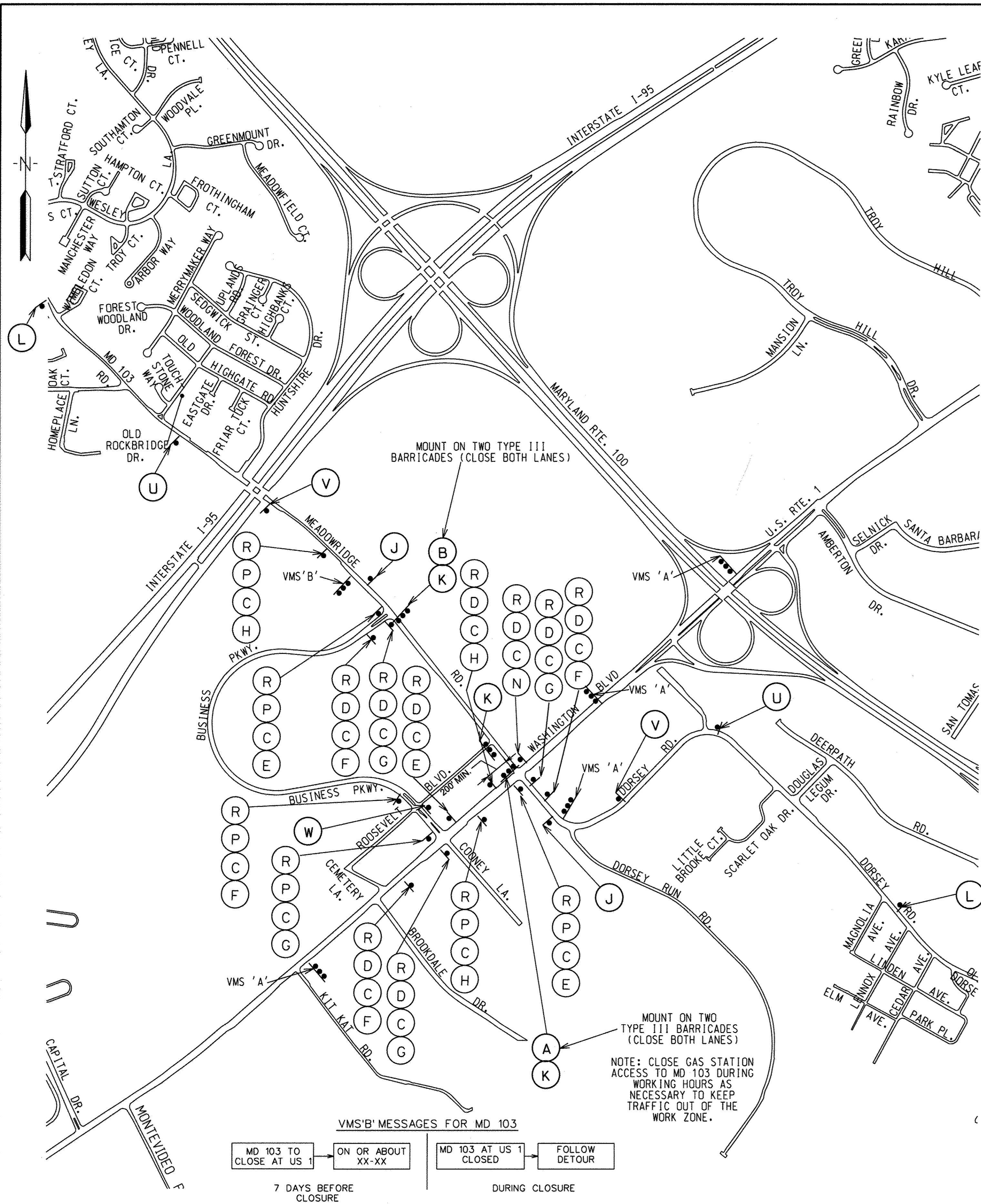
**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND**

Director of Public Works: [Signature]
Date: 11/15/15

Chief, Bureau of Engineering: [Signature]
Date: 11/15/15

Chief, Utility Design Division: [Signature]

PLOTTED: 10:24 AM on Wednesday, December 17, 2014
By: Kevin Jackson, Division P042 Water-WW, Erog
File: \\h0202\31383\31383.dwg, Drawings\31383\718_C-005_ESC_NOTES.dgn



TRAFFIC CONTROL NOTES

- ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, MSHA BOOK OF STANDARDS, AND NCHRP 350.
- ALL BARRICADES AND OTHER TRAFFIC CONTROL DEVICES MUST BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- ALL BARRICADES MUST MEET AND HAVE BEEN TESTED UNDER THE NCHRP 350 CRASH CRITERIA.
- ALL DETOUR SIGNS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES (MINIMUM 200' SPACING).
- ANY CORRECTIONS, MODIFICATIONS, OR ADDITIONS TO THIS PLAN MUST BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TRAFFIC DIVISION AND MSHA.
- MISS UTILITY MUST BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.
- 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.
- 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.
- THE HOWARD COUNTY TRAFFIC ENGINEER AND MSHA SHALL DETERMINE EXACT PLACEMENT OF THE TYPE III BARRICADES.
- ALL SIGNS SHALL CONFORM TO CURRENT MSHA MATERIAL AND REFLECTIVITY REQUIREMENTS.
- ALL DRIVEWAY ENTRANCES MUST BE MAINTAINED AT ALL TIMES.
- 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 PERIOD.
- ALL SIGNS SHALL BE COVERED OR REMOVED AT THE END OF THE WORK PERIOD.
- ALL SIGN LOCATIONS SHALL BE MARKED AND/OR APPROVED BY HOWARD COUNTY TRAFFIC (410-313-2430) AND MSHA PRIOR TO THE INSTALLATION OF ANY SIGNS.

TRAFFIC CONTROL NOTES (CONT.)

- ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL THE ROAD IS CLOSED.
- 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.
- ALL DETOURS AND ROADWAY WORK IN THE SHA R/W SHALL BE PERFORMED IN ACCORDANCE WITH THE SHA UTILITY PERMIT AND THE SHA MASTER PERMIT.
- THE CONTRACTOR SHALL CONSTRUCT THE FORCE MAIN FROM STATION 0+50 TO STATION 4+00 AT NIGHT, SUNDAY THROUGH THURSDAY 9:00PM TO 5:00AM.
- DAYTIME LANE CLOSURES ALONG US 1 ARE PERMITTED MONDAY THROUGH FRIDAY 9:00AM TO 3:00PM. NO WEEKEND WORK IS PERMITTED.

SEQUENCE OF CONSTRUCTION

- CONSTRUCT SEWER FORCE MAIN FROM STA. 4+00 TO STA. 19+00 USING MSHA STANDARD NO. 104.03-05, 104.03-11 AND 104.05-15. SEE SHEET T-02 FOR STANDARDS.
- CONSTRUCT SEWER FORCE MAIN FROM STA. 0+00 TO STA. 4+00 BY CLOSING MEADOWRIDGE ROAD AND DETOURING TRAFFIC AS SHOWN.

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	MOUNT ON TYPE III BARRICADE	(P)	EAST	M3-2 24"x12" (MIN.) (2 S.F.) BK/W	6	12.0	
(B)	→ DETOUR	M4-10R 48"x18" (6 S.F.) BK/O	1	6.0	MOUNT ON TYPE III BARRICADE	(R)	DETOUR	M4-8 24"x12" (2 S.F.) BK/O	15	30.0	
(C)	MARYLAND 103	M1-5 30"x24" (5 S.F.) BK/W	15	75.0		(S)					NOT USED
(D)	WEST	M3-4 24"x12" (2 S.F.) BK/W	9	18.0		(T)					NOT USED
(E)	→	M6-5 21"x15" (2.5 S.F.) BK/W	3	7.5	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	(U)	ROAD CLOSED 1/2 MILE	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0	
(F)	↙	M5-1L 21"x15" (2.5 S.F.) BK/W	4	10.0	SIGN MUST BE PLACED WITHIN 200' TO 800' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	(V)	ROAD CLOSED 1500FT	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0	
(G)	←	M6-1 21"x15" (2.5 S.F.) BK/W	4	10.0	SIGN MUST BE PLACED WITHIN 50' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY	(W)	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
(H)	↘	M5-1R 21"x15" (2.5 S.F.) BK/W	3	7.5	SIGN MUST BE PLACED WITHIN 200' TO 800' OF INTERSECTION WHEN LOCATED ON STATE HIGHWAY						
(J)	END DETOUR	M4-8a(1) 36"x24" (6 S.F.) BK/O	2	12.0							
(K)	ROAD CLOSED	R11-2 48"x30" (10 S.F.) BK/W	3	30.0	MOUNT ON TYPE III BARRICADE ABOVE M4-10						
(L)	ROAD CLOSED 1 MILE	W20-3(1) 48"x48" (16 S.F.) BK/O	2	32.0							
(M)					NOT USED						
(N)	↑	M6-3 21"x15" (2.5 S.F.) BK/W	1	2.5							

AS-BUILT
DATE 12-5-2016

PLOTTED: 11:50 AM on Friday, December 12, 2014
 BY: Kevin Jackson, Division 042, Waterway Engineering, 13226778, NOT-001 PLAN.dgn

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 11/25/15
 Chief, Bureau of Engineering: *[Signature]* DATE: 11/15/15
 Chief, Utility Design Division: *[Signature]* DATE: 11/15/15

ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

KCI TECHNOLOGIES
 936 RIDGEBROOK ROAD
 SOWAS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com



DES: AMH					
DRN: KFJ					
CHK: JFL					
DATE: DEC, 2014	BY	NO.	REVISION	DATE	600' SCALE MAP NO. 37 & 43

TRAFFIC CONTROL PLAN

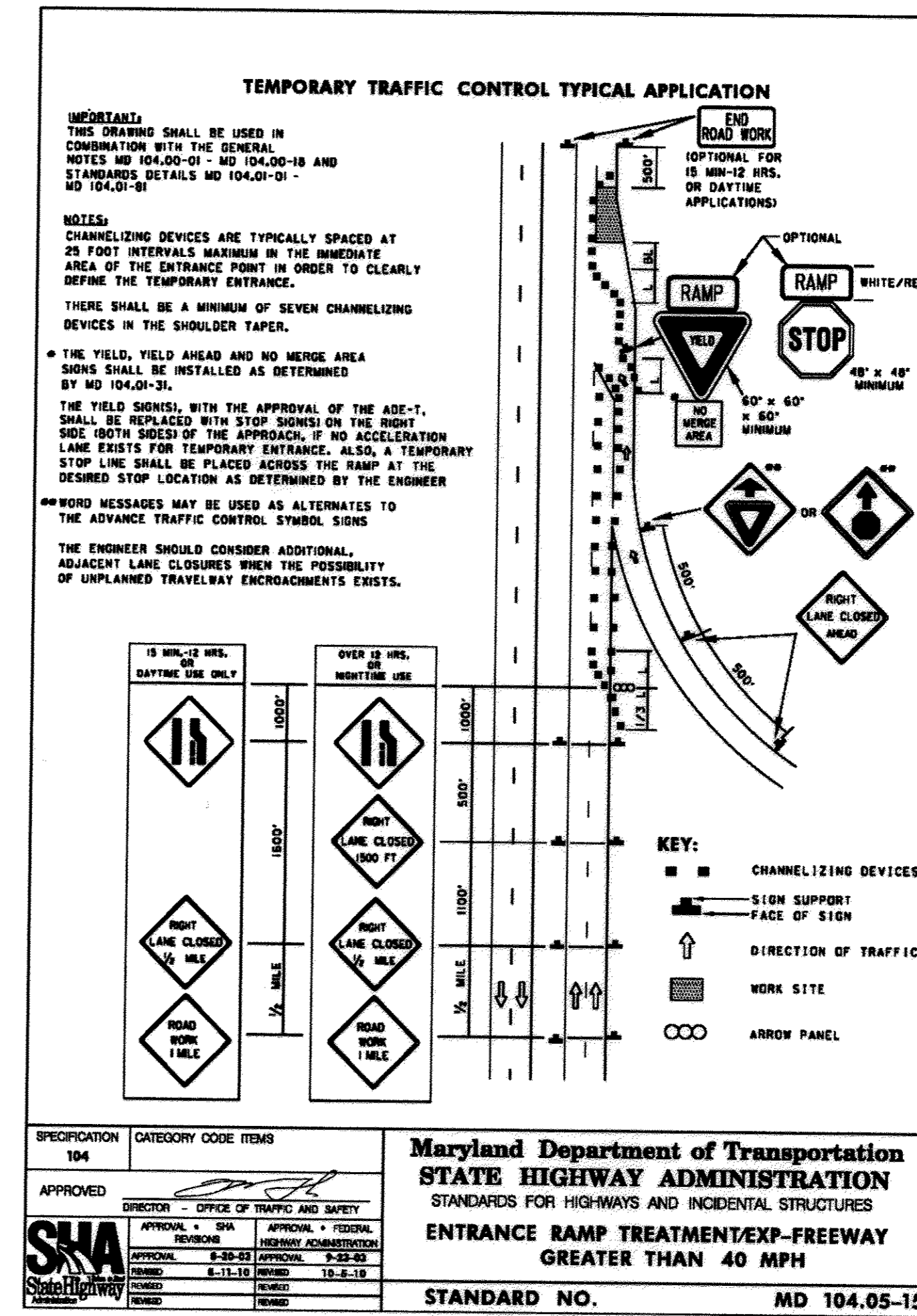
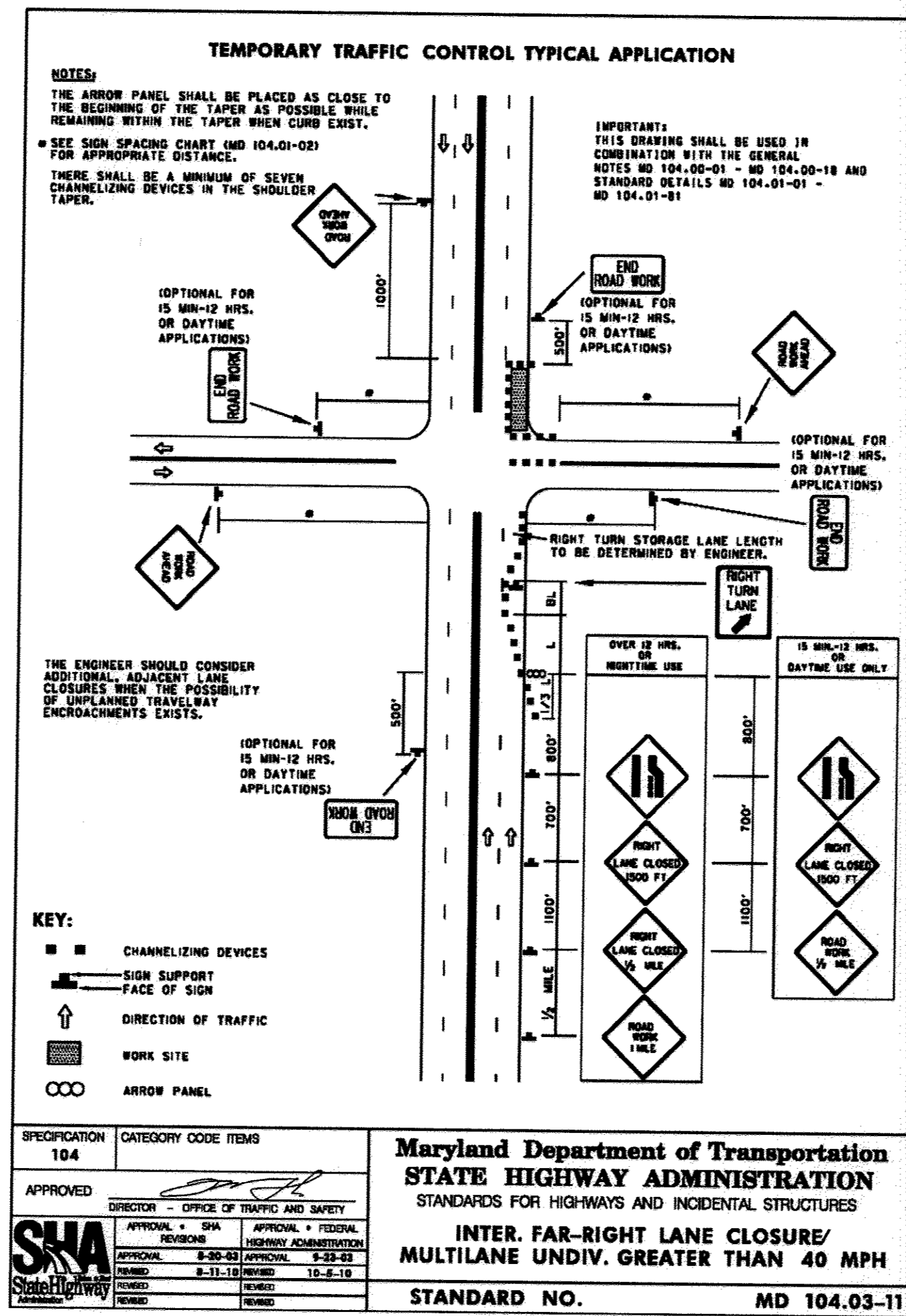
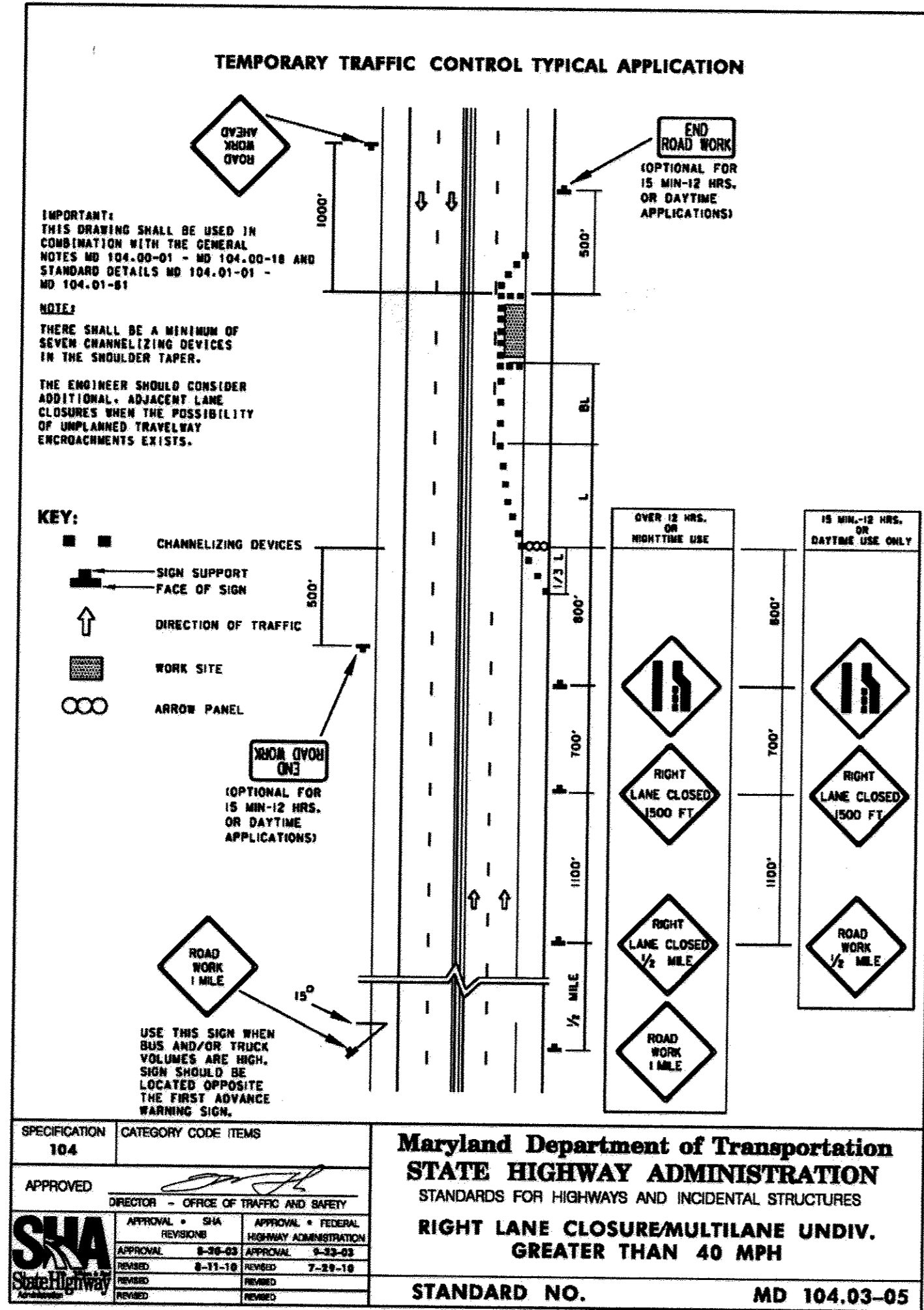
DATE: 600' SCALE MAP NO. 37 & 43 BLOCK NO. 23 & 5

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT

CAPITAL PROJECT No. S-6279
 CONTRACT No. 10-4844

ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND

T-01
SCALE AS SHOWN
SHEET 7 OF 15



PLOTTED: 11:51 AM on Friday, December 12, 2014
 By: Kevin Jackson, Division: P042 Water-WW Emp
 File: \\s0222\33222776\Drawings\1312261718-MDT-002-DET\AS-BUILT.dgn

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: 12/27/2016

AS-BUILT
 DATE 12-5-2016

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p> <i>Kevin Jackson</i> 11/26/15 DIRECTOR OF PUBLIC WORKS DATE </p> <p> <i>Michael Butler</i> 11/15/15 CHIEF, BUREAU OF ENGINEERING DATE </p> <p> <i>Scott C. Gorman</i> 11/26/15 CHIEF, BUREAU OF UTILITIES DATE </p>	<p> ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS KCI TECHNOLOGIES 936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 WWW.KCI.COM </p>		<p>DES: AMH</p> <p>DRN: KFJ</p> <p>CHK: JFL</p> <p>DATE: DEC., 2014</p>	<p style="text-align: center;">TRAFFIC CONTROL DETAILS</p> <p>BY NO. REVISION DATE</p> <p>600' SCALE MAP NO. 37 & 43 BLOCK NO. 23 & 5</p>	<p style="text-align: center;">MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT</p> <p style="text-align: center;"> CAPITAL PROJECT No. S-6279 CONTRACT No. 10-4844 ELECTION DISTRICT NO. 2 HOWARD COUNTY, MARYLAND </p>	<p>T-02</p> <p>SCALE AS SHOWN</p> <p>SHEET</p> <p>8 OF 15</p>
---	--	--	---	--	--	---

KCI TECHNOLOGIES PROJECT NO.: 13-12287716

GENERAL ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
ADDL	ADDITIONAL	GALV	GALVANIZED
ALT	ALTERNATE	GPM	GALLONS PER MINUTE
ARV	AIR RELEASE VALVE	GS	GALVANIZED STEEL
BF	BLIND FLANGE	GST	GRAVITY SLUDGE THICKENER
BFV	BUTTERFLY VALVE	GV	GATE VALVE
BLDG	BUILDING	GWRV	GROUND WATER RELIEF VALVE
BV	BALL VALVE	H	HIGH/HEIGHT
CI	CAST IRON	HORIZ	HORIZONTAL
CL	CENTER LINE	HP	HIGH POINT/HORSE POWER
CLR	CLEAR / CLEARANCE	HWA	HIGH WATER ALARM
CONC	CONCRETE	HWL	HIGH WATER LEVEL
CONT	CONTINUOUS	ID	INSIDE DIAMETER
CV	CHECK VALVE	IE	INVERT ELEVATION
CV	CHEMICAL VAULT	IMC	INTERNATIONAL MECH. CODE
D	DEEP /DEPTH	INCR	INCREASER
DIA	DIAMETER	INV	INVERT
DIP	DUCTILE IRON PIPE	JB	JUNCTION BOX
DWG	DRAWING	JC	JUNCTION CHAMBER
E	EAST / EASTING	L	LONG / LENGTH
ECC	ECCENTRIC	LF	LINEAR FEET
EF	EACH FACE	LP	LOW POINT
EFF	EFFLUENT	LWA	LOW WATER ALARM
EJ	EXPANSION JOINT	LWL	LOW WATER LEVEL
EL & ELEV	ELEVATION	MAX	MAXIMUM
ELL	ELBOW	MFR	MANUFACTURER
EQ	EQUALIZATION	MG	MILLION GALLON
EW	EACH WAY	MGD	MILLION GALLONS PER DAY
EXIST	EXISTING	MIN	MINIMUM
FCA	FLANGED COUPLING ADAPTER	MJ	MECHANICAL JOINT
FCV	FLOW CONTROL VALVE	MSS	MANUFACTURERS STANDARDIZATION SOCIETY
FF	FINISHED FLOOR	N	NORTH / NORTHING
FH	FIRE HYDRANT	NC	NORMALLY CLOSED
FIN	FINISH OR FINISHED	NGVD	NATIONAL GEODETIC VERTICAL DATUM
FLG	FLANGE	NPT	NATIONAL PIPE THREAD
FLR	FLOOR	NTS	NOT TO SCALE
FM	FORCEMAIN		
FPM	FEET PER MINUTE		
FRP	FIBERGLASS REINFORCED PLASTIC		

FLOWSTREAM ABBREVIATIONS

SYMBOL	DESCRIPTION
AHP	AIR HIGH PRESSURE
ALP	AIR LOW PRESSURE
CW	COLD WATER
D	DRAIN
DS	DIGESTED SLUDGE
DW	DILUTING WATER
FCH	FERRIC CHLORIDE
FW	FLUSHING WATER
G	GAS
GS	GRIT SLURRY
HW	HOT WATER
IR	INTERNAL RECYCLE
NAOH	SODIUM HYDROXIDE
NPW	NON POTABLE WATER
OVF	OVERFLOW
P	POLYMER
PS	PRIMARY SLUDGE
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RD	ROOF DRAIN
RS	RAW SEWAGE
SC	SCUM
S	SANITARY DRAIN OR SEWER
SEP	SEPTAGE
SHC	SODIUM HYPOCHLORITE
SSC	SECONDARY SCUM
SW	SEAL WATER
TD	TANK DRAIN
TS	THICKENED SLUDGE
TWAS	THICKENED WASTE ACTIVATED SLUDGE
UW	UTILITY WATER
WAS	WASTE ACTIVATED SLUDGE

ANNOTATION

WATER SURFACE ELEVATION	
ONE WAY FLOW DIRECTION	
BOTH WAYS FLOW DIRECTION	
NEW WORK	
EXISTING	
DEMOLITION	
EQUIPMENT TAG	
FLOWSTREAM IDENTIFIER (SIZE AND SERVICE)	

GENERAL MECHANICAL NOTES:

- COORDINATE ALL SHUTDOWNS AND SEQUENCING WITH THE OWNER.
- OWNER WILL MAINTAIN AND OPERATE EXISTING EQUIPMENT. CONTRACTOR SHALL NOT OPERATE EXISTING VALVES OR EQUIPMENT.
- UNLESS OTHERWISE NOTED, ITEMS ARE NEW UNLESS CALLED OUT AS EXISTING.
- COORDINATE ALL WORK TO AVOID EQUIPMENT CLEARANCE ISSUES.
- CHECK ALL DIMENSIONS OF EXISTING CONSTRUCTION WHICH AFFECT NEW WORK.
- STRUCTURE ELEVATIONS PROVIDED FOR CLARITY AND ARE BASED ON RECORD DRAWINGS. SEE NOTE 5 ABOVE.
- COORDINATE HATCH LOCATIONS, GRATING AND CLEAR OPENINGS TO SUIT EQUIPMENT REMOVAL.
- COORDINATE ALL PENETRATIONS WITH OTHER DISCIPLINES. ALL PENETRATIONS SHALL BE WATER TIGHT.
- PIPING CONNECTIONS 3 INCH AND SMALLER HAVE BEEN SCHEMATICALLY SHOWN ON PLAN AND SECTION DRAWINGS. PROVIDE PIPE ROUTING AND ALL APPURTENANCES IN ACCORDANCE WITH RESPECTIVE SCHEMATICS. PROVIDE ALL NECESSARY FITTINGS TO MAKE CONNECTIONS. UNIONS, BUSHING AND/OR REDUCING INSERTS, ETC. NOT SHOWN ON DRAWINGS BUT REQUIRED FOR INSTALLATION SHALL BE FURNISHED AND INSTALLED.
- SCHEMATIC DRAWINGS SHOW PROCESS CONNECTIONS AND NOT SPATIAL ORIENTATION.
- THE SIZE OF THE PIPE CONNECTIONS AT THE PROCESS EQUIPMENT ARE SHOWN TO DEMONSTRATE INTENT. SIZES MAY VARY FROM WHAT IS SHOWN. COORDINATE THE SIZE OF CONNECTIONS TO ALL APPROVED PROCESS EQUIPMENT.
- SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED.
- WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.
- UNLESS OTHERWISE NOTED, MINIMUM SLOPE FOR DRAINS SHALL BE 1/4 INCH PER LINEAR FOOT.
- PROVIDE PROCESS PIPING DRAINS WHERE INDICATED AND AT THE FOLLOWING: BETWEEN PUMP SUCTION AND DISCHARGE ISOLATION VALVES. PUMP DRAINS SHALL BE ON THE SUCTION SIDE OF CENTRIFUGAL PUMPS.
- UNLESS OTHERWISE NOTED, ECCENTRIC REDUCERS SHALL BE INSTALLED FLAT SIDE ON TOP.
- CONTRACTOR SHALL CONFIRM ALL VALVE OPERATORS ORIENTATION WITH ENGINEER.
- VALVES ARE NORMALLY OPEN (N.O.) UNLESS NOTED AS NORMALLY CLOSED (N.C.).
- COORDINATE THE LOCATION OF VALVE SUPPORTS SO THAT ACCESS TO THE VALVE BEARINGS IS NOT RESTRICTED.
- UNLESS OTHERWISE NOTED, ALL EQUIPMENT SHALL BE PROVIDED WITH A MINIMUM 4-INCH CONCRETE HOUSEKEEPING PAD SIZED TO SUIT EQUIPMENT.
- SUPPORTS AND HANGERS ARE ONLY SHOWN WHERE SPECIFIC TYPES OR LOCATIONS ARE REQUIRED. ADDITIONAL SUPPORTS AND HANGERS SHALL BE REQUIRED AS SPECIFIED.
- METAL FABRICATIONS WITH BURS, SHARP EDGES OR POSE A HAZARD SHALL BE MADE DULL/BLUNT OR SHALL BE PROVIDED WITH AN APPROPRIATE COVERING THAT SHALL MITIGATE AND DRAW ATTENTION TO THE HAZARD.
- ALL DUCTS, AIR HANDLERS, FANS AND FILTER BOXES SHALL BE SEALED IN ACCORDANCE WITH SECTION 603.9 OF THE IMC.

PROCESS PIPING SYMBOLS

	DOUBLE LINE	SINGLE LINE
FLANGED PIPING (4" & LARGER)		
MECHANICAL JOINT PIPING (4" & LARGER)		
RIGID GROOVED PIPING (4" & LARGER)		
THREADED PIPE		
ELBOW UP		
ELBOW DOWN		
TEE UP		
TEE DOWN		
LATERAL UP		
LATERAL DOWN		
CONCENTRIC REDUCER		
ECCENTRIC REDUCER		
UNION		
FLANGED COUPLING ADAPTER		
FLEXIBLE COUPLING		
METAL BELLOWS EXP JOINT		
ELASTOMER BELLOWS EXP JOINT		
PIPE CAP		

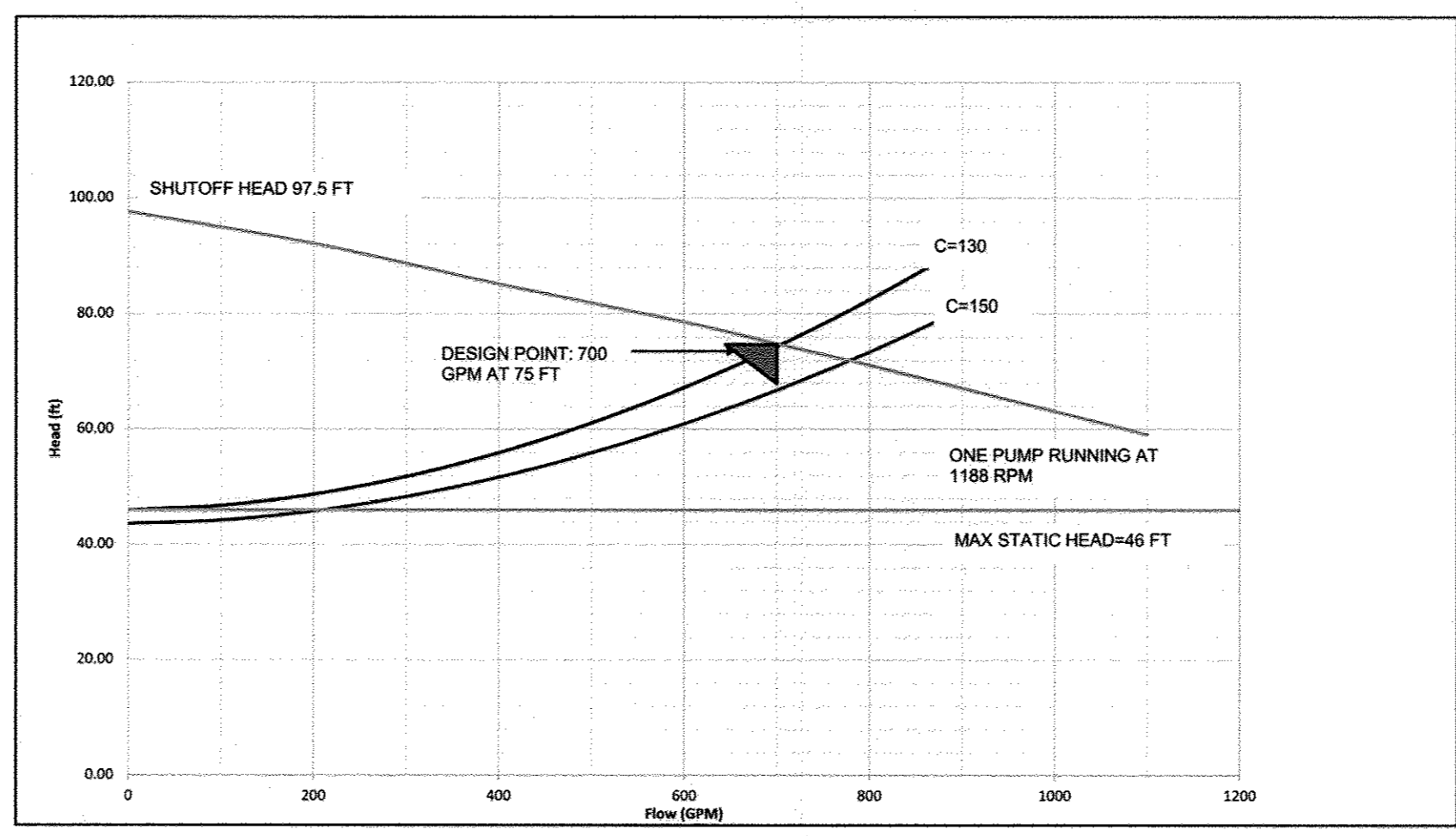
VALVE SYMBOLS

BACKFLOW PREVENTOR	
PLUG VALVE*	
GATE VALVE	
CHECK VALVE	
BALL VALVE	
PRESSURE REDUCING VALVE	
PRESSURE RELIEF VALVE	
PUMP CONTROL VALVE	
MAGNETIC FLOW METER	

*SHADED PORTION INDICATES SEATING SIDE OF VALVE

EQUIPMENT SYMBOLS

SLIDE GATE	
CENTRIFUGAL PUMP	
HYDRAULIC ACTUATOR	
MOTOR ACTUATOR	
HEAT TRACE	



NOTE: MAXIMUM MOTOR HORSEPOWER IS 25.

1 PUMP AND SYSTEM CURVE
M-01 SCALE: NONE

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. 33984 EXPIRATION DATE 01-15-2017

NOTE: THIS IS A STANDARD LEGEND AND ABBREVIATIONS SHEET. NOT ALL THE INFORMATION SHOWN ON THIS LEGEND IS USED ON THIS PROJECT.

AS-BUILT
DATE 12-5-2016

Jan 08, 2015 - 2:47pm User: Lisa Peterson K:\2013\12287716\LEGEND & ABBREVIATIONS.dwg

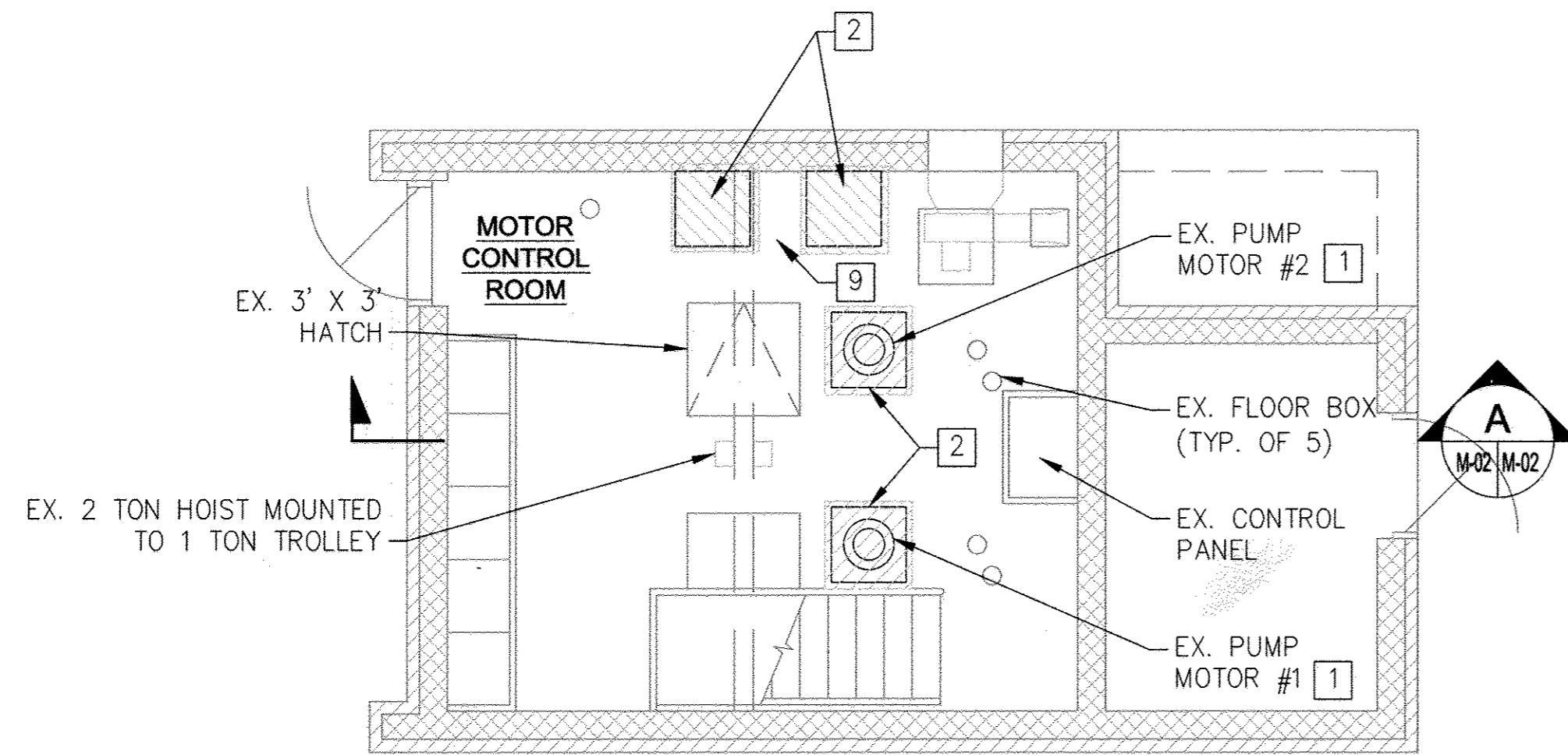
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>John A. ...</i> DIRECTOR OF PUBLIC WORKS DATE 1/15/15</p> <p><i>Thomas S. ...</i> CHIEF, BUREAU OF UTILITIES DATE 1/15/15</p>	<p>KCI TECHNOLOGIES</p> <p>ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS</p> <p>936 RIDGEBROOK ROAD SHARPS, MD 21152 PHONE: (410) 316-7800 FAX: (410) 316-7817 www.kci.com</p>	<p>STATE OF MARYLAND PROFESSIONAL ENGINEER LICENSE NO. 33984 EXPIRATION DATE 01-15-2017</p>	<p>DES: LAP</p> <p>DRN: MGH</p> <p>CHK: LAP</p> <p>DATE: DEC, 2014</p>	<p>MECHANICAL PROCESS LEGEND, ABBREVIATIONS AND GENERAL NOTES</p>	<p>MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT</p> <p>CAPITAL PROJECT NO. S-6279 CONTRACT NO. 10-4844</p>	<p>ELECTION DISTRICT 2</p> <p>HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 9 OF 15</p>
---	---	---	--	---	---	---	--

GENERAL SHEET NOTES

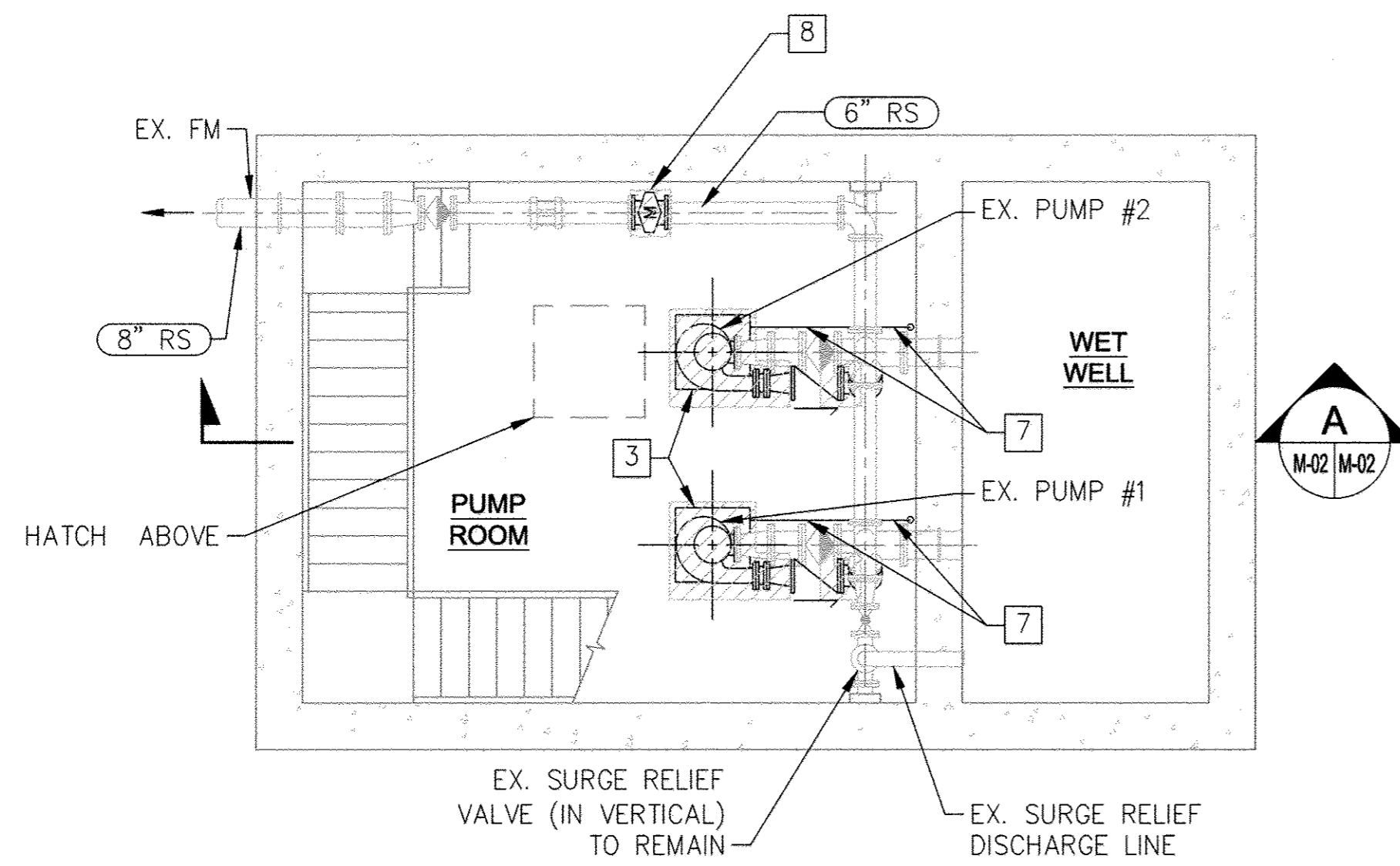
1. COUNTY RESERVES RIGHT TO SALVAGE OF REMOVED EQUIPMENT.
2. NOT ALL EXISTING COMPONENTS ARE SHOWN FOR CLARITY.

REMOVAL NOTES

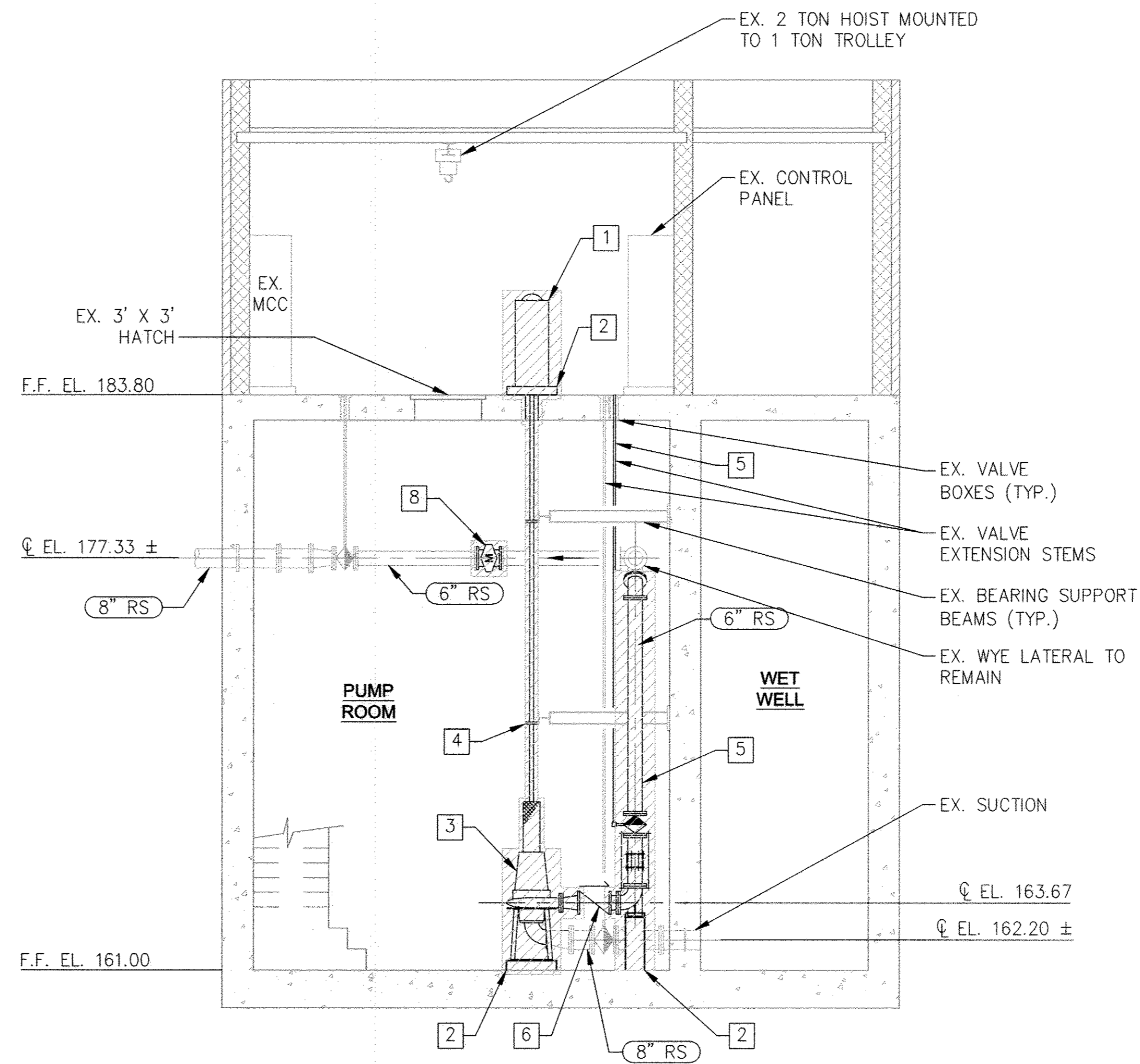
- 1 REMOVE EX. ELECTRIC PUMP MOTOR AND APPURTENANCES.
- 2 REMOVE EX. EQUIPMENT PAD AND REPAIR CONCRETE FLOOR. GROUT SMOOTH TO MATCH EX. FLOOR.
- 3 REMOVE EX. SEWAGE PUMP AND APPURTENANCES.
- 4 REMOVE EX. SHAFTING, COUPLINGS, BEARINGS, AND APPURTENANCES.
- 5 REMOVE EX. DISCHARGE PIPING, VALVES AND APPURTENANCES.
- 6 RELOCATE EX. CHECK VALVE.
- 7 REMOVE EX. SEAL WATER DRAIN PIPING.
- 8 REMOVE EX. MAGNETIC FLOWMETER.
- 9 CORE DRILL FLOOR TO SUIT NEW PUMP CABLE PENETRATIONS. SEE ELECTRICAL DRAWINGS.



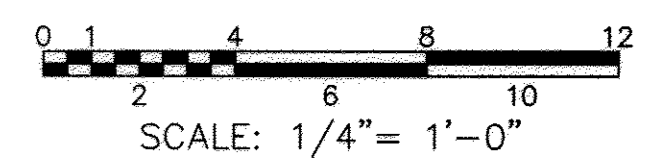
1 DEMOLITION PLAN: GRADE LEVEL
M-02 SCALE: 1/4"=1'-0"



2 DEMOLITION PLAN: LOWER LEVEL
M-02 SCALE: 1/4"=1'-0"



A SECTION: DEMOLITION
M-02 M-02 SCALE: 1/4"=1'-0"



AS-BUILT
DATE 12-5-2016

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. 33984 EXPIRATION DATE 01-15-2017

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Lora Peterson 1/28/15
DIRECTOR OF PUBLIC WORKS DATE

Thomas J. Butler 1/15/15
CHIEF, BUREAU OF UTILITIES DATE

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
936 RIDGEBROOK ROAD
SHARPS, MD 21152
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com

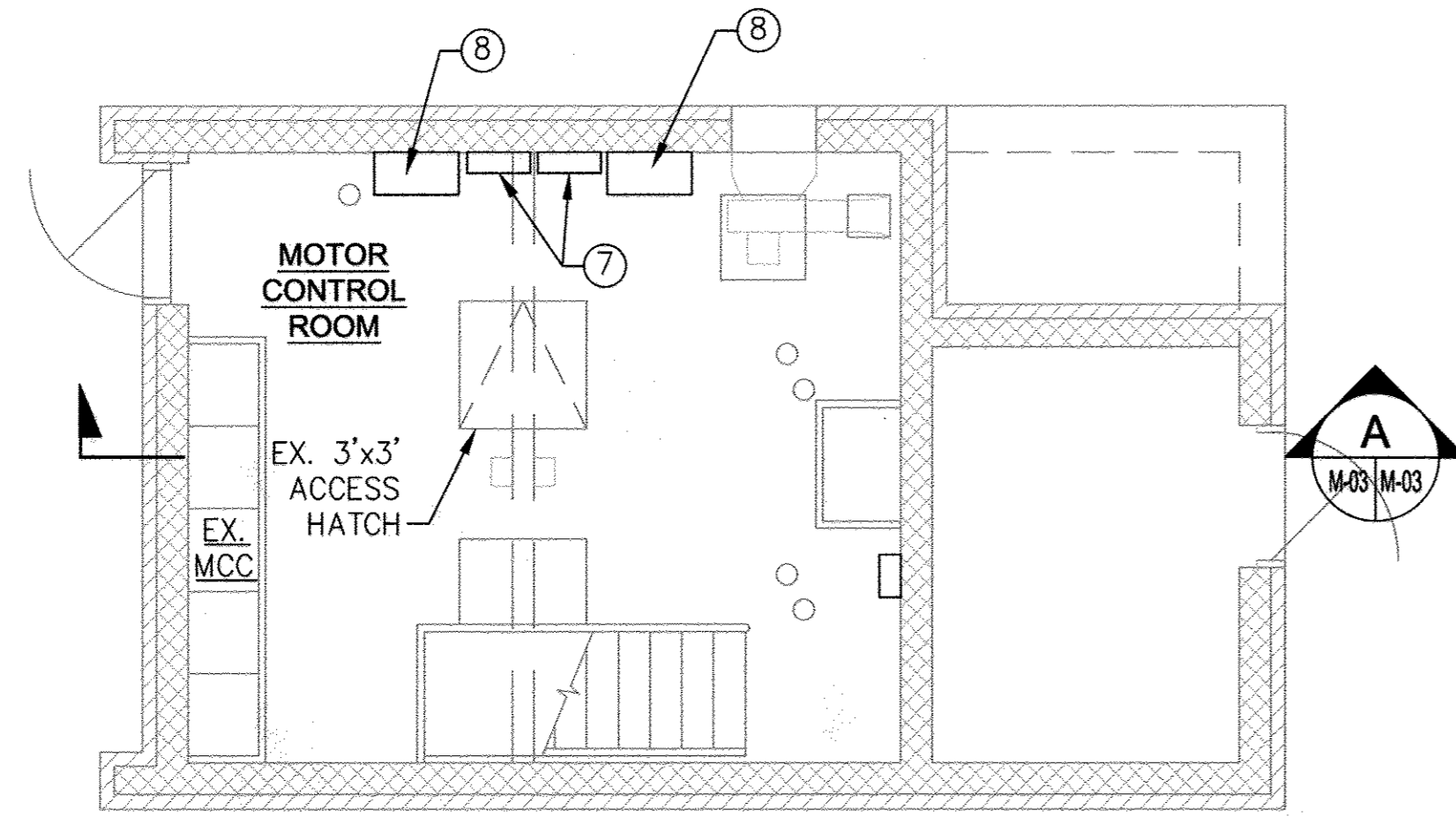
STATE OF MARYLAND
LARA A. PETERSON
PROFESSIONAL ENGINEER
LICENSE NO. 33984
1/8/15

DES: LAP					
DRN: MGH					
CHK: LAP					
DATE: DEC., 2014	BY	NO.	REVISION	DATE	

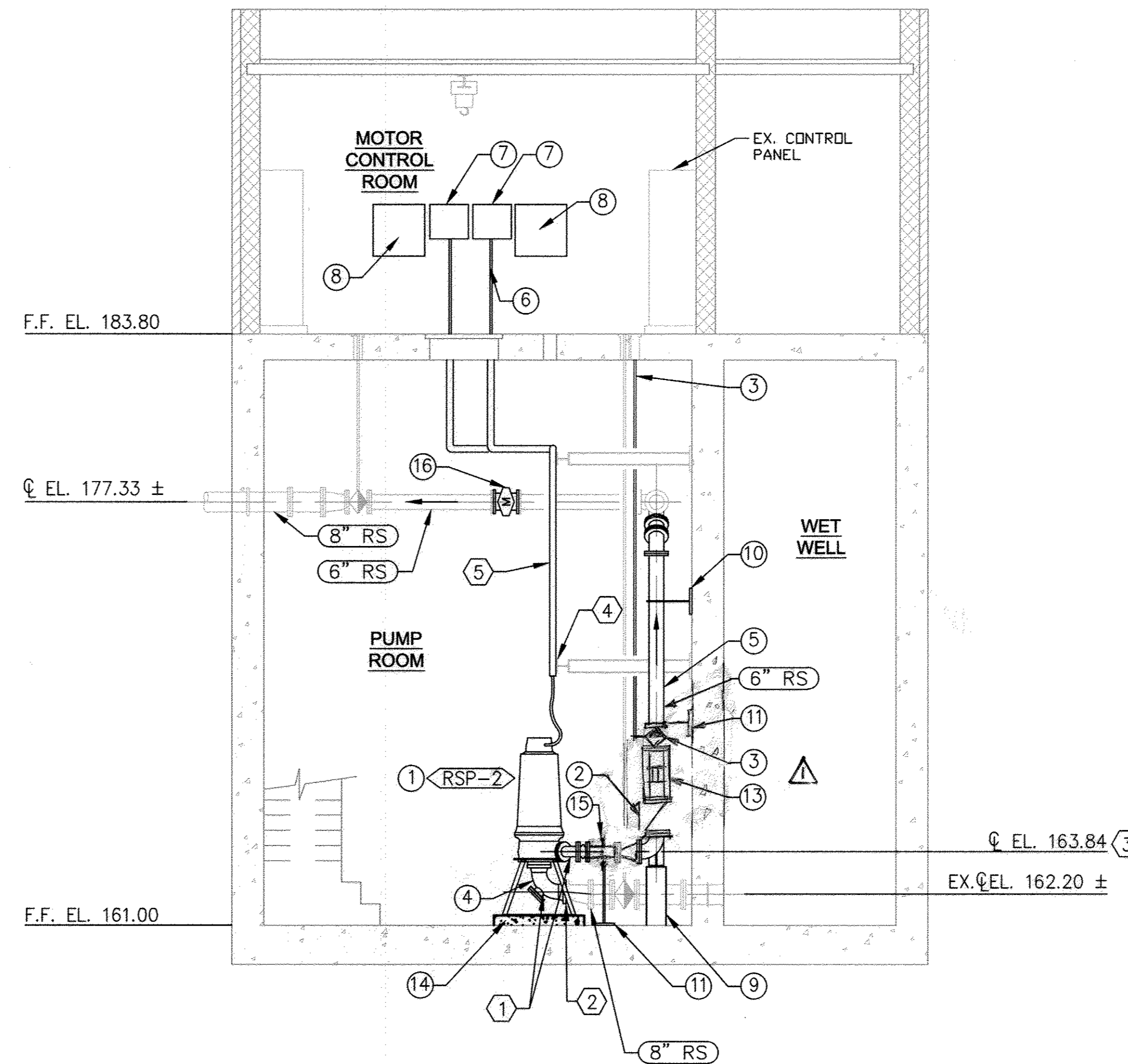
PUMPING STATION
DEMOLITION PLANS AND SECTION

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT
CAPITAL PROJECT NO. S-6279
CONTRACT NO. 10-4844
ELECTION DISTRICT 2
HOWARD COUNTY, MARYLAND

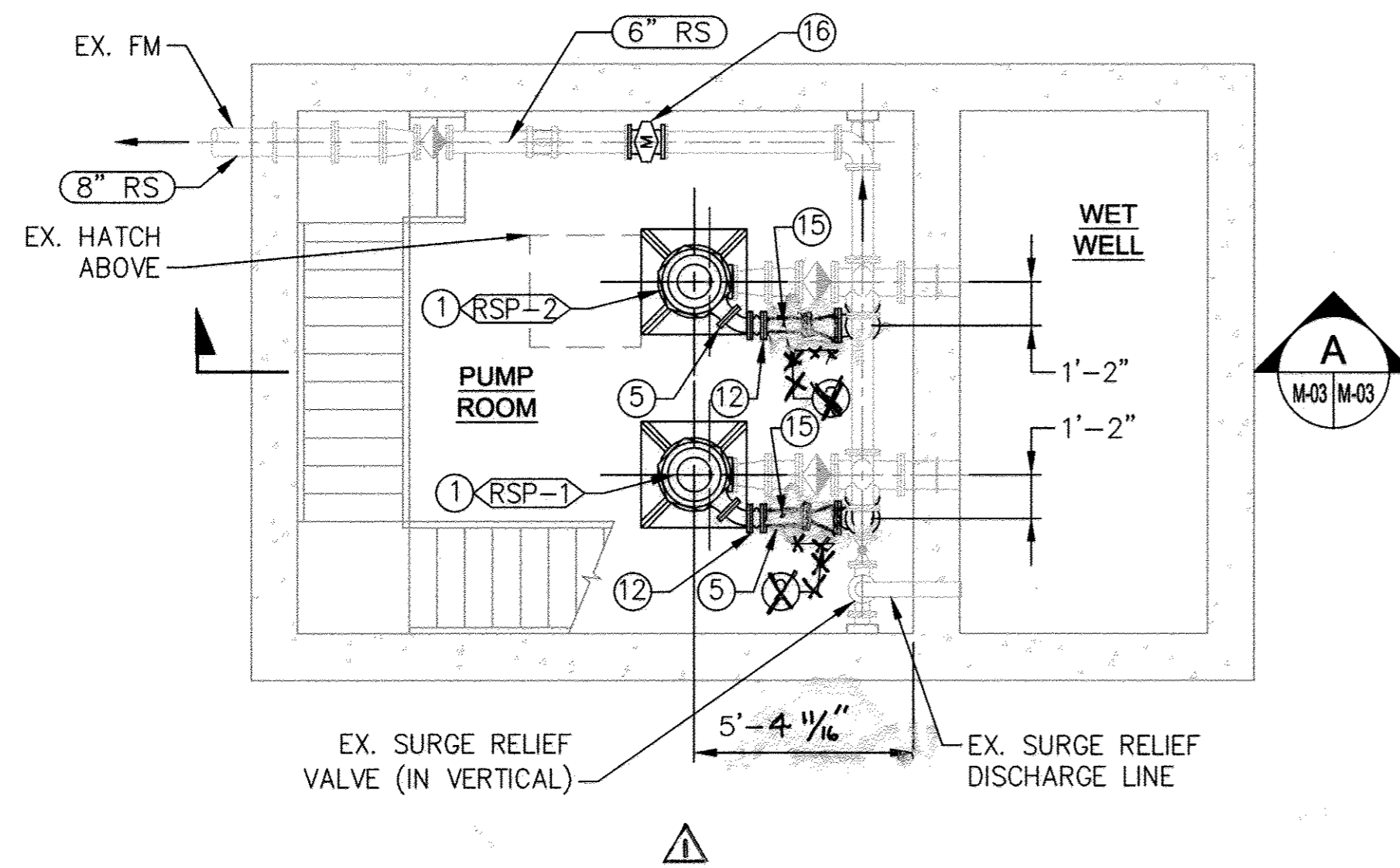
M-02
SCALE AS SHOWN
SHEET
10 OF 15



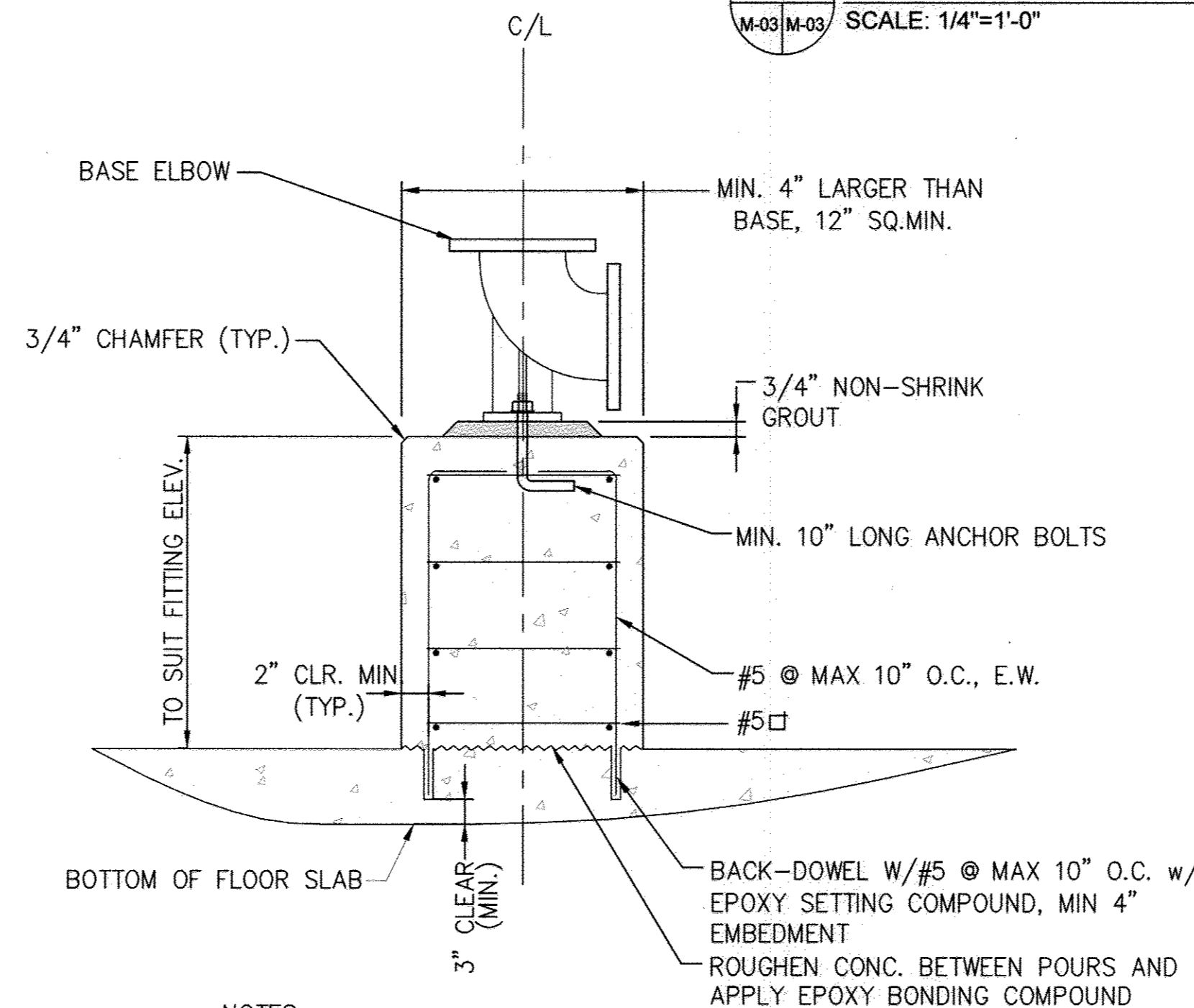
1 NEW PLAN: GRADE LEVEL
M-03 SCALE: 1/4"=1'-0"



A SECTION: NEW WORK
M-03 M-03 SCALE: 1/4"=1'-0"

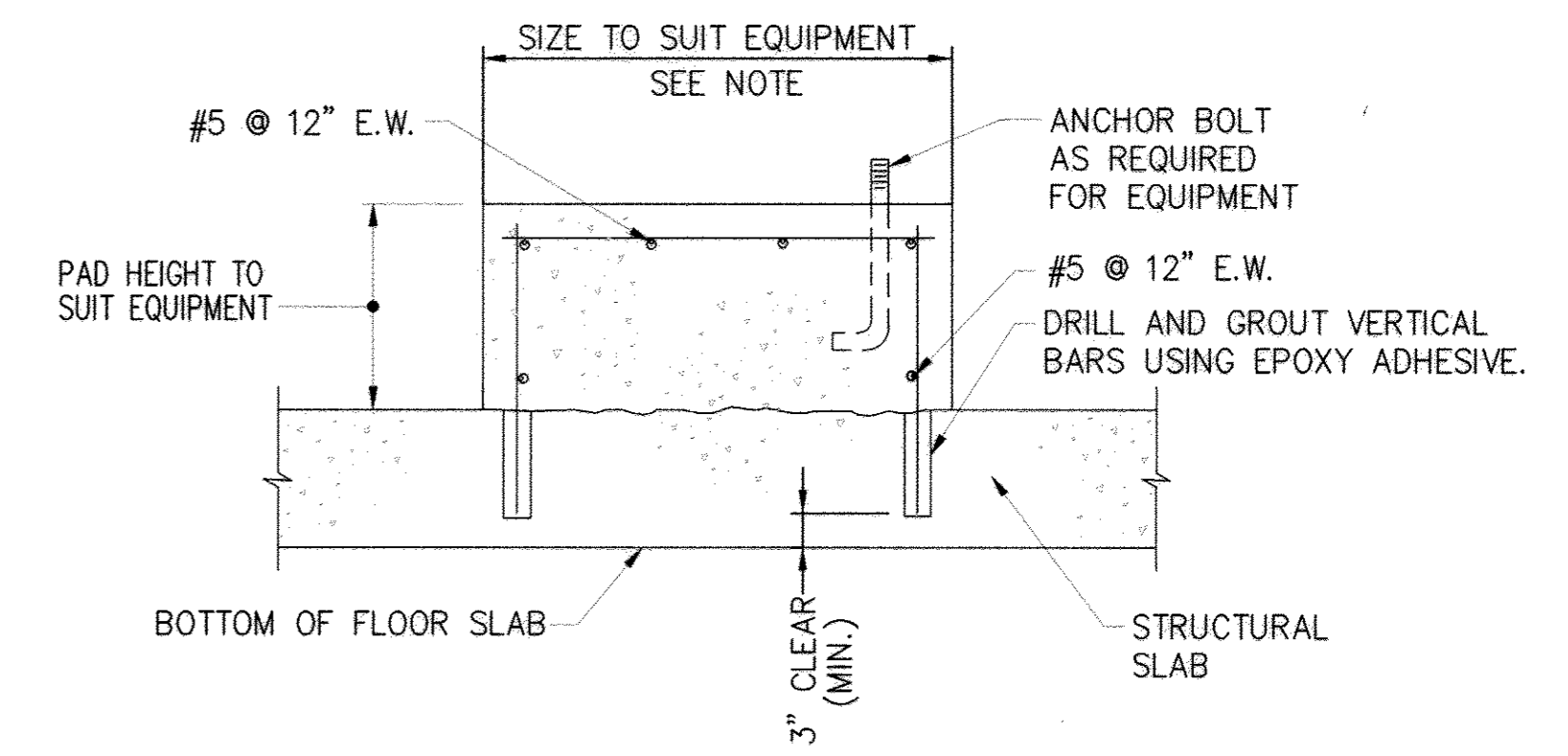


2 NEW PLAN: LOWER LEVEL
M-03 SCALE: 1/4"=1'-0"

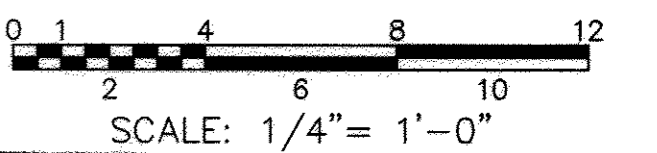


- NOTES:
 1. BASE FITTING DIMENSIONS SHALL BE CONFIRMED WITH THE MANUFACTURER PRIOR TO CONSTRUCTION.
 2. INSTALL BASE ELBOW IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 3. DETAIL IS SIMILAR FOR BASE TEES.

B DETAIL: CONCRETE BASE PEDESTAL
M-03 SCALE: NOT TO SCALE



C DETAIL: CONCRETE EQUIPMENT PAD
M-03 SCALE: NOT TO SCALE



AS-BUILT
DATE 12-5-2016

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. 33984 EXPIRATION DATE 01-15-2017

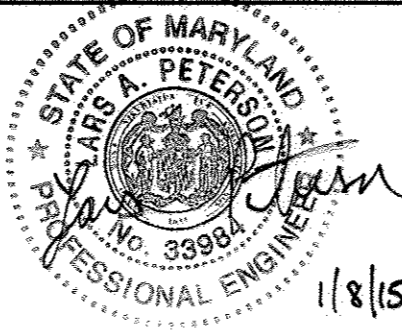
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James A. Butler
 DIRECTOR OF PUBLIC WORKS
 DATE 1/15/15

Thomas J. Butler
 CHIEF, UTILITY DESIGN DIVISION
 DATE 1/15/15



ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 936 RIDGEBROOK ROAD
 SHARPS, MD 21152
 PHONE: (410) 316-7800
 FAX: (410) 316-7817
 www.kci.com



DES: LAP
 DRN: MGH
 CHK: LAP
 DATE: 12/5/16
 DEC., 2014

BY	KCI	NO.	AS-BUILT
REVISION			
DATE	12/5/16		

PUMPING STATION
 NEW WORK PLANS AND SECTION

MEADOWRIDGE WASTEWATER PUMP STATION
 UPGRADE AND FORCE MAIN REPLACEMENT

CAPITAL PROJECT NO. S-6279
 CONTRACT NO. 10-4844

ELECTION DISTRICT 2

HOWARD COUNTY, MARYLAND

M-03
 SCALE AS SHOWN
 SHEET 11 OF 15

GENERAL ELECTRICAL NOTES

(THESE NOTES APPLY TO ALL ELECTRICAL DRAWINGS.)

- ALL WORK AND EQUIPMENT SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL MECHANICAL CODE, THE LOCAL FIRE MARSHALL, UNDERWRITERS LABORATORY (UL), FM, OSHA, AND THE NATIONAL ELECTRICAL CODE (NEC) AND MARYLAND BUILDING PERFORMANCE STANDARDS REGULATIONS (COMAR 05.02.07). WHERE CONTRACT DOCUMENT REQUIREMENTS ARE IN EXCESS OF CODE REQUIREMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN. DEVIATIONS FROM THE CONTRACT DOCUMENTS REQUIRED BY THE ABOVE AUTHORITIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- ALL SPECIFICATIONS AND DRAWINGS, I.E., ARCHITECTURAL, MECHANICAL, PLUMBING, STRUCTURAL, FIRE PROTECTION, AND ELECTRICAL ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION. IF ANY INFORMATION CONFLICTS WITHIN THE SPECIFICATIONS AND DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- CONTRACTORS SHALL VERIFY ALL POINTS OF CONNECTION BEFORE COMMENCING WORK. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES. CONTRACTOR SHALL REMOVE ALL WASTE MATERIALS, DEBRIS, AND RUBBISH FROM SITE AND LEGALLY DISPOSE OF IT.
- CONTRACTOR SHALL COORDINATE, PREPARE AND SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL AND BRING AREAS OF POTENTIAL CONFLICT TO THE ENGINEER'S ATTENTION.
- A SET OF MEP RECORD/COORDINATION DRAWINGS SHALL BE MAINTAINED IN THE CONTRACTOR'S OFFICE AT THE JOB SITE. ACTUAL LOCATIONS OF ALL EQUIPMENT, PIPING, DUCTWORK, ETC., AND ALL DEVIATIONS OF THE WORK FROM THAT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE MARKED ON THE RECORD/COORDINATION DRAWINGS. EACH TRADE SHALL REVIEW THE COORDINATION DRAWINGS AND RESOLVE ANY POTENTIAL CONFLICTS WITH OTHER TRADES PRIOR TO INSTALLING ANY PORTION OF THERE WORK. CONTRACTOR SHALL NOT CORE, DRILL, OR CUT CONCRETE SLABS FOR ANY REASON WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THE ENGINEER.
- WORK SHALL BE EXECUTED IN A GOOD WORKMANLIKE MANNER USING MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR ALL COORDINATING THE WORK UNDER THIS CONTRACT. MAINTAIN THE CONSTRUCTION PREMISES IN A NEAT AND ORDERLY CONDITION AT THE END OF EACH WORKING DAY.
- IN CASES OF DOUBT AS TO THE WORK INTENDED, OR IN THE EVENT OF NEED FOR EXPLANATION THEREOF, THE CONTRACTOR SHALL REQUEST SUPPLEMENTARY INSTRUCTIONS FROM THE COR. NO CHANGES ARE TO BE MADE TO THE WORK OF THIS CONTRACT WITHOUT PRIOR KNOWLEDGE AND APPROVAL OF THE COR. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK, WHICH HE EXPECTS ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT, WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER. FAILURE TO OBTAIN SUCH AUTHORIZATION SHALL INVALIDATE ANY CLAIM FOR EXTRA COMPENSATION.
- THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE INSTALLING CONTRACTOR ANY SLAB-TO-SLAB PARTITIONS IN ORDER TO PRESERVE RETURN AIR PATHWAYS. ALL PENETRATIONS OF SLAB-TO-SLAB PARTITIONS SHALL BE SEALED AIRTIGHT. CONTRACTOR SHALL VERIFY PARTITION RATING AND PROVIDE FIRE DAMPER AND ACCESS DOOR AS REQUIRED. CURTAIN TYPE DAMPERS SHALL BE WITH THE CURTAIN OUT OF THE AIR STREAM.
- WHEREVER FIRE RATED WALLS OR PARTITIONS ARE PENETRATED FOR WIRE, DUCT, OR PIPE PASSAGE, SEAL PASSAGE WITH CODE APPROVED, LABORATORY TESTED AND LABELED SEALANT OF FIRE RESISTANCE RATING NOT LESS THAN THAT OF PENETRATED ASSEMBLY THAT WILL PREVENT PASSAGE OF FIRE AND SMOKE.
- CONTRACTOR SHALL MAKE ALL FINAL EQUIPMENT CONNECTIONS AND PROVIDE THE NECESSARY DEVICES, ETC. FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE REQUIREMENT FOR PROVISION OF MOTOR STARTERS, DISCONNECTS, CONTACTORS, CONTROL WIRING, ETC. AS REQ.
- ARRANGE CONDUIT, WIRING, EQUIPMENT AND OTHER WORK GENERALLY AS SHOWN, PROVIDING PROPER CLEARANCE AND ACCESS AS REQUIRED PER 2011 NEC. CAREFULLY EXAMINE ALL CONTRACT DRAWINGS AND COORDINATE THE WORK WITH ALL TRADES, WHERE DEPARTURES ARE PROPOSED BECAUSE OF FIELD CONDITIONS OR OTHER CAUSES, PREPARE AND SUBMIT DETAILED DRAWINGS FOR ACCEPTANCE BY THE ENGINEER.
- THE CONTRACT DRAWINGS ARE DIAGRAMMATIC. ALL OFFSETS, BENDS, FITTINGS AND ACCESSORIES ARE NOT NECESSARILY SHOWN. PROVIDE ALL SUCH ITEMS AS REQUIRED FOR COMPLETE OPERATIONAL SYSTEM.
- NOT USED.
- CONTRACTOR SHALL ACCOMPANY OWNER'S REPRESENTATIVE FOR INSPECTION AND APPROVAL AT PROJECT COMPLETION.
- CONTRACTOR SHALL OBTAIN ALL PERMITS, CERTIFICATES OF INSPECTION REQUIRED BY THE OWNER'S REPRESENTATIVE. ALL FEES SHALL BE WAIVED BY THE COUNTY.
- MARK EACH ABOVE CEILING JUNCTION BOX COVER WITH RESPECTIVE PANEL BOARD/CIRCUIT NUMBER.
- THE CONTRACTOR IS SPECIFICALLY RESPONSIBLE FOR ALL MEANS AND METHODS OF JOB SAFETY. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.

- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE AREA OF WORK PRIOR TO THE START OF CONSTRUCTION.
- THE INFORMATION PROVIDED IN THESE DRAWINGS IS MEANT TO SHOW DESIGN INTENT ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ANY NECESSARY MODIFICATIONS TO MEET ACTUAL FIELD CONDITIONS. THESE MODIFICATIONS SHALL BE APPROVED BY THE ENGINEER AND INDICATED ON THE AS-BUILT DRAWINGS.
- IF THE CONTRACTOR OPTS TO INSTALL EQUIPMENT OTHER THAN THAT SPECIFIED, HE SHALL BE RESPONSIBLE FOR PERFORMING THE NECESSARY DESIGN SERVICES TO ADJUST THE DESIGN TO ACCOMMODATE THE EQUIPMENT. CONNECTING MECHANICAL, ELECTRICAL, ARCHITECTURAL AND STRUCTURAL ARE TO BE MODIFIED ACCORDINGLY. ANY SUCH CHANGES SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER.
- ALL EQUIPMENT FURNISHED SHALL BE NEW UNLESS OTHERWISE NOTED.
- ARRANGE CONDUIT, WIRING, EQUIPMENT AND OTHER WORK GENERALLY AS SHOWN, PROVIDING PROPER CLEARANCE AND ACCESS. CAREFULLY EXAMINE ALL CONTRACT DRAWINGS AND COORDINATE THE WORK WITH ALL TRADES. WHERE DEPARTURES ARE PROPOSED BECAUSE OF FIELD CONDITIONS OR OTHER CAUSES, PREPARE AND SUBMIT DETAILED DRAWINGS FOR ACCEPTANCE.
- CONTRACTOR SHALL IDENTIFY AND MARK ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL USE EXTREME CARE TO AVOID HITTING, DAMAGING OR DISRUPTING EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN THE UNLIKELY EVENT ANY UTILITY IS DISTURBED.
- ALL CONDUCTORS SHALL BE COPPER WITH 600V THHN-THWN INSULATION UNLESS OTHERWISE NOTED. MINIMUM SIZE OF BRANCH CIRCUITS SHALL BE #12 AWG. PROVIDE SEPARATE INSULATED GROUND CONDUCTORS IN ALL CONDUITS. ALL WIRING SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED.
- ALL ELECTRICAL DEVICES SHALL BE FLUSH MOUNTED EXCEPT WHERE NOTED OTHERWISE AND IN MECHANICAL ROOMS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH ANALYSIS AND ARC FLASH LABELS AS REQUIRED BY NFPA 70 AND NFPA 70E.

ELECTRICAL ABBREVIATIONS

A	- AMPERE	NIC	- NOT IN CONTRACT
AFF	- ABOVE FINISHED FLOOR	NTS	- NOT TO SCALE
AFG	- ABOVE FINISHED GRADE	N	- NEW
AIC	- AMPERE INTERRUPTING CAPACITY	OH	- OVERHEAD
APPROX	- APPROXIMATE	OP	- OWNER PROVIDED
ATS	- AUTOMATIC TRANSFER SWITCH	OSHA	- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
AWG	- AMERICAN WIRE GAUGE	PH, Ø	- PHASE
C	- CONDUIT	PNL	- PANEL
CCTV	- CLOSED CIRCUIT TELEVISION	PRI	- PRIMARY
CB	- CIRCUIT BREAKER	PVC	- POLYVINYL CHLORIDE
COR	- CONTRACTING OFFICER REPRESENTATIVE	QTY	- QUANTITY
CR	- CARD READER	RGS	- RIGID GALVANIZED STEEL
DISC	- DISCONNECT	RMC	- RIGID METAL CONDUIT
DL	- DOOR LOCK	SCH	- SCHEDULE
DWG	- DRAWING	SYM	- SYMMETRICAL
EMT	- ELECTRICAL METALLIC TUBING	SST	- STAINLESS STEEL
ETR	- EXISTING TO REMAIN	STL	- STEEL
EX	- EXISTING	SWBD	- SWITCHBOARD
FLA	- FULL LOAD AMPS	SWGR	- SWITCHGEAR
FLUOR	- FLUORESCENT	TP	- TAMPER PROOF
FSS	- FUSED SAFETY SWITCH	TEMP	- TEMPERATURE
FT	- FOOT/FEET	TVSS	- TRANSIENT VOLTAGE SURGE SUPPRESSOR
G, GND	- GROUND	TYP	- TYPICAL
GEC	- GROUNDING ELECTRODE CONDUCTOR	UG	- UNDERGROUND
GFI	- GROUND FAULT INTERRUPTING	UH	- UNIT HEATER
GRS	- GALVANIZED RIGID STEEL	UL	- UNDERWRITERS LABORATORIES
HP	- HORSE POWER	UN	- UNLESS OTHERWISE NOTED
HZ	- HERTZ	VA	- VOLT AMPERE
JB	- JUNCTION BOX	VD	- VOLTAGE DROP
KCMIL	- THOUSAND CIRCULAR MILS	W	- WIRE, WATT
KVA	- KILOVOLT AMPERES	W/	- WITH
KW	- KILOWATT	WP	- WEATHERPROOF
MAX	- MAXIMUM	XFMR	- TRANSFORMER
MEP	- MECHANICAL ELECTRICAL PLUMBING		
MH	- MOUNTING HEIGHT		
MIN	- MINIMUM		
MTD	- MOUNTED		
MTR	- MOTOR		
NEC	- NATIONAL ELECTRIC CODE		
NEMA	- NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION		
NFPA	- NATIONAL FIRE PROTECTION ASSOCIATION		
NFSS	- NON-FUSED SAFETY SWITCH		

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. 14749
 EXPIRATION DATE 01-11-2016

AS-BUILT
 DATE 12-5-2016

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 1/26/15
 DIRECTOR OF PUBLIC WORKS DATE

[Signature] 1/15/15
 CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 1/26/15
 CHIEF, BUREAU OF UTILITIES DATE

[Signature] 1/15/15
 CHIEF, UTILITY DESIGN DIVISION DATE

KCI TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 936 RIDGEWOOD ROAD
 SPARKS, MD 21152
 PHONE: (410) 316-7800
 FAX: (410) 316-7817
 WWW.KCI.COM



DES:	SEB				
DRN:	SEB				
CHK:	BDS				
DATE:	DEC., 2014	BY	NO.	REVISION	DATE

ELECTRICAL GENERAL NOTES AND ABBREVIATIONS

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT

CAPITAL PROJECT NO. S-6279
 CONTRACT NO. 10-4844

ELECTION DISTRICT 2 HOWARD COUNTY, MARYLAND

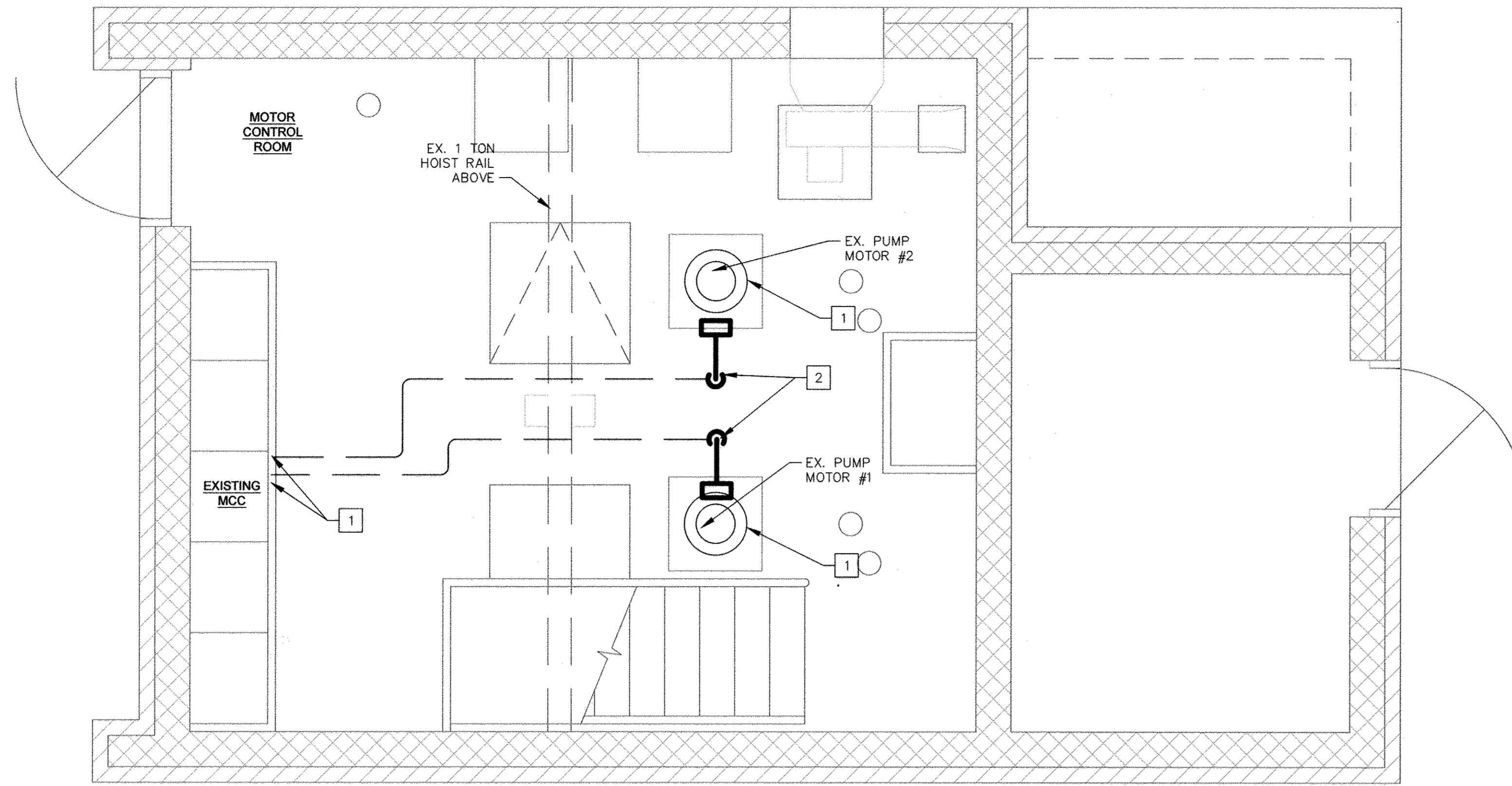
E-01

SCALE

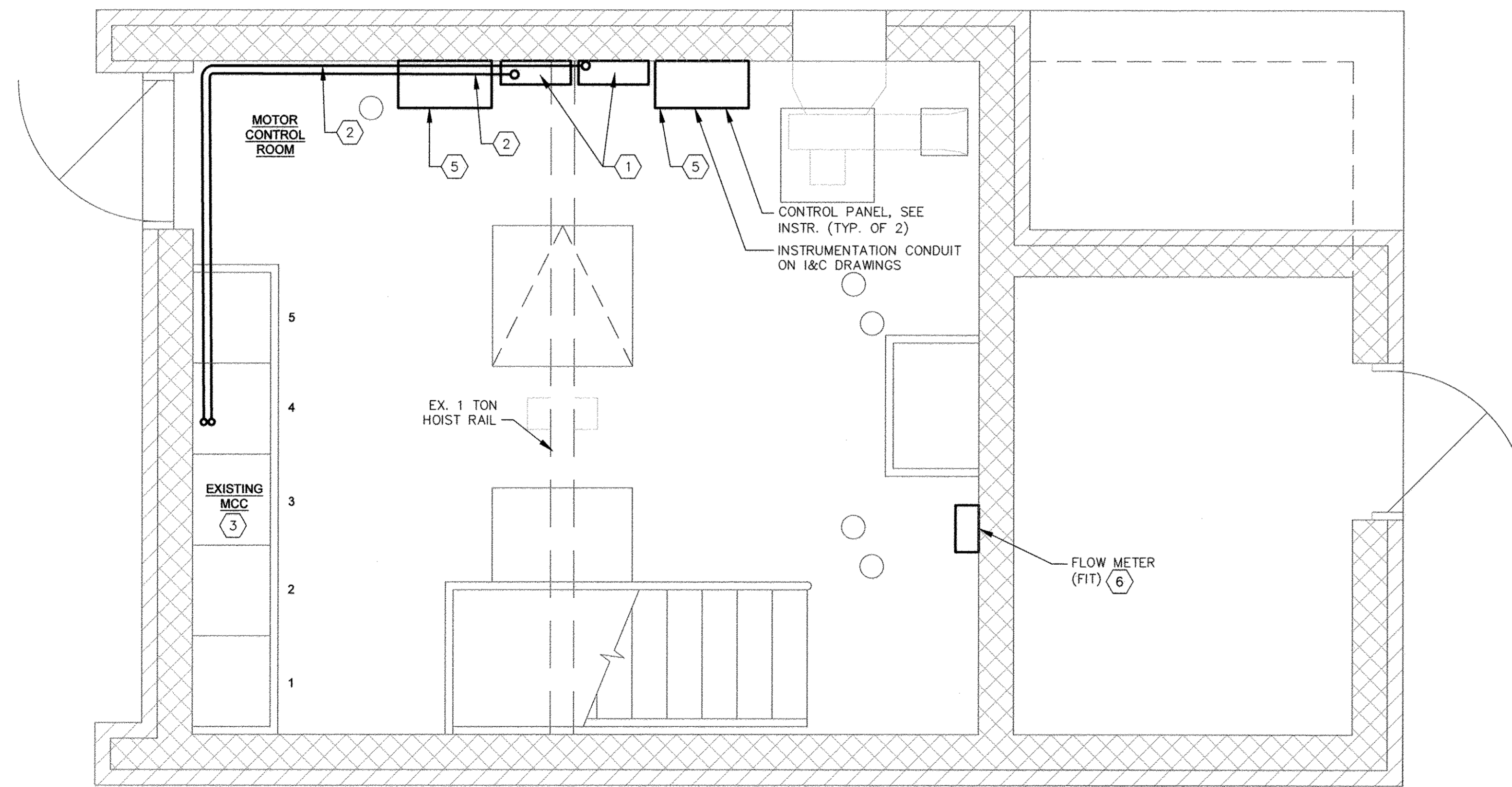
AS SHOWN

SHEET

12 OF 15



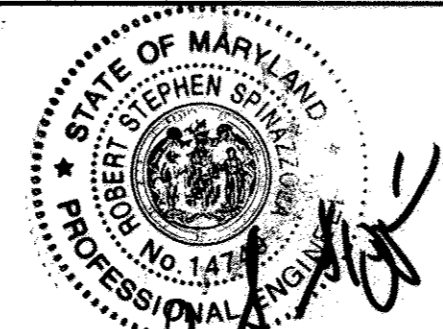
1 ELECTRICAL DEMOLITION
 E-02 UPPER LEVEL
 SCALE: 1/2"=1'-0"



2 ELECTRICAL NEW WORK
 E-02 UPPER LEVEL
 SCALE: 1/2"=1'-0"

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. 14749 EXPIRATION DATE 01-11-2016

KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
 936 RIDGEBROOK ROAD
 SPASS, MD 21152
 PHONE: (410) 316-7800
 FAX: (410) 316-7817
 www.kci.com

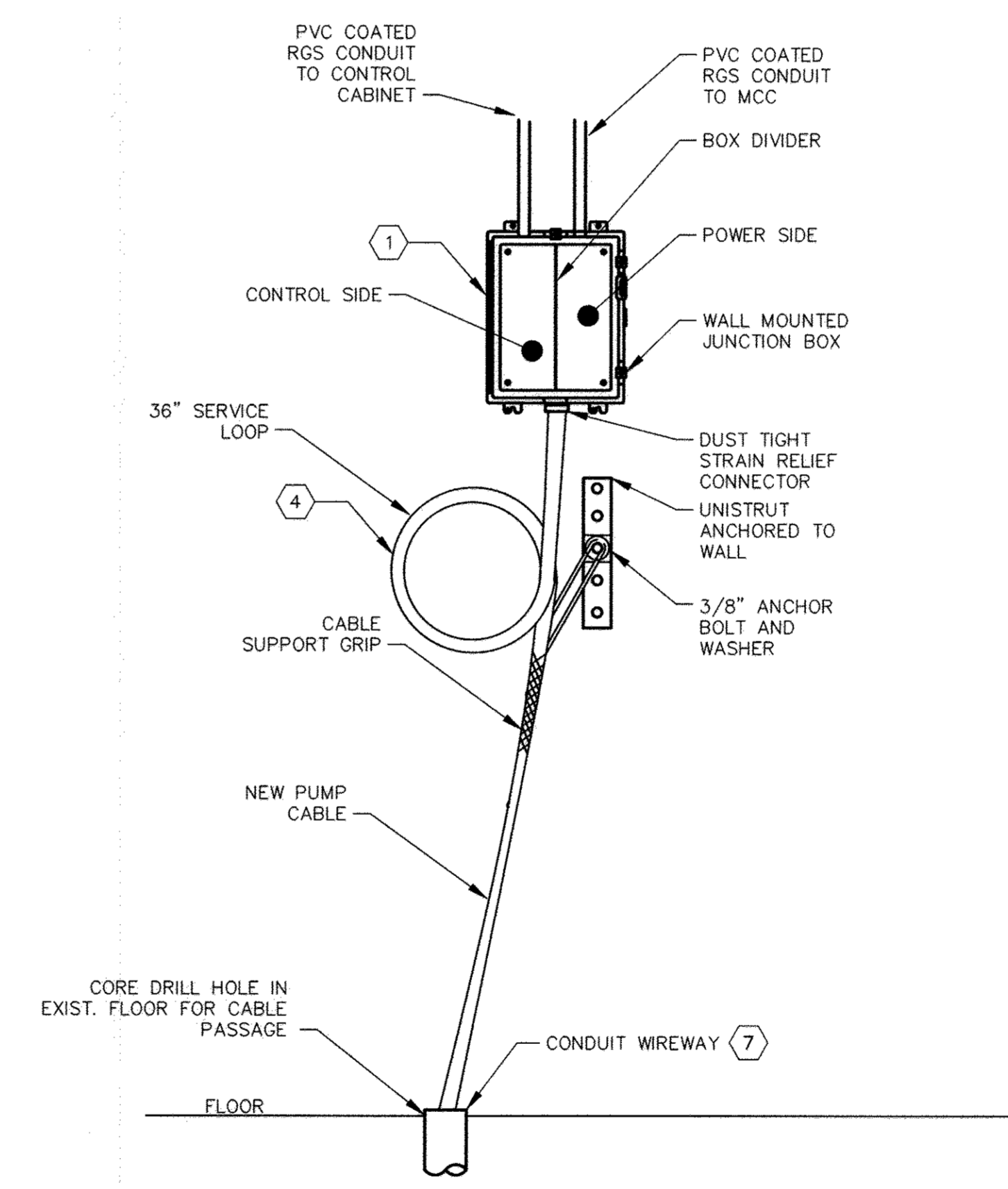


DES:	SEB				
DRN:	SEB				
CHK:	BDS				
DATE:	DEC., 2014	BY	NO.	REVISION	

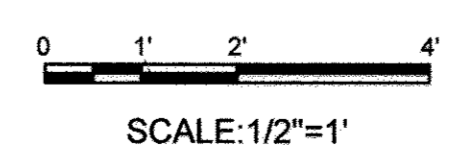
DATE	600' SCALE MAP NO.	37 & 43	BLOCK NO.	23 & 5
------	--------------------	---------	-----------	--------

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT
 CAPITAL PROJECT NO. S-6279
 CONTRACT NO. 10-4844
 ELECTION DISTRICT 2
 HOWARD COUNTY, MARYLAND

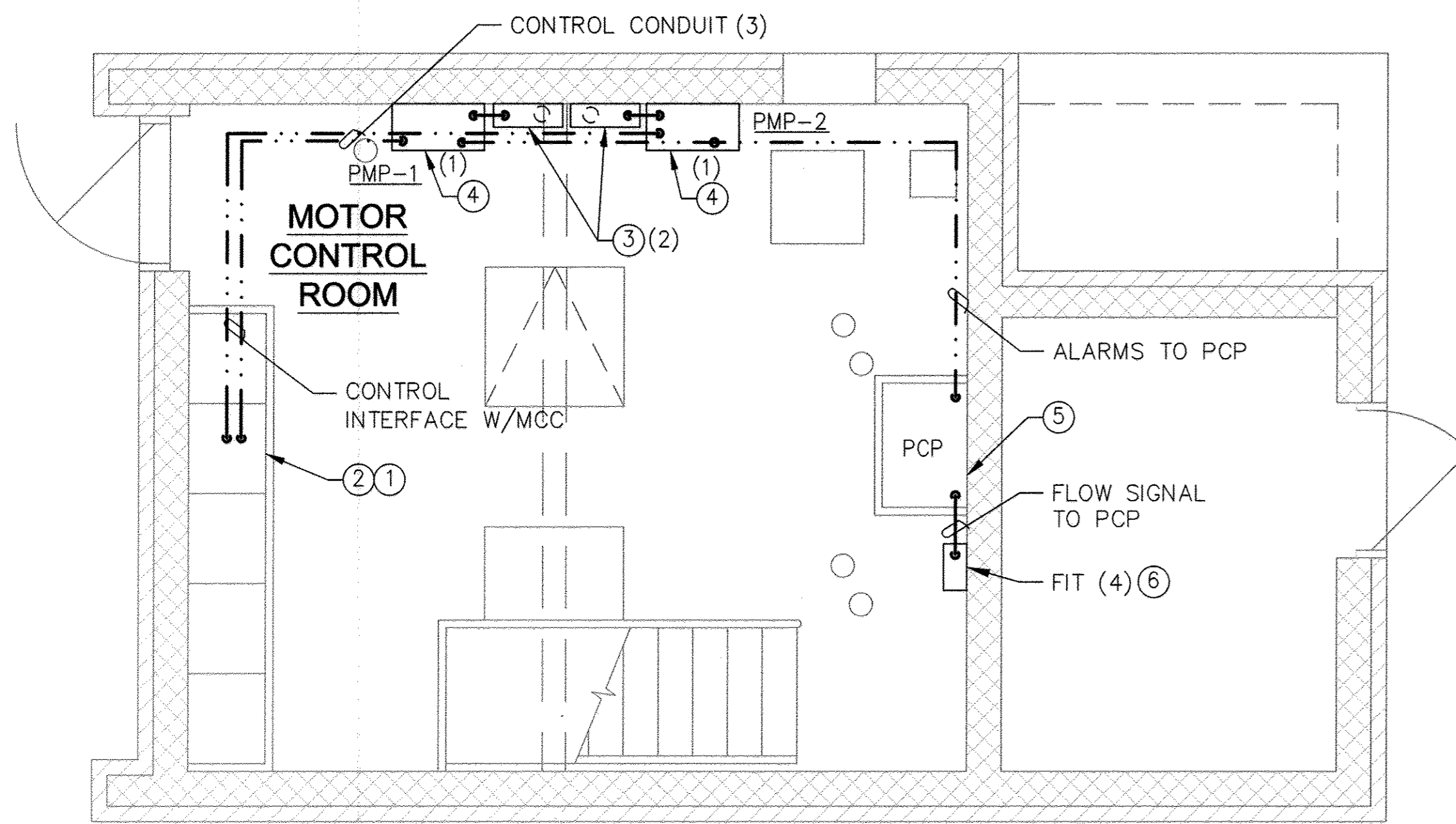
- GENERAL NOTES**
- COORDINATE ALL OUTAGES WITH OWNER.
- DEMOLITION NOTES**
- DISCONNECT AND REMOVE CONDUCTORS AND CONDUIT BETWEEN EXISTING SEWAGE PUMP MOTORS #1 (BUCKET 5A) AND EXISTING SEWAGE PUMP #2 (BUCKET 5C). COORDINATE OUTAGE WITH OWNER.
 - CUT CONDUIT FLUSH WITH FLOOR AND GROUT SMOOTH.
- NEW WORK NOTES**
- PROVIDE WALL MOUNTED STAINLESS STEEL, GASKETED, DIVIDED, 12" x 12" x 6" JUNCTION BOX. CONNECT NEW PUMP CABLE TO NEW FEEDERS FROM EXISTING MCC.
 - PROVIDE 1 SET: 3-#4,#8GND,THHN-THWN, IN 1" PVC COATED RGS CONDUIT BETWEEN BUCKET 4A AND NEW JUNCTION BOX. PROVIDE SECOND SET: 3-#4,#8GND, THWN, IN 1" PVC COATED RGS BETWEEN BUCKET 4C AND NEW JUNCTION BOX. ROUTE CONDUIT TO AVOID HOIST TRAVEL AND EXISTING LIGHT FIXTURES.
 - BUCKETS 4A AND 4C: REPLACE EXISTING OVERLOAD HEATER ELEMENTS IN EXISTING STARTERS. COORDINATE EXACT SIZE WITH MECHANICAL CONTRACTOR.
 - NEW PUMP CABLE (SUPPLIED BY PUMP MANUFACTURER) INSTALL NEW PUMP CABLE AND CONNECT TO NEW FEEDERS FROM EXISTING MCC.
 - PROVIDE 3/4" PVC COATED RGS CONDUIT FOR CONTROLS AS DESCRIBED ON THE INSTRUMENTATION DRAWINGS.
 - RELOCATE EXISTING FLOW METER 120V CIRCUIT TO NEW FLOW METER TRANSMITTER.
 - PROVIDE 3" PVC COATED RGS CONDUIT TO SUIT CABLE ROUTING. TERMINATE CONDUIT AT PUMP AND CONTROL LEVEL FLOOR WITH 6-FOOT SLACK CABLE.



3 JUNCTION BOX SUPPORT DETAIL
 E-02 SCALE: NTS



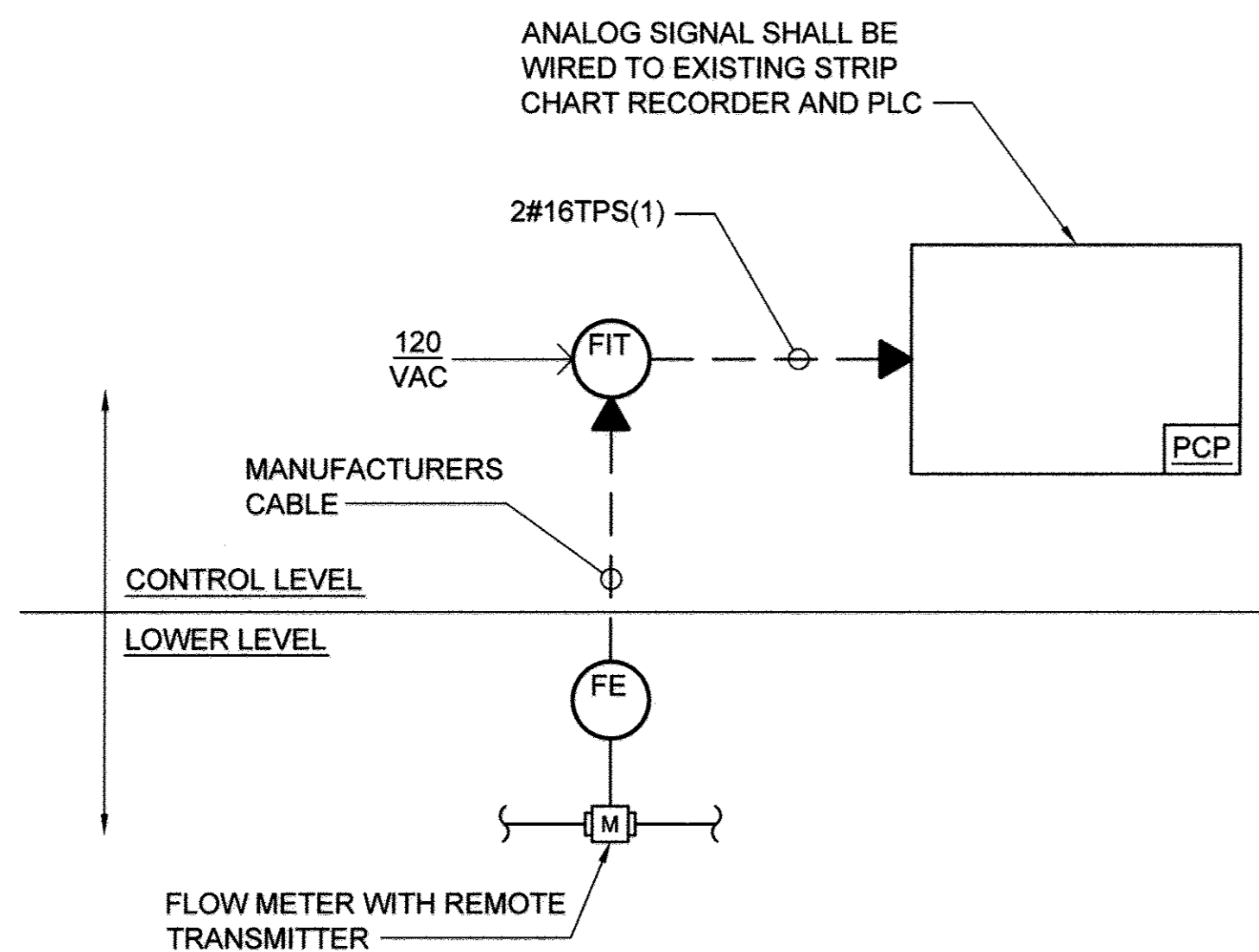
AS-BUILT
 DATE 12-5-2016



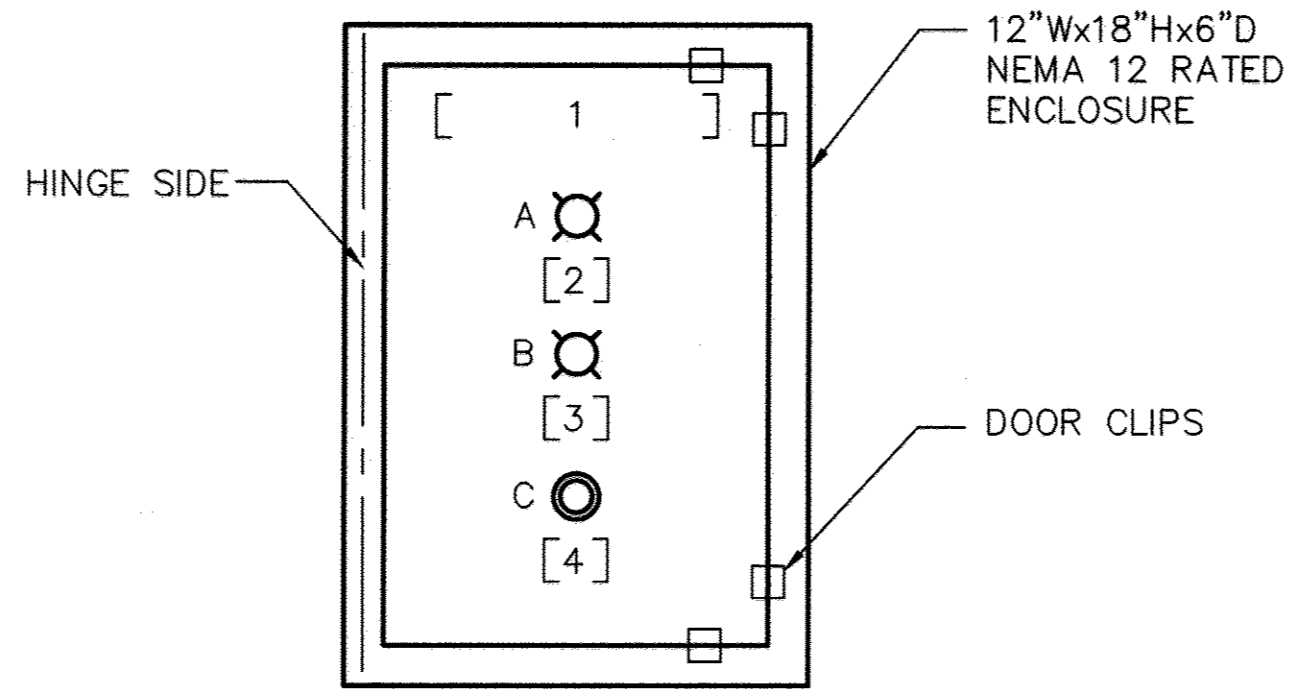
NOTES

- (1.) E-STOP LOCATED AT PUMP IN LOWER LEVEL.
- (2.) PUMP MOTOR MONITOR SENSORS ARE INTEGRAL WITH MOTOR. MANUFACTURERS POWER CABLE INCLUDES PUMP MONITOR SIGNAL CONDUCTORS.
- (3.) CONDUIT QUANTITY TO SUIT INTEGRATED CONTROLS, SEE DRAWING I-02.
- (4.) CONTRACTOR TO COORDINATE RELOCATION OF 120VAC POWER CIRCUIT.

1 NEW INSTRUMENT PLAN: GRADE LEVEL
M-03 SCALE: 3/8"=1'-0"



2 RISER DIAGRAM: FLOW METER
M-03 SCALE: NONE



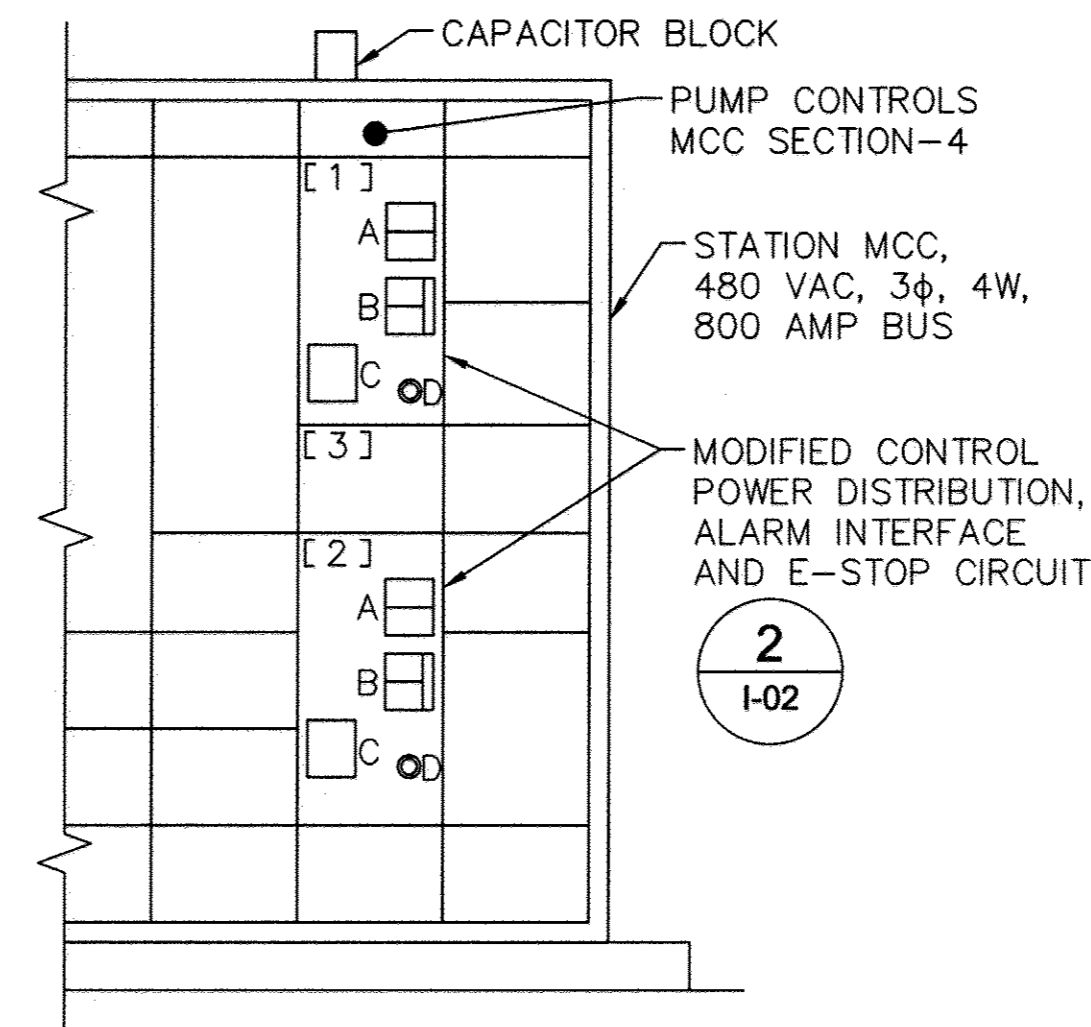
DEVICE LEGEND:

- A INDICATION LAMP (BLUE)
- B INDICATION LAMP (AMBER)
- C MOMENTARY PUSHBUTTON

NAMEPLATE LEGEND:

- 1 PUMP #_ MONITOR PANEL
- 2 SEAL FAILURE TROUBLE
- 3 MOTOR HIGH TEMPERATURE
- 4 RESET

A ELEVATION: PUMP MONITOR PANEL
I-01 SCALE: 2" = 1'-0"



DEVICE LEGEND:

- A RUN/STOP INDICATION
- B HOA SELECTOR
- C RUN TIME METER (RTM)
- D STARTER OL-RESET

NAMEPLATE LEGEND:

- 1 SEWAGE PUMP #1
- 2 SEWAGE PUMP #2
- 3 PHASE MONITORS

B ELEVATION: MCC
I-01 SCALE: 1" = 1'-0"

GENERAL NOTES

- 1. PROVIDE 24-INCHES SLACK WIRE AT EACH END OF ALL SPARE INSTRUMENTATION WIRES.
- 2. SEE SYSTEM P&ID DIAGRAMS AND ECD DETAILS FOR CONTROL WIRE IDENTIFICATIONS.
- 3. CONDUIT CONTAINING #16 TPS (4-20mA) WIRE SHALL BE LOCATED 6-INCHES (MINIMUM) AWAY FROM CONDUIT CONTAINING POWER CONDUCTORS AND CONDUIT CONTAINING #14 OR #12 POWER AND DIGITAL SIGNAL WIRE.
- 4. ALL CONDUIT SHALL BE 3/4-INCH IN SIZE UNLESS OTHERWISE NOTED ON INSTRUMENT RISER DIAGRAMS.
- 5. SYSTEM INTEGRATOR SHALL VERIFY ALL APPROVED EQUIPMENT AND TERMINATIONS PRIOR TO INSTALLATION. THE SYSTEMS INTEGRATOR SHALL VERIFY ALL WIRE COUNTS AND INCLUDE SPARES AS SHOWN HERE IN AND ASSEMBLE INSTRUMENT RISERS FOR CONSTRUCTION. THE RISERS SHALL BE SUBMITTED FOR APPROVAL AS A SHOP DRAWING.
- 6. SYSTEMS INTEGRATOR SHALL COORDINATE ANALOG SIGNAL CONDUIT QUANTITIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

EQUIPMENT LIST

- ① MCC BUCKET PUMP 1
- ② MCC BUCKET PUMP 2
- ③ PUMP CABLE JUNCTION BOX
- ④ PUMP MONITOR PANEL
- ⑤ PUMP CONTROL PANEL
- ⑥ MAGNETIC FLOW METER/REMOTE TRANSMITTER

CONSTRUCTION NOTES

- ① ALL RELAYS SHALL HAVE L.E.D.S.
- ② ALL FUSES AND BREAKERS SHALL BE SIZED IN ACCORDANCE WITH THE ELECTRICAL DRAWINGS AND THE MCC MANUFACTURERS RECOMMENDATIONS.
- ③ ALL EXTERIOR PULL BOXES, PANELS, AND DEVICES SHALL BE RATED NEMA 4X STAINLESS STEEL.
- ④ CONTRACTOR TO COORDINATE APPROVED LOCATION WITH COUNTY FIRE MARSHAL.
- ⑤ PROVIDE CONDUIT AND CONTROL PANEL TERMINATIONS TO SUIT P&ID AND CONTROL DIAGRAM DETAILS.
- ⑥ ALL LIGHTS SHALL BE LED PUSH TO TEST TRANSFORMER TYPE UNLESS OTHERWISE SHOWN.

EQUIPMENT LEGEND:

- PCP PUMP CONTROL PANEL
- PMP-X PUMP MONITORING PANEL

LEGEND:

- NEW WORK
- EXISTING FEATURES
- NEMA BOUNDARY
- CONTROL POWER CONDUIT
- SIGNAL CONDUIT

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. 33925. EXPIRATION DATE 01/15/15

AS-BUILT
DATE 12-5-2016

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James V. Hall DATE 11/5/15
DIRECTOR OF PUBLIC WORKS

Deanna B. Butler DATE 11/5/15
CHIEF, BUREAU OF UTILITIES

Deanna B. Butler DATE 11/5/15
CHIEF, UTILITY DESIGN DIVISION

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
936 RIDGEBROOK ROAD
SPARKS, MD 21152
PHONE: (410) 316-7800
FAX: (410) 316-7817
WWW.KCI.COM

STATE OF MARYLAND
PROFESSIONAL ENGINEER
NO. 33925
EXPIRES 01/15/15
1/9/2015

DES: SEA			
DRN: JFW			
CHK: SEA			
DATE: DEC, 2014	BY	NO.	REVISION

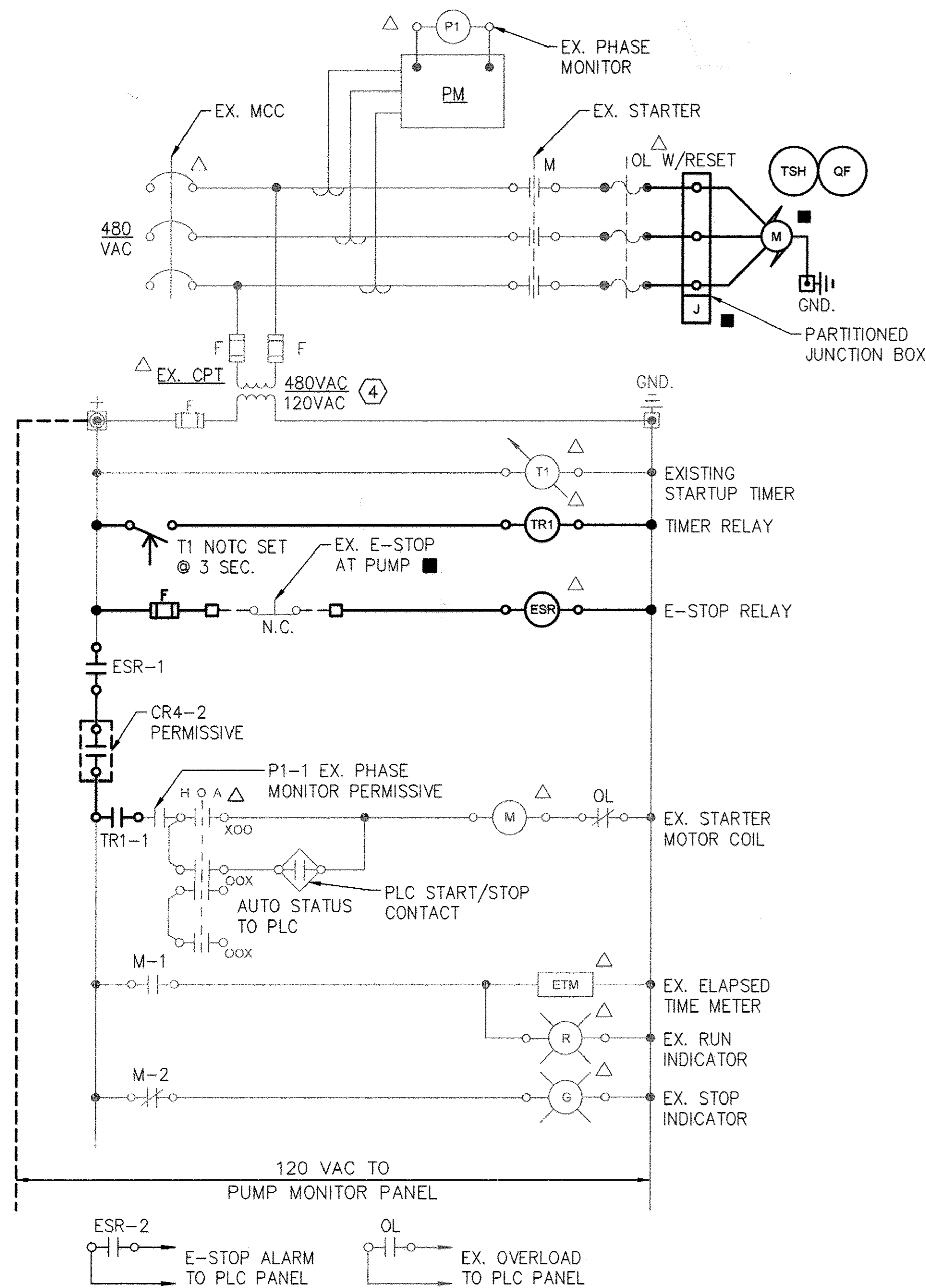
INSTRUMENT PLAN & DETAILS

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT

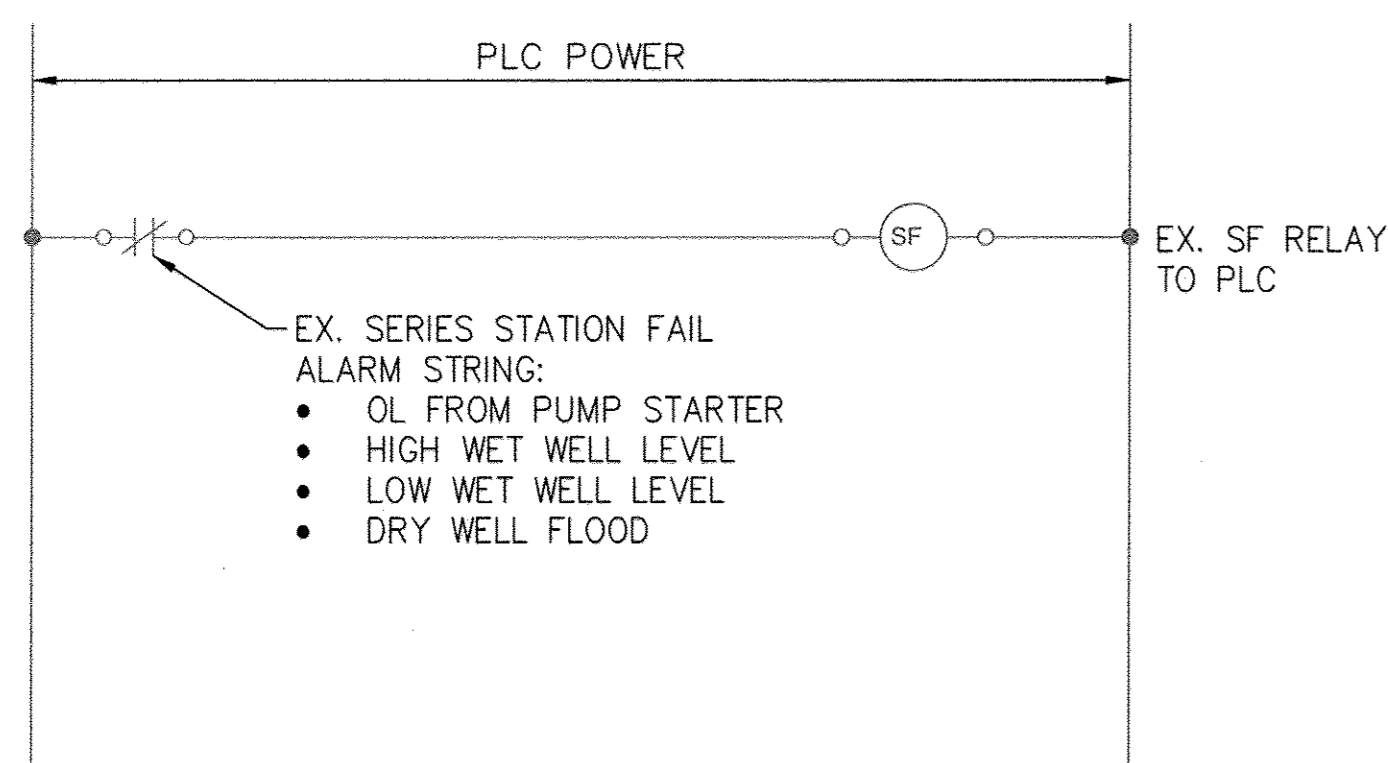
CAPITAL PROJECT NO. S-6279
CONTRACT NO. 10-4844

ELECTION DISTRICT 2
HOWARD COUNTY, MARYLAND

14 OF 15

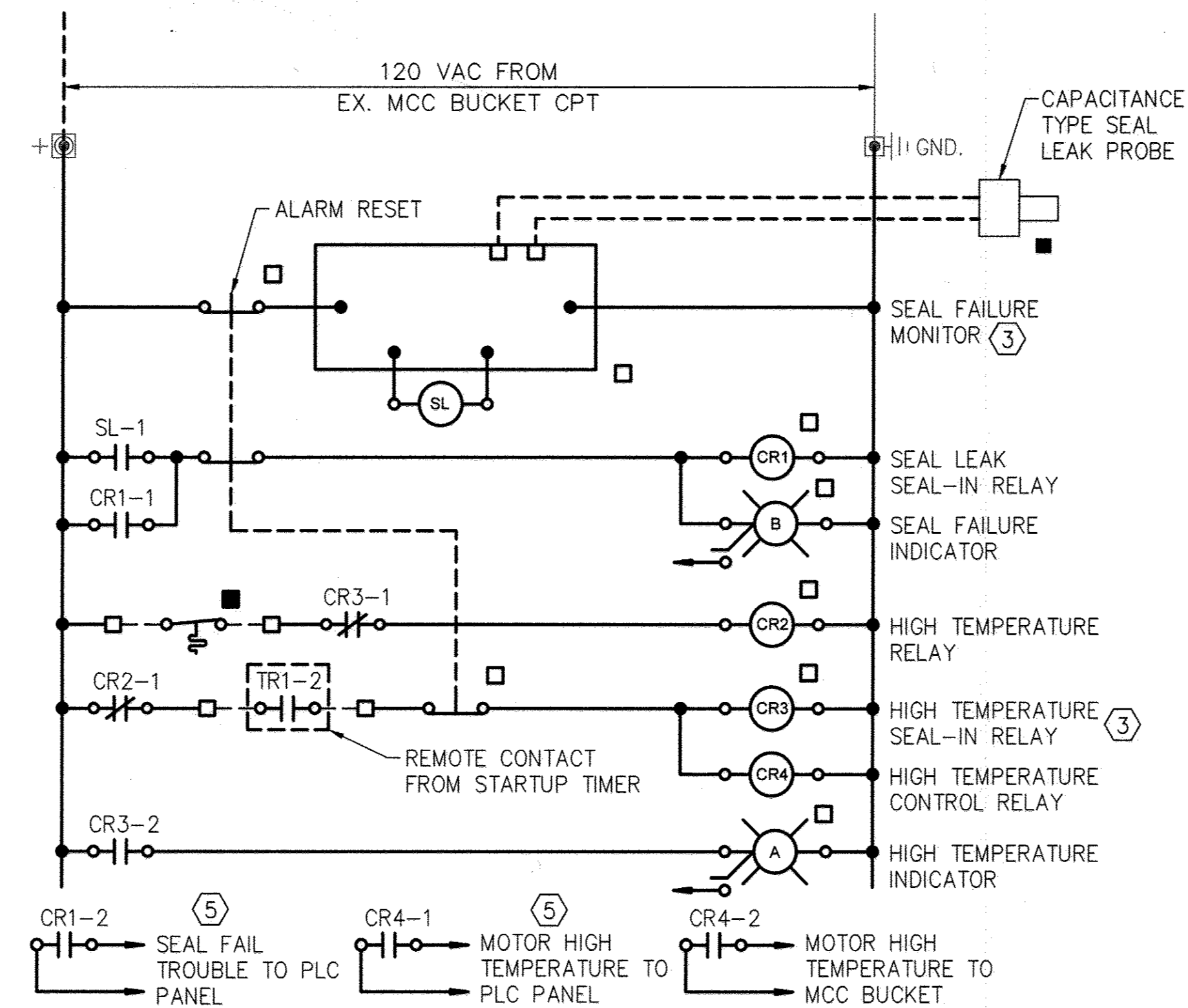


1 ECD: MODIFIED MCC-PUMP BUCKET
I-02 SCALE: NONE

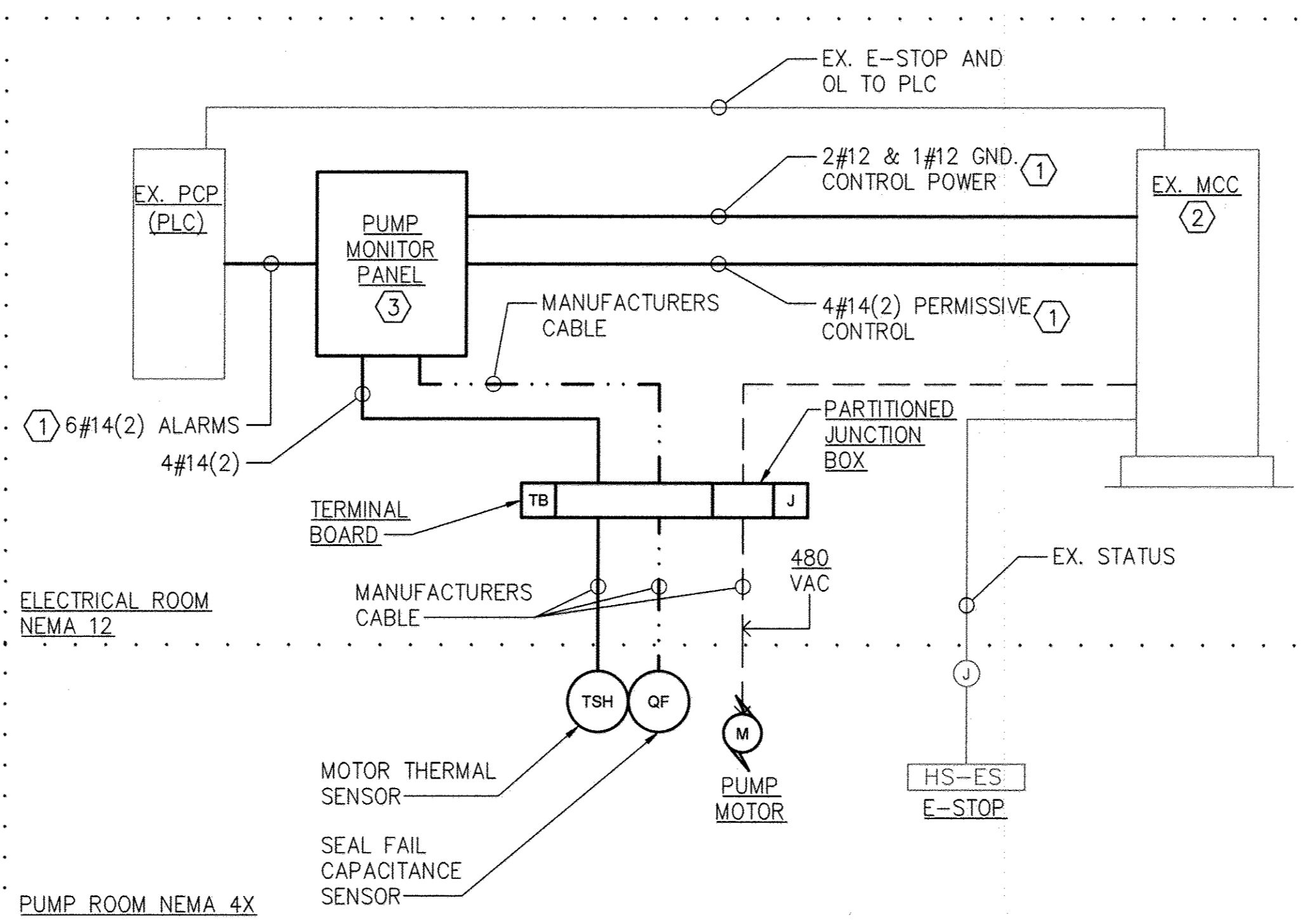


A ECD: STATION ALARM DIAGRAM
I-02 SCALE: NONE

NOTE:
ADD FOLLOWING ALARMS TO SERIES STRING: SEAL FAIL TROUBLE AND MOTOR HIGH TEMPERATURE FROM EACH PUMP MOTOR MONITOR AS SHOWN.



2 ECD: PUMP MONITOR (TYP. OF TWO PUMPS)
I-02 SCALE: NONE



3 RISER DIAGRAM: TYPICAL PUMP CONTROL
I-02 SCALE: NONE

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. 33925 EXPIRATION DATE 01/15/15

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signatures]
DATE: 11/15/15
DATE: 11/15/15

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD
SPRINGSBORO, MD 21152
PHONE: (410) 316-7800
FAX: (410) 316-7817
www.kci.com

STATE OF MARYLAND
PROFESSIONAL ENGINEER
11/15/15

DES: SEA					
DRN: JFW					
CHK: SEA					
DATE: DEC, 2014	BY:	NO.	REVISION	DATE	600' SCALE MAP NO. 37 & 43 BLOCK NO. 23 & 5

ELECTRICAL CONTROL DIAGRAM

MEADOWRIDGE WASTEWATER PUMP STATION UPGRADE AND FORCE MAIN REPLACEMENT

CAPITAL PROJECT NO. S-6279
CONTRACT NO. 10-4844

ELECTION DISTRICT 2
HOWARD COUNTY, MARYLAND

AS-BUILT
DATE: 12-5-2016

I-02
SCALE AS SHOWN
SHEET
15 OF 15