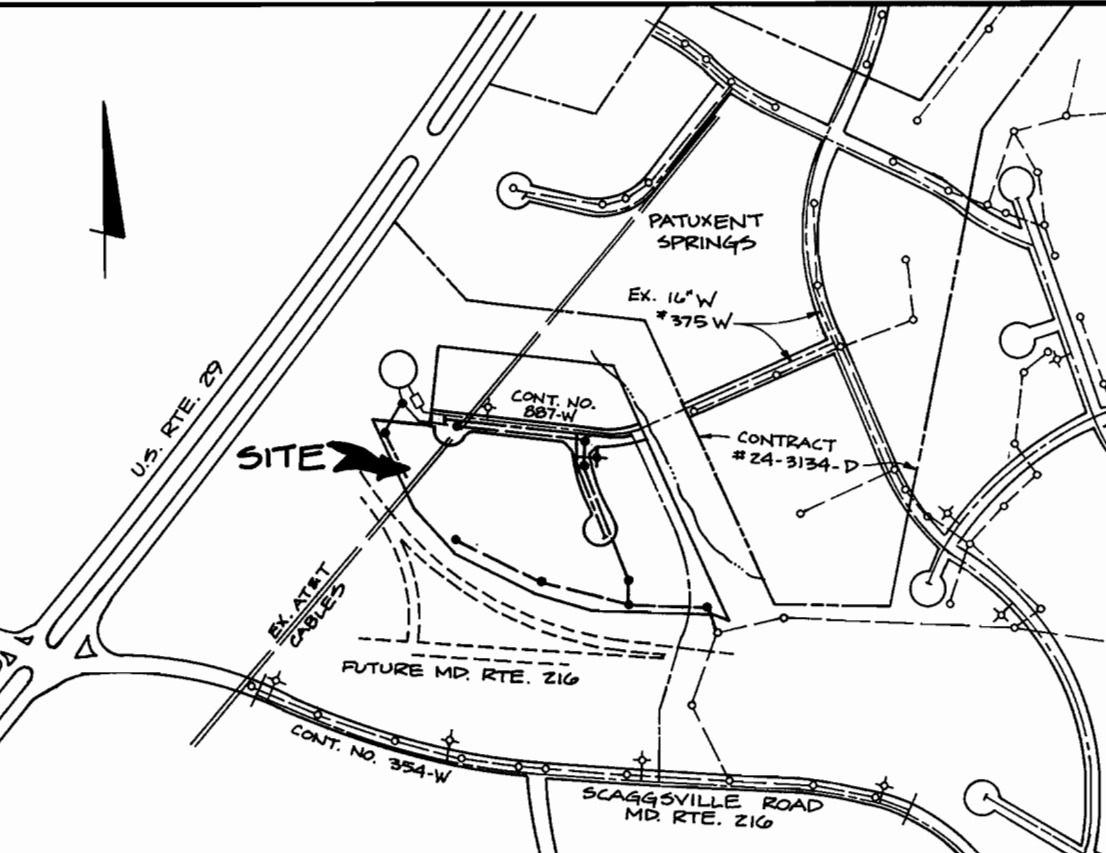


BENCH MARKS

HO. CO. #2038001	ELEV. 435.688
CONC. MONUMENT 23' ± NORTH OF NORTH EDGE SCAGGSVILLE RD. 0.3' BELOW SURFACE.	
N 478311.283	E 826786.508
HO. CO. #2039001	ELEV. 447.251
CONC. MONUMENT 0.1' BELOW SURFACE.	
N 477614.342	E 828108.318



WATER HOUSE CONN. CHART

LOT No.	STATION	ROAD
1	7+50.08	CLIFFORD COURT
2-3	7+54.6	
17-18	3+97.62	ELSIES WAY
19-20	6+13.4	
21	7+40.53	
6-7	1+27.05	
8-9	1P STA. 3+15.49	
11-12	1P STA. 3+44.23	
13-14	2+81.5	
15-16	1+09.20	

NOTE: SEE PROFILES FOR SEWER HOUSE CONNECTION STATIONS.

GENERAL NOTES

- #### PART 1 - GENERAL
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
 - ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. 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 THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY 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 DETAIL FOR CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE OF 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. 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.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION.....531-5533
 - BALTIMORE GAS & ELECTRIC CO.....850-4620
 - BALTIMORE GAS & ELECTRIC CO.....787-9068
 - UNDERGROUND DAMAGE CONTROL.....787-9068
 - MISS UTILITY.....1-800-257-7777
 - CORONAL PIPELINE CO.....795-1390
 - BUREAU OF UTILITIES.....313-4900
 - HOWARD CO. DEPT. OF PUBLIC WORKS.....313-4900
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO 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 BIDS FOR CONSTRUCTION OF THE MAIN.
 - PLUG REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.

- #### PART 2 - WATER
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - ALL FITTINGS SHALL BE BUTTRISSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRISSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

- #### PART 3 - SEWER
- ALL SEWER MAINS SHALL BE DIP, ROP, VOPX, CSPX, RCP AND P.V.C. UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2' - 0" OF EXTERIOR MANHOLE WALL.
 - 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 COVERS, STANDARD DETAIL 05-52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1" - 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSES WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

NOTE: THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 215-5450 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 10.114 (c) OF THE HOWARD COUNTY CODE.

WATER & SEWER AS-BUILTS

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	AS-BUILT TYPE	MANUF./SUPPLIER
18" OVERFLOW	280 LF	280 LF	CLASS 52	NATIONAL PLASTICS
8" WATER	905 LF	905 LF	CLASS 52	ATLANTIC SHAPES
6" WATER	20 LF	20 LF	CLASS 52	ATLANTIC SHAPES
8" VALVES	2 EA	2 EA		TRUSSER
FIRE HYDRANTS	1 EA	1 EA		KUPFERLE
3" BLOWOFFS	1 EA	1 EA		HUNTSBROOK
1" W.H.C.	286 LF	286 LF		HUNTSBROOK
3/4" W.H.C.	97 LF	97 LF		HUNTSBROOK
8" SEWER	1872 LF	1872 LF		GERMANTOWN
MANHOLES	10	10		ATLANTIC CONE
4" S.H.C.	436 LF	436 LF		ATLANTIC CONE

NAME OF UTILITY CONTRACTOR: R. MARINO & SONS

SURVEY AND DRAFTING DIV. AS-BUILT DATE

HOWARD SOIL CONSERVATION DISTRICT:
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

James M. Helm 6/19/92
U.S. SOIL CONSERVATION SERVICE

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

John R. Robertson 6/19/92
HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS F-92-110

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Paul J. Seaman 6/24/92
DIRECTOR OF PUBLIC WORKS

John R. Robertson 6/23/92
CHIEF, BUREAU OF ENGINEERING

John R. Robertson 6-18-92
CHIEF, BUREAU OF UTILITIES

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043

John R. Robertson
REGISTERED PROFESSIONAL ENGINEER
NO. 15891
EXPIRES 12/31/99

DES: MA	PBT	ADD D.I.P. FROM MH 1 TO EX MH 470 ADD WATER TIGHT MH FRAME & COVER (MH 1, 2, 7, & 8) ADD TEST PIT 20' W @ SHC (LOTS 1-5)	2-17-92
DRN: DBT/DRK			
CHK: JME			
DATE: 2-23-92	BY NO.	REVISIONS	DATE
3-28-92			

PLAN OF WATER & SEWER MAINS

600 SCALE MAP No. 46

BLOCK No. 4

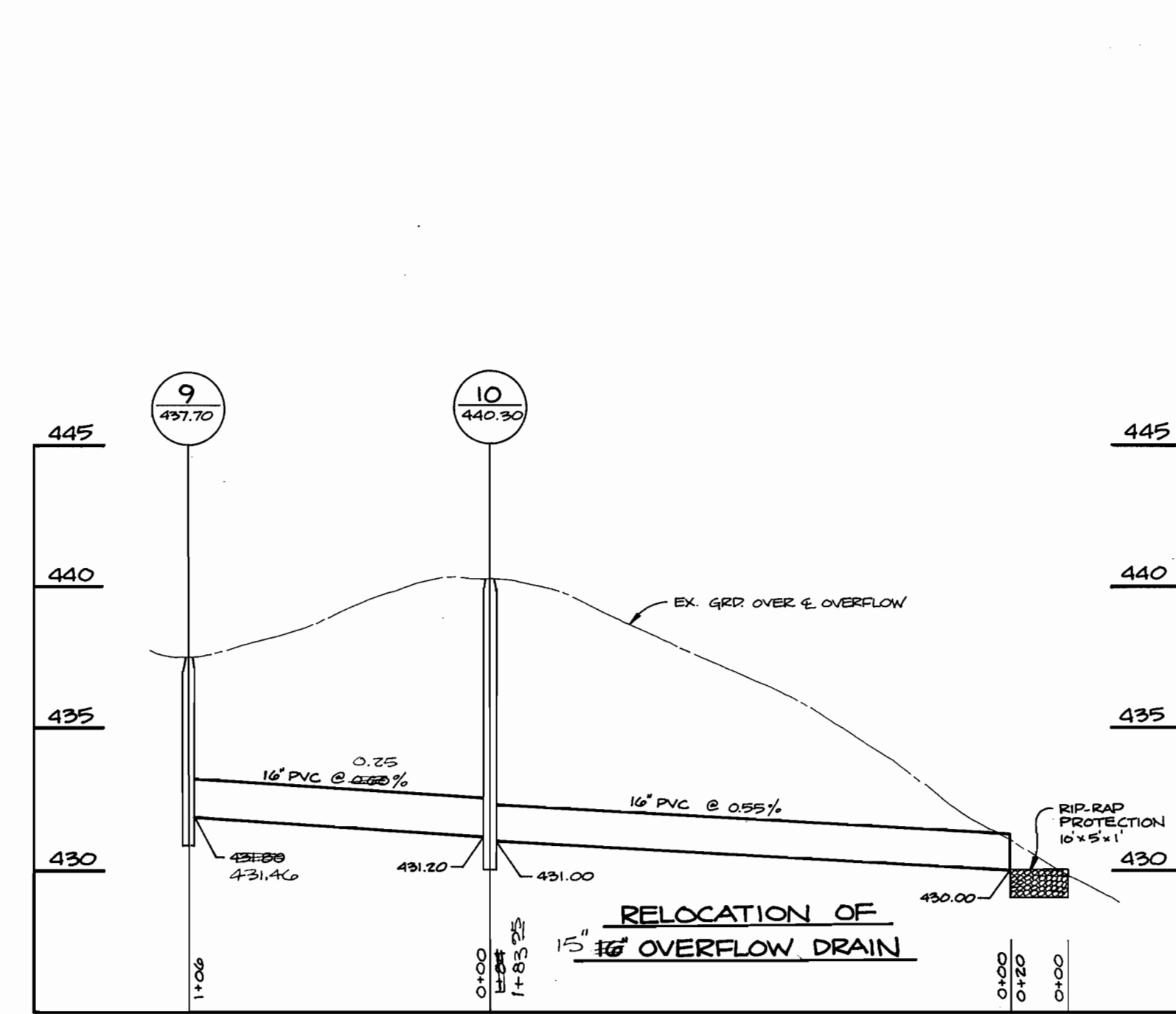
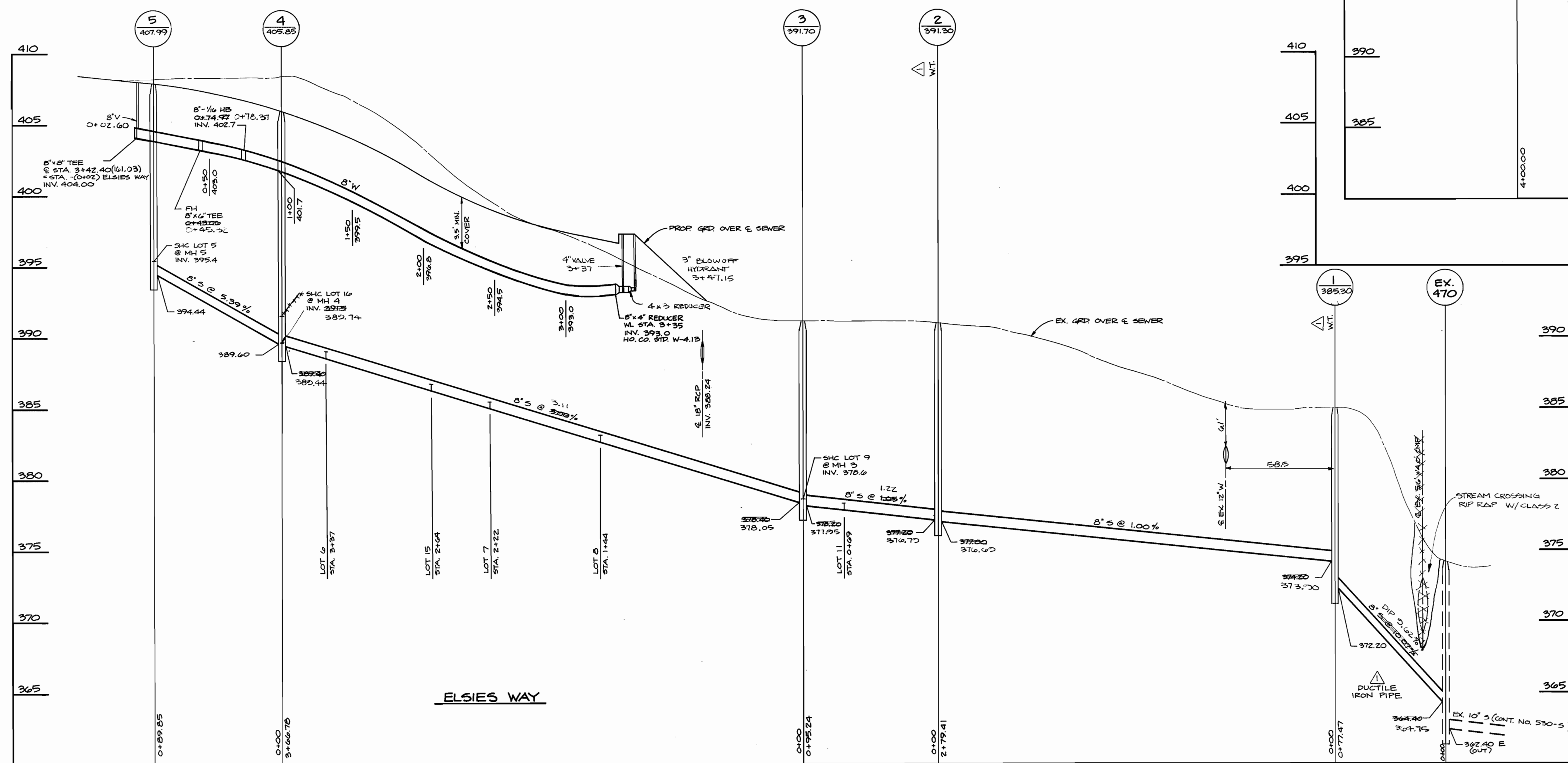
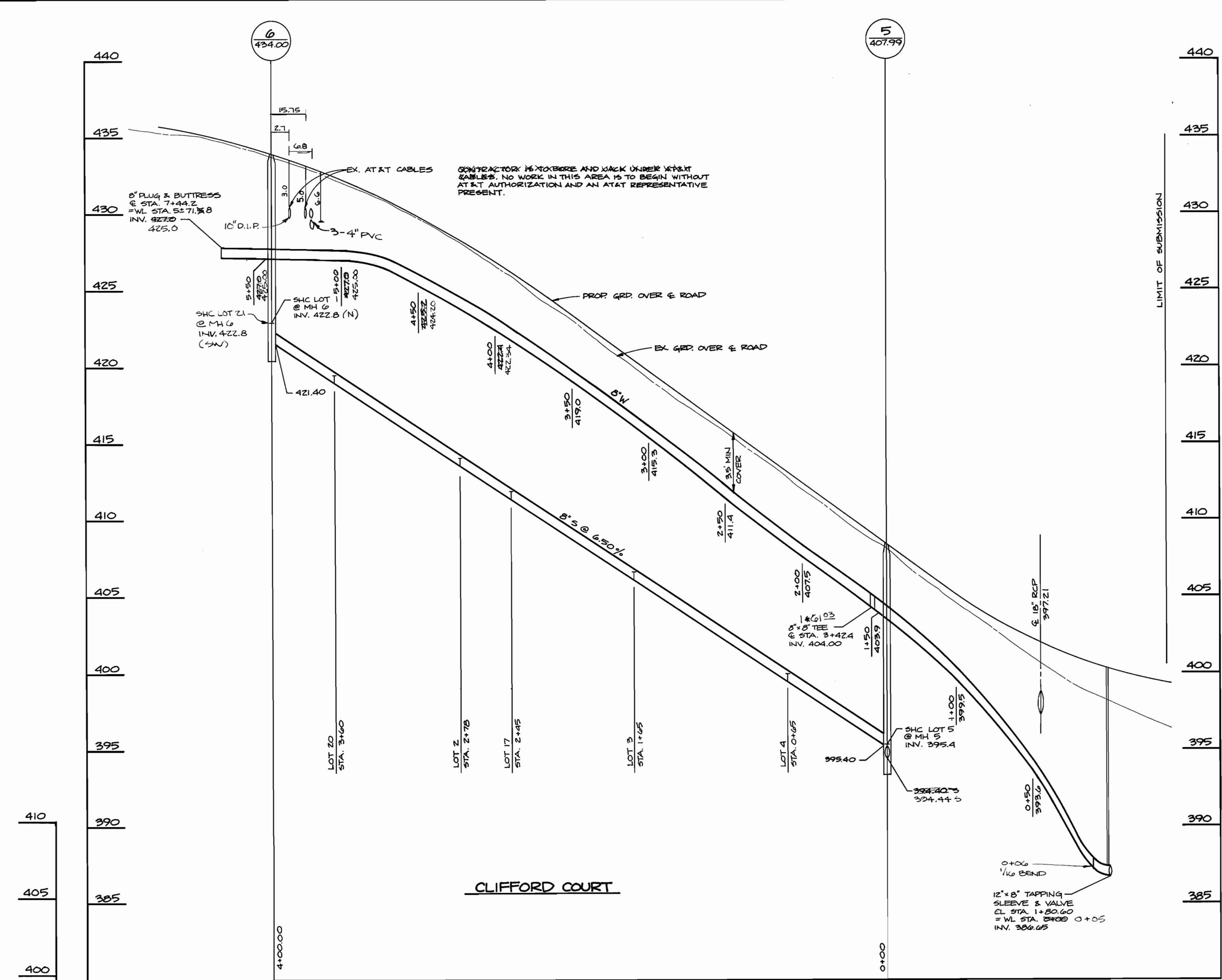
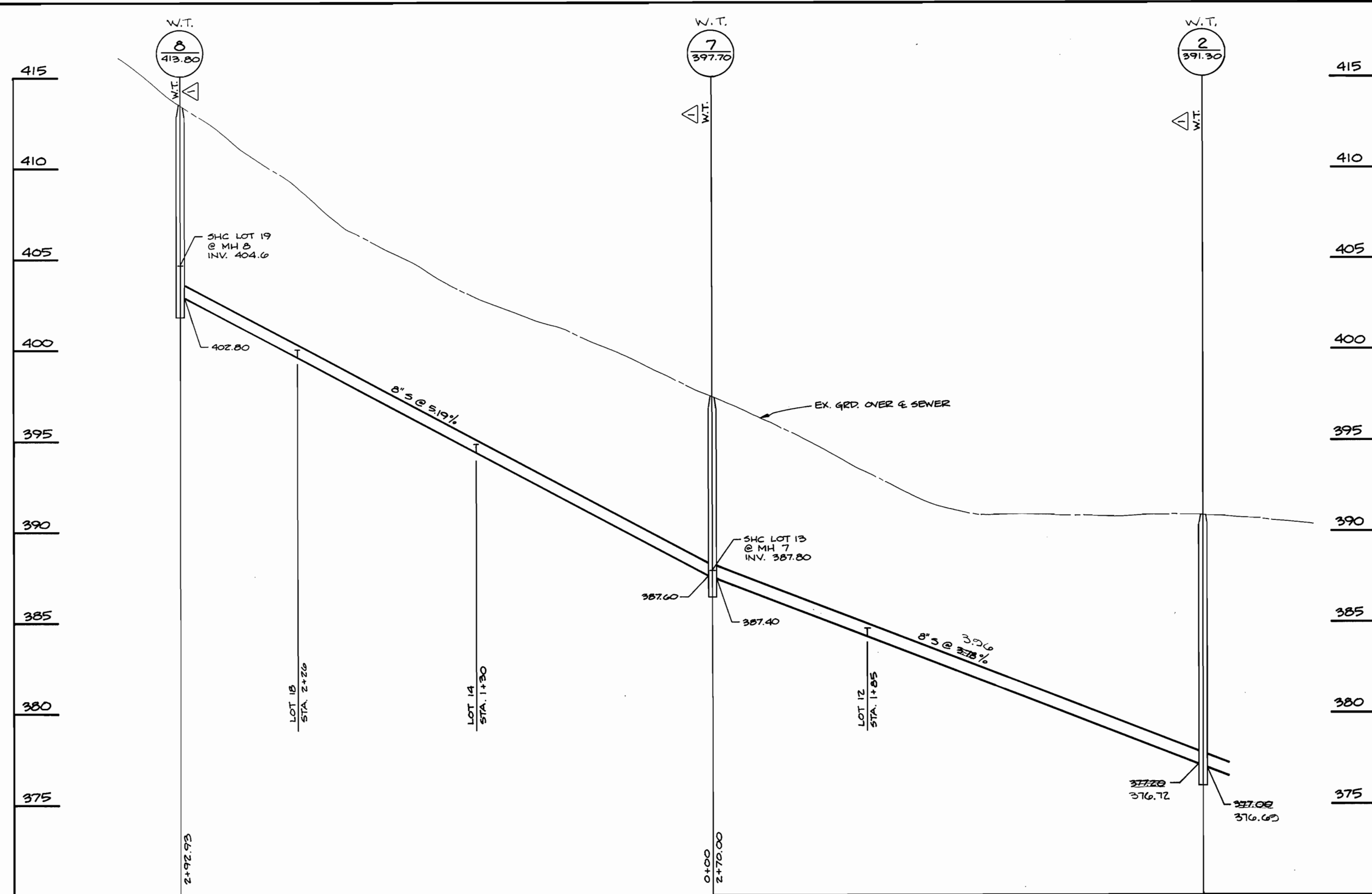
LYONS HILL
SECTION 1, AREA 1
LOTS 1 THRU 21
ELECTION DISTRICT No. 6

CONTRACT NO. 24-3189-D

SCALE AS SHOWN

SHEET 1 OF 2

AS-BUILT 6-22-92



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

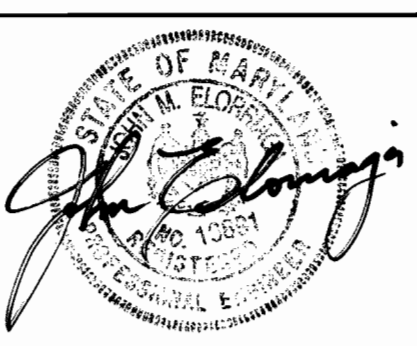
Robert J. Deane 6/24/92
DIRECTOR OF PUBLIC WORKS DATE

Elizabeth Anderson-Coles 6/23/92
CHIEF, BUREAU OF ENGINEERING DATE

Robert J. Deane 6-18-92
CHIEF, BUREAU OF UTILITIES DATE

John J. Deane 6/24/92
CHIEF, LAND DEVELOPMENT DIVISION DATE

TSA GROUP, INC.
planning • engineering • surveying
8480 Baltimore National Pike • Suite 418
Ellicott City, Maryland 21043



DES: MA	PBT	ADD D.I.P. FROM MH 1 TO EX MH 410 ADD WATER TIGHT MH FRAME AND COVER (MH 1,2,7,4,8) ADD TEST PIT 20' W @ SHC (LOTS 1-5)	2-17-93
DRN: DBT			
CHK: JME			
DATE: 3-23-92 5-28-92	BY NO.	REVISIONS	DATE

PROFILES OF
WATER & SEWER MAINS

600 SCALE MAP No. 46

WATER & SEWER AS-BUILTS

LYONS HILL
SECTION 1, AREA 1
LOTS 1 THRU 21
ELECTION DISTRICT No. 6

CONTRACT NO. 24-3189-D

SCALE
1" = 30' HORIZ.
1" = 5' VERT.

SHEET
2 OF 2

AS-BUILT 6-22-93