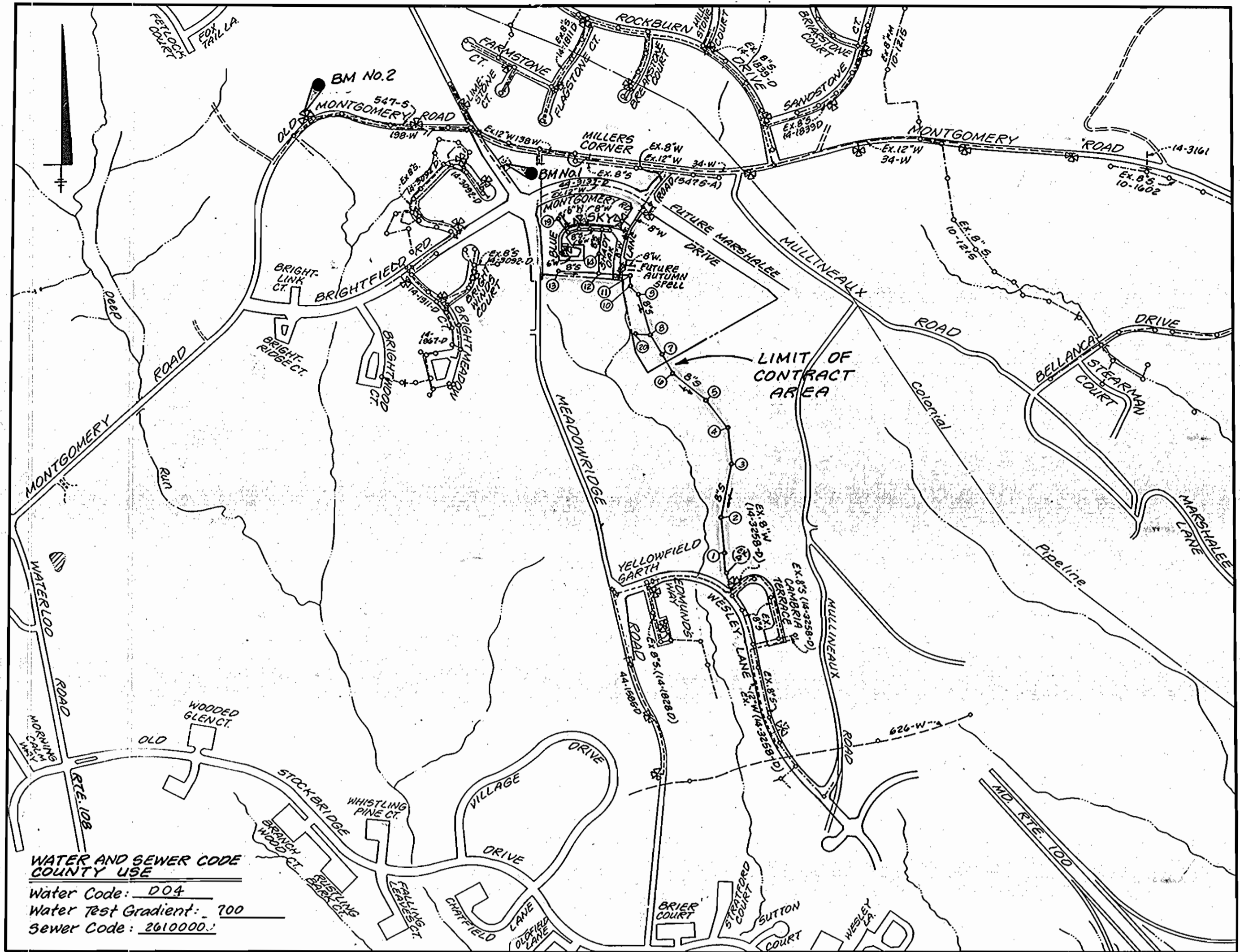


AS-BUILT 2-6-96

3314 ws/1 Shady Oaks

BENCH MARKS:

No. 1 Elev 411.43
Top of F.H. at 325' North of Intersection
of Md Route 103 and Brightfield Road.
No. 2 Elev 401.07
Top of F.H. N. Side of Old Montgomery Rd.
1350' West of BM No. 1



WATER AND SEWER CODE
COUNTY USE
Water Code: D04
Water Test Gradient: .700
Sewer Code: 2610200

Type of Buildings:	Single Family Attached
Number of Lots/Parcels:	56/54 Buildable, 20 Open Space
Number of W.H.C.'s:	53
Number of S.H.C.'s:	53
Drainage Area:	Deep Run
Treatment Plant:	Patapsco

LOCATION MAP
Scale: 1" = 600'

WATER & SEWER CONSTRUCTION PLANS

SHADY OAKS
SECTION ONE AREA ONE

1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
CONTRACT No. 14 - 3314 - D

INDEX OF SHEETS

SHEET No.	TITLE
1	TITLE SHEET
2	PLAN - WATER AND SEWER MAINS
3	PROFILES - WATER AND SEWER MAINS
4	PLAN & PROFILE - SEWER MAINS
5	PLAN & PROFILE - SEWER MAINS

GENERAL NOTES:

- PART I:**
- 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 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 Details for Construction (Latest Edition). The Contractor shall have a copy of Volume IV on the job.
 - Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note on the drawings showing the results of the test pit or pits. If 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:

a) State Highway Administration: 531-5533	d) Gas Utility: 1-800-257-7777
b) Baltimore Gas & Electric Co.: 850-4620	e) Colonial Pipeline Company: 795-1590
c) Baltimore Gas & Electric Co.: 787-3068	f) Howard County Dept. of Public Works Bureau of Utilities: 513-4900

 (Underground damage control)
 - Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs 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 at the Contractor's price bid for construction of the main.

PART II: 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 the tees shall be strapped to the tees.
- All fittings shall be buttressed 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 strapped and buttressed with concrete in accordance with the 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 III: SEWER

- All sewer mains to be D.I.P. RCP, VCPX, CS.PX, RCCP and PCX unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes designated W.T. in plan and profile shall have watertight frame and covers; Standard Detail 6.5.5. 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.M.S." indicates that cellar cannot be served.
- Manholes shown with 12" and 16" walls are for brick manholes only.

QUANTITIES

ITEM	QTY. EST'D	AS BUILT		
		QUANTITIES	TYPE	MANUFACTURER
8" Water	1173 L.F.	1051 L.F.	CL 52 DIP	GRIFFIN PIPE
6" Water	487 L.F.	502 L.F.	" "	" "
1" W.H.C. / 2" W.H.C.	806 L.F./53 L.F.	857/45 L.F.	TYPE "K" COPPER	CAMBRIDGE-LEE
1 1/2" W.H.C.	473 L.F.	527 L.F.	" "	" "
Fire Hydrants	3 Ea.	3 EA	CENTURION	MUELLER
8" Valve	4 Ea.	4 EA	GATE	" "
6" Valve	6 Ea.	6 EA	" "	" "
4" Valve	1 Ea.	1 EA	" "	" "
4" Water	19 L.F.	19 L.F.	CL 52 DIP	GRIFFIN PIPE
8" x 8" Tee	2 Ea.	2 EA	" "	UNION FOUNDRY
8" x 6" Tee	2 Ea.	2 EA	" "	" "
8" x 4" Tee	1 Ea.	1 EA	" "	" "
8" x 6" Reducer	3 Ea.	3 EA	" "	" "
8" x 6 Reducer	1 Ea.	1 EA	" "	" "
4" x 3 Reducer	1 Ea.	1 EA	" "	" "
Blowoff Hydrant	1 Ea.	1 EA	#85 Eclipse	Kupserie Foundry
20" Sleeve	315 L.F.			
8" Sewer	2396 L.F.	1223 L.F.	SDR 35	J-M MFG.
8" Sewer D.I.P.	1395 L.F.			
4" SHC	1313 L.F.	1276 L.F.	SDR 35	J-M MFG.
Manholes	21 Ea.	9 EA	PRECAST	ATLANTIC

NAME OF CONTRACTOR: Utilities Unlimited, Inc.
CHECK BOX: Survey & Drafting Div.
As-Built Date:

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Cynthia Egan 10/7/94
SIGNATURE U.S. SOIL CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
John P. Rhoton 10/7/94
HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 213 OF THE STANDARD SPECIFICATION AND ROAD CONSTRUCTION PLANS: F 94-27

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
James J. Skon 10/7/94
DIRECTOR OF PUBLIC WORKS DATE
Robert J. Berman 10-3-94
CHIEF, BUREAU OF UTILITIES DATE
William J. ... 10/7/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

LAND DESIGN ENGINEERING, INC.
8835 Columbia 100 Pkwy. Unit N
Columbia, Maryland 21045
Phone: (410) 718-1070 (301) 594-3424

Designed: BDB/KBW			
Drawn: KBW			
Checked: BDB	MJM	SEWER & WATER AS-BUILTS SHEET 4 of 4	2-6-96
Date: Feb. 1994	LDE	Quantities 4" SHC	9-14-95
BY No.		REVISION	DATE

TITLE SHEET
600 SCALE MAP No. 37 BLOCK No. 3

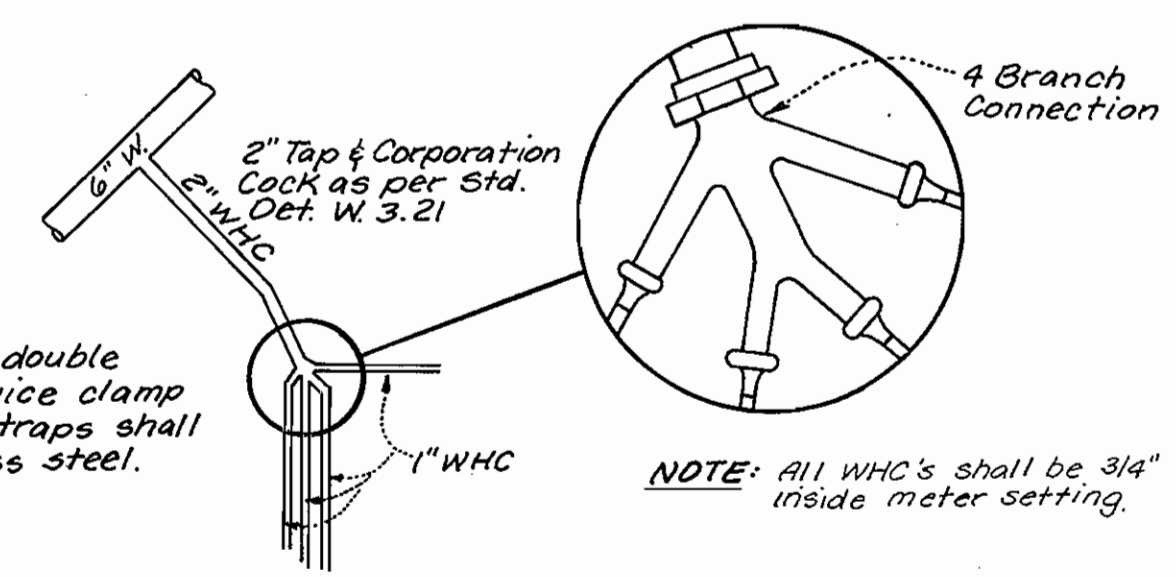
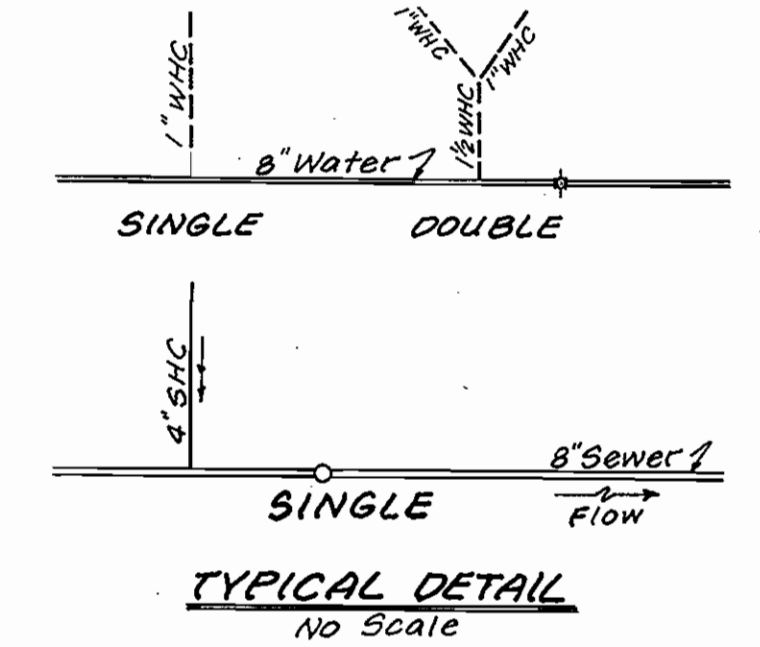
SHADY OAKS
SECTION ONE AREA ONE
LOT 15 THRU LOT 22, 32-39, 240-277
1st Election District Howard County, Maryland
Contract No. 14 - 3314 - D
SCALE AS SHOWN
SHEET 1 OF 5

3314 ws/2 Shady Oaks, 1/1

SEWER HOUSE CONNECTION TABLE					
LOT No.	INV. @ R./ESMT.	MIN. C.E.	LOT No.	INVERT @ R.	MIN. C.E.
1	---	EX. SERVICE	258	388.10	391.00
2	OPEN SPACE	NO SERVICE	259	387.51	390.50
240	397.81	401.00	260	386.76	390.00
241	397.63	400.50	32	384.71	380.00
242	397.28	400.50	33	385.41	389.00
243	396.83	400.00	34	386.28	390.00
244	397.83	401.00	35	387.26	391.00
245	399.12	402.00	36	388.56	392.00
246	400.45	403.50	37	389.37	393.00
247	401.31	404.50	38	390.43	394.00
248	401.55	404.50	39	389.47	393.00
249	401.94	405.00	261	401.56	404.50
250	402.01	405.00	262	401.40	404.50
251	402.32	405.50	263	401.12	404.00
15	404.36	407.50	264	401.03	404.00
16	405.31	408.50	265	399.59	402.50
17	405.68	409.00	266	399.71	399.00
18	405.93	409.00	267	399.39	396.50
19	405.87	408.00	268	392.55	396.00
20	405.55	408.50	269	391.71	394.50
21	404.72	408.00	270	390.91	394.00
22	404.39	407.50	271	389.15	392.50
252	391.89	395.00	272	387.51	391.00
253	391.43	394.50	273	386.57	390.00
254	390.98	394.00	274	385.40	389.00
255	390.34	393.50	275	384.71	388.00
256	389.62	393.00	276	381.40	384.00
257	388.74	392.00	56	OPEN SPACE	NO SERVICE

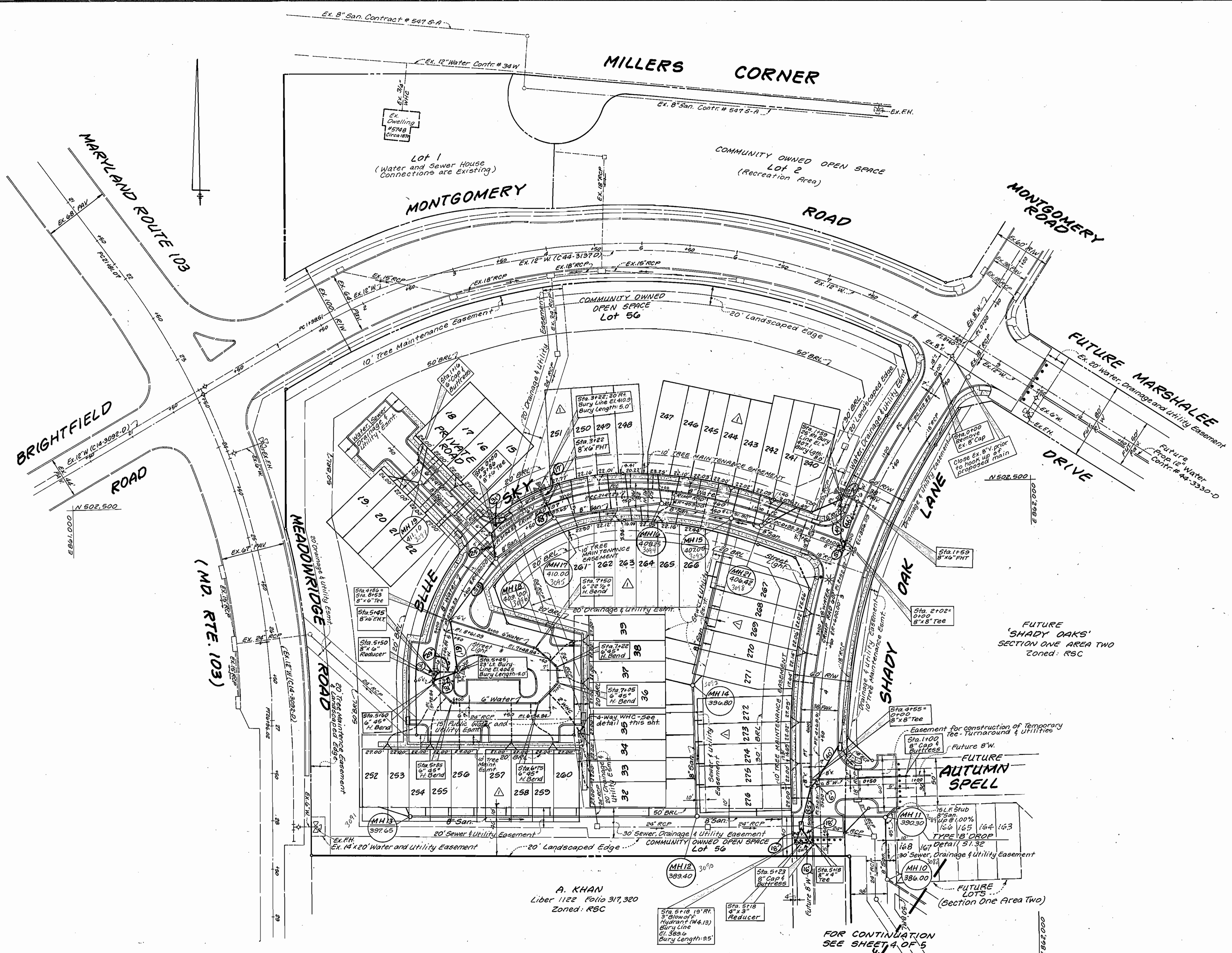
NOTE: All WHC's shall be 3/4" inside meter setting.

WATER & SEWER HOUSE CONNECTION LEGEND



4-WAY WHC DETAIL

(LOTS 32-35)
No Scale

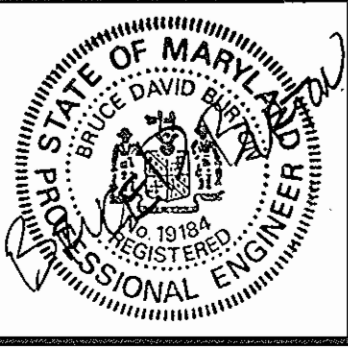


SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 213 OF THE STANDARD SPECIFICATION AND FINAL ROAD CONSTRUCTION PLANS: F04-27

A. KHAN
Liber 1122 Folio 317,320
Zoned: RSC

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
10/7/94
10-3-94

LAND DESIGN ENGINEERING, INC.
8835 Columbia 100 Pkwy. Unit N
Columbia, Maryland 21045
Phone: (410) 715-1070 (301) 596-3424

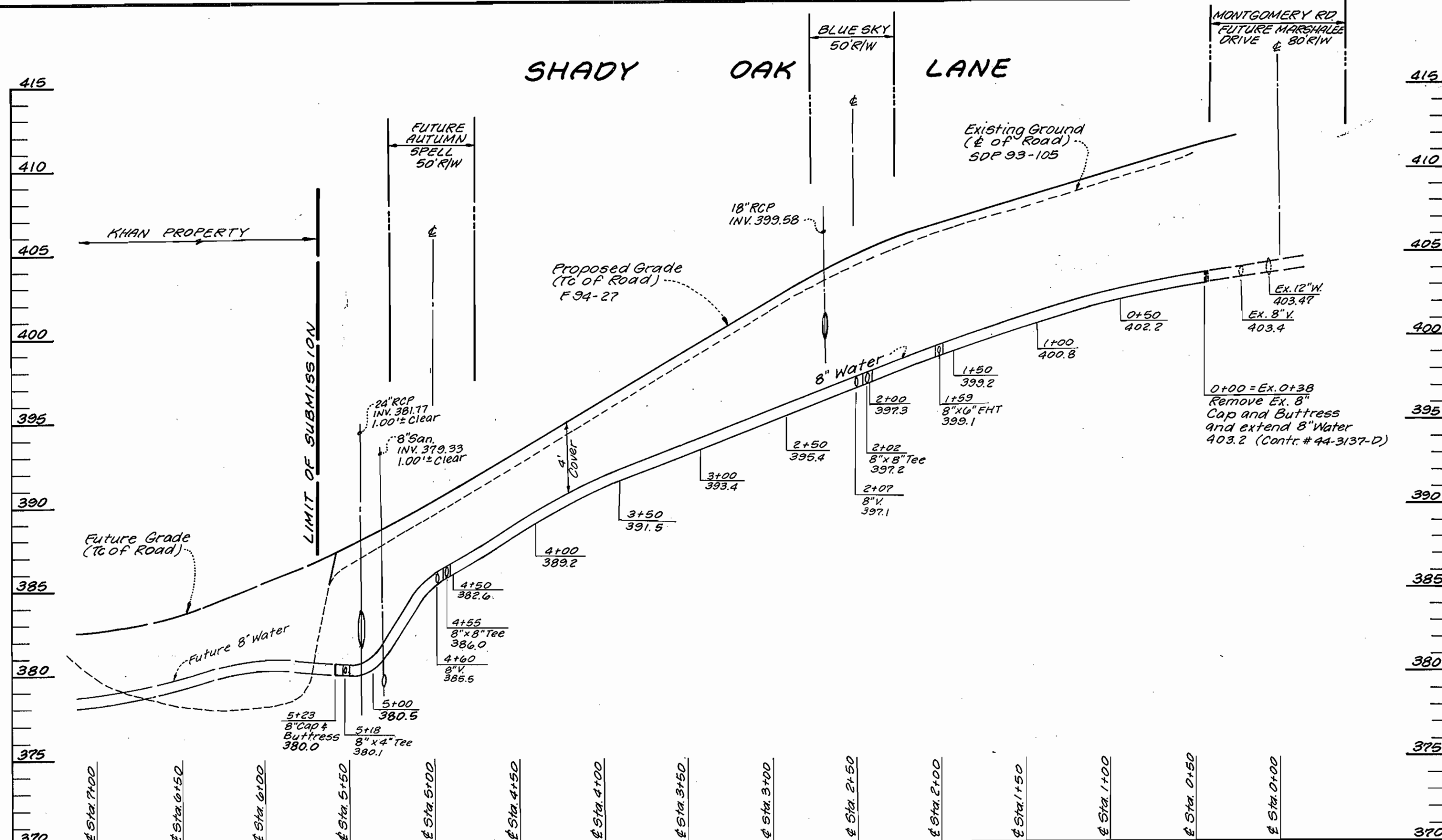


Designed: BOB / KBW
Drawn: KBW
Checked: BOB
Date: Feb. 1994
LDE
BY NO. REVISION DATE
Revise, Lots, Front Footage, Min. Cellars: 9-14-95

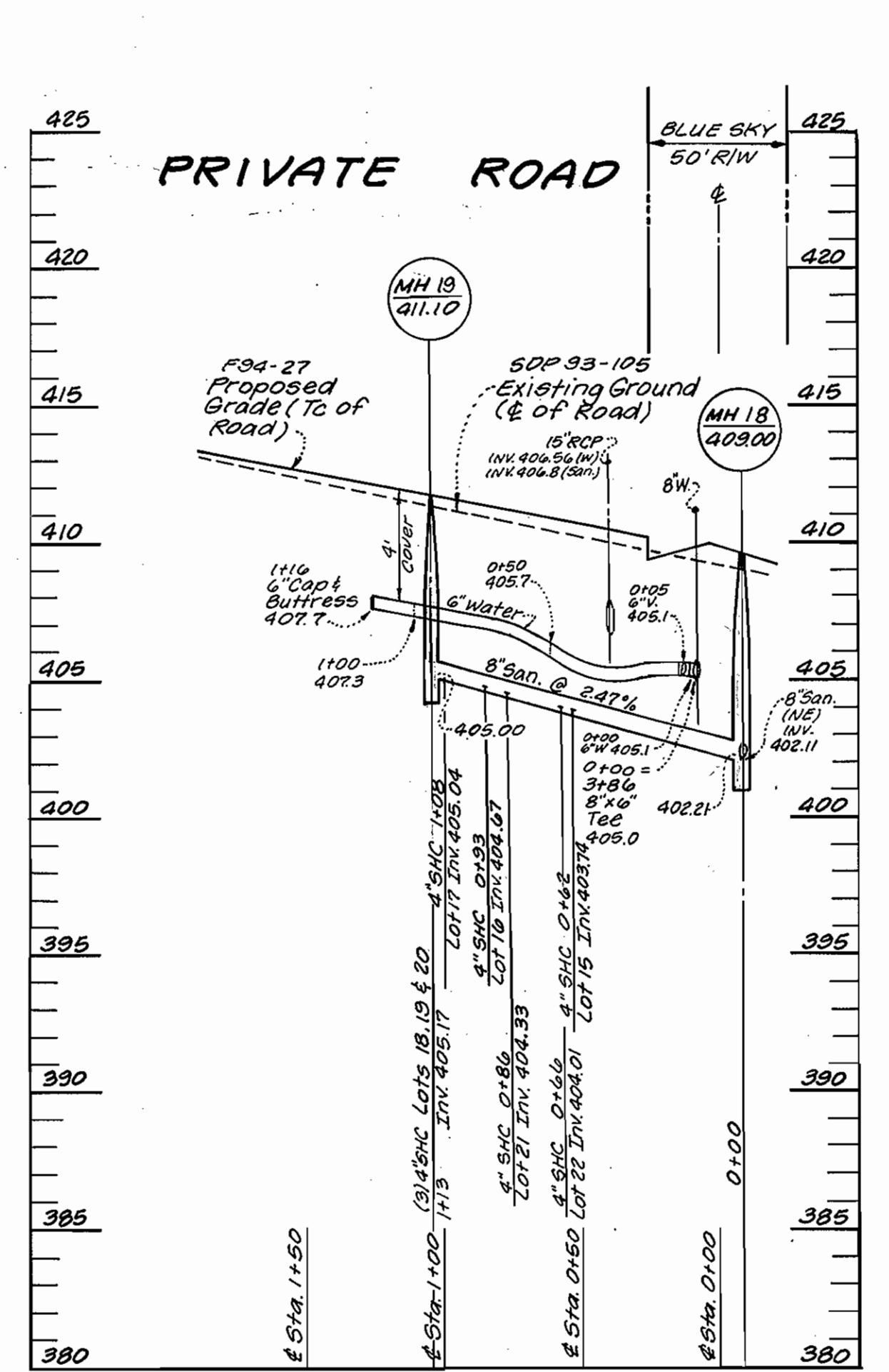
PLAN
WATER AND SEWER MAINS
600 SCALE MAP NO. 37 BLOCK NO. 3

SHADY OAKS
SECTION ONE AREA ONE
LOT 15 THRU LOT 22, 32-39, 240-277
1st Election District Howard County, Maryland
Contract No. 14-3314-D
SCALE AS SHOWN
SHEET 2 OF 4

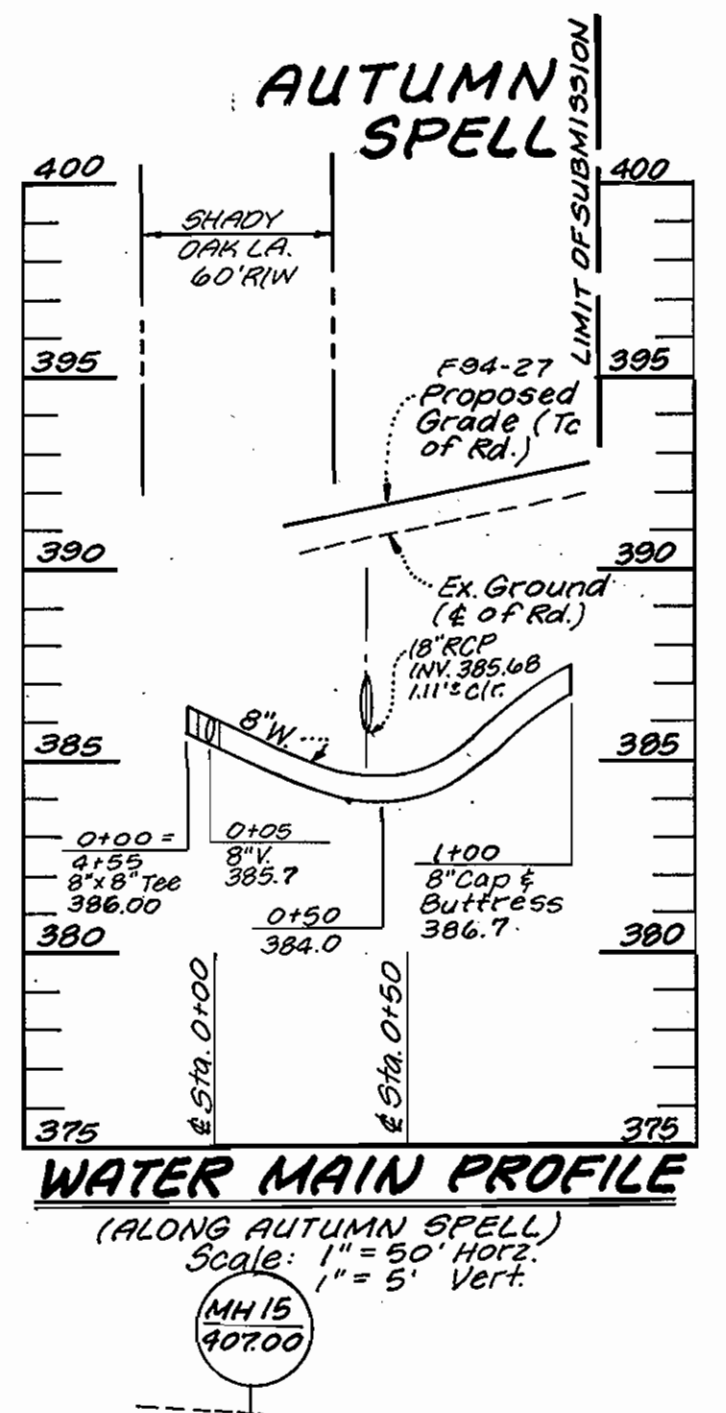
3314 ws/3 Shady Oaks, 1/1



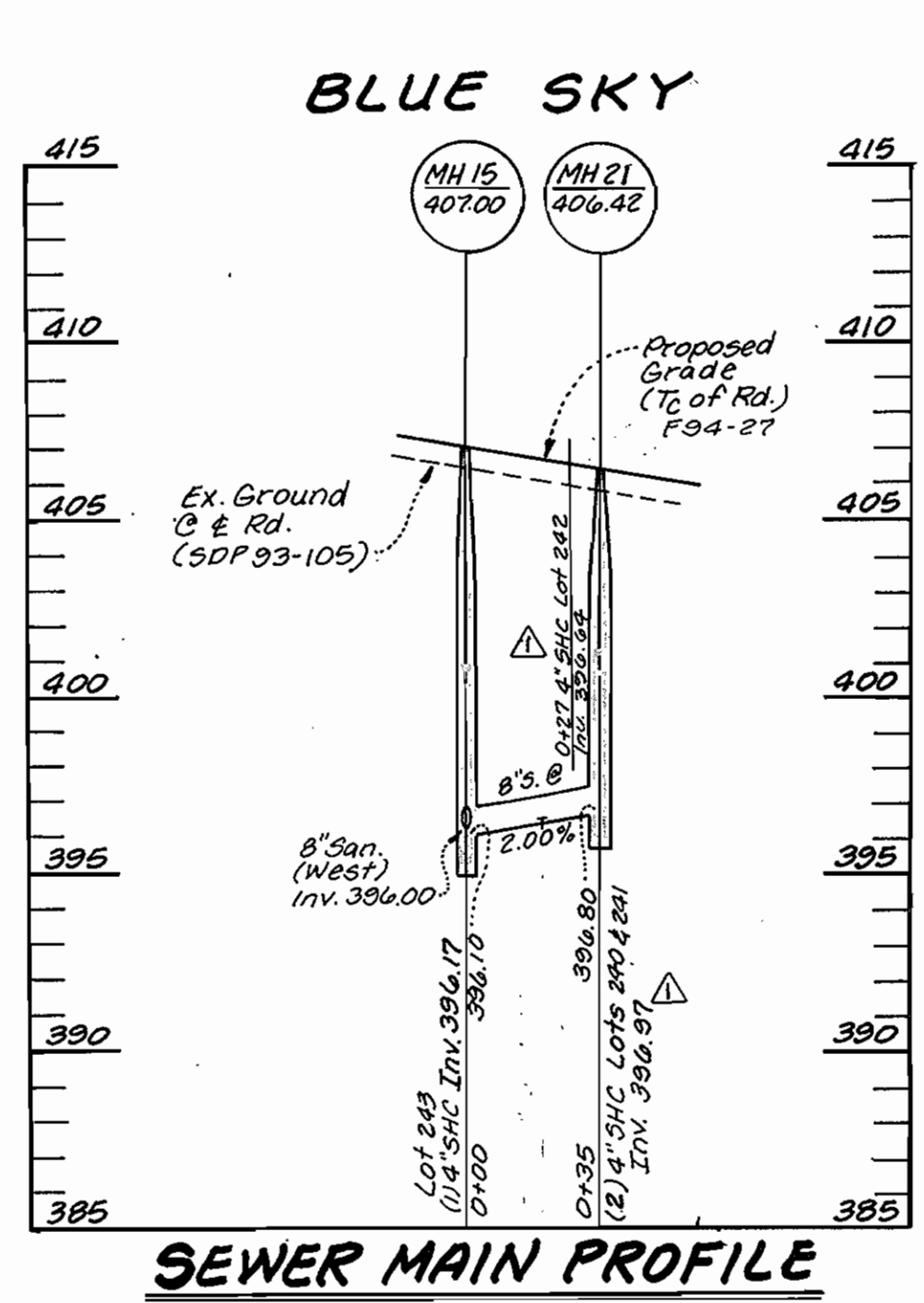
WATER MAIN PROFILE
(ALONG SHADY OAK LANE)
Scale: 1" = 50' Horiz.
1" = 5' Vert.



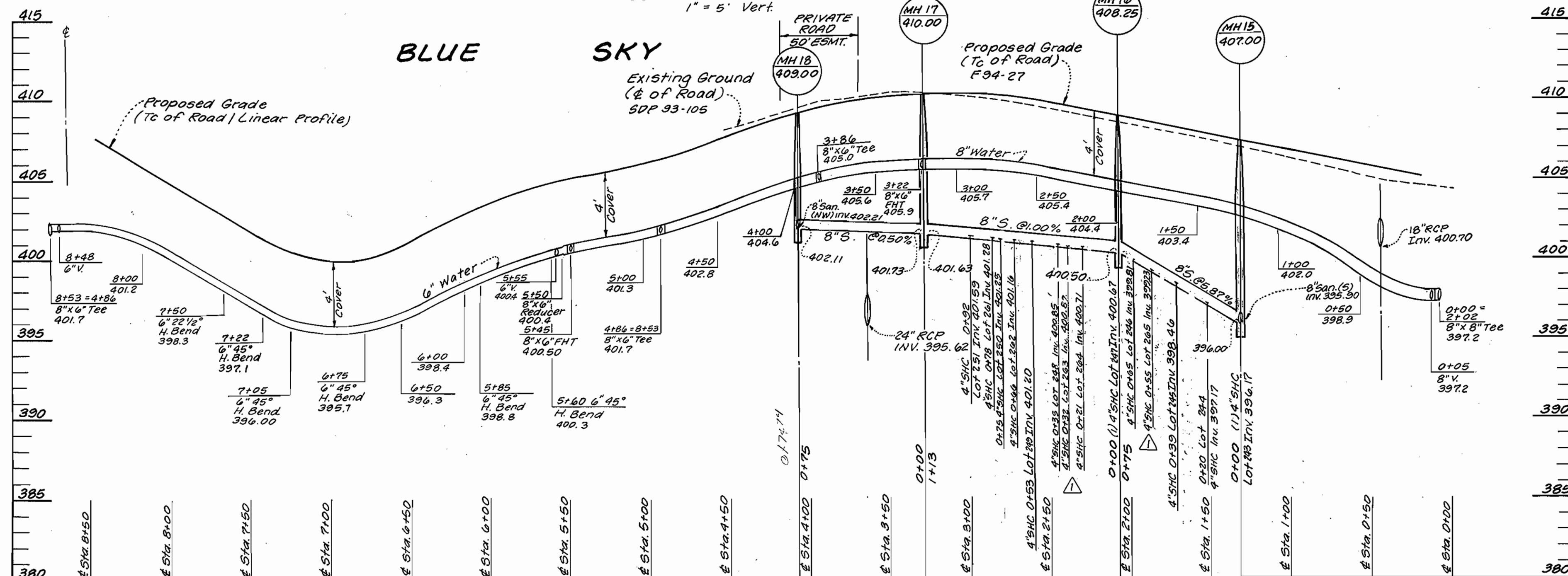
WATER AND SEWER MAIN PROFILE
(ALONG PRIVATE ROAD)
Scale: 1" = 50' Horiz.
1" = 5' Vert.



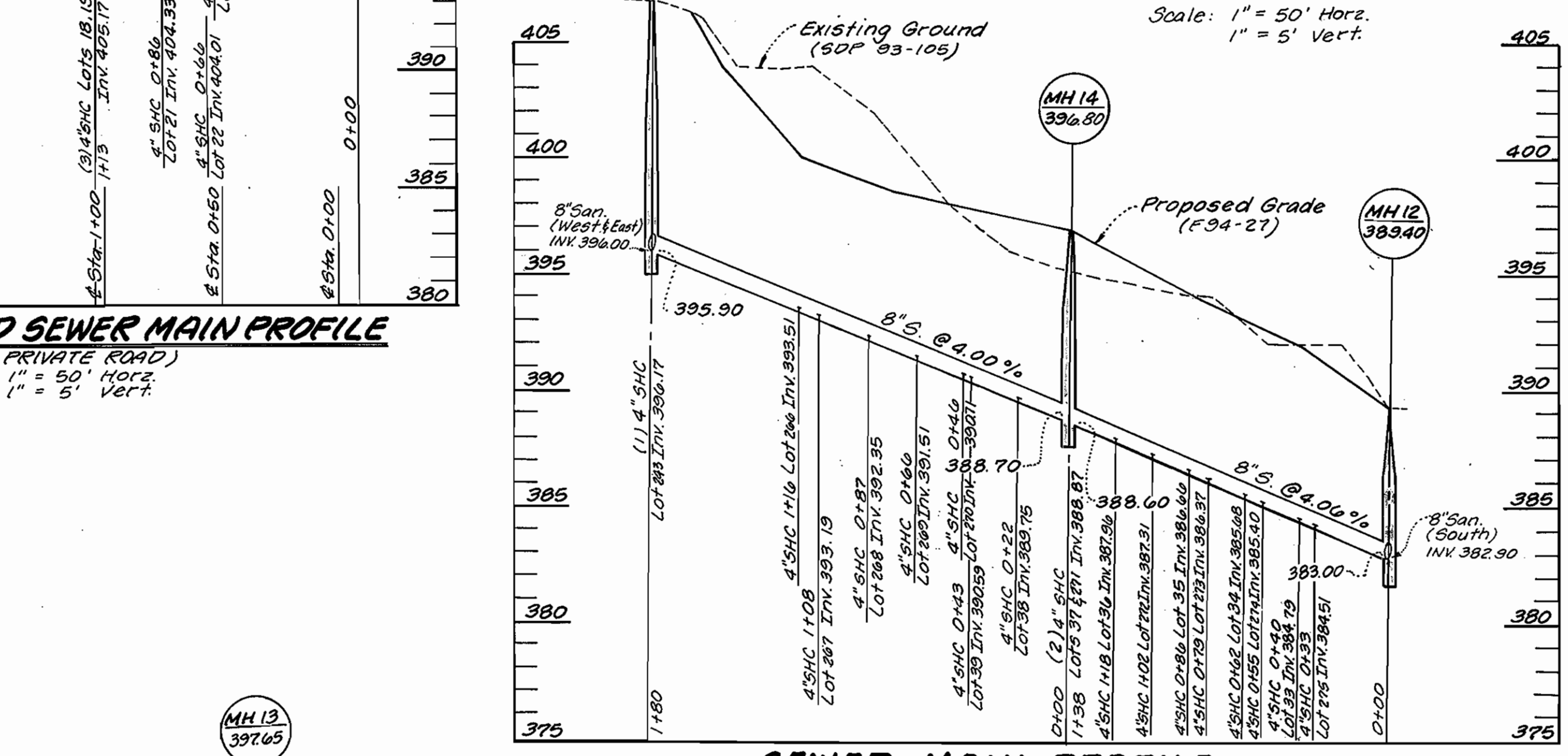
WATER MAIN PROFILE
(ALONG AUTUMN SPELL)
Scale: 1" = 50' Horiz.
1" = 5' Vert.



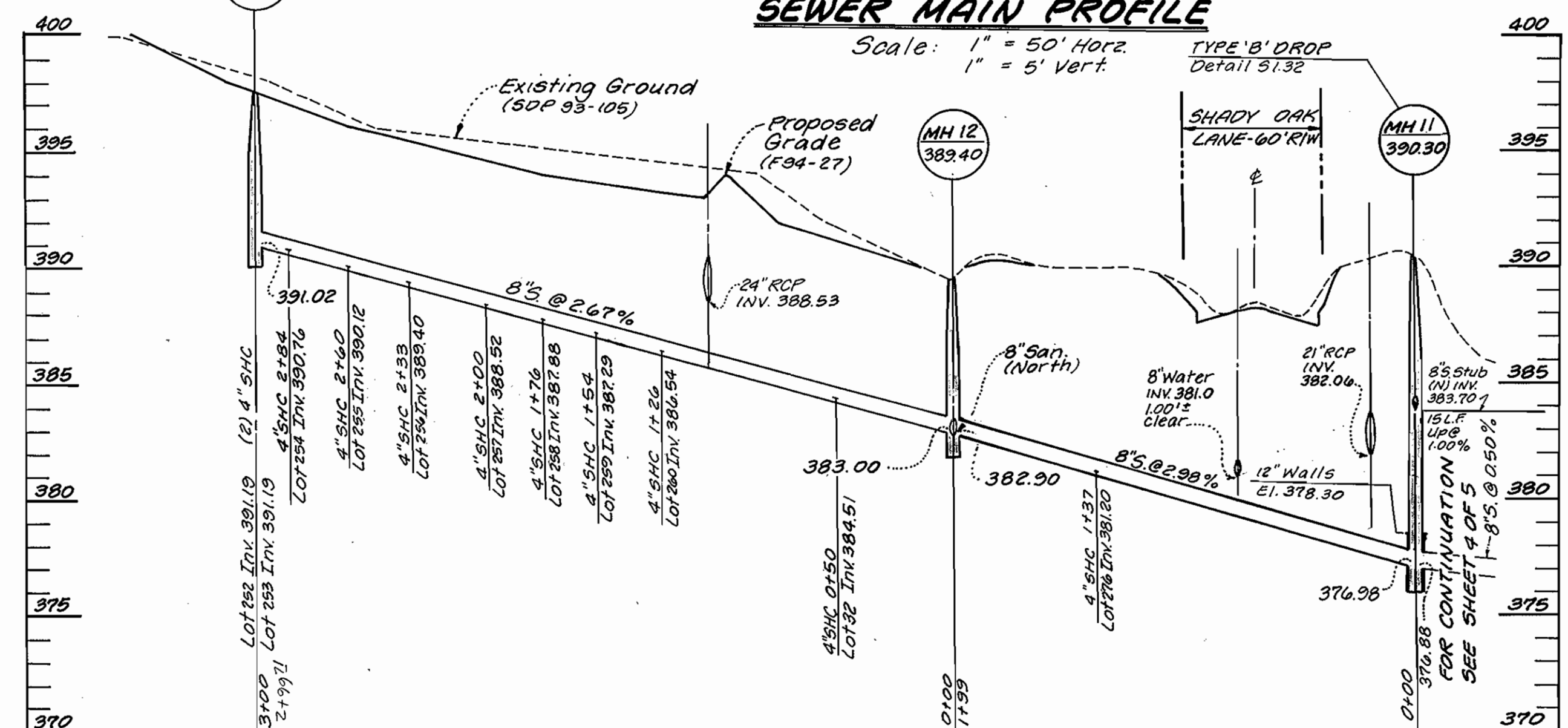
SEWER MAIN PROFILE
Scale: 1" = 50' Horiz.
1" = 5' Vert.



WATER AND SEWER MAIN PROFILE
(ALONG BLUE SKY)
Scale: 1" = 50' Horiz.
1" = 5' Vert.



SEWER MAIN PROFILE
Scale: 1" = 50' Horiz.
1" = 5' Vert.



SEWER MAIN PROFILE
Scale: 1" = 50' Horiz.
1" = 5' Vert.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 213 OF THE STANDARD SPECIFICATION AND FINAL ROAD CONSTRUCTION PLANS: F94-27

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
10/7/94
DIRECTOR OF PUBLIC WORKS
10-3-94
CHIEF BUREAU OF UTILITIES

LAND DESIGN ENGINEERING, INC.
8835 Columbia 100 Pkwy, Unit N
Columbia, Maryland 21045
Phone: (410) 715-1070 (301) 536-3424



Designed: GDB/KBW	
Drawn: KBW	
Checked: GDB	
Date: Feb. 1994	
LOE	Revised SHC between MH 15 - MH 17 & MH 5 - MH 11
BY	NO.
	REVISION
	DATE

PROFILES
WATER AND SEWER MAINS
600 SCALE MAP No. 37 BLOCK No. 3

SHADY OAKS
SECTION ONE AREA ONE
LOT 15 THRU LOT 22, 32-39, 240-277
1st Election District Howard County, Maryland
Contract No. 14-3314-D
SCALE AS SHOWN
SHEET 3 OF 4

SEWER AS-BUILTS

WATER AS-BUILTS

LOT #	LOT #
15 18' TO WHC 15 22' TO S.D. INLET	261 18' TO WHC 261 10' TO SHC 262
16 7' TO WHC 16 18' TO SHC 17	262 15' TO SHC 261 15' TO WHC 262
17 13' TO SHC 16 18' TO SHC 18	263 11' TO WHC 263 11' TO SHC 264
18 18' TO WHC 17 46' TO MH 19	264 11' TO SHC 263 15' TO WHC 264
19 36' TO MH 19 12' TO WHC 19	265 15' TO WHC 265 27' TO WHC 266
20 12' TO WHC 20 18' TO WHC 21	266 54' TO MH 15 18' TO SHC 267
21 8' TO WHC 21 14' TO WHC 22	267 18' TO SHC 266 26' TO SHC 268
22 NO DATA	268 26' TO SHC 267 22' TO SHC 269
32 60' TO S.D. INLET 53' TO MH 12	269 22' TO SHC 268 19' TO SHC 270
33 52' TO MH 12 22' TO SHC 34	270 18' TO SHC 269 49' TO MH 14
34 22' TO SHC 33 25' TO SHC 35	271 8' TO MH 14 46' TO SHC 270
35 25' TO SHC 34 31' TO SHC 36	272 46' TO MH 14 22' TO SHC 273
36 31' TO SHC 35 43' TO MH 14	273 22' TO SHC 272 23' TO SHC 274
37 } NO DATA 38 } 39 }	274 23' TO SHC 273 23' TO SHC 275
240 4' TO WHC 240 17' TO SHC 241	275 23' TO SHC 274 34' TO MH 12
241 17' TO SHC 240 7' TO WHC 241	276 62' TO MH 12 51' TO S.D. INLET
242 18' TO WHC 242 14' TO SHC 243	
243 14' TO SHC 242 8' TO WHC 243	
244 18' TO WHC 244 11' TO SHC 245	
245 11' TO SHC 244 8' TO WHC 245	
246 17' TO WHC 246 14' TO SHC 247	
247 14' TO SHC 246 9' TO WHC 247	
248 12' TO WHC 248 14' TO SHC 249	
249 14' TO SHC 248 8' TO WHC 249	
250 3' TO WHC 250 23' TO SHC 251	
251 23' TO SHC 250 11' TO WHC 251	
252 41' TO MH 13 31' TO SHC 253	
253 31' TO SHC 252 19' TO SHC 254	
254 19' TO SHC 253 29' TO SHC 255	
255 29' TO SHC 254 23' TO SHC 256	
256 23' TO SHC 255 32' TO SHC 257	
257 32' TO SHC 256 24' TO SHC 258	
258 24' TO SHC 257 22' TO SHC 259	
259 22' TO SHC 258 29' TO SHC 260	
260 29' TO SHC 259 32' TO S.D. INLET	

LOT #	LOT #
15 18' TO SHC 15 7' TO WHC 16	261 22' TO MH 17 18' TO SHC 261
16 7' TO WHC 15 7' TO SHC 16	262 15' TO SHC 262 7' TO WHC 263
17 8' TO SHC 17 18' TO SHC 18	263 7' TO WHC 263 11' TO SHC 263
18 12' TO SHC 18 46' TO MH 19	264 15' TO SHC 264 7' TO WHC 265
19 12' TO SHC 19 6' TO WHC 20	265 7' TO WHC 264 15' TO SHC 265
20 6' TO WHC 19 12' TO SHC 20	266 27' TO SHC 265 32' TO MH 15
21 18' TO SHC 20 8' TO SHC 21	267 60' TO S.D. INLET 6' TO WHC 268
22 14' TO SHC 21	268 6' TO WHC 267 38' TO WHC 269
32 43' TO S.D. INLET 9' TO WHC 33	269 38' TO WHC 268 6' TO WHC 270
33 9' TO WHC 32 34' TO WHC 34	270 6' TO WHC 269 26' TO WHC 271
34 34' TO WHC 33 11' TO WHC 35	271 26' TO WHC 270 39' TO WHC 272
35 11' TO WHC 34 18' TO S.D. INLET	272 39' TO WHC 271 7' TO WHC 273
36 38' TO S.D. INLET 5' TO WHC 37	273 7' TO WHC 272 40' TO WHC 274
37 5' TO WHC 36 36' TO WHC 38	274 40' TO WHC 273 6' TO WHC 275
38 36' TO WHC 37 6' TO WHC 39	275 6' TO WHC 274 32' TO WHC 276
39 6' TO WHC 38 46' TO S.D. INLET	276 32' TO WHC 275 31' TO S.D. INLET
240 25' TO S.D. INLET 4' TO SHC 240	
241 7' TO SHC 241 6' TO WHC 242	
242 6' TO WHC 241 18' TO SHC 242	
243 8' TO SHC 243 7' TO WHC 244	
244 7' TO WHC 243 18' TO SHC 244	
245 8' TO SHC 245 6' TO WHC 246	
246 6' TO WHC 245 17' TO SHC 246	
247 9' TO SHC 247 18' TO WHC 248	
248 18' TO WHC 247 12' TO SHC 248	
249 8' TO SHC 249 6' TO WHC 260	
250 6' TO WHC 249 3' TO SHC 250	
251 11' TO SHC 251 22' TO F.M.	
252 38' TO S.D. INLET 4' TO WHC 263	
253 4' TO WHC 252 40' TO WHC 254	
254 40' TO WHC 263 6' TO WHC 255	
255 6' TO WHC 254 26' TO WHC 256	
256 26' TO WHC 255 52' TO WHC 257	
257 52' TO WHC 256 6' TO WHC 258	
258 6' TO WHC 257 38' TO WHC 259	
259 38' TO WHC 258 8' TO WHC 260	
260 8' TO WHC 259 41' TO S.D. INLET	

3314 AS-BLT INFO.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

DES:	
DRN:	
CHK:	
DATE:	
BY	NO.

Sewer & Water
AS - BUILTS

SHADY OAKS
SECTION ONE AREA ONE
LOT 15 Thru LOT 22, 32-39, 240-277

Contract No. 14-3314-D

SCALE AS SHOWN
SHEET 4 OF 4