

SHEET INDEX	
1	TITLE SHEET
2	PLAN OF WATER EXTENSIONS
3	PLAN OF WATER EXTENSIONS
4	PROFILES OF WATER EXTENSIONS
5	PROFILES OF WATER EXTENSIONS

12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 44-3833-D


BENCHMARKS

TRAVERSE POINT 102
ELEVATION 346.19
N 536,499.165
E 1,353,974.017
LOCATED NEAR THE
INTERSECTION OF GORMAN
ROAD AND SKYLARK BLVD.

TRAVERSE POINT 1154
ELEVATION 347.45
N 536,018.069
E 1,355,129.333
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

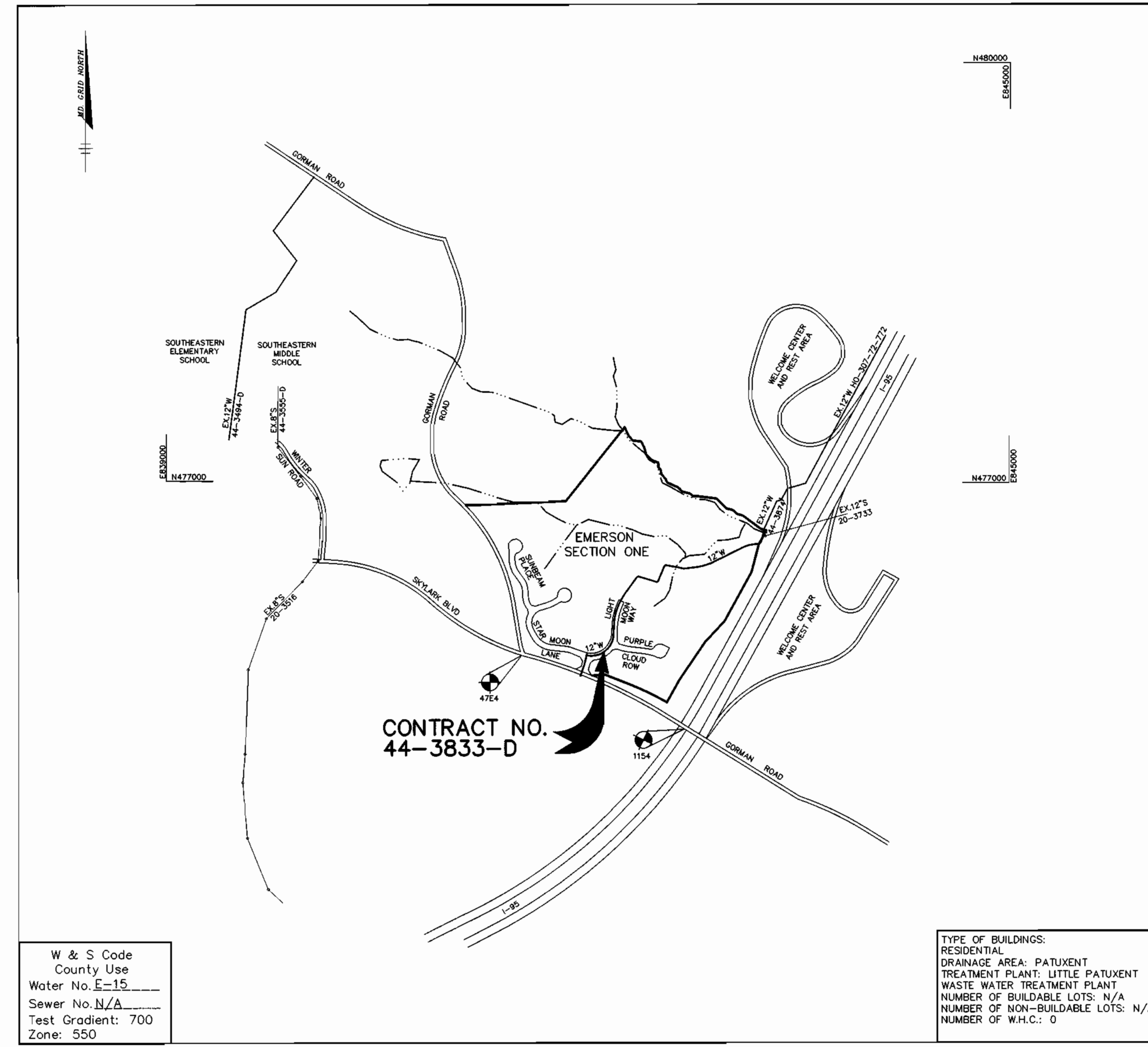
HOWARD COUNTY
CONTROL STATION 47E4
ELEVATION 339.00
N 535,846.16
E 1,355,431.23
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

GENERAL NOTES

- 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 Detail 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 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	410-531-5533
BGE Contractor Services	410-850-4620
BGE Underground Damage Control	410-291-4607
Miss Utility	1-800-257-7777
Colonial Pipeline Co.	410-549-4120
Bureau of Utilities, Howard County Department of Public Works	410-313-4900
Bell Atlantic	1-800-446-5266
- 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 bid for construction of the main.
- All water mains to be D.I.P. Class 52 unless otherwise noted.
- Taps 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 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 restrained and buttressed 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.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail W.1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-2450 at least five (5) working days before any open cut or any County road or boring/jacking operation in County roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.
- Howard County DPW is hereby granted permission to access private lots shown on these plans in order to maintain public water and sewer house connections at the curb stops and/or cleanouts.

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
12" WATER	1959 LF			
12" VALVES	7 EA			
8" VALVES	3 EA			
6" VALVES	2 EA			
FIRE HYDRANT	2 EA			
6" WATER	14 LF			
AIR RELEASE MANHOLES	1 EA			
CONCRETE ANCHORS	5 EA			
FLUSHING CONNECTION MH.	2 EA			



NAME OF UTILITY CONTRACTOR :

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications F-01-140.

Review for Howard Soil Conservation District and meets technical requirements.

Jim Payne / Cas 6/4/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

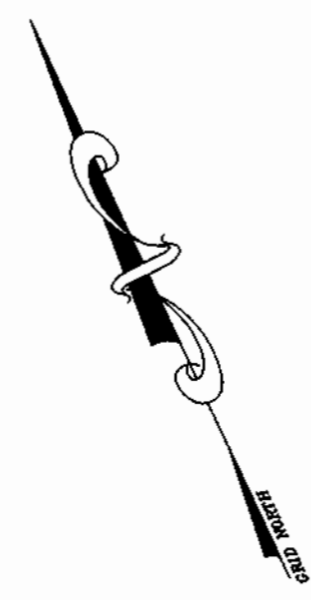
Jeff W. ... 6/4/01
HOWARD SOIL CONSERVATION DISTRICT DATE

W & S Code
County Use
Water No. E-15
Sewer No. N/A
Test Gradient: 700
Zone: 550

CHECKBOX
AS-BUILT DATE
SURVEY AND DRAFTING DIVISION

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Robert ...</i> 5-21-01 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>Arthur E. Muegge</i> 6/4/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	RIEMER MUEGGE a division of Pattin Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 2018 Center Park Drive, Columbia, MD 21045 • Tel: 410.967.9800 Fax: 410.967.9822 99212/FINALS WATER1.DWG	DES: C.J.R. DRN: DAM CHK: C.J.R. DATE: 5/14/01	BY NO. REVISION DATE	TITLE SHEET 600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9	12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 44-3833-D	SCALE AS SHOWN SHEET 1 OF 5
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P:\projects\199212\FINALS\WATER1.DWG Mon May 14 10:55:00 2001 RIEMER MUEGGE A DIVISION OF PHESA

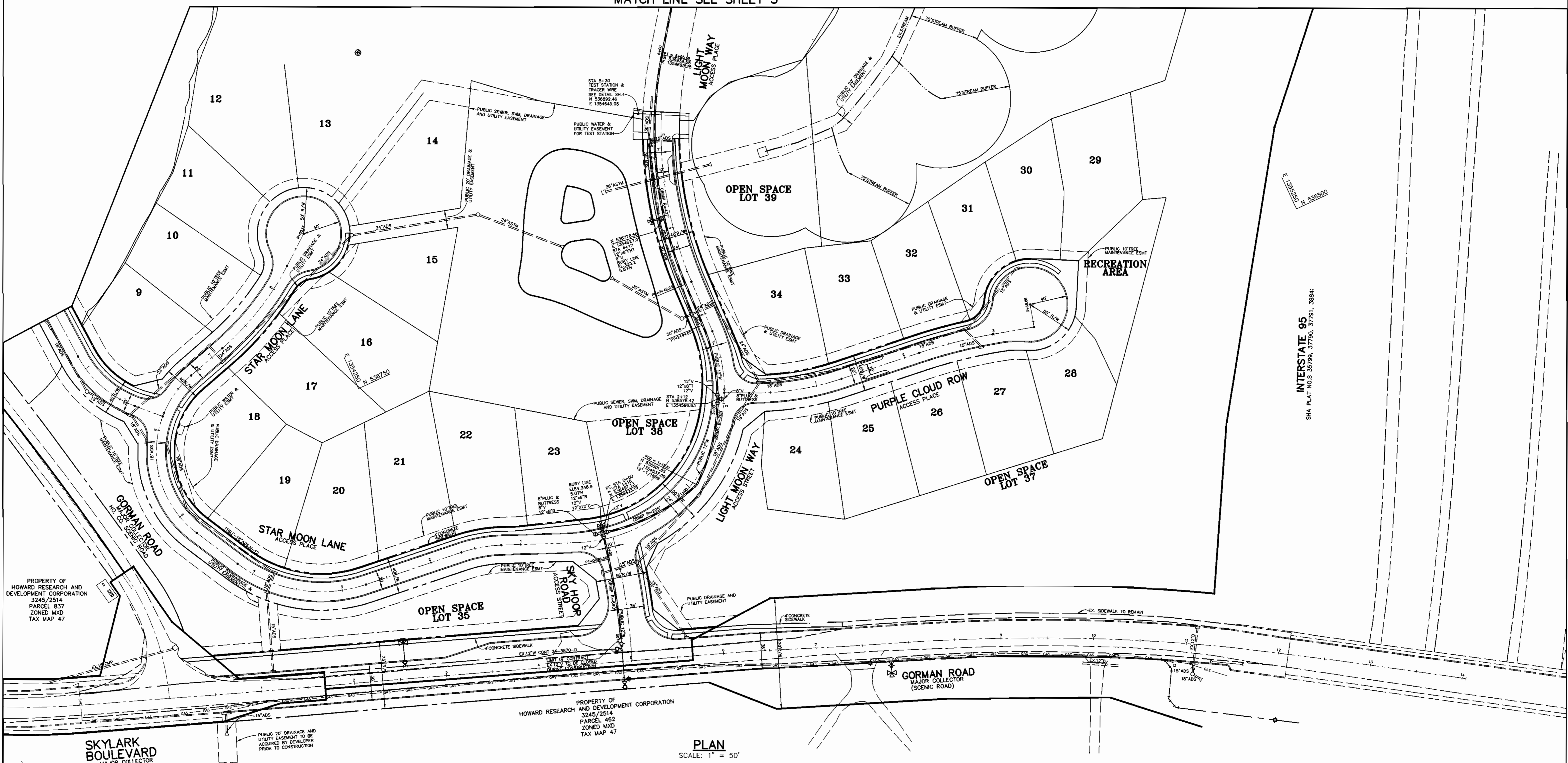


MATCH LINE SEE SHEET 3

E. 1355250 N. 536750

E. 1355250 N. 536500

INTERSTATE 95
SHA PLAT NO.S 35798, 37790, 37791, 38841



PROPERTY OF
HOWARD RESEARCH AND
DEVELOPMENT CORPORATION
3245/2514
PARCEL 837
ZONED MXD
TAX MAP 47

PROPERTY OF
HOWARD RESEARCH
AND DEVELOPMENT CORPORATION
3245/2514
PARCEL 462
ZONED MXD
TAX MAP 47

PLAN
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS - SURVEYORS - PLANNERS
LANDSCAPE ARCHITECTS - ENVIRONMENTAL SPECIALISTS
8818 Centex Park Drive, Columbia, MD 21045 • tel 410.987.8000 fax 410.987.8282
99212/FINALS WATER2.DWG



DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.				
DATE:	5/14/01				
BY:	NO.	REVISION	DATE		

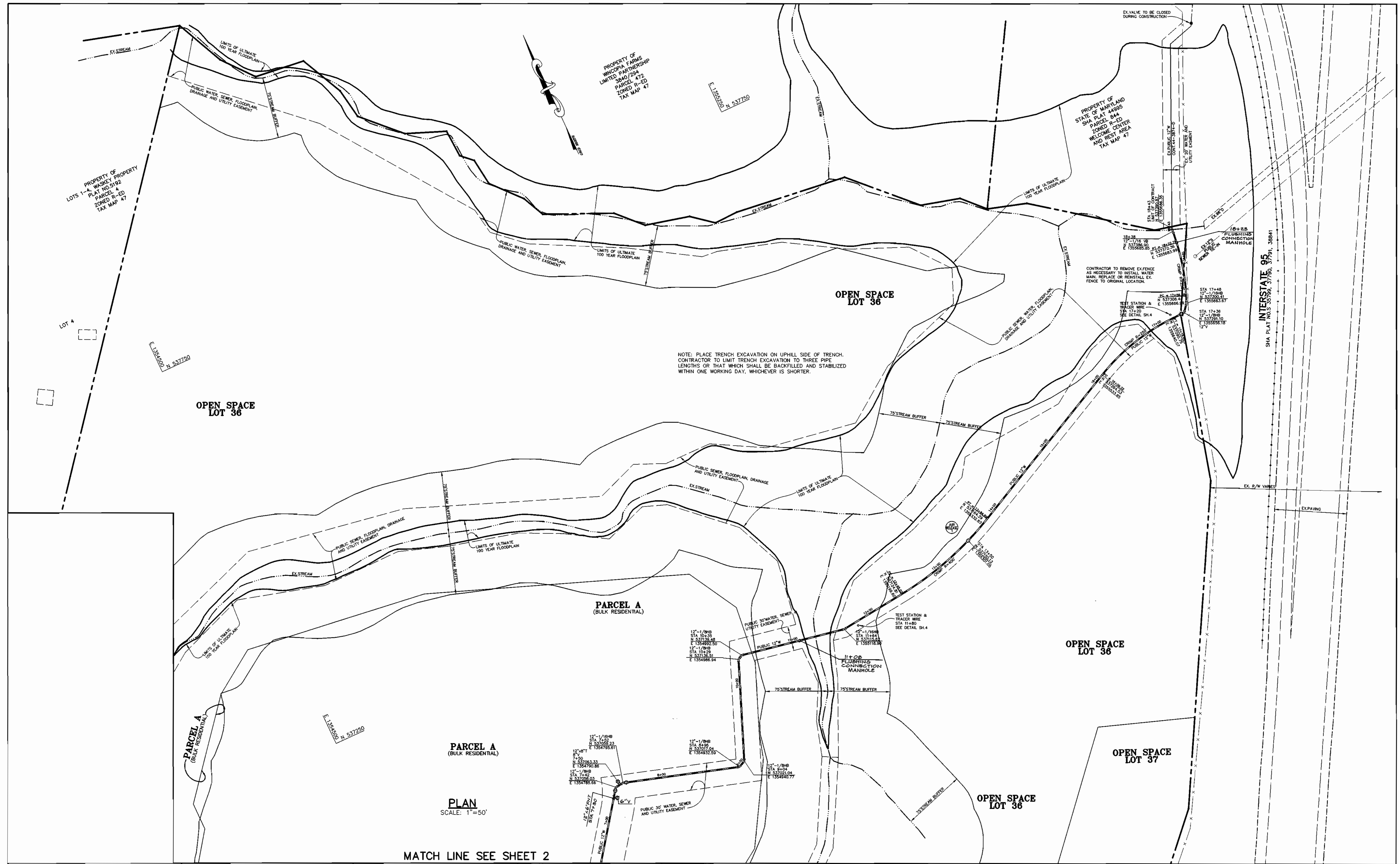
PLAN OF
WATER EXTENSIONS

12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE
AS
SHOWN
SHEET
2 OF 5

P:\proj\109212\FINALS\water2.dwg Mon May 14 10:58:25 2001 RIEMER MUEGGE A DIVISION OF PHRSA

P:\PROJECT\199212\FINALS\water3.dwg, Mon May 14 10:59:24 2001, RIEMER MUEGGE A DIVISION OF PHR&A



NOTE: PLACE TRENCH EXCAVATION ON UPHILL SIDE OF TRENCH. CONTRACTOR TO LIMIT TRENCH EXCAVATION TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

MATCH LINE SEE SHEET 2

PLAN
SCALE: 1"=50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Bauman 5-21-01
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Arthur E. Muegge 6/6/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.987.8800 fax 410.987.9392
99212/FINALS WATER3.DWG



DES: C.J.R.					
DRN: DAM					
CHK: C.J.R.					
DATE: 5/14/01	BY	NO.	REVISION	DATE	

PLAN OF
WATER EXTENSIONS

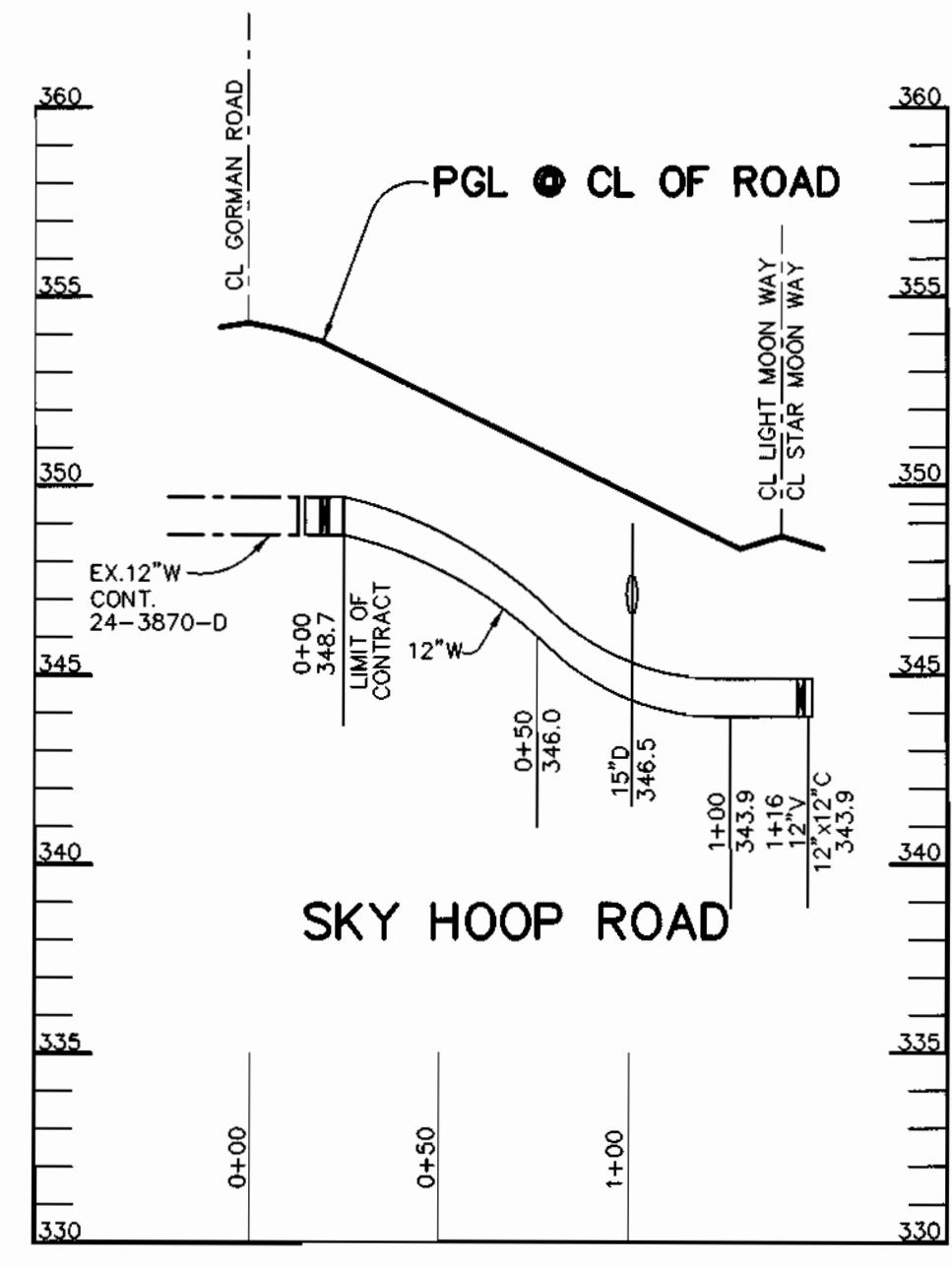
600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

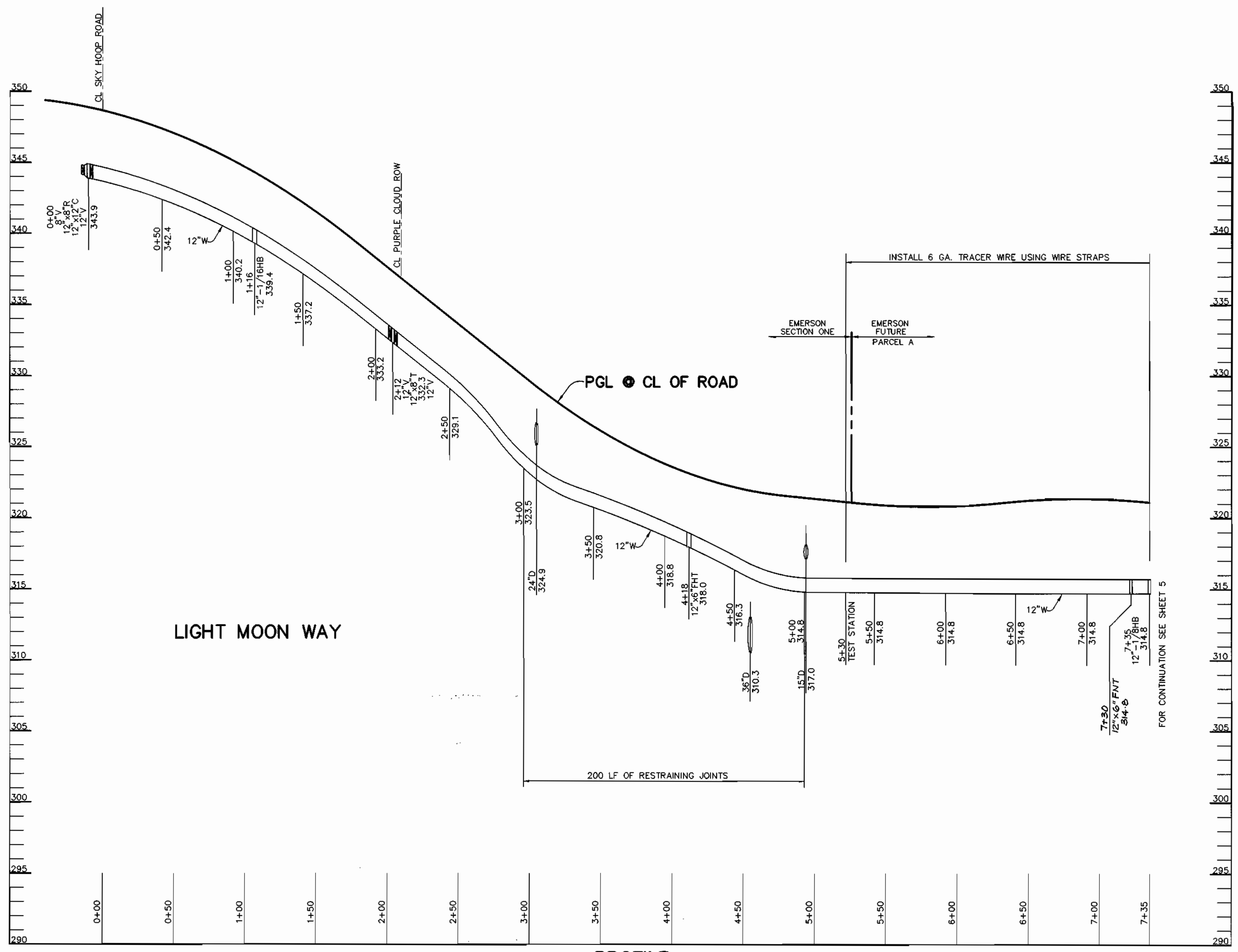
SCALE
AS
SHOWN

SHEET
3 OF 5

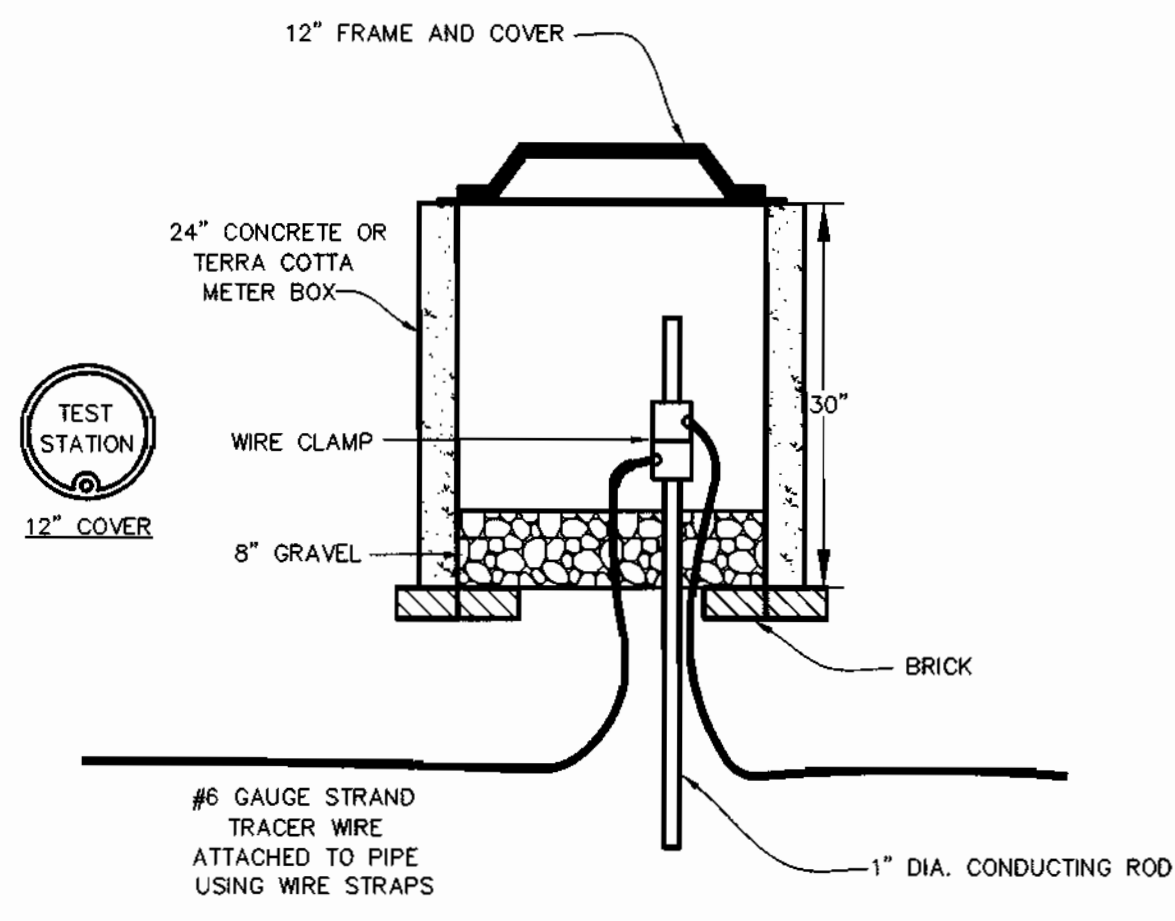
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PROFILE
SCALE:
HOR. - 1" = 50'
VERT. - 1" = 5'



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

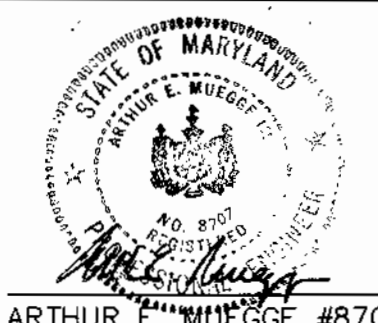


TEST STATION & TRACER WIRE
NO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
3018 Coates Park Drive, Columbia, MD 21045 • tel 410.987.8900 fax 410.987.8902
99212/FINALS WATER4.DWG



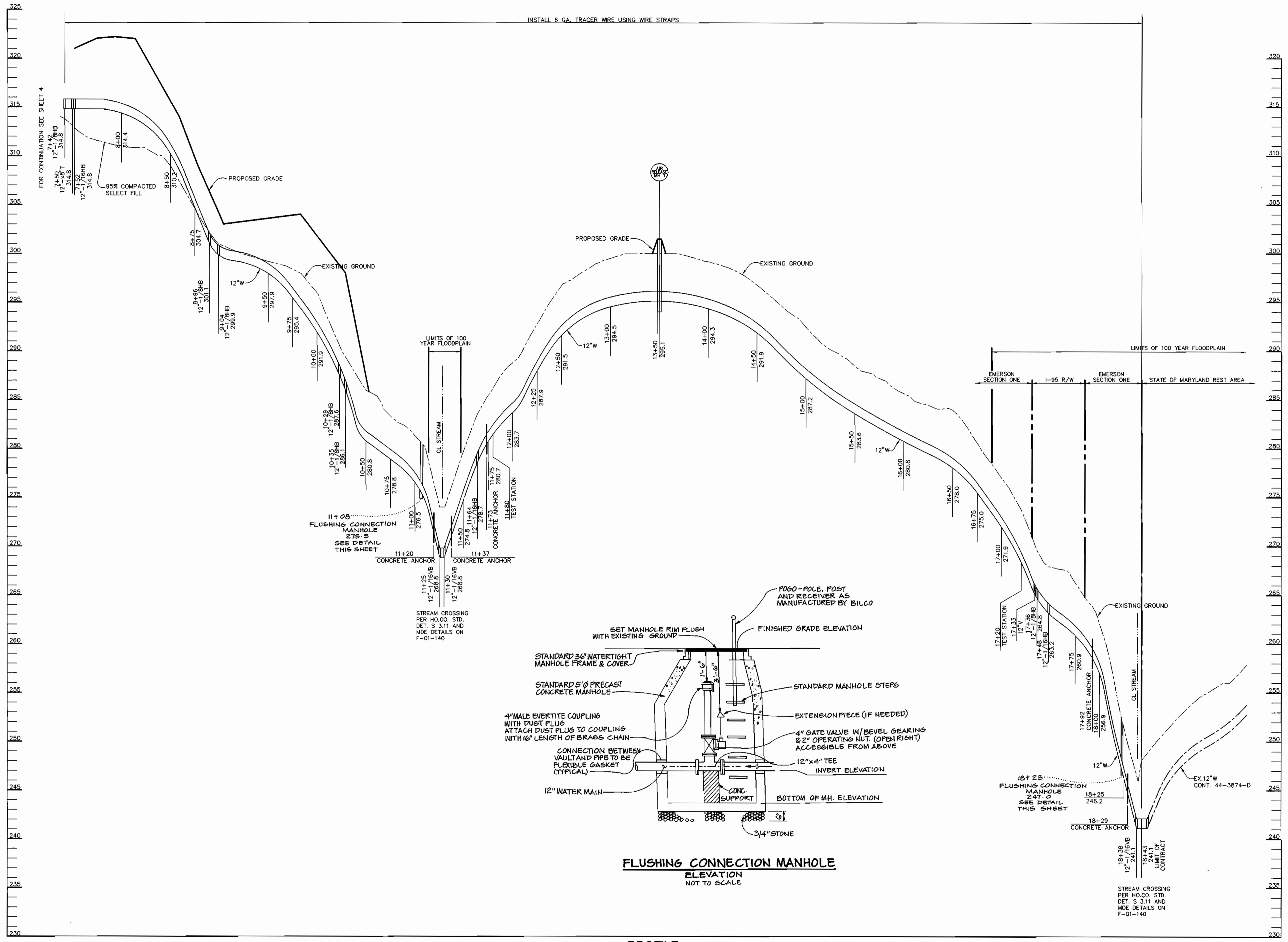
DES:	C. J. R.				
DRN:	DAM				
CHK:	C. J. R.				
DATE:	5/14/01	BY:	NO.	REVISION	DATE

PROFILES OF WATER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D**

SCALE
AS
SHOWN
SHEET
4 OF 5



P:\projects\199212\FINALS\waters5.dwg Mon May 14 11:00:56 2001 RIEMER MUEGGE A DIVISION OF PHR&A

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Brown 5-21-01
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Arthur E. Muegge 6/6/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, PC
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21046 • tel 410.987.8800 fax 410.987.8882
99212/FINALS WATERS5.DWG

ARTHUR E. MUEGGE #8707

DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.				
DATE:	5/14/01	BY	NO.	REVISION	DATE

PROFILE OF WATER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE**
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE AS SHOWN
SHEET 5 OF 5

SHEET INDEX	
1	TITLE SHEET
2	PLAN OF WATER EXTENSIONS
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5	PROFILES OF WATER EXTENSIONS

12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 44-3833-D


BENCHMARKS

TRAVERSE POINT 102
ELEVATION 346.19
N 536,499.165
E 1,353,974.017
LOCATED NEAR THE
INTERSECTION OF GORMAN
ROAD AND SKYLARK BLVD.

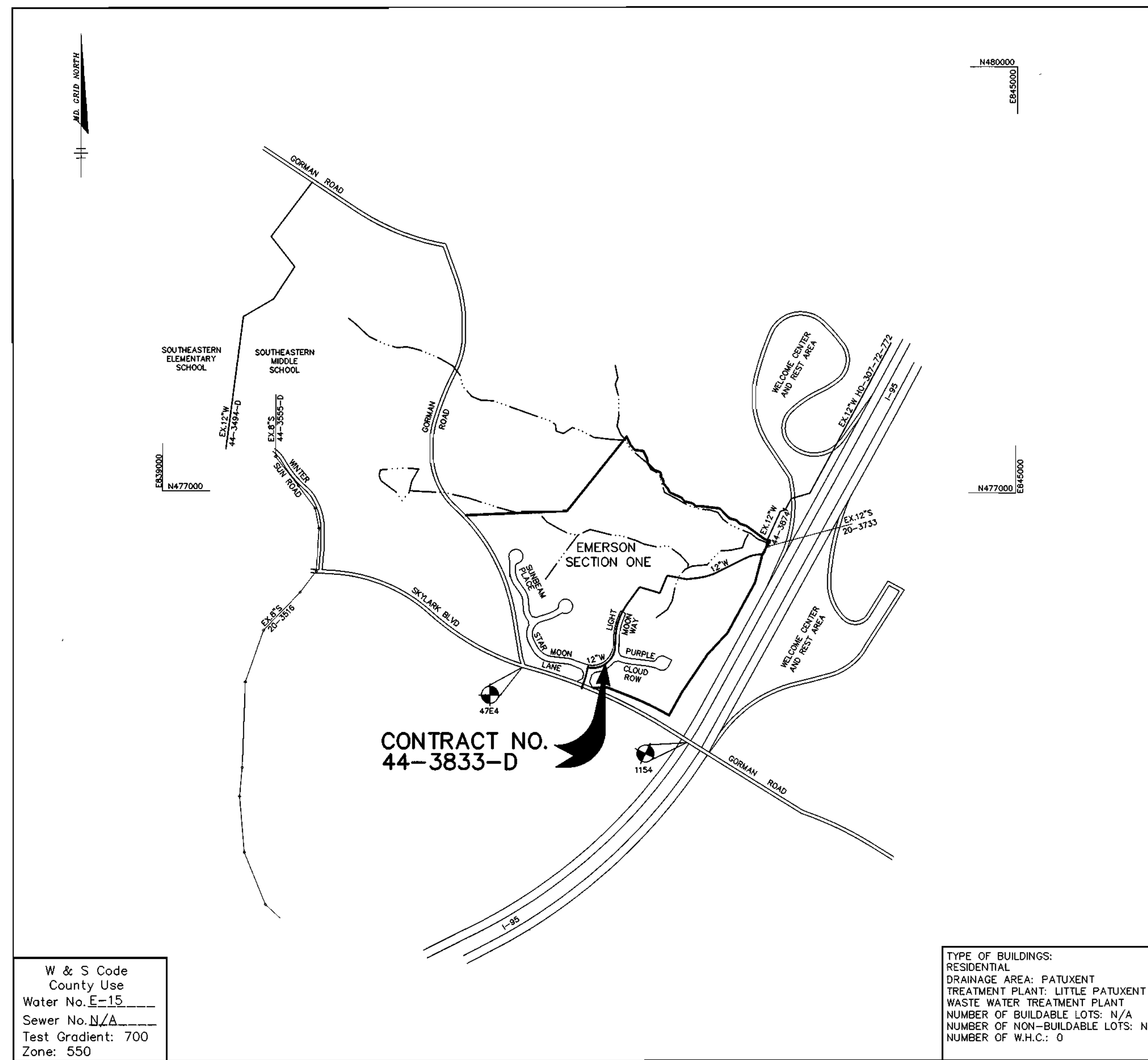
TRAVERSE POINT 1154
ELEVATION 347.45
N 536,018.069
E 1,355,129.333
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

HOWARD COUNTY
CONTROL STATION 47E4
ELEVATION 339.00
N 535,846.16
E 1,355,431.23
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

GENERAL NOTES

- 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.
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Bureau of Utilities, Howard County Department of Public Works	410-313-4900
Bell Atlantic	1-800-445-5266
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- Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- 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 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 restrained and buttressed with concrete 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.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail W1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-2450 at least five (5) working days before any open cut of any County road or boring/jacking operation in County roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.
- Howard County DPW is hereby granted permission to access private lots shown on these plans in order to maintain public water and sewer house connections at the curb stops and/or cleanouts.



W & S Code
County Use
Water No. E-15
Sewer No. N/A
Test Gradient: 700
Zone: 550

TYPE OF BUILDINGS:
RESIDENTIAL
DRAINAGE AREA: PATUXENT
TREATMENT PLANT: LITTLE PATUXENT
WASTE WATER TREATMENT PLANT
NUMBER OF BUILDABLE LOTS: N/A
NUMBER OF NON-BUILDABLE LOTS: N/A
NUMBER OF W.H.C.: 0

VICINITY MAP
SCALE: 1"=600'

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
12" WATER	1959 LF			
12" VALVES	7 EA			
8" VALVES	3 EA			
6" VALVES	2 EA			
FIRE HYDRANT	2 EA			
6" WATER	14 LF			
AIR RELEASE MANHOLES	1 EA			
CONCRETE ANCHORS	5 EA			
FLUSHING CONNECTION MH	2 EA			
1" WHC	24 LF			
1 1/2" WHC	120 LF			

NAME OF UTILITY CONTRACTOR :

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications F-01-140.

CHECKBOX
AS-BUILT DATE

SURVEY AND DRAFTING DIVISION

Review for Howard Soil Conservation District and meets technical requirements.

Jim Agos / GS 6/4/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Mark W. Selig 6/4/01
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Richard Deussen</i> 5-21-01 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>Mark W. Selig</i> 6/6/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
--	---

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, PC
ENGINEERS - SURVEYORS - PLANNERS
LANDSCAPE ARCHITECTS - ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • Tel: 410.997.8900 Fax: 410.997.9282
99212/FINALS WATER1.DWG

ARTHUR E. MUEGGE #8707

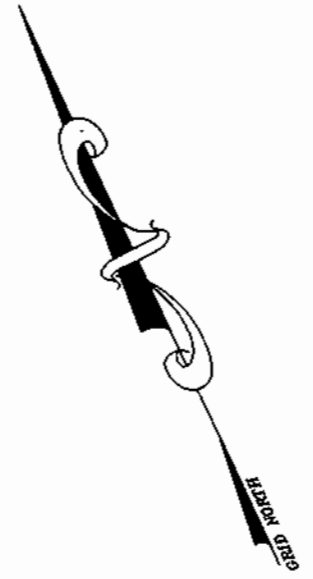
DES: C.J.R.				
DRN: DAM				
CHK: C.J.R.				
DATE: 5/14/01				
CJR	△	MODIFIED QUANTITIES		
BY	NO.	REVISION	DATE	

TITLE SHEET

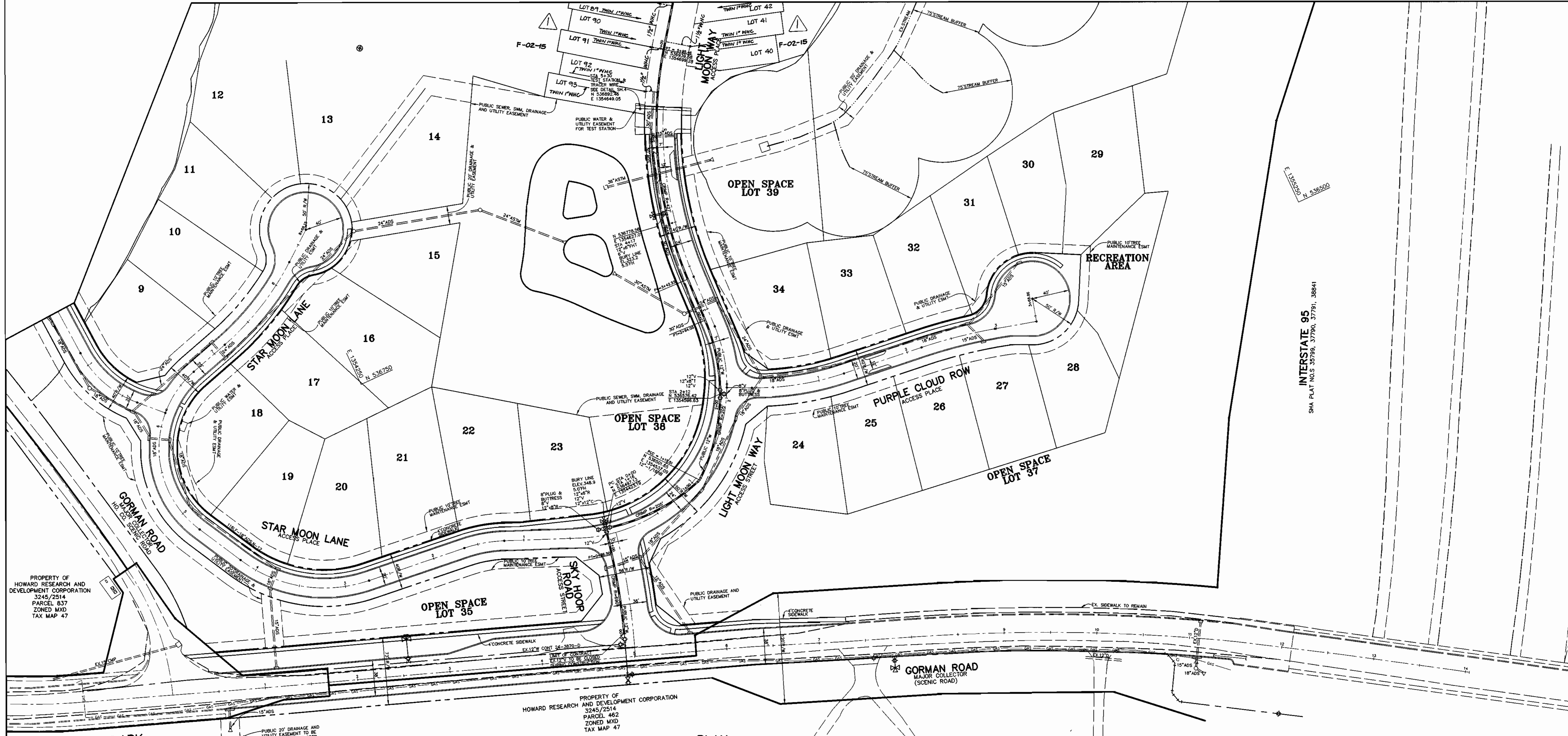
60' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D**

SCALE AS SHOWN
SHEET 1 OF 5



MATCH LINE SEE SHEET 3



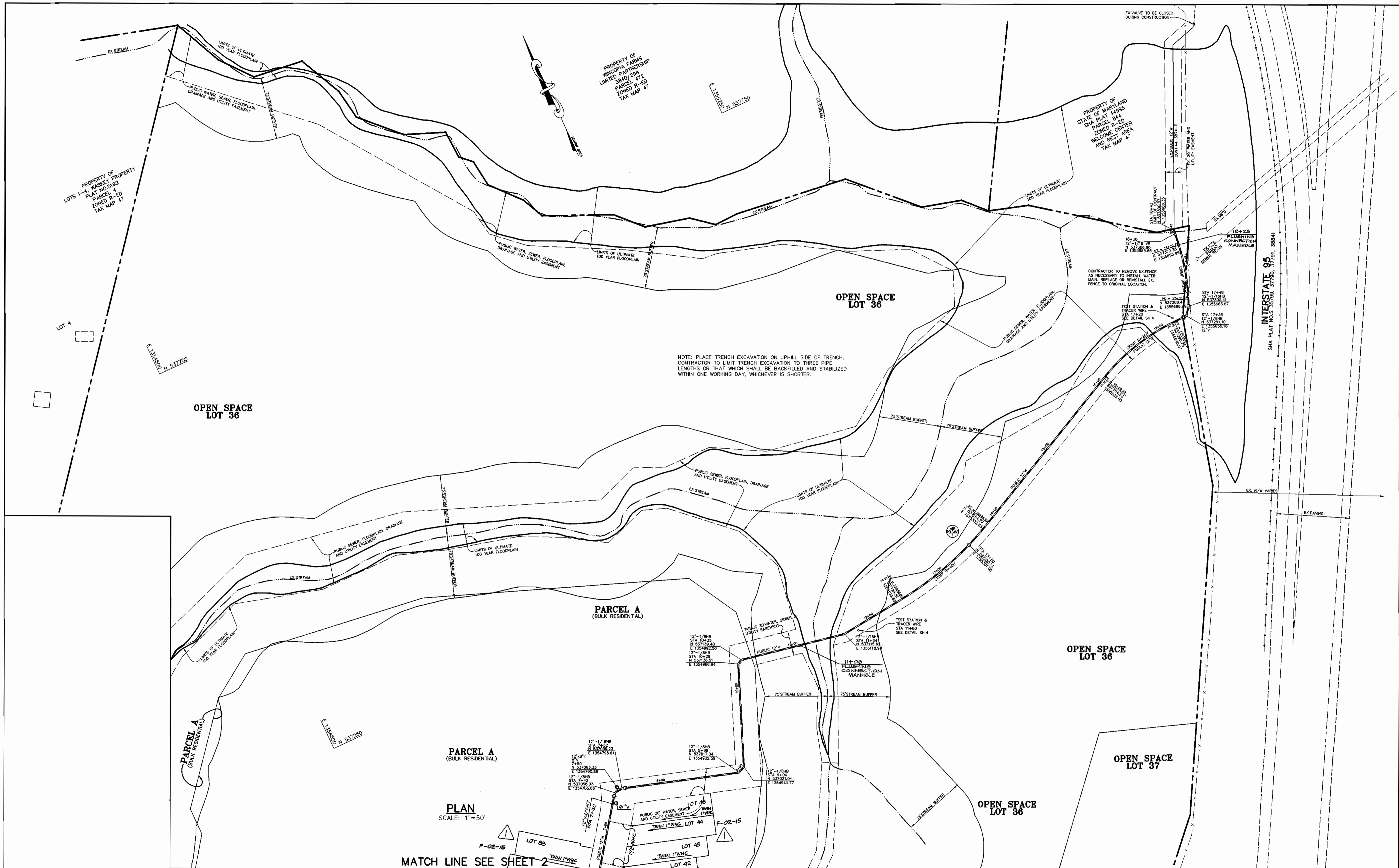
PROPERTY OF HOWARD RESEARCH AND DEVELOPMENT CORPORATION
3245/2914
PARCEL 837
ZONED MXD
TAX MAP 47

PROPERTY OF HOWARD RESEARCH AND DEVELOPMENT CORPORATION
3245/2914
PARCEL 462
ZONED MXD
TAX MAP 47

PLAN
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Robert Reimer</i> CHIEF, BUREAU OF UTILITIES 5-21-01 DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>Arthur E. Muegge</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	 RIEMER MUEGGE a division of Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8819 Carle Park Drive, Columbia, MD 21045 • tel 410.987.8900 fax 410.987.9282 99212/FINALS WATER2.DWG ARTHUR E. MUEGGE #8707	 STATE OF MARYLAND DEPARTMENT OF PUBLIC WORKS DIVISION OF WATER & SEWER SERVICES ARTHUR E. MUEGGE #8707	DES: C.J.R. DRN: DAM CHK: C.J.R. DATE: 5/14/01 C.J.R. <input checked="" type="checkbox"/> ADDED 1 1/2" MHC & 1" MHC FOR LOTS 40-42 & 87-93 11-6-01 BY NO. REVISION DATE	PLAN OF WATER EXTENSIONS 600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9	12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 44-3833-D SCALE AS SHOWN SHEET 2 OF 5
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P:\projects\99212\FINALS\water2.dwg Mon May 14 10:58:25 2001 RIEMER MUEGGE A DIVISION OF PHR&A



NOTE: PLACE TRENCH EXCAVATION ON UPHILL SIDE OF TRENCH. CONTRACTOR TO LIMIT TRENCH EXCAVATION TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PLAN
SCALE: 1"=50'

MATCH LINE SEE SHEET 2

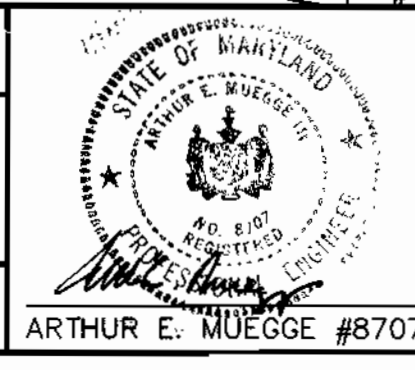
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Arthur E. Muegge
CHIEF, BUREAU OF UTILITIES
5-21-01
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Arthur E. Muegge
CHIEF, DEVELOPMENT ENGINEERING DIVISION
6/6/01
DATE

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
6818 Centre Park Drive, Columbia, MD 21045 • tel 410.987.9800 fax 410.987.9292
99212/FINALS WATER3.DWG



DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.				
DATE:	5/14/01				
BY:					
NO.:					
REVISION:					
DATE:					
NO.:					
REVISION:	ADDED 1 1/2" WNC & 1" WNC FOR LOTS 43-45 & LOT 28	11-6-01			

PLAN OF
WATER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 3, B & 9

12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE
AS
SHOWN

SHEET
3 OF 5

P:\project\99212\FINALS\water3.dwg Mon May 14 10:59:24 2001 RIEMER MUEGGE A DIVISION OF PHR&A

SHEET INDEX	
1	TITLE SHEET
2	PLAN OF WATER EXTENSIONS
3	PLAN OF WATER EXTENSIONS
4	PROFILES OF WATER EXTENSIONS
5	PROFILES OF WATER EXTENSIONS

12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 44-3833-D


BENCHMARKS

TRAVERSE POINT 102
ELEVATION 346.19
N 536,499.165
E 1,353,974.017
LOCATED NEAR THE
INTERSECTION OF GORMAN
ROAD AND SKYLARK BLVD.

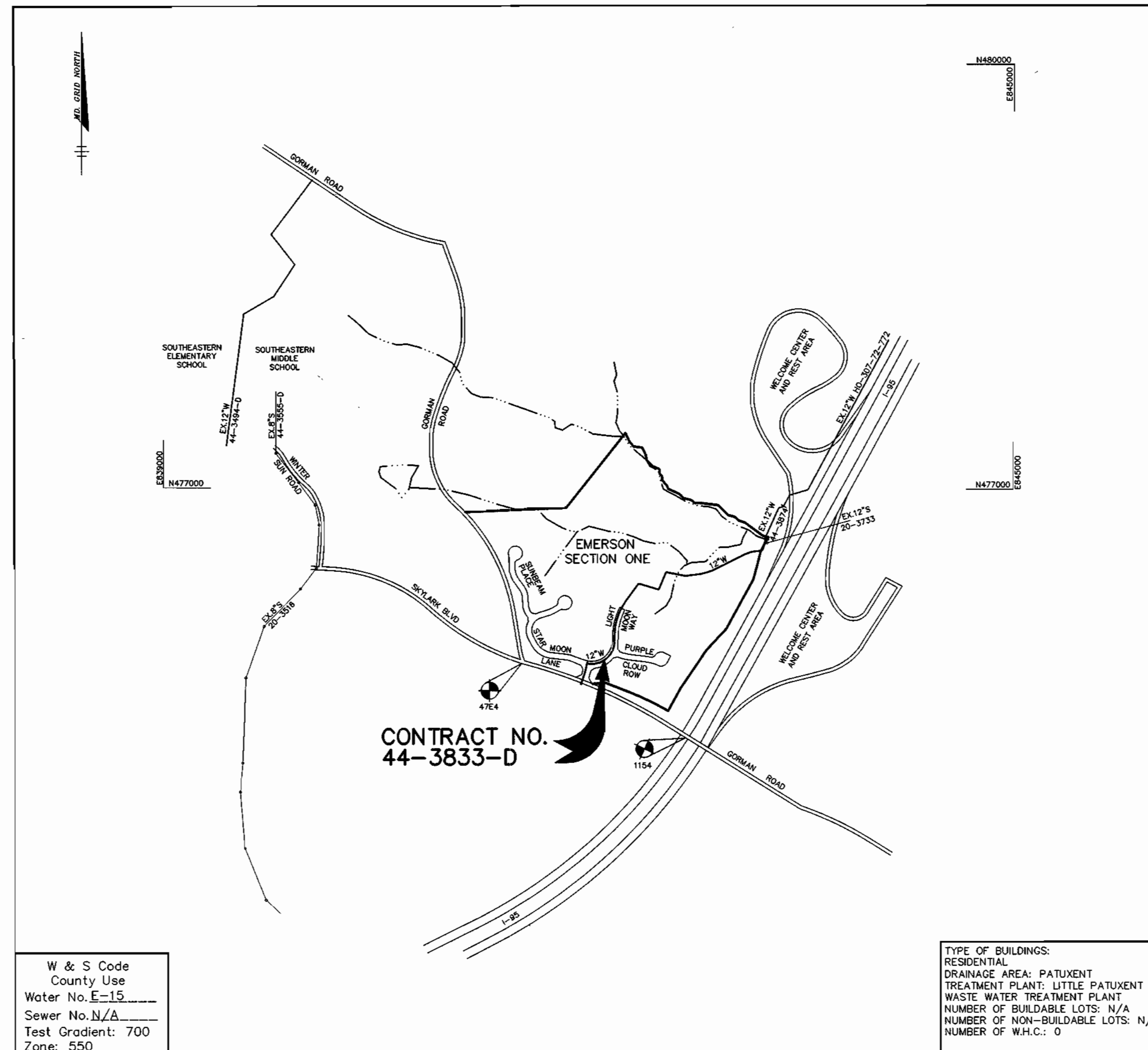
TRAVERSE POINT 1154
ELEVATION 347.45
N 536,018.069
E 1,355,129.333
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

HOWARD COUNTY
CONTROL STATION 47E4
ELEVATION 339.00
N 535,846.16
E 1,355,431.23
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

GENERAL NOTES

- 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.
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- Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

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- Tops of all water mains to have a minimum of 3-1/2' cover unless otherwise noted.
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- Howard County DPW is hereby granted permission to access private lots shown on these plans in order to maintain public water and sewer house connections at the curb stops and/or cleanouts.



CONTRACT NO.
44-3833-D

VICINITY MAP
SCALE: 1"=600'

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
12" WATER	1959 LF	1959	TYTON JOINT CL-52	GRIFFIN PIPE
12" VALVES	7 EA	7	R.S.O.R. GATE VALVE	MUELLER/TEBROS
8" VALVES	3 EA	3	R.S.O.R. GATE VALVE	"
6" VALVES	2 EA	3	R.S.O.R. GATE VALVE	"
FIRE HYDRANT	2 EA	2	MUELLER	"
6" WATER	14 LF	14	TYTON JOINT CL-52	GRIFFIN PIPE
AIR RELEASE MANHOLES	1 EA	1	PRECAST	ATLANTIC CONG. PRODUCTS
CONCRETE ANCHORS	5 EA	ELIMINATED		
FLUSHING CONNECTION MH.	2 EA	2	PRECAST	ATLANTIC CONG. PRODUCTS
1" NHC	24 LF			
1 1/2" NHC	120 LF			

NAME OF UTILITY CONTRACTOR: C.C.S. (HTI) SUB CONTRACTOR

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications F-01-140.

Review for Howard Soil Conservation District and meets technical requirements.

Jim Payne / cs 6/6/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

John W. Stoj 6/6/01
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
John W. Stoj 5-21-01
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Arthur E. Muegge 6/6/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Curtis Park Drive, Columbia, MD 21046 • tel 410.997.8800 fax 410.997.8802
99212/FINALS WATER1.DWG

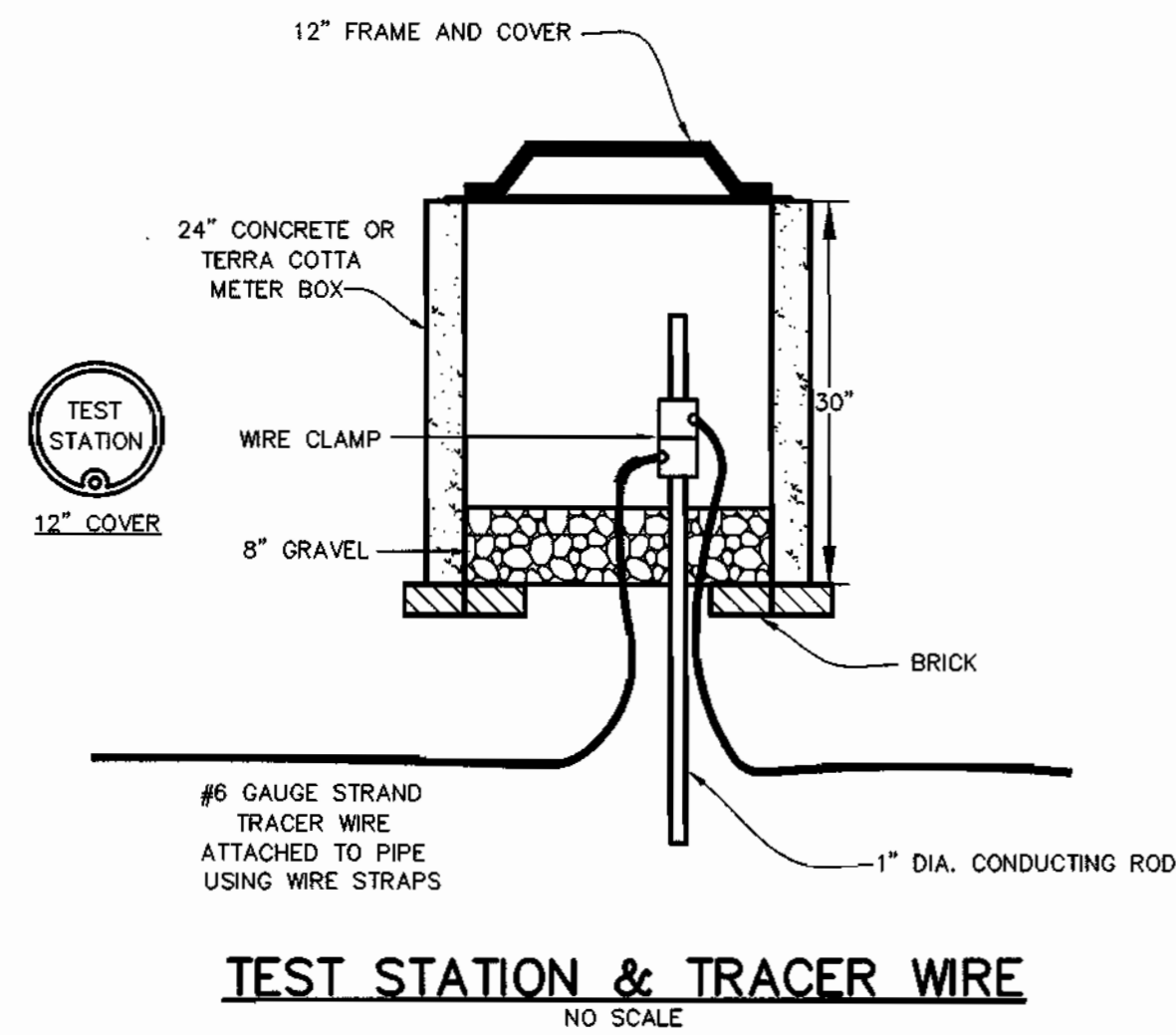
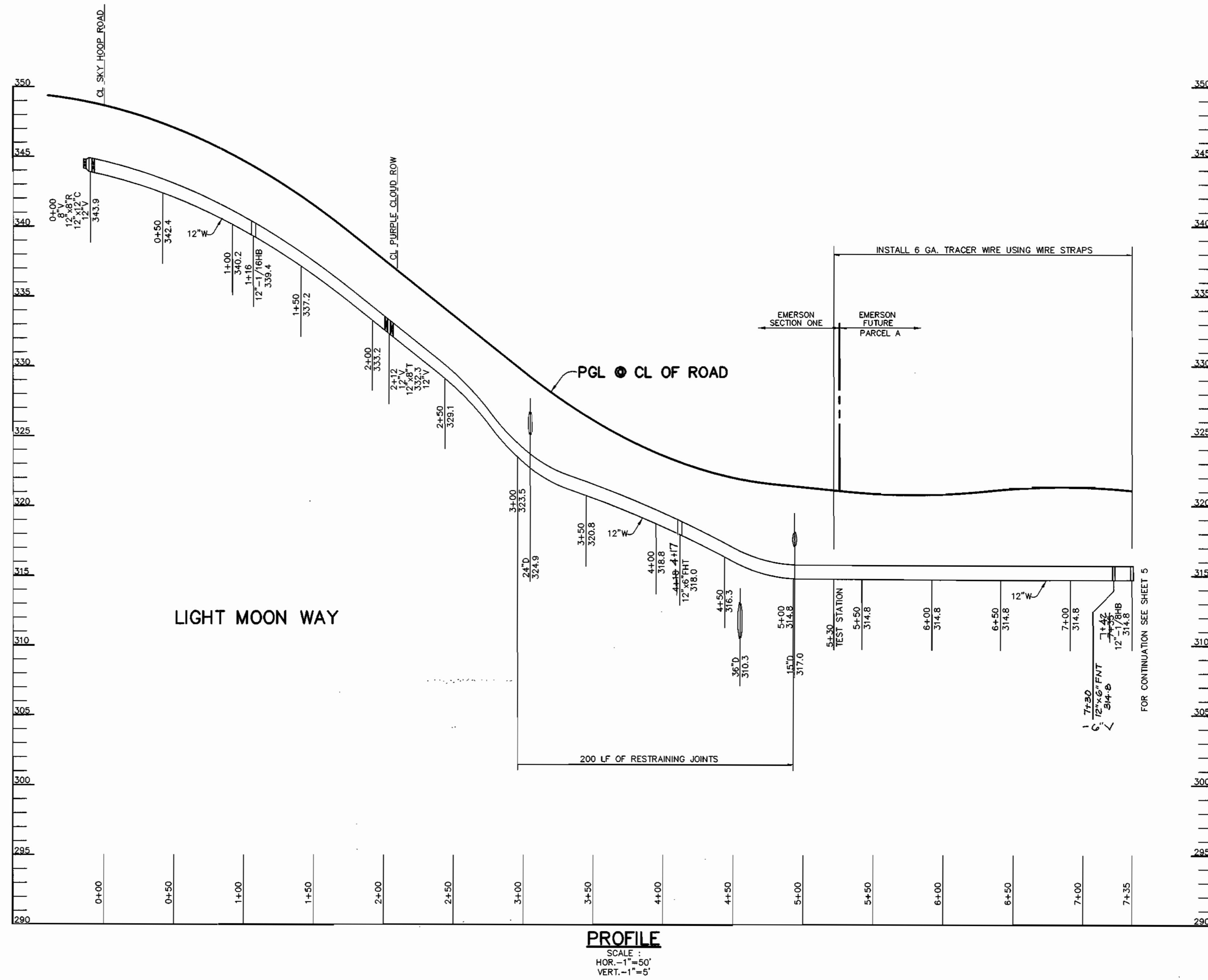
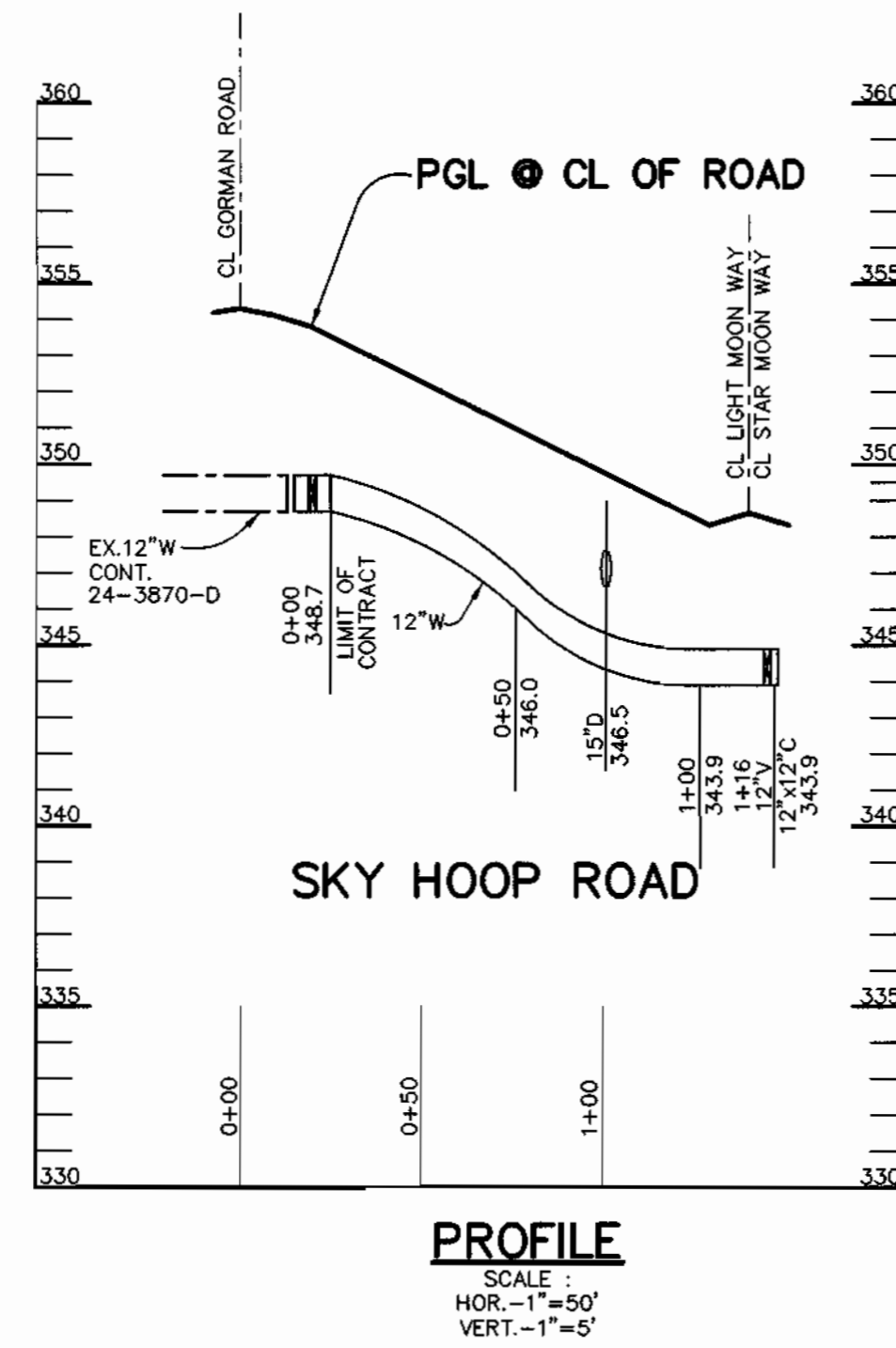
STATE OF MARYLAND
ARTHUR E. MUEGGE #8707

DES: C.J.R.					
DRN: DAM					
CHK: C.J.R.					
DATE: 5/14/01	C.J.R.	MODIFIED QUANTITIES			
BY NO.		REVISION		DATE	

TITLE SHEET
600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

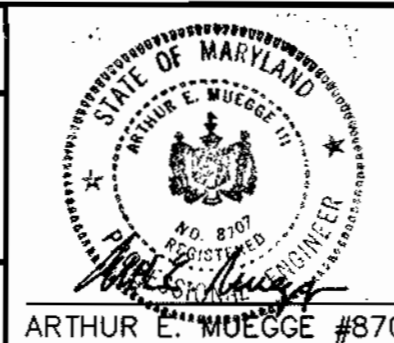
SCALE AS SHOWN
SHEET 1 OF 5



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21046 • Tel 410.997.8000 Fax 410.997.9282
99212/FINALS WATER4.DWG



DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.				
DATE:	5/14/01				
BY:	K.C.I.	1	ASBUILT DATA ADDED TO PLAN	1/14/02	
	NO.		REVISION	DATE	

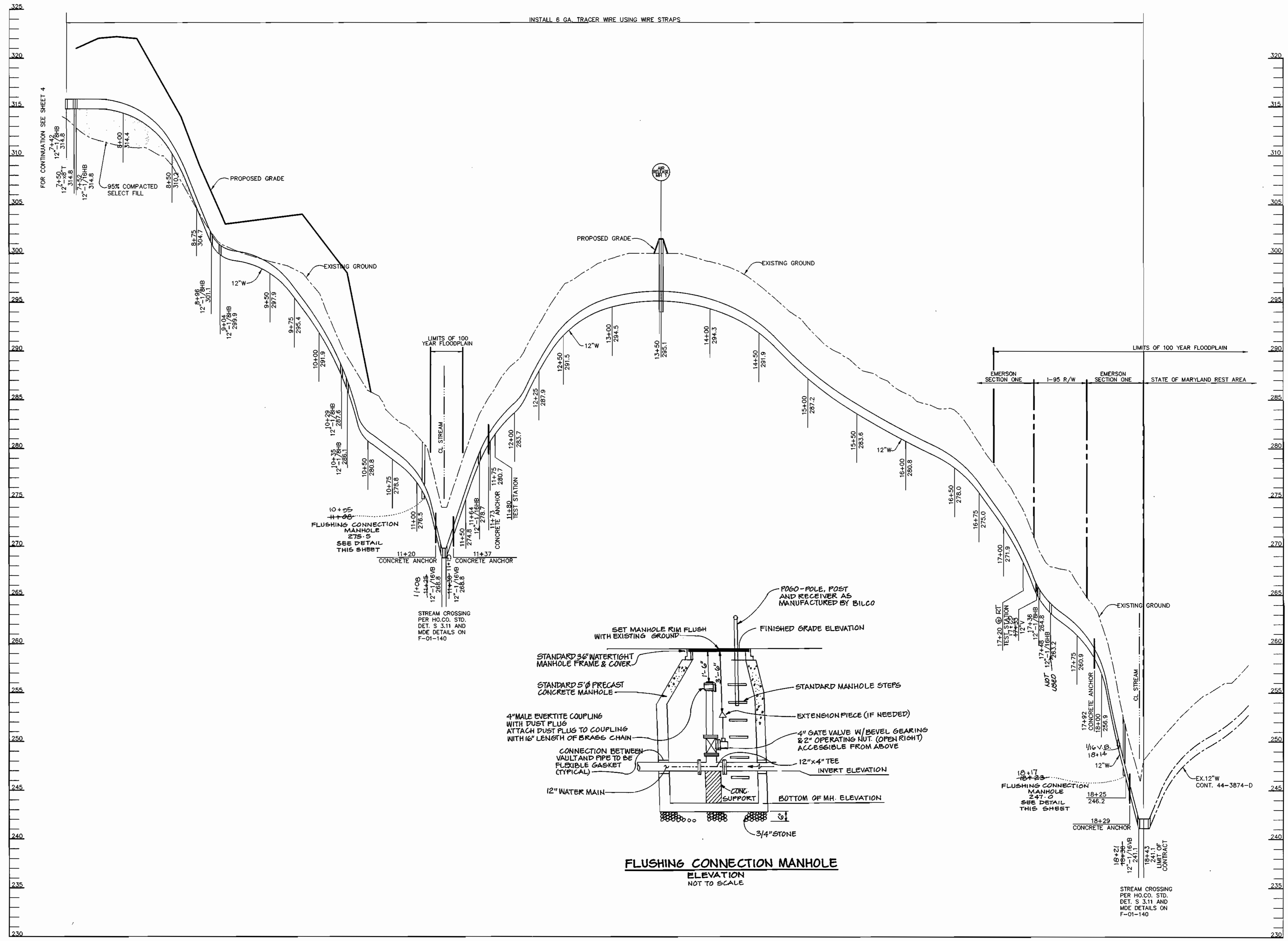
PROFILES OF WATER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

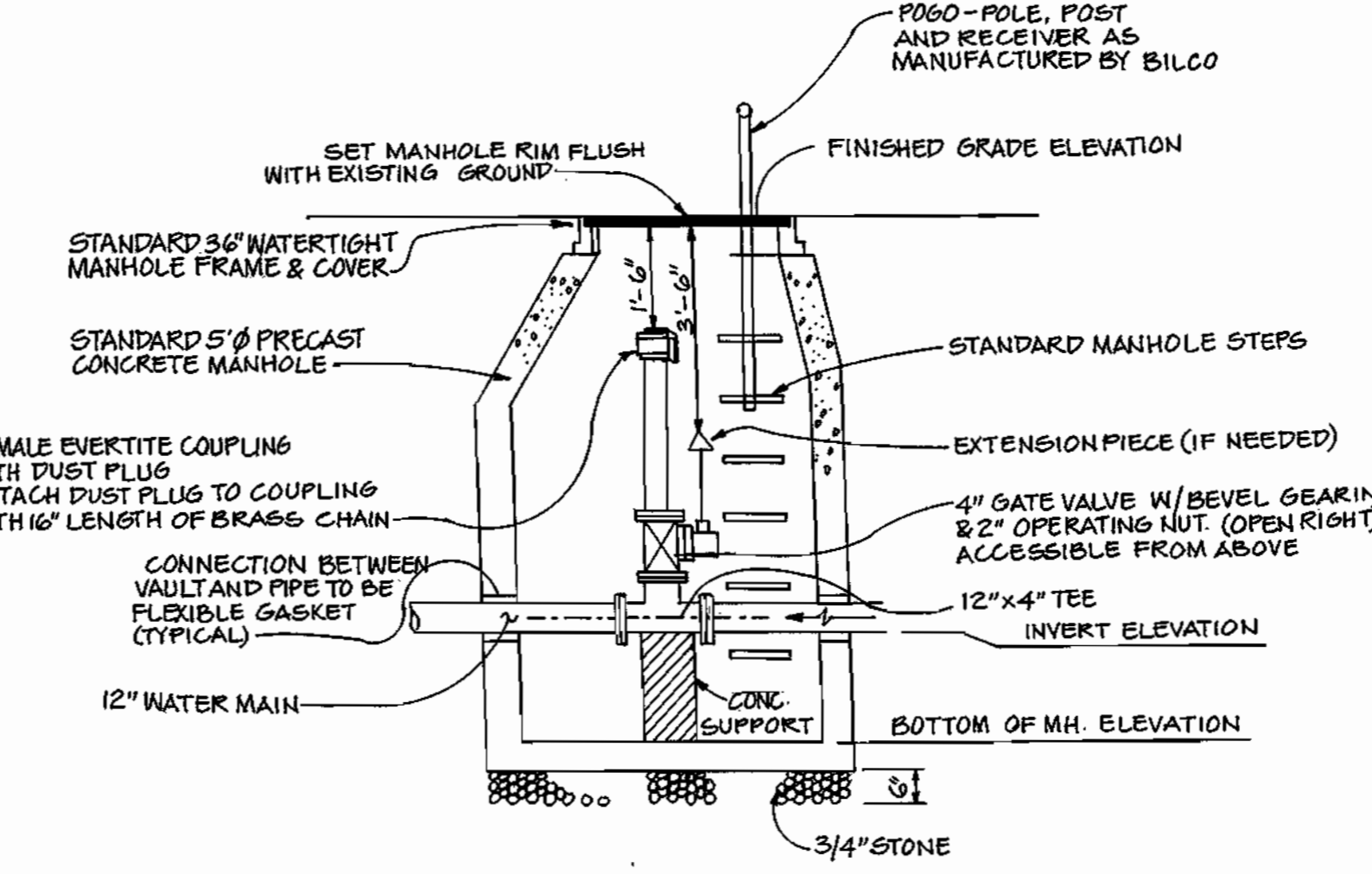
**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE**
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE
AS
SHOWN

SHEET
4 OF 5



INSTALL 6 GA. TRACER WIRE USING WIRE STRAPS



FLUSHING CONNECTION MANHOLE
ELEVATION
NOT TO SCALE

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS - SURVEYORS - PLANNERS
LANDSCAPE ARCHITECTS - ENVIRONMENTAL SPECIALISTS
3818 Carver Park Drive, Columbia, MD 21046 • tel 410.987.2800 fax 410.987.2882
99212/FINALS_WATERS.DWG



DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.				
DATE:	5/14/01				
BY:	K.E.I.	ADJUST DATA ADDED TO PLAN		01/01/02	
NO.		REVISION		DATE	

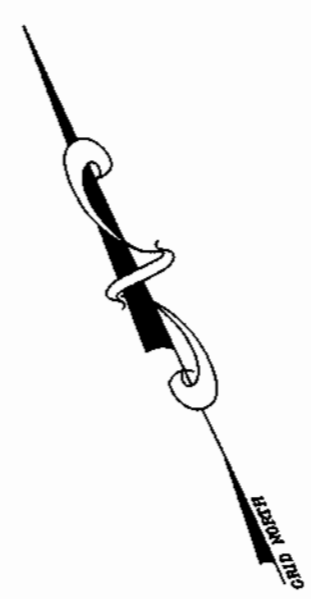
PROFILE OF WATER EXTENSIONS

600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE**
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE
AS
SHOWN

SHEET
5 OF 5

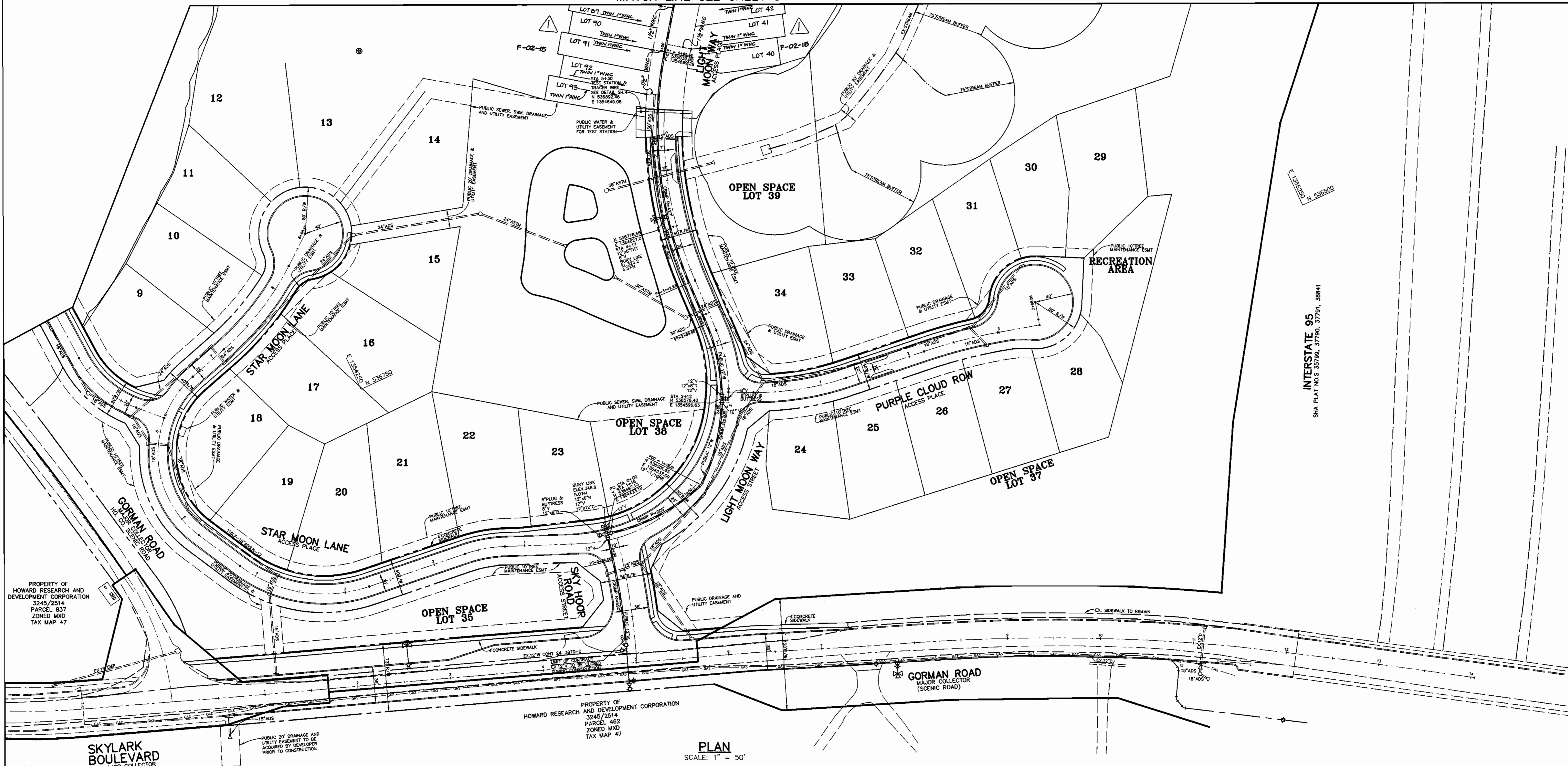


E. 135250 N. 536750

E. 135250 N. 536500

INTERSTATE 95
SHA PLAT NO.S 35799, 37790, 37791, 38841

MATCH LINE SEE SHEET 3



PROPERTY OF
HOWARD RESEARCH AND
DEVELOPMENT CORPORATION
3245/2514
PARCEL 837
ZONED MXD
TAX MAP 47

PROPERTY OF
HOWARD RESEARCH AND
DEVELOPMENT CORPORATION
3245/2514
PARCEL 462
ZONED MXD
TAX MAP 47

PLAN
SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. J. ...
CHIEF, BUREAU OF UTILITIES
5-21-01
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

RIEMER MUEGGE
a division of
Petton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
2818 Centre Park Drive, Columbia, MD 21045 • Tel 410.987.8900 Fax 410.987.8922
99212/FINALS WATER2.DWG



DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.	A.L.I.	ASBUILT DATA ADDED TO PLAN		01/16/02
DATE:	5/14/01	C.J.R.	ADDED 1/2" W/HNC & 1" W/HNC FOR LOTS 40-42 & 89-93	11-6-01	
BY:	NO.	REVISION	DATE		

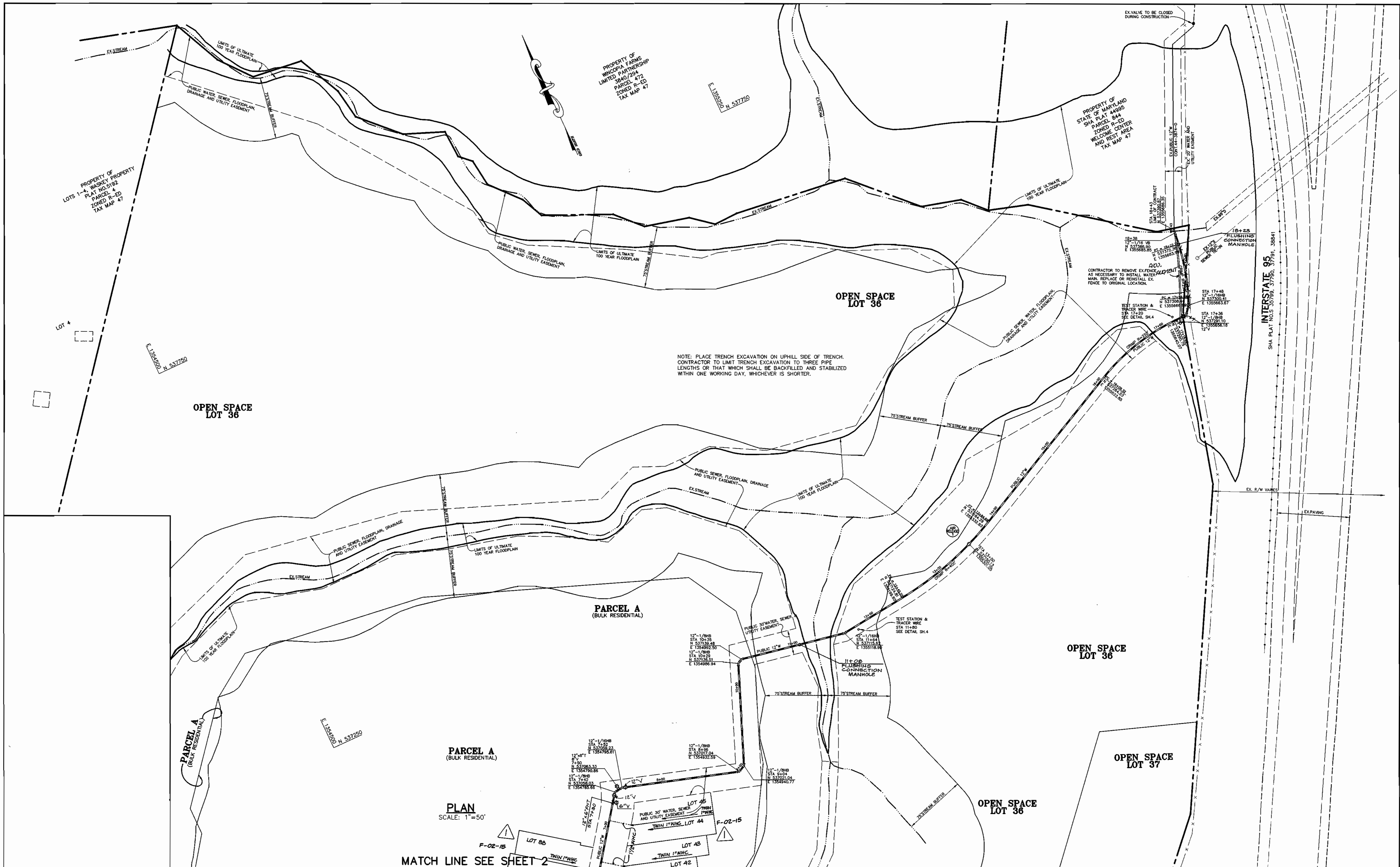
PLAN OF
WATER EXTENSIONS
600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE
AS
SHOWN

SHEET
2 OF 5

P:\proj\eca\99212\FINALS\water2.dwg Mon May 14 10:58:25 2001 RIEMER MUEGGE A DIVISION OF RHESA



NOTE: PLACE TRENCH EXCAVATION ON UPHILL SIDE OF TRENCH. CONTRACTOR TO LIMIT TRENCH EXCAVATION TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PLAN SCALE: 1"=50'

MATCH LINE SEE SHEET 2

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Arthur E. Muegge
CHIEF, BUREAU OF UTILITIES

5-21-01
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Arthur E. Muegge
CHIEF, DEVELOPMENT ENGINEERING DIVISION

6/6/01
DATE

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8818 Centre Park Drive, Columbia, MD 21046 • Tel: 410.997.8900 Fax: 410.997.8982
99212/FINALS WATER3.DWG

ARTHUR E. MUEGGE #8707

DES:	C.J.R.				
DRN:	DAM				
CHK:	C.J.R.	K.R.I.	ASBUILT DATA ADDED TO PLAN	01/14/02	
DATE:	5/14/01	C.J.R.	ADDED 1 1/2" WMC & 1" WMC FOR LOTS 43-45 & LOT 25	11-6-01	
BY:	NO.		REVISION	DATE	

**PLAN OF
WATER EXTENSIONS**

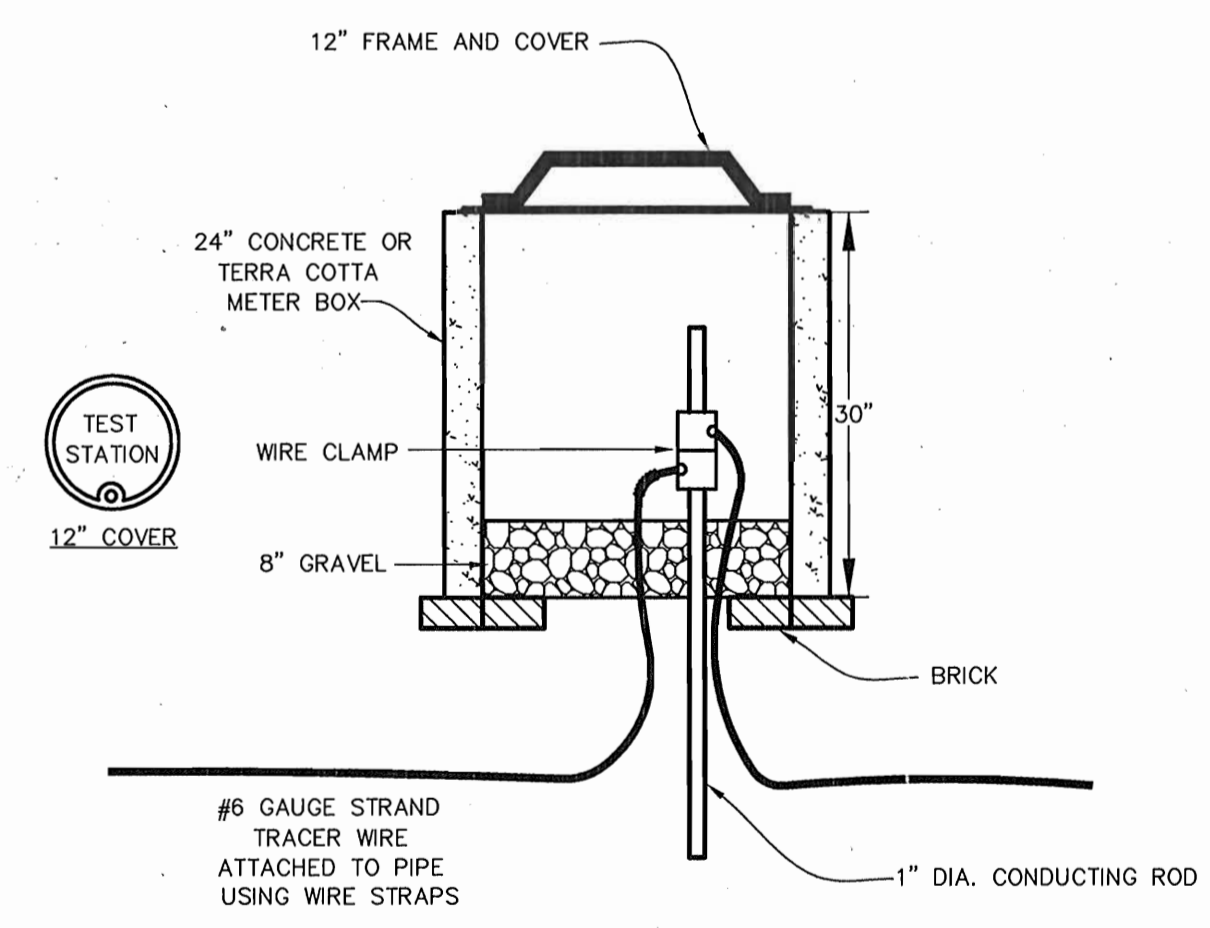
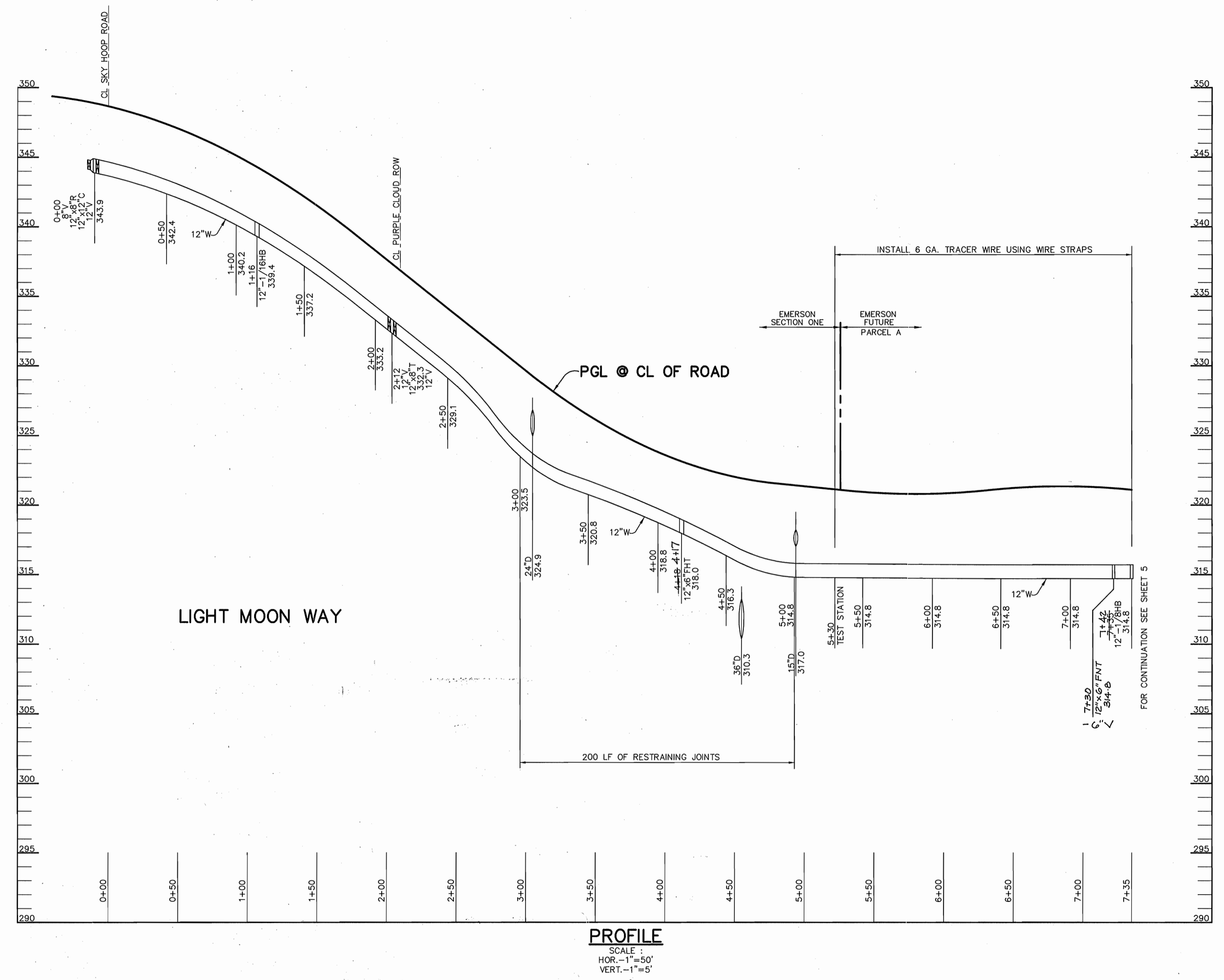
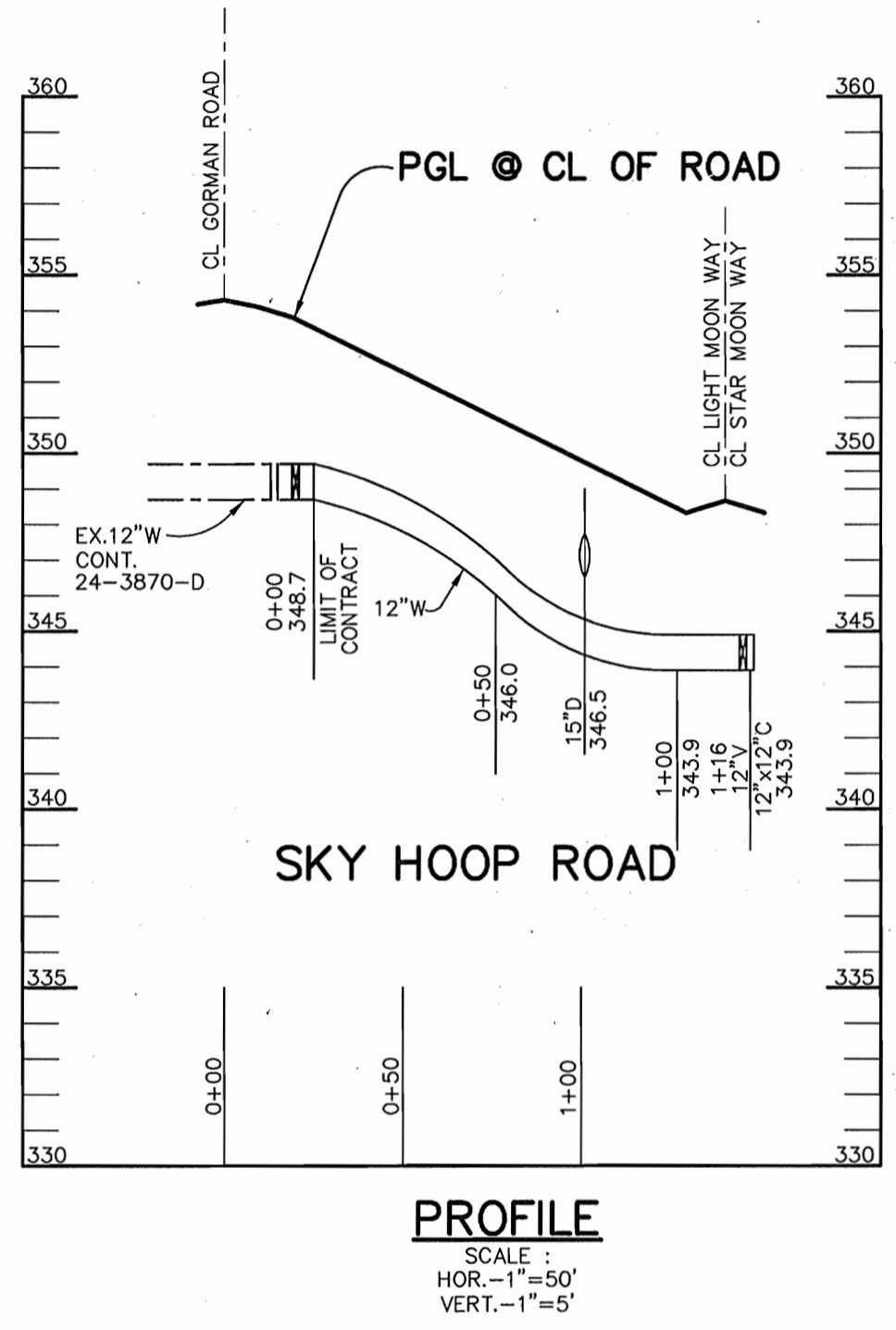
600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE**
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE AS SHOWN

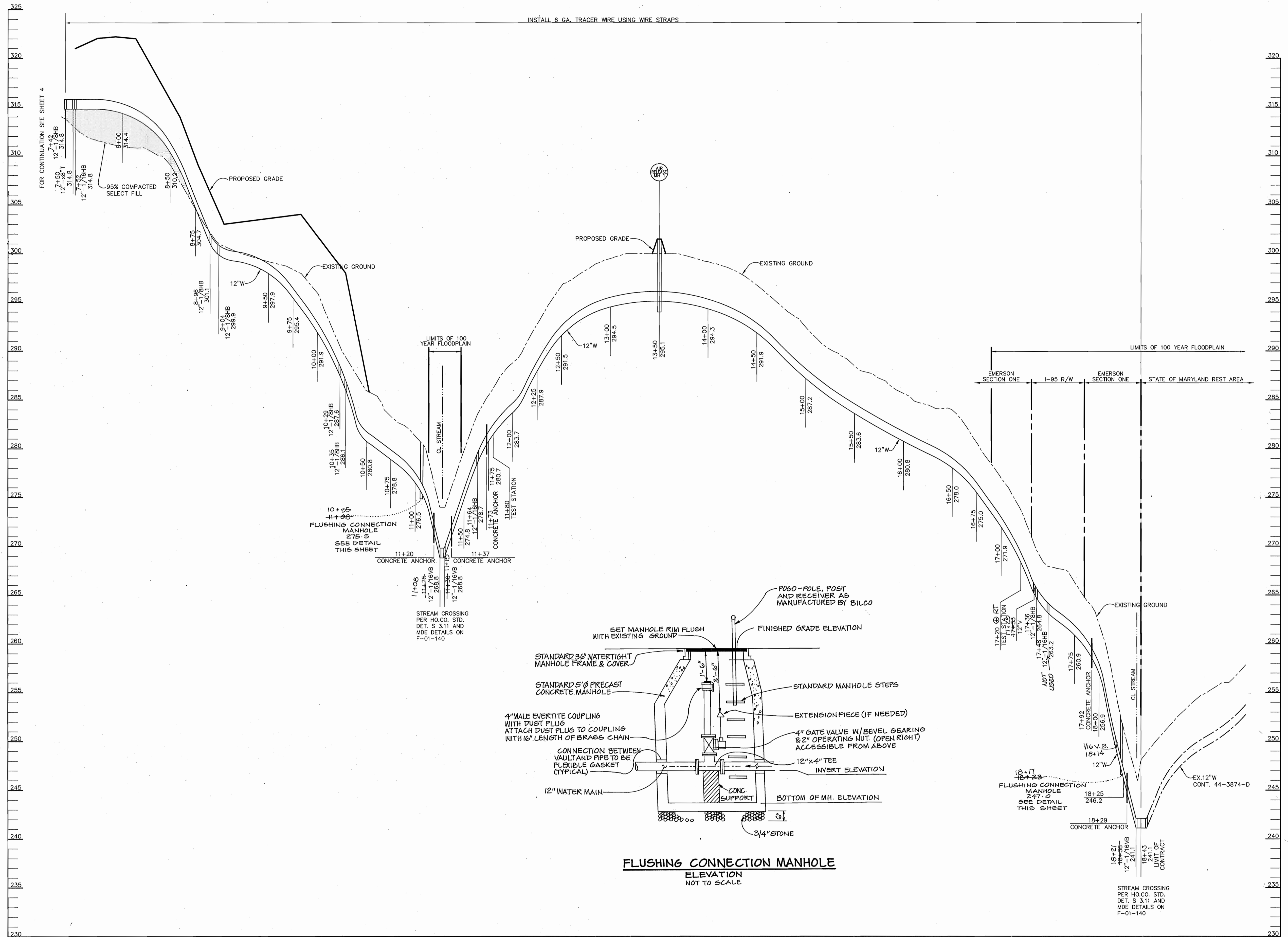
SHEET 3 OF 5

P:\proj\proj\99212\FINALS\water3.dwg Mon May 14 10:59:24 2001 RIEMER MUEGGE A DIVISION OF PHRBA



P:\project\99212\FINALS\water4.dwg Mon May 14 11:00:14 2001 RIEMER MUEGGE A DIVISION OF PHR&A

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Arthur E. Muegge</i> CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>Arthur E. Muegge</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	 RIEMER MUEGGE Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8518 Centre Park Drive, Columbia, MD 21045 • Tel 410.997.8900 Fax 410.997.9282 99212/FINALS WATER4.DWG	 DES: C.J.R. DRN: DAM CHK: C.J.R. DATE: 5/14/01 BY: NO. REVISION DATE	K.C.I. 1 ASBUILT DATA ADDED TO PLAN 1/14/02	PROFILES OF WATER EXTENSIONS 600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9	12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 44-3833-D	SCALE AS SHOWN SHEET 4 OF 5
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PROFILE

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND		 RIEMER MUEGGE a division of Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Park Drive, Columbia, MD 21046 • Tel 410.997.8900 Fax 410.997.2282 99212/FINALS.WATERS.DWG		 DES: C.J.R. DRN: DAM CHK: C.J.R. DATE: 5/14/01		PROFILE OF WATER EXTENSIONS 600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9		12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 44-3833-D		SCALE AS SHOWN
 ARTHUR E. MUEGGE #8707		 C.J.R.		DATE: 5/14/01		REVISION: ABOUT DATA ADDED TO PLAN 01/14/02		SHEET 5 OF 5				

P:\proj\99212\FINALS\waters5.dwg Mon May 14 11:00:56 2001 RIEMER MUEGGE A DIVISION OF PHRSA

SHEET INDEX

1	TITLE SHEET
2	PLAN OF WATER EXTENSIONS
3	PLAN OF WATER EXTENSIONS
4	PROFILES OF WATER EXTENSIONS
5	PROFILES OF WATER EXTENSIONS

BENCHMARKS


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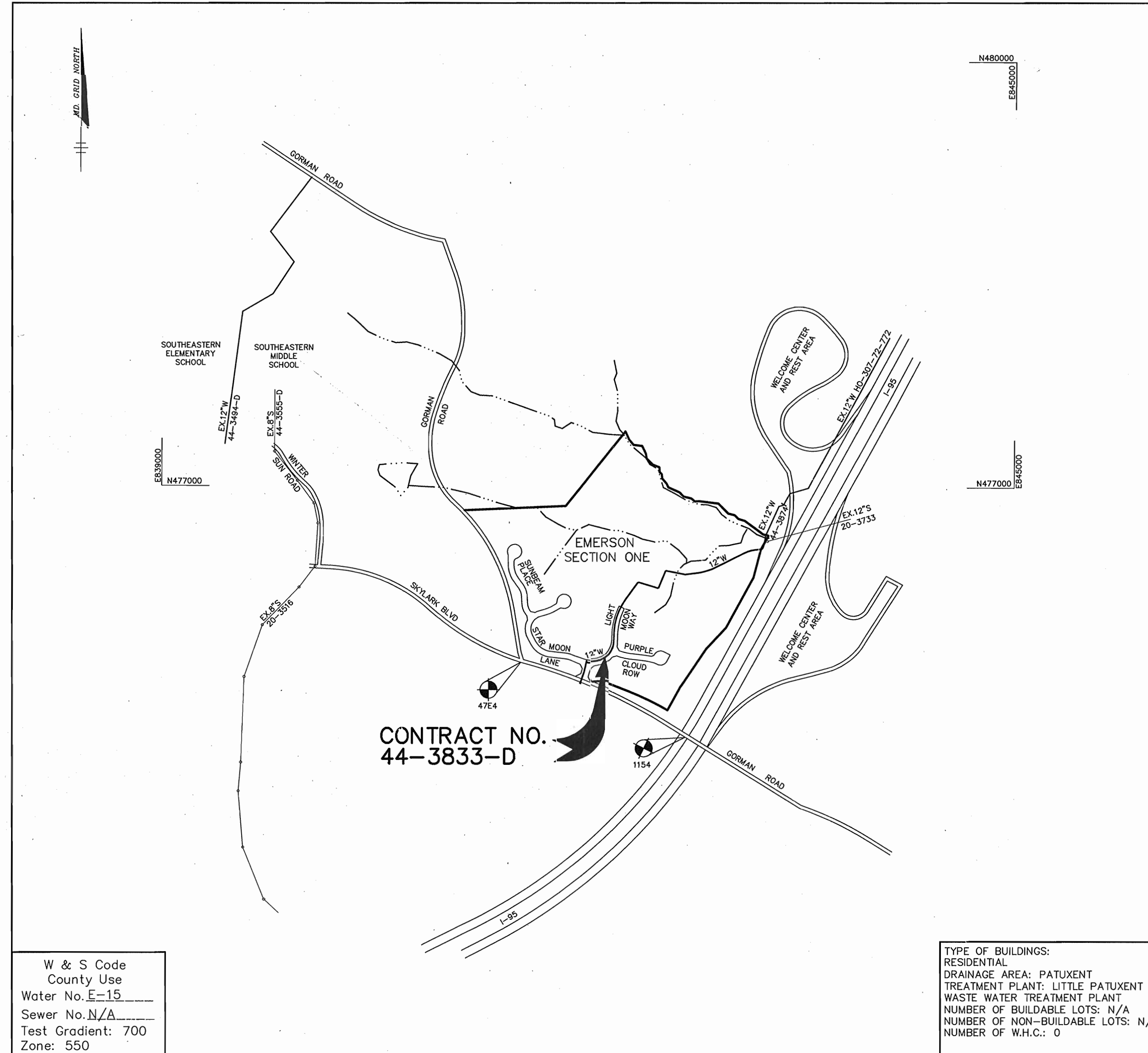
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6" VALVES	2 EA	2	R.S.O.R. GATE VALVE	"
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CONCRETE ANCHORS	5 EA	ELIMINATED		
FLUSHING CONNECTION MH.	2 EA	2	PRECAST	ATLANTIC CONG. PRODUCTS
1" W.H.C.	24 LF			
1/2" W.H.C.	120 LF	ELIMINATED		



CONTRACT NO. 44-3833-D

VICINITY MAP
SCALE: 1"=600'

W & S Code
County Use
Water No. E-15
Sewer No. N/A
Test Gradient: 700
Zone: 550

TYPE OF BUILDINGS:
RESIDENTIAL
DRAINAGE AREA: PATUXENT
TREATMENT PLANT: LITTLE PATUXENT
WASTE WATER TREATMENT PLANT
NUMBER OF BUILDABLE LOTS: N/A
NUMBER OF NON-BUILDABLE LOTS: N/A
NUMBER OF W.H.C.: 0

NAME OF UTILITY CONTRACTOR : C.C.S. (HTI) SUB CONTRACTOR - CONSOLIDATED CONST. SERVICES INC.

Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications F-01-140.

Review for Howard Soil Conservation District and meets technical requirements.

Jim Ayres / GS 6/4/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

John W. Seig 6/4/01
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND
<i>Patton Harris Rust</i> 5-21-01 CHIEF, BUREAU OF UTILITIES DATE	<i>Arthur E. Muegge</i> 6/6/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8518 Centre Plaza, Silver Spring, Maryland, MD 20910 • Tel: 410.997.8200 Fax: 410.997.8282
99212/FINALS WATER1.DWG

ARTHUR E. MUEGGE #8707

DES: C.J.R.					
DRN: DAM	K.C.I.	1	AS-BUILT DATA ADDED TO PLAN		06/05/01
CHK: C.J.R.	K.C.I.	2	AS-BUILT DATA ADDED TO PLAN		06/05/01
DATE: 5/14/01	C.J.R.	1	MODIFIED QUANTITIES		01/14/02
BY NO.			REVISION		DATE

TITLE SHEET

600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE AS SHOWN

SHEET 1 OF 5



PROPERTY OF HOWARD RESEARCH AND DEVELOPMENT CORPORATION
3245/2514
PARCEL 837
ZONED MXD
TAX MAP 47

PROPERTY OF HOWARD RESEARCH AND DEVELOPMENT CORPORATION
3245/2514
PARCEL 482
ZONED MXD
TAX MAP 47

PLAN
SCALE: 1" = 50'

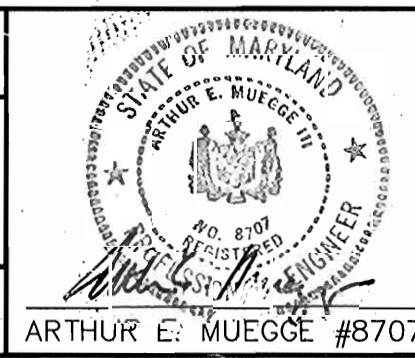
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Richard Brown
5-21-01
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Michael D. ...
DATE

RIEMER MUEGGE
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21046 • (410) 997-8900 • FAX (410) 997-8982
99212/FINALS WATER2.DWG



DES:	C.J.R.				
DRN:	DAM	K.C.I.	4	ASBUILT DATA ADDED TO PLAN	02/04/02
CHK:	C.J.R.	K.C.I.	4	ASBUILT DATA ADDED TO PLAN	02/04/02
DATE:	5/14/01	C.J.R.	4	ADDED 1/2" W.H.C. & 1" W.H.C. FOR LOTS 40-42 & 89-93	11-6-01
BY:	NO.			REVISION	DATE

PLAN OF WATER EXTENSIONS

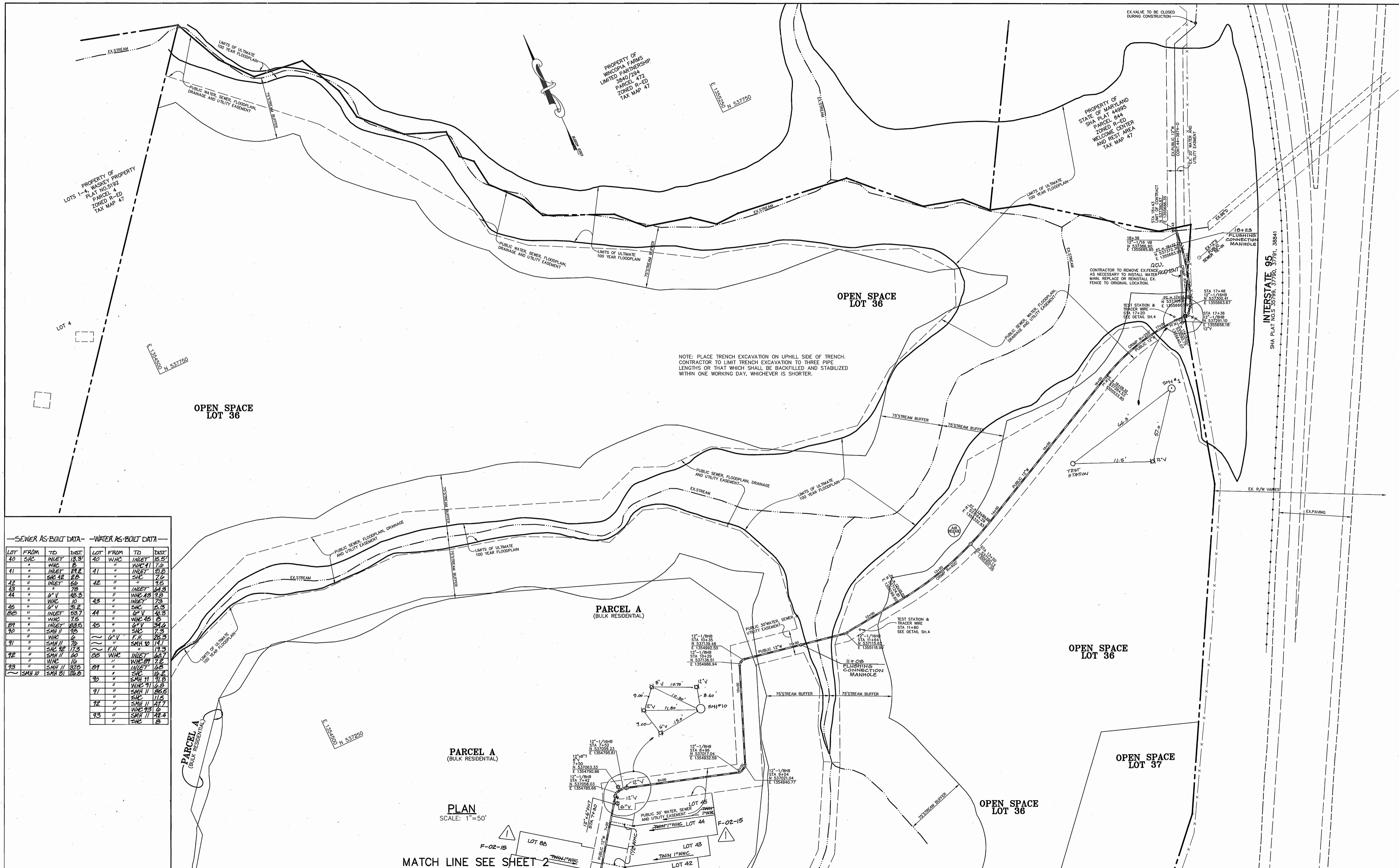
600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9

**12" MAJOR WATER EXTENSION
EMERSON
SECTION ONE**
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT 44-3833-D

SCALE AS SHOWN

SHEET 2 OF 5

P:\project\99212\FINALS\water2.dwg Mon May 14 10:58:25 2001 RIEMER MUEGGE A DIVISION OF PHR&A



SEWER AS-BUILT DATA				WATER AS-BUILT DATA			
LOT	FROM	TO	DIST	LOT	FROM	TO	DIST
40	SNC	INLET	18.3'	40	WAC	INLET	15.5'
41	"	WAC	8	41	"	WAC	7.8
42	"	INLET	21.2	42	"	INLET	21.8
43	"	SNC	7.0	43	"	SNC	7.0
44	"	INLET	6.6	44	"	INLET	7.5
45	"	WAC	7.8	45	"	WAC	8.0
46	"	6" V	48.3	46	"	6" V	48.3
47	"	WAC	10	47	"	WAC	10
48	"	6" V	31.2	48	"	6" V	31.2
49	"	INLET	59.7	49	"	6" V	30.3
50	"	WAC	7.5	50	"	WAC	8
51	"	INLET	23.5	51	"	6" V	34.0
52	"	SMH II	9.2	52	"	SNC	7.3
53	"	WAC	16	53	"	6" V	25.3
54	"	SMH II	7.0	54	"	F.H.	14.1
55	"	SNC	17.3	55	"	SMH II	13.3
56	"	SMH II	14.0	56	"	WAC	14.7
57	"	WAC	16	57	"	WAC	7.2
58	"	SMH II	21.0	58	"	INLET	10.2
59	"	SMH II	22.8	59	"	SNC	12.2
60	"	SMH II	91.8	60	"	SMH II	91.8
61	"	WAC	16.8	61	"	SMH II	26.6
62	"	SMH II	11.5	62	"	SNC	11.5
63	"	SMH II	14.7	63	"	SMH II	14.7
64	"	WAC	13.6	64	"	SMH II	14.7
65	"	SMH II	42.4	65	"	SNC	8

PLAN
SCALE: 1"=50'

MATCH LINE SEE SHEET 2

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DATE: 5-21-01		DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND DATE: 6/6/01		RIEMER MUEGGE Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8188 Centre Park Drive, Columbia, MD 21046 • 410-992-8900 fax 410-992-5282 99212/FINALS.WATERS3.DWG ARTHUR E. MUEGGE #8707		DES: C.J.R. DRN: DAM CHK: C.J.R. DATE: 5/14/01		REVISION K.C.I. AS-BUILT DATA ADDED TO PLAN K.C.I. AS-BUILT DATA ADDED TO PLAN C.J.R. AS-BUILT DATA ADDED TO PLAN C.J.R. ADDED 4" WAC & 1" WAC FOR LOTS 43-45 & LOT 28		PLAN OF WATER EXTENSIONS 600' SCALE MAP NO. 47 BLOCK NO. 3, 8 & 9		12" MAJOR WATER EXTENSION EMERSON SECTION ONE 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 44-3833-D SCALE AS SHOWN SHEET 3 OF 5	
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