

Upon Authorization by S.H.A., Remove Existing Sign.

**SPEED LIMIT**  
Under Installation By Others Sign R2-1

**Fort Meade**  
**Columbia Town Center**  
Under Installation By Others

**SIGN 36**  
← Snowden River Pkwy.  
Size 14'-0"x2'-0"; White Legend on Green Background @ Sta. 115+50 Rt.

Upon Authorization by S.H.A., Remove This Sign and Place at Sta. 110+60 Lt.

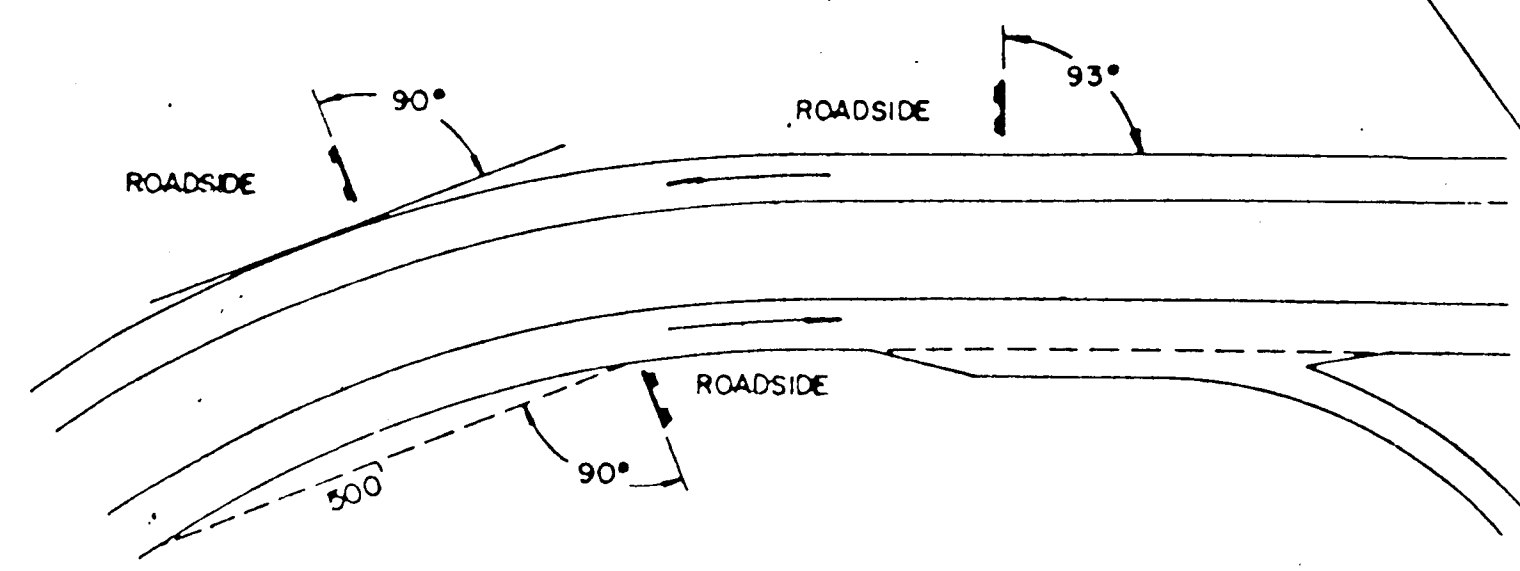
Size 14'-0"x2'-0"; White Legend on Green Background @ Sta. 108+50 Rt.

8"/6" Snowden River Pkwy. →

**SIGN 34**  
King's Contrivance Broken Land Pkwy. SOUTH  
Size 11'-6"x4'-6"; White Legend on Green Background @ Sta. 23+55

**SIGN 33**  
King's Contrivance Broken Land Pkwy. SOUTH  
Size 11'-6"x5'-0" White Legend on Green Background at Sta. 17+75

**ORIENTATION OF SIGN FACES**



**TYPICAL FOUNDATION FOR WOODEN SUPPORTS - FOR SIGNS 1 THRU 36**

To be placed in a 5'-0" deep pre-dug hole backfilled, using suitable material and tamped thoroughly to provide a rigid sub-surface condition around the post.

SIGN NO.	SIZE	NO. & SIZE OF WOODEN POST
1	24"x30"	1 - 4"x4"
2 & 3	30"x18"	1 - 4"x4"
4 & 22	18"x24" Etc.	1 - 4"x4"
5, 8 & 36	18"x18"	1 - 4"x4"
6 & 7	30"x30"	1 - 4"x4"
9 & 18	30"x30"x30"	1 - 4"x4"
10	24"x30" Etc.	1 - 4"x4"
12	18"x24" Etc.	1 - 4"x4"
13 & 14	30"x30"	1 - 4"x4"
15	18"x24" Etc.	1 - 4"x4"
16 & 17	30"x18"	1 - 4"x4"
19, 20 & 21	30"x30"	1 - 4"x4"
23 & 24	30"x18"	1 - 4"x4"
25 & 26	30"x30"	1 - 4"x4"
34	11'-6"x4'-6"	3 - 6"x6"
27	24"x30"	1 - 4"x4"
28	36"x36"	1 - 4"x4"
29	18"x24"	1 - 4"x4"
30 & 31	30"x30"	1 - 4"x4"
32	11'-6"x2'-6"	3 - 4"x6"
33	11'-6"x5'-0"	3 - 6"x6"
35 & 36	14'-0"x2'-0"	3 - 4"x6"

DEPARTMENT OF PUBLIC WORKS:  
*William S. Klein* 9-21-84  
 CHIEF, BUREAU OF ENGINEERING DATE

DEPARTMENT OF PLANNING AND ZONING:  
*John W. ...* 7-20-84  
 CHIEF, DIV. OF LAND DEVELOP. AND ZONING ADJ. DATE

Date	No.	Revision Description

VILLAGE OF OWEN BROWN  
 Section 6, Area 2  
 6th ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 THE HOUSE COMPANY  
 Columbia, Maryland

**CENTURY ENGINEERING, INC.**  
 CONSULTING ENGINEERS - PLANNERS  
 TOWSON, MARYLAND 21204

AREA  
 TAX MAP 42 - PART OF PARCEL 18

TITLE  
 SIGNING PLAN  
 FOR  
 BROKEN LAND PARKWAY

Des By H.B. Scale 1" = 50' Proj No 178  
 Dwn By G.L. Date 6-6-84 Drawing No  
 Chk By H.T. Approved 11 OF 13

- GENERAL NOTES**
- The standards and requirements of the following publications, except as modified herein, will govern all traffic related work of this contract.
    - "Manual on Uniform Traffic Control Devices", 1978 edition and subsequent revisions (M.U.T.C.D.), published by USDOT
    - "Specifications for the Design and Construction of Structural Supports for "Highway Signs", Edition 1975, published by AASHTO
    - "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", 1975 edition, published by AASHTO
    - Maryland State Highway Administration - "Standard Specifications for Construction and Materials", 1982 edition
  - All sign designations, Panel Layout and Alphabet details are as shown in the State of Maryland Standard Highway Signs Booklet, 1982 edition.
  - All exposed edges of concrete shall have a 3/4" x 3/4" chamfer.
  - Backgrounds, borders, texts, and all other elements of sign panels shall be reflectorized except where noted.
  - Signs are located on the plans by dimensions to survey stations or when necessary to identifiable physical features.
  - All changes in the locations of signs are as shown on the plans shall have the prior approval of the engineer.
  - The engineer does not warrant or guarantee the accuracy or completeness of utility information shown on the Plan. It shall be the responsibility of the Contractor to locate and protect all existing facilities which might be affected by this work or his operation.
- B. Horizontal Alignment (See diagram)**
- On tangents, position sign so face of panel makes an angle of 93° with edge of pavement.
  - On the inside of horizontal curves, position sign so face of panel makes an angle of 90° with a chord between a point on near edge of pavement at sign location and a point on edge of pavement 500' in advance of sign.
  - On the outside of horizontal curves, position sign so face of panel is at right angles to the tangent of the curve at the sign location. Positioning of signs on this project is referred to the normal of the main line roadway.

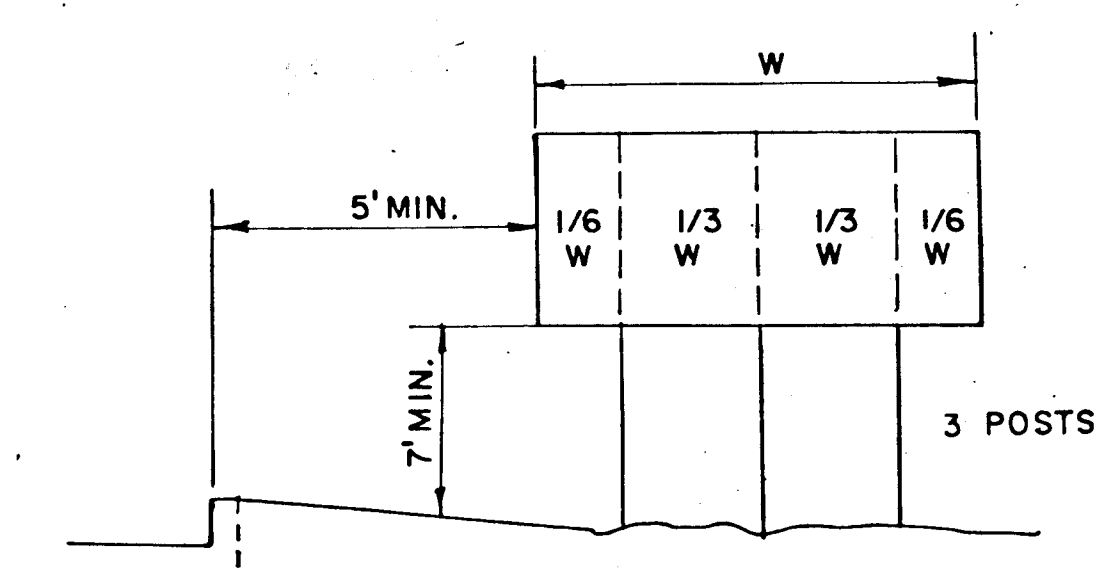
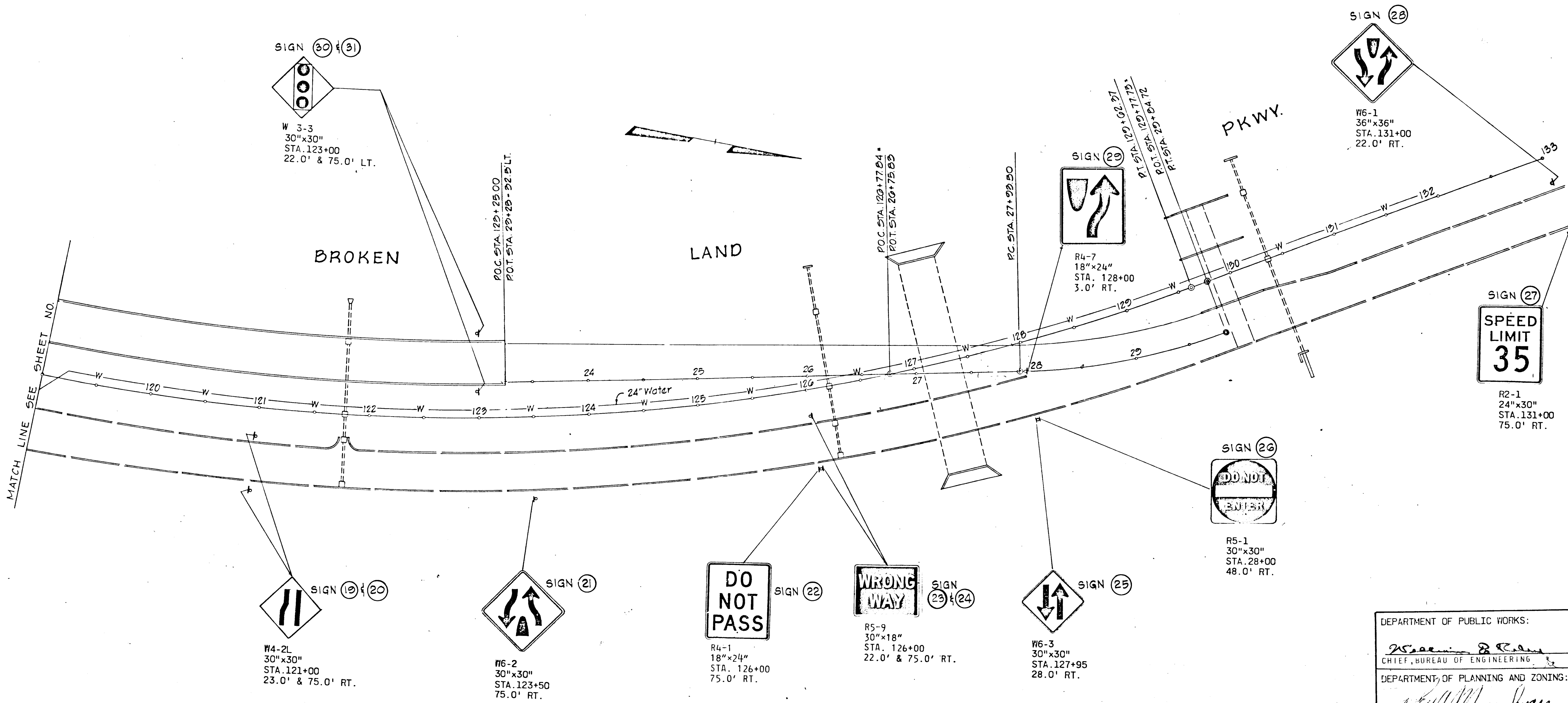
- All wooden posts shall meet the grading requirements for No. 1 Dense for the species selected. However, in no case shall the extreme fiber in bending (f) be less than 1800f.
- Design Wind: 60 mph for wooden posts.

See Support Details, Sheet 2 of 3.

**SIGN 32**  
 Broken Land Pkwy. NORTH  
 Size 11'-6"x2'-6"; White Legend on Green Background @ Sta. 1+75

Professional Engr. No. 6687

C116111



**SUPPORT PLACEMENT DETAILS**  
FOR SIGNS (32) THRU (36)  
NOT TO SCALE

apr 20, 1984  
Date  
Professional Engr. No. 6687

DEPARTMENT OF PUBLIC WORKS:		9.20.84	
CHIEF, BUREAU OF ENGINEERING		DATE	
DEPARTMENT OF PLANNING AND ZONING:		7.08.84	
CHIEF, DIV. OF LAND DEVELOP. AND ZONING ADM.		DATE	
Date	No	Revision Description	
VILLAGE OF OWEN BROWN Section 6, Area 2 6th ELECTION DISTRICT - HOWARD COUNTY, MARYLAND OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE COMPANY Columbia, Maryland			
CENTURY ENGINEERING, INC. CONSULTING ENGINEERS - PLANNERS TOWSON, MARYLAND 21204			
AREA TAX MAP 42 - PART OF PARCEL 18			
TITLE SIGNING PLAN FOR BROKEN LAND PARKWAY			
Des By	Scale 1" = 50'	Proj No	781
Drn By G.L.	Date 6-6-84	Drawing No.	12.0' 13
Chk By H.T.	Approved		



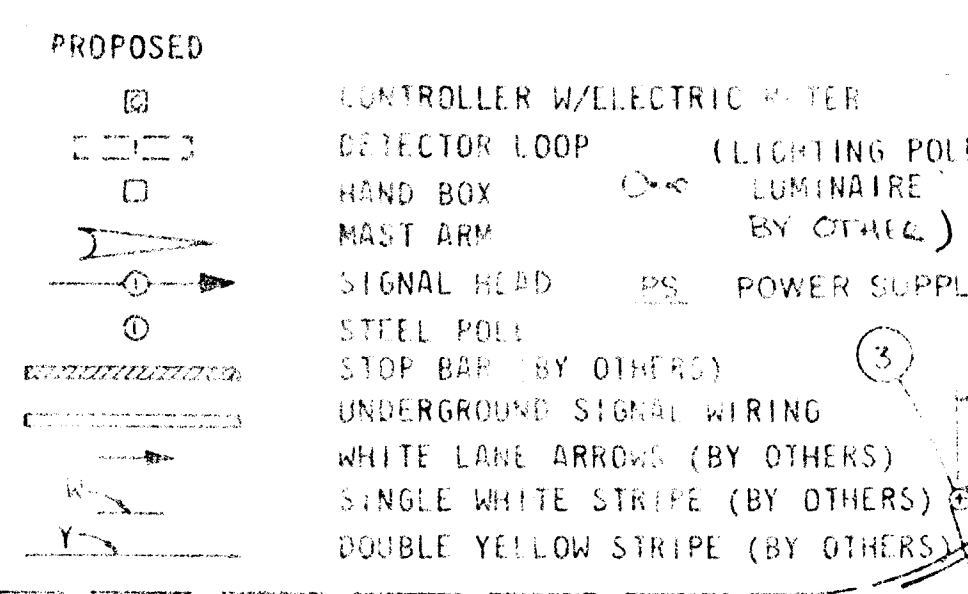
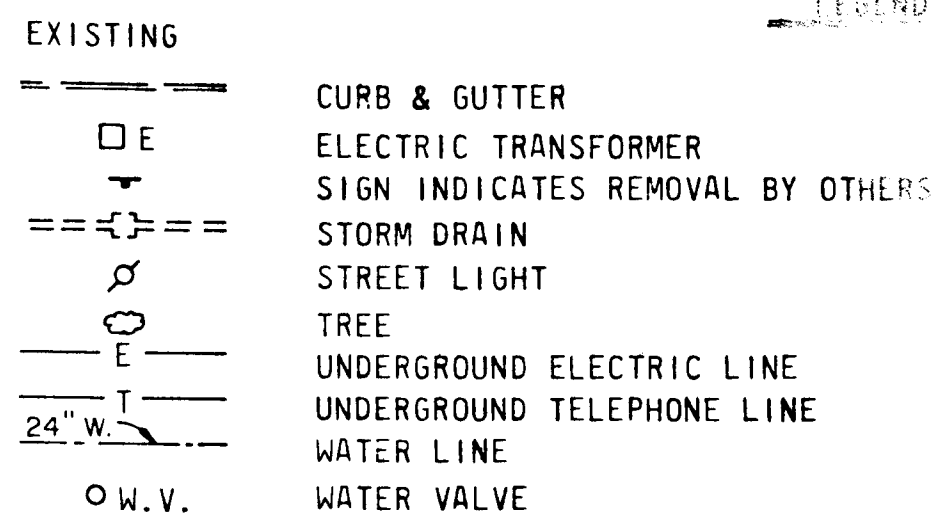
- GENERAL NOTES**
- All highway marking and sign removal shall be the responsibility of the Division of Traffic Engineering of the Bureau of Engineering, Department of Public Works, of Howard County, Maryland, and is not to be considered a part of this contract.
  - Approximate location of existing utilities is shown. The Contractor shall take all necessary precautions to protect existing utilities and to maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer by the Contractor at the Contractor's expense.
    - The Contractor shall locate existing utilities a minimum of two weeks in advance of construction operations in vicinity of utilities. Cost shall be incidental to the items in the Proposal Itemization.
    - Contractor shall notify the following utilities or agencies at least five (5) days before starting work shown on these plans:
      - Miss Utility (Collect) 1-559-0100
      - Baltimore Gas & Electric Company - Underground Electric Distribution Engineering "Damage Control" - 234-5691
      - Baltimore Gas & Electric Company - Underground Gas Distribution Engineering "Damage Control" - 234-5533
    - Clear all utilities by a minimum of 6". Clear all poles 2'-0" minimum or tunnel as required. Cost for tunneling or bracing at poles shall be incidental to the items in the Proposal Itemization. The locations of poles, handboxes, conduit and controller shall be adjusted, if necessary to avoid existing utilities.
    - Power source for street light shall be separate from that of the traffic signal.
  - All materials and workmanship employed under this contract shall conform with the "GENERAL SPECIFICATIONS FOR INSTALLATION OF AND EQUIPMENT FOR TRAFFIC SIGNALS FOR HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS" dated October 7, 1974; revised February 18, 1976, and included in the contract specifications as the General Provisions.
  - All disturbed areas shall be properly restored in accordance with the Contract Specifications.
  - All signal heads shall be securely wrapped and/or bagged in burlap, when not in use.
  - Sign designation and layout shown here are as shown in the State of Maryland's Standard Highway Signs Booklet.

**LOOPS AND DETECTORS**

- The following new Loops shall be installed:
 

Number	Dimensions	Phase	Mode
1, 2, 3*	6' x 40'	4	Presence, non-lock
4	6' x 20'	4	Pulse, non-lock
5 & 6*	6' x 40'	1 & 2	Presence, non-lock
7	6' x 20'	1 & 2	Pulse, non-lock
8	6' x 20'	5	Pulse, non-lock
9 & 10*	6' x 40'	5	Presence, non-lock
11	6' x 20'	3	Pulse, non-lock

\* Loop to be installed with 6' X 3' Power Head for detection of small vehicles.
- All loops shall be wired to timing loop amplifiers and each loop shall have a separate amplifier.
- Loop amplifiers shall be Sarasota 235T/MS or approved equal.
- All wiring shall be in accordance with manufacturer's recommendations for correct operation.
- All loop corners shall be cut at a 45° angle, at least 6" long.



- The Contractor shall insure that Loop No 9 does not conflict with the inlet adjacent to it.

**UNDERGROUND WIRING**

- Underground wiring shall be placed in new PVC Conduits under the road surface and in grass areas, as shown on the Contract Drawings.
- Under existing pavement new conduit will be pushed for installation.
- The use of direct lay cable or a combination of conduit and direct lay shall not be acceptable.
- Centerline of handbox shall be 3' behind face of curb unless otherwise indicated.
- Cable is to be placed in saw cut between detector and curbline and in conduit between curbline and handbox.

**Proposed Poles:**

- Two poles with twin support arms and a single lighting arm. Also a single pole with one support arm.
- Style and appearance shall be equivalent to Union Metal Design No. 50300. Finish shall be bronze paint.
- | Pole Number | Description  |
|-------------|--|
| 1           | TWIN SUPPORT ARMS, ONE OF WHICH WITH 20' SPREAD SUPPORTING TWO SIGNAL HEADS NOS 5 & 6 AND THE REMAINING WITH 30' ARM SUPPORTING TWO SIGNAL HEADS NOS 7 & 8 AND 12' LIGHTING ARM. |
| 2           | TWIN SUPPORT ARMS, ONE OF WHICH WITH 40' SPREAD SUPPORTING TWO SIGNAL HEADS NOS 9 & 10, AND 10' LIGHTING ARM.  |
| 3           | SIGNAL ARM WITH 40' SPREAD SUPPORTING SIGNAL HEADS NOS 1 & 2.  |

**CONTROLLER AND ACCESSORIES**

- NEMA eight-phase programmable controller with solid state circuitry and digital timing, equivalent to the Econolite RVC Series Digital Control unit, equivalent manufactured by Eagle Signal Corporation or Crouse-Hinds or approved equal.
  - Equipped with five vehicular actuated modules and capable of interface package for coordination.
  - Vehicular actuated phase modules shall be capable of the following functions: Minimum Green, Extension, Yellow, All-Red Clearance, Dual Maximum, Recall and Memory.
  - Five-phase signal overlap capability.
- Conflict Monitor and Solid State Load switches.
- Solid State Flasher and switch accessible through police door panel.
- Ground mounted traffic controller cabinet large enough to accommodate the above control equipment. The cabinet shall be furnished with a thermostatically controlled cabinet vent fan.
- Finish of the cabinet shall be all-weather bronze paint.
- Motor Box shall be installed in a vandal proof enclosure supplied by the Contractor and be painted bronze.
- Install 3' x 4' x 5" concrete slab in front of the controller cabinet.

**SIGNAL HEADS & OVERHEAD SIGN**

- The Contractor shall provide the following new signal heads:
 

Signal Number	Description
1, 2, 5 through 8, 9 & 10	12" diameter red indication and 8" amber and green indications
3 and 4	12" red indication; 12" amber and green indications, including turn arrows
- All signals shall have brown baked enamel finish and shall be furnished with tunnel visors. All signals shall be vertically mounted on the mast arms with rigid adjustable brackets equivalent to the "Ved Traffic Controls, Inc. Astro-Brac (Model No. 0-AB-101)" or approved equal. Signal arrangement shall be as shown in the Phase and Sequence Diagram.
- Signal heads 5 and 6 shall have backplates.
- A "Yield When Turning on Green" sign shall be installed adjacent to signal head Number 5. See Standard Details.
- Install one (1) sign R3-5 (size 30" x 36") adjacent to signal head Number 7. Similarly, install one (1) sign R3-6 (size 30" x 36") adjacent to signal head Number 8, as shown.
- Signals are to be aimed at approximately 1,000 ft. to insure good visibility.
- Signal Heads shall have the color of the bronze paint with "M.A. Bruder & Sons, Inc. Seashore Glass Trim 27721 Duronodic Bronze Code 755758 or approved equal.

PHASE AND SEQUENCE DIAGRAM	TRAFFIC SIGNAL HEADS										MIN. GREEN	YELLOW	RED CLEARANCE	VEH. EXT.	MAX. GREEN	RECALL
	1	2	3	4	5	6	7	8	9	10						
	R	R	G	G	R	R	R	R	R	R	6	3	1	1.8	25	OFF
	R	R	G	G	R	R	R	R	R	R	11	4	1	3	20	
	G	G	Y	Y	R	R	R	R	R	R	11	4	1	3	30	ON
	R	R	R	R	R	R	R	R	Y	Y	6	—	—	32	20	OFF
	R	R	R	R	R	R	R	Y	Y	R	10	—	—	2	40	OFF
<b>FLASHING OPERATIONS</b>	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	—	—	—	—	—	—

**SCHEDULE OF POLES**

POLE NO.	LOCATION
1.	STA. 111+27; @ D.L.P. 5.0 LT.
2.	STA. 112+37; @ D.L.P. 12.5' RT.
3.	STA. 111+14.5; @ D.L.P. 84.5' LT.

DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 9-20-84

DEPARTMENT OF PLANNING AND ZONING:  
 CHIEF, DIV. OF LAND DEVELOP. AND ZONING ADM.  
 DATE: 9-20-84

VILLAGE OF OWEN BROWN  
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 6th ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

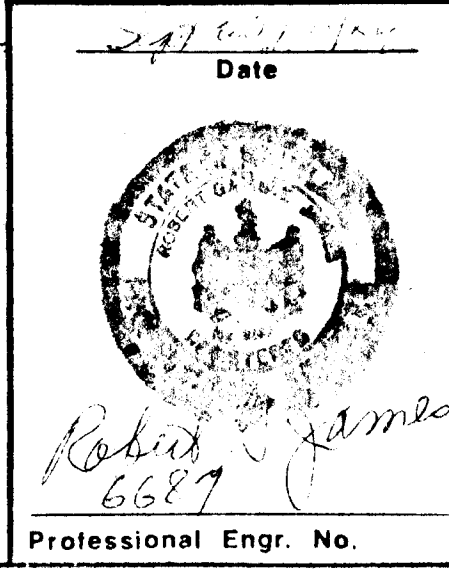
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 CONSULTING ENGINEERS - PLANNERS  
 TOWSON, MARYLAND 21204

AREA  
 TAX MAP 42 - PART OF PARCEL 18

TITLE  
 SIGNALIZATION PLAN  
 FOR  
 BROKEN LAND PARKWAY & SNOWDEN RIVER PARKWAY

Des By H.E. Scale 1" = 30' Proj No 1781  
 Drn By F.W. Date 6-6-84 Drawing No. 12 OF 12  
 Chk By H.T. Approved



DRAWING 44-132-53864