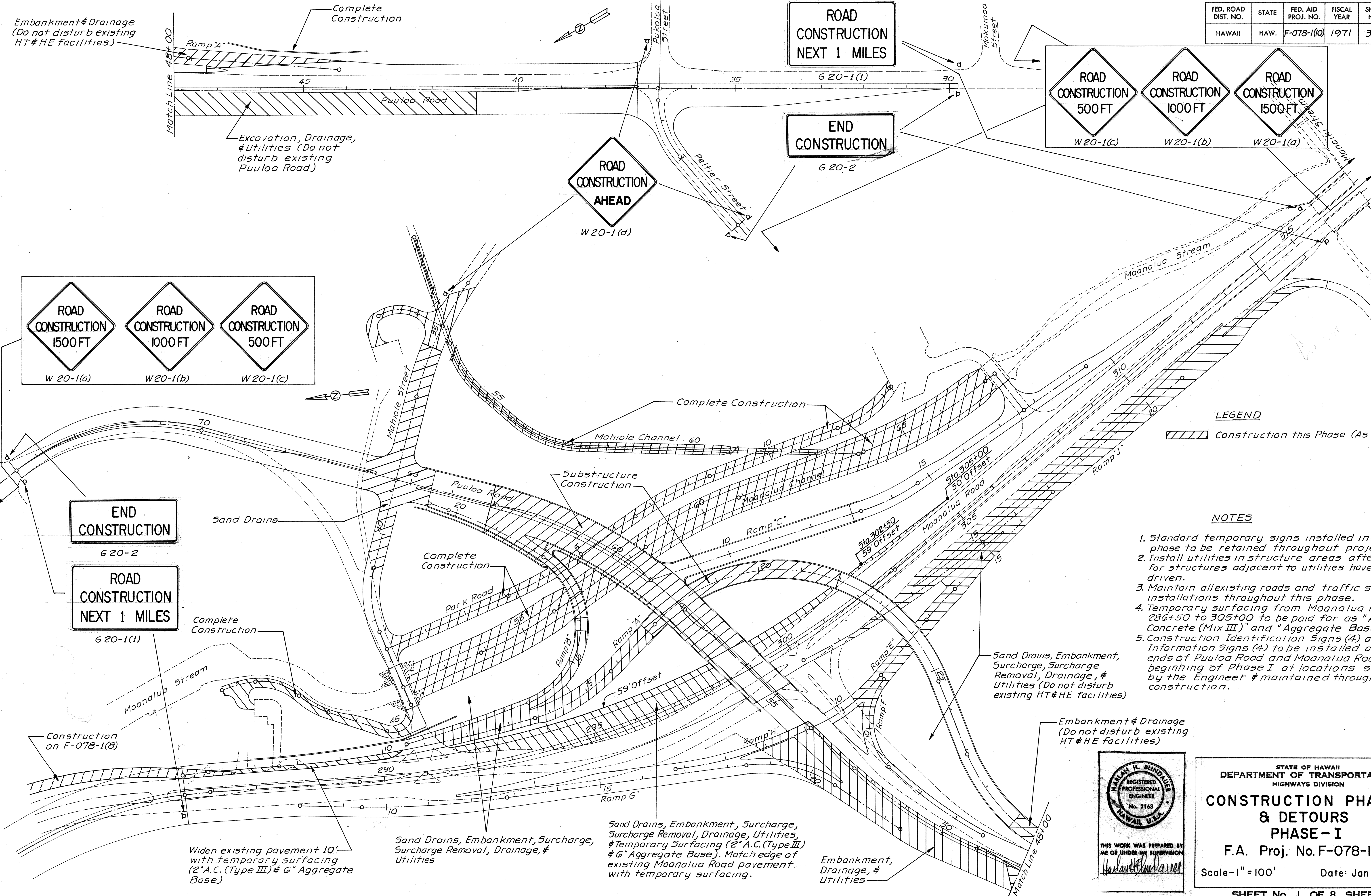


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1971	38	418



ROAD CONSTRUCTION 500 FT
W 20-1(c)

ROAD CONSTRUCTION 1000 FT
W 20-1(b)

ROAD CONSTRUCTION 1500 FT
W 20-1(a)

ROAD CONSTRUCTION 1500 FT
W 20-1(a)

ROAD CONSTRUCTION 1000 FT
W 20-1(b)

ROAD CONSTRUCTION 500 FT
W 20-1(c)

LEGEND

Construction this Phase (As Noted)

- NOTES
- Standard temporary signs installed in this phase to be retained throughout project.
 - Install utilities in structure areas after piles for structures adjacent to utilities have been driven.
 - Maintain all existing roads and traffic signal installations throughout this phase.
 - Temporary surfacing from Moanalua Road Sta. 286+50 to 305+00 to be paid for as "Asphalt Concrete (Mix III)" and "Aggregate Base."
 - Construction Identification Signs (4) and Project Information Signs (4) to be installed at both ends of Puuloa Road and Moanalua Road at beginning of Phase I at locations specified by the Engineer & maintained throughout construction.

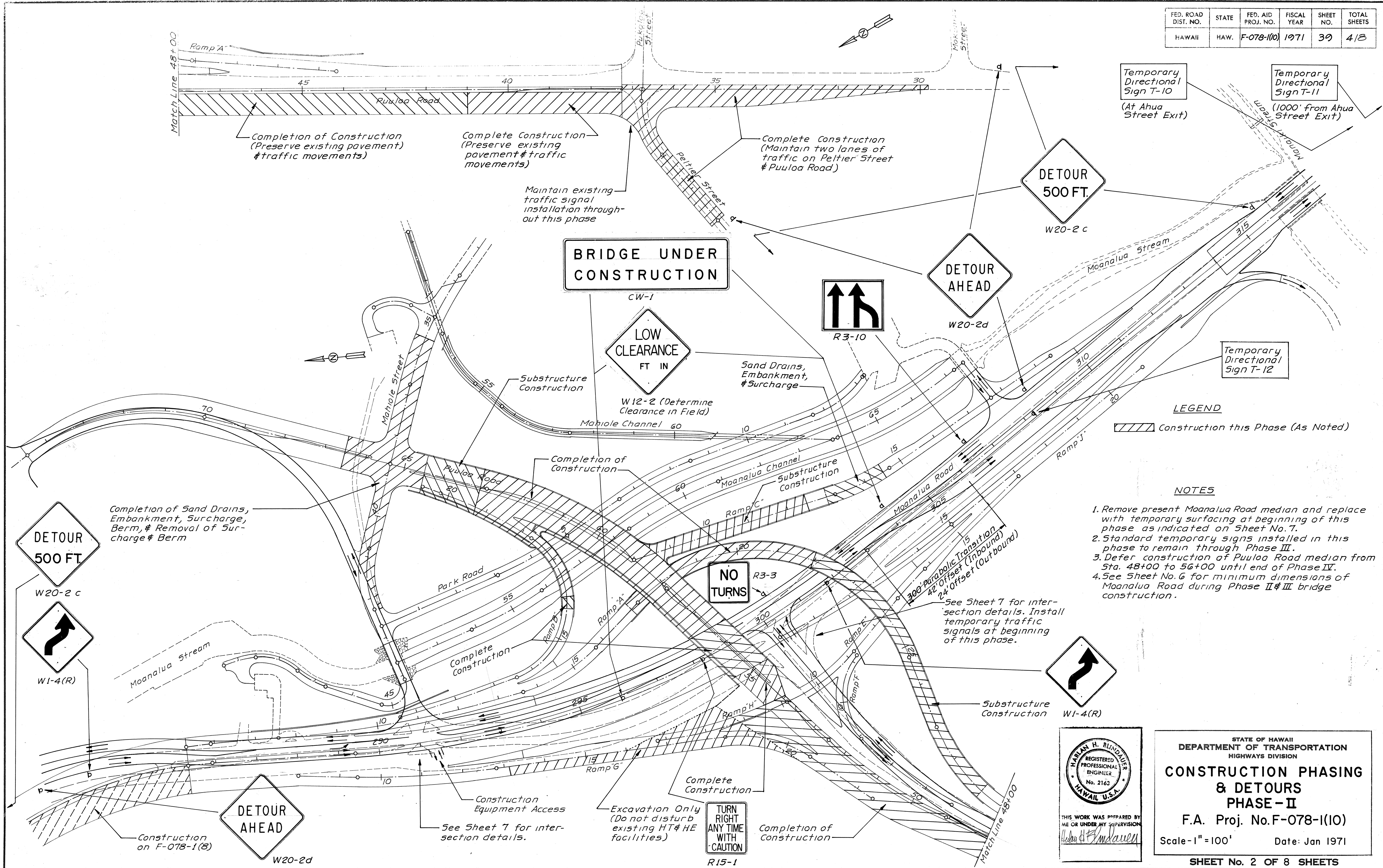
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Hiram H. Blumler

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING
& DETOURS
PHASE - I
F.A. Proj. No. F-078-1(10)
Scale - 1" = 100' Date: Jan 1971

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1971	39	4/8



LEGEND

Construction this Phase (As Noted)

- NOTES**
1. Remove present Moanalua Road median and replace with temporary surfacing at beginning of this phase as indicated on Sheet No. 7.
 2. Standard temporary signs installed in this phase to remain through Phase III.
 3. Defer construction of Puuolo Road median from Sta. 48+00 to 56+00 until end of Phase IV.
 4. See Sheet No. 6 for minimum dimensions of Moanalua Road during Phase II & III bridge construction.

HARLAN H. BLINDLER
REGISTERED PROFESSIONAL ENGINEER
No. 2163
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Walter J. McQuinn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CONSTRUCTION PHASING
& DETOURS
PHASE - II**

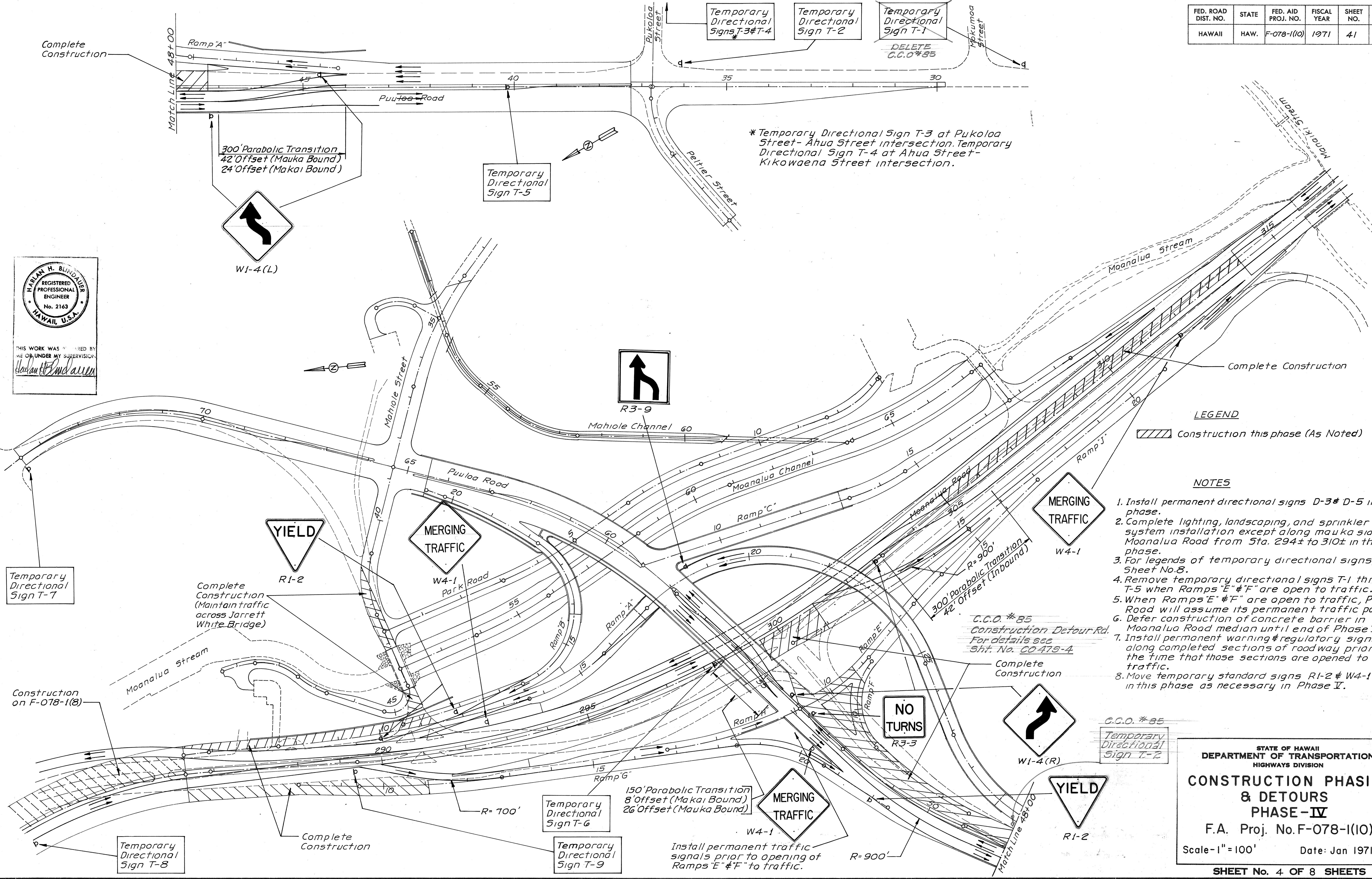
F.A. Proj. No. F-078-1(10)

Scale - 1" = 100' Date: Jan 1971

SHEET No. 2 OF 8 SHEETS

DATE	_____
SURVEY FIELD BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTE BOOK	_____
CHECKED BY	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1971	41	4/8



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Harry H. Blindauer

LEGEND

Construction this phase (As Noted)

- NOTES**
1. Install permanent directional signs D-3 & D-5 in this phase.
 2. Complete lighting, landscaping, and sprinkler system installation except along mauka side of Moanalua Road from Sta. 294± to 310± in this phase.
 3. For legends of temporary directional signs, see Sheet No. 8.
 4. Remove temporary directional signs T-1 through T-5 when Ramps "E" & "F" are open to traffic.
 5. When Ramps "E" & "F" are open to traffic, Puhia Road will assume its permanent traffic pattern.
 6. Defer construction of concrete barrier in Moanalua Road median until end of Phase V.
 7. Install permanent warning & regulatory signs along completed sections of roadway prior to the time that those sections are opened to traffic.
 8. Move temporary standard signs R1-2 & W4-1 placed in this phase as necessary in Phase V.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CONSTRUCTION PHASING
& DETOURS
PHASE - IV**

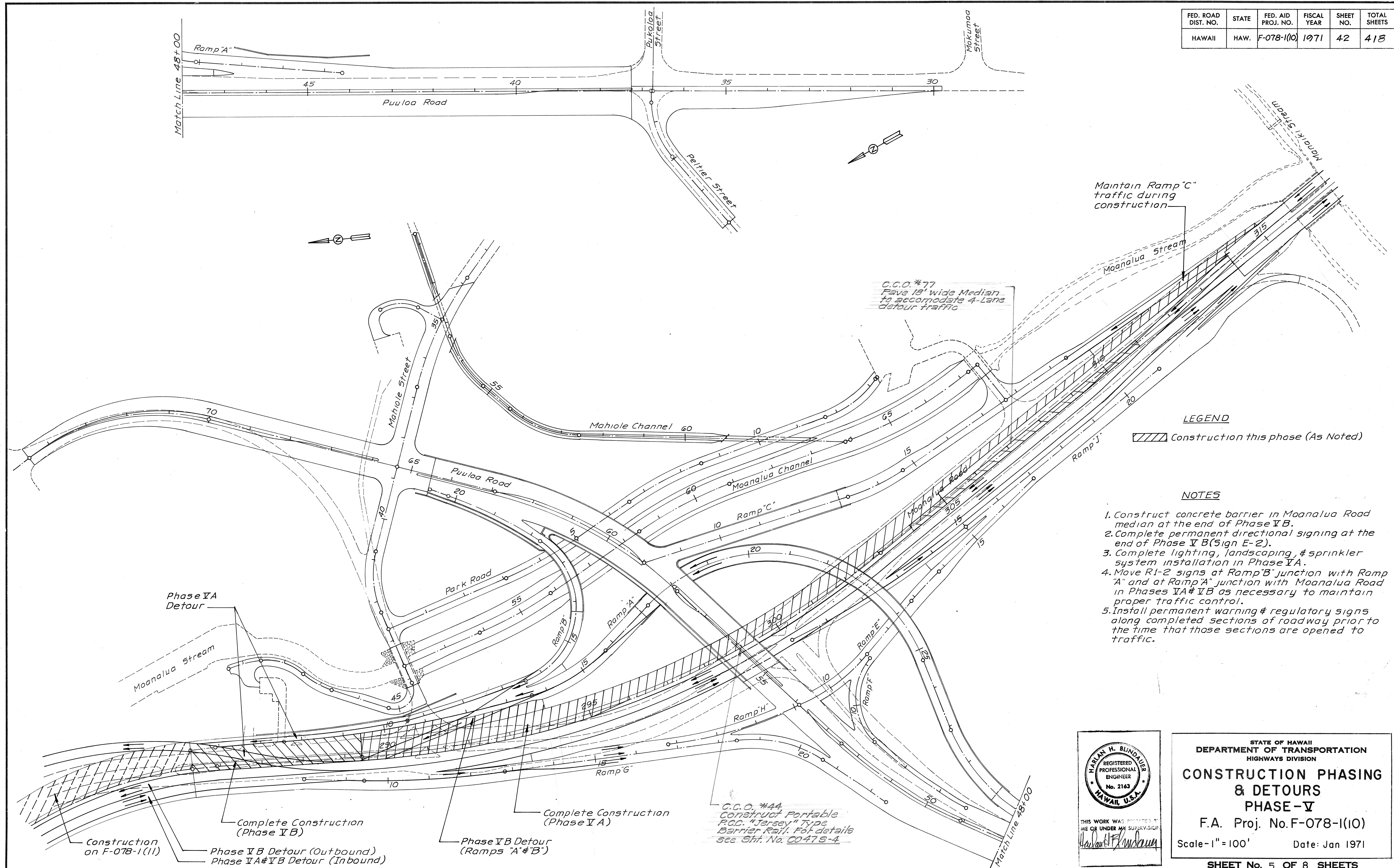
F.A. Proj. No. F-078-1(10)

Scale - 1" = 100' Date: Jan 1971

SHEET No. 4 OF 8 SHEETS

DATE	_____
DESIGNED BY	_____
TRACED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1971	42	418

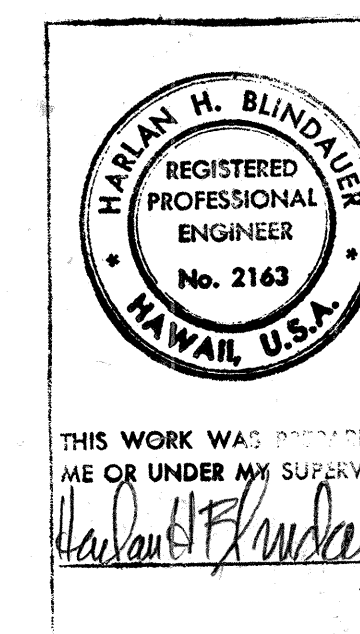


LEGEND

Construction this phase (As Noted)

NOTES

1. Construct concrete barrier in Moanalua Road median at the end of Phase I B.
2. Complete permanent directional signing at the end of Phase I B (Sign E-2).
3. Complete lighting, landscaping, & sprinkler system installation in Phase I A.
4. Move R1-2 signs at Ramp B junction with Ramp A and at Ramp A junction with Moanalua Road in Phases I A & I B as necessary to maintain proper traffic control.
5. Install permanent warning & regulatory signs along completed sections of roadway prior to the time that those sections are opened to traffic.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CONSTRUCTION PHASING
& DETOURS
PHASE - I**

F.A. Proj. No. F-078-1(10)

Scale - 1" = 100' Date: Jan 1971

SHEET No. 5 OF 8 SHEETS

CONSTRUCTION PHASING - UTILITIES

PHASE I

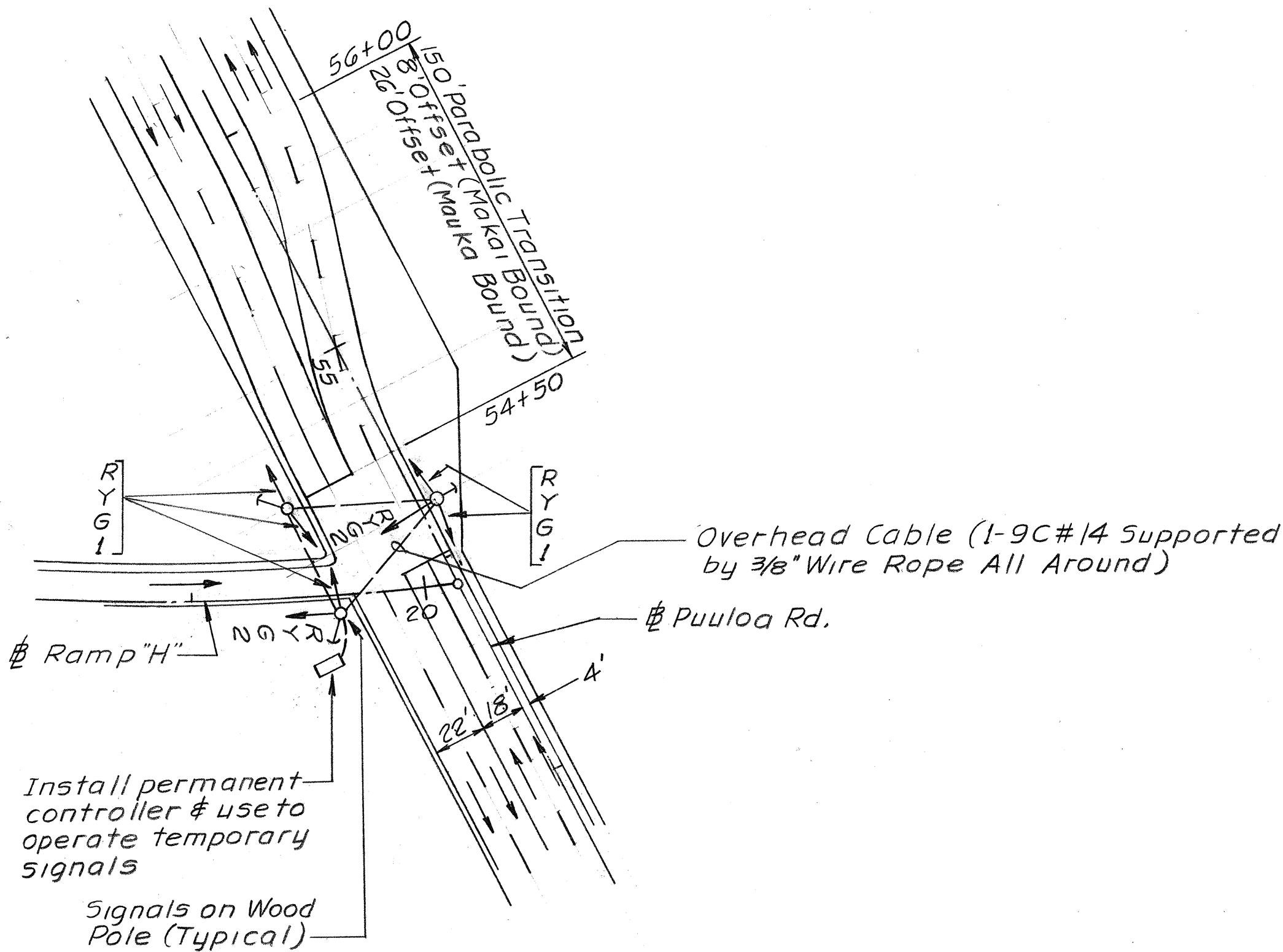
- 1. All utilities in North-South Utility Corridor from Sta. 285± (Moana Rd.) to Sta. 13± (Park Rd.) including BWS, Honolulu Gas, H.E., & H.T. facilities. Complete in this phase.
- 2. All utilities in East-West Utility Corridor from junction with North-South Utility Corridor to Moanalua Road including Honolulu Gas, H.E., & H.T. facilities. Complete in this phase.
- 3. All utilities in East-West Utility Corridor from Sta. 41± to 54± (Puuloa Rd.) including Honolulu Gas, H.E., & H.T. facilities. Complete in Phase II.
- 4. All C.&C. Sewer Dept. facilities. Complete in this phase.
- 5. U.S. Army facilities from Tripler Hospital Pumping Plant to Mahiole Channel including sewer and water. Encasement of 12" water line leading to pumping plant. Complete in this phase.

PHASE II

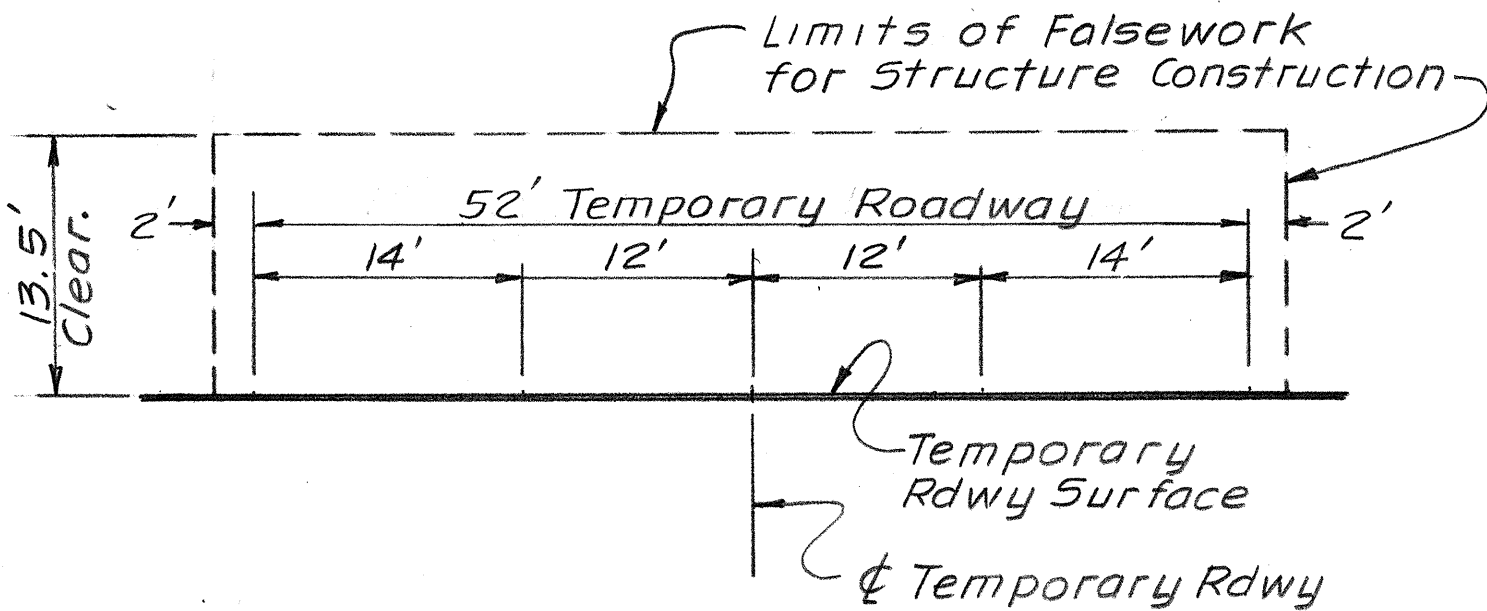
- 1. All utilities in North-South Utility Corridor from Sta. 13± to 28± (N-S Utility Corr.) through Moanalua Gardens including BWS, Honolulu Gas, H.E., & H.T. facilities. Complete in this phase.
- 2. All utilities in East-West Utility Corridor from Moanalua Road to Sta. 54± (Puuloa Rd.) including Honolulu Gas, H.E., & H.T. facilities. Complete in this phase.
- 3. All utilities in East-West Utility Corridor from Sta. 34± to 41± (Puuloa Rd.) including Honolulu Gas, H.E., & H.T. facilities. Complete in this phase.
- 4. All utilities along Peltier Street including BWS, H.E., & H.T. facilities. Complete in this phase.
- 5. All remaining B.W.S. facilities. Complete in this phase.
- 6. Hook-up of U.S. Army 12" Water Line to 42" BWS water line.

PHASE III

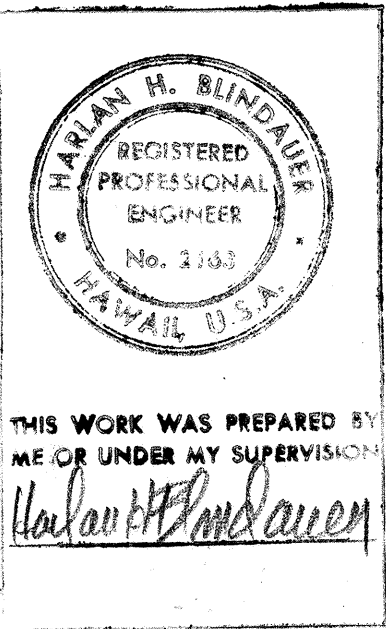
- 1. All remaining utilities on project. Complete in this phase.



PHASE IV DETOUR - PUULOA ROAD - RAMP "H" INTERSECTION
Scale 1" = 50'



MINIMUM DIMENSIONS FOR MOANALUA ROAD DURING PHASE II & PHASE III BRIDGE CONSTRUCTION
Scale 1" = 10'



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING
INTERSECTION DETAILS &
UTILITIES PHASING

F.A. Proj. No. F-078-1(10)

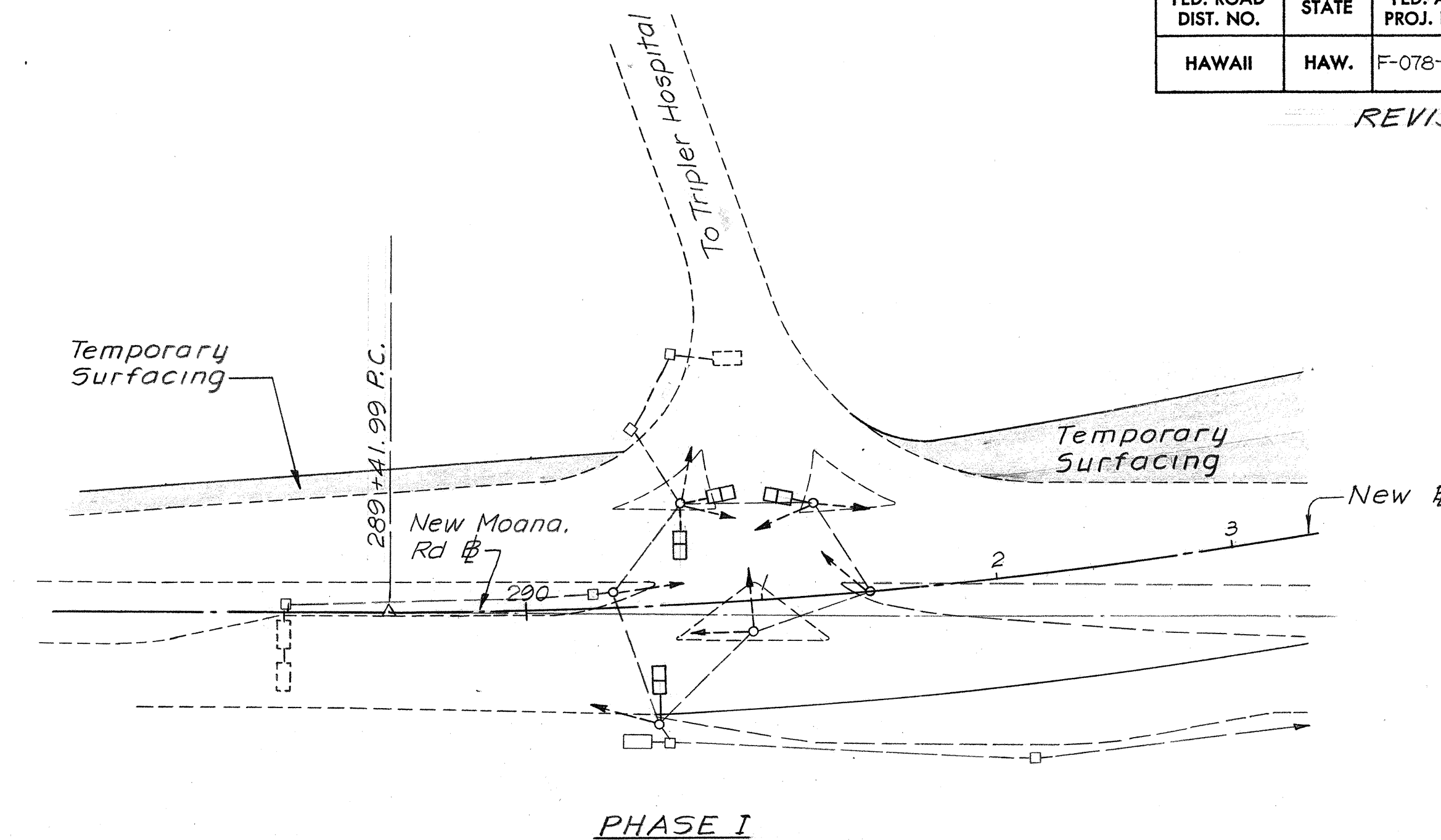
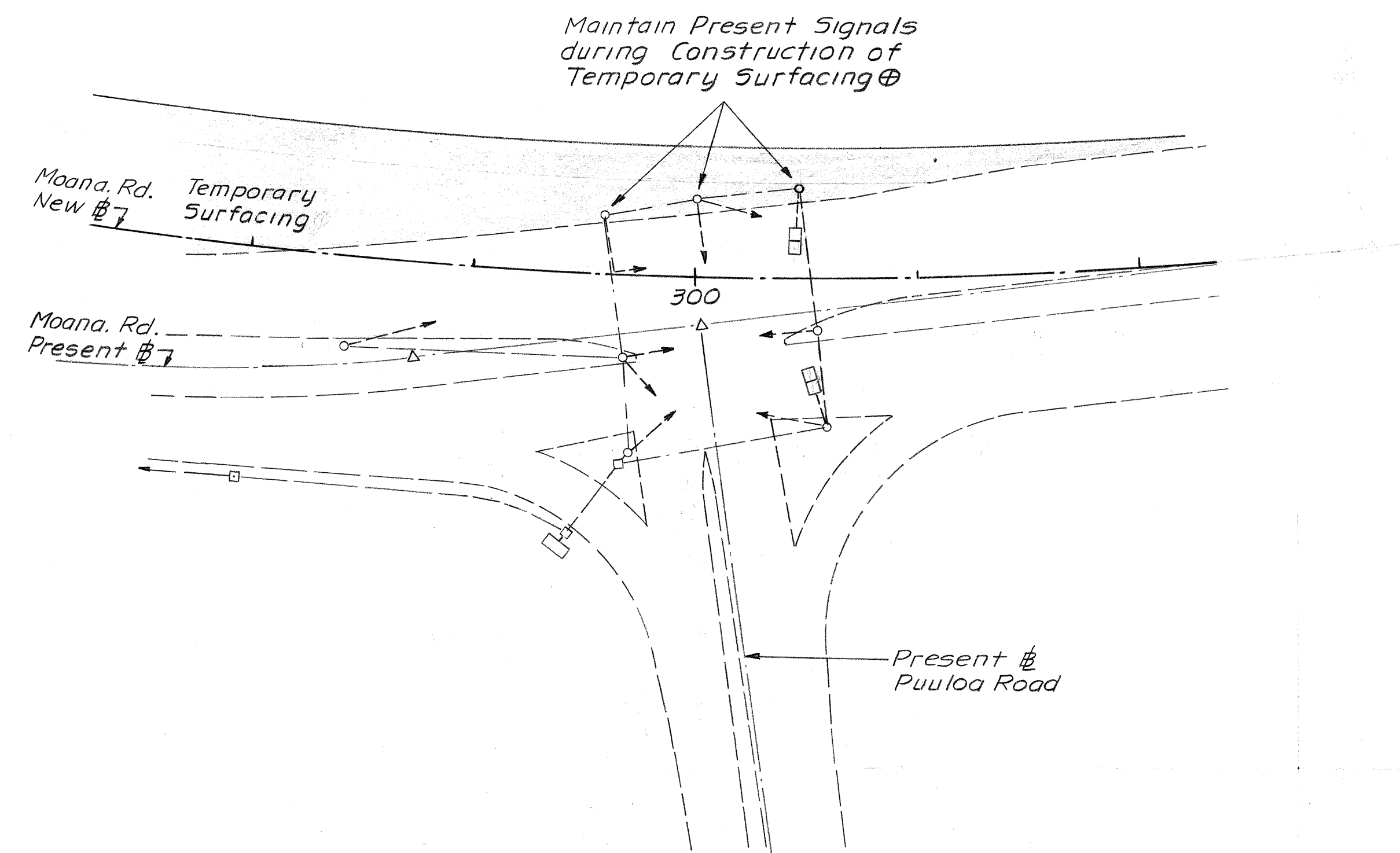
Scale - As Noted Date: Jan 1971

SHEET No. 6 OF 8 SHEETS

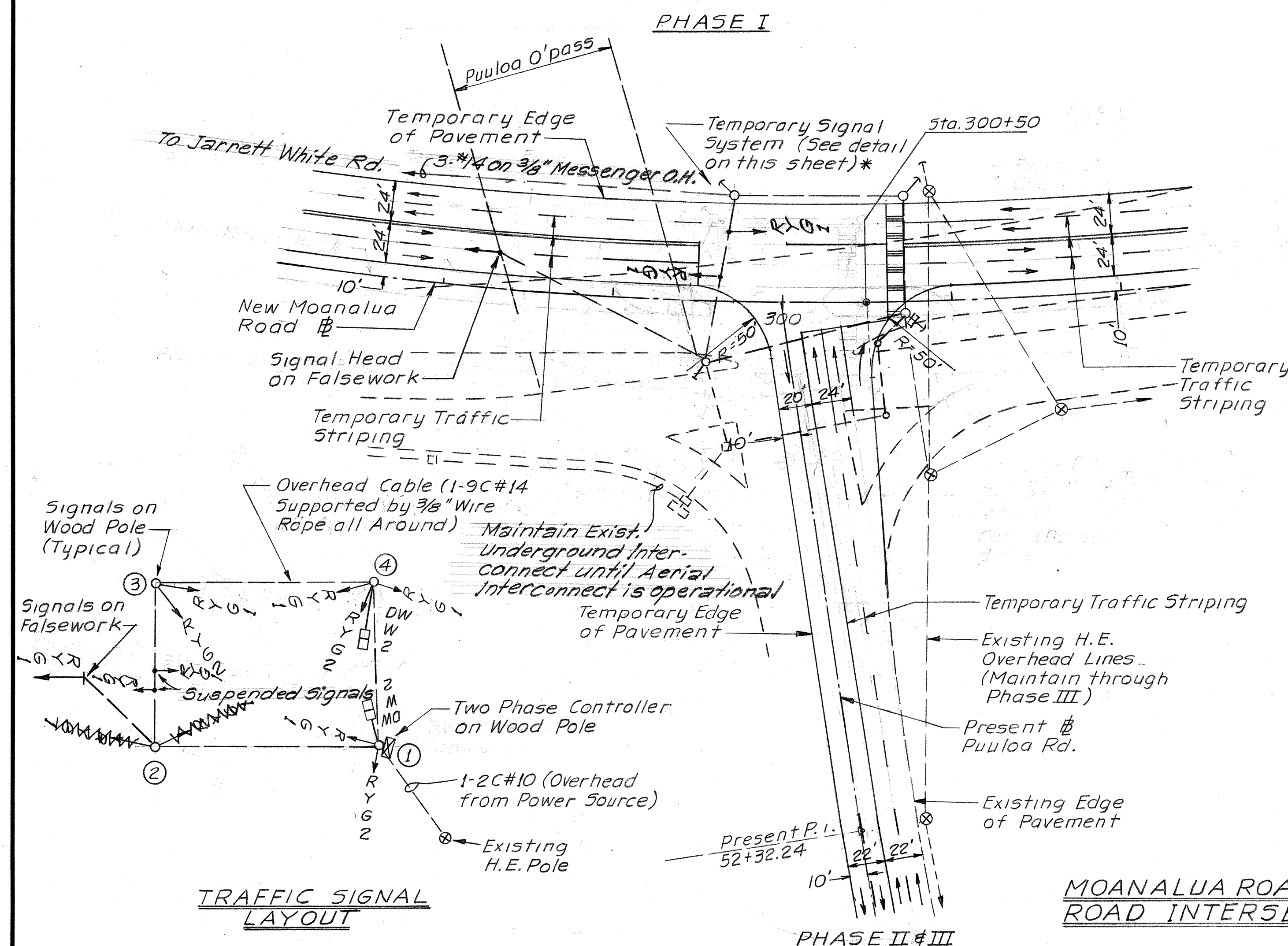
SURVEY PLOTTED BY		DATE
DRAWN BY		
DESIGNED BY		
CHECKED BY		
ORIGINAL PLAN	NOTE BOOK	No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-078-1(10)	1971	44	418

REVISED: Nov. 6, 1972

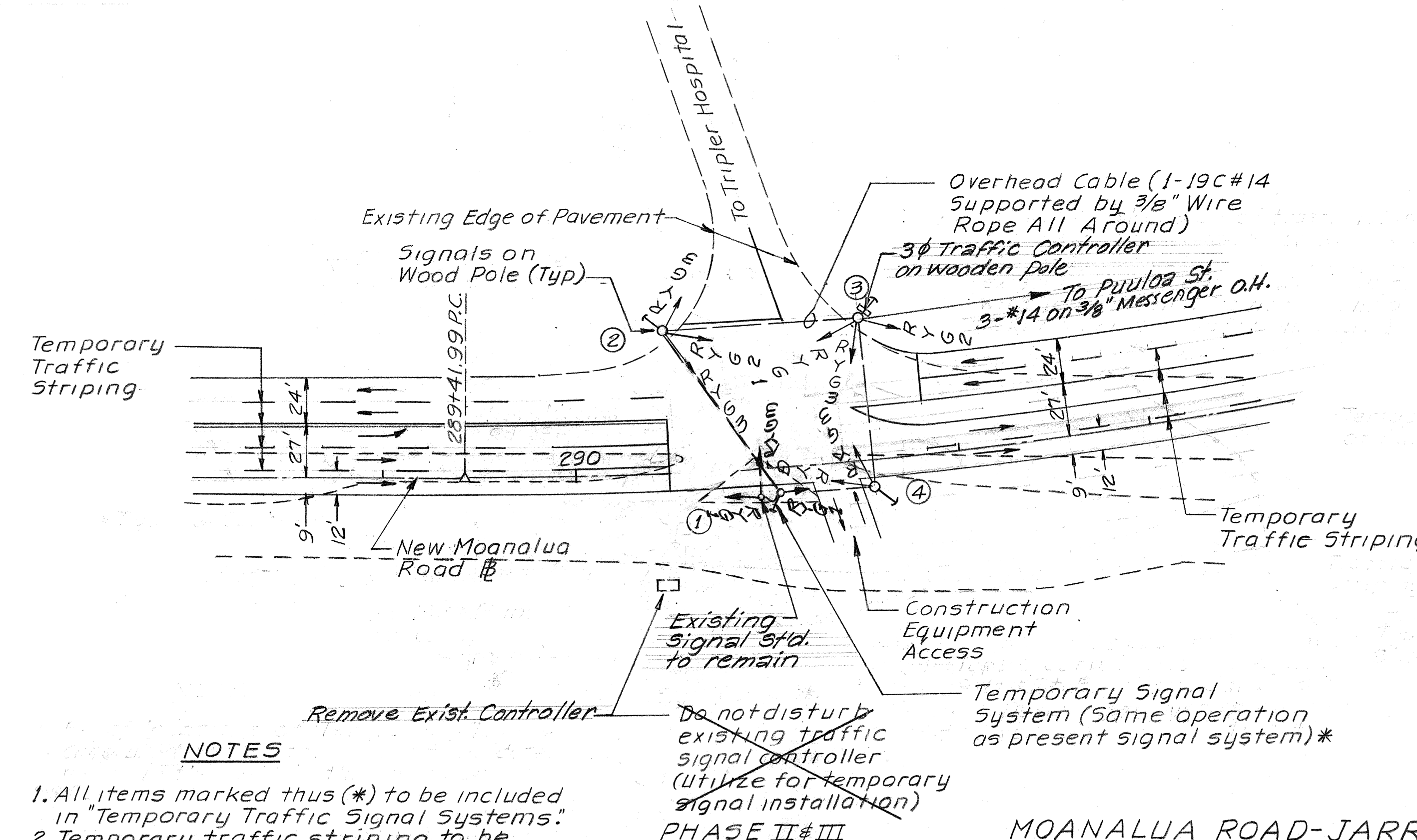


PHASE I



TRAFFIC SIGNAL LAYOUT

MOANALUA ROAD-PUULOA ROAD INTERSECTION

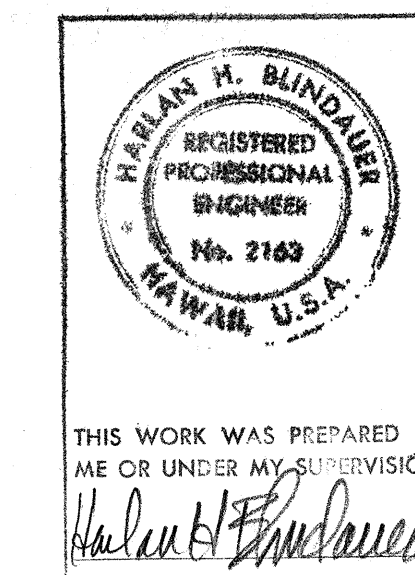


NOTES

1. All items marked thus (*) to be included in "Temporary Traffic Signal Systems".
2. Temporary traffic striping to be done by State Forces.
3. See Sheet 5 of "Traffic Signal Systems" for overhead signal details. See Sheet 6 of "Traffic Signal Systems" for signal wiring diagram.
4. Remove present Moanalua Road median from Sta. 285+34 to 291+00 and from Sta. 291+60 to 314+00 at beginning of Phase II. Replace with 2"A.C. (Type III) #6" Aggregate Base flush with present surfacing each side of median as required to construct Moanalua Road detours. Temporary surfacing to be paid for as "Asphalt Concrete (Mix III) # "Aggregate Base".

MOANALUA ROAD-JARRETT WHITE ROAD INTERSECTION

C.C.O. #64



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING
INTERSECTION DETAILS

F.A. Proj. No. F-078-1(10)

Scale: 1"=50' Date: JAN 1971

GENERAL NOTES FOR CONSTRUCTION, MAINTENANCE, AND PROTECTION OF TRAFFIC, AND TEMPORARY SIGNING AND SIGNALIZATION:

- (1) All service from existing utilities that are to remain or are to be relocated shall be maintained at all times unless special approval is obtained from the Engineer for temporary discontinuation of service.
- (2) The construction sequence as shown in the plans is to be considered a suggested method. The Contractor, with approval of the Engineer, may adjust sequence and phasing.
- (3) With approval of the Engineer, the construction as indicated for any phase may be initiated in an earlier phase. Also, phases may overlap.
- (4) All utilities, guard rail, lighting, signing, and other related work within each individual phase shall be performed completely or to the extent necessary in such timely sequence as to preclude duplication of effort and hazardous roadside construction.
- (5) Scarifying and removal of pavement section and restoring ground, guard rails, and other items to original condition upon completion of the project shall be considered incidental to the construction.
- (6) Unless noted otherwise, exact locations of signs, barricades, and traffic drums shall be determined in the field by the Engineer.
- (7) The shape, dimensions, symbols, wording, lettering, and reflectorizing of all temporary warning, regulatory, construction, and maintenance signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways" dated September 1961 and the FHWA Manual "Standard Highway Signs" dated September 1961, unless otherwise specified.
- (8) All relocations of temporary warning, regulatory, construction, and maintenance signs, posts, barricades, and traffic drums during construction shall be considered incidental to construction.
- (9) The Contractor may substitute portable or temporary mountings for post mountings for construction and maintenance signs with the approval of the Engineer.
- (10) The removal of existing traffic control devices and their replacement or relocation, if so called for in the plans, shall be considered incidental to construction, unless specified otherwise.
- (11) The location of Construction Identification Signs and Project Information Signs shall be determined in the field by the Engineer.
- (12) All painted pavement markings shown on the Construction Phasing Plans to be done by State Forces.
- (13) The Contractor is responsible for maintaining all signs in good condition for the life of the project.
- (14) Hauling of fill material over Jarrett White Bridge shall be limited to 8:30 AM to 3:00 PM and 6:30 PM to 5:30 AM on weekdays. On weekends and holidays, there will be no hauling w/o Engineer approval.
- (15) The Contractor shall maintain a minimum of four lanes of traffic on Moanalua Road (two lanes in each direction) at all times and at least one lane of traffic in each direction on all other existing roadways except as indicated in the Special Provisions. Exceptions must be approved by the Engineer.
- (16) See Landscaping Plans for phasing in relation to removal and transplanting of existing trees. All trees to be transplanted shall be removed from their existing locations prior to any construction at those locations.
- (17) The Contractor shall construct a fence around each tree to remain in place within the construction area to protect said trees from heavy construction equipment. Such fence shall be a minimum of ten (10) feet away from the trunks of said trees at their base. The required material and labor for this fence construction & removal shall be considered incidental to construction.

- (17) Continued- The Contractor shall not be permitted to operate heavy equipment within those fences except with approval of the Engineer. Said fences shall not be removed until Contractor is directed to do so by the Engineer. Said fenced areas shall not be used for storage of building materials or for any other purpose likely to damage tree roots or branches.
- (18) The Contractor shall exercise extreme caution in preserving the foliage of trees to remain in place during construction in those areas. Any damage to the foliage of such trees by construction equipment shall be repaired as directed by the Engineer at the Contractor's expense.
- (19) Unless noted otherwise on construction phasing plans, standard temporary signs installed within each phase shall be removed at end of that phase unless directed otherwise by the Engineer.

TEMPORARY DIRECTIONAL SIGNS

PULLOA ROAD
CLOSED
USE DETOUR
1000 FEET

Sign T-1 # T-10 (8'x4')
C.C.O. # 85

DETOUR
PAA
STREET

Sign T-6
(4'x8') with 20"x11 1/4"
Standard Arrow

EFFECTIVE
PULLOA ROAD
CLOSED

Sign T-12 (8'x4')

DETOUR
PULLOA
ROAD

Sign T-9 # T-11 (8'x4')
with 20"x11 1/4"
Standard Arrow

AIEA
HONOLULU

Sign T-2
(4'x8') with 20"x11 1/4"
± 13 1/16" x 8 7/16" Std. Arrows

JARRETT WHITE
ROAD CLOSED
USE DETOUR
1000 FEET

Sign T-7 (8'x4')

DETOUR TO
HONOLULU

Signs T-3, T-4, & T-5*
(4'x8') with 20"x11 1/4"
Standard Arrow

DETOUR TO
PULLOA ROAD
1000 FEET

Sign T-8 (8'x4')

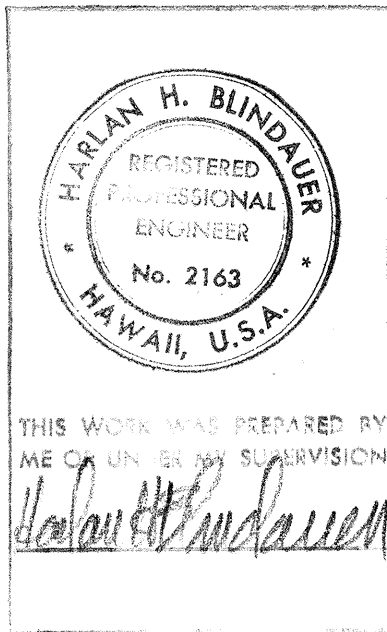
* Reverse direction of arrow
for Signs T-3 & T-5

GENERAL NOTES

- Exact location of temporary directional signs shall be determined in the field by the Engineer.
- Design of Series "E" capital letters and digits and intercharacter spacing for line messages shall meet the requirements established by the Bureau of Public Roads, U.S. Department of Commerce, in its reference guide "Standard Alphabets for Highway Signs", 1966 Edition. Revisions to sign panel layouts and/or dimensions shall be subject to the approval of the Engineer.
- Sign borders and corner radii for all sign faces detailed herein shall be 3/4 inch wide, and 4 inches respectively. Corners need not be trimmed.
- All signs shall have white reflectorized symbol messages and borders on a green reflectorized background.
- All letters shall be 6" upper case. Individual letters, numerals, symbols, and border shall be of White reflective sheeting material.
- Mounting of signs to be at the Contractors option, subject to approval by the Engineer.
- Relocation of signs, if necessary, is to be incidental to construction.
- Mounting to be incidental to sign panels.
- All materials shall conform to those specified for Construction Identification Signs. Material used for sign panels to be 3/4 inch thick waterproof Fir Plywood. Contractor may submit alternative, subject to the approval of the Engineer.

SUMMARY OF TEMPORARY REGULATORY, WARNING, CONSTRUCTION, & MAINTENANCE SIGNS			
TYPE	MESSAGE	QUANTITY	
		W/ POST	
W20-1(a)	Road Construction 1500 ft	5 *	
W20-1(b)	Road Construction 1000 ft	5 *	
W20-1(c)	Road Construction 500 ft	5 *	
W20-1(d)	Road Construction Ahead	3 *	
W20-2c	Detour 500 ft	5 *	
W20-2d	Detour Ahead	5 *	
G20-1(i)	Road Construction Next 1 Mile	4 *	
G20-2	End Construction	4 *	
R1-2	Yield	3	
W1-4(R)	(Curved Arrow)	5	
W1-4(L)	(Curved Arrow)	2	
R3-3	No Turns	2	
R3-9	(Merging Arrow)	1	
R3-10	(Double Merging Arrow)	1	
R15-1	Turn Right Any Time with Caution	1	
CW-1	Bridge under Construction	2 *	
W12-2	Low Clearance (ft in)	2	
W4-1	Merging Traffic	3	
W6-1	Divided Highway	2	
W6-2	Divided Highway Ends	2	
	* Construction Sign		
TOTAL		62	

38
24



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING
MISC. DETAILS
F.A. Proj. No. F-078-1(10)

Scale: As Noted Date: JAN 1971

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
No.	