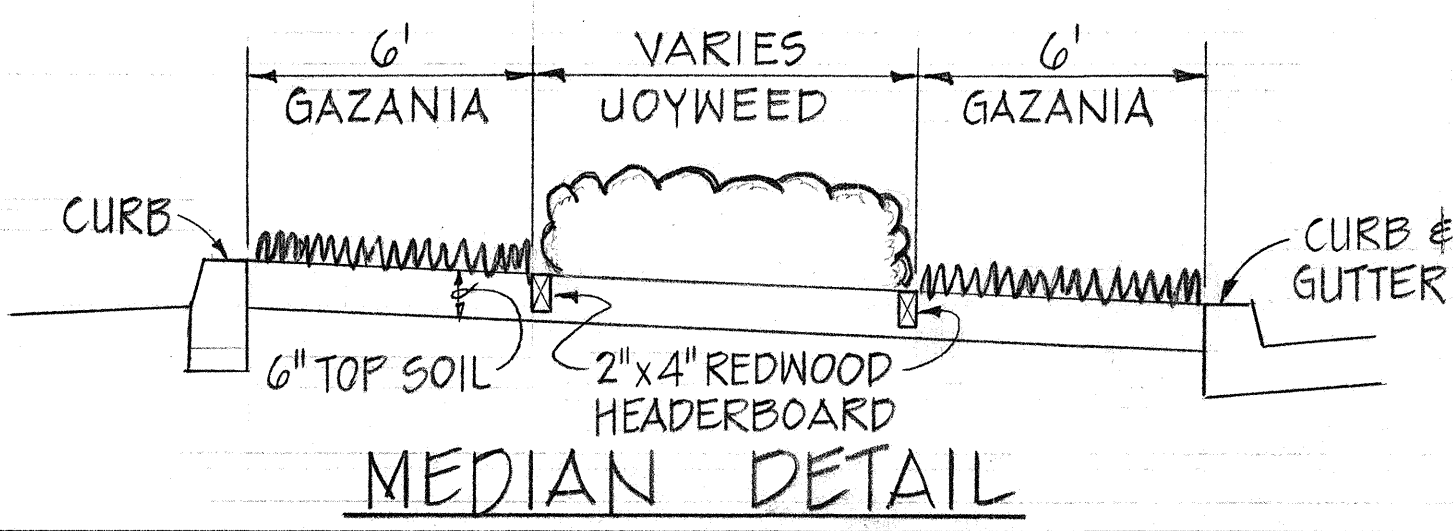
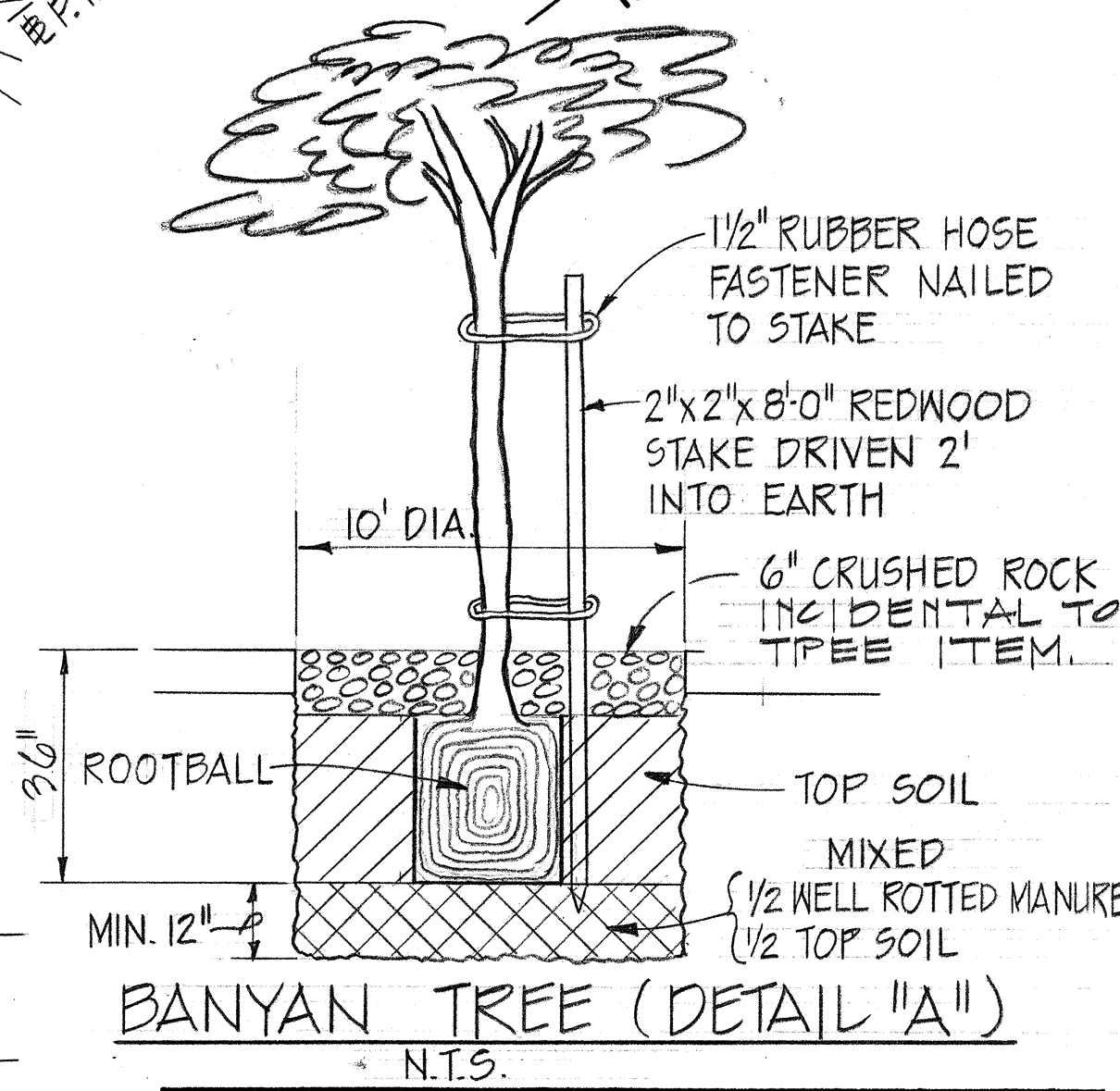
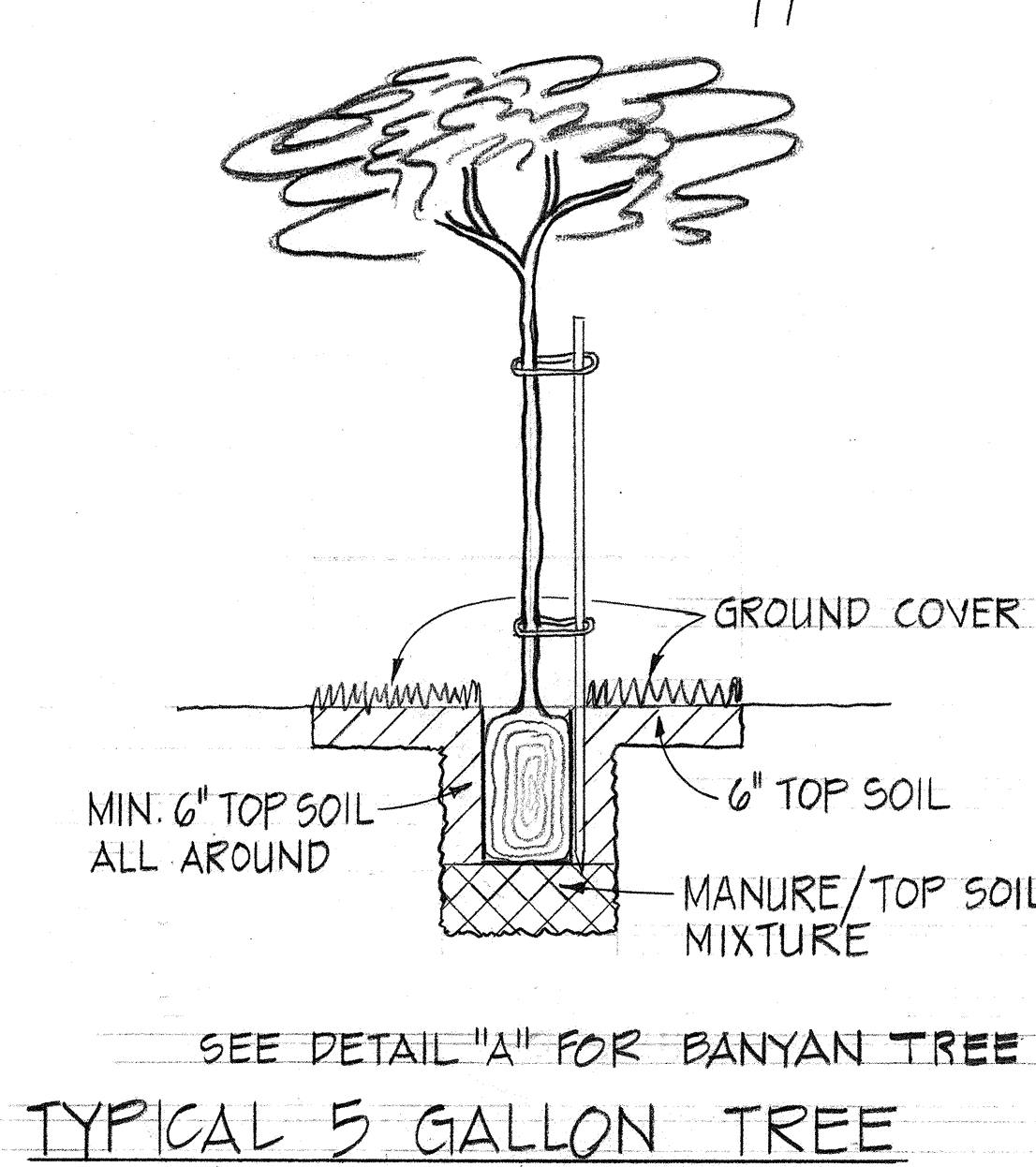
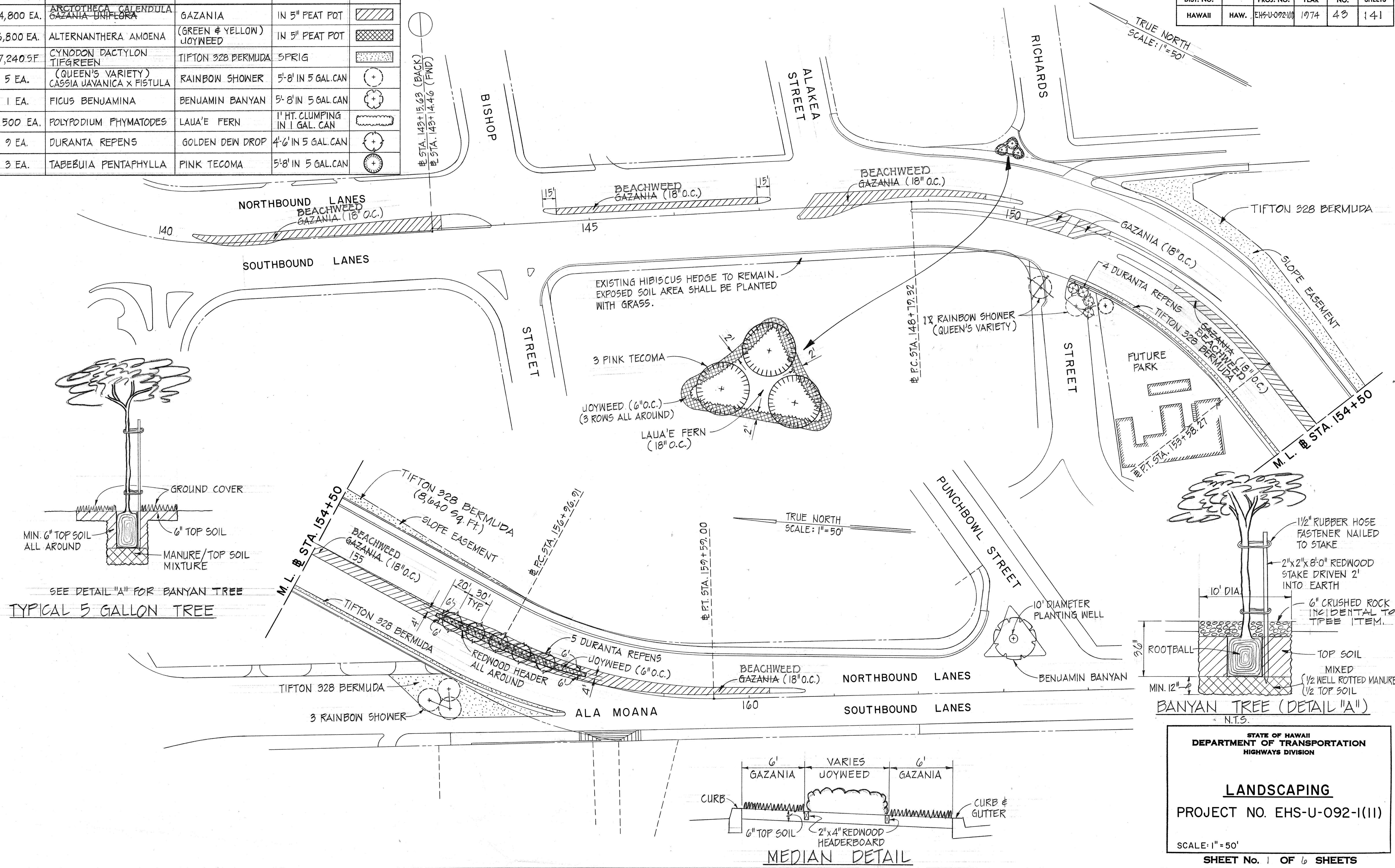


QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SYMBOL
14,800 EA.	ARCTOTHECA CALENDULA GAZANIA UNIFLORA	GAZANIA	IN 5" PEAT POT	
6,800 EA.	ALTERNANTHERA AMOENA	(GREEN & YELLOW) JOYWEED	IN 5" PEAT POT	
17,240 SF	CYNODON DACTYLON TIFGREEN	TIFTON 328 BERMUDA	SPRIG	
5 EA.	(QUEEN'S VARIETY) CASSIA JAVANICA x FISTULA	RAINBOW SHOWER	5'-8" IN 5 GAL. CAN	
1 EA.	FICUS BENJAMINA	BENJAMIN BANYAN	5'-8" IN 5 GAL. CAN	
1,500 EA.	POLYPODIUM PHYMATODES	LAUA'E FERN	1" HT. CLUMPING IN 1 GAL. CAN	
9 EA.	DURANTA REPENS	GOLDEN DEW DROP	4'-6" IN 5 GAL. CAN	
3 EA.	TABEBOIA PENTAPHYLLA	PINK TECOMA	5'-8" IN 5 GAL. CAN	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EHS-U-092-1(11)	1974	43	141



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPING

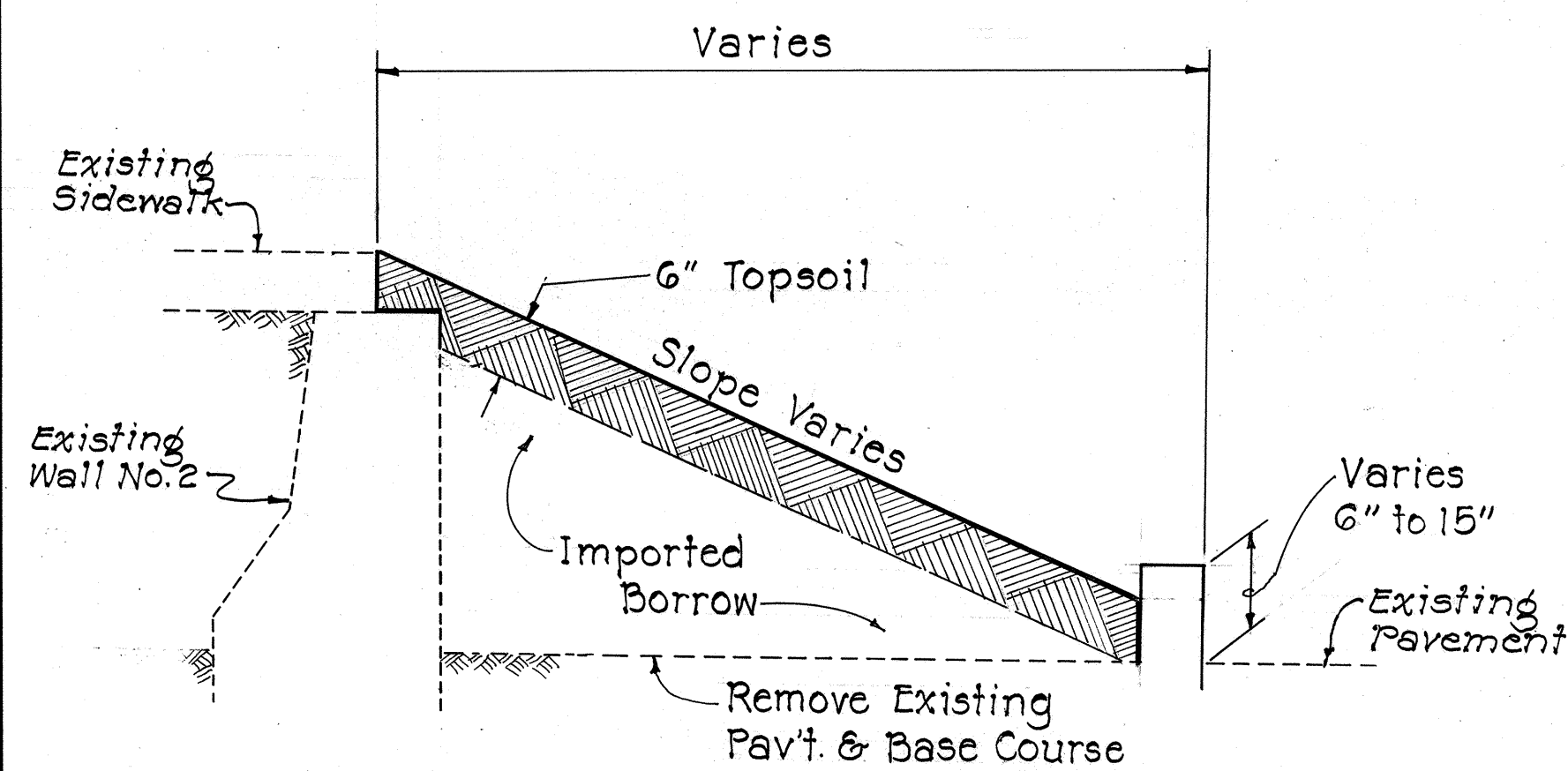
PROJECT NO. EHS-U-092-1(11)

SCALE: 1" = 50'

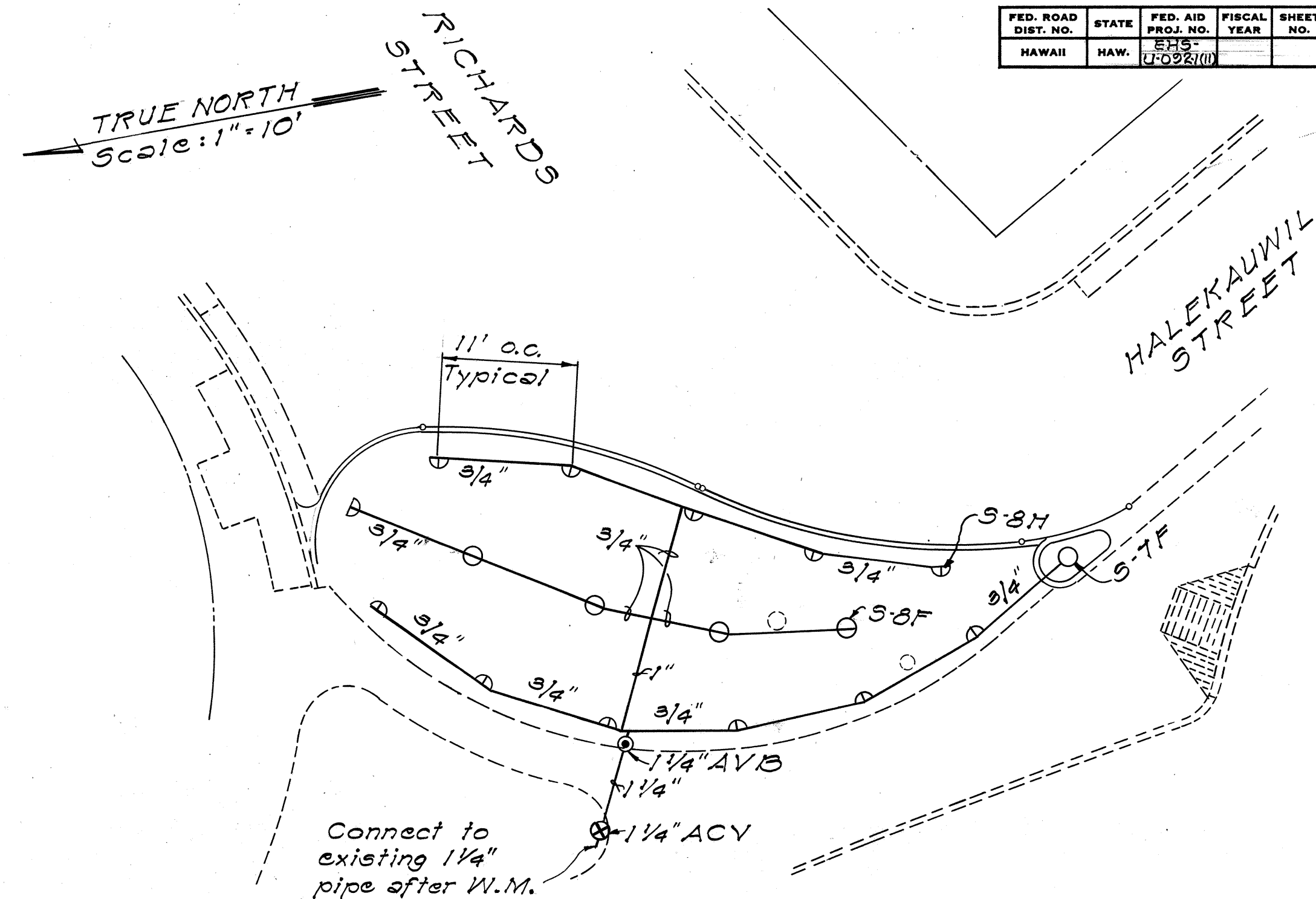
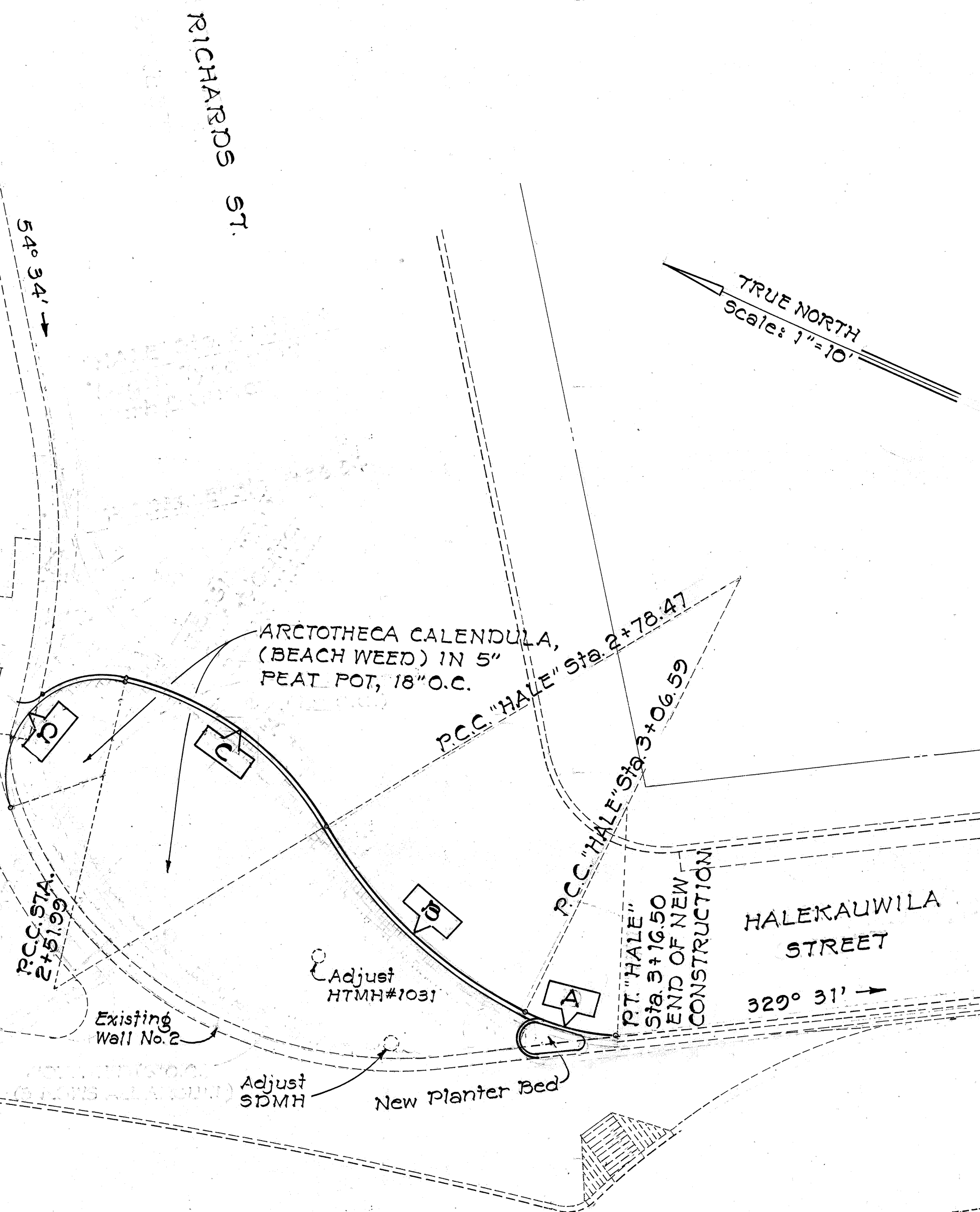
SHEET No. 1 OF 6 SHEETS

DATE	
DESIGNED BY	
CHECKED BY	
NO.	

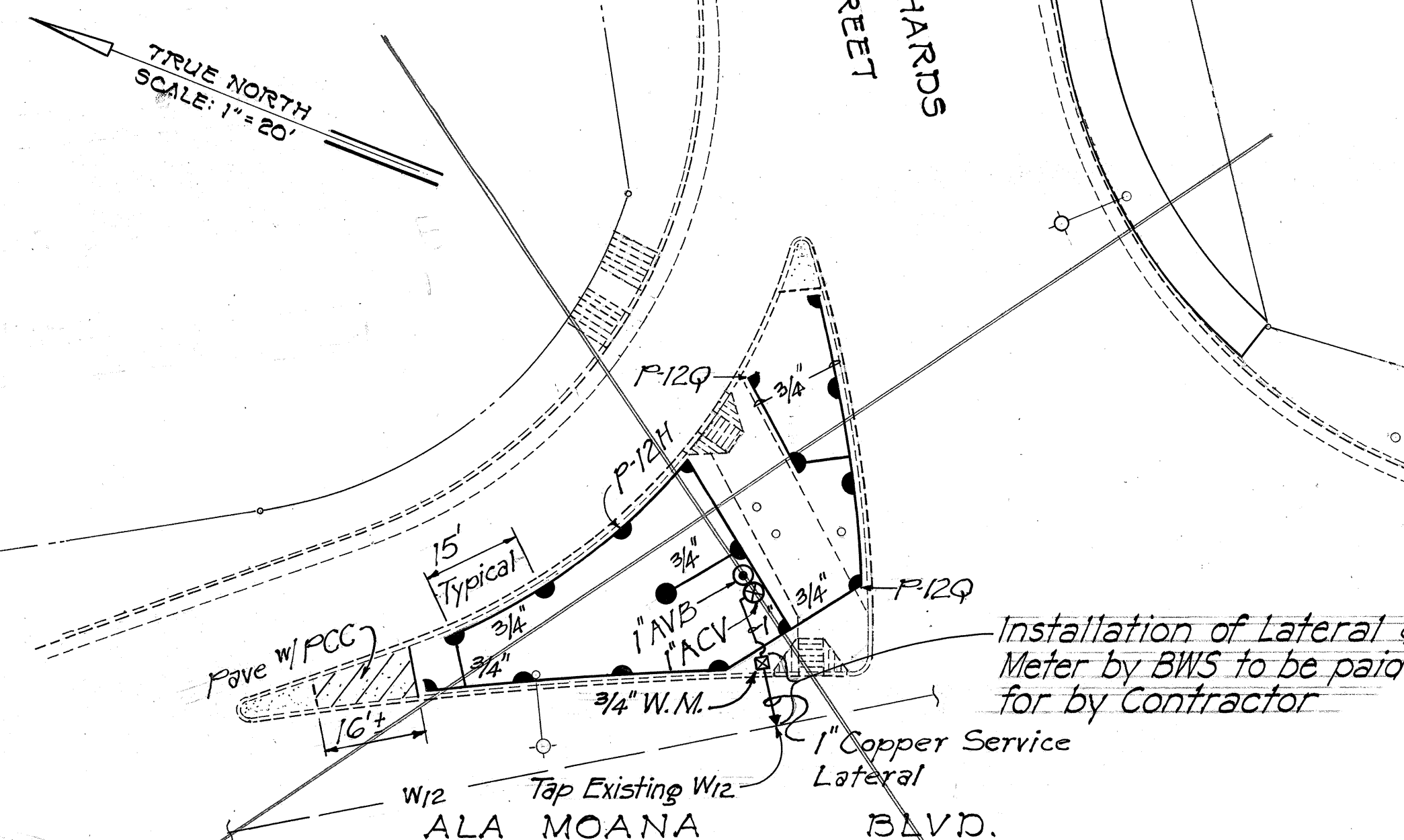
SECTION "A-A"
Scale: 3/4"=1'-0"



	CURVE DATA			
	A	B	C	D
Δ	23° 40' 00"	32° 13' 20"	46° 26' 16"	123° 43' 52"
Δ/2	11° 50' 00"	16° 06' 40"	23° 13' 08"	61° 51' 56"
R	24.00	50.00	32.67	10.00
T	5.03	14.44	14.02	18.70
C	9.84	27.75	25.76	17.64
LC	9.91	28.12	26.48	21.60



**SPRINKLER SYSTEM AT
RICHARDS STREET AND HALEKAUWILA STREET**



**SPRINKLER SYSTEM AT
RICHARDS STREET AND ALA MOANA BLVD.**

NOTES:

1. Atmospheric Vacuum Breakers shall be installed 6" above the highest sprinkler.
2. Water connection to main shall be supervised by B.W.S. Construction Inspector. Ph. 548-5205 or 548-5206

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
MODIFICATION TO
LANDSCAPING AT WALL #2
AND NEW SPRINKLER SYSTEM
PROJ. NO. EHS-U-092-1(II)
SCALE: 1"=10'

SHEET NO. OF SHEETS

413A

SURVEY PLOTTED BY: DATE: _____
DRAWN BY: _____
DESIGNED BY: _____
NOTE BOOK: _____
CHECKED BY: _____
No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EHS-U-002-1(11)	1974	44	141

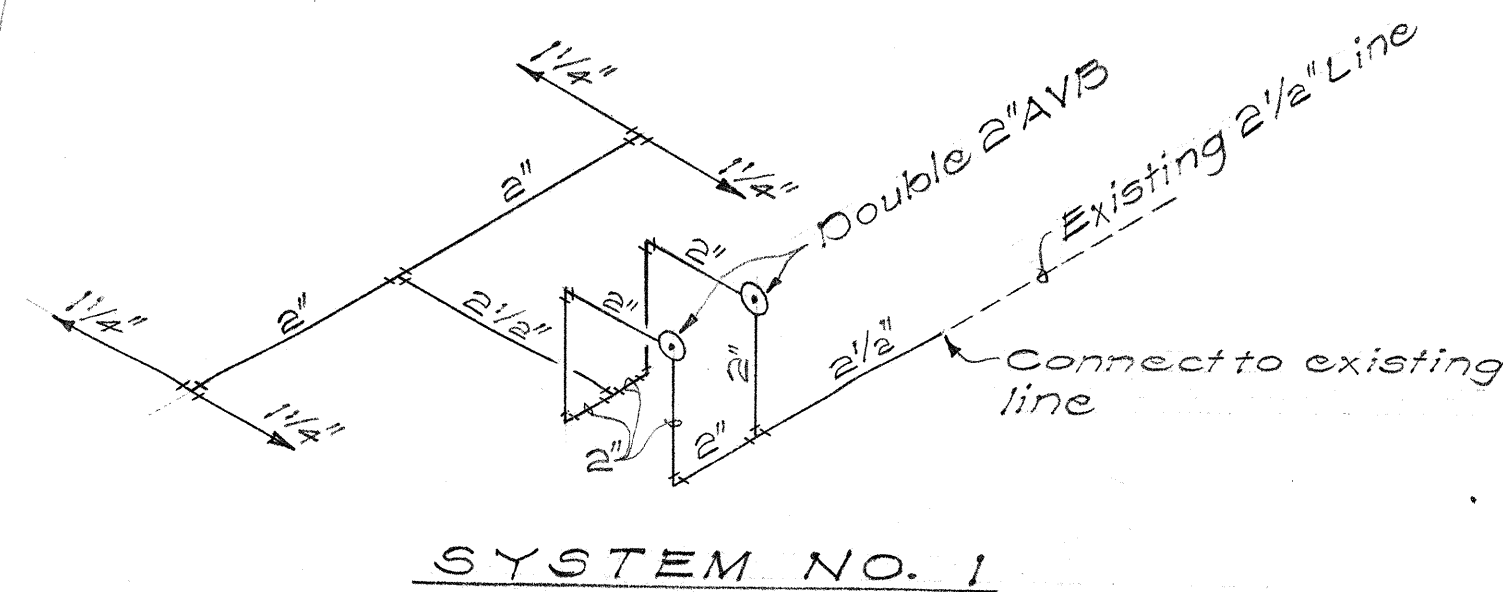
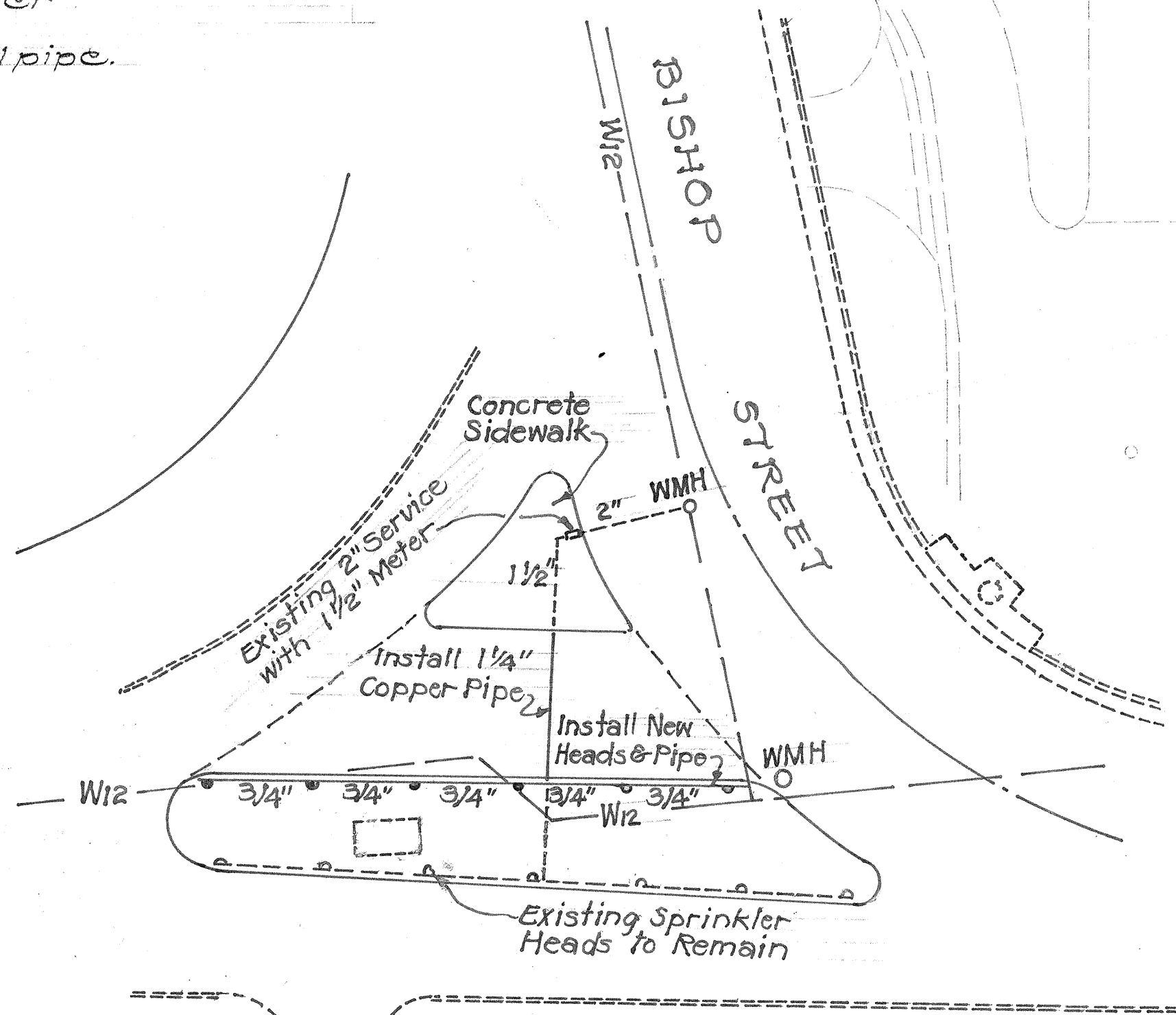
LEGEND AND SPRINKLER HEAD SPECIFICATIONS						
TYPE	SYMBOL	DESCRIPTION	PRESSURE	COVERAGE	FLOW	RISER
S-7Q	▽	Shrubbery Sprinkler, Quarter Circle	15	7' Radius	0.8	1/2" I.P.S.
S-7H	△	Shrubbery Sprinkler, Half Circle	15	7' Radius	1.0	1/2" I.P.S.
S-7F	○	Shrubbery Sprinkler, Full Circle	15	7' Radius	1.8	1/2" I.P.S.
S-8Q	▽	Shrubbery Sprinkler, Quarter Circle	20	8' Radius	1.0	1/2" I.P.S.
S-8H	△	Shrubbery Sprinkler, Half Circle	20	8' Radius	1.2	1/2" I.P.S.
S-8F	○	Shrubbery Sprinkler, Full Circle	20	8' Radius	2.1	1/2" I.P.S.
P-12Q	▽	Lawn Sprinkler, Quarter Circle, Pop-Up	20	12' Radius	1.8	1/2" I.P.S.
P-12H	△	Lawn Sprinkler, Half Circle, Pop-Up	20	12' Radius	2.5	1/2" I.P.S.
P-12F	○	Lawn Sprinkler, Full Circle, Pop-Up	20	12' Radius	3.0	1/2" I.P.S.
	⊠	Water Meter and Meter Box				
	⊞	Valve and Valve Box				
AVB	⊙	Atmospheric Vacuum Breaker				
ACV	⊗	Angle Control Valve w/Type A Valve Box				

SPRINKLER HEAD SPECIFICATION NOTES:
1. "PRESSURE" is the operating pressure in pounds per square inch. This value must not be exceeded when operating at the tabulated flow and radius.
2. "COVERAGE" is the minimum radius at the tabulated pressure.
3. "FLOW" is the maximum flow, in gallons per minute, which is discharged at the tabulated pressure.

- GENERAL NOTES:
- Final location of Meter, Valves and Vacuum Breakers shall be determined by the Engineer.
 - The Contractor shall co-ordinate his work with B.W.S. prior to commencing work on water main.
 - When the consumers water service will be interrupted the Contractor shall notify each consumer and the B.W.S. concerning the time and the duration of the shut down.
 - Parallel sprinkler lines shall be laid in a common trench where possible.
 - For PVC pipe use Sch. 40 or Sch 80 pipe. Minimum cover shall be 8 inches for solvent weld joints and 18 inches for push on type joints.
 - Pipe 4" in diameter and larger shall be cast iron installation and shall be in accordance with the requirements of Section 624, Water System of the Standard Specification.
 - For all pipes 3" and larger provide concrete reaction blocks at bends and tees before the control valves.
 - Atmospheric Vacuum Breakers shall be installed 6" above the highest sprinkler head and on the discharge side of the valve for the battery of sprinklers served.
 - Before laying sprinkler lines, the contractor shall determine if there are any utilities in the way and route sprinkler lines around or keep clear of the utilities.
 - Sprinkler heads shall be installed with screens in the riser or base of the sprinkler head as recommended by the manufacturer. (cost shall be incidental to sprinkler head installation)
 - Above ground sprinkler lines shall be galvanized steel pipe.

ESTIMATED QUANTITIES

BWS Service Connection	12 F.A.
Structure Excavation	250 C.Y.
1 1/2" Copper Pipe	45 L.F.
2" Copper Pipe	95 L.F.
2 1/2" Copper Pipe	80 L.F.
3" Copper Pipe	55 L.F.
1/2" Galv. Steel Pipe, Copper Pipe or PVC Pipe	340 L.F.
3/4" Galv. Steel Pipe, Copper Pipe or PVC Pipe	1800 L.F.
1" Galv. Steel Pipe, Copper Pipe or PVC Pipe	1400 L.F.
1 1/4" Galv. Steel Pipe, Copper Pipe or PVC Pipe	1280 L.F.
1 1/2" Galv. Steel Pipe, Copper Pipe or PVC Pipe	370 L.F.
2" Galv. Steel Pipe, Copper Pipe or PVC Pipe	240 L.F.
2 1/2" Galv. Steel Pipe, Copper Pipe or PVC Pipe	130 L.F.
3" Galv. Steel Pipe, Copper Pipe or PVC Pipe	410 L.F.
P-12 (Q, H, and F) Lawn Sprinkler	124 Ea.
S-8 (Q, H, and F) Shrubbery Sprinkler	188 Ea.
S-7 (Q, H, and F) Shrubbery Sprinkler	159 Ea.
1 1/4" Angle Control Valve with Type A Valve Box	1 Ea.
1 1/2" Angle Control Valve with Type A Valve Box	1 Ea.
2" Angle Control Valve with Type A Valve Box	6 Ea.
2 1/2" Angle Control Valve with Type A Valve Box	3 Ea.
3" Angle Control Valve with Type A Valve Box	2 Ea.
4" Shut-off Valve with Type A Valve Box	1 Ea.
1 1/4" Atmospheric Vacuum Breaker	3 Ea.
1 1/2" Atmospheric Vacuum Breaker	3 Ea.
2" Atmospheric Vacuum Breaker	14 Ea.



12-74 Revised Estimated Quantity for "BWS Service Connection."

DATE REVISION

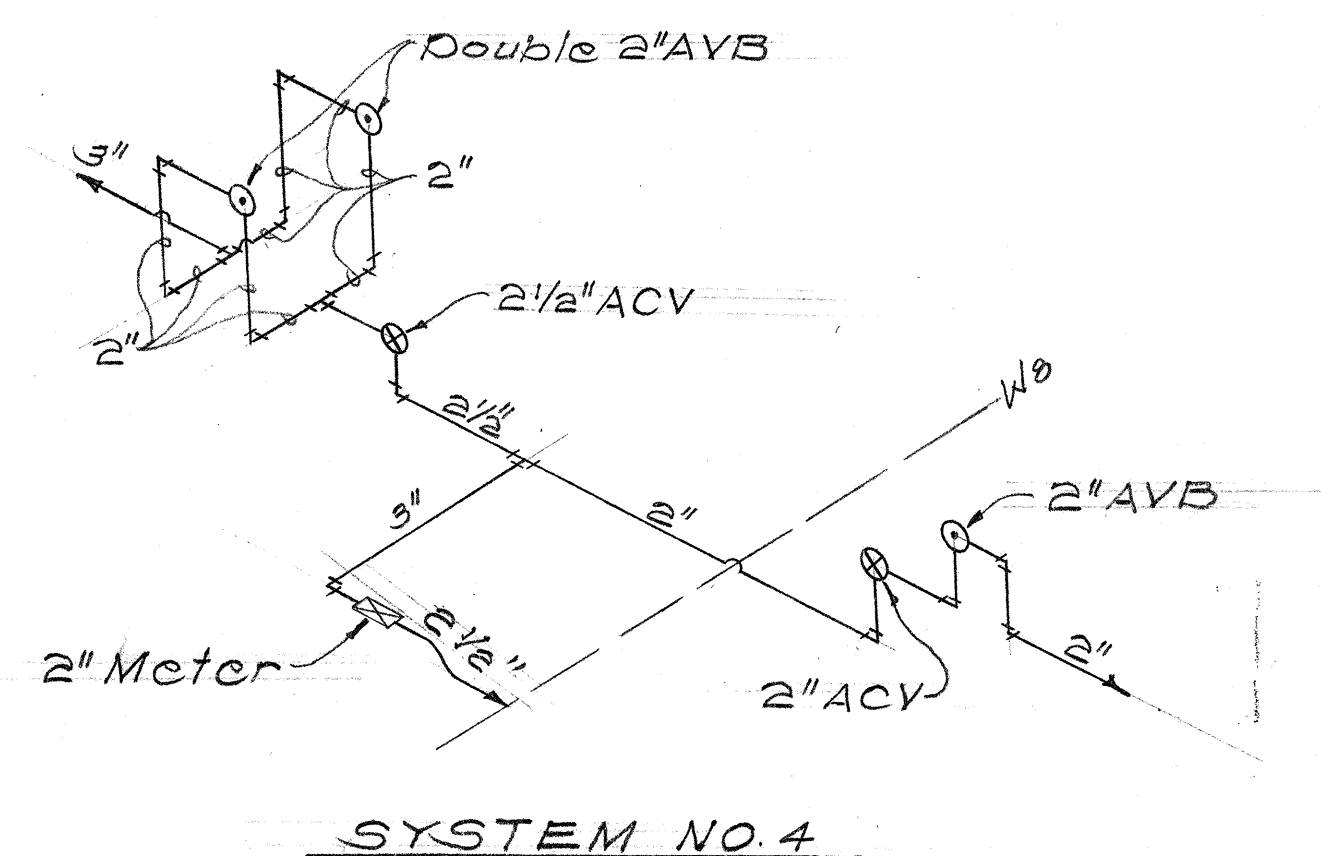
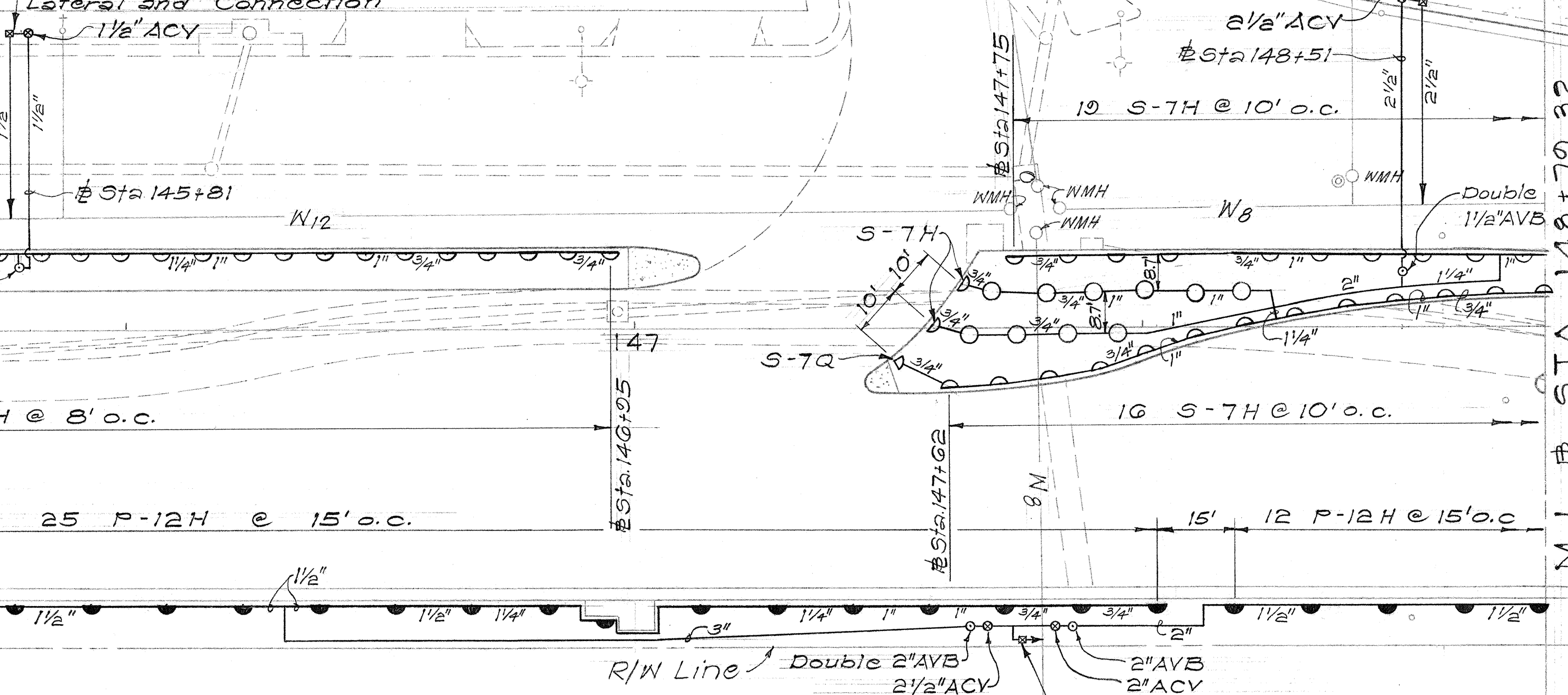
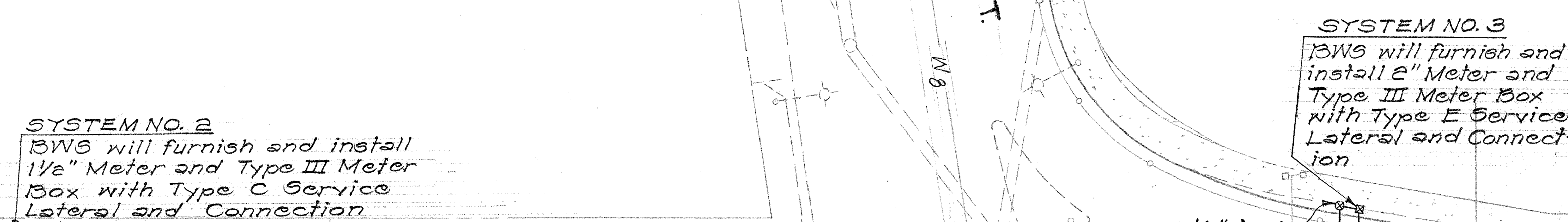
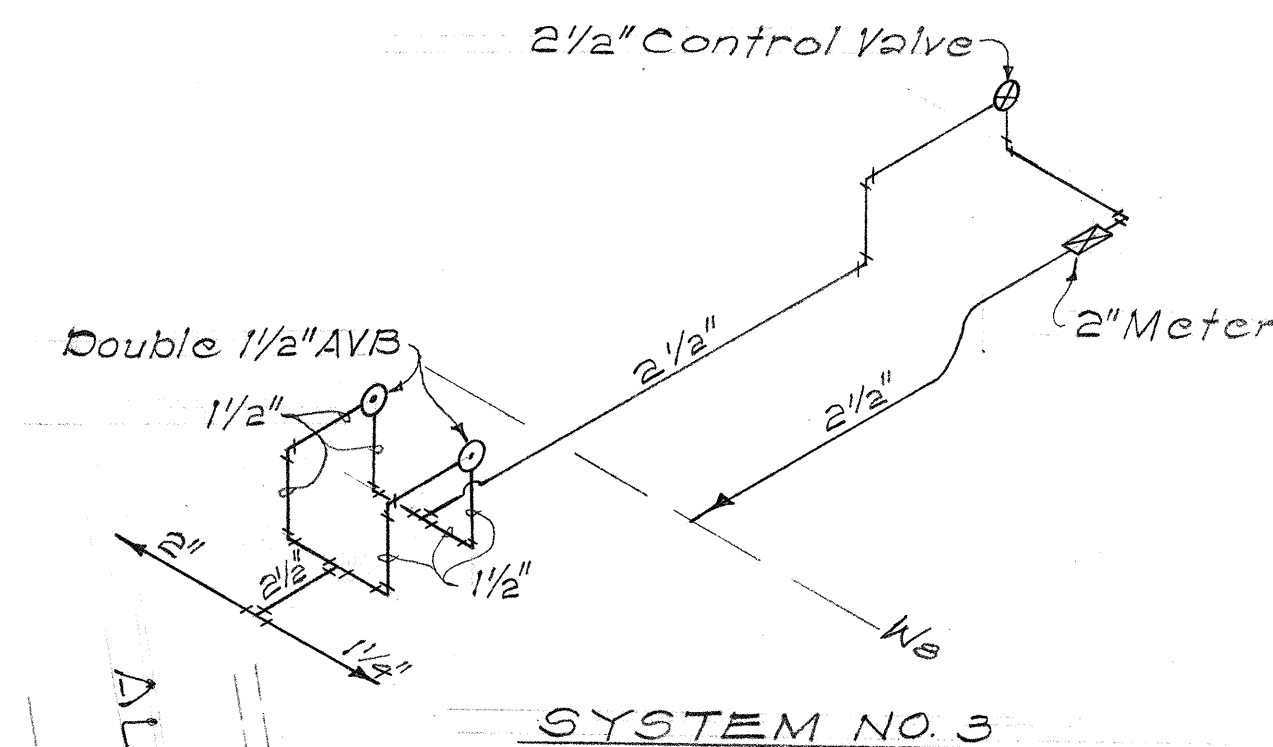
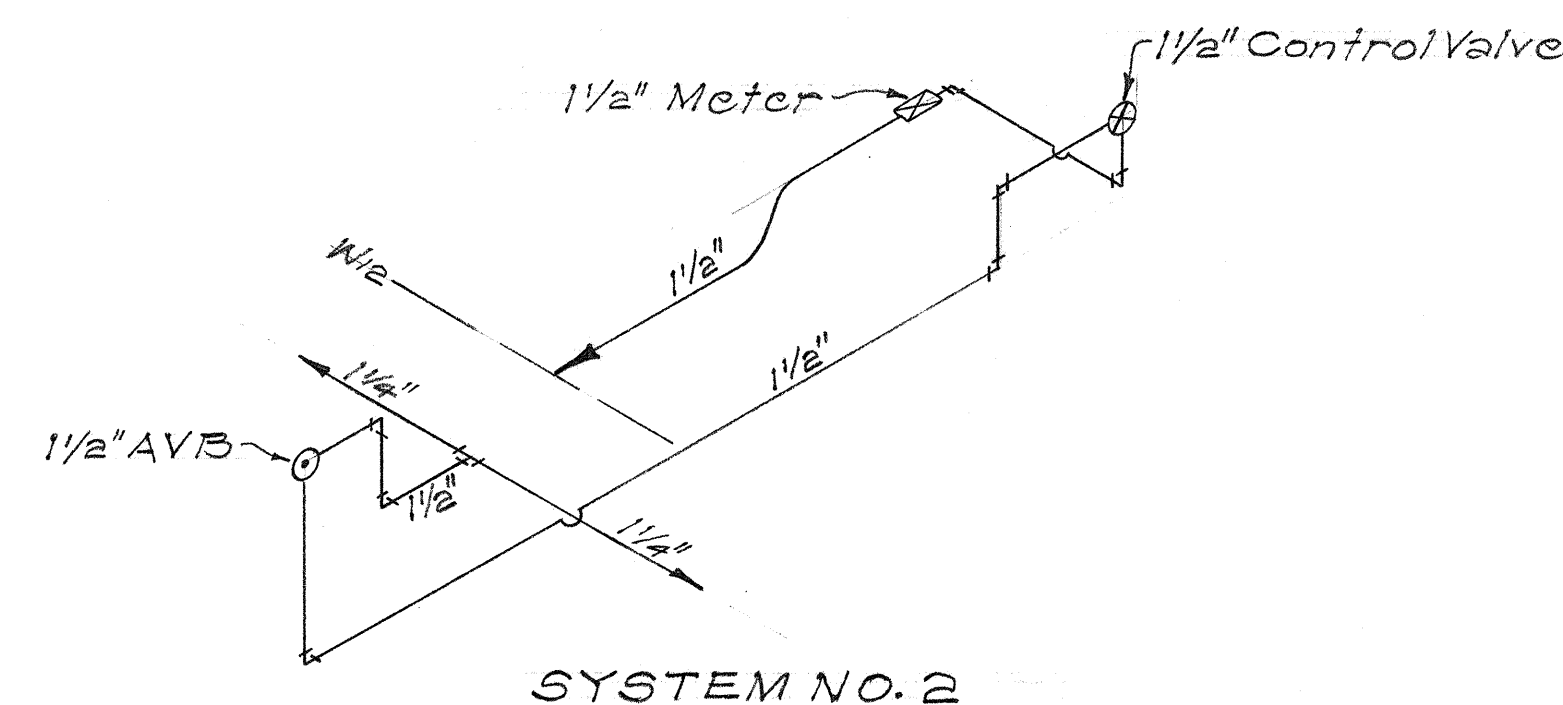
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER PLAN
Sta. 140+00 to Sta. 142+50
NIMITZ HIGHWAY
Punchbowl St. to Bishop St.
EHS-U-002-1(11)
Scale: 1" = 20' Date: Dec. 1973

SHEET No. 2 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EA5-U-092 -1(11)	1974	45	141

TRUE NORTH
Scale: 1" = 20'

BEG. OF PROJ. EHS-U-092-1(11)
 \$ STA. 143+15.63 (BACK) 
 \$ STA. 143+14.46 (FWD.) 



18-2-74	Revised Construction notes for Systems Nos. 2, 3 & 4
DATE	REVISION

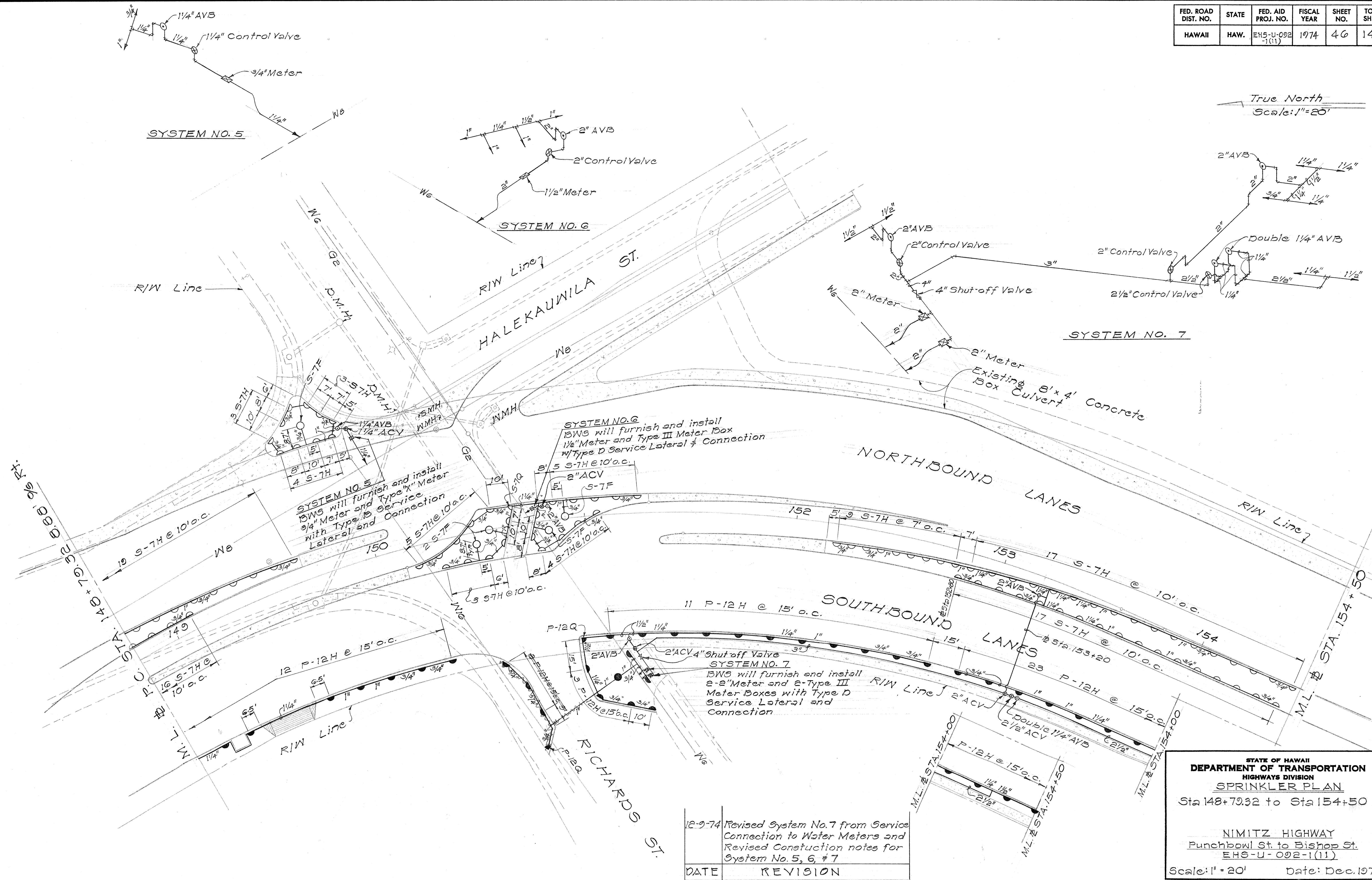
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER PLAN
Sta 142+50 to Sta 148+79.32

NIMITZ HIGHWAY
Punchbowl St. to Bishop St.
EHS-U-092-1(1)
Scale: 1" = 20' Date: Dec 19

SHEET No. 3 OF 10 SHEETS

13 DD 45

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	EHS-U-092-1(11)	1974	46	141



DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	

12-9-74	Revised System No. 7 from Service Connection to Water Meters and Revised Construction notes for System No. 5, 6, & 7
DATE	REVISION

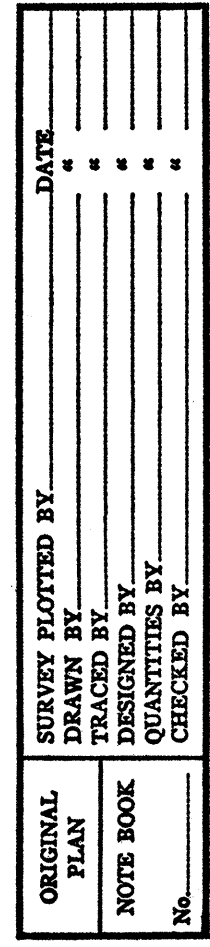
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPRINKLER PLAN
Sta 148+79.32 to Sta 154+50

NIMITZ HIGHWAY
Punchbowl St. to Bishop St.
EHS-U-092-1(11)
Scale: 1" = 20' Date: Dec. 1973
SHEET No. 4 OF 6 SHEETS



TRUE NORTH

Scale: 1" = 20'



ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 01-09-2010 BY 60322
FNS-01-092-100

