

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7400A-01-78	1978	2	8

¢ CURVE DATA

$\Delta = 38^{\circ}30'$
 $\Delta/2 = 19^{\circ}15'$
 $R = 1209.86'$
 $T = 666.95'$
 $Ch = 1259.33'$
 $Lc = 1283.33'$

TRUE NORTH
SCALE: 1"=20'

17
 STA. III+02 LT.
 Construct: Type "D" SDMH

ESTIMATED QUANTITIES

Structure Excavation = 9 C.Y.
 Class "B" Concrete = 1 C.Y.
 Reinforcing Steel = 40 Lbs.
 Brickwall for SDMH = 45 L.F.
 Type "A" C.I. Frame & Cover = 1 Ea.

Sta. III+02 Lt.

Connect 24" Culvert

Sta. III+02 Lt.

Type "D" SDMH

Inv. -34.4

Connect existing

culvert to SDMH

Cut existing pipe flush

w/inside face of SDMH

Install
24" Culvert

Existing culvert

Demolish and remove existing structure

Existing HECO Conc.
 Encased Duct Line

GENERAL NOTES

1. The demolishing and removal of all existing structures shall not be paid for separately, but shall be considered incidental to the various contract items.
2. Portions of headwall and wingwall which are to be removed shall be cut to a depth of one and one-half inches below the surrounding ground level with a power drive abrasive saw. Above work shall be considered incidental to the various contract items.
3. The concrete gutter apron shall not be paid by the linear foot. It shall be considered part of the catch basin.
4. The Contractor shall verify the locations of all culverts in the field. Any culvert damaged during construction shall be repaired or replaced by the Contractor at his expense.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

PLAN

KALANIANA'OLE HIGHWAY
 DRAINAGE IMPROVEMENTS
 LUNALILO HOME RD. TO HAWILIWILI ST.

PROJ. NO. 7400A-01-78

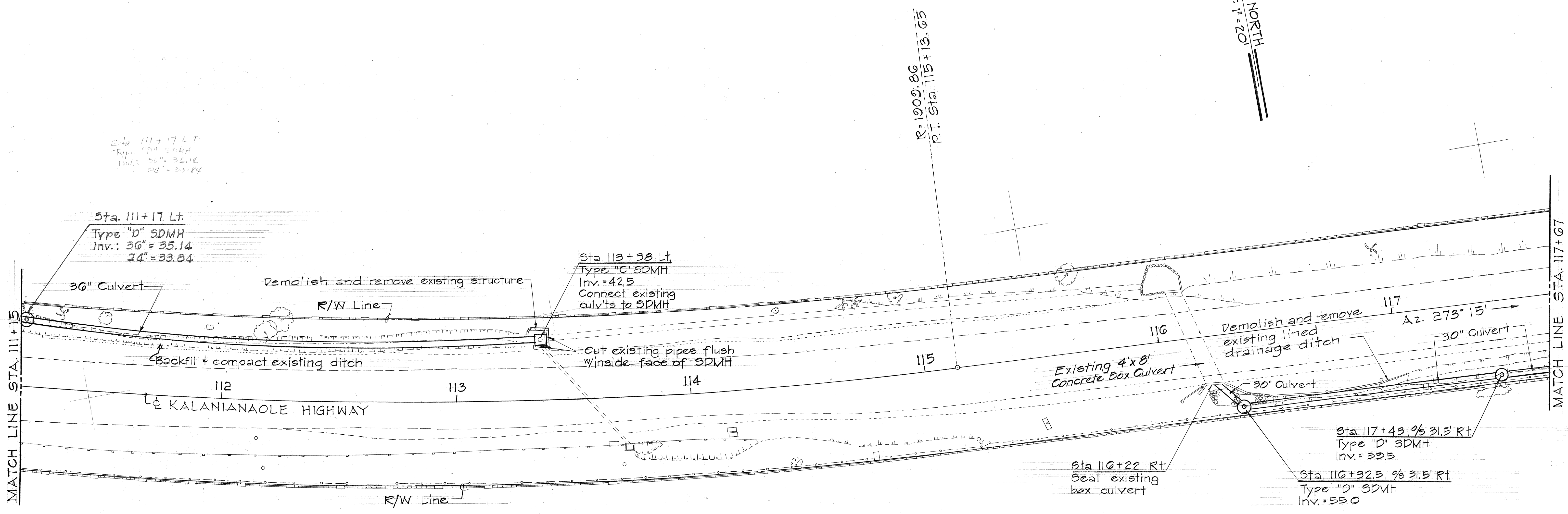
SCALE: 1"=20' DATE: OCT. 1978

SHEET NO. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7400A-01-78	1978	3	8

Δ = 38°30'
 Δ/2 = 19°15'
 R = 1909.86'
 T = 666.95'
 Ch = 1259.33'
 Lc = 1283.33'

TRUE NORTH
 SCALE: 1"=20'



STA. 113+38 LT.
 Construct: Type "C" SDMH
 Install: 36" Culvert

ESTIMATED QUANTITIES

Structure Excavation	= 197 C.Y.
Class "A" Concrete	= 4 C.Y.
Reinforcing Steel	= 226 Lbs.
Type "A" C.I. Frame & Cover	= 1 Ea.
36" CMP, Sht. "t"=0.079 inch or	
36" RCP, Cl. III or	
36" ACP, Cl. III	= 236 L.F.

STA. 116+32.5, 9/32 31.5 RT.
 Construct: Type "D" SDMH
 Install: 30" Culvert

ESTIMATED QUANTITIES

Structure Excavation	= 17 C.Y.
Class "B" Concrete	= 1 C.Y.
Reinforcing Steel	= 40 Lbs.
Brickwall for SDMH	= 4 L.F.
Type "A" C.I. Frame & Cover	= 1 Ea.
30" CMP, Sht. "t"=0.079 inch or	
30" RCP, Cl. III or	
30" ACP, Cl. III	= 15 L.F.

STA. 117+43, 9/32 31.5 RT.
 Construct: Type "D" SDMH
 Install: 30" Culvert

ESTIMATED QUANTITIES

Structure Excavation	= 78 C.Y.
Class "B" Concrete	= 1 C.Y.
Reinforcing Steel	= 40 Lbs.
Brickwall for SDMH	= 4 L.F.
Type "A" C.I. Frame & Cover	= 1 Ea.
30" CMP, Sht. "t"=0.079 inch or	
30" RCP, Cl. III or	
30" ACP, Cl. III	= 108 L.F.

STA. 116+22 ± RT.
 Construct: Seal Box Culvert
 Entrance (For Details,
 see sht. no. 5)

ESTIMATED QUANTITIES

Class "A" Concrete	= 20 C.Y.
Reinforcing Steel	= 90 Lbs.

STATE OF HAWAII
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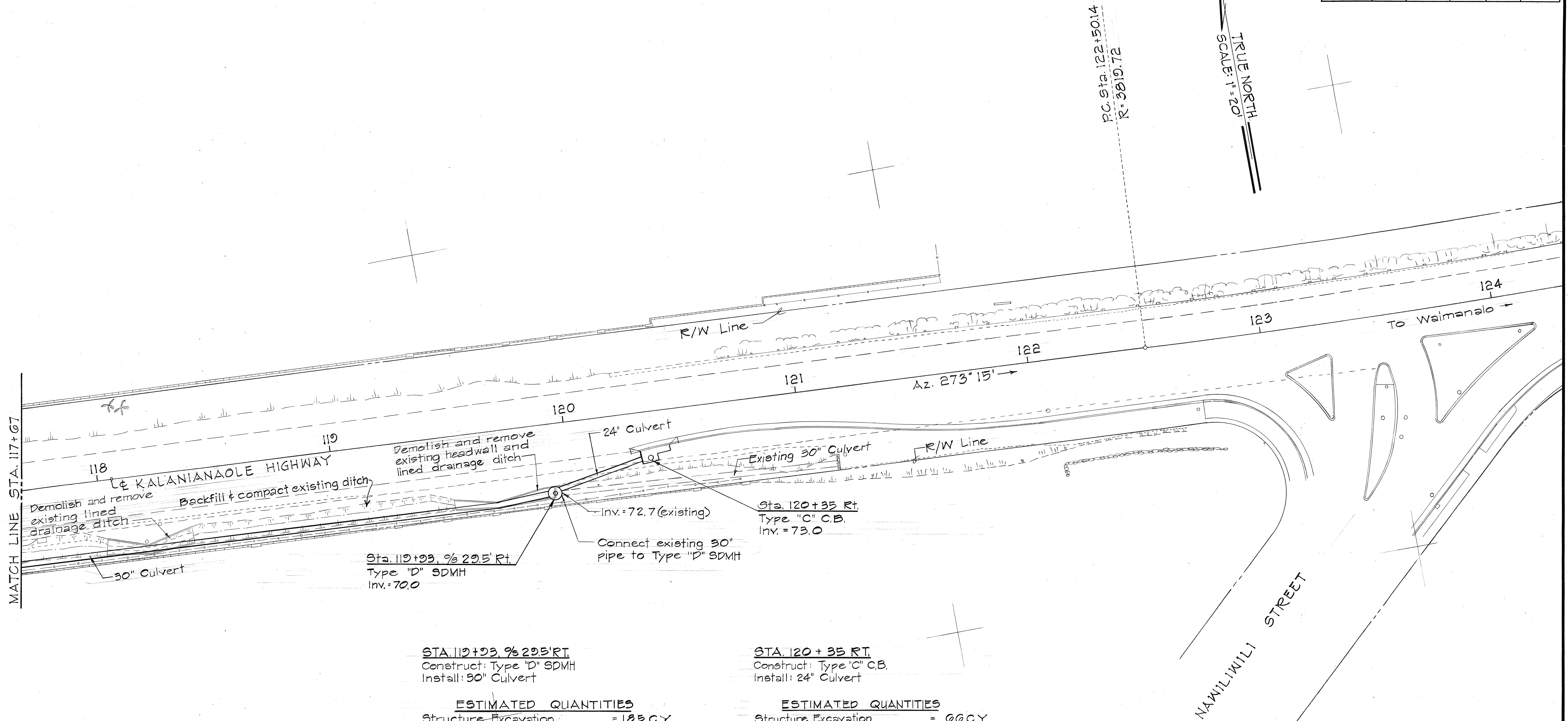
PLAN
 KALANIANA'OLE HIGHWAY
 DRAINAGE IMPROVEMENTS
 LUNALILO HOME RD. TO NAWILIWILI ST.
 PROJ. NO. 7400A-01-78
 SCALE: 1"=20' DATE: OCT. 1978
 SHEET NO. 2 OF 3 SHEETS

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTED 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.	7400A-01-78	1978	4	8

TRUE NORTH
SCALE: 1"=20'

MATCH LINE STA. 117+67



Demolish and remove existing lined drainage ditch
Backfill & compact existing ditch
24" Culvert
Existing 30" Culvert
R/W Line
Sta. 119+33, 9% 29.5' Rt.
Type "D" SDMH
Inv. = 70.0
Inv. = 72.7 (existing)
Connect existing 30" pipe to Type "D" SDMH

STA. 119+33, 9% 29.5' RT.
Construct: Type "D" SDMH
Install: 30" Culvert

ESTIMATED QUANTITIES
Structure Excavation = 183 C.Y.
Class "B" Concrete = 1 C.Y.
Reinforcing Steel = 40 Lbs.
Brickwall for SDMH = 6 L.F.
Type "A" C.I. Frame & Cover = 1 Ea.
30" CMP, Sht. "H" = 0.079 inch or
30" RCP, Cl. III or
30" ACP, Cl. III = 246 L.F.

STA. 120+35 RT.
Construct: Type "C" C.B.
Install: 24" Culvert

ESTIMATED QUANTITIES
Structure Excavation = 66 C.Y.
Class "A" Concrete = 6 C.Y.
Reinforcing Steel = 108 Lbs.
Type "B" C.I. Frame & Cover = 1 Ea.
24" CMP, Sht. "H" = 0.079 inch or
24" RCP, Cl. III or
24" ACP, Cl. III = 40 L.F.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

PLAN

KALANIANA'OLE HIGHWAY
DRAINAGE IMPROVEMENTS
LUNALILO HOME RD. TO NAWILIWILI ST.

PROJ. NO. 7400A-01-78
SCALE: 1"=20' DATE: OCT. 1978
SHEET NO. 3 OF 3 SHEETS