

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-F-080-1(5)	1980	110	123

M.L. STA. 80+50

AVENUE

True North

W.L. Sta. 0+00
 # Sta. 81+67± Rt.
 Connect to existing 6" Main
 1-6" 1/8 Bend
 1-6" Sleeve 12" Long
 10 L.F. 6" D.I. Pipe Cl. 52
 1-Conc. Block w/Straps

W.L. Sta. 0+8.77
 # Sta. 81+63.72± Rt.
 1-6" 1/8 Bend
 1-Conc. Block

FOR WATER LINE PROFILE
 SEE SHT. NO. 113

Adjust WM Box Frame & Cover, and connect to new 6" Watermain
 1-Valve Box (Reuse exist'g Fr. & Cov.)
 1-4" Valve
 1-6" x 6" x 4" Tee
 1-Conc. Block
 12 L.F. 4" D.I. Pipe, Cl. 52

W.L. Sta. 0+15.77
 # Sta. 81+63.72 Rt.
 1-6" x 6" x 6" Tee
 7 L.F. 6" D.I. Pipe Cl. 52
 1-Conc. Block
 1-Temporary Cleanout with M.J. Cap and appurtenances for testing.

Sta. 81+73 Rt.
 Connect to existing 2" Main
 1-6" Double Hub Fitting Tapped for 1 1/2" x 2" Corp.
 1-2" Gate Valve
 1-Valve Box
 21 L.F. 2" Copper Pipe

Sta. 82+20 Rt.
 1-6" x 6" x 6" Tee
 1-6" GV Cl. 150
 2-Reaction Blocks
 14 L.F. 6" D.I. Pipe Cl. 52
 1-Fire Hydrant
 1-Valve Box

Sta. 81+85 Rt.
 1-6" GV Cl. 150
 1-Valve Box
 traffic lt.

5 lb. Anode by GASCO

Excavate and backfill 445 L.F. of Trench for Installation of 2" Gas Line 3' minimum cover (Gas Trench Detail Sht 113)

Adjust WM Box and WM Box and replace existing galvanized service lateral with new 1 1/4" Copper Service Lateral (B)

5 lb. Anode by GASCO

Sta. 84+30 Lt.
 Relocate Fire Hydrant from # Sta. 84+42 Lt.
 1-Fire Hydrant (Relocated)
 1-6" x 6" Tapping Tee w/6" Tapping Valve Cl. 150
 1-Valve Box
 4-Conc. Blocks
 3-6" 1/4 Bend
 35 L.F. 6" D.I. Pipe Cl. 52

Sta. 84+42 Lt.
 Cut & Plug to remove existing Fire Hydrant
 1-6" Plug
 1-6" Hub Clamp with strong back
 1-Conc. Block
 1-Demolish Existing Manhole

Adjust WM Box and replace existing galvanized service lateral with new 1 1/4" Copper Service Lateral (B)

Adjust WM Boxes

5 lb. Anode by GASCO

Adjust WM Box

Remove WM Box & Cut & Plug at Main

Excavate and backfill 66 L.F. of Trench for Installation of 3/4" Gas Line 3' minimum cover

PC Sta. 85+25.53, 9/8 26' Rt. Deflect Line

Excavation and backfill 63 L.F. of Trench for Installation of 3/4" Gas Line 3' minimum cover

Remove WM Box & Cut & Plug at Main

5 lb. Anode by GASCO

Adjust WM Boxes & connect to new 6" Watermain with new 1" Copper Service Laterals (A)

Adjust WM Box & connect to new 6" Watermain with new 1 1/4" Copper Service Lateral (B)

Adjust WM Box Frame & Cover, and WM Box, and connect to new 6" Watermain with new 2" Copper Service Lateral (D) 1-6" Double Hub Fitting

M.L. STA. 86+50

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	

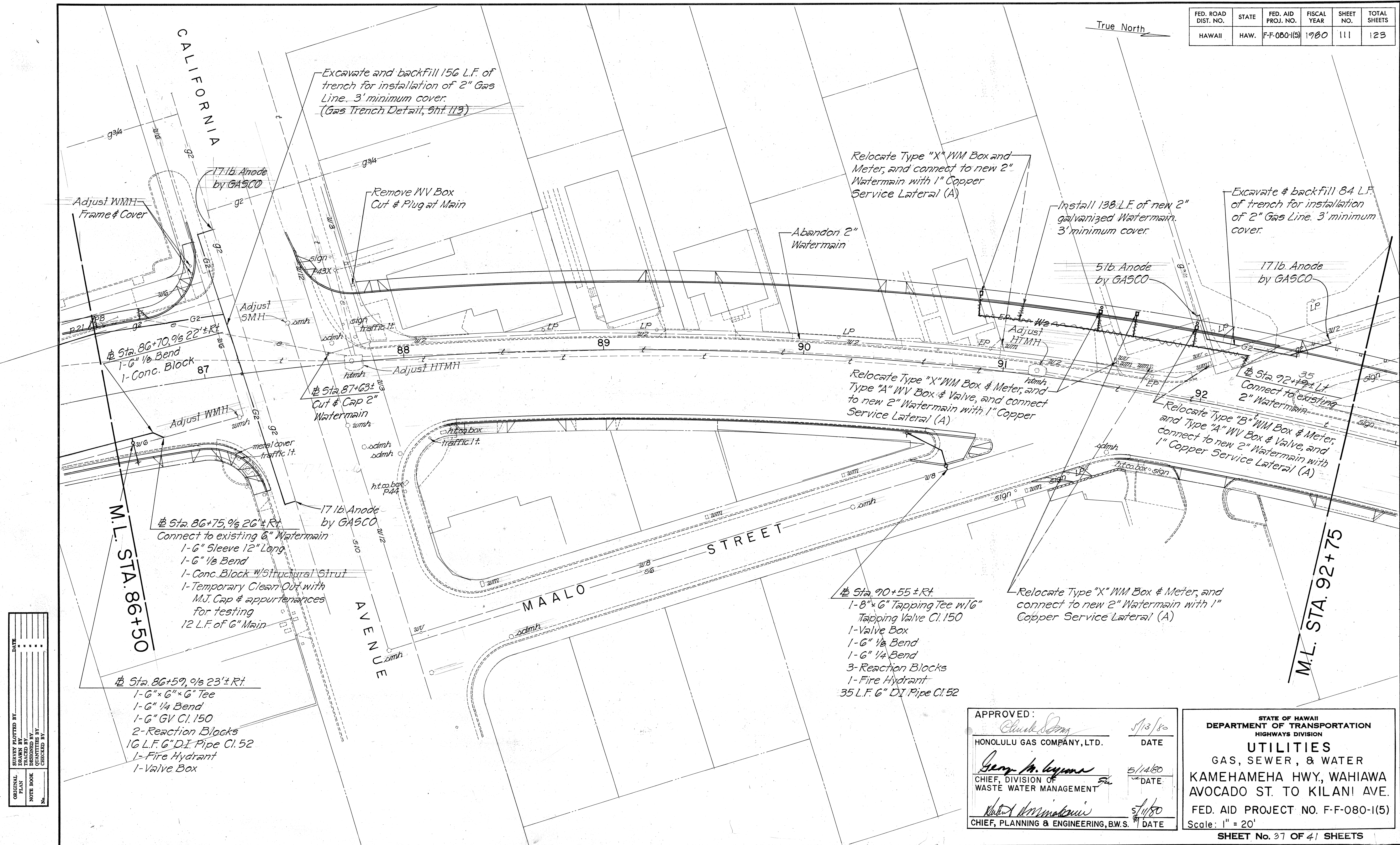
11/17/80	Replace existing galvanized service lateral with new 1 1/4" Copper Service Lateral (B) at # Sta. 84+08± Lt. & 86+07± Lt.
DATE	REVISION

APPROVED:	5/13/80
HONOLULU GAS COMPANY, LTD.	DATE
George M. Wyman	5/14/80
CHIEF, DIVISION OF WASTE WATER MANAGEMENT	DATE
Walter W. Muehler	5/14/80
CHIEF, PLANNING & ENGINEERING, B.W.S.	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
UTILITIES
 GAS, SEWER, & WATER
 KAMEHAMEHA HWY, WAHIAWA
 AVOCADO ST. TO KILANI AVE.
 FED. AID PROJECT NO. F-F-080-1(5)
 Scale: 1" = 20'
 SHEET No. 36 OF 41 SHEETS

C.O. 110

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-F-080-1(5)	1980	111	123

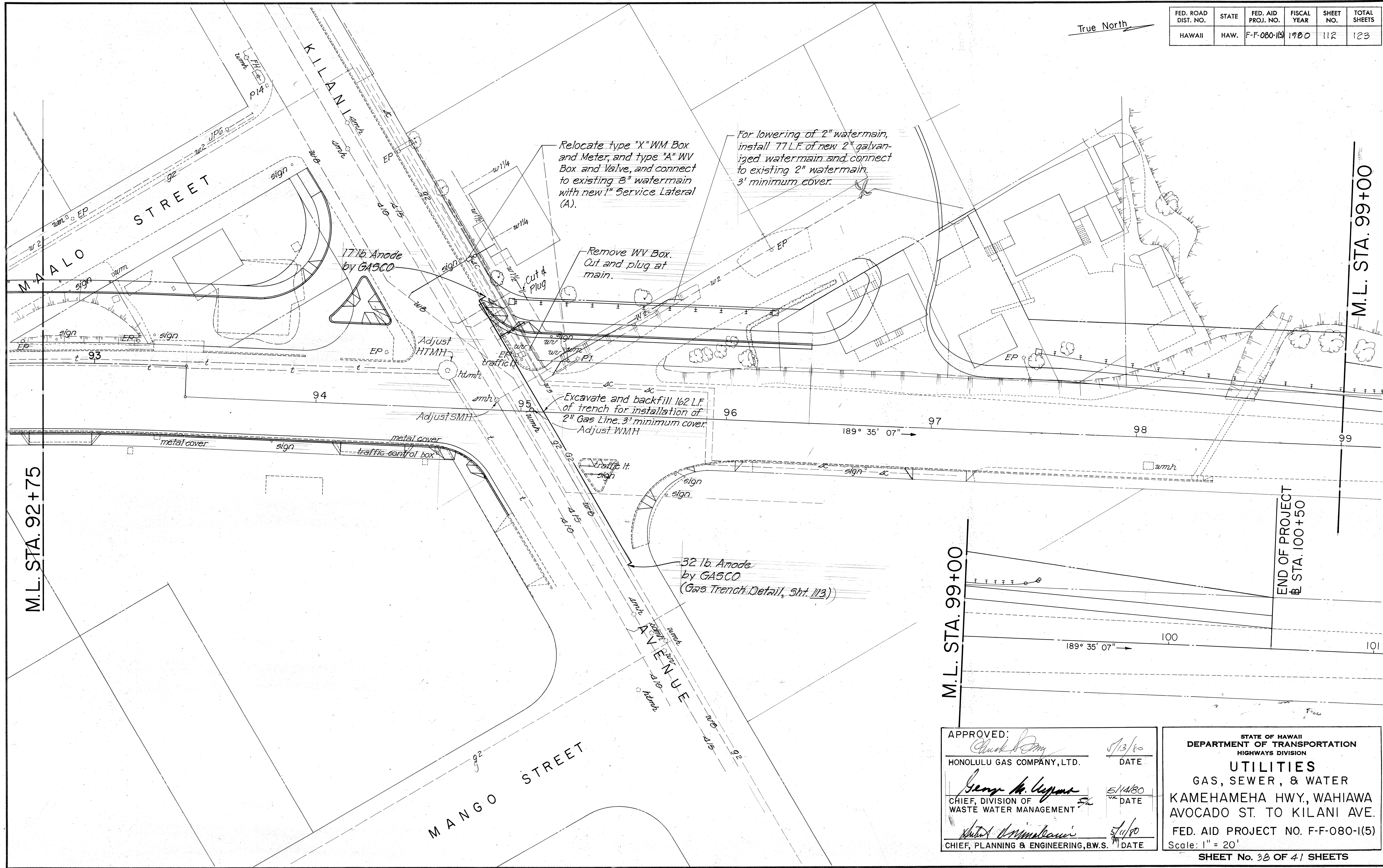


DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN No.	_____

APPROVED:	_____	5/13/80
HONOLULU GAS COMPANY, LTD.	DATE	
_____	5/14/80	DATE
CHIEF, DIVISION OF WASTE WATER MANAGEMENT	_____	
_____	5/14/80	DATE
CHIEF, PLANNING & ENGINEERING, B.W.S.	_____	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITIES
GAS, SEWER, & WATER
KAMEHAMEHA HWY, WAHIAWA
AVOCADO ST. TO KILANI AVE.
FED. AID PROJECT NO. F-F-080-1(5)
Scale: 1" = 20'
SHEET No. 37 OF 41 SHEETS

ORIGINAL PLAN	DATE
NO.	
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	



APPROVED: *Chuck [Signature]* 5/13/80
HONOLULU GAS COMPANY, LTD. DATE

George M. [Signature] 5/14/80
CHIEF, DIVISION OF WASTE WATER MANAGEMENT DATE

Robert [Signature] 5/14/80
CHIEF, PLANNING & ENGINEERING, B.W.S. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITIES
GAS, SEWER, & WATER

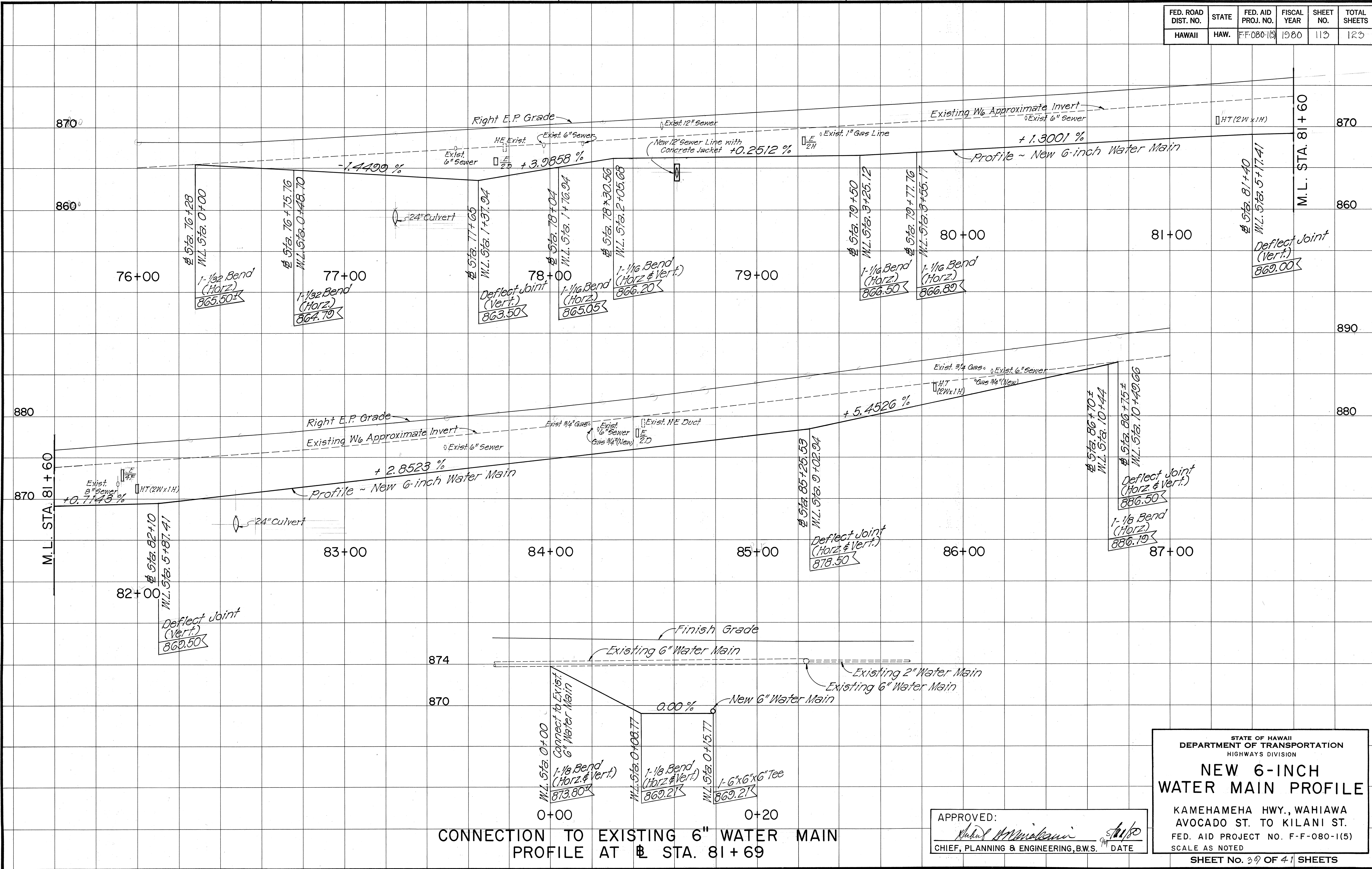
KAMEHAMEHA HWY, WAHIAWA
AVOCADO ST. TO KILANI AVE.

FED. AID PROJECT NO. F-F-080-1(5)

Scale: 1" = 20'

SHEET No. 33 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-F-080-1(5)	1980	113	123



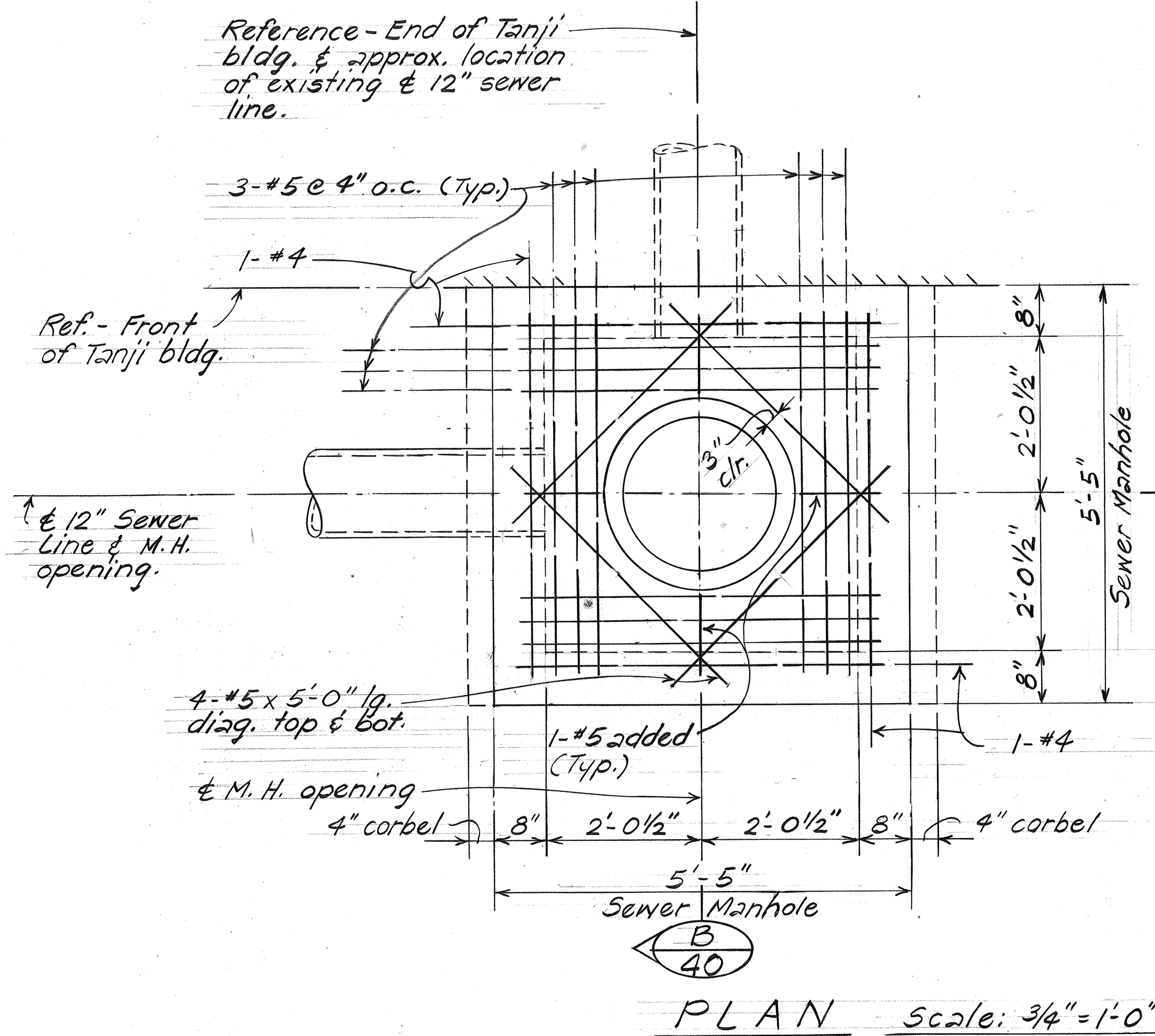
ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

CONNECTION TO EXISTING 6" WATER MAIN
PROFILE AT STA. 81+69

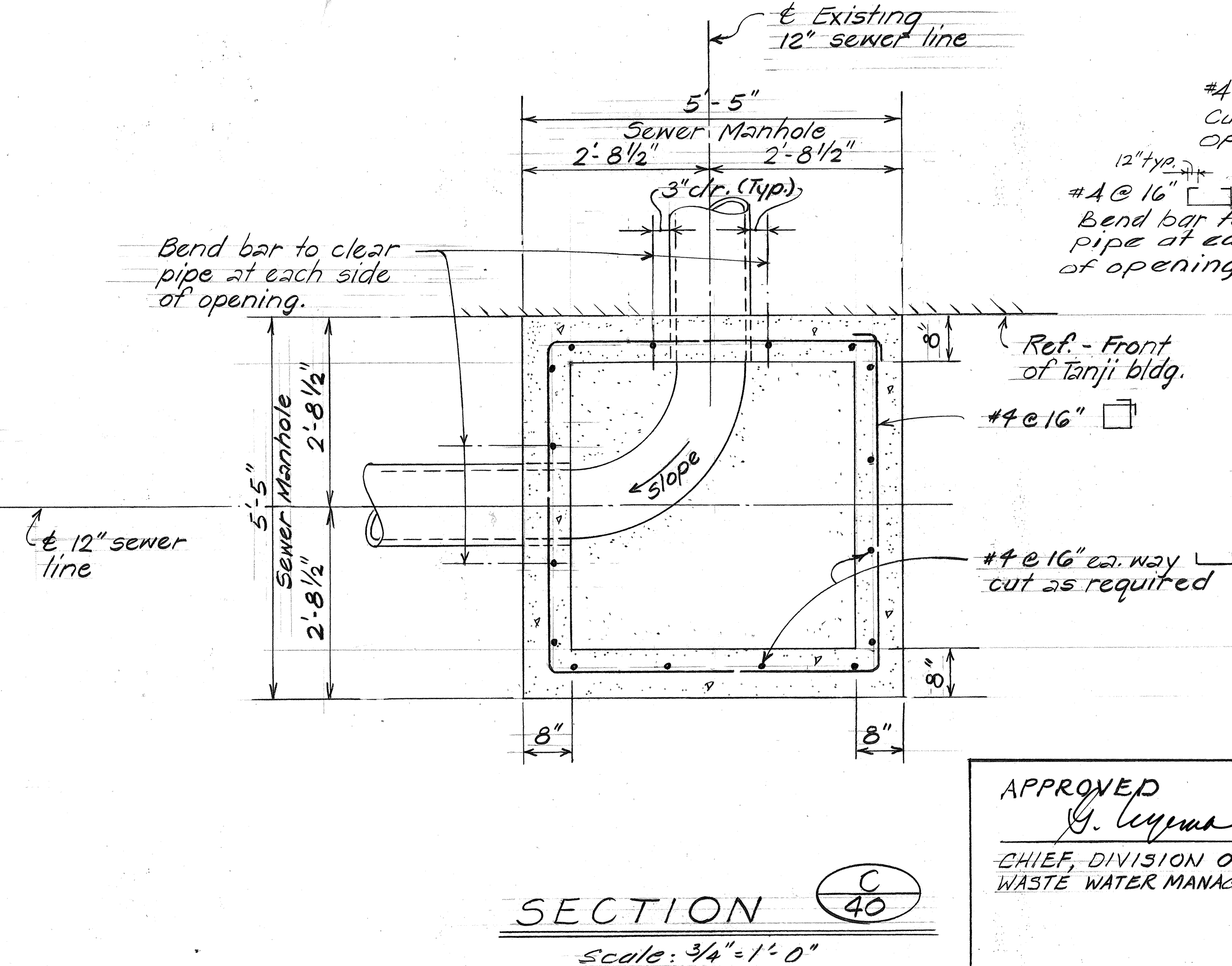
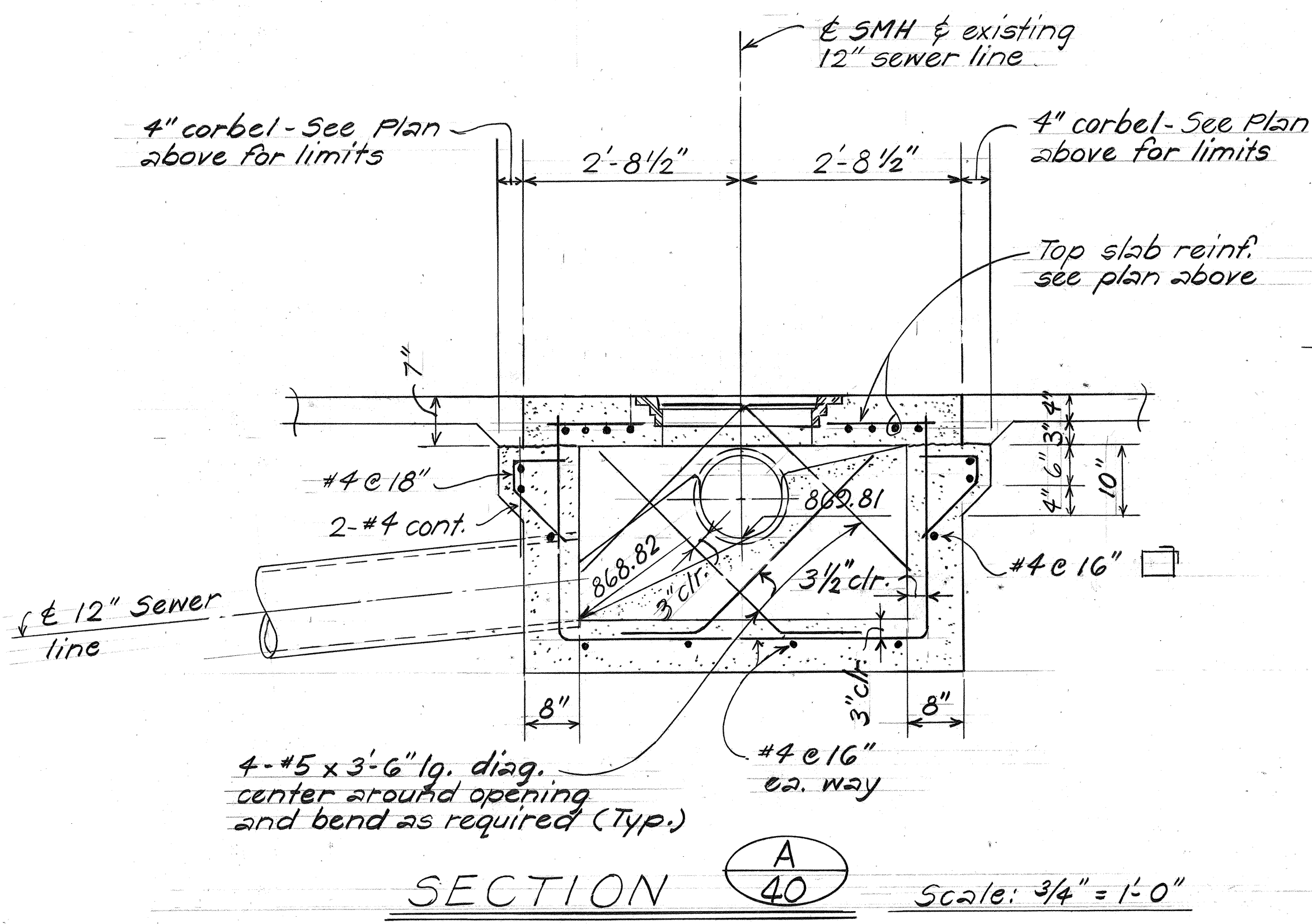
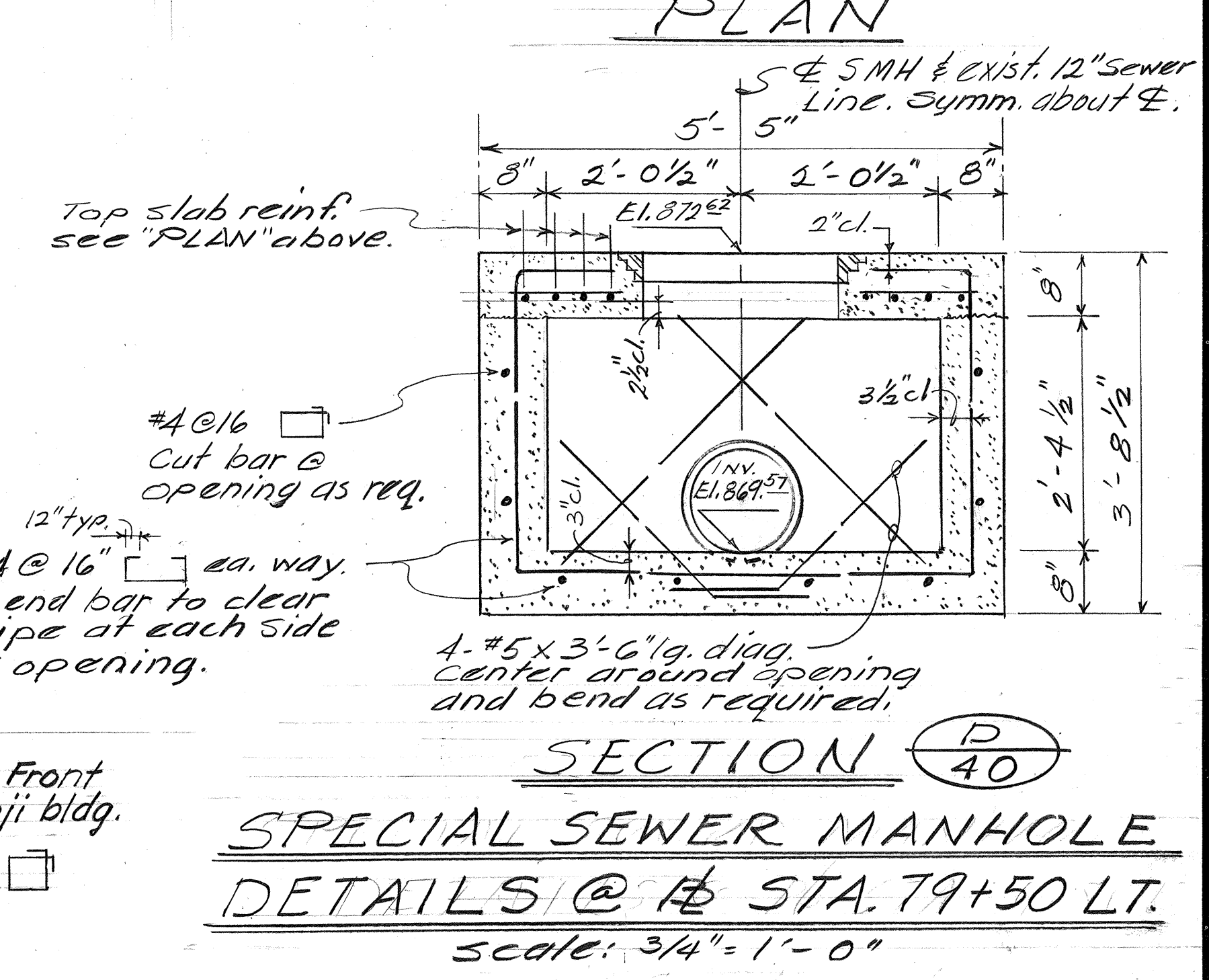
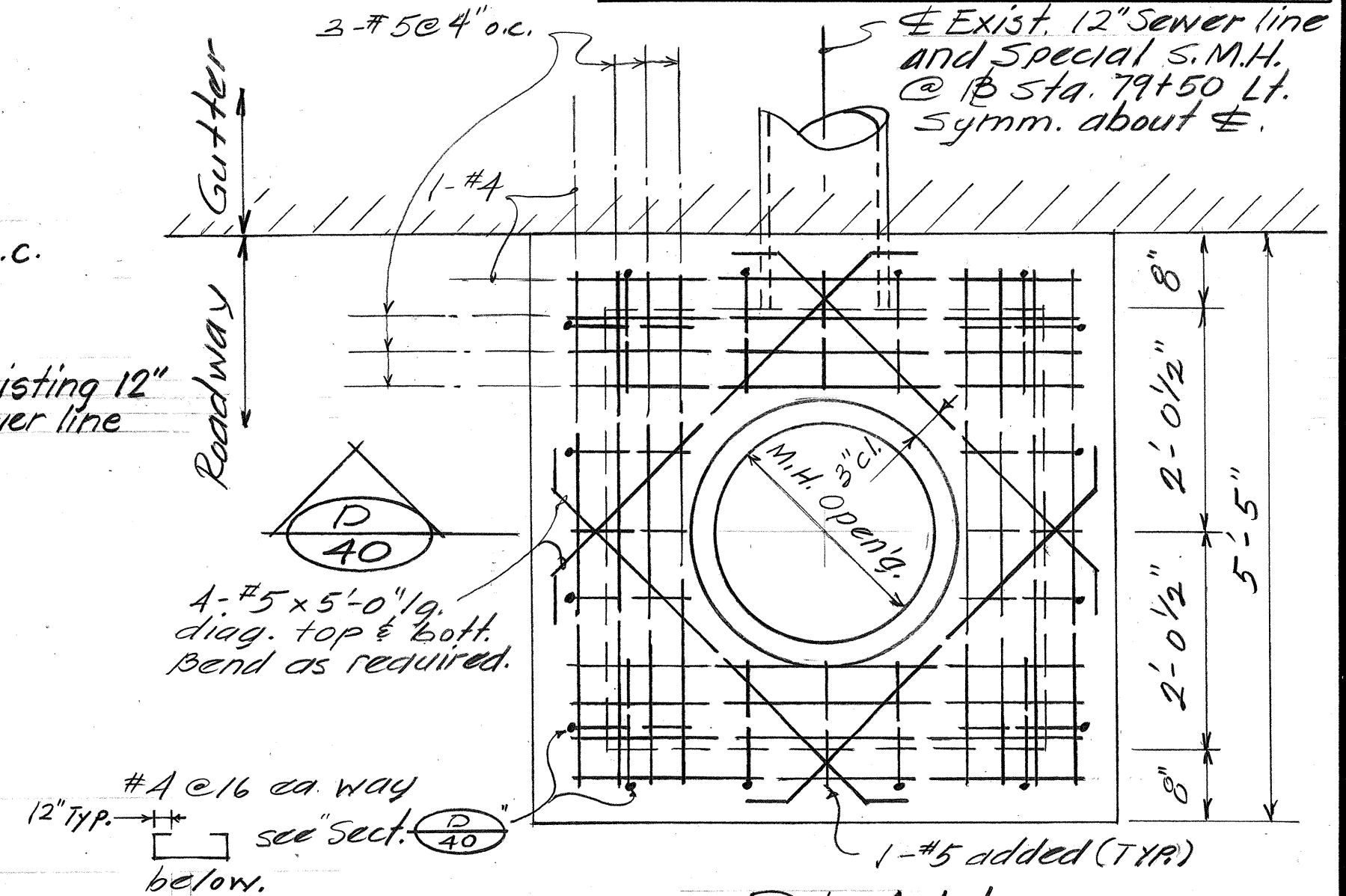
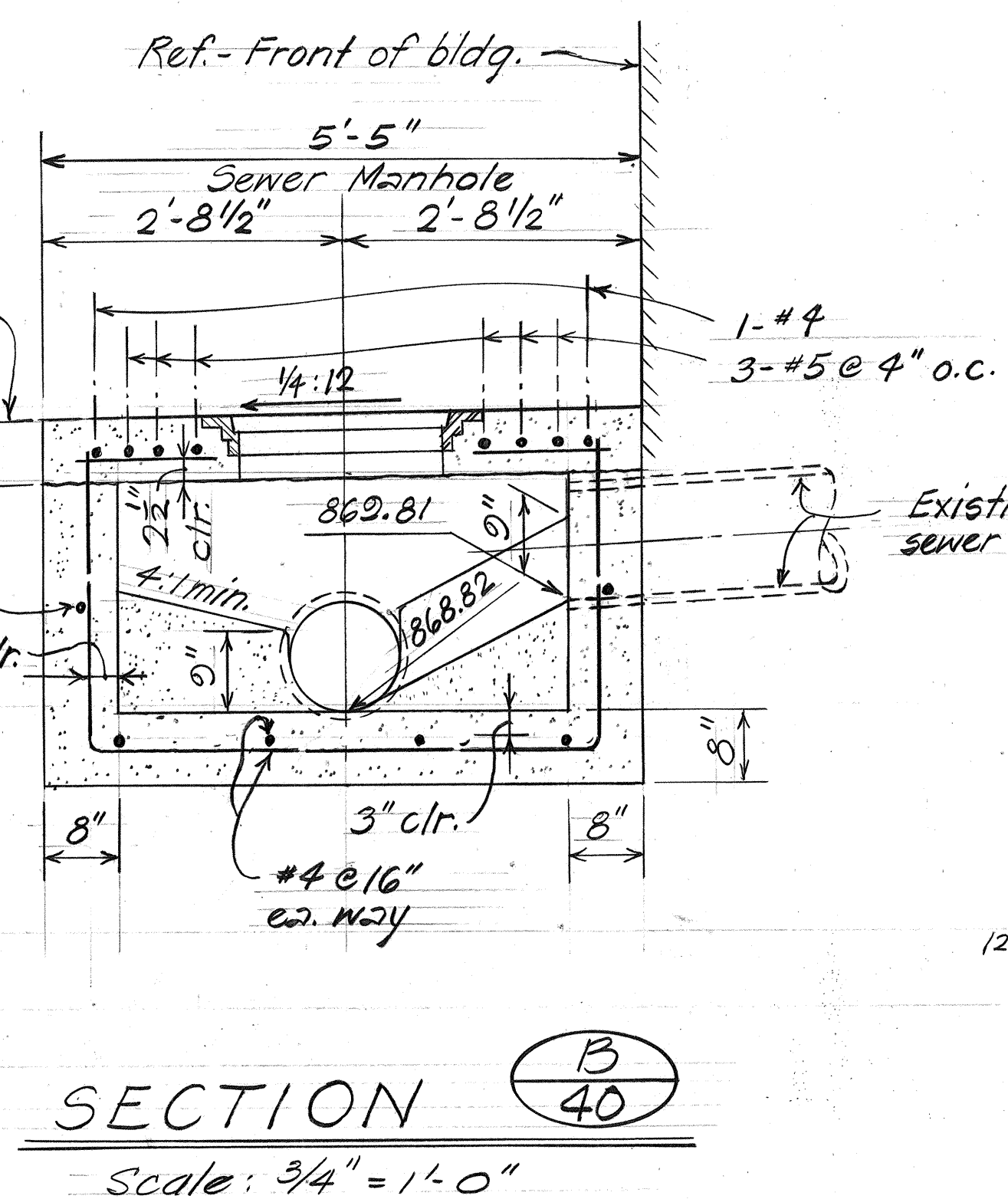
APPROVED:
[Signature]
CHIEF, PLANNING & ENGINEERING, B.W.S. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**NEW 6-INCH
WATER MAIN PROFILE**
KAMEHAMEHA HWY., WAHIAWA
AVOCADO ST. TO KILANI ST.
FED. AID PROJECT NO. F-F-080-1(5)
SCALE AS NOTED
SHEET NO. 39 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-F-080-1(3)	1980	114	123



- NOTES:**
1. Use Type S.D. Frame w/Type SA Cover. (C&C Std. Det. for Public Works Construction).
 2. See Sewer Notes, Sht. #76.
 3. Cement shall be Portland cement type II or modified type I w/ not more than 8% tricalcium aluminate.



SPECIAL SEWER MANHOLE DETAILS @ STA. 79+50 LT.
Scale: 3/4" = 1'-0"

3/5/81 Special Manhole details @ Sta. 79+50 Lt. added in this sheet and title block revised to note added S.M.H.

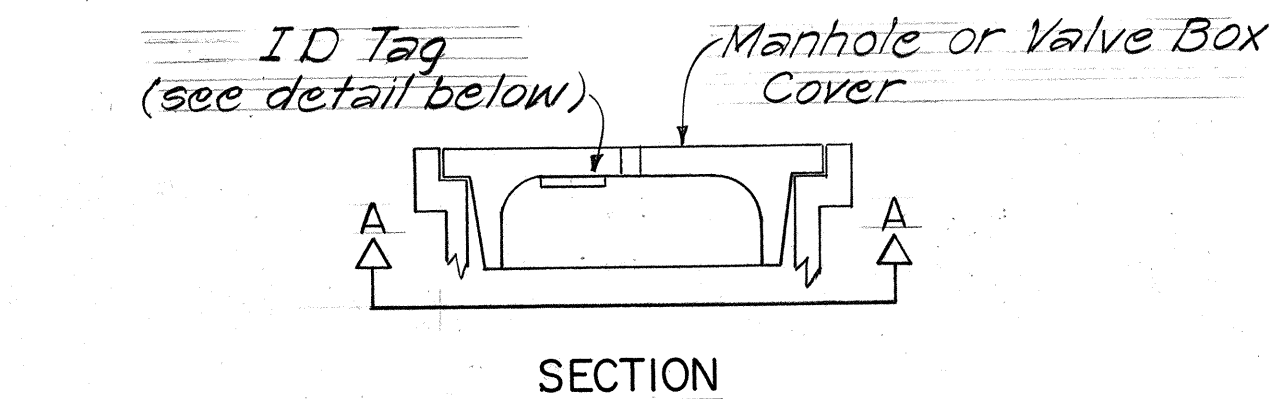
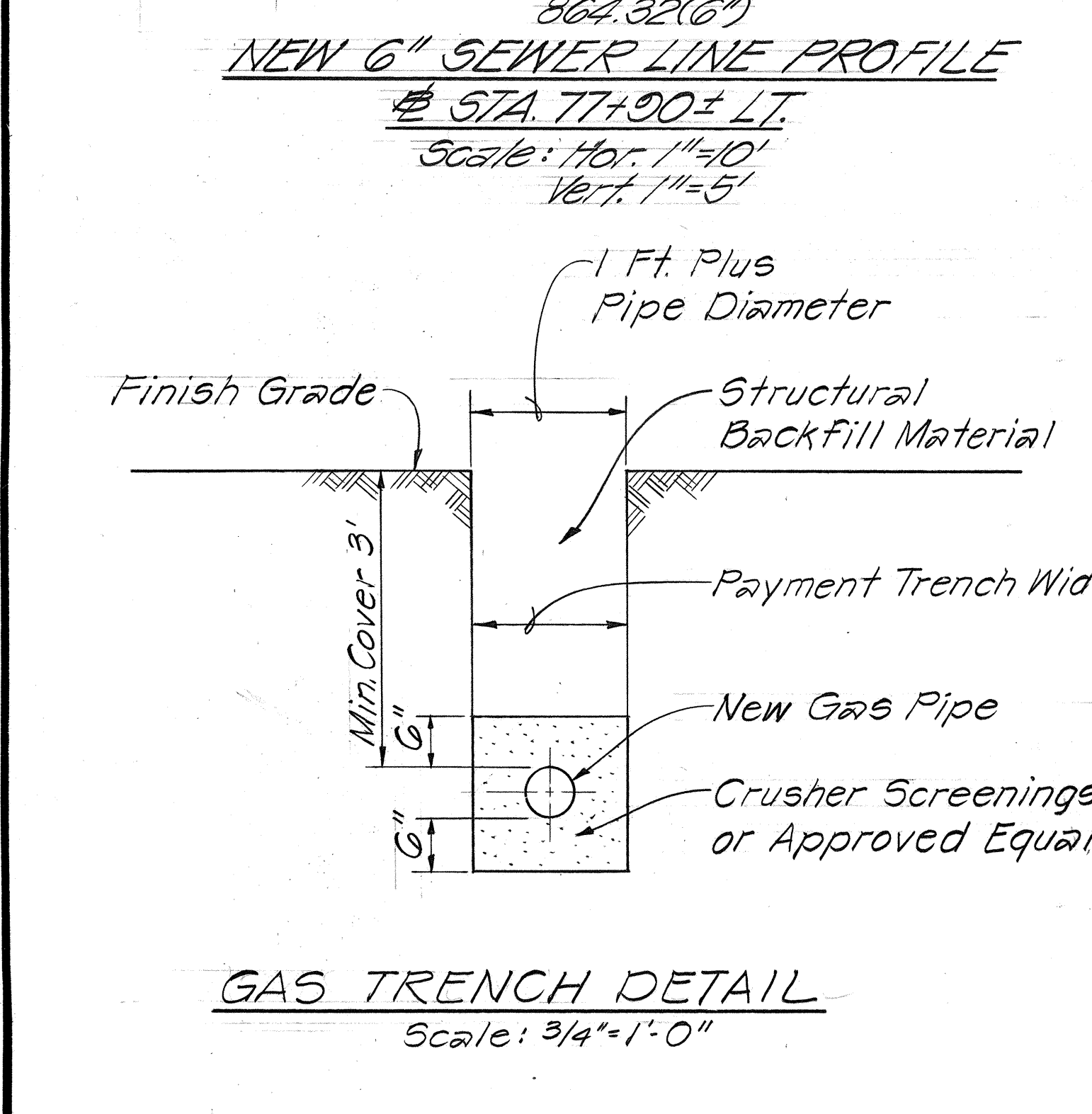
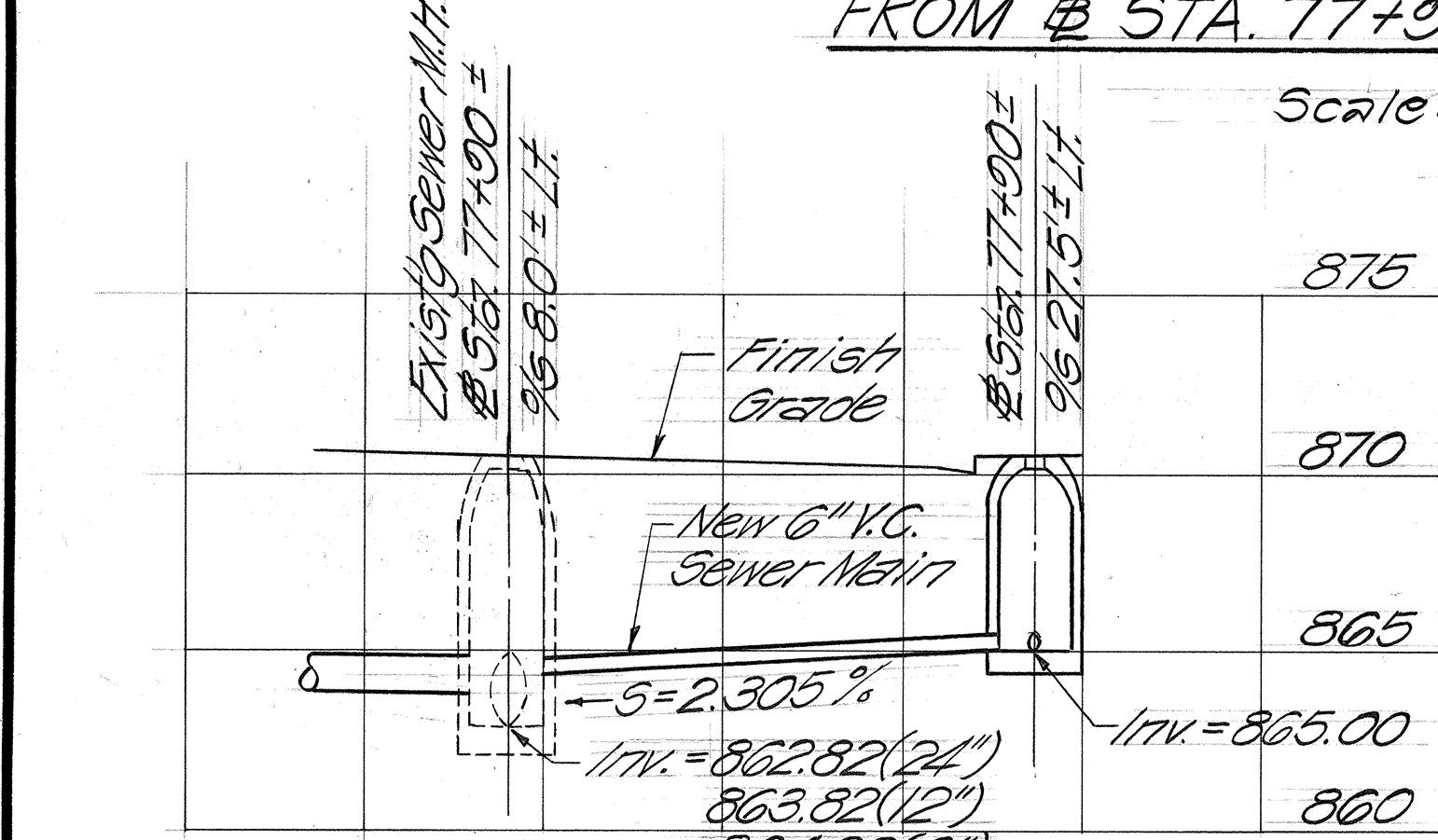
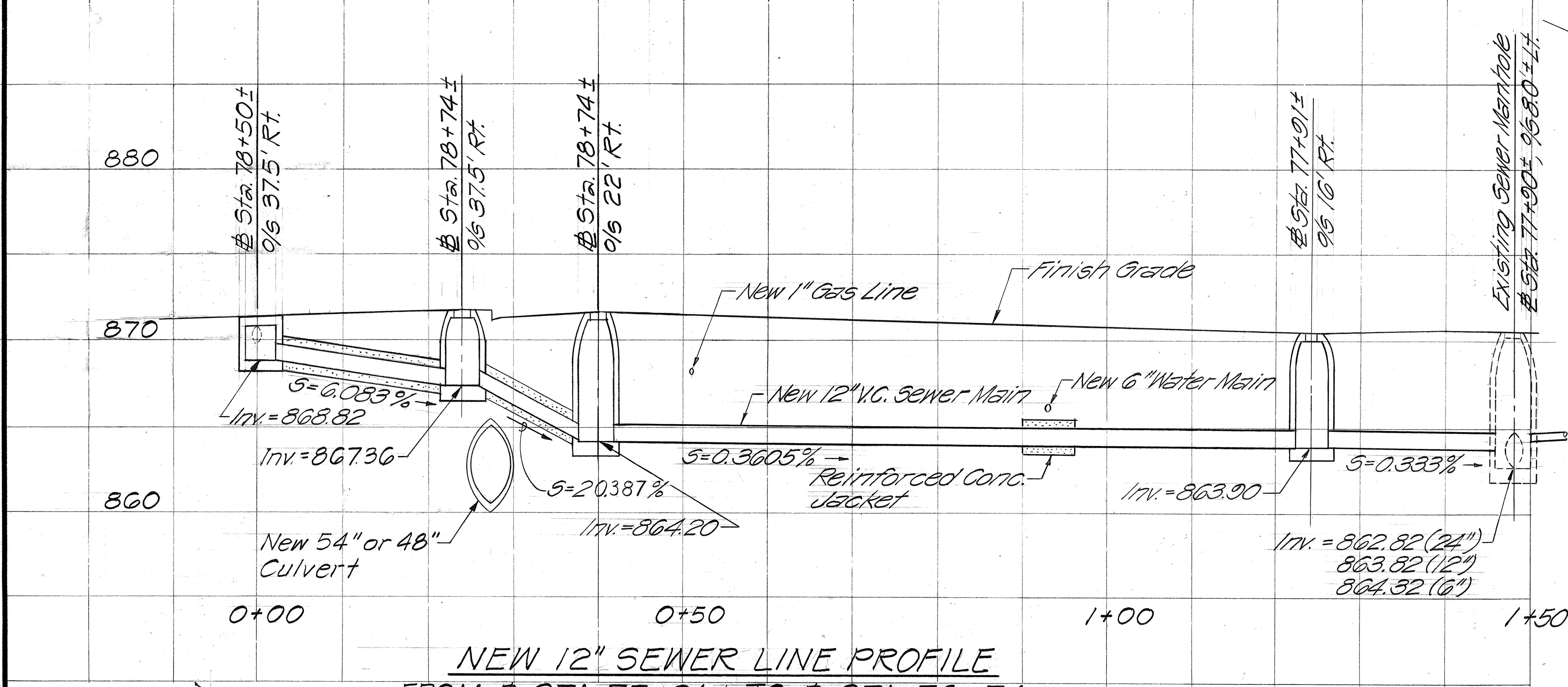
12/8/80 Revised special Sewer Manhole

DATE REVISION

APPROVED
G. Uyema
CHIEF, DIVISION OF WASTE WATER MANAGEMENT
3/10/81
DATE

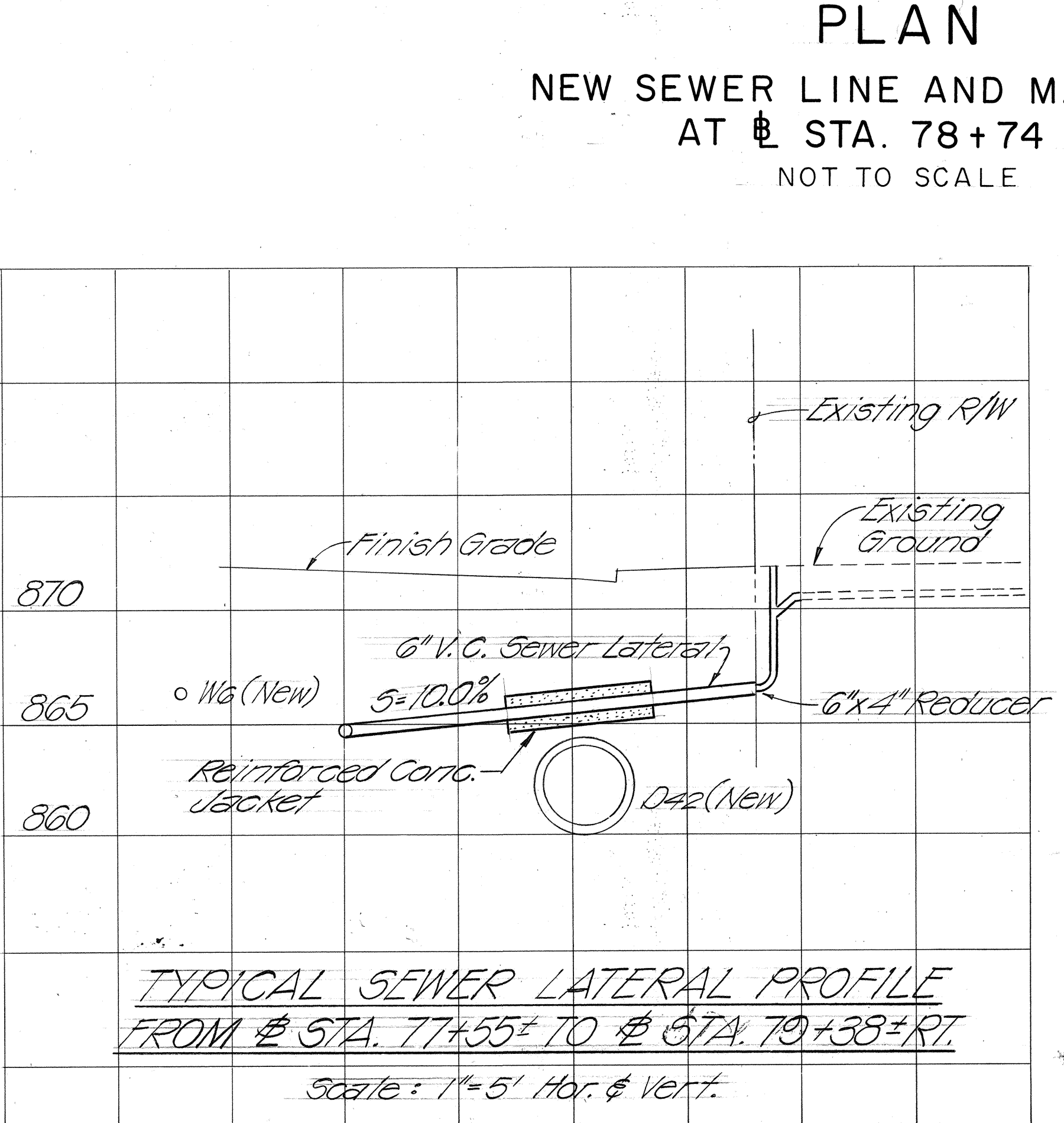
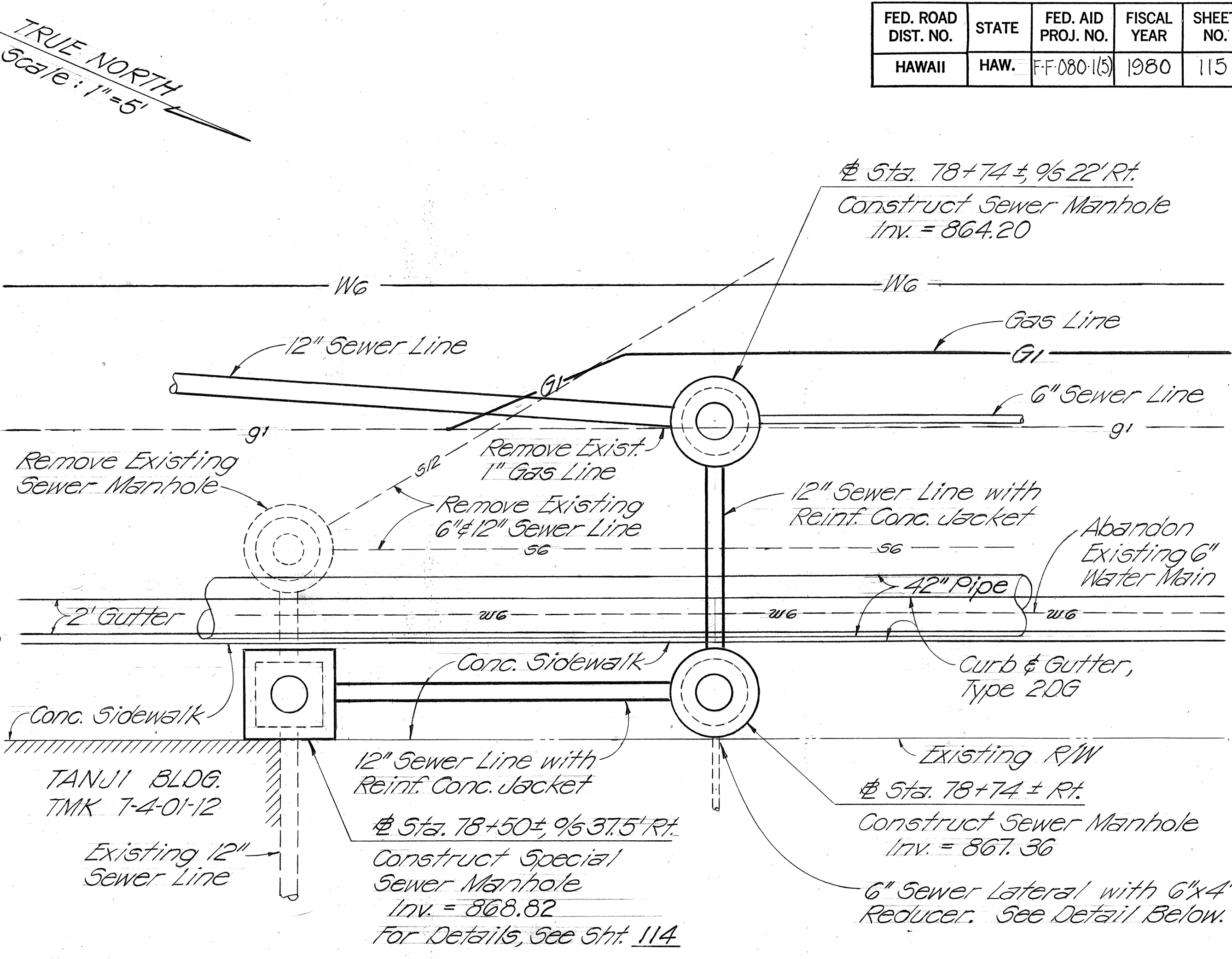
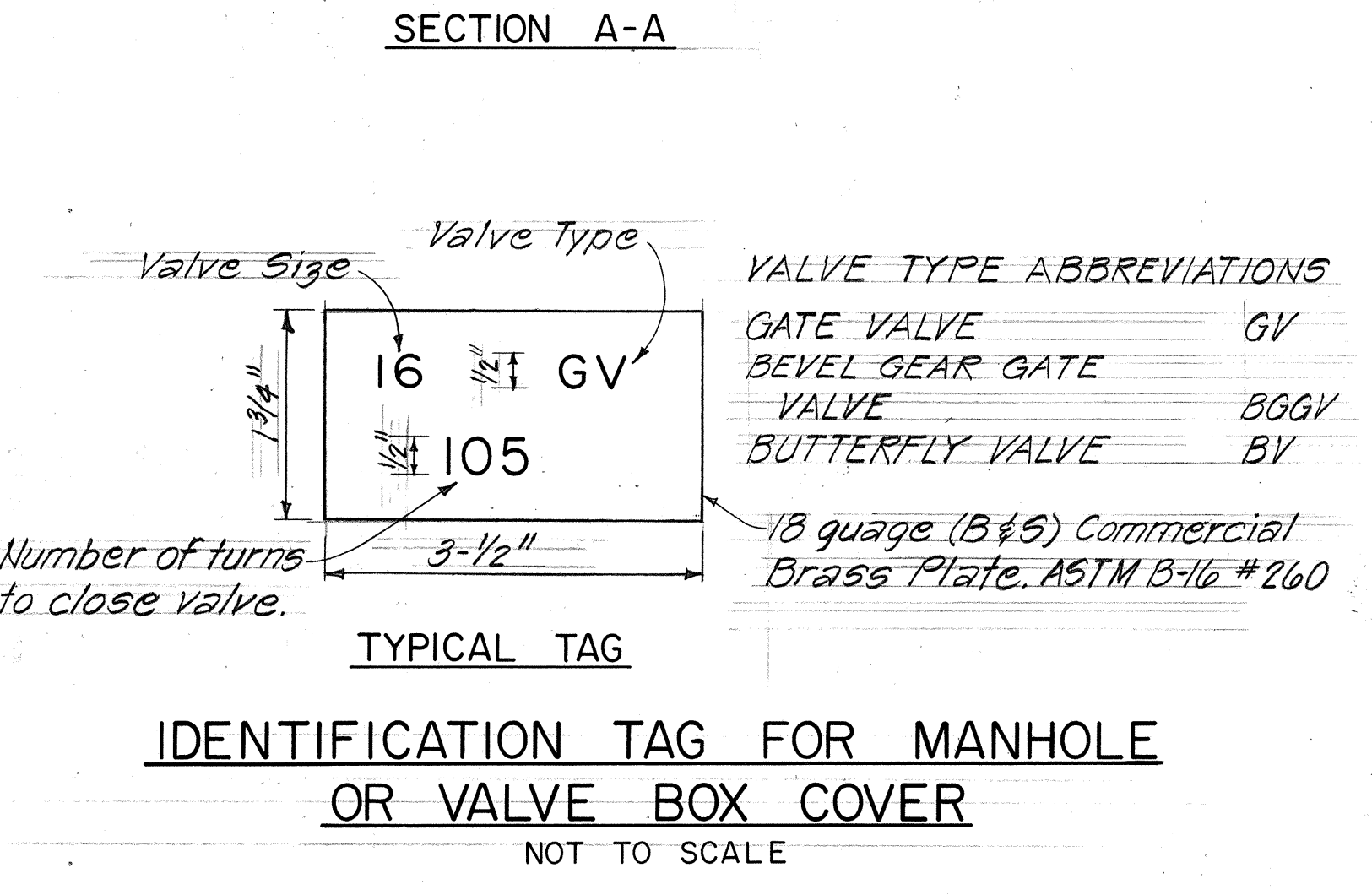
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SPECIAL SEWER MANHOLE DETAILS
AT STA. 78+50 RT. & STA. 79+50 LT.
KAMEHAMEHA HWY., WAHIAWA
AVOCADO ST. TO KILANI ST.
FED. AID PROJ. NO. F-F-080-1(3)
SCALE: AS SHOWN
SHEET NO. 40 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-F-080-1(5)	1980	115	123



NOTE:

- The Contractor shall verify valve data with the valve manufacturer prior to stamping ID tag.
- ID tag shall be installed on underside of all new Manhole or Valve Box Cover.
- Payment for the furnishing and installation of ID tags will not be made directly but shall be included in the Unit Price Bids for Valves.



DATE	REVISION
3/3/81	Added 6" Sewer Line Profile, # Sta. 77+00 ± Lt.
1/22/81	Revised 12" Sewer Line Profile, # Sta. 77+01 ± to # Sta. 78+74
12/19/80	Revised Invert of SMH at # Sta. 78+50 ± Rt.
5/16/81	DATE
5/14/80	DATE
5/14/80	DATE

APPROVED FOR REVISION:

CHIEF, DIVISION OF WASTE WATER MANAGEMENT

APPROVED:

CHIEF, PLANNING & ENGINEERING, B.W.S.

HONOLULU GAS COMPANY, LTD.

CHIEF, DIVISION OF WASTE WATER MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITIES
MISCELLANEOUS DETAILS
GAS, SEWER, & WATER
KAMEHAMEHA HWY., WAHIAWA
AVOCADO ST. TO KILANI ST.
FED. AID PROJECT NO. F-F-080-1(5)
SCALE AS NOTED
SHEET NO. 41 OF 41 SHEETS

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	