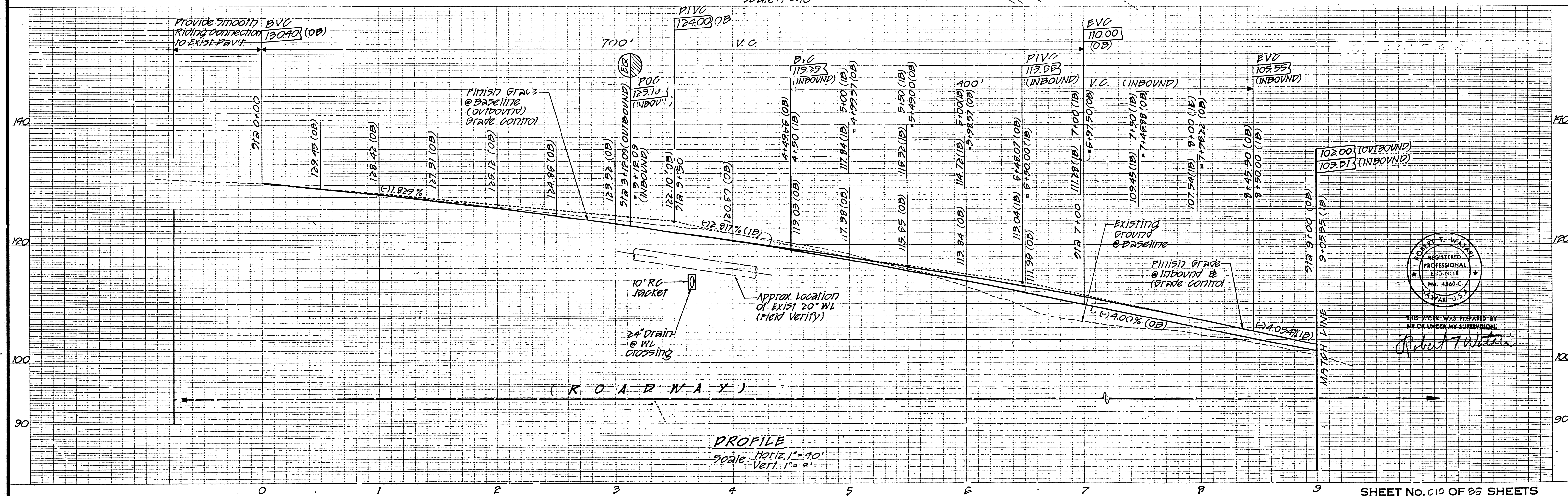
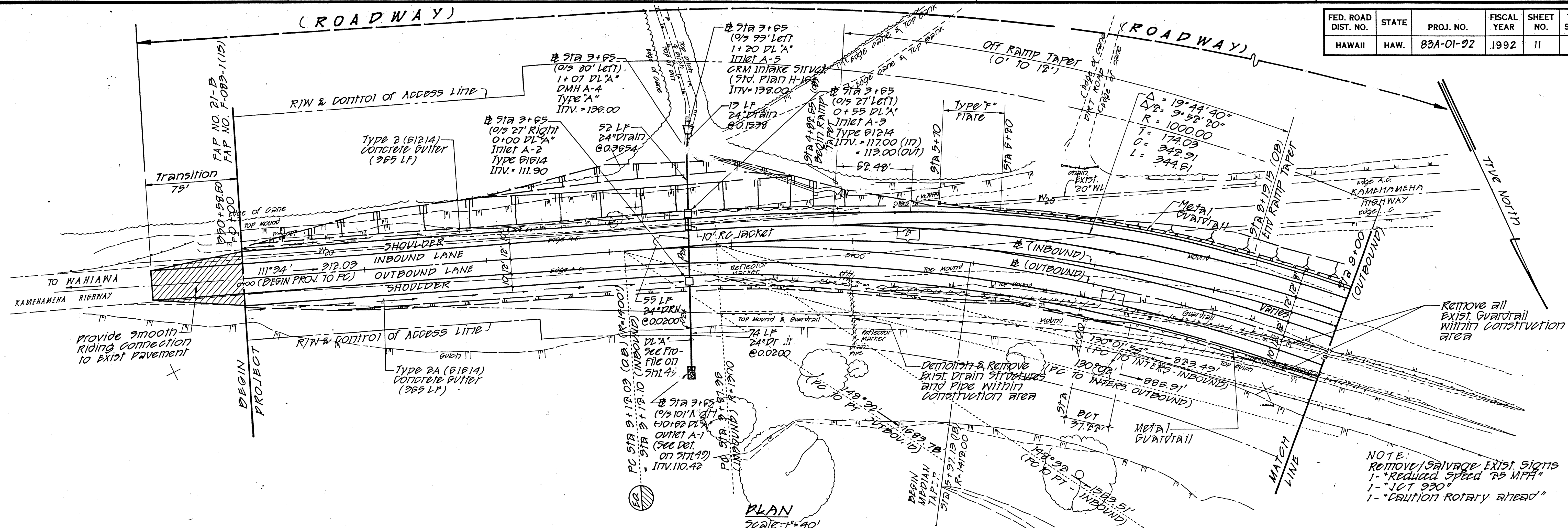


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	11	168

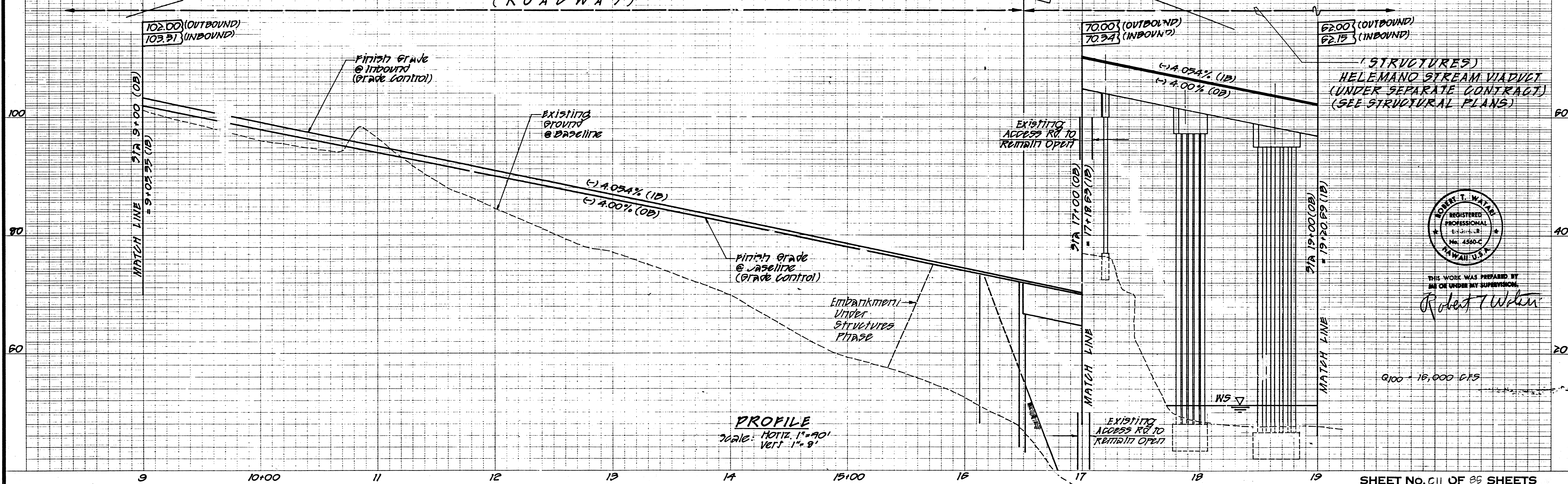
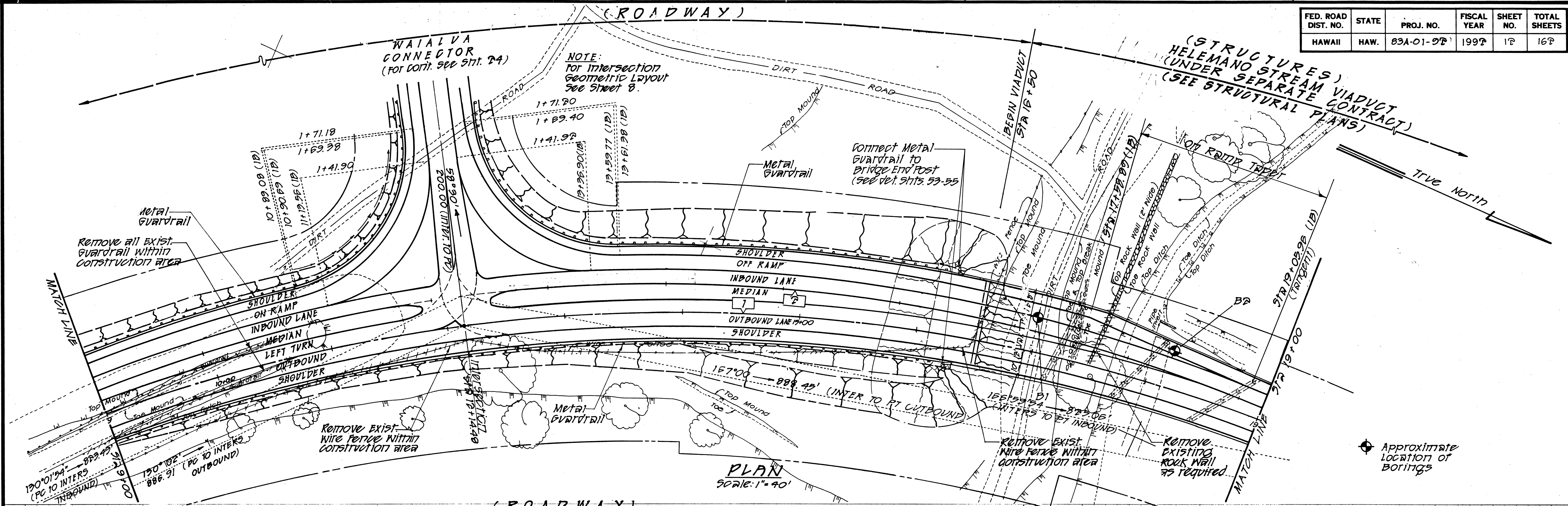


ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____ *
	TRACED BY _____ *
	DESIGNED BY _____ *
	QUANTITIES BY _____ *
No. _____	CHECKED BY _____

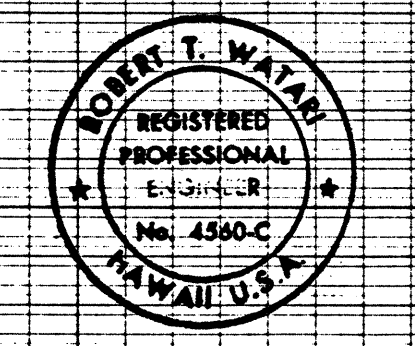


ROBERT T. WATARI
REGISTERED
PROFESSIONAL
ENGINEER
No. 4380-C

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-02	1992	12	162



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

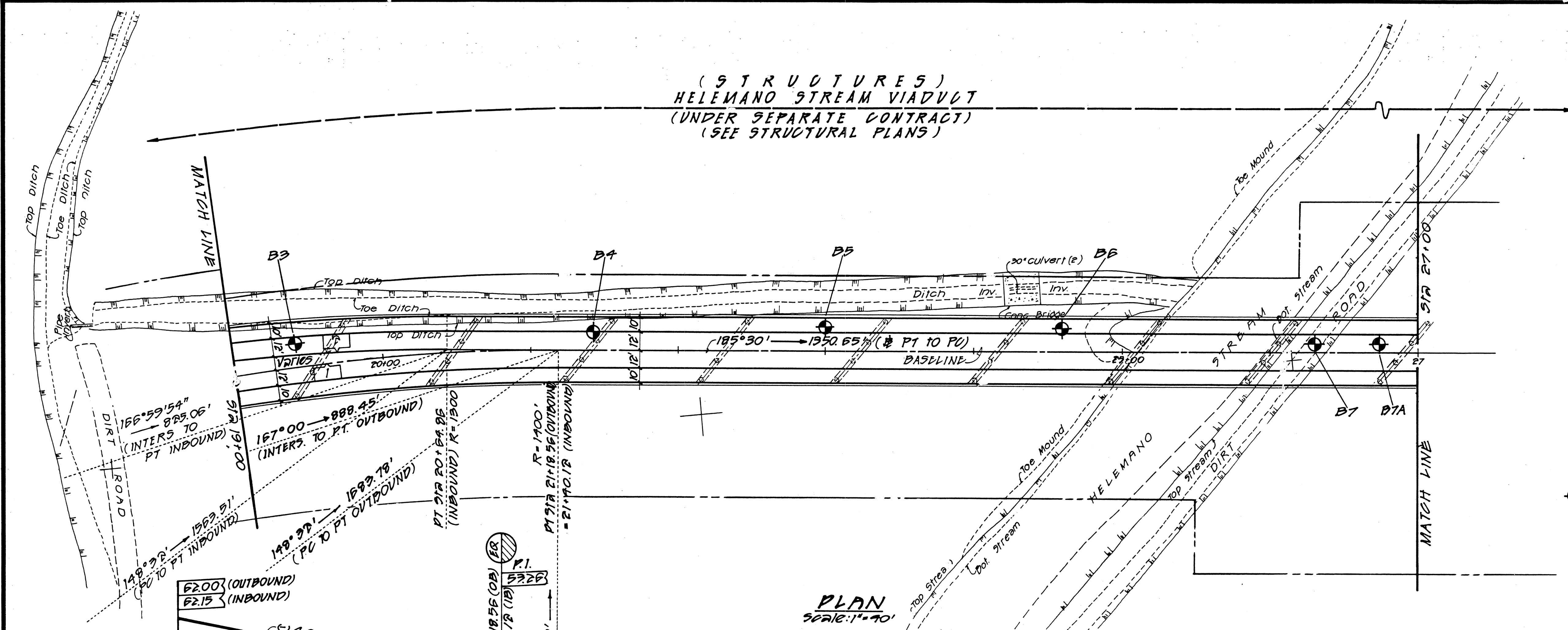


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Robert T. Warden

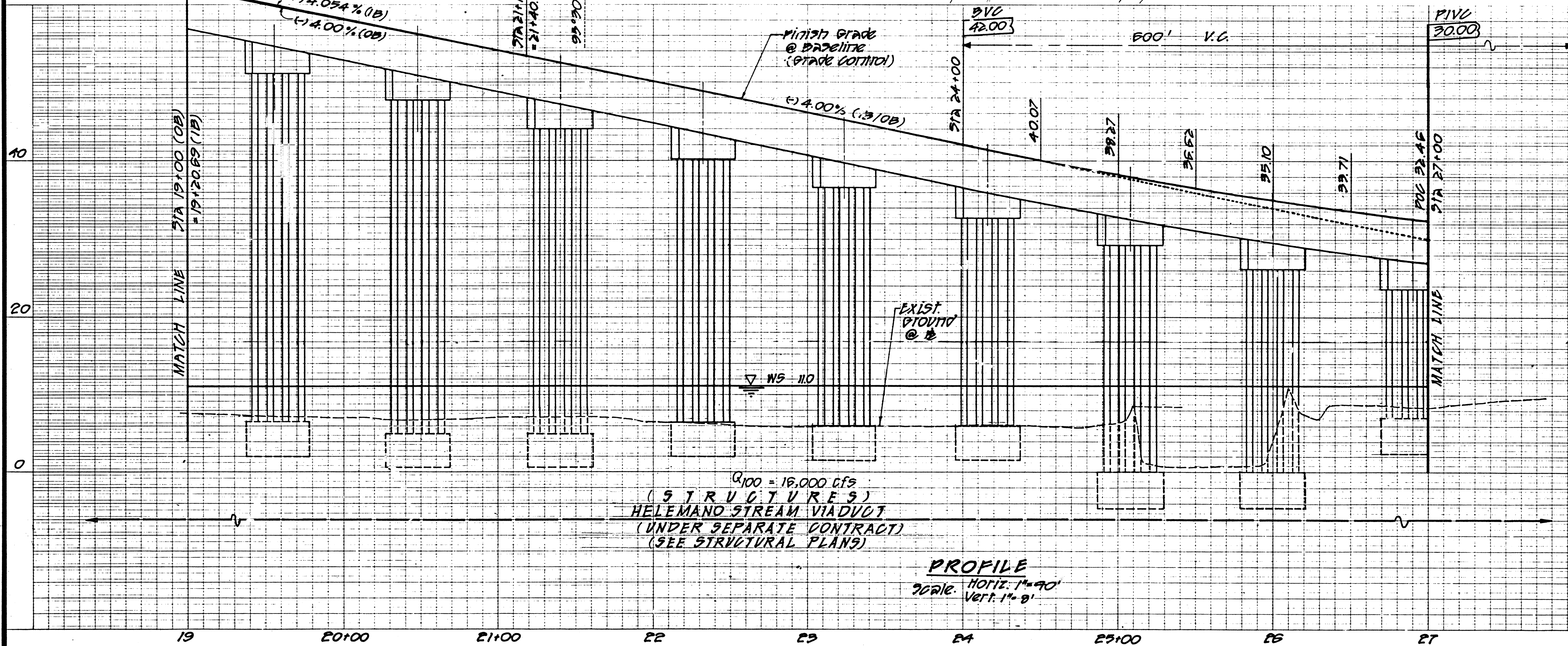
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-22	1992	13	162

(STRUCTURES)
HELEMANO STREAM VIADUCT
(UNDER SEPARATE CONTRACT)
(SEE STRUCTURAL PLANS)

True North

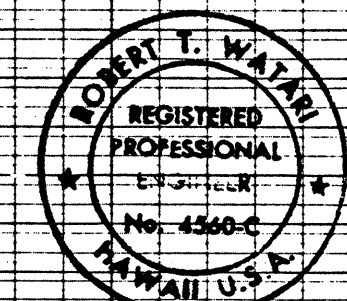


PLAN
SCALE: 1" = 40'



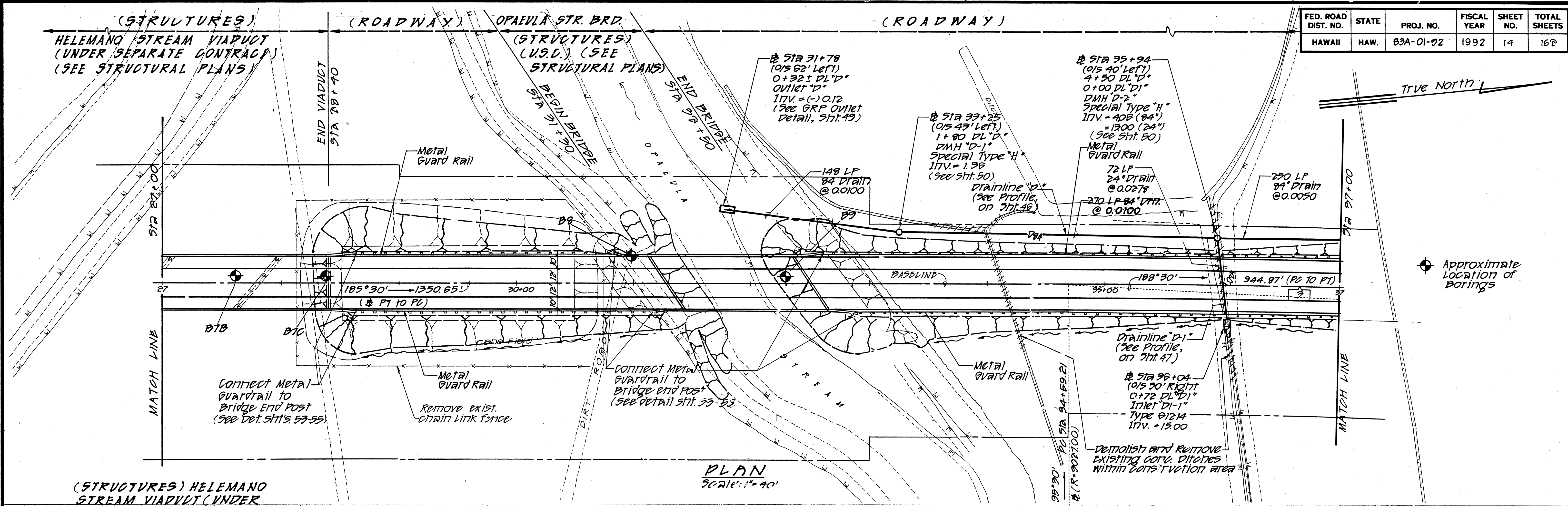
PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 8'

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
NO.	

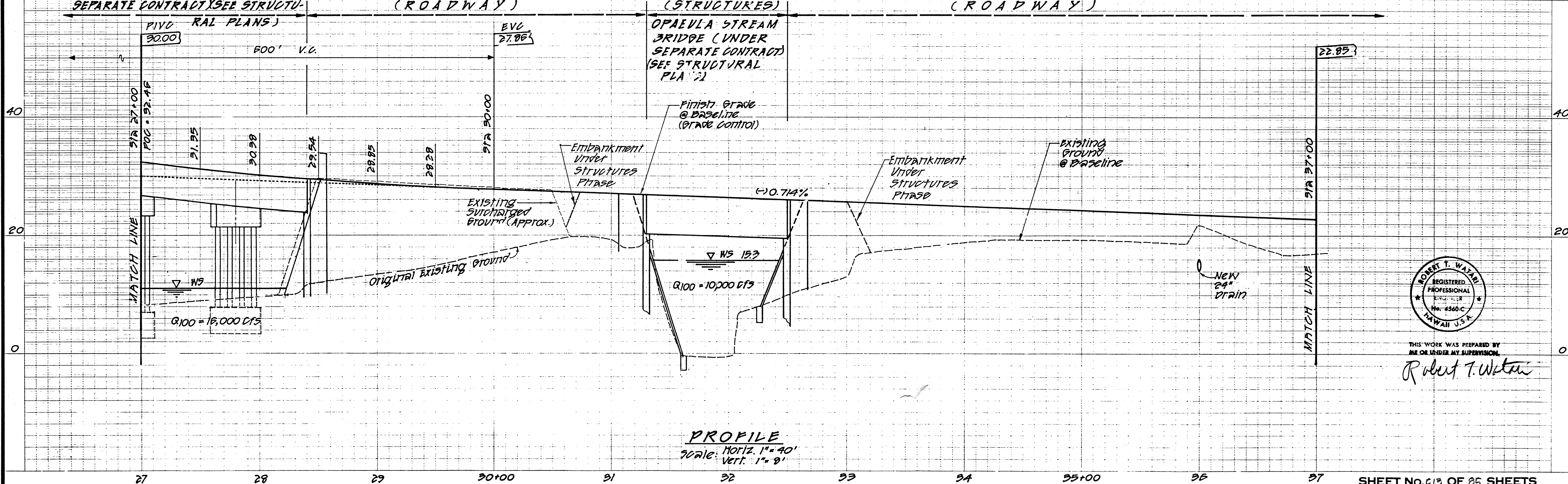


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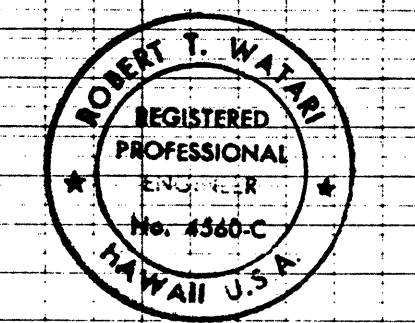
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-02	1992	14	16



PLAN
Scale: 1" = 40'



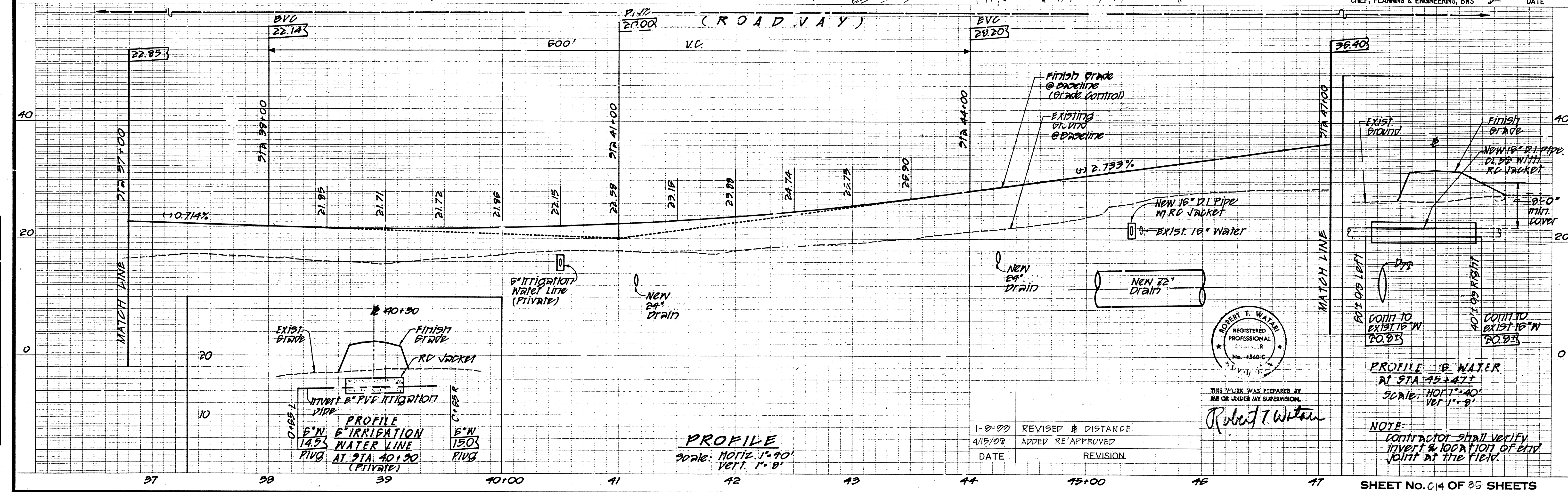
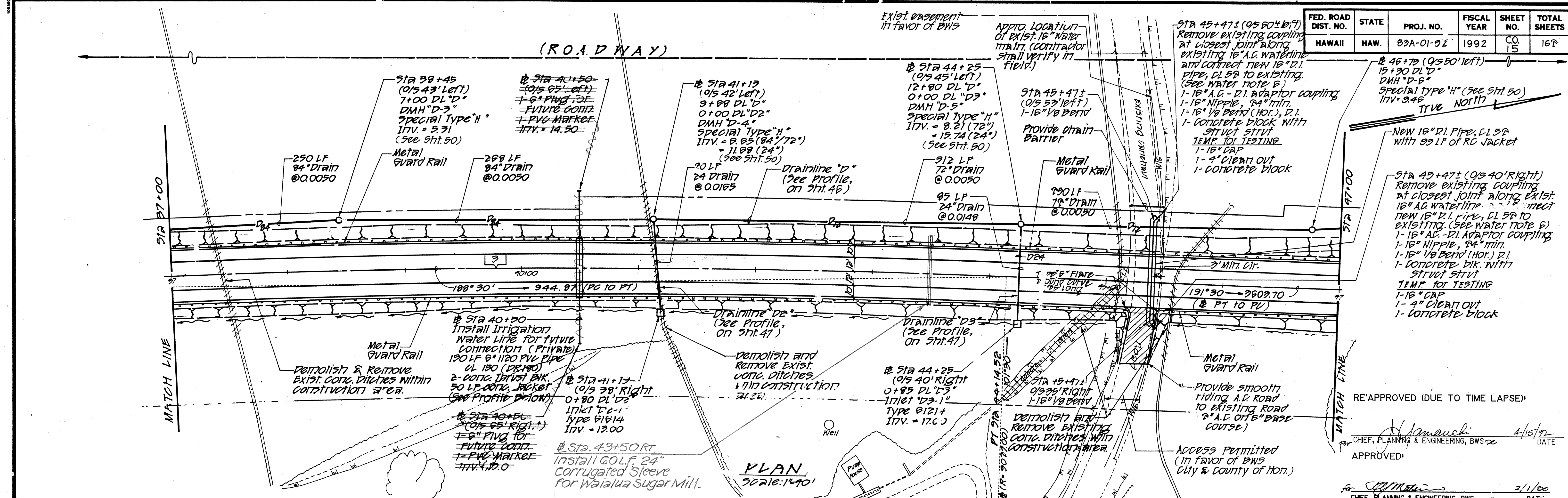
PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 8'



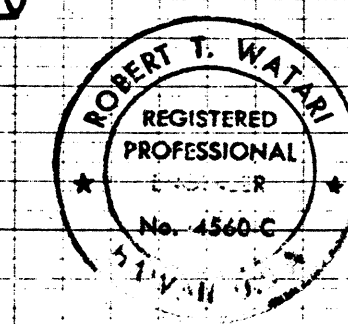
THIS WORK WAS PREPARED BY
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Robert T. Watan

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	C0 15	168



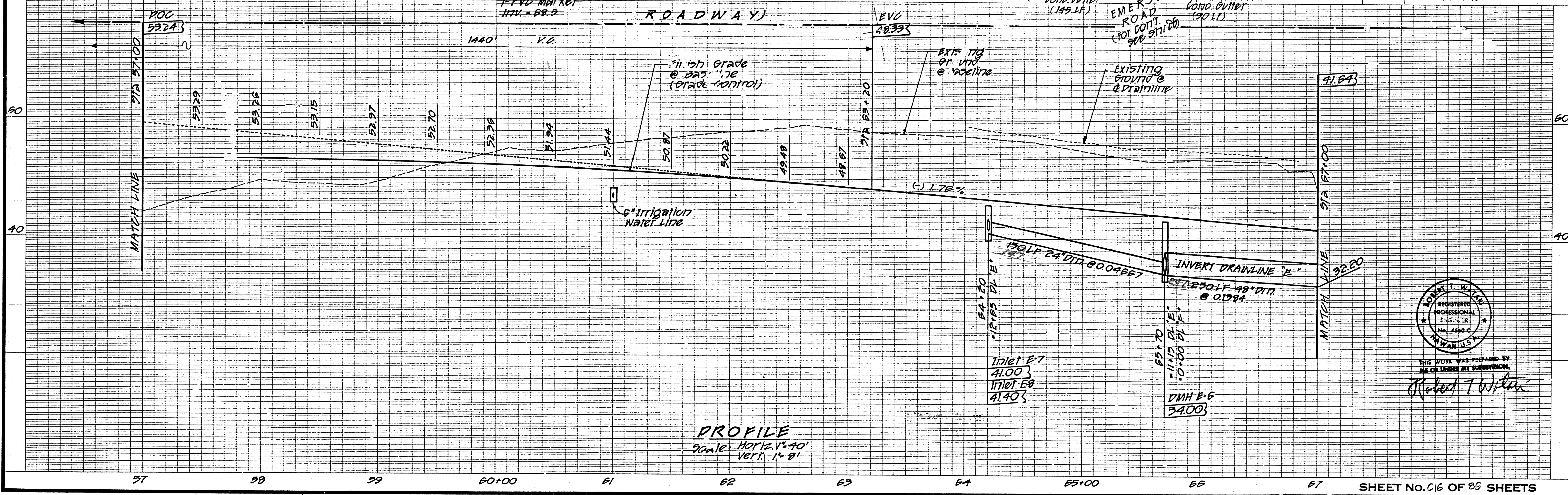
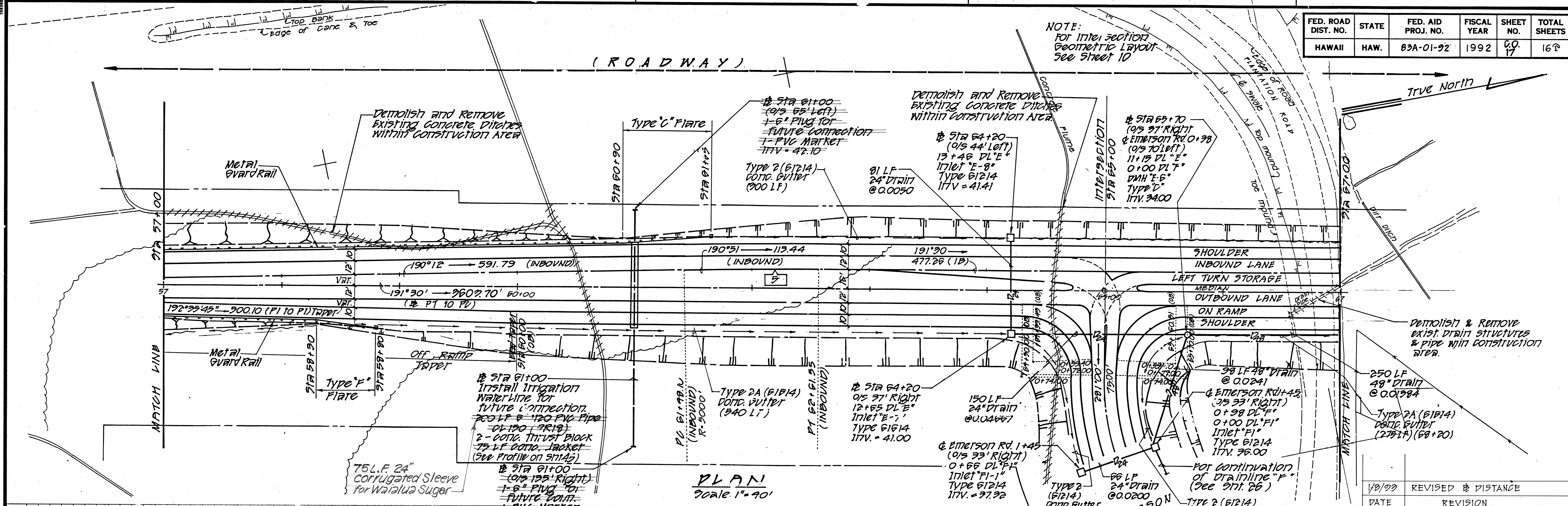
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY		
CHECKED BY		
NOTE BOOK		



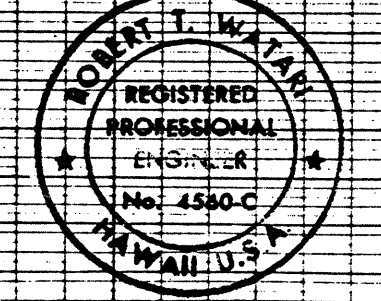
1-8-99	REVISED & DISTANCE
4/15/02	ADDED RE'APPROVED
DATE	REVISION

NOTE: Contractor shall verify invert & location of end joint at the field.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	C.O. 17	168

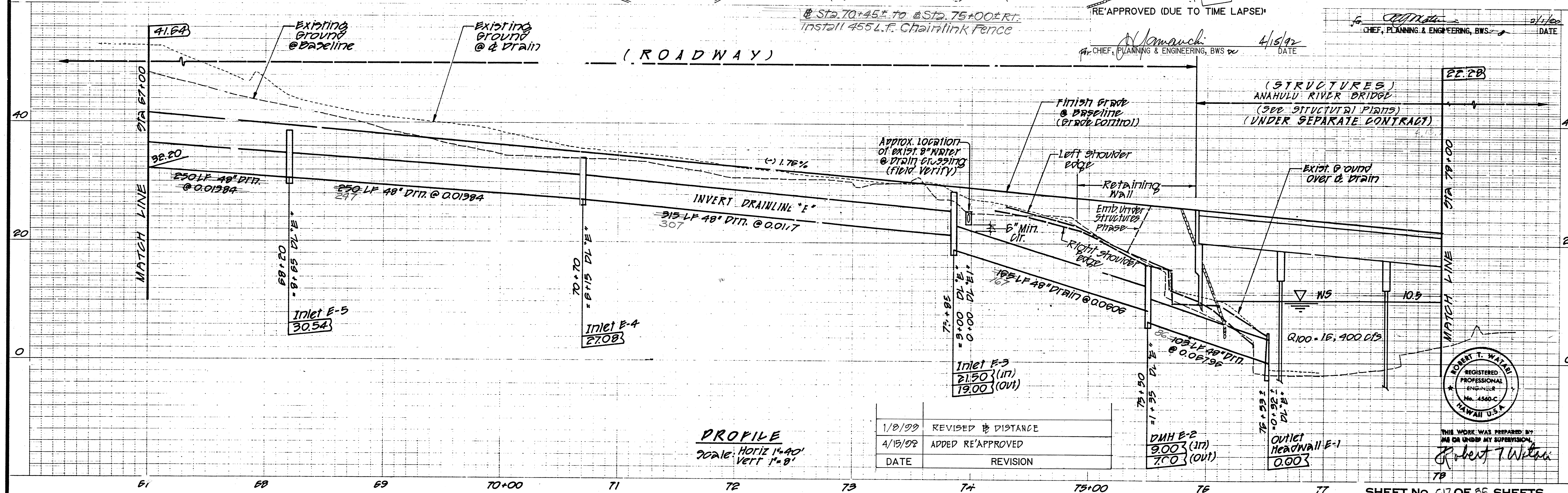


SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
NO.	



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Robert T. Wilson

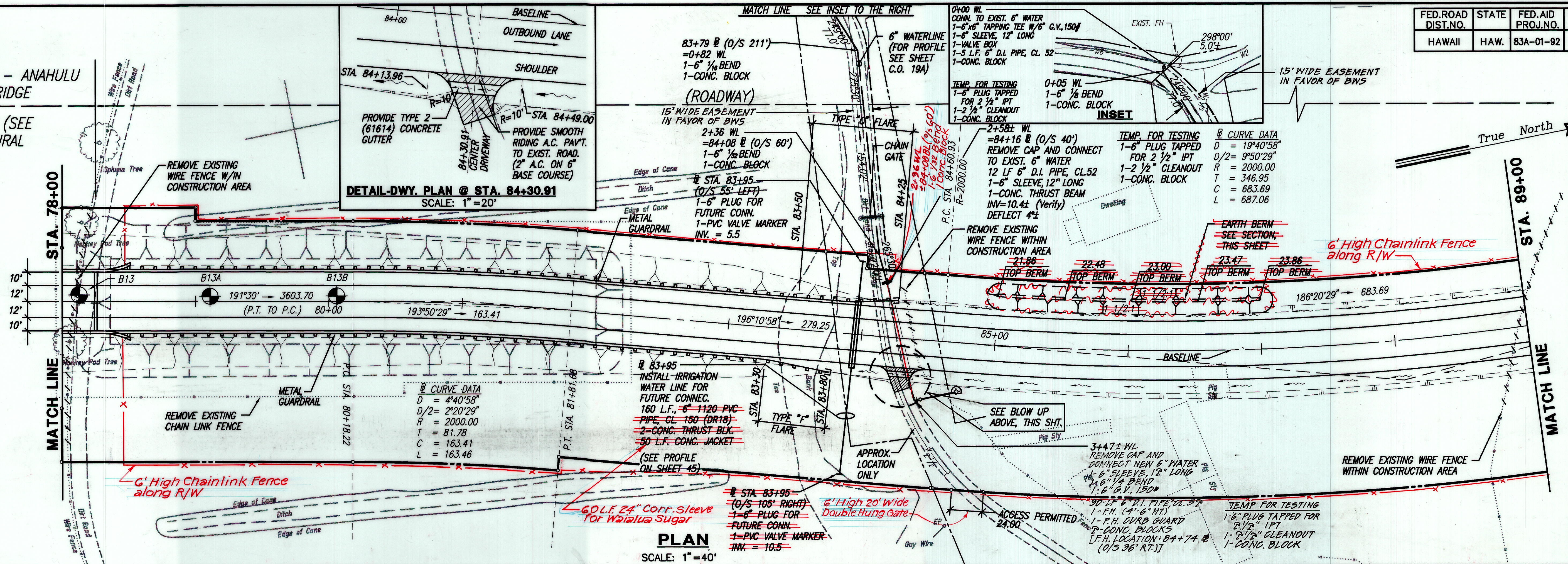
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NOTE BOOK	DRAWN BY _____	_____
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	QUANTITIES BY _____	_____
No. _____	CHECKED BY _____	_____



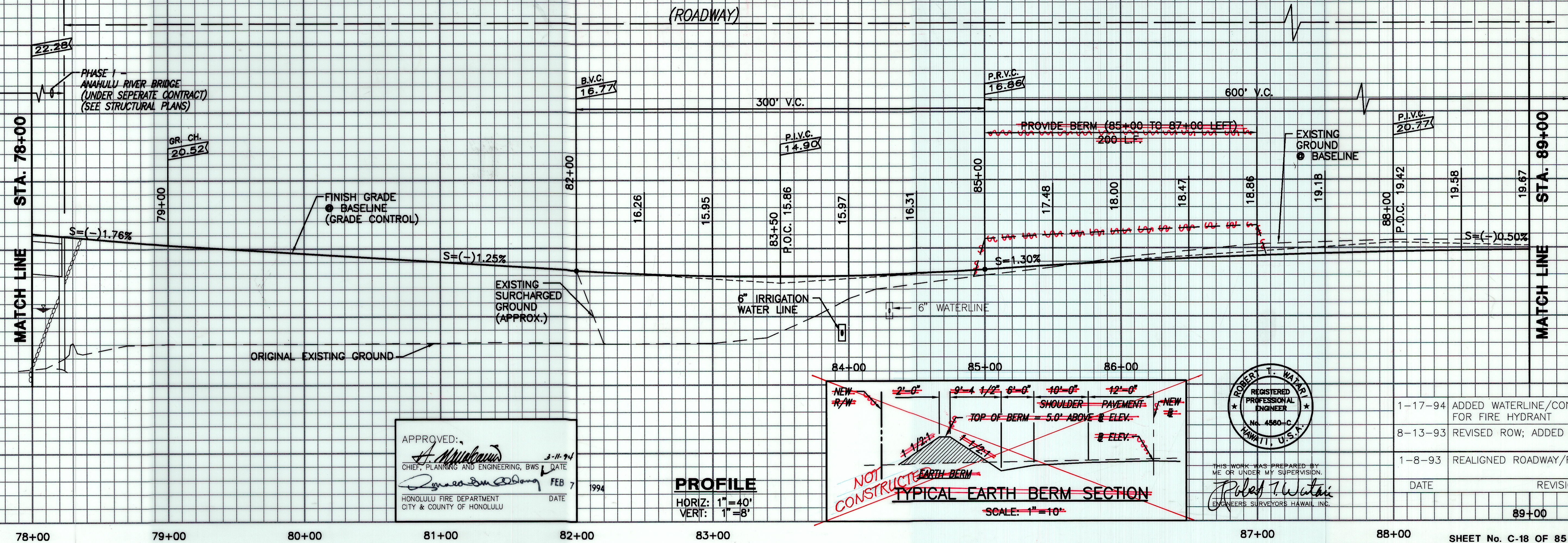
C.O. 18

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	C.O.19	163

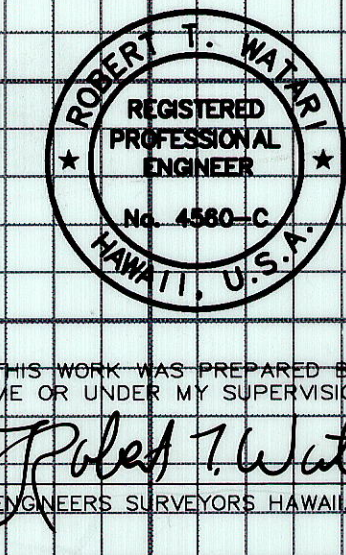
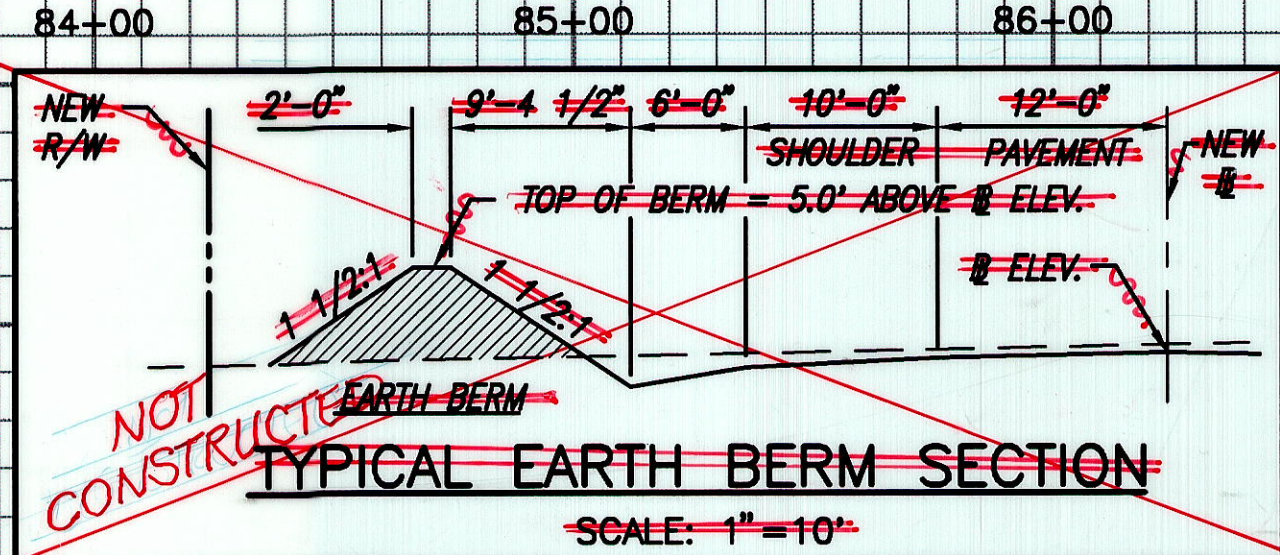
PHASE I - ANAHULU RIVER BRIDGE
(U.S.C.) (SEE STRUCTURAL PLANS)



PLAN
SCALE: 1"=40'



PROFILE
HORIZ: 1"=40'
VERT: 1"=8'



1-17-94	ADDED WATERLINE/CONNECTION FOR FIRE HYDRANT
8-13-93	REVISED ROW; ADDED NOISE BERM
1-8-93	REALIGNED ROADWAY/REVISED PROFILE
DATE	REVISION

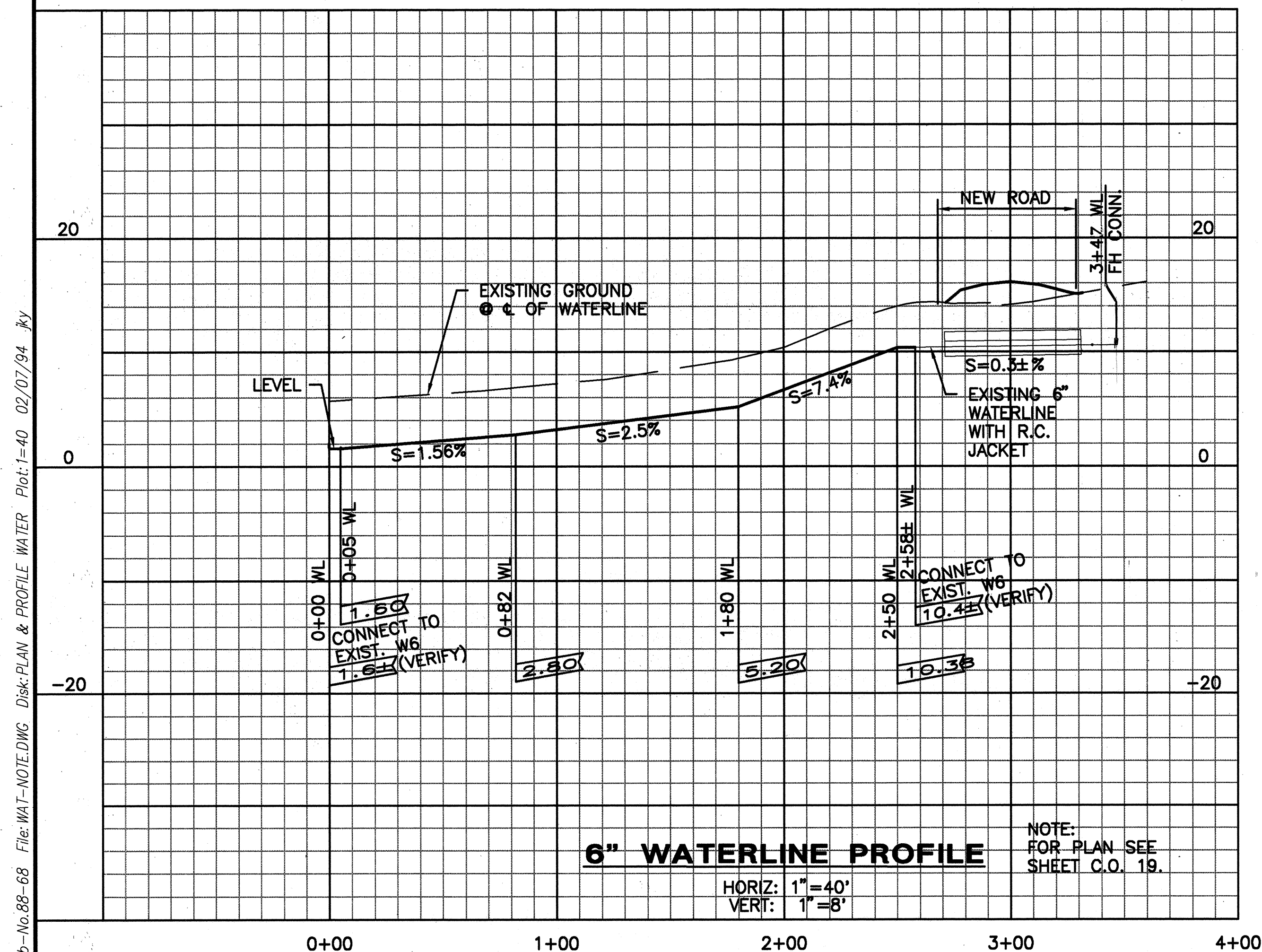
ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	
NO.	

JOB NO. 88-663.3 DISKPLAN & PROFILE WATER FILEPP-WATERLING PLOT11-40 02/07/94 jw

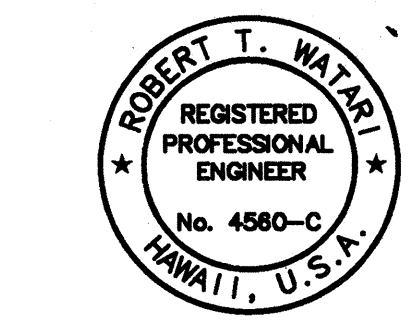
WATER NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY'S "WATER SYSTEM STANDARDS", VOLUME 1, DATED 1985, AND THE "APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION", VOLUME 2, DATED 1985, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, AND ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. ALL PLANS APPROVED BY THE BOARD OF WATER SUPPLY ARE BASED SOLELY ON THE ADEQUACY OF THE WATER SUPPLY. ALL OTHER FEATURES OF THE WATER SYSTEM, SUCH AS LINES, GRADES, FITTINGS, DRAINAGE, ETC., AND OTHER FEATURES OF IMPROVEMENTS SHALL NOT BE THE RESPONSIBILITY OF THE BOARD OF WATER SUPPLY.
3. TEST PRESSURE SHALL BE 150 PSI.
4. THE CONTRACTOR SHALL NOTIFY THE BWS PLANNING AND ENGINEERING DIVISION, CONSTRUCTION SECTION ONE WEEK PRIOR TO COMMENCING WORK ON THE WATER SYSTEM.
5. AFTER INSTALLATION OF TAPPING SLEEVE AND VALVE PRIOR TO ACTUAL TAPPING OPERATIONS, THE ASSEMBLY SHALL BE TESTED AT 150 PSI ON BOTH SIDES OF THE VALVE.
6. THE CONTRACTOR SHALL CHLORINATE THE ENTIRE INSIDE SURFACE OF EACH PIPE AND FITTING WITH DISINFECTION SOLUTION OF 5 OUNCES OF SODIUM HYPOCHLORITE MIXED WITH 10 GALLONS OF WATER. (FOR CONNECTION ONLY)
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL WATER LINES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL WHEN EXCAVATING BEHIND WATER LINES, TEES AND BENDS WHEREVER THERE IS A POSSIBILITY OF WATER LINE MOVEMENT DUE TO THE REMOVAL OF THE SUPPORTING EARTH BEYOND THE EXISTING REACTION BLOCKS. THE CONTRACTOR SHALL TAKE WHATEVER MEASURE NECESSARY TO PROTECT THE WATER LINES, SUCH AS CONSTRUCTING SPECIAL REACTION BLOCKS (WITH BWS APPROVAL) AND/OR MODIFYING HIS CONSTRUCTION METHOD.
8. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT IS NOT GUARANTEED AS TO THE ACCURACY OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL THE DAMAGES TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO UTILITIES ARE SHOWN, THAT NONE EXIST.
9. PRIOR TO INSTALLATION, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE BOARD OF WATER SUPPLY, THE MANUFACTURER'S CERTIFICATION THAT ALL CAST IRON (GRAY OR DUCTILE) FITTINGS FOR THE PROJECT CONFORM IN ALL RESPECTS TO THE WATER SYSTEM STANDARDS, DATED 1985.
10. POLYGON SHAPE FOR MECHANICAL JOINT GLANDS AS DESCRIBED IN AWWA STANDARD C111 SHALL BE "STRAIGHT-SIDED" OR AN APPROVED EQUAL ON A JOB TO JOB BASIS.
11. RE-APPROVAL SHALL BE REQUIRED IF THIS PROJECT IS NOT UNDER CONSTRUCTION WITHIN A PERIOD OF TWO YEARS.
12. AT THE ELECTRICAL/SIGNAL DUCTLINE WATER CROSSINGS, ADJUST ALL ELECTRICAL/SIGNAL DUCTLINE ELEVATIONS TO MAINTAIN 6" VERTICAL CLEAR SEPARATION FROM ALL WATER LINES (12" CLEAR FOR ALL ELECTRICAL/SIGNAL DUCTLINE STRUCTURES LARGER THAN 16") AT NO COST TO THE BOARD OF WATER SUPPLY.
13. MAINTAIN 3'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN ALL WATERLINE SYSTEMS AND NEAREST ELECTRICAL/SIGNAL DUCTLINES PARALLELING THE WATER SYSTEM AT NO COST TO THE BOARD OF WATER SUPPLY.
14. MAINTAIN 3'-0" MIN. HORIZONTAL CLEAR SEPARATION BETWEEN STREET LIGHT/TRAFFIC SIGNAL, STANDARDS (INCLUDING ANY MODULAR UNITS) AND THE NEAREST WATER SYSTEM. CONTRACTOR SHALL FIELD VERIFY FOR ANY CONFLICTS AT EACH STREET LIGHT/TRAFFIC SIGNAL STANDARD LOCATION. WHERE CONFLICTS OCCUR, THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER TO REVISE THE STREET LIGHT/TRAFFIC SIGNAL STANDARD TO PROVIDE THE REQUIRED CLEARANCES AT NO COST TO THE BWS.
15. THE CONTRACTOR SHALL OBTAIN A NPDES PERMIT PRIOR TO CHLORINATION AND/OR DEWATERING. A COPY OF THE PERMIT SHALL BE SUBMITTED TO THE BOARD OF WATER SUPPLY, PLANNING AND ENGINEERING DIVISION, CONSTRUCTION SECTION.
16. BWS WILL NOT SEND THE COMPLETION NOTICE TO DLU UNTIL EASEMENT DOCUMENTS ARE SUBMITTED TO BWS AND RECORDED.

FED.ROAD DIST.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	60.195-1	163



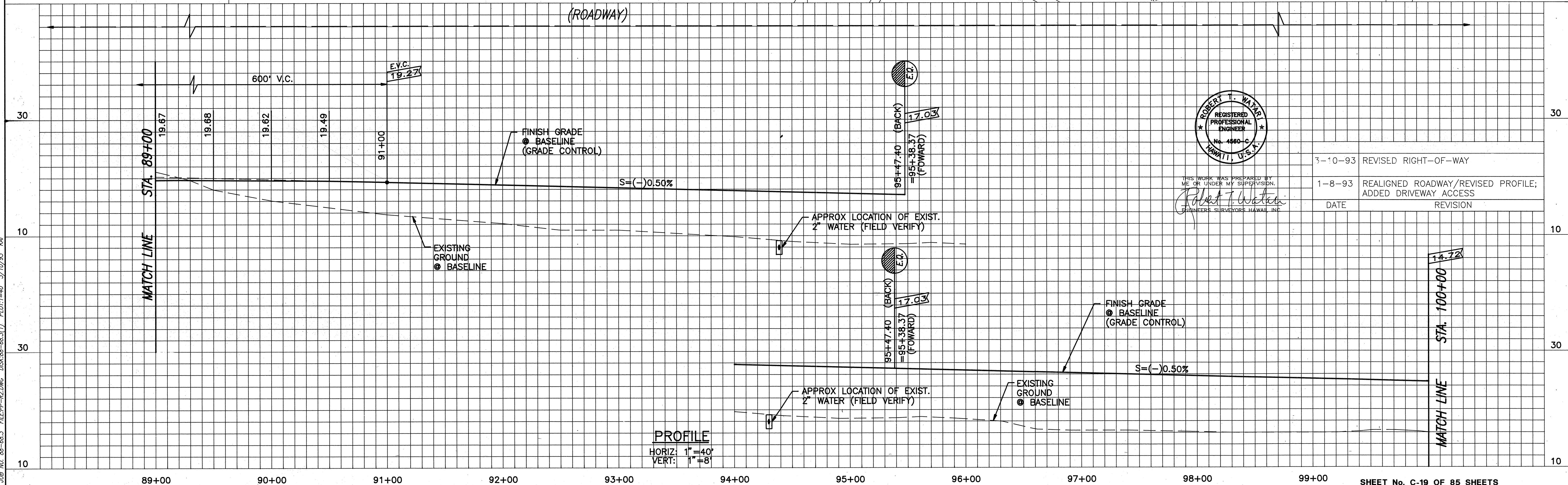
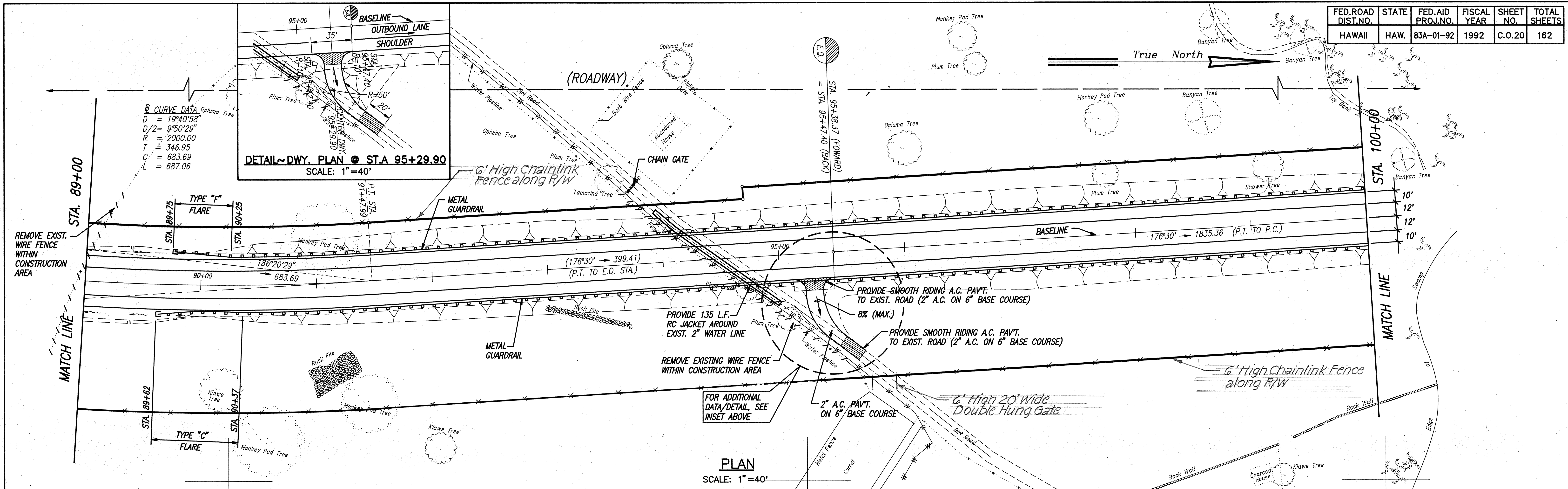
APPROVED: *[Signature]* 3-11-94
CHIEF, PLANNING AND ENGINEERING, BWS DATE
[Signature] FEB 7 1994
HONOLULU FIRE DEPARTMENT
CITY & COUNTY OF HONOLULU



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
[Signature]
ENGINEERS SURVEYORS HAWAII, INC.

1-17-94	ADDED WATER NOTES; ADDED 6" WATERLINE PROFILE.
DATE	REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	C.O.20	162



3-10-93	REVISED RIGHT-OF-WAY
1-8-93	REALIGNED ROADWAY/REVISED PROFILE; ADDED DRIVEWAY ACCESS
DATE	REVISION

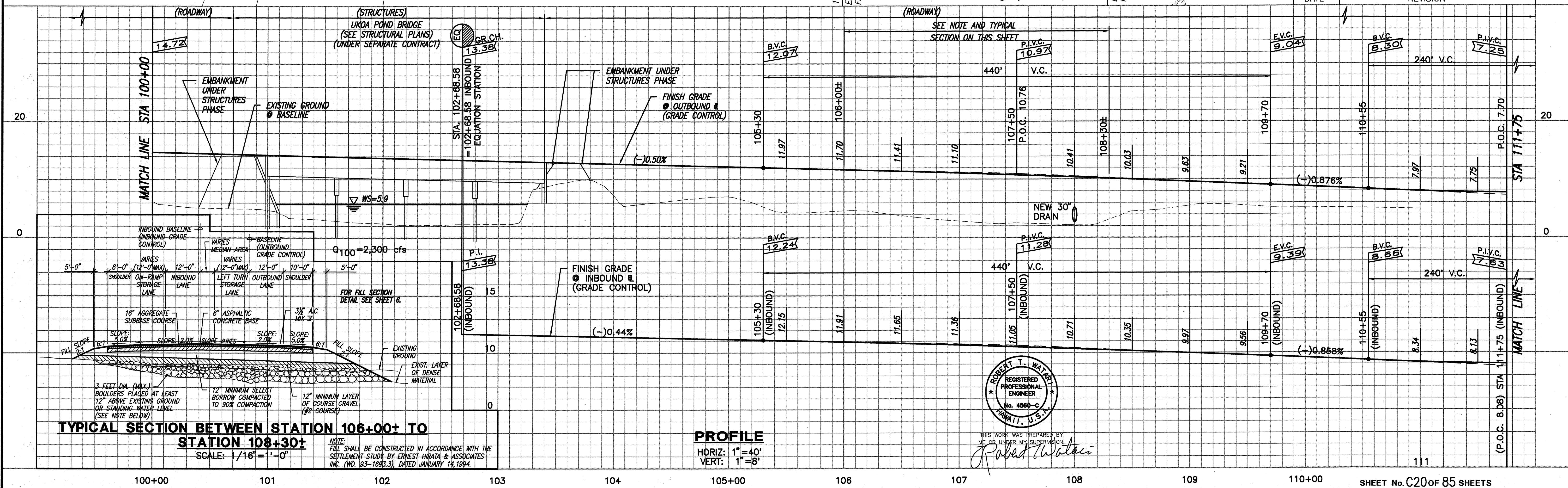
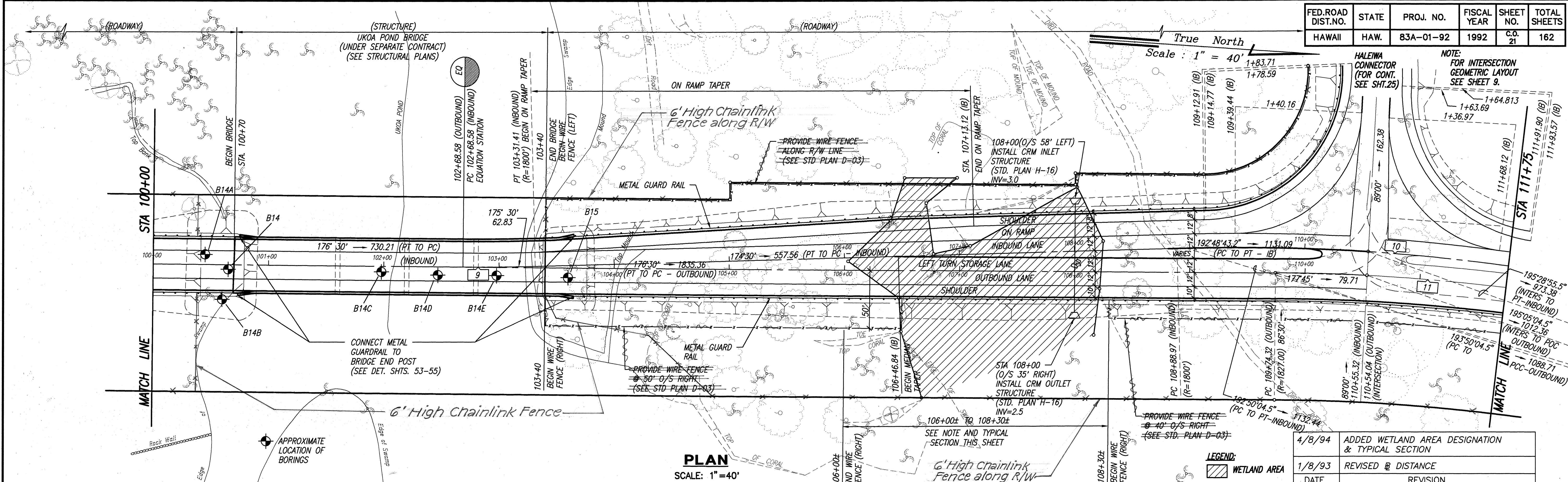
SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

JOB NO. 88-68.3 FILE#P-22.DWG DISK#88-68.3(1) PLOT#1=40 3/10/93 KAI

SHEET No. C-19 OF 85 SHEETS

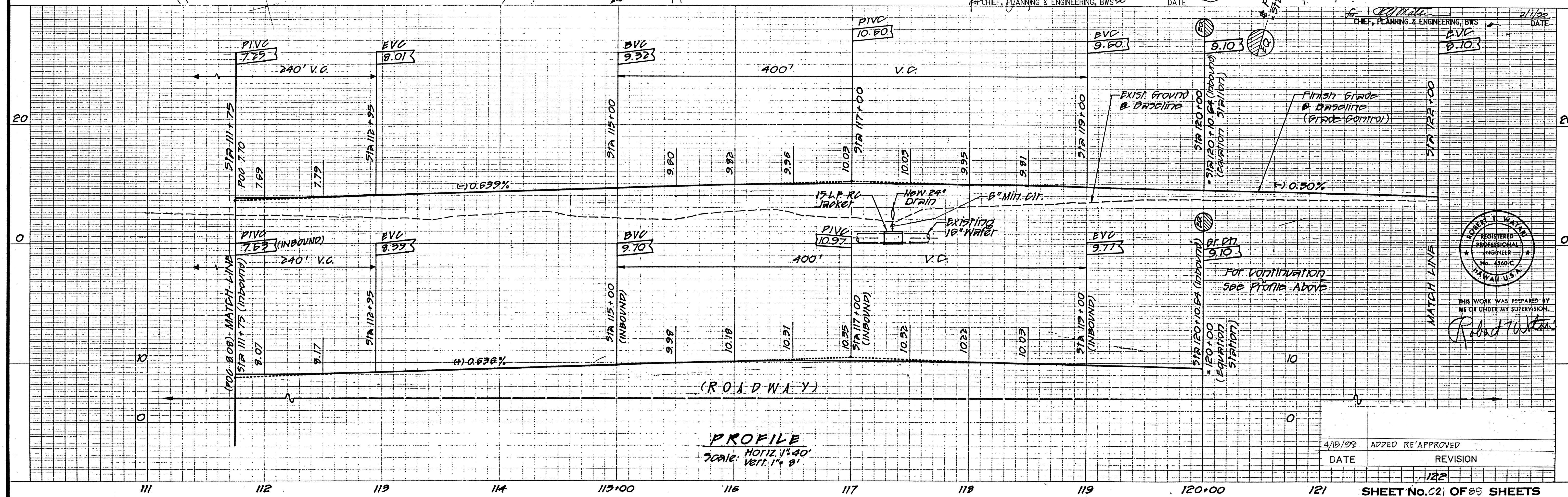
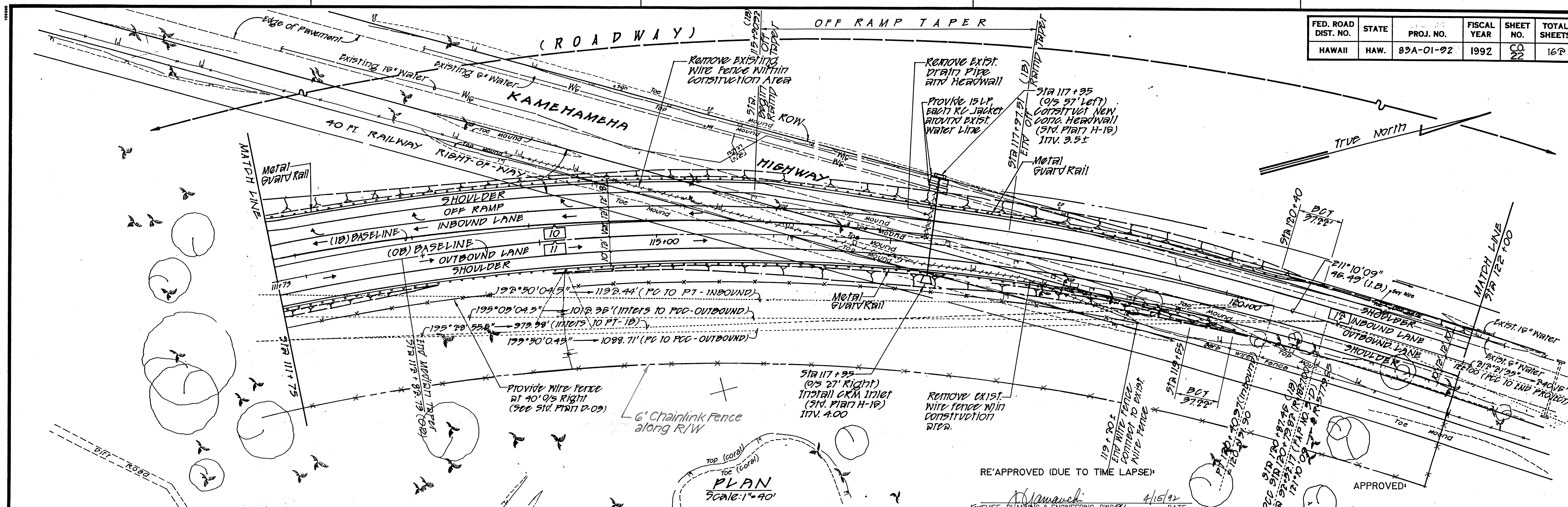
C.O.20

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-92	1992	C.O. 21	162



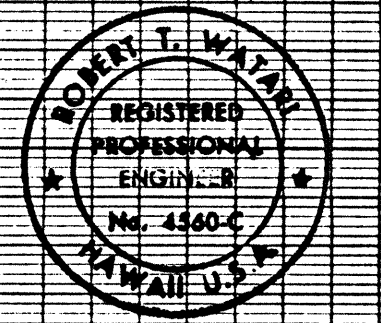
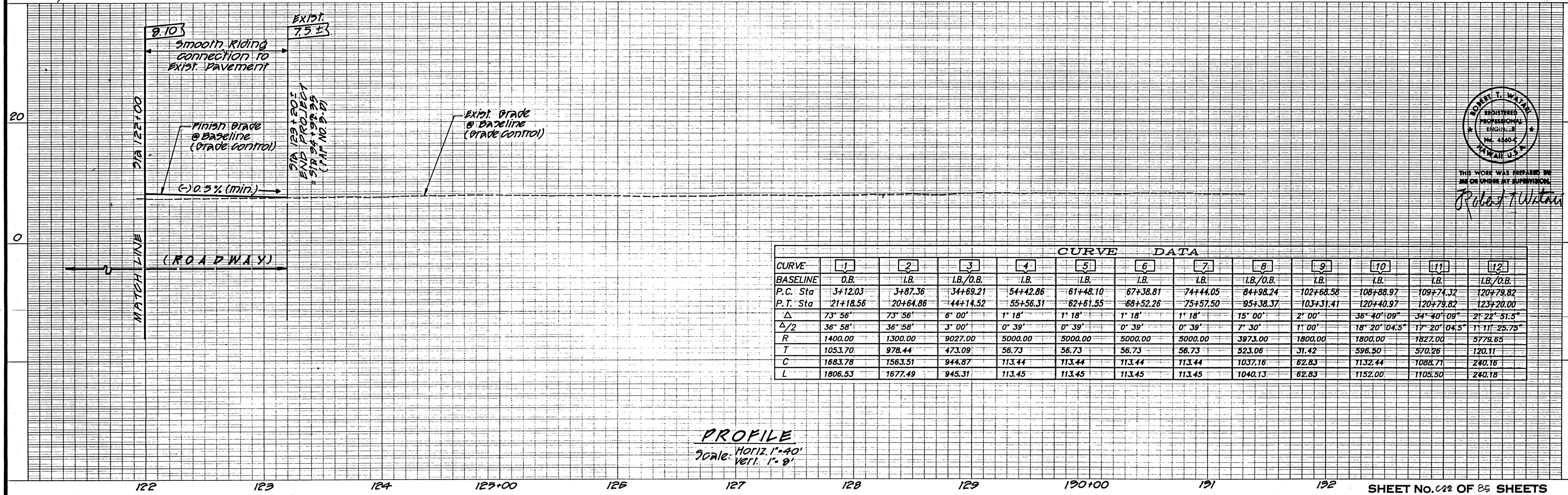
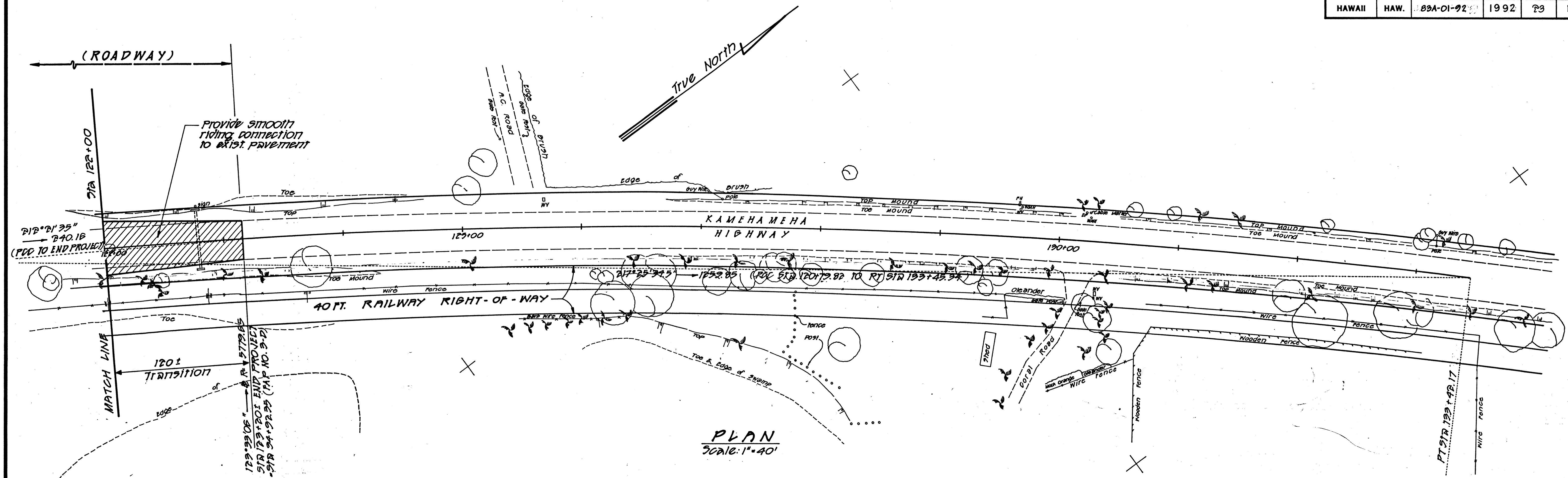
Job: 88-68.4 File: PR-COE-ALONG Disk: COE(1) Plot: 11-40 Date: 04/09/94 TT

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83A-01-02	1992	C.O. 22	162



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

C.O. 22



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Robert T. Watan

ORIGINAL PLAN
DATE
DRAWN BY
TRACED BY
DESIGNED BY
NOTED BY
CHECKED BY
NO.