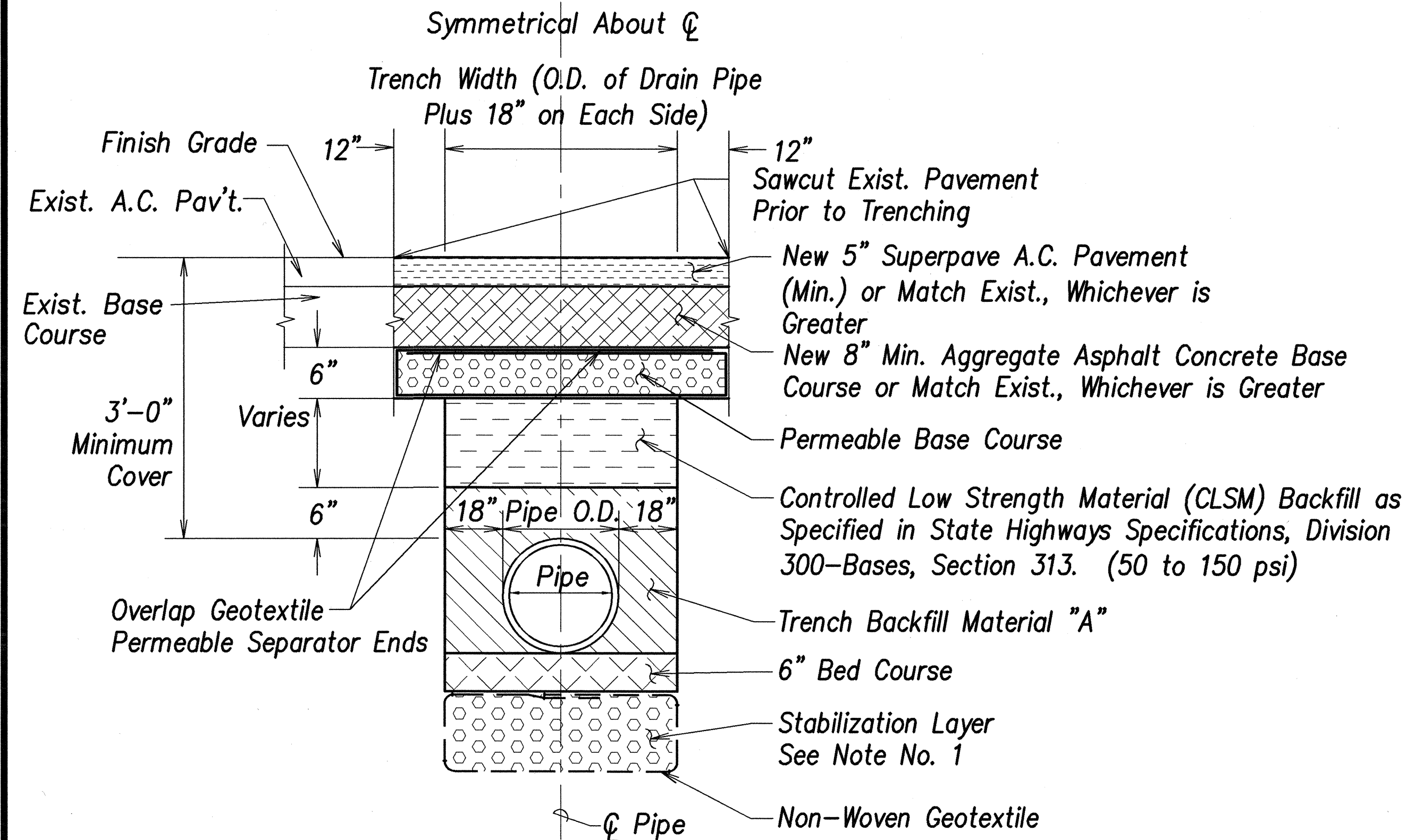


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(25)	2002	81	288



6" Bed Course

- Where utilities are within the water table, use size #67 (AASHTO M43).
- For all other areas, bed course material shall be trench backfill material "A".

Trench Backfill Material "A"

- Sand Equivalent (S.E.) ≥ 20
- 8" Maximum lifts
- 95% Compaction

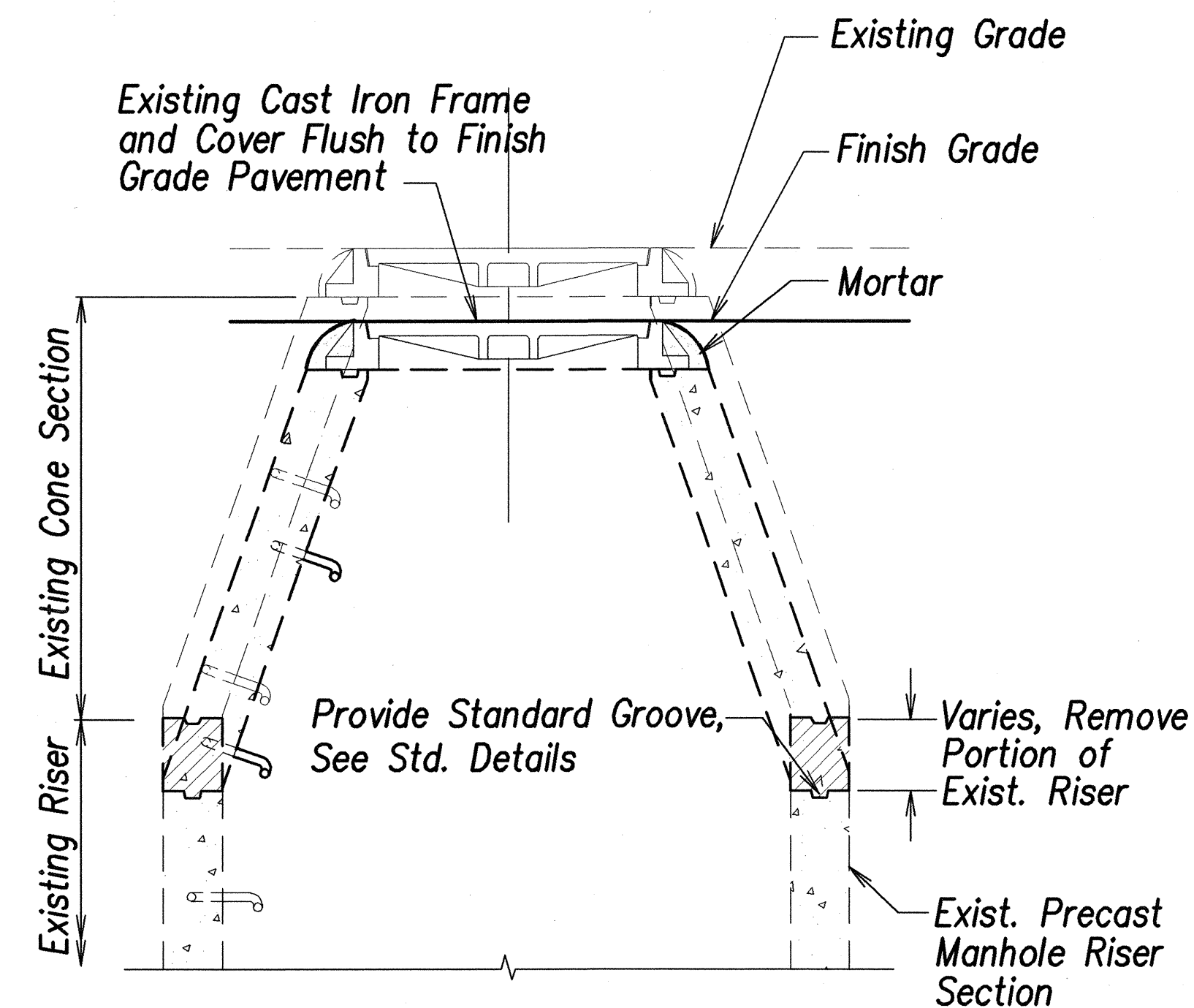
NOTES:

- Soft or loose soils encountered at the bottom of trenches shall be over-excavated to expose firm natural material or to a maximum of 24 inches and backfilled with no. 2 gravel (ASTM C33, No.4 gradation) that is encapsulated by a non-woven geotextile fabric (AMOCO 4546 or equivalent). This material shall be considered as additional to the recommended six (6) inches below the pipe.
- For balance of detail, see Details 1 and 2 on sheet C-33 of the Nimitz Highway Water System Improvements, Part 1, BWS Job No. 01-87A.

TRENCH SECTION FOR DRAIN LINE

Not to Scale

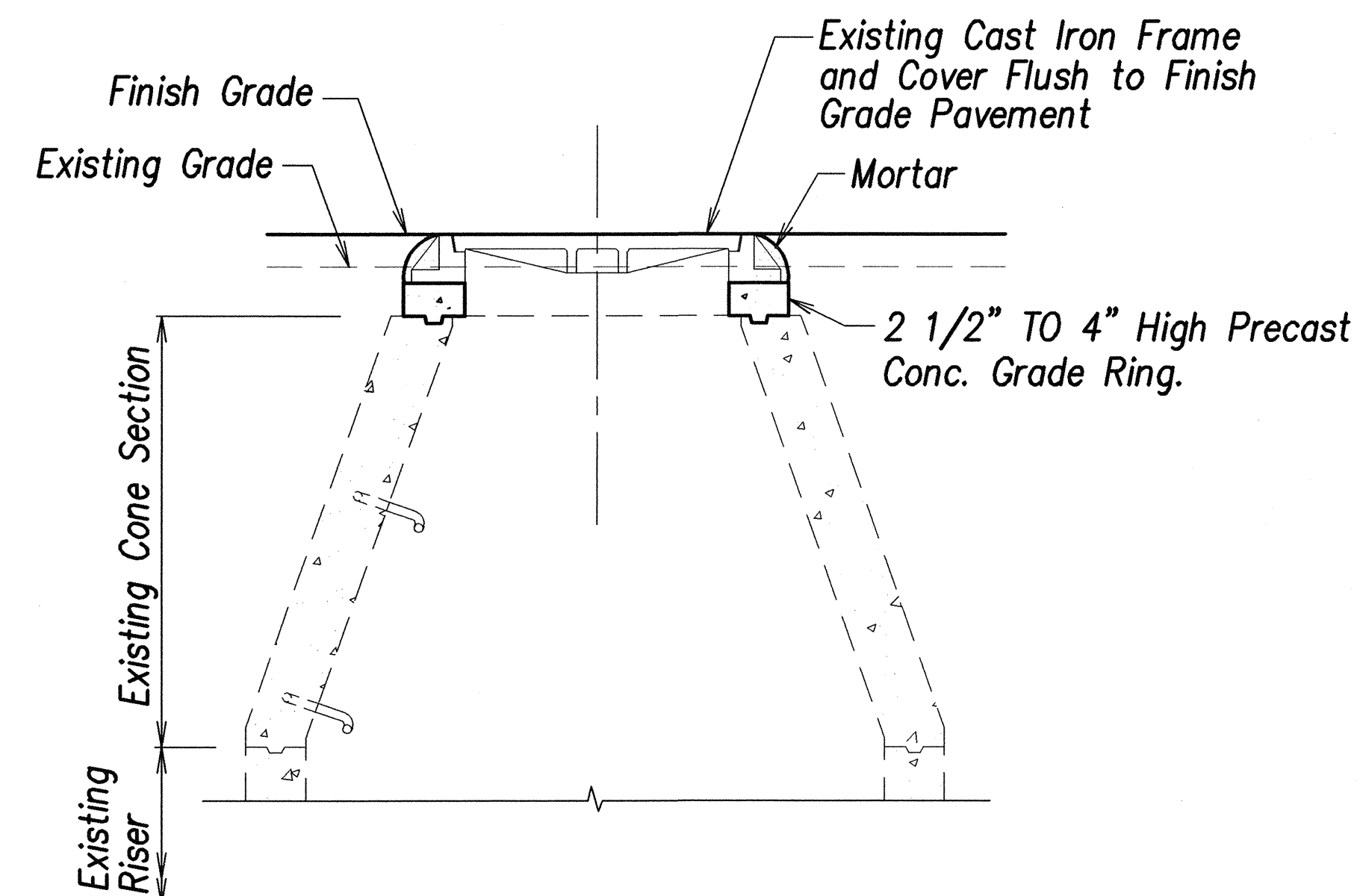
VARIOUS C-77



LOWERING OF EXIST. DRAIN MANHOLE

Scale: 1" = 1'-0"

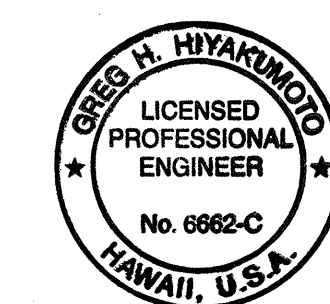
VARIOUS C-77



RAISING OF EXIST. DRAIN MANHOLE

Scale: 1" = 1'-0"

VARIOUS C-77



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

NIMITZ HIGHWAY REHABILITATION
SUMNER STREET TO QUEEN STREET
F.A.I. Proj. No. NH-092-1(25)

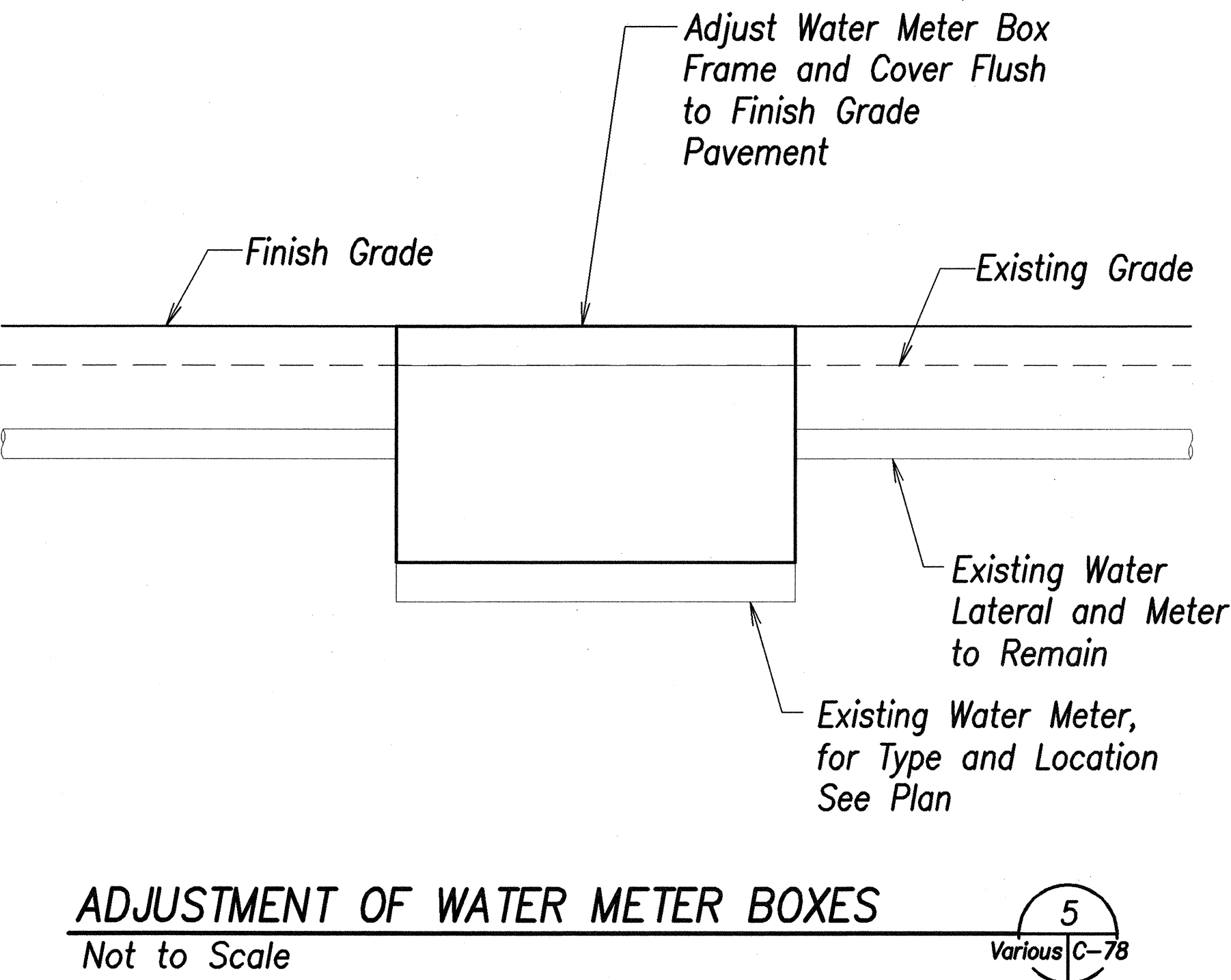
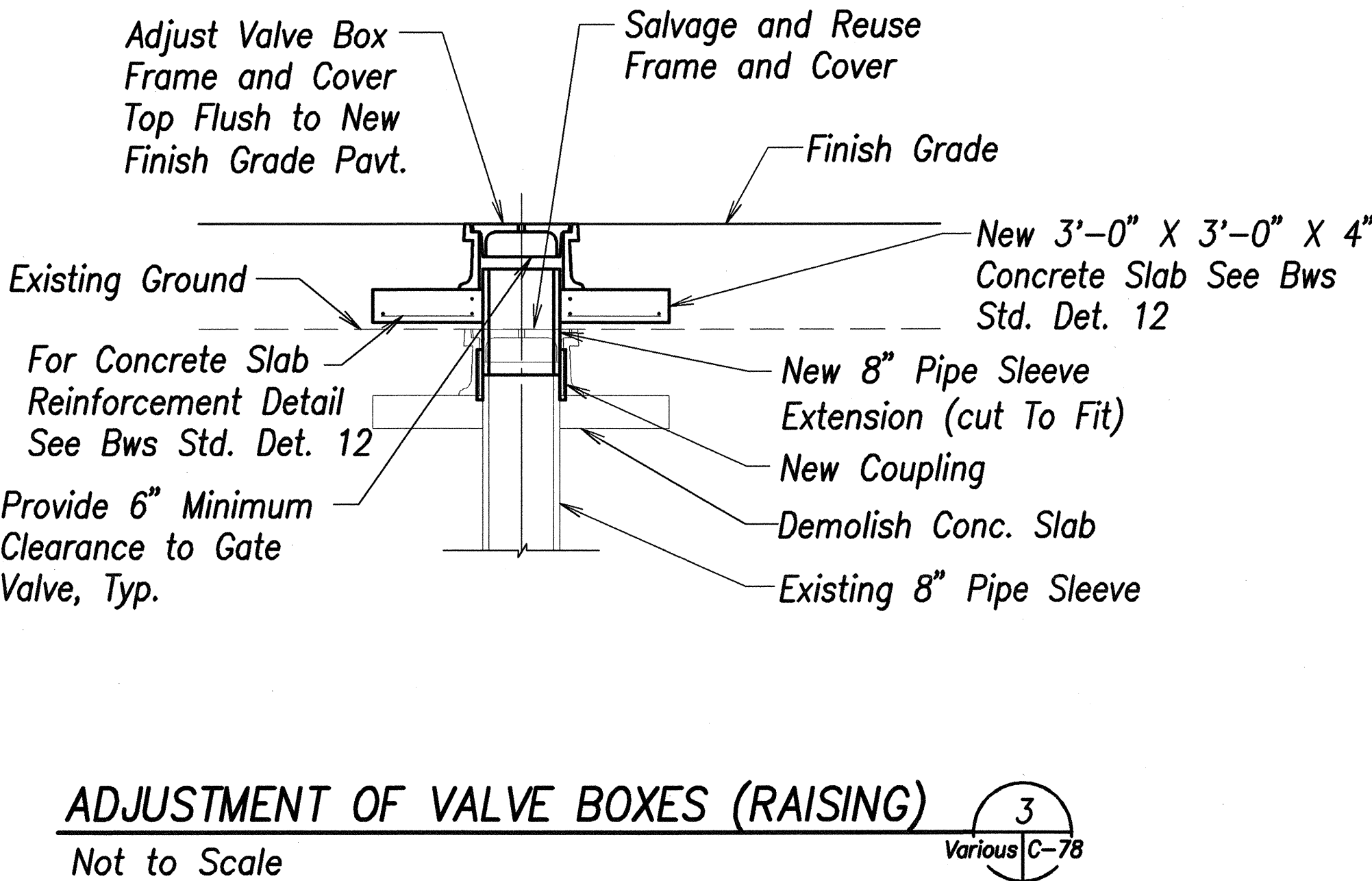
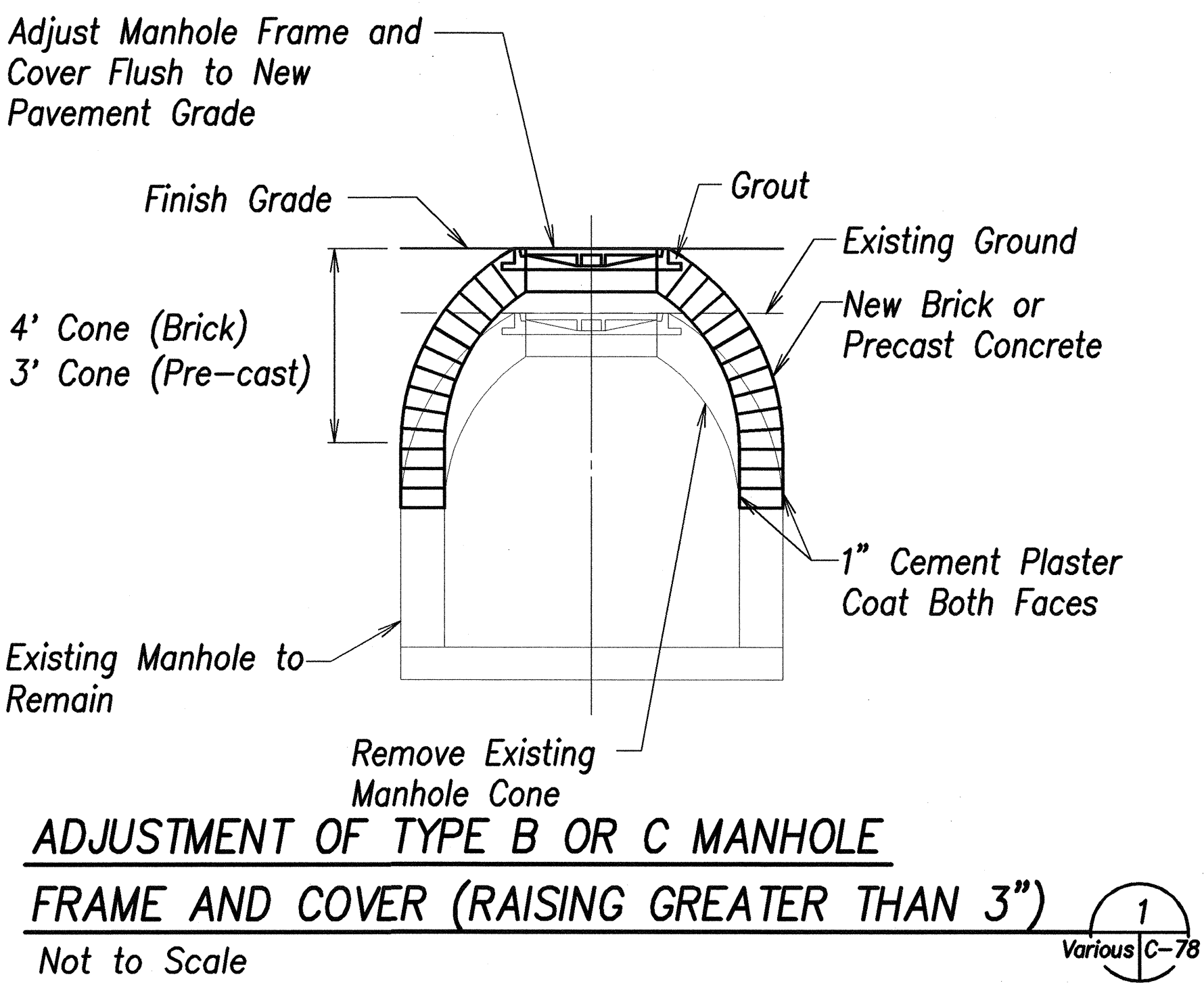
Scale: As shown

Date: 10/19/01

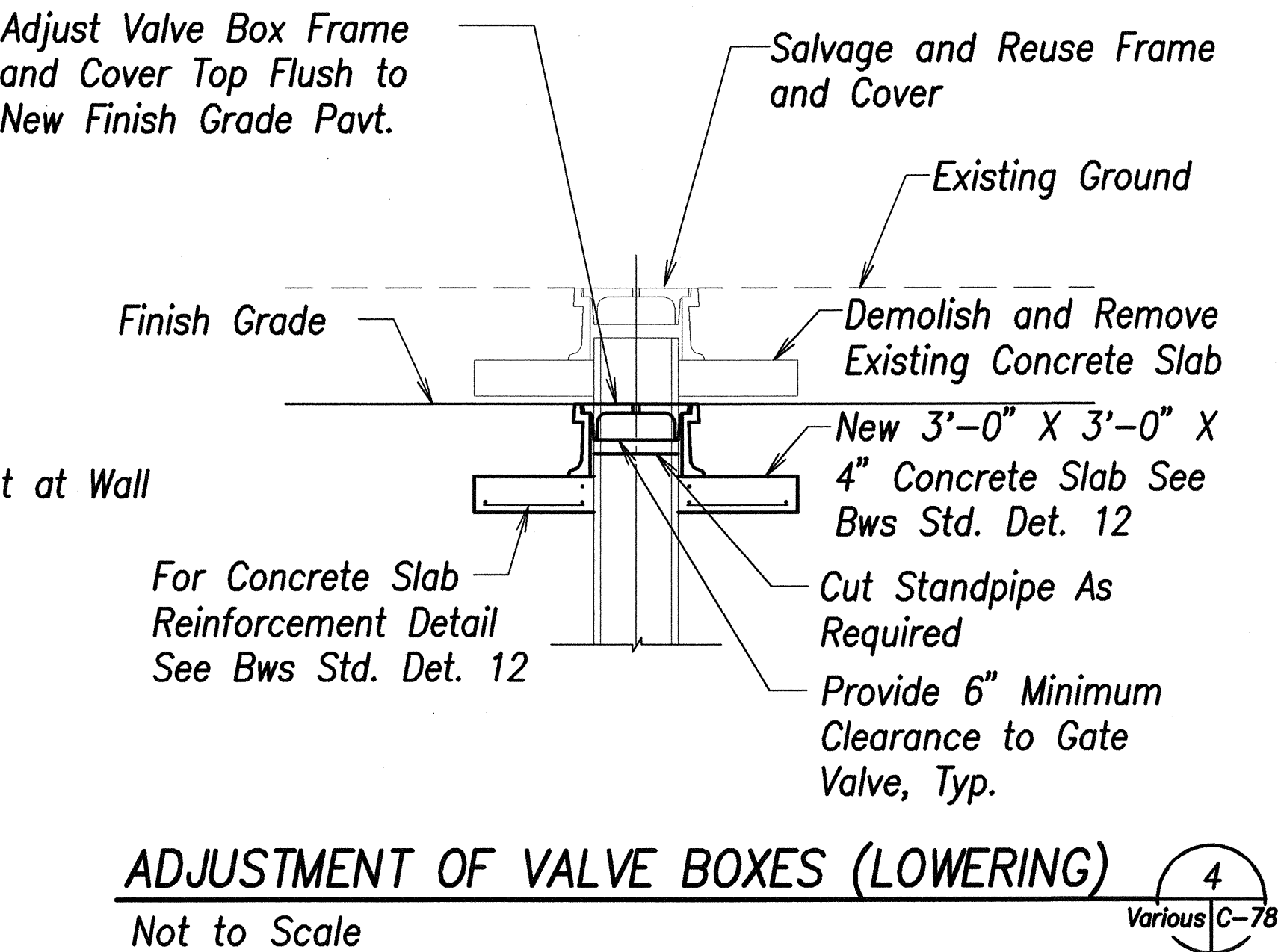
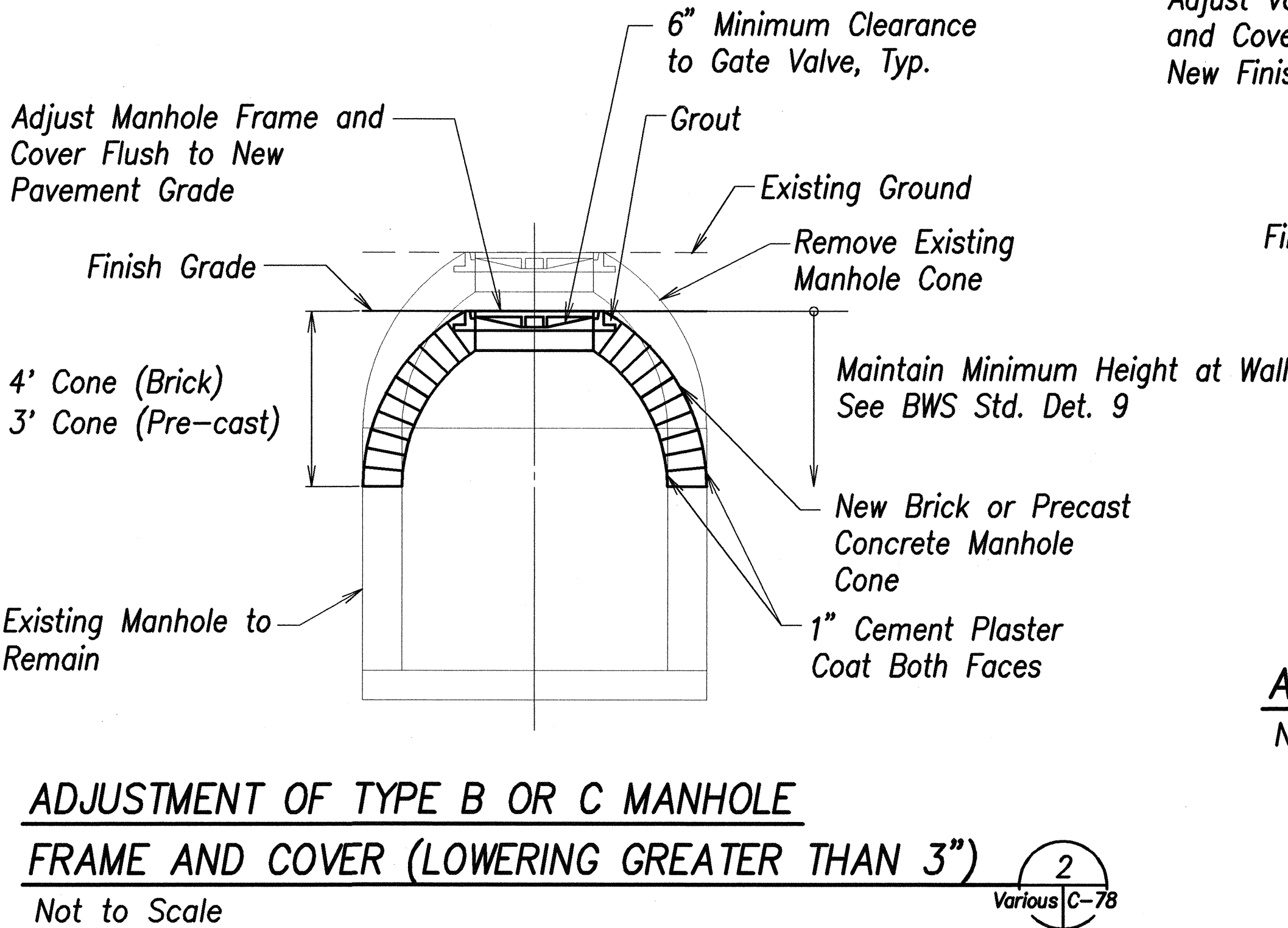
SHEET No. C-77 OF 107 SHEETS

SURVEY PLANNED BY	DATE
DRAWN BY	
TRACED 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.	NH-092-1(25)	2002	82	268



Note:
1. For manhole adustments:
Install additional rungs per Standard details, as required



APPROVED:

Kelly E. O'Neil 10/31/01
Leader, Maintenance Unit, BWS_{DD} Date



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Greg H. Hiyakumoto 10/19/01
SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER DETAILS
NIMITZ HIGHWAY REHABILITATION
SUMNER STREET TO QUEEN STREET
F.A.I. Proj. No. NH-092-1(25)

Scale: As shown
Date: 10/19/01

SHEET No. C-78 OF 107 SHEETS

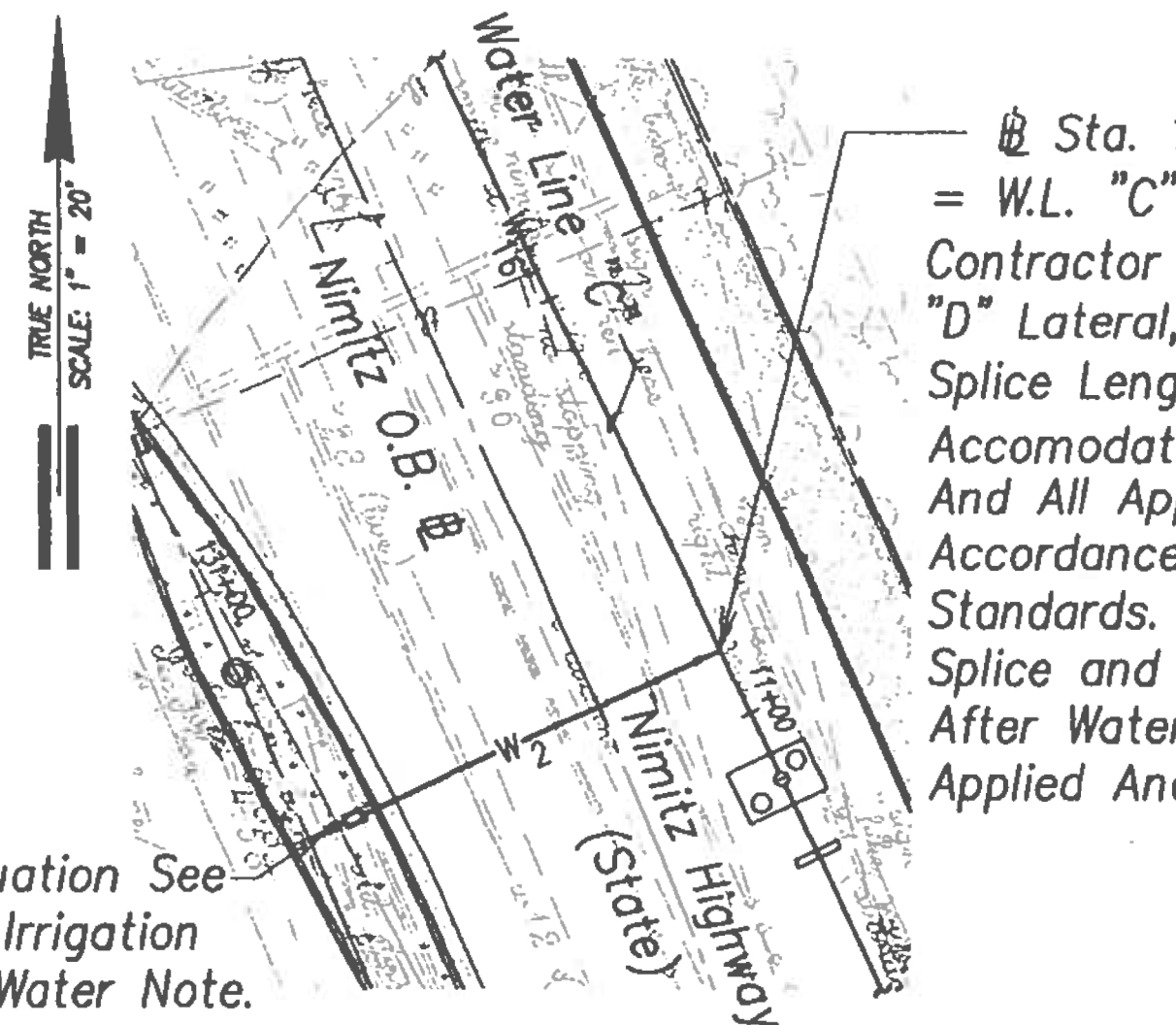
SURVEY PLATTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

Sta. 1+ 50,
= W.L. "D" Sta. 1+43

Contractor To Install Type "D"
Lateral, Blind Meter Splice Length
To Accomodate A 1/2 Inch Meter
And All Appurtenances In
Accordance With BWS Standards. Awa St. (State)
BWS To Remove Splice and
Install Meter After Water Service "16"
Is Applied And Paid For.

For Continuation See
Landscape Irrigation Plans
Per Water Note.

IRRIGATION LATERAL "A" 1
Scale: 1"=20' C-78.1/C-78.1



For Continuation See
Landscape Irrigation
Plans Per Water Note.

IRRIGATION LATERAL "B" 2
Scale: 1"=20' C-78.1/C-78.1

FOR ESTIMATING PURPOSES ONLY	
DESCRIPTION OF WORK FOR "A"	ESTIMATE
2" DOMESTIC SERVICE	
"A" 1/2" Meter Installation Charge 196+180	376.00
WATER SYSTEM FACILITIES CHARGES 50 X 620.85 = 31,042.50	48,004.83
77 X 220.29 = 16,962.33	
*CREDIT S/N	
S/N	
FIRE SERVICE	
Meter Installation Charge	
One-time Charge	
TOTAL	48,380.83

*CREDITS WILL BE DETERMINED WHEN THE BUILDING PERMIT APPLICATION IS SUBMITTED FOR BWS REVIEW AND APPROVAL.

THIS ESTIMATE IS SUBJECT TO CHANGE. A FORMAL WRITTEN QUOTATION MAY BE OBTAINED AND ALL PAYMENTS FOR THE CHARGES SHOWN ON THE QUOTATION MADE WITHIN 30 DAYS AFTER THE CONSTRUCTION PLAN IS APPROVED BY BWS. IF PAYMENTS ARE NOT RECEIVED WITHIN THE 30 DAY PERIOD, THE PROJECT WILL BE SUBJECT TO PREVAILING RATES.

FOR ESTIMATING PURPOSES ONLY	
DESCRIPTION OF WORK FOR "B"	ESTIMATE
2" DOMESTIC SERVICE	
"B" 1/2" Meter Installation Charge 196+180	376.00
WATER SYSTEM FACILITIES CHARGES 50 X 620.85 = 31,042.50	80,607.75
225 X 220.29 = 49,565.25	
*CREDIT S/N	
S/N	
FIRE SERVICE	
Meter Installation Charge	
One-time Charge	
TOTAL	80,983.75

SLEEVE LOCATION 3
Scale: 1"=20' C-78.1/C-78.1



SLEEVE LOCATION 4
Scale: 1"=20' C-78.1/C-78.1



SLEEVE LOCATION 5
Scale: 1"=20' C-78.1/C-78.1



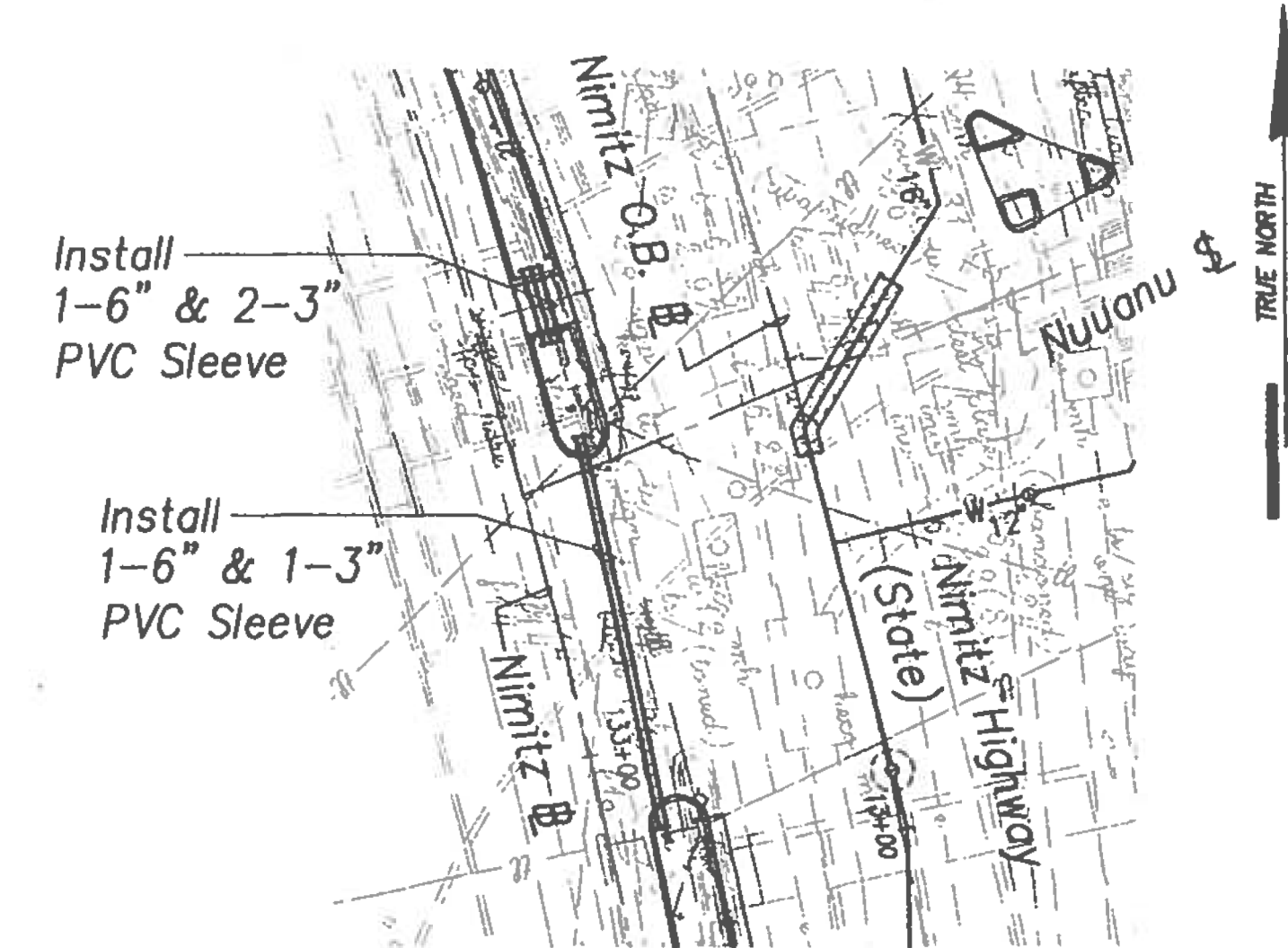
SLEEVE LOCATION 6
Scale: 1"=20' C-78.1/C-78.1



Install
1-6" & 2-3"
PVC Sleeve

Install
1-6" & 1-3"
PVC Sleeve

SLEEVE LOCATION 7
Scale: 1"=20' C-78.1/C-78.1



Install
1-6" & 2-3"
PVC Sleeve

Install
1-6" & 1-3"
PVC Sleeve

SLEEVE LOCATION 8
Scale: 1"=20' C-78.1/C-78.1

C.C.O. 9 Attachment 1: see plan sheets 51, 52.



Water Note:

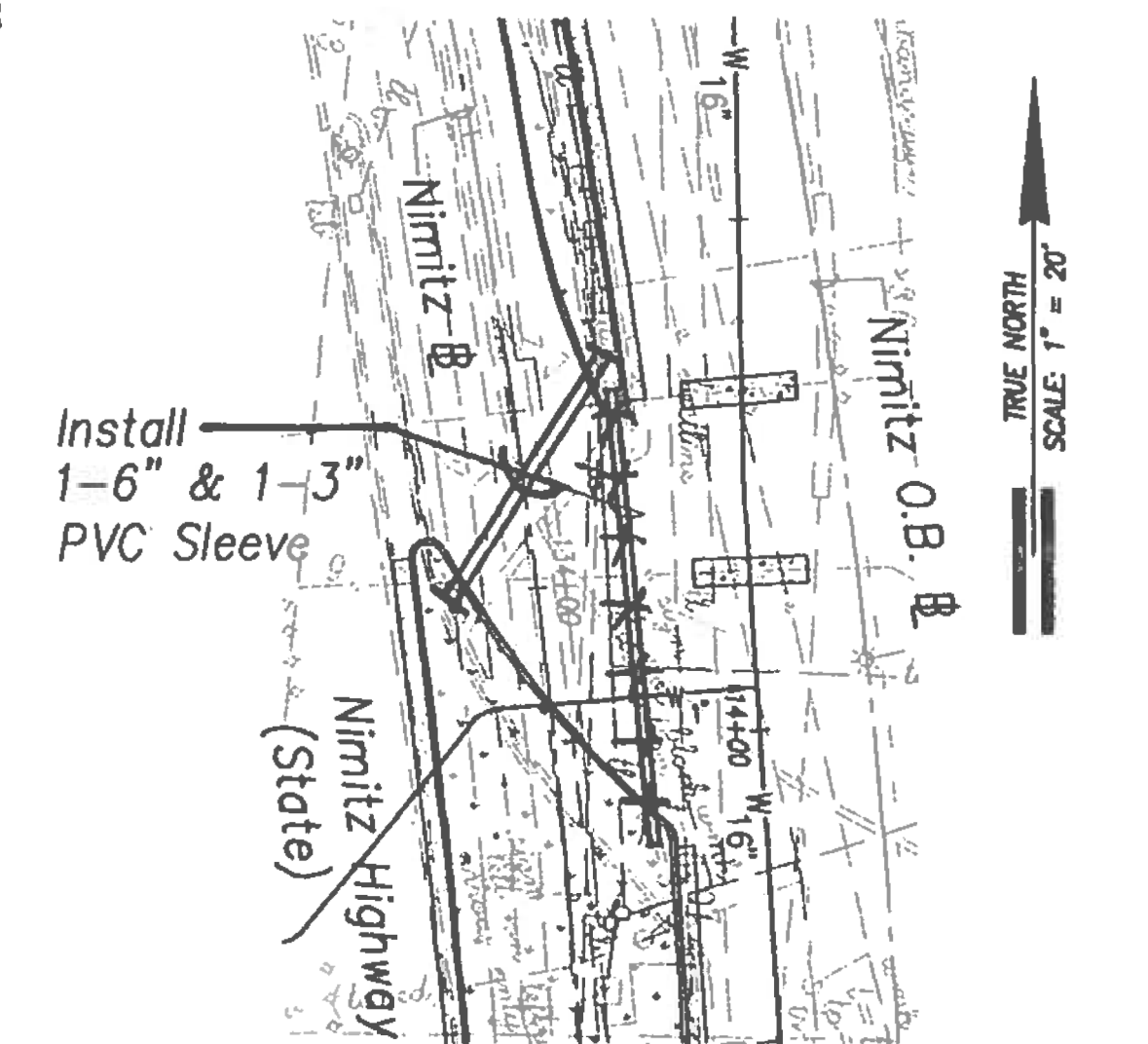
For continuation of New Irrigation
line installation see Nimitz Highway
Water System Improvement plans
Part 1, BWS Job No. 01-87A, Refer
to new C.O. drawings by Miyabara
& Associates, City consultant.

THIS WORK WAS PREPARED BY ME OR UNDER
MY SUPERVISION AND CONSTRUCTION OF THIS
PROJECT WILL BE UNDER MY OBSERVATION.

Walter G. C. Chong
SIGNATURE DATE OF LICENSE EXPIRY 04/04/06

OBSERVATION OF CONSTRUCTION IS DEFINED IN
CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES
ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS,
SURVEYORS AND LANDSCAPE ARCHITECTS."

ROAD JCT. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(25)	2002	C.O. 83	288
REVISION	DATE	BY	APPROVED		
	6/15/04	ADDED NEW SHEET	NC		



SLEEVE LOCATION 9
Scale: 1"=20' C-78.1/C-78.1

* Lateral Flow Requirements				
Lateral Name		Fixture Units (FU)	Gallons Per Min. (GPM)	Gallons Per Day (GPD)
"A"	Domestic	0	0	0
	Irrigation	127	51	1270
	Total	127	51	1270
"B"	Domestic	0	0	0
	Irrigation	275	80	1500
	Total	275	80	1500

* See Water Note for Final Flow Requirements.

C.C.O. 9

ATTACHMENT 2

(SHT. 5 OF 5)

Supersedes plan sheet 83

APPROVED:

Principal Executive, Maintenance Unit, BWS Date 6/15/04

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IRRIGATION DETAILS

NIMITZ HIGHWAY REHABILITATION
SUMNER STREET TO QUEEN STREET
F.A.I. Proj. No. NH-092-1(25)

Scale: 1"=20' Date: 6/11/04

SHEET No.C-78.1OF 107 SHEETS

"AS-BUILT" C.C.O. 9 Attachment 2 sheets 1-4: see plan sheets 5, 6, ADD. 258 C 83

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(25)	2002	85	288

PAVEMENT MARKING LEGEND



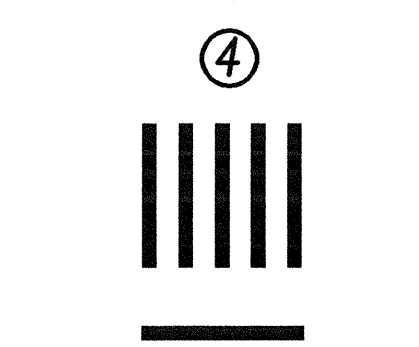
8" Wide Solid White Line w/ Type "C" RPM's @ 20' o.c., Typ.



4" Wide Solid White Line w/Type "H" RPM's @ 40' o.c., Typ.



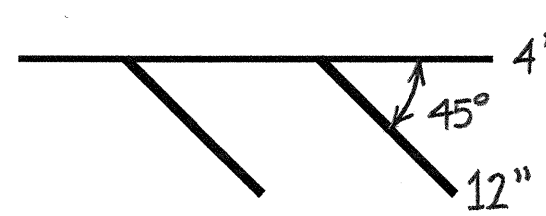
Stop Line (12" Wide Solid White Line).



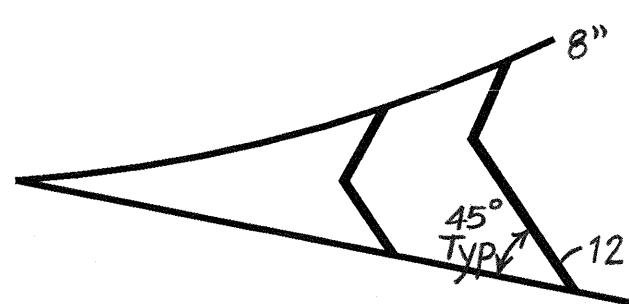
Crosswalk and Stop Line. All stop lines shall be 10'-0" from the crosswalk unless otherwise shown. The circled number indicates the number of lanes for payment. (Tape, Type III or Thermoplastic Extrusion)



Type "C" RPM's @ 40' o.c. w/ Type "A" RPM's, 4 @ 10' Wide, Typ.



Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)



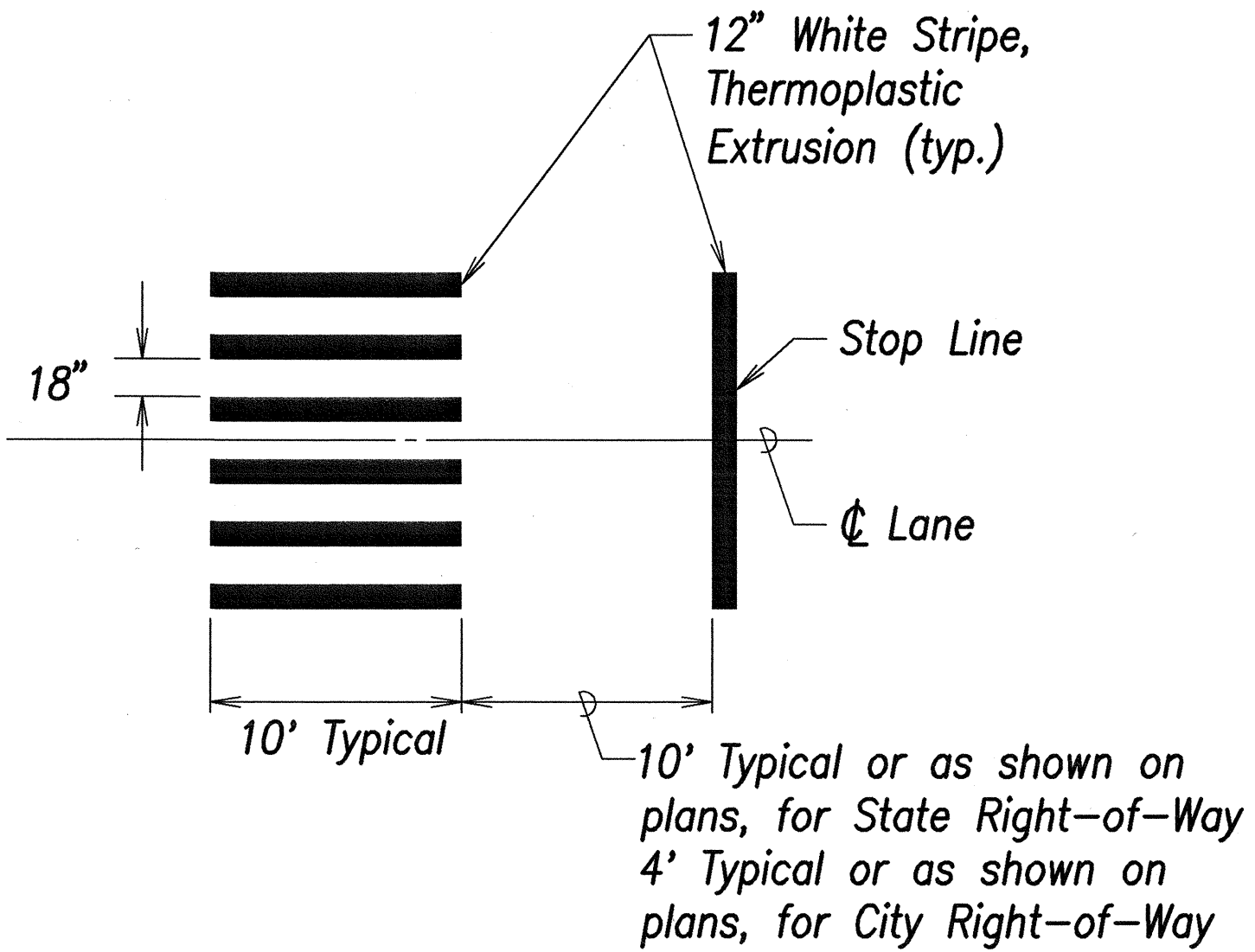
Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)



Pavement Word (Tape, Type III or Thermoplastic Extrusion)



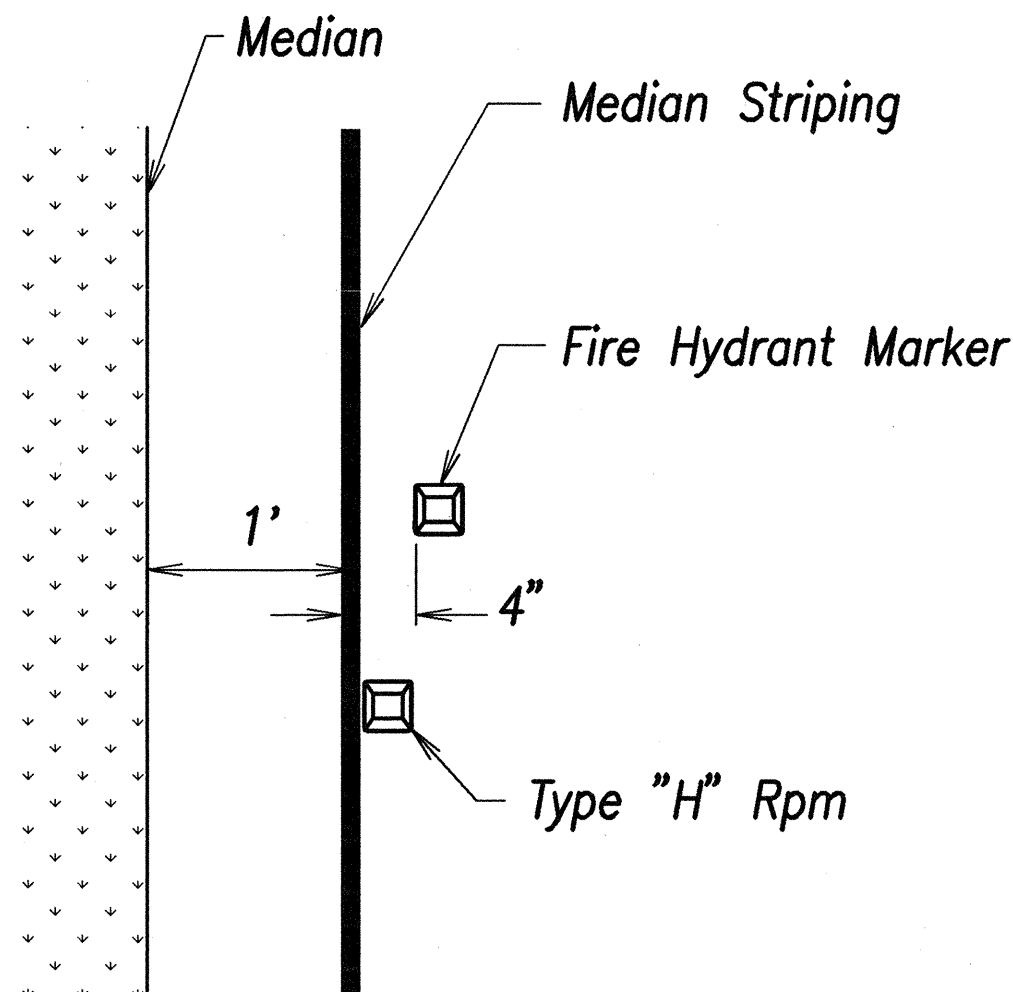
Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)



CROSSWALK STRIPING

Not to Scale

C-52,C-53,C-54 C-80

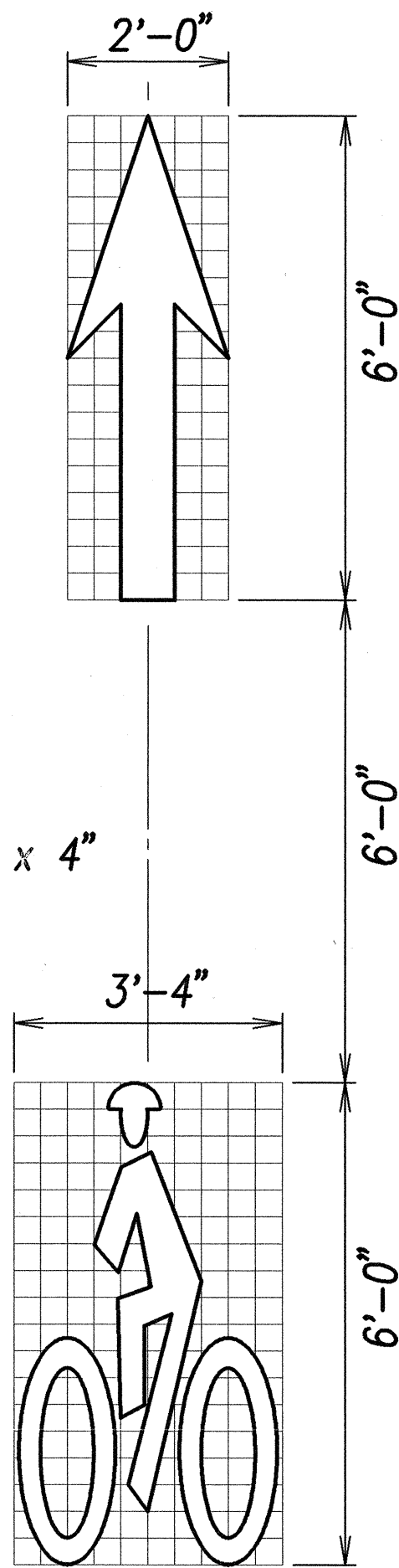


FIRE HYDRANT MARKER LOCATION

Not to Scale

C-52,C-53,C-54 C-80

Note:
□ = 4" x 4"



STANDARD DETAIL OF THE PAVEMENT ARROW FOR CITY RIGHT-OF-WAY ONLY

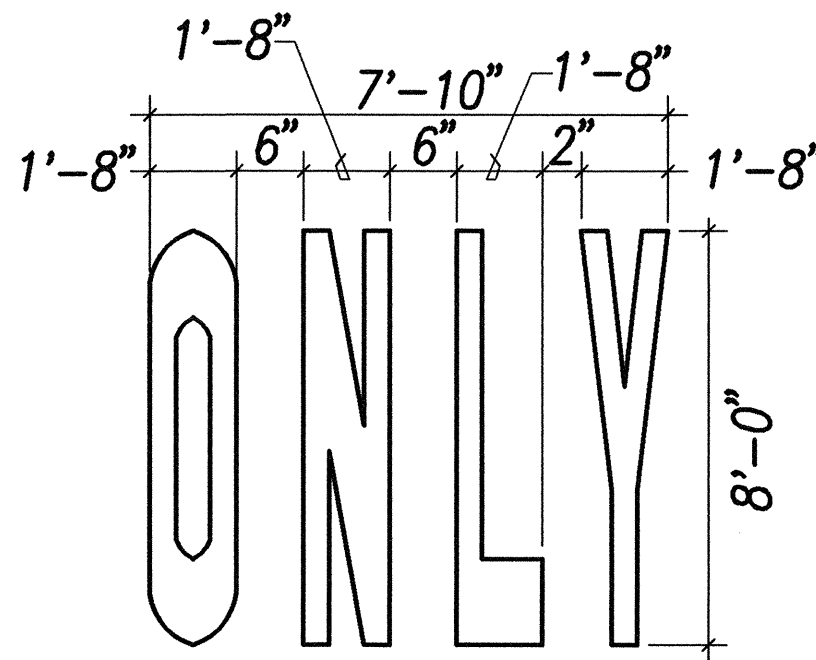
Not to Scale

C-52,C-53,C-54 C-80

BIKE LANE PAVEMENT MARKINGS

Scale: 1/2" = 1'-0"

C-52,C-53,C-54 C-80



Note
When this marking is used, it shall be painted in each lane of traffic approaching the intersection

STANDARD DETAIL OF THE WORD "ONLY" 8'-0" SIZE FOR CITY RIGHT-OF-WAY ONLY

Not to Scale

C-52,C-53,C-54 C-80

APPROVED:

Chief, Traffic Review Branch, DPP
(For Work Within City ROW Only)

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKINGS & SIGNING
LEGEND & DETAILS
NIMITZ HIGHWAY REHABILITATION
SUMNER STREET TO QUEEN STREET
F.A.I. Proj. No. NH-092-1(25)

Scale: As shown Date: 10/19/01

SHEET No. C-80 OF 107 SHEETS