

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(41)	2000	84	90

GENERAL NOTES

(For Additional Notes, See Sheet 3)

1. The Existence And Location Of Overhead and Underground Utilities And Facilities as Shown on the Plans Are From Existing Records with Various Degrees of Accuracy and is Not Guaranteed as Shown or that Other Obstacles May Not Be Encountered During the Course Of the Work. The Contractor Shall Exercise Extreme Caution Whenever Construction Crosses or is in Close Proximity of Underground Lines and Shall Maintain a Minimum 13'-0" Clearance When Operating Equipment Within or Under any Overhead Lines. The Contractor Shall be Responsible And Shall Pay For All Damages To The Existing Utilities, As Well As Adjust Electrical Work To Account For Any Encountered Conflict With Existing Utilities As Incidental Costs.

Telephone/ Contractor To Obtain Excavation Clearance 3 Working Days Prior To
Catv Lines: Any Excavation Work. Use Extreme Caution During Excavation.

Water Lines: Contractor To Call Board Of Water Supply, City And County Of Honolulu For Field Locations Of Water Mains And Appurtenances A Minimum Of 48 Hours Before Starting Project Excavation.

Sewer Lines: Contractor To Call Division Of Sewers, City And County Of Honolulu For Field Locations Of Sewer Lines And Laterals A Minimum Of 48 Hours Before Starting Project Excavation.

2. The Minimum Clearance Between Fire Hydrants And Utility Poles Or Light Standards Shall Be 3'-0".
3. The Contractor Shall Trim Or Remove All Trees, Shrubs, Bushes, etc. Encroaching Upon The Newly Installed Highway Lighting Standards. Foliage Shall Be Trimmed So As Not To Interfere With The Luminaire's Light Distribution Pattern.
4. Design Illumination Level = 0.8 Footcandle Average Maintained
Design Uniformity Ratio (Ave./Min.) = 3:1 Max
Design Maintenance Factor = 0.75.
5. The Contractor Shall Obtain All Necessary Permits. The Contractor Shall Contact HECO's Mapping and Records Division located at 820 Ward Avenue, 4th Floor, Two Weeks Prior to Starting Construction For Field Verification of HECO's Underground Facilities.
6. The Contractor Shall Be Liable For Any Damages To Hawaiian Electric Co.'s Facilities And Shall Immediately Report Such Damages to Hawaiian Electric Co.'s Trouble Dispatcher At 548-7961.
7. The Contractor Shall Comply With The Directives Of The State of Hawaii Occupational Safety And Health Law (DOSH). Any Citation (fine) Received By The State For Noncompliance By The Contractor Shall Be Deducted From The Progress Payments.
8. For Verifying The Location Of Underground Ductlines And For Assistance In Providing Proper Support And Protection Of The Underground Ductlines, The Contractor Is To Contact Hawaiian Electric Co. Underground Division at 548-7395 a Minimum Of 72 Hours In Advance. The Cost For HECO's Assistance Will Be At The Contractor's Cost.

9. The Contractor shall exercise extreme caution when the excavation and construction crosses or is in close proximity of underground telephone and signal cable facilities and shall maintain adequate clearance for his equipment while working close to and/or under overhead facilities. Any damages to the existing underground facilities shall be repaired and paid for by the Contractor.
10. For field location of Hawaiian Telephone Co. Facilities, contact Hawaiian Telephone Outside Plant Engineering Section, a minimum of 72 hours in advance, prior to start of excavation.
11. Should field conditions and construction procedures require that utility poles be braced, the Contractor shall contact the following person for pole bracing instructions a minimum of 72 hours in advance of actual required bracing -Hawaiian Telephone Co.- Calvin Choy -Area Construction Supervisor at 546-3381.
12. When trench excavation is adjacent to existing structures or facilities, the Contractor is responsible for properly sheeting and bracing the excavation and stabilizing the existing ground to render it safe and secure from possible slides, cave-ins, and settlement, and facilities with beams, struts, or underpinning to fully protect it from damage. This work shall be considered incidental to various contract items.

HECO NOTES (HTCo Similar)

1. Compliance With DOSH:
The Contractor Shall Comply With The State Of Hawaii's Occupational Safety And Health Law (DOSH)
2. Excavation Permit:
The Contractor Shall Obtain An Excavation Permit From HECO's Mapping And Records Division Located At 820 Ward Avenue, 4th Floor, Two Weeks Prior To Starting Construction. Please Refer To Request Number At Such Time.
3. Underground Lines:
For Verification Of Underground Lines Or For Assistance In Supporting And Protecting These Lines, The Contractor Shall Call HECO's Underground Division At 543-7345 A Minimum Of 72 Hours In Advance.
4. Excavations:
When Trench Excavation Is Adjacent To Or Beneath HECO Existing Structures Or Facilities, The Contractor Is Responsible For:

a) Sheeting And Bracing The Excavation To Prevent Slides, Cave-ins, And Settlements.
b) Protecting Existing Structures Or Facilities With Beams, Struts, Or Under-Pinnings.
5. Pole Bracing:
For Pole Bracing Instructions, The Contractor Shall Call The HECO District Superintendent At (Koolau 261-6084, Waiau 543-4223, Ward 543-7745) A Minimum Of 72 Hours In Advance.
6. Relocation Of HECO Facilities:
Any Work Required To Relocate HECO Facilities Shall Be Done By HECO And The Contractor Shall Be Responsible For All Coordination, And For Possible Costs If Applicable.

DRAWING REVIEW
Reviewed for HECO's
Facilities Only
Date 11/6/99 By [Signature]
Customer Installations Department
Hawaiian Electric Company, Inc.
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for Engineering, design, materials and any liability associated with this project

DRAWING REVIEW
Reviewed for HECO's Facilities Only
Date 8/31/99 By [Signature]
Engineering Department
Hawaiian Electric Company, Inc.
HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

APPROVED:

Hawaiian Electric Company Date
[Signature] 11/02/99 Date
Hawaiian Telephone Company

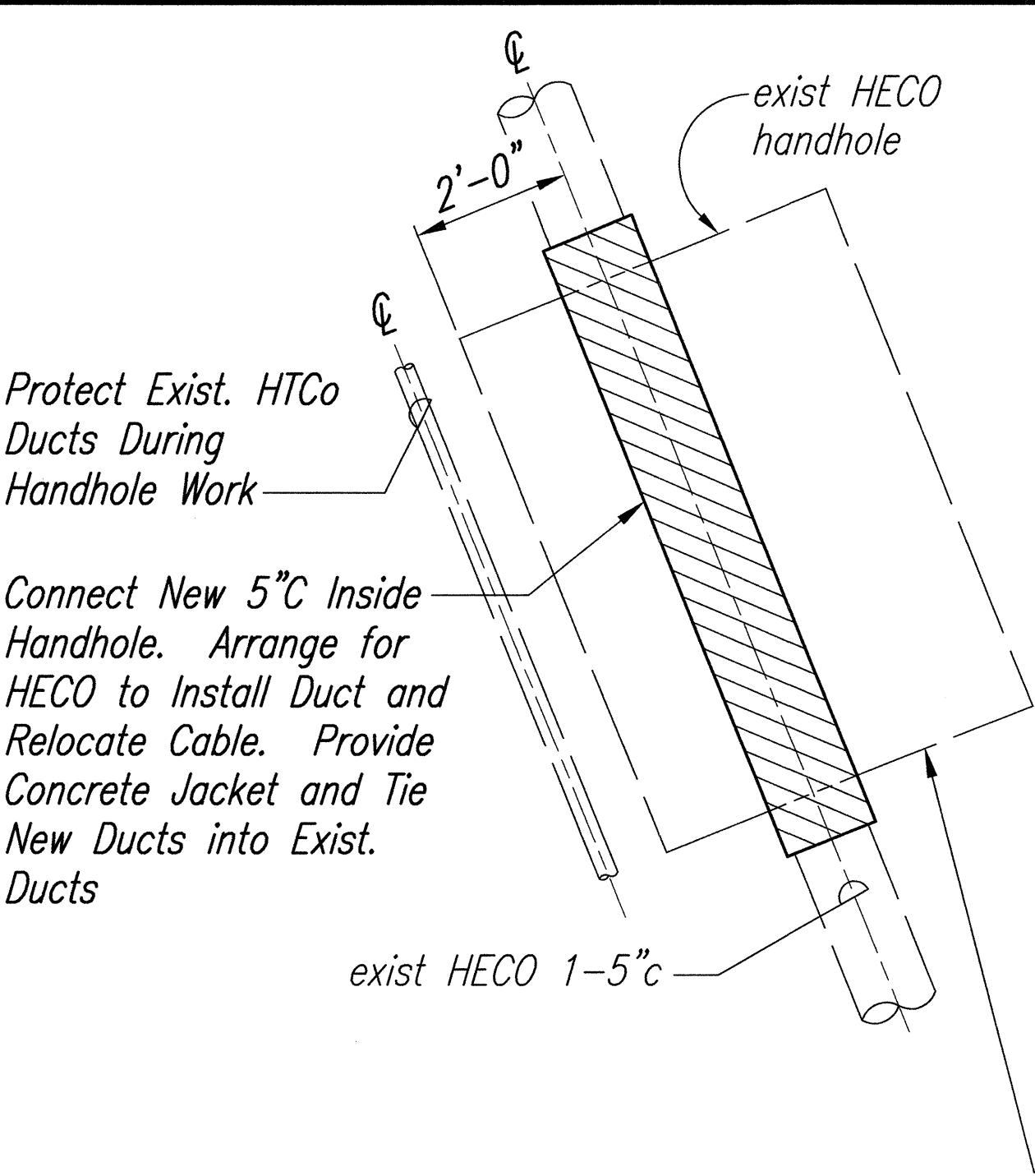
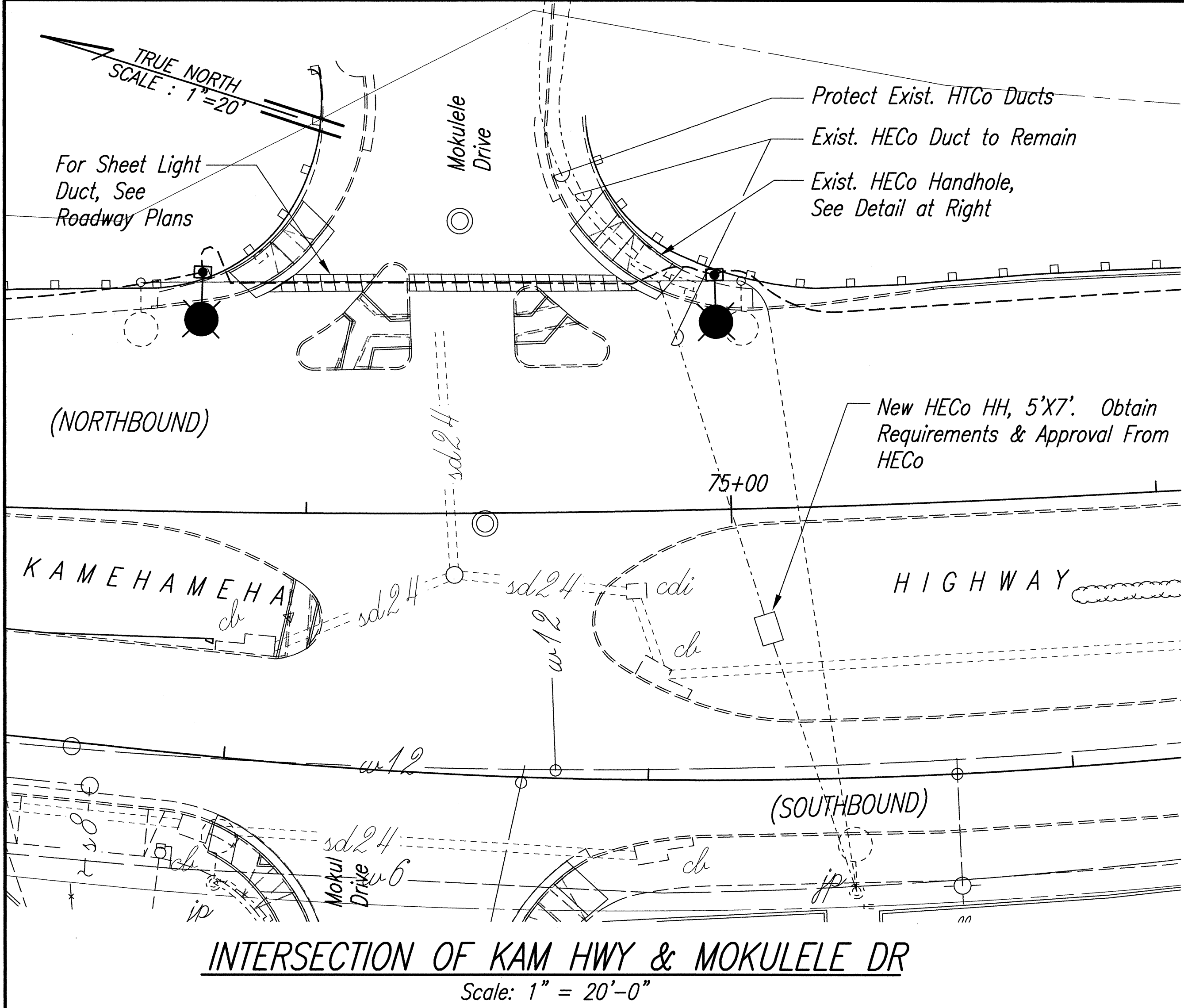


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OR UNDER MY SUPERVISION.

[Signature]

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
GENERAL ELECTRICAL AND
UTILITY NOTES
KAMEHAMEHA HIGHWAY RESURFACING
Kaneohe Bay Drive to Kahiko Street
F. A. Project No. NH-083-1(41)
Scale: None Date: June, 1999
SHEET No. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(41)	2000	85	90



- NOTES:**
- Contractor Shall Field Verify Locations And Inverts Of Existing Utilities.
 - Contractor Shall Expose The Existing Ductline As Required Under The Supervision Of HECO's Inspector.
 - HECO To Break The Existing Concrete Encasement Around The Existing Duct Which Is To Remain In Place As A Protective Guard For The 12KV Cables.
 - Contractor To Construct New Handhole And Ductline As Directed By HECO's Existing Energized Inspector.
 - HECO To Install And Remove Cables And To Break Existing Ducts Upon Completion of Handhole And Ductline.
 - Turn Over To State For Beneficial Use Immediately Upon HECO Release.
 - Coordinate To Protect HCo And Other Existing Ducts.
 - Relocate Existing Utilities To Enable Interception Work.
 - Repair Sidewalk And Other Facilities Interrupted By Interception Work.
 - Obtain Detailed Handhole Requirements And Reference Drawings From HECO. Schedule Work To Coincide With Traffic Signal Work When Vehicle Loop Detectors Are De-Activated And Temporary Microwave Detectors Are Provided.
 - See Sheet 67 for Additional Trench Notes:

Fill Handhole & Compact, Demolish Top & Sides of Handhole & Construct New Sidewalk

5x7 HANDHOLE AT MOKULELE DRIVE

Not to Scale

DRAWING REVIEW

Reviewed for HECO's Facilities Only

Date 2/3/99 By *ac jk*

Engineering Department
Hawaiian Electric Company, Inc.

HECO's review of these drawings shall in no way relieve the Customer, its Consultant, its Contractor or anyone acting on the Customer's behalf from the responsibility for engineering, design, materials and any other liability associated with this project.

APPROVED:

Hawaiian Electric Company Date

Wayne P. Cabral 11/02/99
Hawaiian Telephone Company Date



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C. K. K.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL PLAN

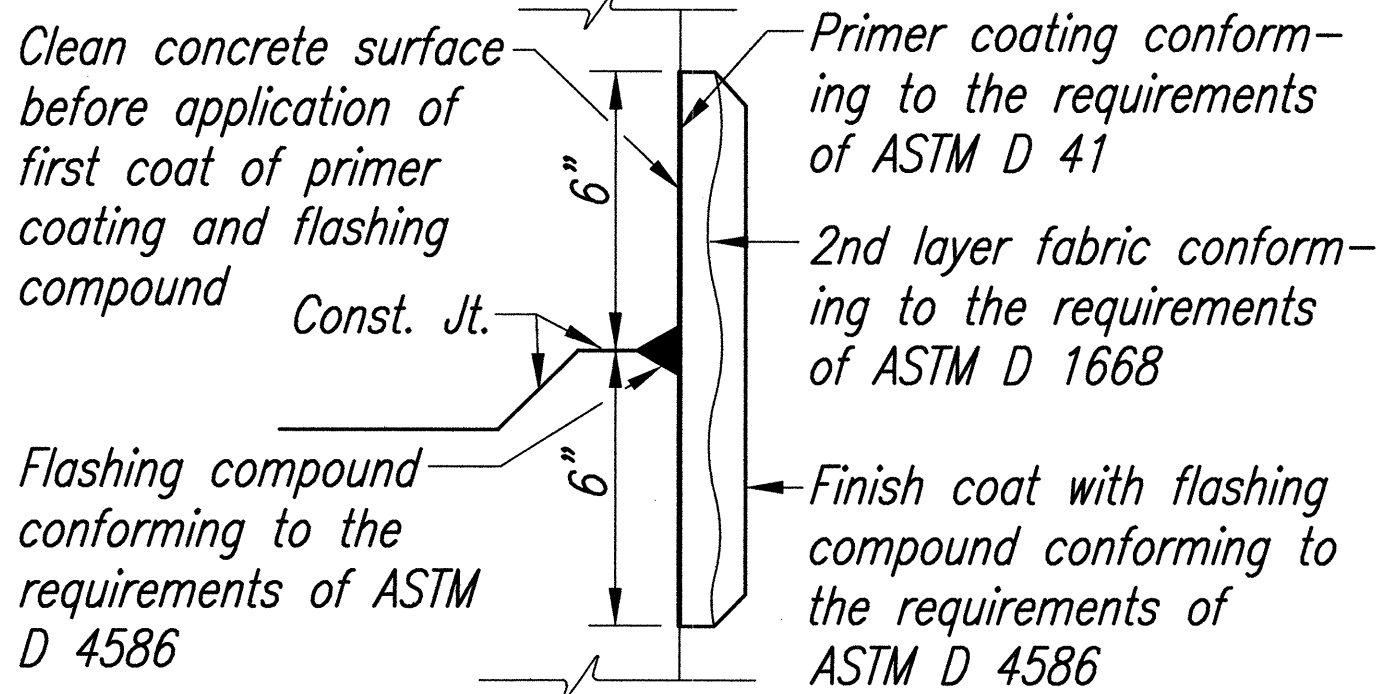
KAMEHAMEHA HIGHWAY RESURFACING
Kaneohe Bay Drive to Kahiko Street
F. A. Project No. NH-083-1(41)
Scale: As Shown Date: June, 1999
SHEET No. 2 OF 3 SHEETS

85

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HAWAII	HAW.	NH-083-1(41)	2000	86	90

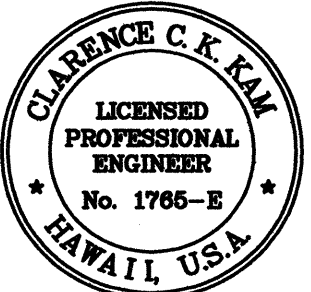
GENERAL NOTES

1. Provide a minimum of one 5/8" dia. x 10' Copperweld Ground Rod in each pullbox. When directed by the Traffic Signal Inspector/Engineer, install additional Ground Rods. Cost of Ground Rods shall be incidental to the pullboxes.
2. All pre-cast concrete pullboxes shall be manufactured in two pieces.
3. The pullbox w/ cover shall be capable of supporting an MS 18 Loading.
4. The max. weight of the pullbox cover shall not exceed 60 lbs.
5. The openings for the conduits on all pullboxes shall be pre-cast concrete knockouts.
6. After installing the conduits in the openings of the pullboxes, Contractor shall fill the excess opening in the pre-cast knockouts with conc. mortar.
7. Prior to installing the pullboxes, the Contractor shall level the bottom of the trench and achieve a minimum of 95% relative compaction of the bottom of the trench.
8. All concrete shall be Class A (3000 psi, min.).
9. Rebars shall be Grade 300 and all lapped splices shall be 14" min.
10. The #57 or #67 sized aggregate shall conform to latest version of AASHTO M43 (ASTM D 448).
11. Type "C" Pullbox shall be installed in a location protected from vehicular traffic (i.e. raised sidewalk, behind A.C. curbs, traffic signal standard or pipe guards).



TYPICAL FLASHING COMPOUND WATERPROOFING DETAILS

Not to Scale



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C. J. [Signature]

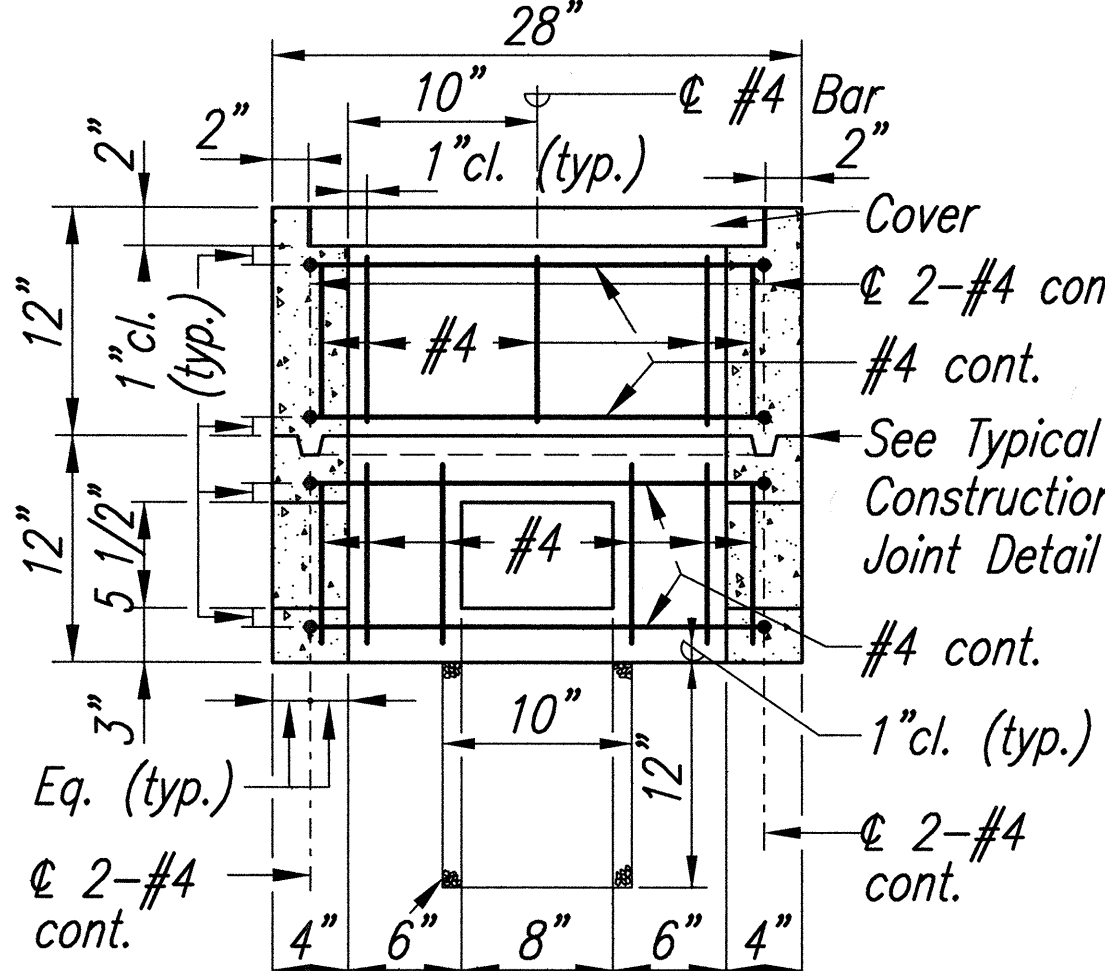
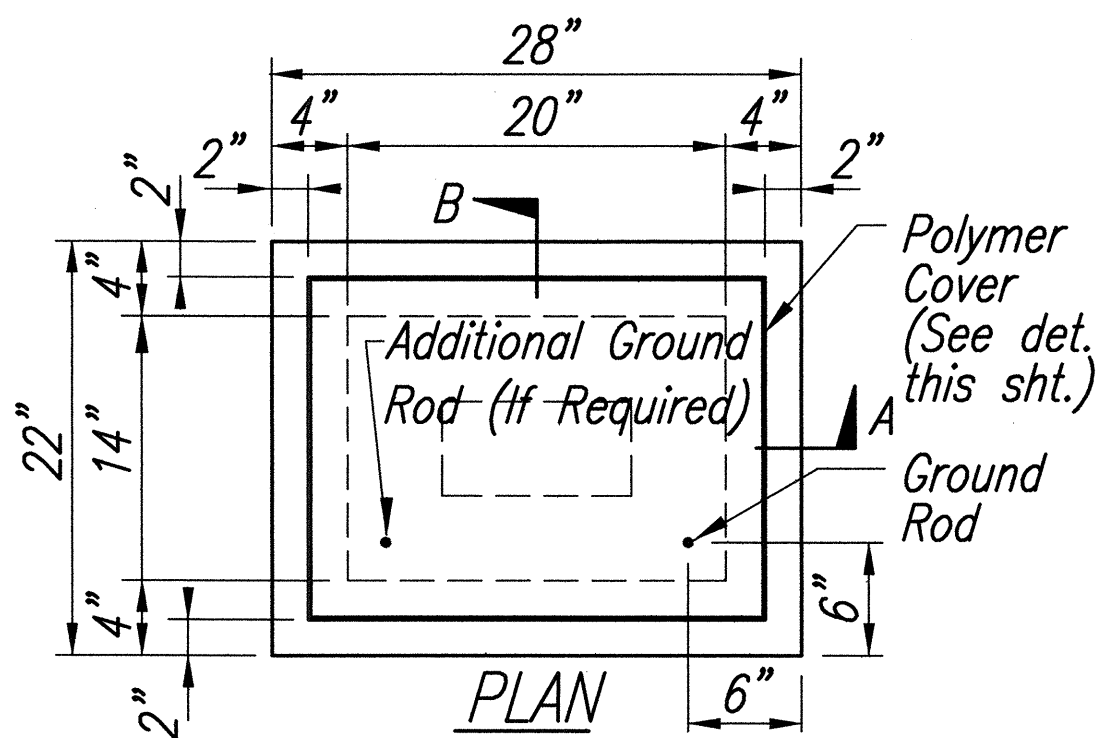
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULLBOX & COVER DETAILS

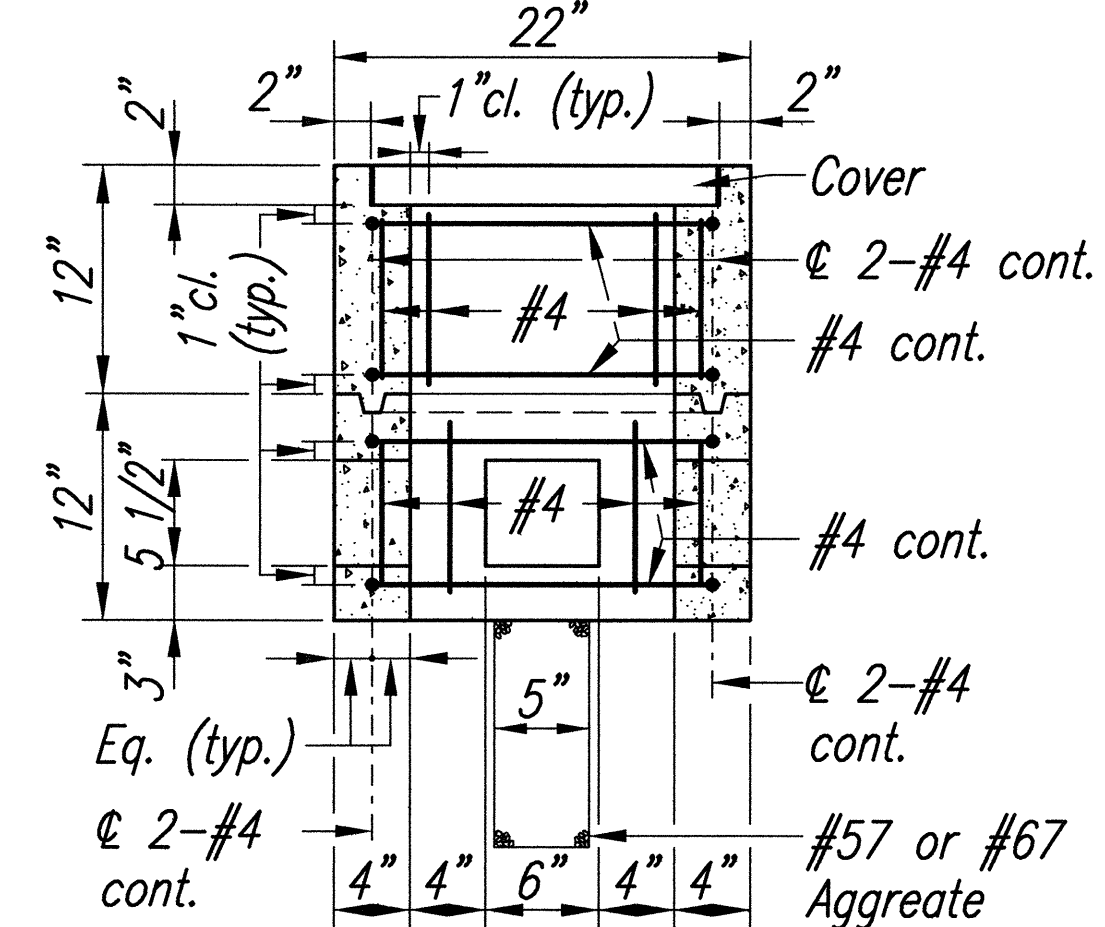
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Kaneohe Bay Drive to Kahiko Street
F. A. Project No. NH-083-1(41)

Scale: As Shown Date: June, 1999

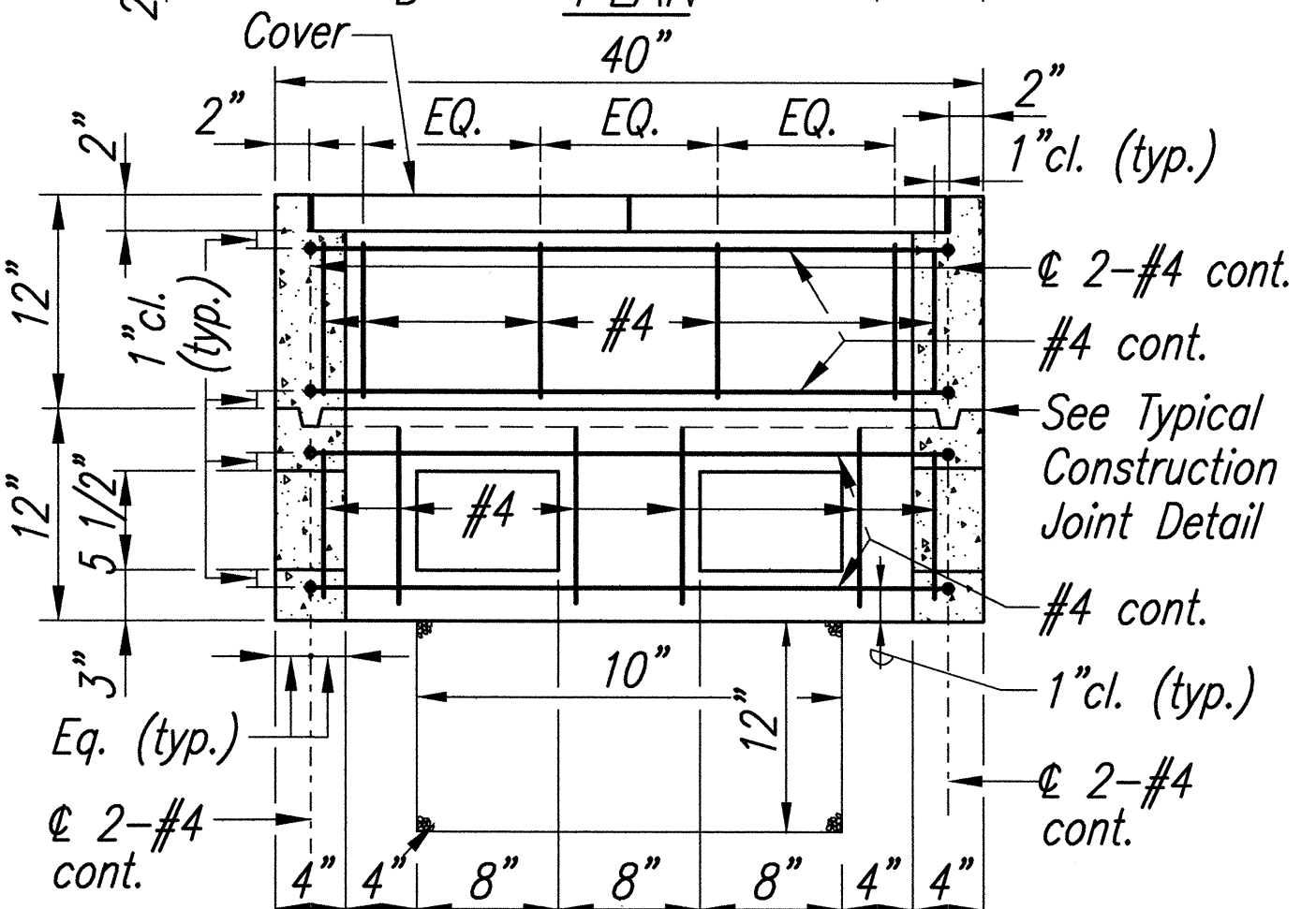
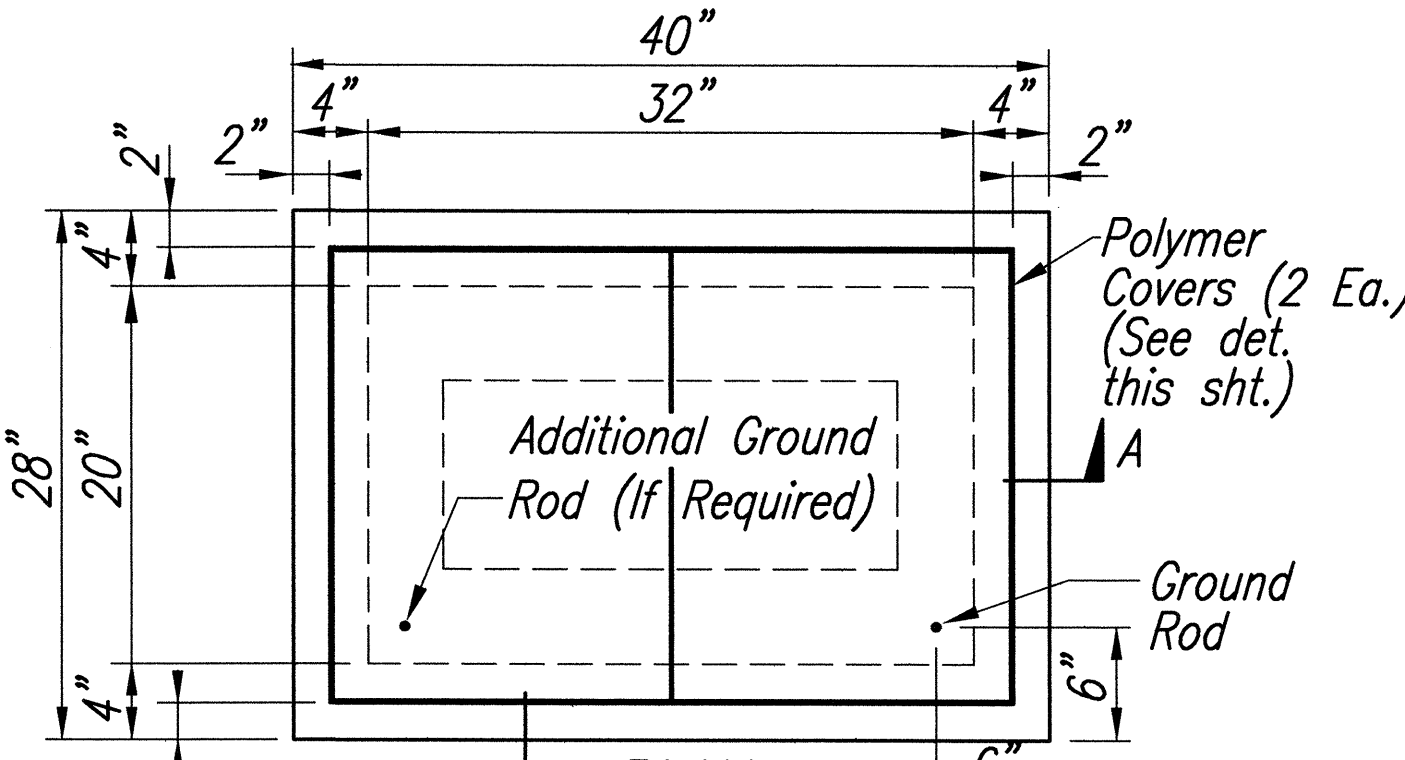
SHEET No. 3 OF 3 SHEETS



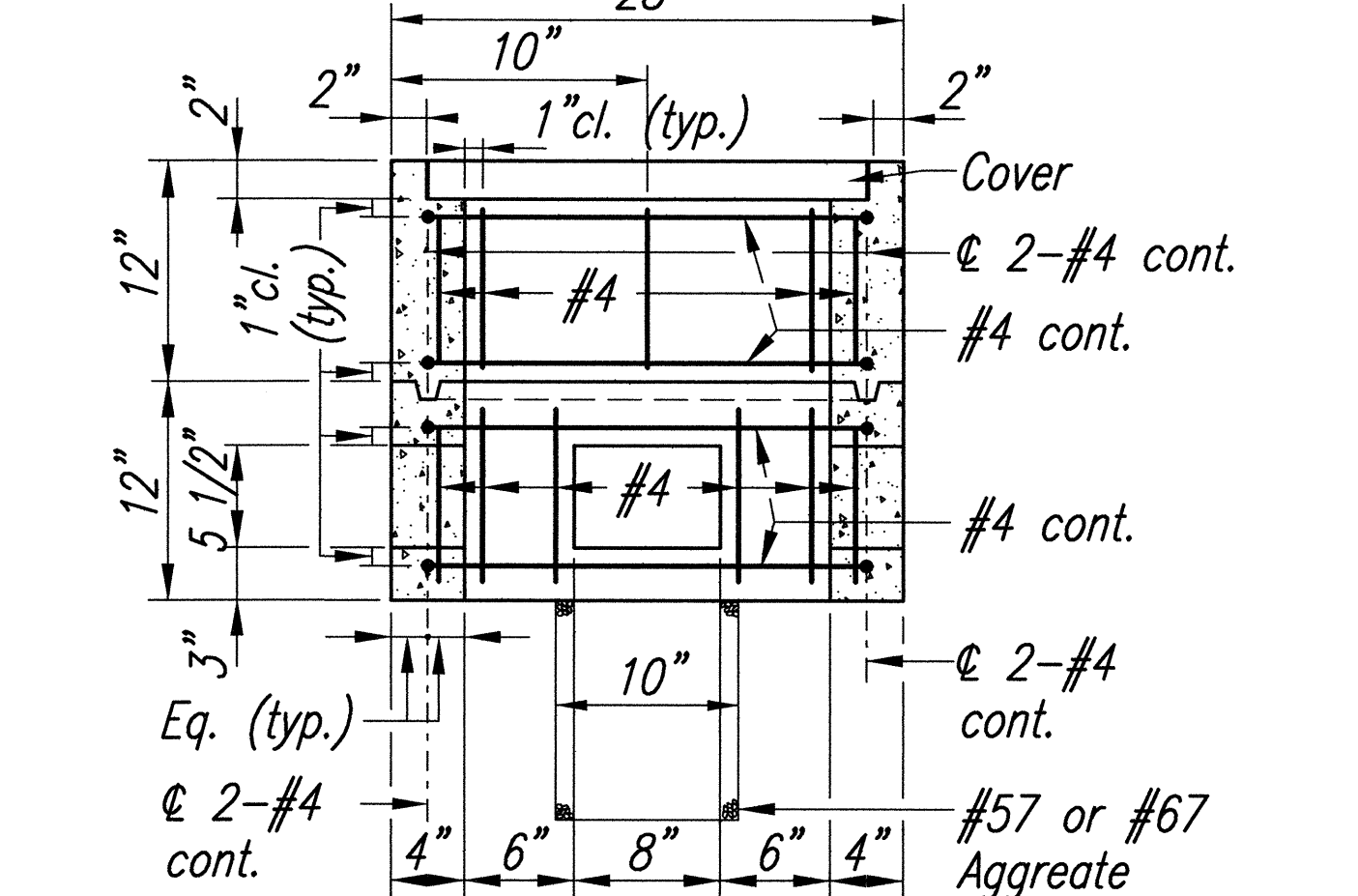
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Scale: 1:10



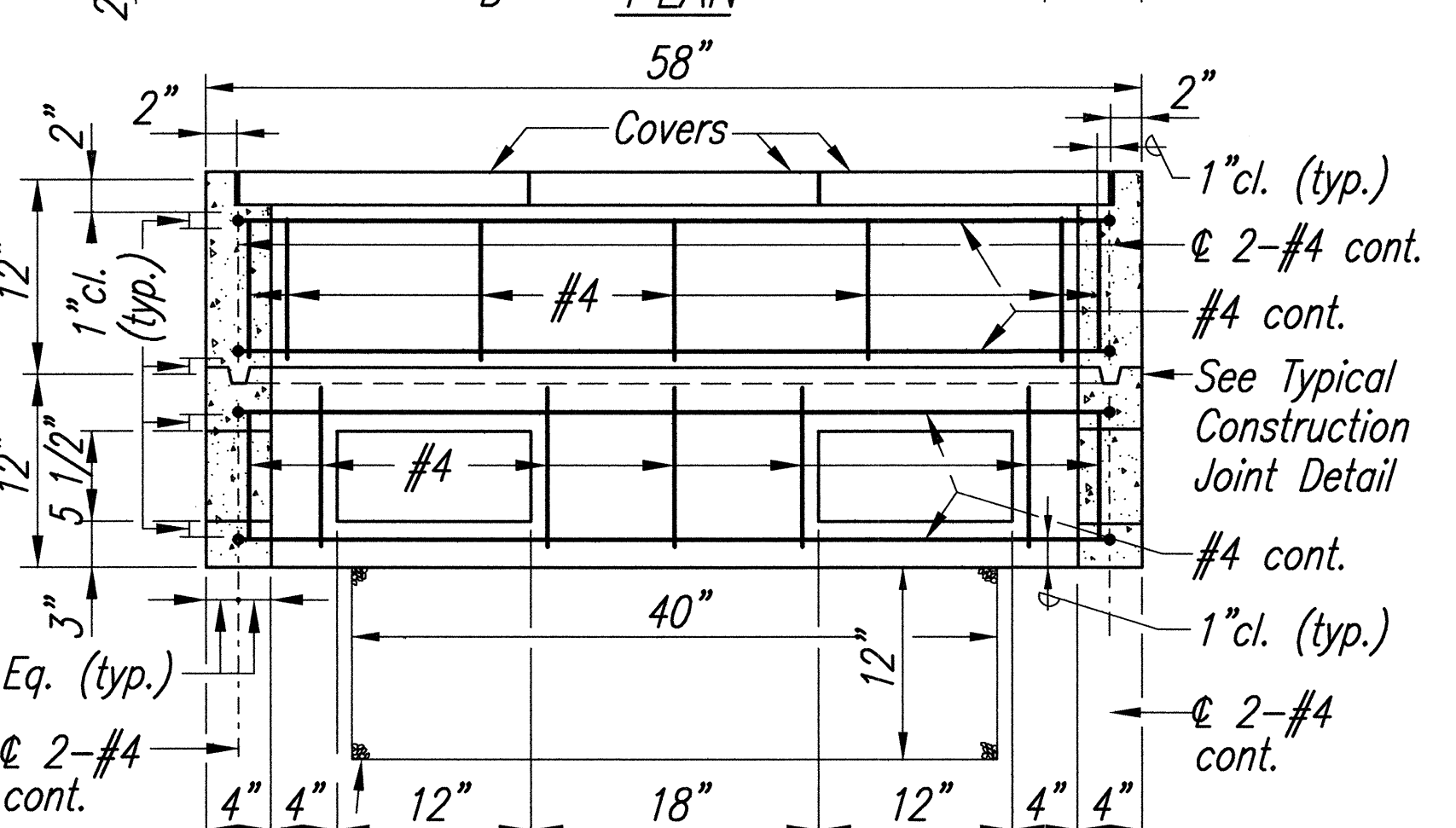
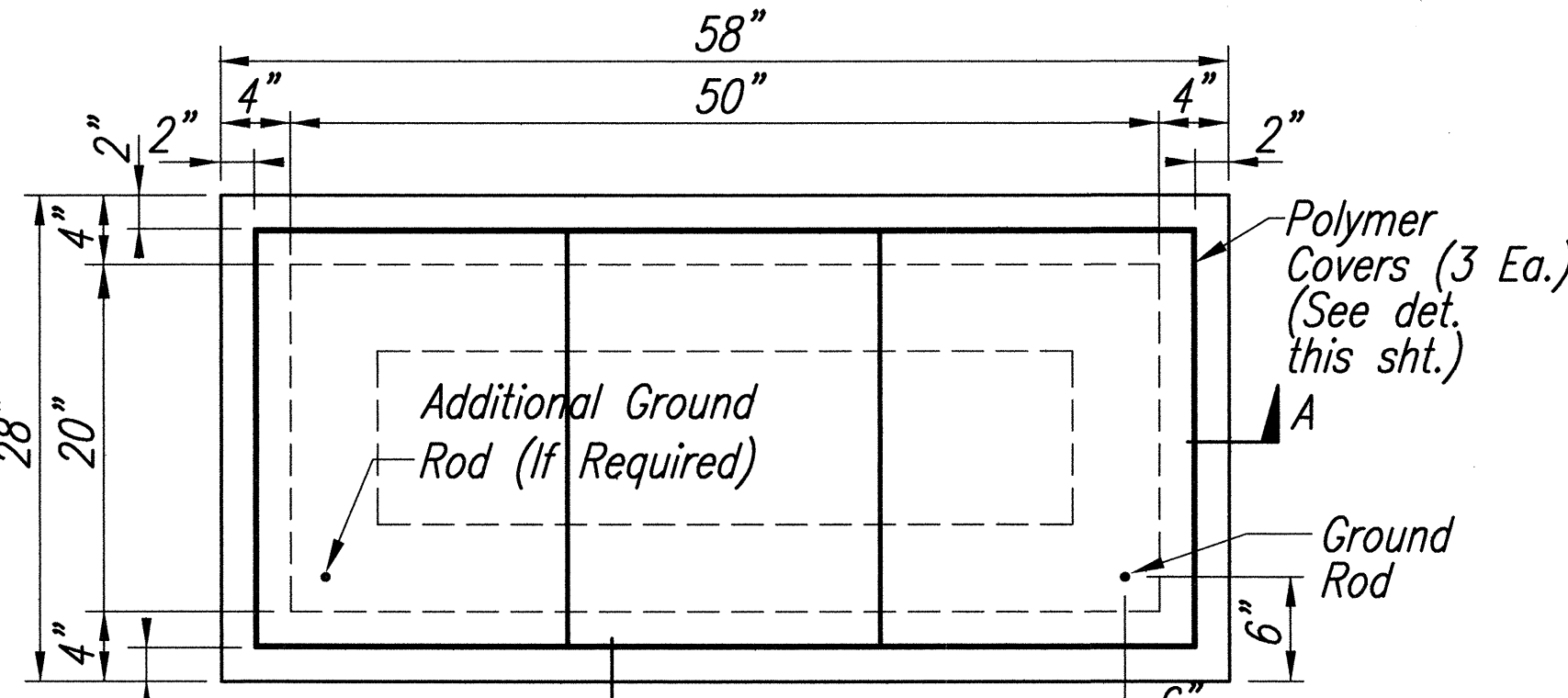
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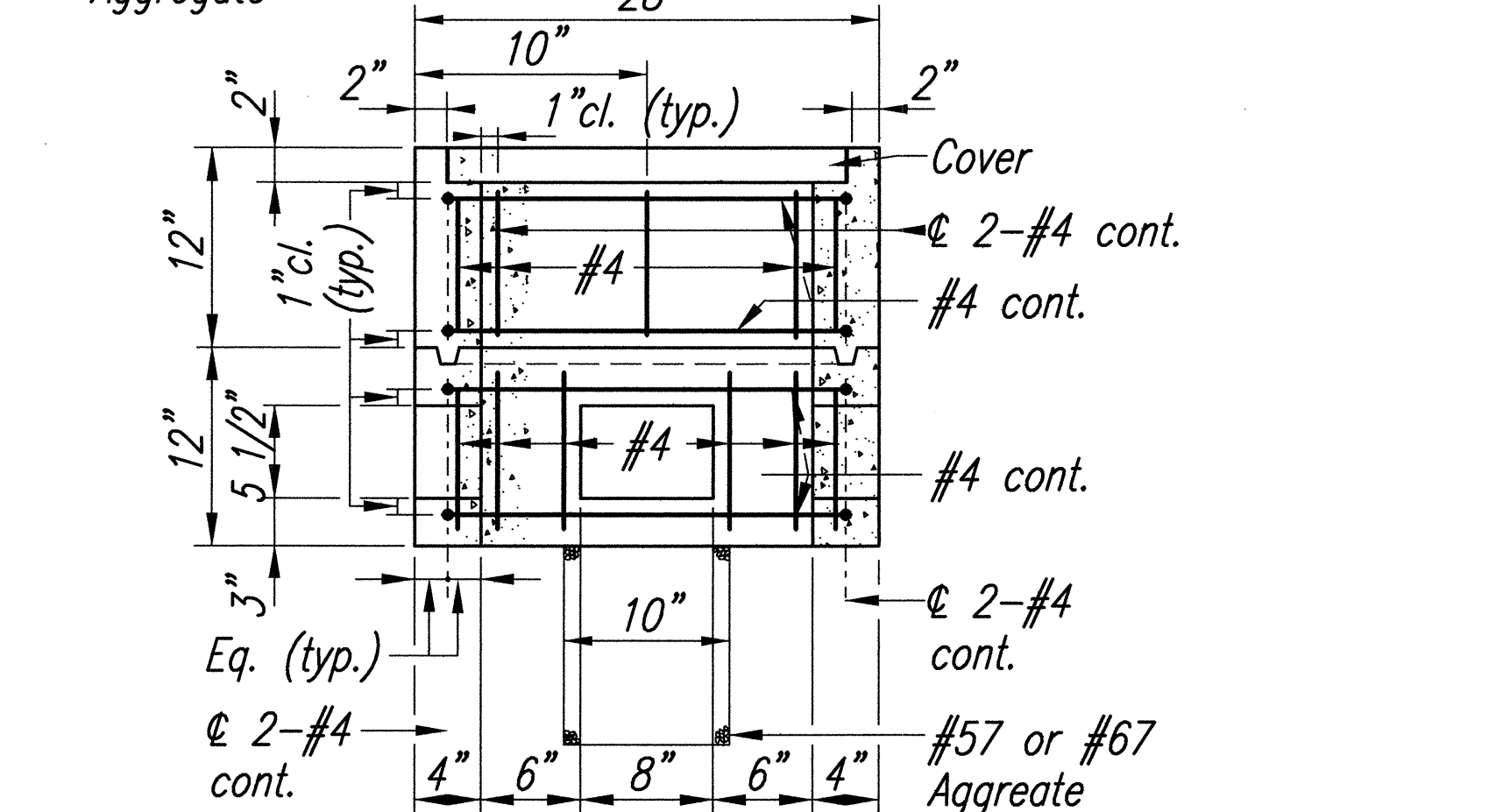
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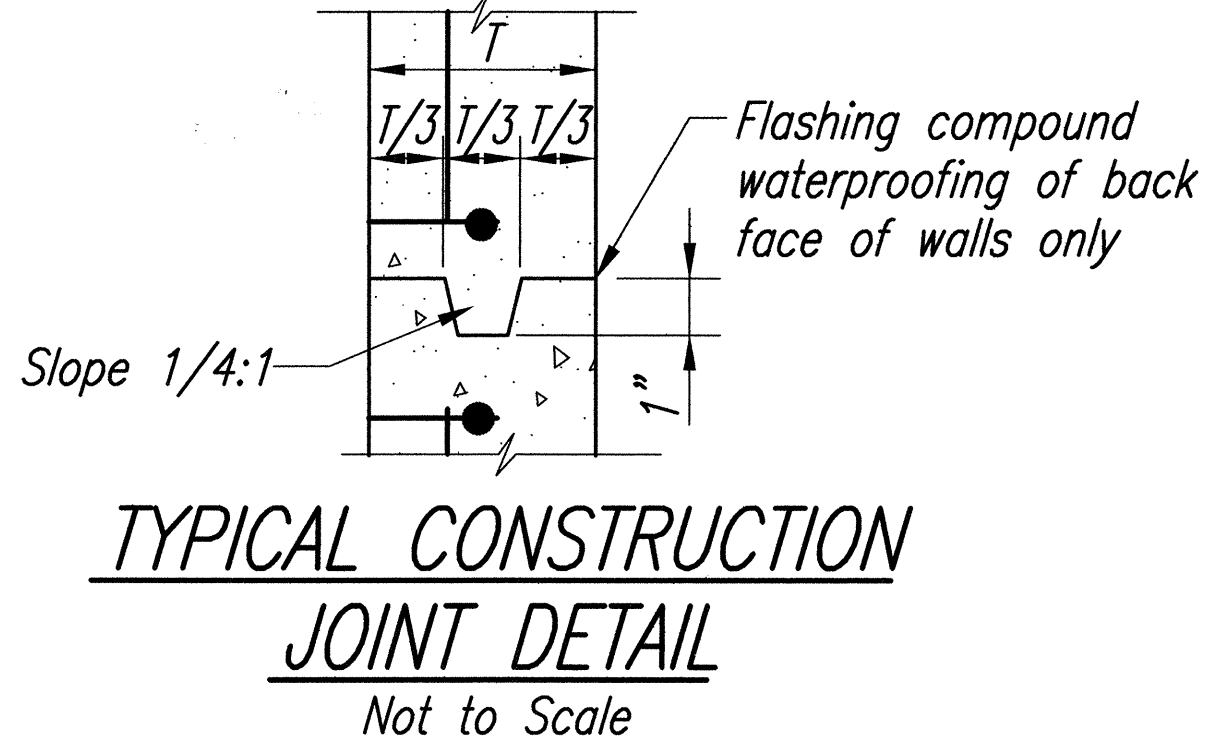
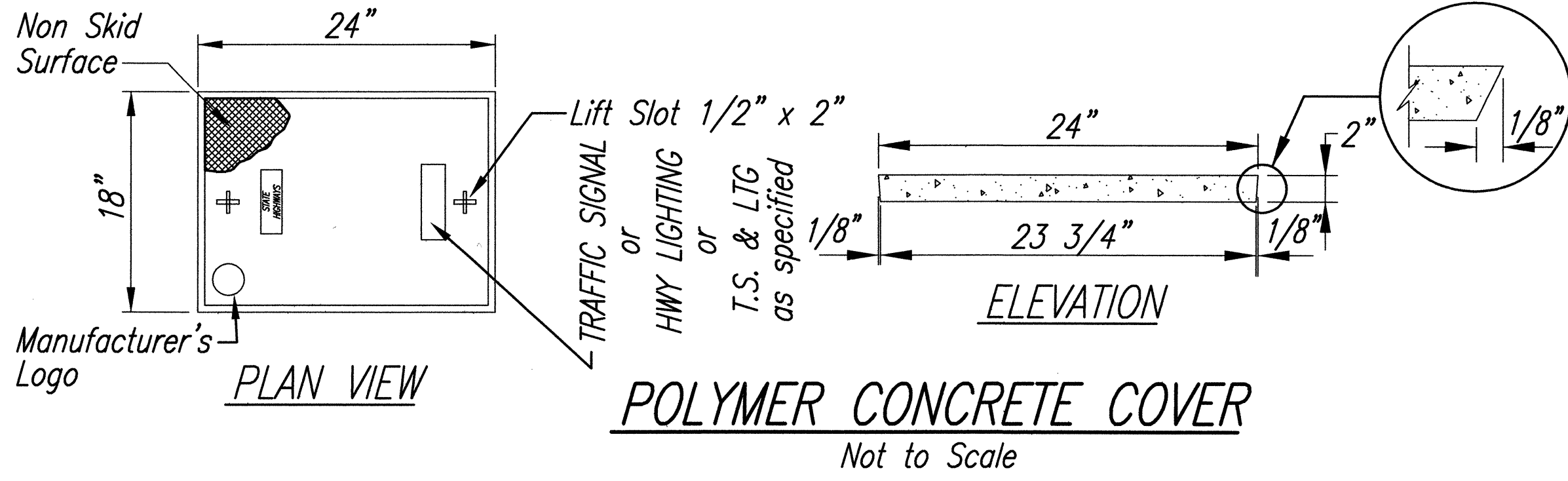
TYPE "B" PULLBOX (Old Type "C")
Scale: 1:10



TYPE "C" PULLBOX (Old Type "D")
Scale: 1:10



TYPE "C" PULLBOX (Old Type "D")
Scale: 1:10



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	CHECKED BY	
	QUANTITIES BY	