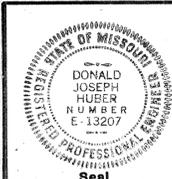


DEMOLITION PLAN
Scale: 1"=50'

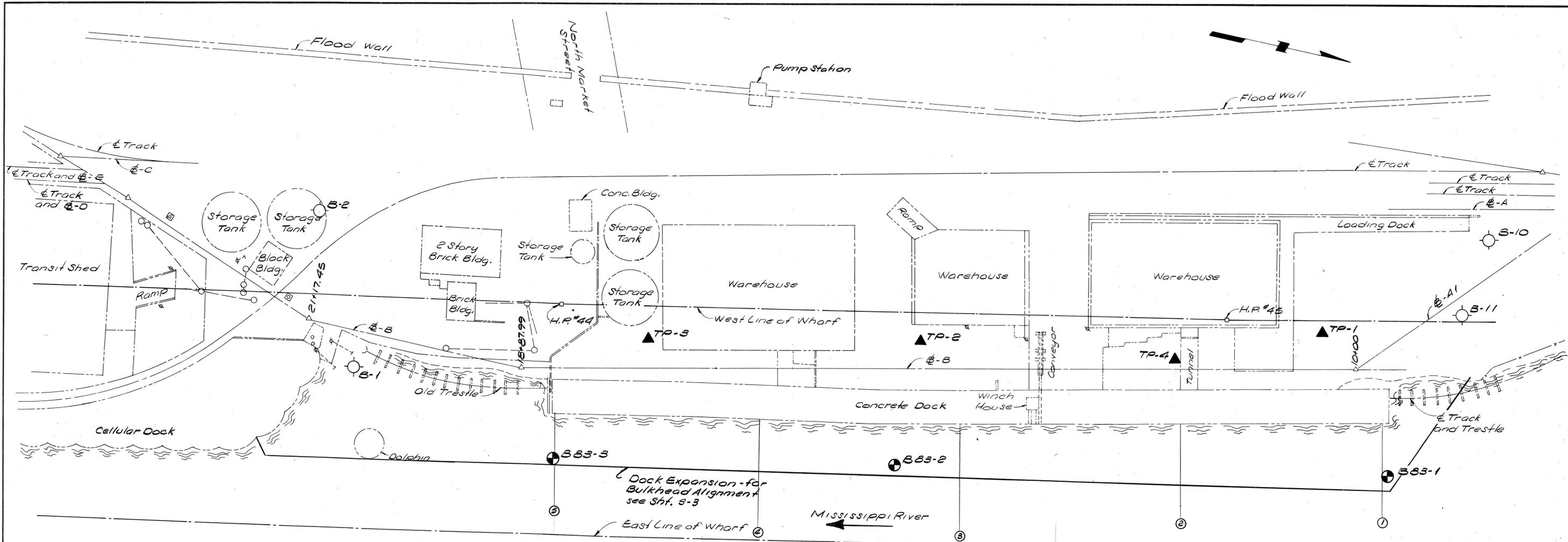
- LEGEND**
- Base Bid Demolition
 - Additive Alternate Demolition
 - (T.B.R.) To Be Removed
 - (T.B.A.) To Be Abandoned
 - Additive Alternate Designation - see Specs.

- NOTES:**
1. Existing belt conveyor, winches, tackle, etc. are to be removed and turned over to Saint Louis Terminal Corporation for disposition.
 2. Concrete dock demolition is limited to the top slab and all construction down to elevation 416.4±. All dock construction is to be removed to approximately 2'-0" below new grade - see sectional view on sheet S-8. Approximately 3.0' height of existing construction is to be removed.
 3. Additive Alternate #1 "Relocate and install conveyor system" affects this item - see specifications.
 4. See Sheet S-10 for General Notes.

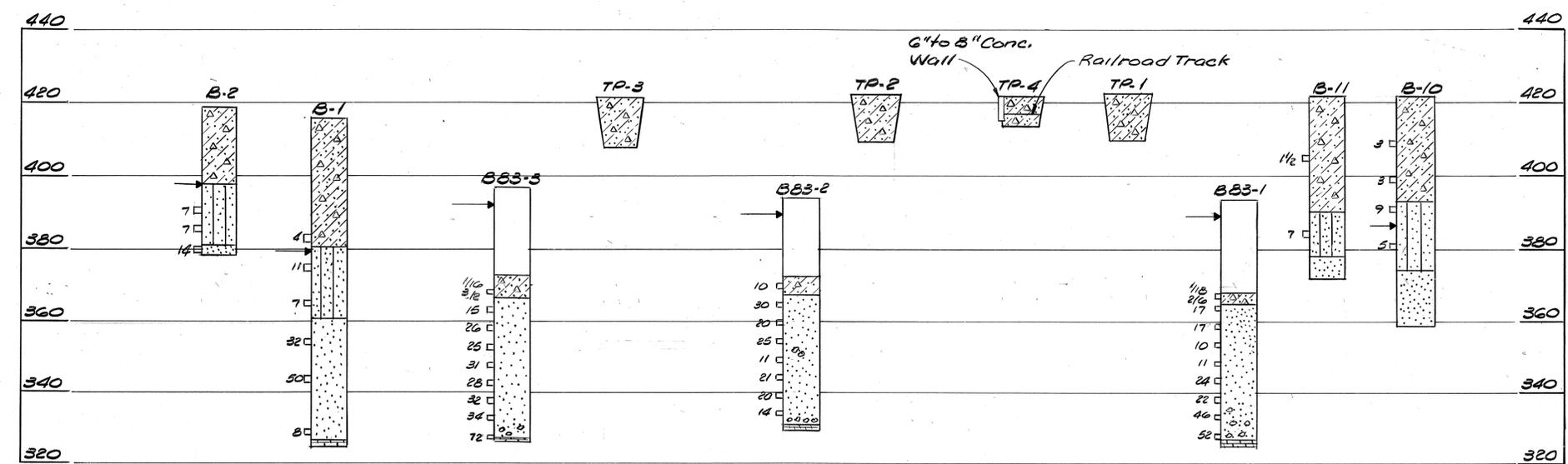
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REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE	
Δ				AS BUILT	4-2-86	
DEMOLITION PLAN					Sheet No. S-1	Total Sheets 9 OF 37
PROPOSED IMPROVEMENTS ST. LOUIS MUNICIPAL TERMINAL ONE NORTH MARKET STREET						
CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.						
Department of the President Board of Public Service		Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101		City of St. Louis Port Authority Kenneth A. Anderson Director		
Martin P. Walsh Jr., P.E. President		Date 7/19/83				



BORING LOCATION PLAN
Scale: 1"=50'



BORING DATA
No Scale

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NOTES:

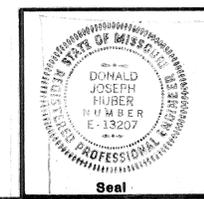
1. Subsurface data adapted from Soils Report prepared by Woodward Clyde Consultants, March 14, 1983.
2. See Sheet S-10 for General Notes.

LEGEND

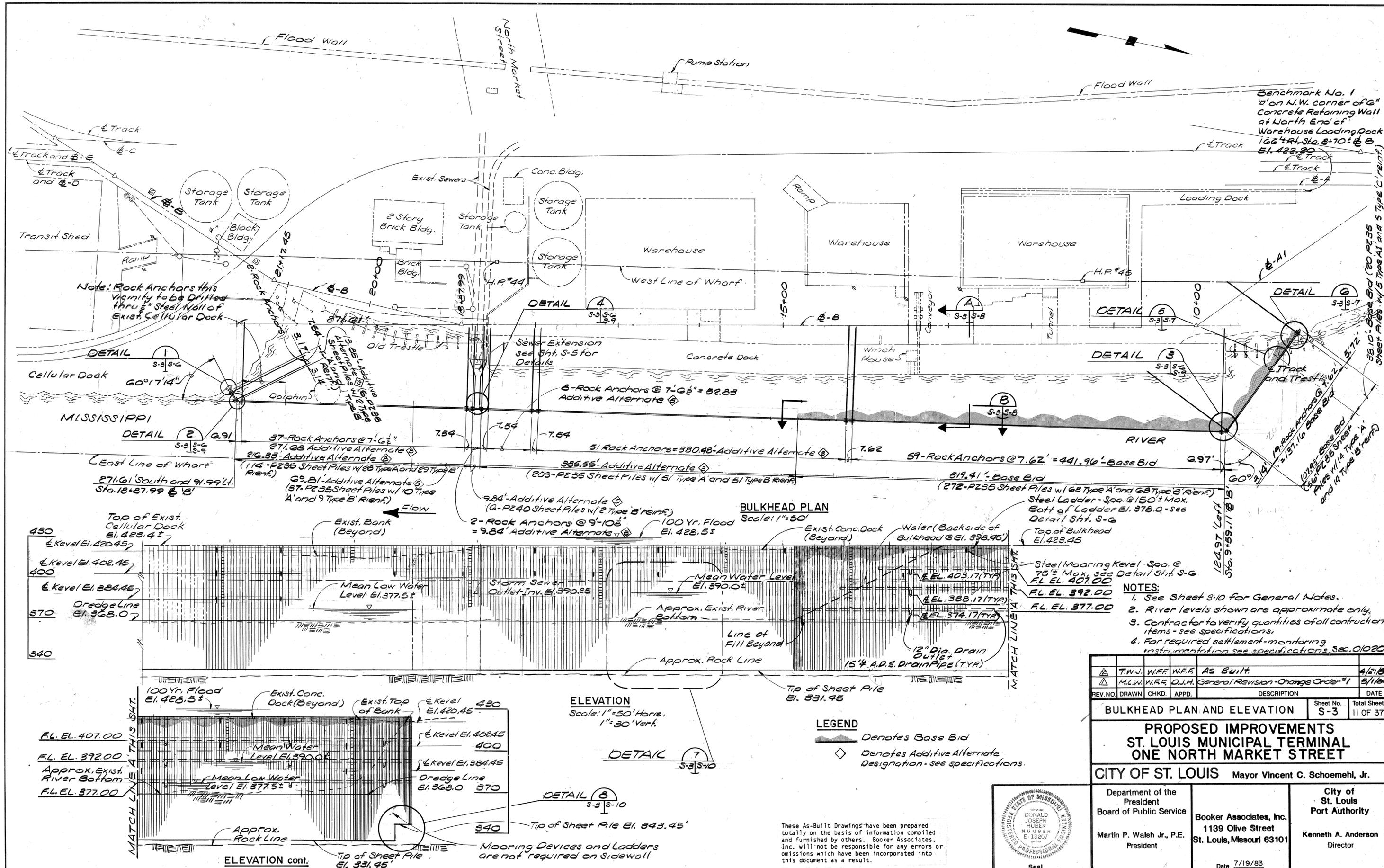
- B-1 Borings this Project
- B-1 Boring done in 1966
- ▲ TP-1 Test Pits this Project
- Denotes River Bottom Sounding and Approx. Alignment (see Soils Report)
- Water
- ▨ Mixed Sand, Silt, Clay, Cinder Brick, and Misc. Fill
- ▩ Loose, Fine Silty Sand and Silt, with inter-bedded Clay
- ▧ Medium Dense to Dense Sand with Occasional Gravel, and Silt
- ▦ Dense to very Dense Sand with Gravel, Cobbles and Boulders
- ▤ Limestone
- ▥ Indicates Standard Penetration Resistance (N₆₀ Value) of 17 Blows Per Foot
- ▧ Indicates Penetration Resistance of 1 Blow for 3 inches during Standard Penetration Test
- ▨ Water Level Entry at Time of Drilling

REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE
AS BUILT					4/21/86

BORING PLAN AND DATA		Sheet No. S-2	Total Sheets 10 OF 37
PROPOSED IMPROVEMENTS ST. LOUIS MUNICIPAL TERMINAL ONE NORTH MARKET STREET			
CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.			



Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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Benchmark No. 1
 on N.W. corner of 6"
 Concrete Retaining Wall
 at North End of
 Warehouse Loading Dock -
 166+44.50, Sta. 8+70 = 6 B
 El. 422.20

Note: Rock Anchors this
 vicinity to be Drifted
 thru 2" Steel Wall of
 Exist. Cellular Dock

BULKHEAD PLAN
 Scale: 1" = 30'

ELEVATION
 Scale: 1" = 50' Horiz.
 1" = 30' Vert.

LEGEND
 ▬ Denotes Base Bid
 ◇ Denotes Additive Alternate
 Designation - see specifications.

- NOTES:**
1. See Sheet S-10 for General Notes.
 2. River levels shown are approximate only.
 3. Contractor to verify quantities of all construction items - see specifications.
 4. For required settlement-monitoring instrumentation see specifications, Sec. 01020.

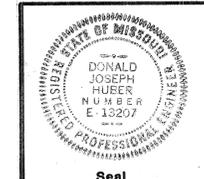
REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE
	T.W.J.	W.F.F.	W.F.F.	As Built.	4/21/84
	M.L.W.	W.F.F.	D.J.H.	General Revision - Change Order #1	5/11/84

BULKHEAD PLAN AND ELEVATION Sheet No. S-3 Total Sheets 11 OF 37

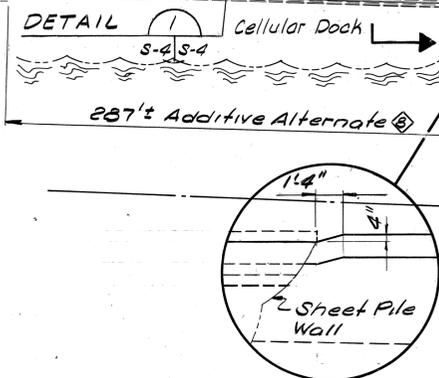
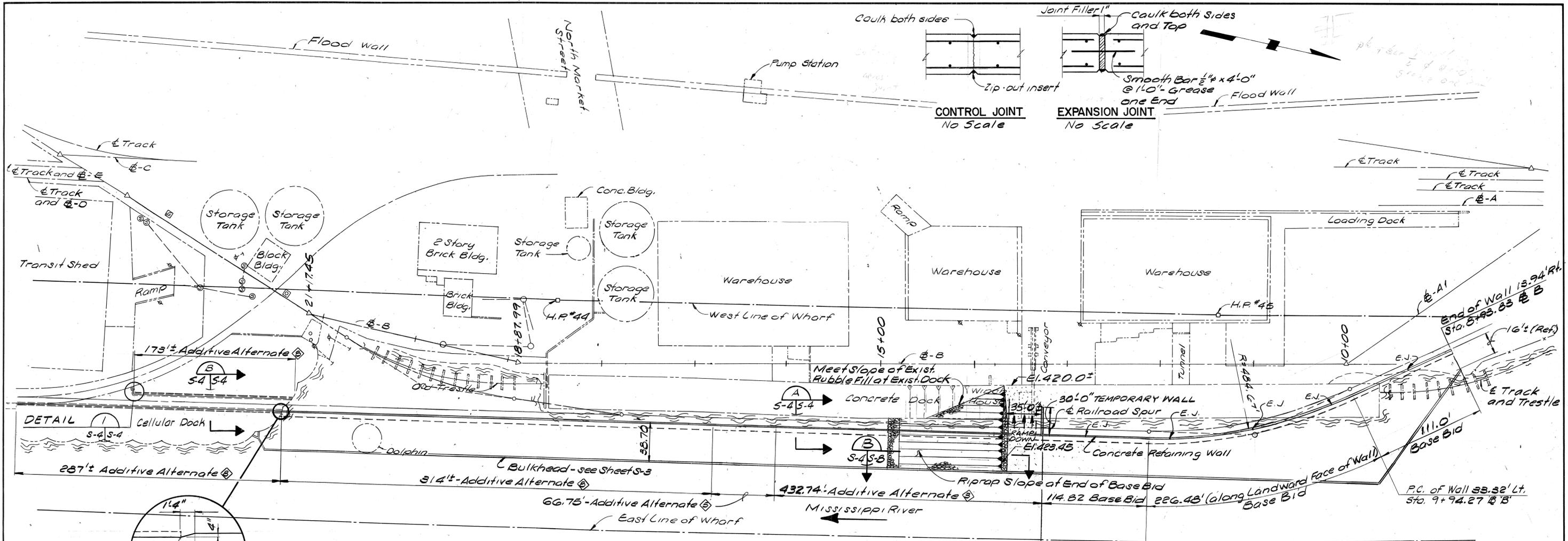
**PROPOSED IMPROVEMENTS
 ST. LOUIS MUNICIPAL TERMINAL
 ONE NORTH MARKET STREET**

CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.

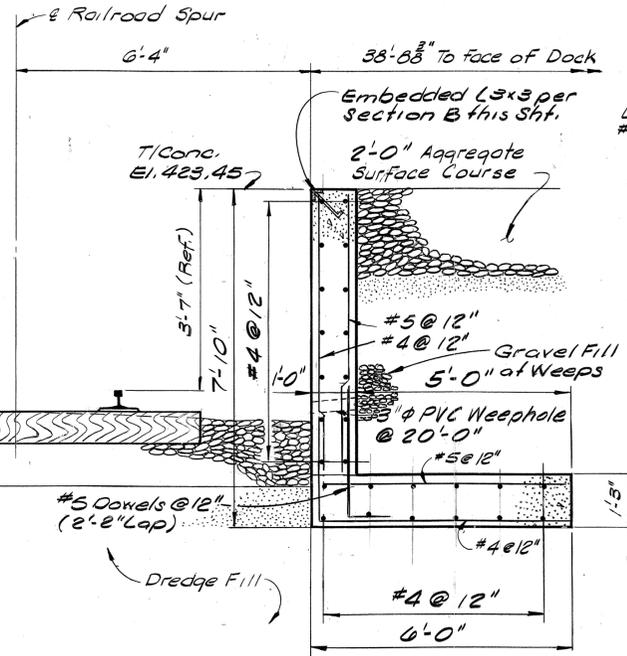
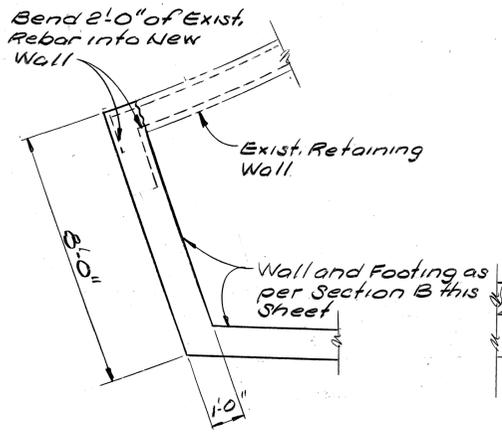
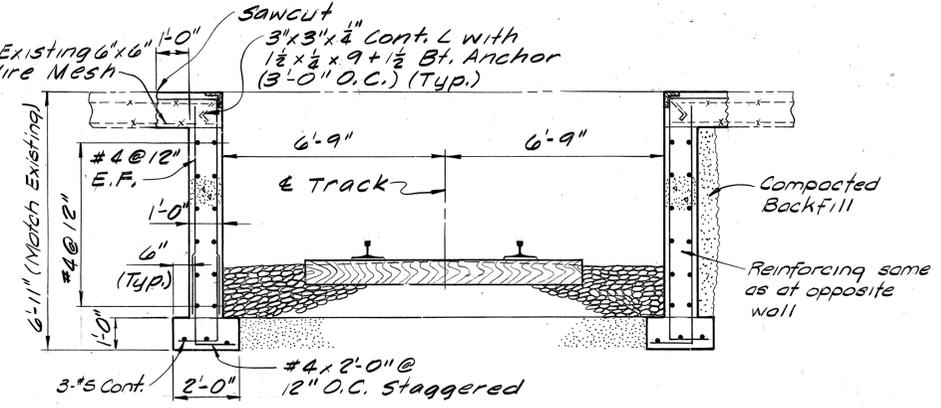
Department of the Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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RETAINING WALL PLAN
 Scale: 1"=50' (all Stationing and Dimensions on Landward Face of Wall)

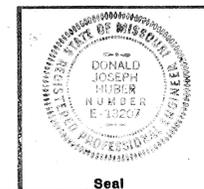


- NOTES:**
- For Railroad Spur alignment and Stationing see Civil Dwgs.
 - Field locate Wall Control Joints at 30' maximum and Wall Expansion Joints at 90' maximum. Expansion Joints shall extend through footings.
 - See Sheet S-10 for General Notes.

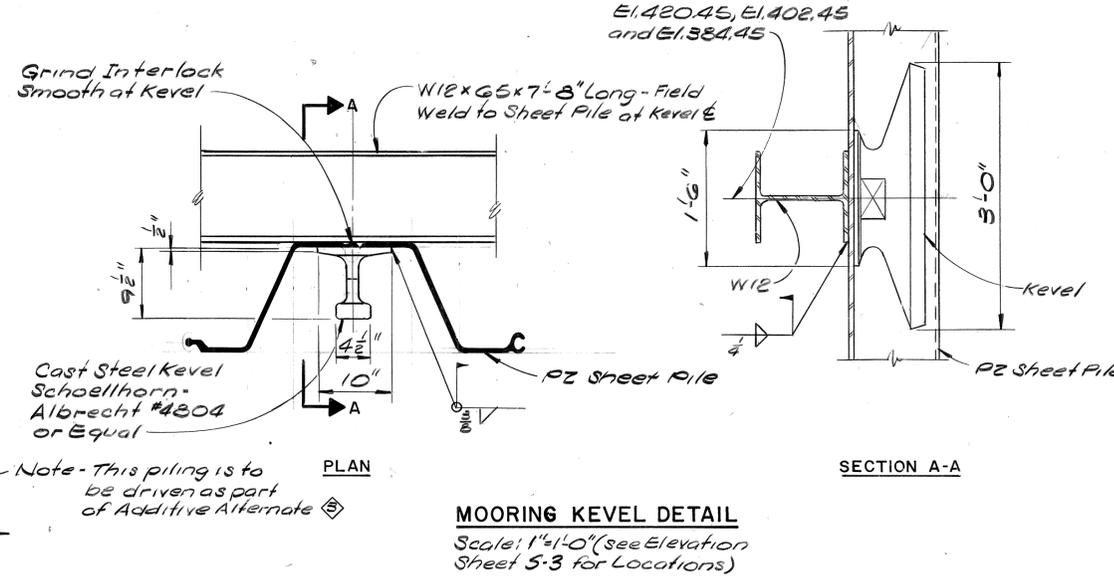
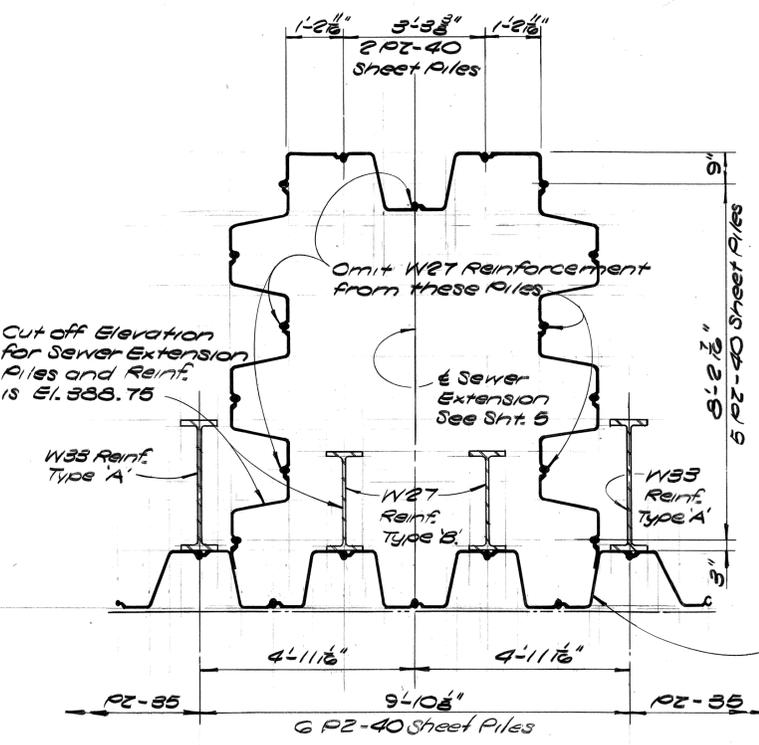
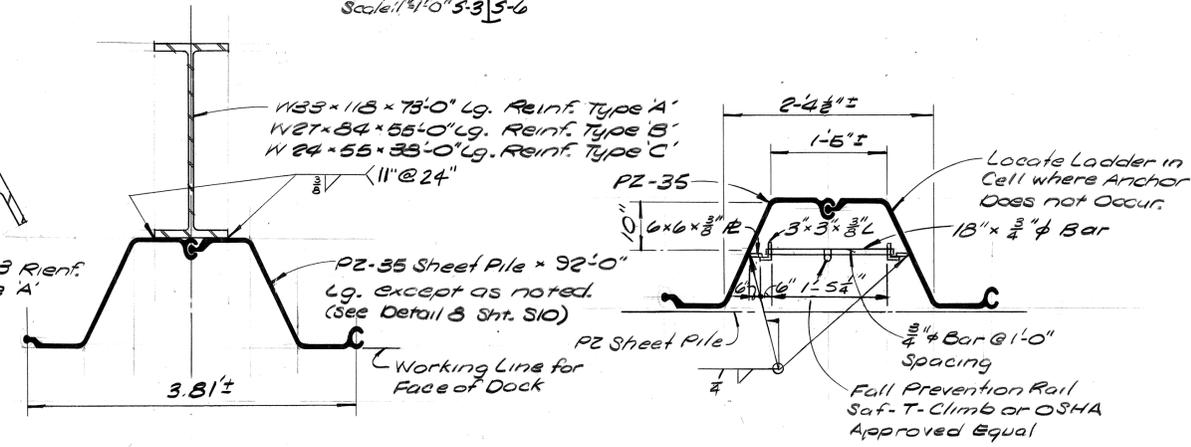
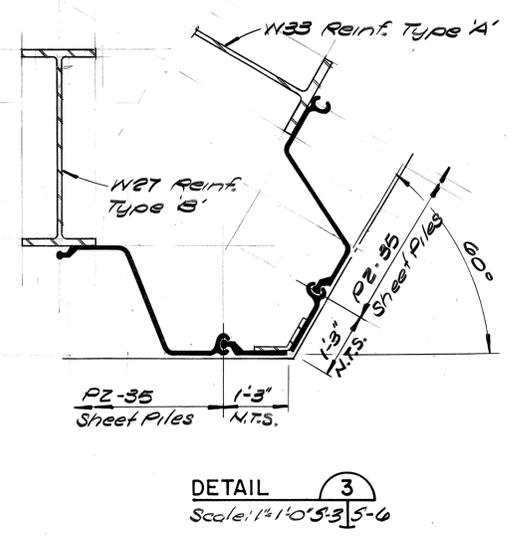
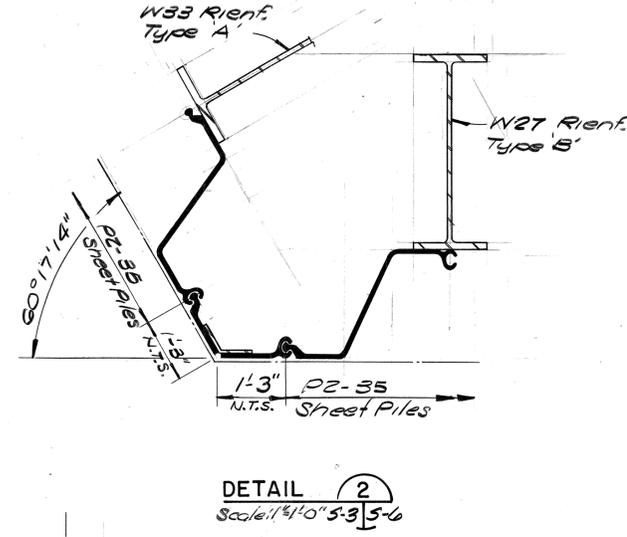
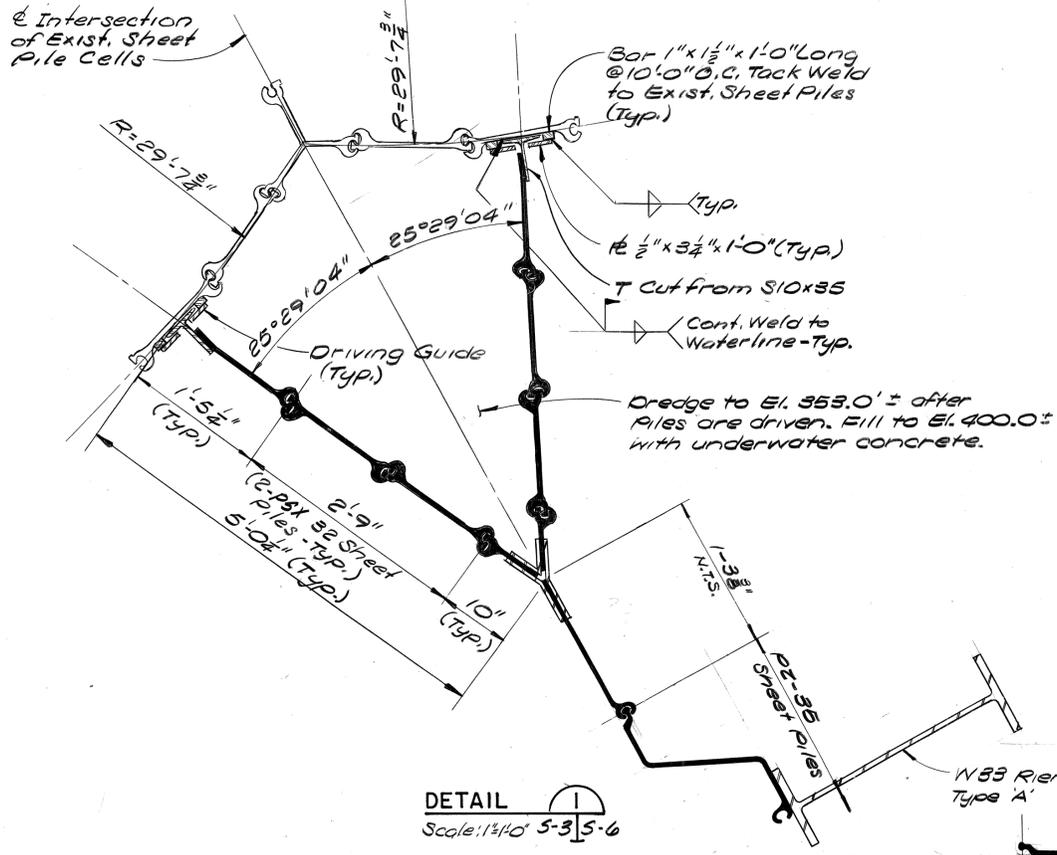
REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE
	T.W.J.	W.F.F.	W.F.F.	AS BUILT	4/21/84
RETAINING WALL PLAN AND DETAILS					Sheet No. S-4
					Total Sheets 12 OF 37

**PROPOSED IMPROVEMENTS
 ST. LOUIS MUNICIPAL TERMINAL
 ONE NORTH MARKET STREET
 CITY OF ST. LOUIS** Mayor Vincent C. Schoemehl, Jr.

Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101	City of St. Louis Port Authority Kenneth A. Anderson Director
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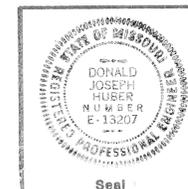
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NOTES:
1. See Sheet 5-10 for General Notes.

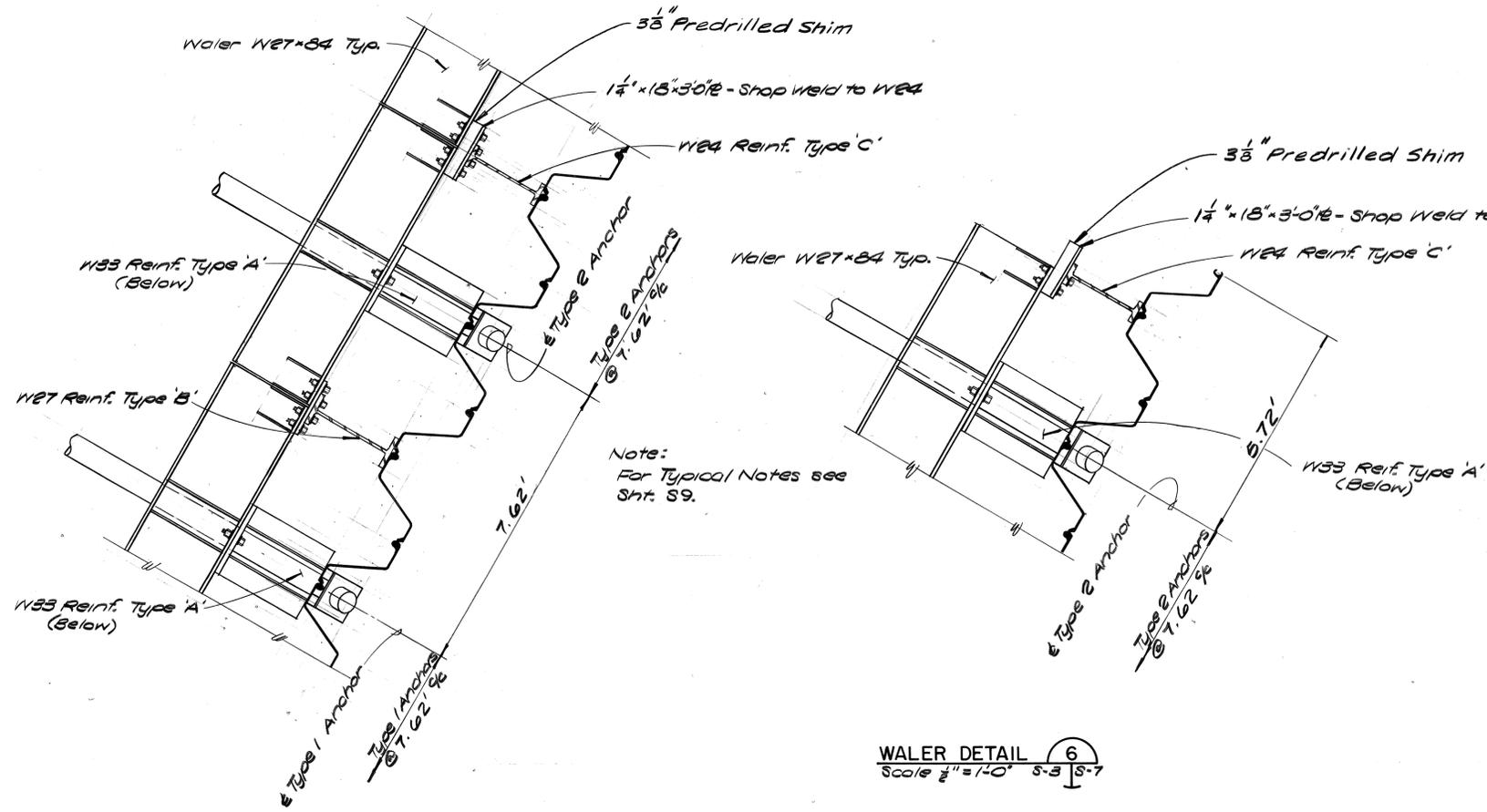
T.W.J.	W.F.F.	W.F.F.	As Built	4/21/80	
M.L.W.	M.R.R.	D.J.H.	General Revision - Change Order #1	5/11/84	
REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE

SHEET PILE DETAILS		Sheet No. S-6	Total Sheets 14 OF 37
PROPOSED IMPROVEMENTS ST. LOUIS MUNICIPAL TERMINAL ONE NORTH MARKET STREET			
CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.			



Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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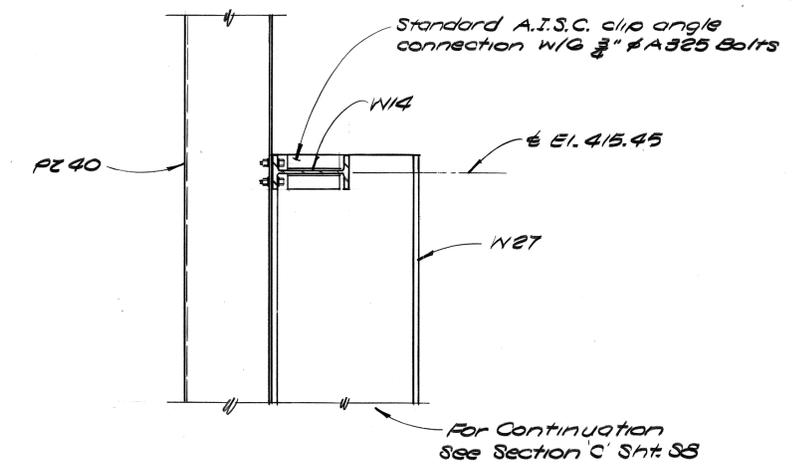
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Note:
For Typical Notes see
Sht. S9.

WALER DETAIL 5
Scale 3/4" = 1'-0" S-3 | S-7

WALER DETAIL 6
Scale 3/4" = 1'-0" S-3 | S-7



SECTION D
Scale 3/4" = 1'-0" S-9 | S-7

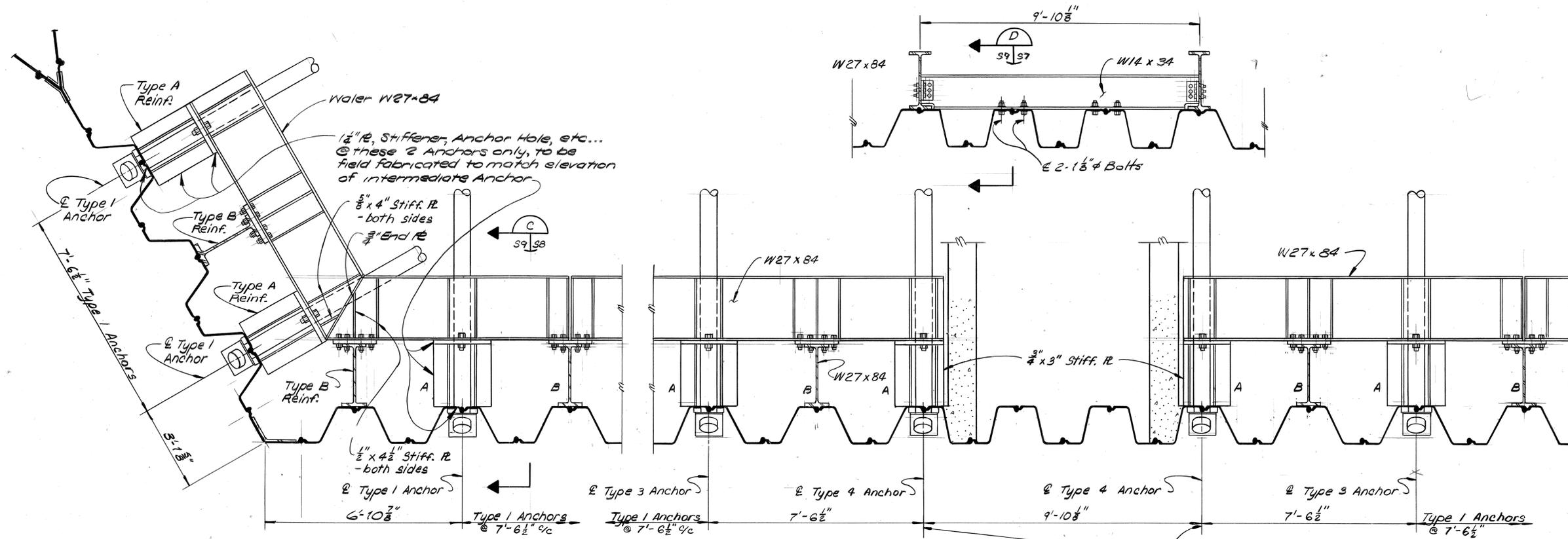
NOTES:
1. For General Notes see Sht. S10.

REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE
	T.W.J.	W.F.F.	W.F.F.	As Built	4/21/84
	M.L.W.	W.F.F.	D.J.H.	General Revision - Change Order #1	5/1/84

WALER DETAILS		Sheet No. S-7	Total Sheets 15 OF 37
PROPOSED IMPROVEMENTS ST. LOUIS MUNICIPAL TERMINAL ONE NORTH MARKET STREET			
CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.			

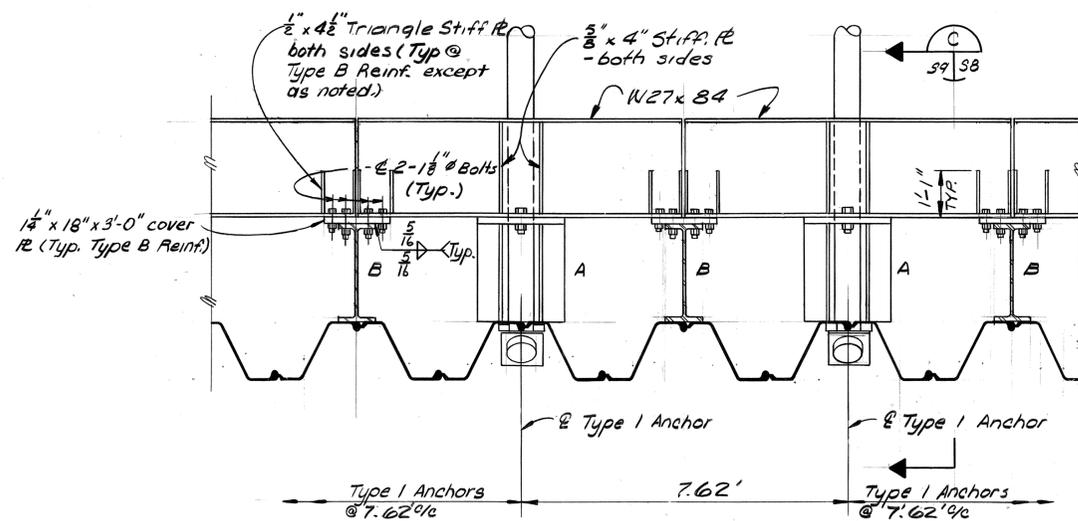
	Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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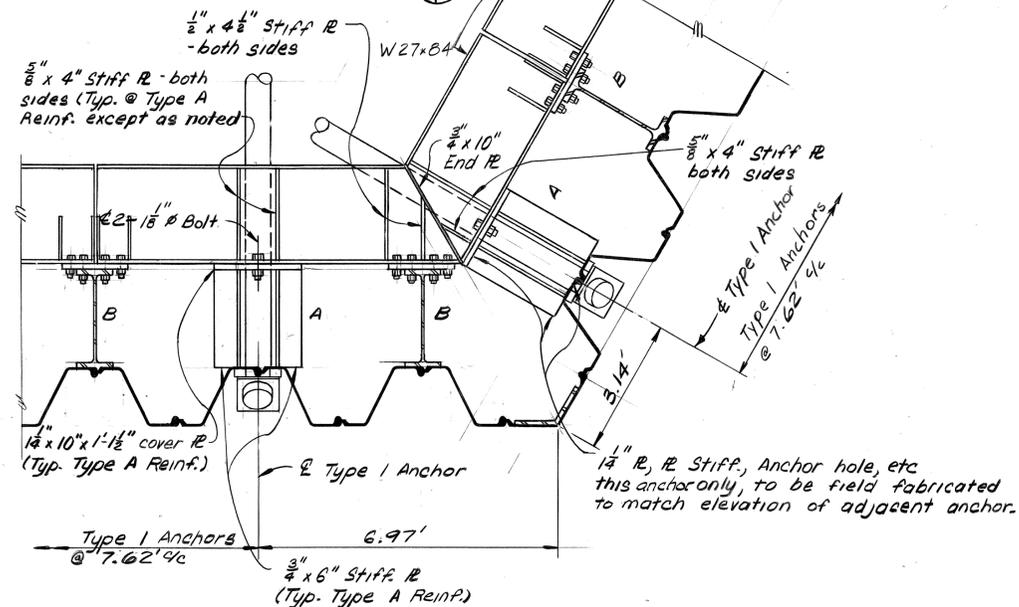


DETAIL 2
 33 | 39

DETAIL 4
 33 | 39



TYPICAL WATER DETAIL



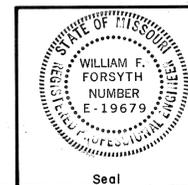
DETAIL 3
 33 | 39

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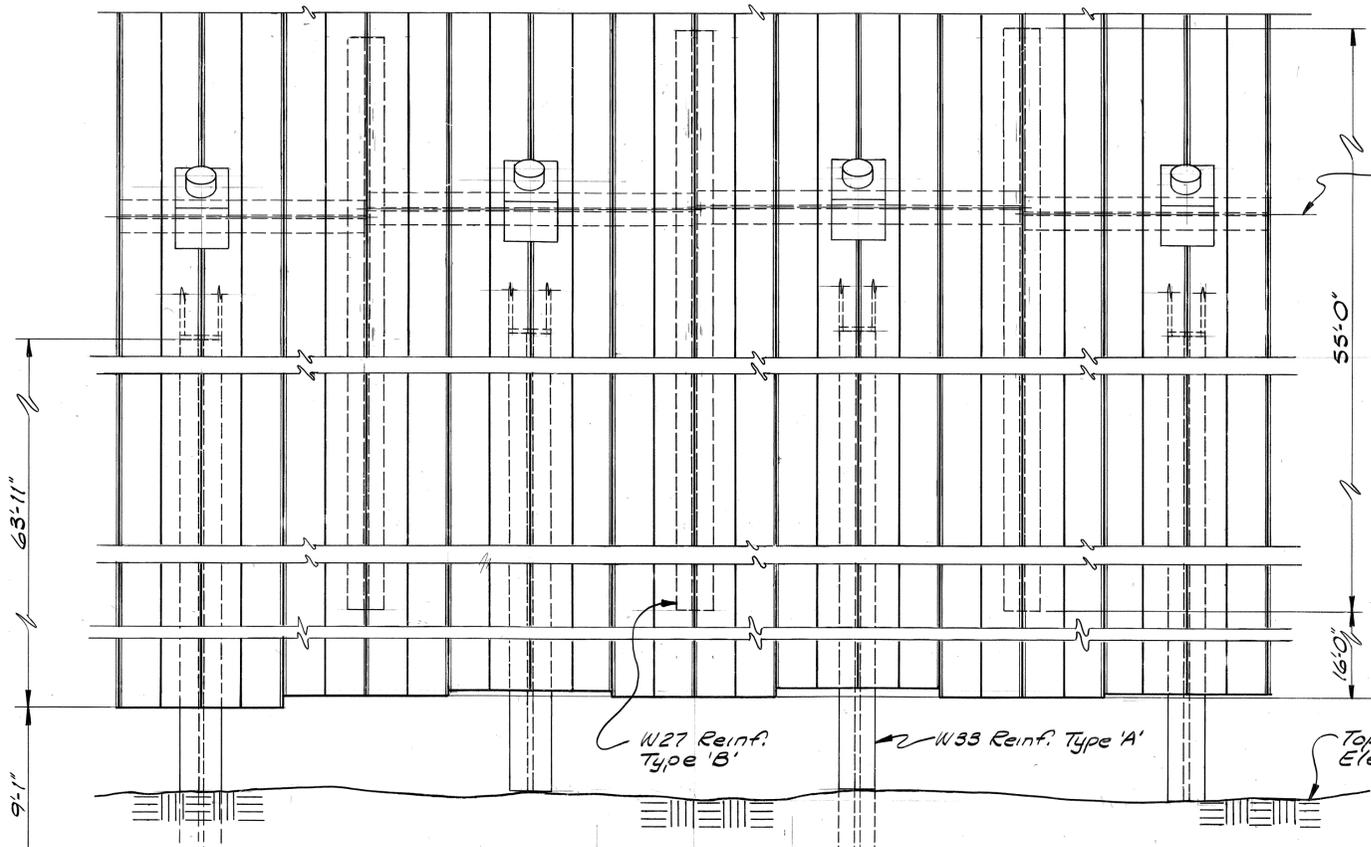
NOTES:
 See Sheet S10 for General Notes.

REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE
1	T.V.J.	W.F.F.	W.F.F.	As Built	4/21/82
2	T.J.D.	W.F.F.	D.J.H.	General Revision - change order #1	5/11/84

WATER DETAILS		Sheet No. S9	Total Sheets 17 OF 37
PROPOSED IMPROVEMENTS ST. LOUIS MUNICIPAL TERMINAL ONE NORTH MARKET STREET			
CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.			



Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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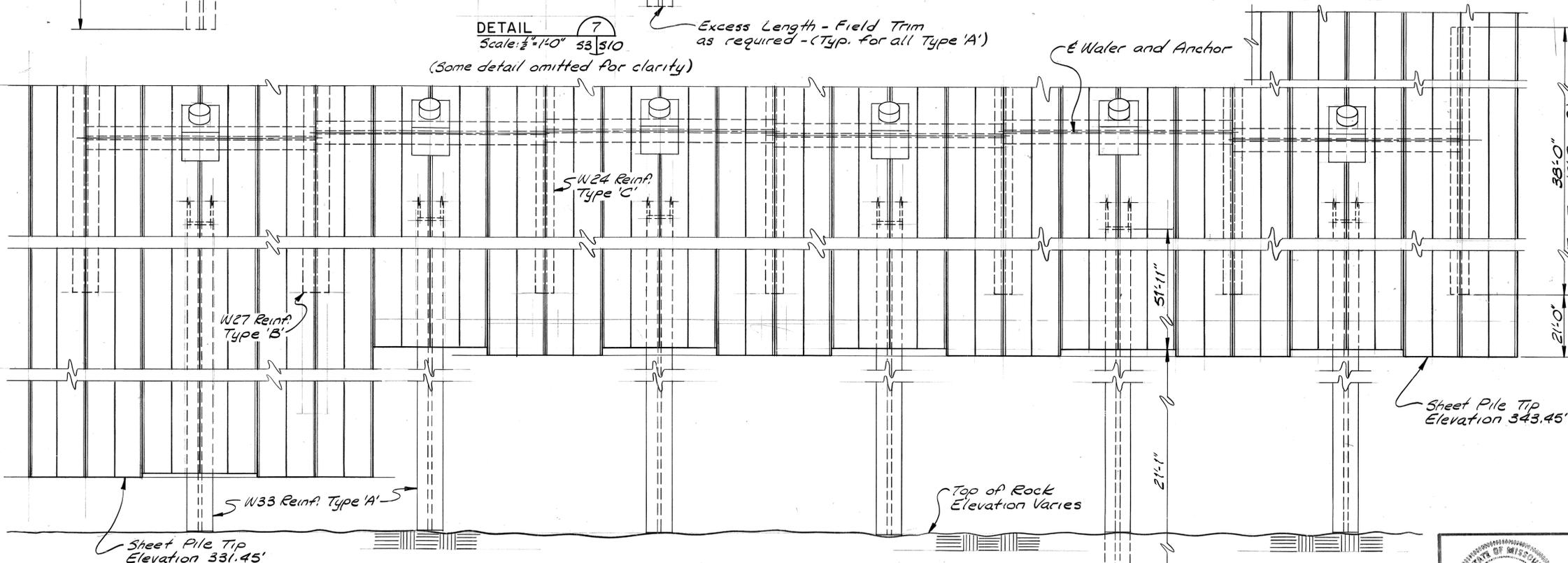


Waler and Anchor = Elev. 398.45. Installed elevation of anchor and waler shall not deviate more than ±1'-0" from this elevation and adjacent anchors and walers shall have a deviation of not more than 1'-0" between them.

Sheet Pile Tip Elevation 331.45'

DETAIL 7
Scale: 1/2" = 1'-0" 33/310
(Some detail omitted for clarity)

Excess Length - Field Trim as required - (Typ. for all Type 'A')



Waler and Anchor

Sheet Pile Tip Elevation 343.45'

DETAIL 8
Scale: 1/2" = 1'-0" 33/310

Excess Length - Field Trim as required

GENERAL BULKHEAD CONSTRUCTION PROCEDURE:

1. PROBE BULKHEAD ALIGNMENT FOR TOP OF ROCK. TRIM TYPE 'A' REINFORCEMENT TO PROPER LENGTH AND DRIVE TO ROCK. DRIVE TYPES 'B' AND 'C' REINFORCED PILE TO PRESET TIP ELEVATIONS.
2. FILL BULKHEAD TO APPROXIMATE LEVEL OF WALER (395.0). BULKHEAD SHALL NOT BE ALLOWED TO CANTILEVER WITH A GREATER HEIGHT OF FILL THAN ELEVATION 395.0.
3. INSTALL ANCHORS AND TENSION TO SMALLER OF TWO LOCKOFF LOADS SCHEDULED ON SHEET S8. DO NOT PROOF LOAD ANCHORS AT THIS TIME.
4. FILL BULKHEAD TO FINAL GRADE OR AS REQUIRED TO PROVIDE REACTION FOR ANCHOR TESTING.
5. ANCHORS MAY BE PROOF LOADED AT THIS TIME. LOCKOFF AT LARGER OF TWO VALUES SCHEDULED ON SHEET S8.
6. SCHEDULED LOCKOFF LOADS ON SHEET S8 ANTICIPATE RIVER LEVEL AT MEAN WATER ELEVATION 390 AND FOR LARGER LOCKOFF VALUE, BULKHEAD FILLED TO FINAL GRADE. IF OTHER CONDITIONS EXIST AT TIMES OF LOCKOFF, NOTIFY ENGINEER.
7. IF ANCHORS ARE INSTALLED PROOF LOADED FROM DRY SIDE OF BULKHEAD WITHOUT PUTTING REACTION FORCES INTO THE BULKHEAD, THE PRECEDING RESTRICTIONS (3-5) NEED NOT APPLY. REQUIREMENTS FOR LOCKOFF LOADS REMAIN.
8. DEPARTURES FROM THIS PROCEDURE REQUIRE REVIEW AND PRIOR APPROVAL OF ENGINEER.
9. IF NECESSARY, COFFERDAM CONSTRUCTION MAY BE BRACED TO THE BULKHEAD WALL. DETAILS OF THIS PROCEDURE, IF PROPOSED BY CONTRACTOR, REQUIRE REVIEW AND PRIOR APPROVAL OF ENGINEER.

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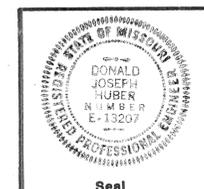
GENERAL NOTES:

1. ALL EXISTING CONSTRUCTION IS TO BE VERIFIED AT THE SITE. CLEARANCES TO EXISTING CONSTRUCTION ARE SHOWN APPROXIMATELY AND ARE TO BE FIELD VERIFIED.
2. ALL ITEMS SHOWN TO BE REMOVED SHALL BE REMOVED FROM THE SITE AND DISPOSED OF UNLESS SPECIFICALLY NOTED OTHERWISE. DEBRIS FROM DEMOLITION OF THE CONCRETE DOCK TOP SLAB MAY BE ALLOWED TO REMAIN ON THE SITE IF LEFT AT THE BOTTOM OF THE DREDGE FILL AND IF IT WILL NOT INTERFERE WITH ANCHOR INSTALLATION.
3. BACKFILL FOR BULKHEAD IS TO BE FREE DRAINING DREDGED FILL LOCALLY OBTAINED, IF ACCEPTABLE. FILL MATERIAL WITH MORE THAN 5% PASSING THE NUMBER 200 SIEVE IS NOT ACCEPTABLE. ABOVE PREVAILING RIVER LEVEL, THE DREDGE WATER SHALL BE PROPERLY DRAINED TO ALLOW THE FILL TO BE DEPOSITED ABOVE WATER. MINIMUM RELATIVE DENSITY FOR FILL PLACED ABOVE WATER SHALL BE 60%, EXCEPT FOR THE TOP 5' OF FILL WHICH SHALL BE MINIMUM 80% OF MAXIMUM RELATIVE DENSITY.
4. SEE SPECIFICATIONS FOR AGGREGATE SURFACE COURSE REQUIREMENTS.
5. GEOFABRIC FOR LONGITUDINAL AND BLANKET DRAINS SHALL BE AVDA FILTER II, NICOLON 40-30, POLYFILTER GB, OR APPROVED EQUAL. GRAVEL FILL FOR DRAINS SHALL BE 1" WASHED ROCK WITH LESS THAN 3% FINES.
6. ALL STEEL DOCK PILING, INCLUDING W24, W27 AND W33, REINFORCEMENT, FABRICATED CORNERS, TEES, AND WALERS, ETC. SHALL CONFORM TO ASTM A572, GRADE 50. 12" H-PILES AT SEWER EXTENSION SUPPORT ONLY, MAY BE ASTM A36 STEEL. STEEL PILE SHALL BE DRIVEN TO ROCK OR TO PRACTICAL REFUSAL, AND ALL SPLICES OF PILING SHALL DEVELOP THE FULL MOMENT CAPACITY OF THE SECTION.
7. ROCK ANCHORS SHALL HAVE THE CAPACITIES SHOWN IN THE SCHEDULE ON SHEET S7 AND SHALL BE INSTALLED IN THE SEQUENCE DESCRIBED ON THIS DRAWING. DESIGN AND DETAILING OF ROCK ANCHORS, PRESTRESSING STEEL, ANCHORAGE COMPONENTS AND GROUTING SHALL BE THE RESPONSIBILITY OF THE ROCK ANCHOR MANUFACTURER. THE ANCHOR HEAD OF THE ROCK ANCHORS MAY NOT PROTRUDE BEYOND THE FACE OF THE BULKHEAD. SEE SPECIFICATIONS FOR TEST ANCHOR REQUIREMENTS.
8. REINFORCED CONCRETE DESIGN AND CONSTRUCTION TO CONFORM TO A.C.I. 318-77 WITH A MINIMUM 4000 PSI CONCRETE STRENGTH AT 28 DAYS. REINFORCING STEEL TO BE A-615-60. REINFORCING STEEL DETAILS PER A.C.I. MANUAL. LAP BAR SPLICES 24 DIAMETERS, 2'-0" MINIMUM. REINFORCING STEEL PROTECTION (TO MAIN REINFORCING): BOTTOM OF FOOTINGS AND GRADE BEAMS 3", SIDES OF WALLS 1 1/2" UNLESS NOTED.
9. PRECAST REINFORCED CONCRETE PIPE SHALL CONFORM TO ASTM C76, CLASS III, WITH TONGUE-AND-GROOVE JOINTS. MATCH EXISTING PIPE IN SIZE AND TYPE.
10. STRUCTURAL STEEL DESIGN, FABRICATION, AND INSTALLATION PER A.I.S.C. SPECIFICATIONS. ALL STRUCTURAL STEEL (EXCEPT PILING AND WALERS) SHALL BE MINIMUM A.S.T.M. A-36 STEEL. ALL SHOP CONNECTIONS WELDED. ALL FIELD CONNECTIONS BOLTED WITH A-325-X, TYPE 1 BOLTS PER RECOMMENDED A.I.S.C. SPECIFICATION UNLESS NOTED. ALL BOLTS TO BE GALVANIZED PER A.S.T.M. A-153 UNLESS NOTED, PROVIDE OVERSIZE NUTS AS REQUIRED. ALL SHOP AND FIELD WELDS ARE TO BE MADE WITH E70XX ELECTRODE. ALL WELDING TO CONFORM TO A.W.S. CODE AND BE PERFORMED BY A.W.S. CODED WELDERS. FURNISH DATED CERTIFICATION OF WELDERS' QUALIFICATIONS.
11. BRACE ALL WALLS DURING CONSTRUCTION TO PREVENT DAMAGE FROM EARTH, WIND, WATER PRESSURE, AND CONSTRUCTION LOADS UNTIL ALL SUPPORTING WORK IS IN PLACE AND HAD ATTAINED DESIGN STRENGTH AND IS READY TO RESIST LOADS.
12. NO OPENING SHALL BE PLACED IN ANY STRUCTURAL MEMBER UNTIL THE LOCATION HAS BEEN APPROVED BY THE ENGINEER.
13. STRUCTURAL DRAWINGS TO BE USED IN CONJUNCTION WITH CIVIL AND MECHANICAL DRAWINGS. ANY DISCREPANCIES BETWEEN DRAWINGS ARE TO BE REPORTED TO THE ENGINEER FOR PROPER INTERPRETATION.
14. DESIGN LOADS:
 - A. 500 PSF UNIFORM OPERATING SURCHARGE
 - B. ADDITIONAL 1000 PLF LINE LOAD @ RAILROAD SIDING
 - C. RIVER @ ELEVATION 377.
 - D. SOIL PROPERTIES:
 - φ = 30°, δ = 0°, C = 0 TO ELEV. 370
 - φ = 30°, δ = 0°, C = 0 TO ELEV. 340
 - φ = 38°, δ = 0°, C = 0 TO ROCK

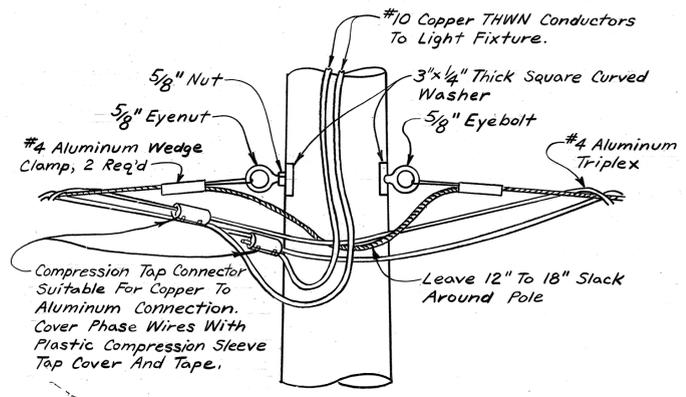
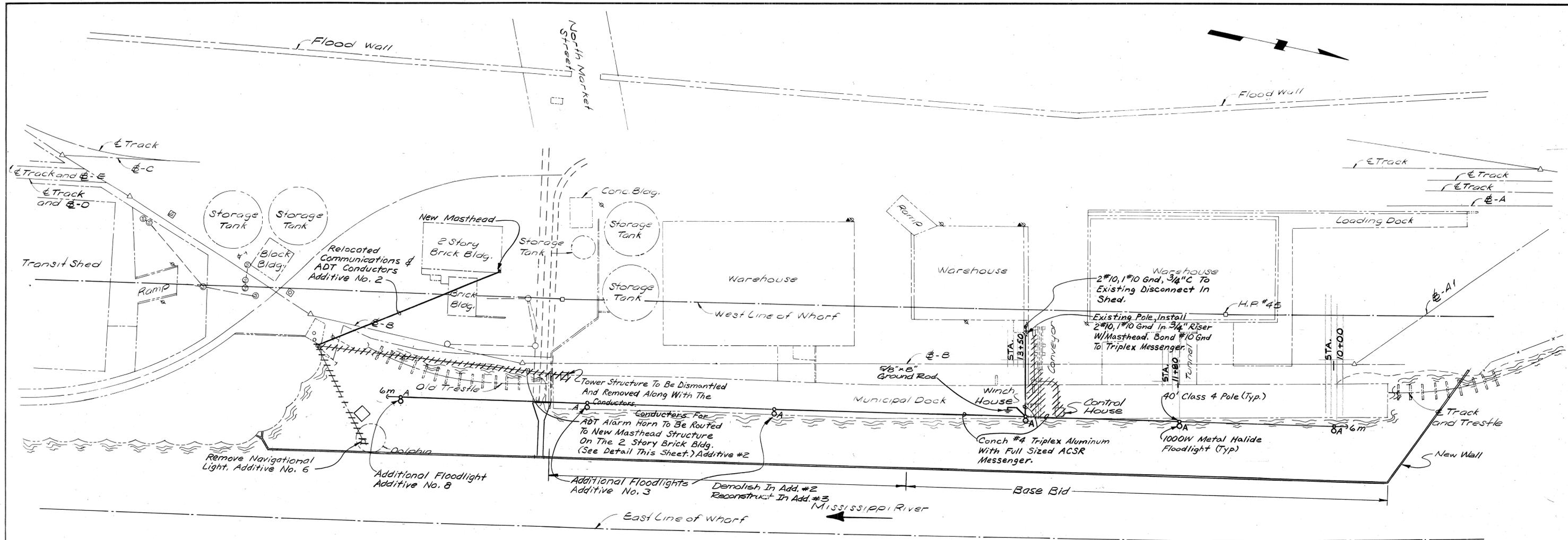
△	T.W.J.	W.F.F.	W.F.F.	As Built	4/21/82
△	JDS	W.F.F.	D.J.H.	General Revision-Change Order #1	5/11/84
REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE

WALER DETAILS AND GENERAL NOTES Sheet No. S-10 Total Sheets 18 OF 37

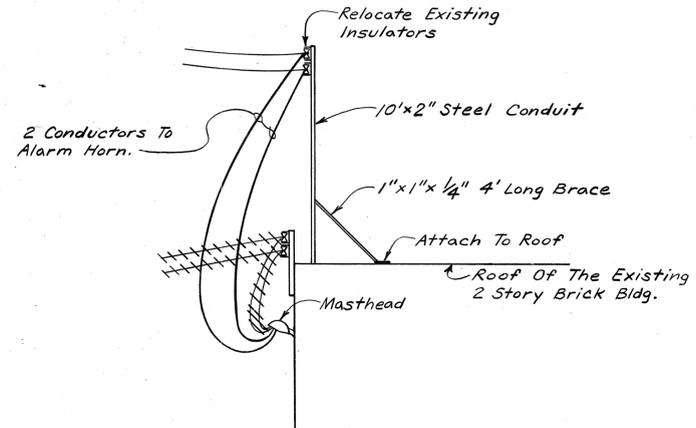
PROPOSED IMPROVEMENTS
ST. LOUIS MUNICIPAL TERMINAL
ONE NORTH MARKET STREET
 CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.



Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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**TRIPLEX INSTALLATION
DETAIL**
N.T.S.



**ADDITIVE ALTERNATE #2
NEW MASTHEAD**
N.T.S.

LIGHTING FIXTURE SCHEDULE						
TYPE	VOLTS	DESCRIPTION	LAMPS		MFR. & CATALOG NO.	REMARKS
			NO.	TYPE		
A	480	MARINE DUTY FLOOD-LIGHT W/PE CONTROL	1	1000W M.H.	WIDE LITE™ FM-1000C-480	

Notes:
 1. See Section 16000 For The Electrical Specifications.
 2. All Equipment Shall Remain Property Of The Owner.

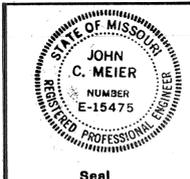
These As-Built Drawings have been prepared totally on the basis of information compiled and furnished by others. Booker Associates, Inc. will not be responsible for any errors or omissions which have been incorporated into this document as a result.

REV. NO.	DRAWN	CHKD.	APPD.	DESCRIPTION	DATE
1	MAB	JCM	JCM	AS BUILT	3-26-86

ELECTRICAL PLAN

**PROPOSED IMPROVEMENTS
ST. LOUIS MUNICIPAL TERMINAL
ONE NORTH MARKET STREET**

CITY OF ST. LOUIS Mayor Vincent C. Schoemehl, Jr.



Department of the President Board of Public Service Martin P. Walsh Jr., P.E. President	Booker Associates, Inc. 1139 Olive Street St. Louis, Missouri 63101 Date 7/19/83	City of St. Louis Port Authority Kenneth A. Anderson Director
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