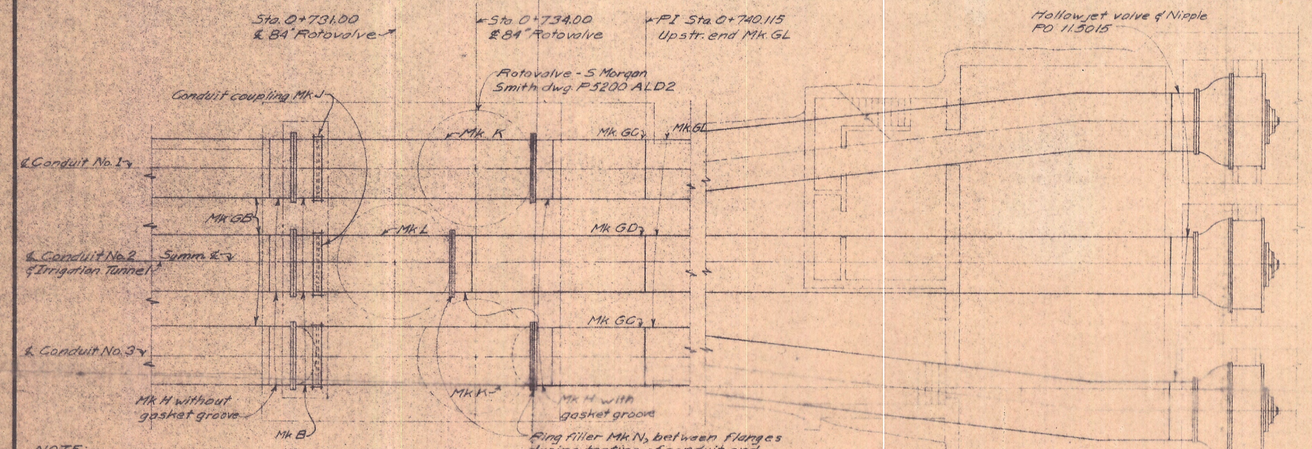
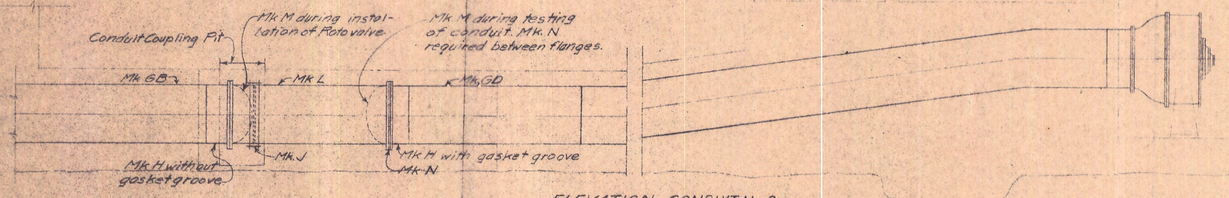
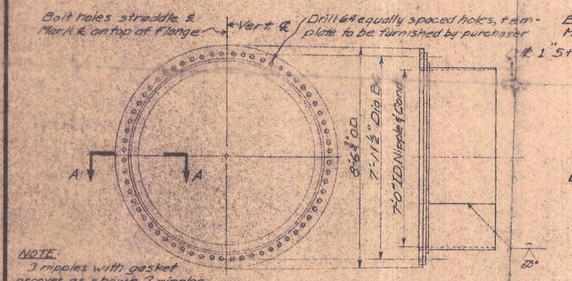


NOTE:
When bolting up flanges, care shall be taken to obtain a snug contact at inner edges of flanges; in case outer edges of flanges are not in contact, it is suggested shims may be used at or outside of bolt circle to assure that flanges are not subjected to rotation. Rotation of flanges, caused by tightening of bolts is not permissible

PLAN
TEMPORARY INSTALLATION

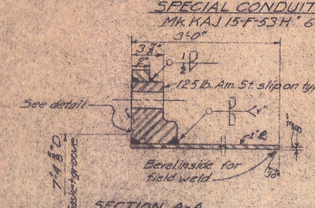


ELEVATION CONDUIT No. 2

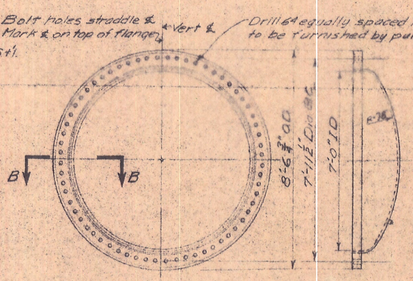


NOTE:
3 nipples with gasket grooves as shown. 3 nipples without grooves.

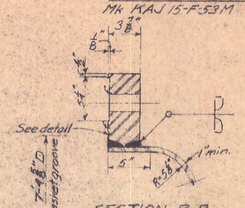
SPECIAL CONDUIT NIPPLE
Mk. KAJ 15-F-53H 6 Req'd.



SECTION A-A

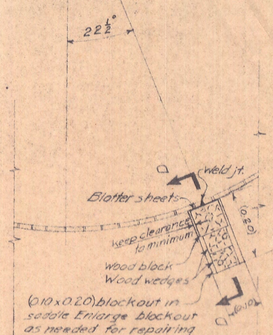


BULKHEAD
Mk. KAJ 15-F-53M 1 Req'd.

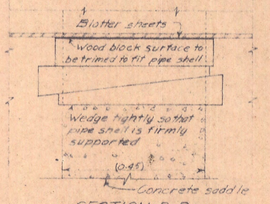


SECTION B-B

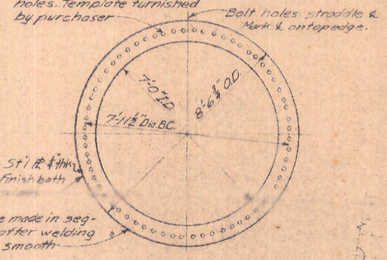
NOTE:
Bulkhead to be furnished by S. Morgan Smith Co. see dwg. 4850-ARB-5 Rev. II.



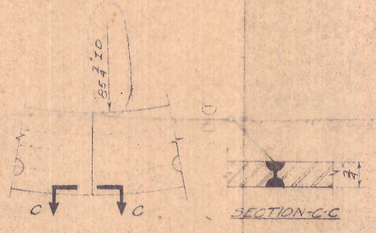
Field Test of weld joint Covered by Concrete Saddle
DETAIL "Z"



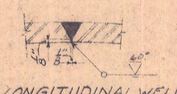
SECTION D-D



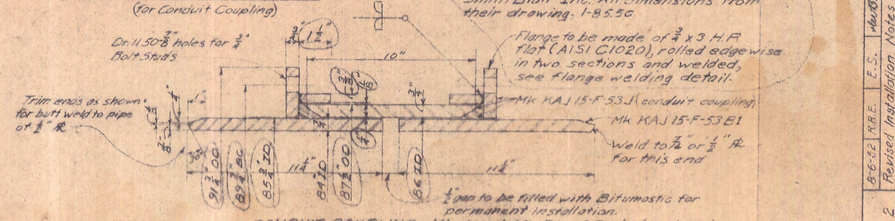
RING FILLER
Mk. KAJ 15-F-53N 3 Req'd



FLANGE WELD DETAIL
(for Conduit Coupling)



LONGITUDINAL WELD DETAIL
(for Conduit Coupling)



NOTE:
Conduit Coupling furnished by Smith Blair Inc. All dimensions from their drawing. 1-85.50
Flange to be made of ⅜ x 3 H.R. flat (AISI C1020), rolled edge wise in two sections and welded, see flange welding detail.

CONDUIT COUPLING Mk. J and Mk. B1 3 Req'd (as shown)

RECOMMENDED CONDUIT TESTING SCHEDULE

Field test of conduits between Rotovalves & Hollow-jet valves. No test necessary for conduits upstream from Rotovalves.

1- Install conduit, pour concrete saddles and weld reinforcement to the down conduit.
2- Install Hollowjet valve.
3- Connect Bulkhead Mk. M to Flange Mk. H with Ring filler in between. Use alloy steel bolts and nuts, which are stamped with the letter T, to make this connection.
4- Block up slot left in saddle with blotter paper in place, as shown in Detail "Z".
5- Test with dyed water, max. testing pressure 180 p.s.i. After the conduit is filled with dyed water, the pressure shall be increased slowly and uniformly until the max. test pressure is reached. The pressure shall be applied and relieved three succesive times and shall then be held at the max. test pressure for a sufficient time required for inspection of the pipe and all welds.
6- Release static pressure, then remove wood blocks and check blotter paper for defective welds in saddles.
7- Repair defective welded joints and defects in steel plates.
8- Block up all slots in the saddles and test again.
9- Encase conduits as shown in dwg. 13-F-40.

NOTES:
Stations, elevations and dimensions in ( ) are in meters, all others are in feet and inches.
Delay in delivery of rotovalves necessitates a temporary arrangement of conduit in rotovalve chamber in order to store and release water for irrigation. For permanent installation see dwg. 15-F-53.
Temporary support of the temporary conduit sections to be furnished by field.
Bill of material is shown on dwg. 15-F-53.
For specifications of material, gaskets, bolts and tolerance see dwgs. 505-27-536, 570 R2, 574 and 577 which were issued with requisitions for procurement.

PROCEDURE FOR FINAL INSTALLATION AND TESTING OF ROTOVALVES AND CONNECTING CONDUITS

1. Close hollow-jet valves and bulkhead and gate at portal.
2. Drain conduit.
3. Remove temporary sections from first conduit and install dished bulkhead on upstream flange (Mk. KAJ 15-F-53M)
4. Open gate and bulkhead at portal and hollow-jet valves as required.
5. Assemble first rotovalve in pit, slightly upstream from final position, and jack it horizontally into contact with downstream conduit flange.
6. Install and test temporary control piping.
7. Test operation of valve dry, and make all necessary adjustments.
8. Prepare and install nipple mating with upstream flange of rotovalve.
9. Close hollow-jet valves, and bulkhead and gate at portal.
10. Drain conduit.
11. Remove dished bulkhead, and install closure nipple and dresser coupling.
12. Open gate and bulkhead at portal, and hollow-jet valves on the other conduits as required.
13. Inspect carefully for leakage, and make all necessary corrections. Include additional cycle of dewatering if required.
14. Test operation of valve under balanced head, and under several increments of flow and make all necessary adjustments.
15. Remove temporary all piping with valve in open position and place conduit in operation.
16. Repeat items 1 to 15 inclusive for second and third conduit and rotovalve.
17. Place second-stage concrete encasing rotovalves and conduits.
18. Install permanent control piping in trenches in accordance with instructions on drawing No. 15-F-57 and test operation with pilot operated control valves.

REFERENCE DRAWINGS:
Irrigation Tunnel - Rotovalve Chamber, Concrete outline - 13-F-61
Irrigation Tunnel - Steel Conduit, Assembly and Misc. Detail - 15-F-53
Irrigation Tunnel - Steel Conduit, Details of sections - 15-F-54
Irrigation Tunnel - Conduit Nipples - - - - - 505-27-536
" " Special Conduit Nipples - - 505-27-570 R2
" " Conduit Coupling - - - - 505-27-574
" " Temporary Conduit Sections - 505-27-577
S. Morgan Smith Co. - Flanged Dished Head for 84 I.D. Pipe Line - - - - - - - - - - - - - - - - - - - 4850-ARB-5 Rev II
Smith Blair - Inc., Conduit Couplings - - - 185.50

REV. No.	DATE	MADE	CHKD	APPD	REVISIONS
2	8-6-52	K.B.E.	E.S.	M.K.	Revised Installation Notes
1	6-2-52	J.E.M.	W.J.H.	M.K.	Conduit Coupling Dim. & Notes

MORRISON - KNUDSEN AFGHANISTAN, INC.
KAJAKAI DAM
IRRIGATION TUNNEL - STEEL CONDUIT
TESTING, TEMPORARY INSTALLATION AND DETAILS
INTERNATIONAL ENGI

DESIGNED J.E.M. CHKD. J.H.
DRAWN J.E.M. INSP.

15 - F - 55 R2