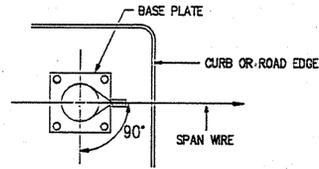
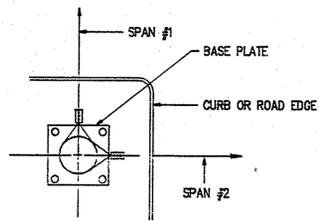


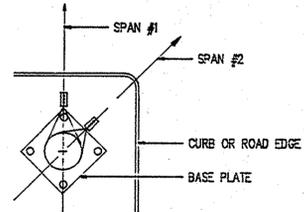
ORIENTATION OF STRAIN POLE
WITH RESPECT TO SPAN WIRE ATTACHMENT(S)



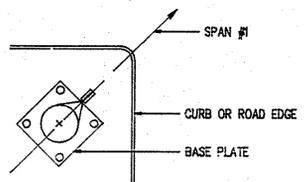
CASE I RIGHT ANGLE SINGLE SPAN



CASE II BOX SPAN OR STANDARD 'Z' SPAN

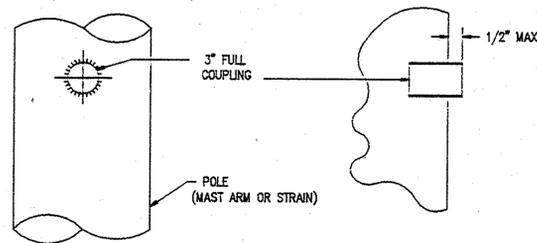


CASE III MODIFIED 'Z' DOUBLE SPAN



CASE IV DIAGONAL SINGLE SPAN

FIELD DRILLED POLE/ARM DETAIL

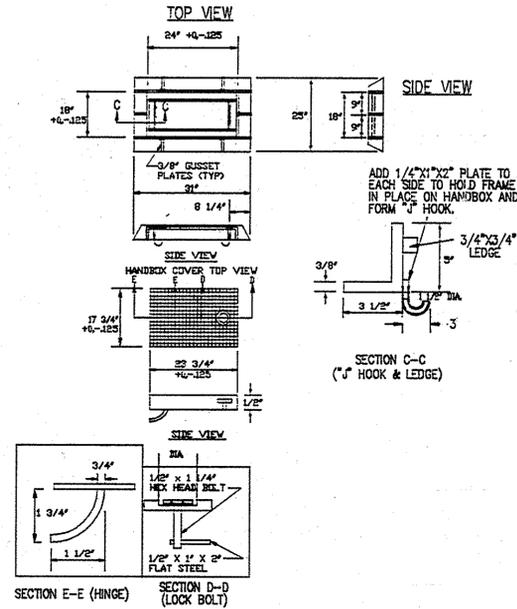


- NOTES:
1. DRILL HOLE IN THE POLE TO FIT STANDARD PIPE COUPLING. FIELD WELD COUPLING TO MEET AWS WELDING SPECIFICATIONS.
 2. WELDING TO BE PERFORMED BY A CERTIFIED WELDER.
 3. ALL WELDING SHALL BE INSPECTED AND APPROVED BY SHA LAB PERSONNEL.
 4. THE AFFECTED AREA SHALL BE CLEANED WITH METAL WIRE BRUSH AND SPRAYED WITH COLD GALVANIZED COMPOUND.
 5. A HOLE MAY BE DRILLED WITHOUT WELDING A BLIND COUPLING FOR 3/4" THRU 1 1/2" SIZE, PROVIDED THERE IS NO OTHER HOLE WITHIN 12". AFTER DRILLING THE HOLE FOLLOW NOTE #4.
 6. 3" FULL COUPLING SHALL HAVE INSIDE CHASE NIPPLE.
 7. FOR COUPLING DETAILS SEE SPECIFICATIONS (SP-31A, SP-31B) FOR MASTARM.

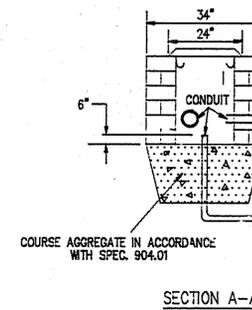
MDOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic
TRAFFIC ENGINEERING DIVISION
ORIENTATION OF STRAIN POLE &
FIELD DRILLED POLE/ARM DETAIL

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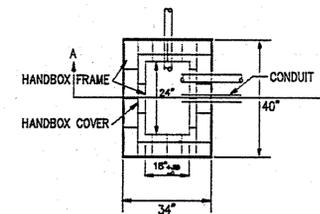
HANDBOX FRAME AND COVER



ALTERNATE HANDBOX CONSTRUCTION

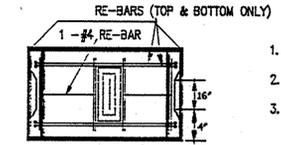


SECTION A-A

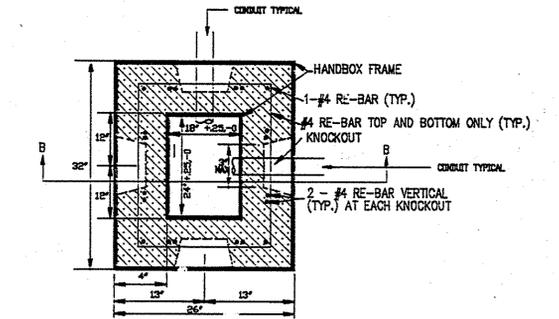


PLAN VIEW

STANDARD PRECAST HANDBOX



SECTION B-B



PLAN VIEW

- NOTES:
1. CONCRETE IS TO BE 5000 PSL.
 2. NO RE-BAR IN KNOCKOUTS.
 3. FULL CONCRETE DIMENSIONS ARE REQUIRED, ANY AIR POCKETS MUST BE PATCHED BEFORE SHIPMENT.
 4. ALL RE-BAR IS TO BE IN THE CENTER OF WALLS.
 5. MINIMUM CONCRETE COVER FOR RE-BAR IS 1 1/2".

NOTES ON HANDBOX CONSTRUCTION

1. ANY SPACES BETWEEN THE CONDUIT AND THE HANDBOX WALL SHALL BE PATCHED WITH MORTAR AS APPROVED BY THE ENGINEER.
2. ALL METAL CONDUIT ENDS SHALL BE BONDED WITH OTHER CONDUIT ENDS USING BONDING BUSHINGS AND NO. 8 AWG SOLID BORE COPPER WIRE.
3. ALL ELECTRICAL CABLES ARE REQUIRED TO HAVE 3" MIN. SLACK IN HANDBOX. THIS WIRE IS TO BE SECURED IN THE HANDBOX SO IT DOES NOT LIE ON THE BOTTOM OF THE HANDBOX.
4. ALL LOOP DETECTOR WIRE TO LEAD-IN CABLE SPLICES IN THE HANDBOX SHALL BE IN ACCORDANCE WITH THE STANDARD SHOWN ON STANDARD NO. 2.
5. WHEN ALL CONDUIT AND ELECTRICAL WIRE IS IN PLACE, THE END OF THE CONDUIT SHALL BE SEALED WITH DUCT SEALER OR OTHER PLIABLE MATERIAL AS APPROVED BY THE ENGINEER.
6. ALTERNATE HAND BUILT BRICK HANDBOX SHALL BE USED FOR CONDUIT SIZES LARGER THAN 3" AS DIRECTED BY THE ENGINEER.
7. HANDBOX FRAME & COVER SHALL BE GALVANIZED PER ASTM A-123 & A-153.
8. HANDBOX TO BE INSTALLED AT FINAL GRADE.
9. HANDBOX FRAME TO BE PLACED INTO MORTAR BED ON HANDBOX TOP AND PARP-D.
10. ALL CONDUITS ENTERING FROM HANDBOX SUMP INTO HANDBOX SHALL PROJECT 6" ABOVE SUMP TOP.
11. ALL CONDUIT ENTERING FROM HANDBOX SIDE WALL SHALL PROJECT 2" MAX.

APPROVED [Signature] 10/5/89
DEPUTY CHIEF ENGINEER - TRAFFIC

	APPROVAL - SHA REVISIONS	APPROVAL - FEDERAL HIGHWAY ADMINISTRATION

MDOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic
TRAFFIC ENGINEERING DIVISION

STANDARD PRECAST HANDBOX

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