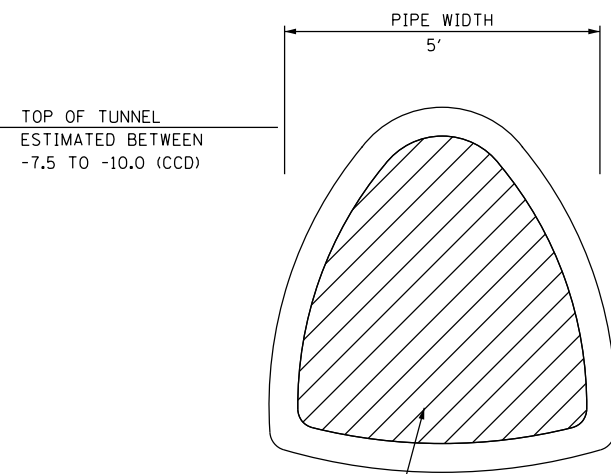


TYPICAL SECTION
PROPOSED TUNNEL BULKHEAD, CHICAGO



INSTALL TUNNEL BULKHEAD, CHICAGO AND FILL WITH CONTROLLED LOW STRENGTH MATERIAL, SPECIAL

TYPICAL SECTION
EXISTING CTA WATER TUNNEL (SHAPE ESTIMATED)

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
LOCATE TUNNEL, CHICAGO	EACH	4
BULKHEAD TUNNEL, CHICAGO	EACH	1
CONTROLLED LOW STRENGTH MATERIAL	CU YD	845

TUNNEL NOTES:

1. THE WATER TUNNEL SHOWN IS FROM IDOT RECORD DRAWINGS FOR ROADWAY AND BRIDGE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY LOCATE THE CROWN OF THE WATER TUNNELS USING PROBE BORINGS AS DESCRIBED IN THE SPECIFICATIONS. THIS WORK IS INCLUDED IN THE ITEM LOCATE TUNNEL. THE METHOD OF LOCATING THE TUNNEL IS BASED UPON CDWM REQUIREMENTS FOR LOCATING TUNNELS.
2. THE EXISTING WATER TUNNEL IS ABANDONED WITH PREVIOUS BULKHEADS CONSTRUCTED NEAR HALSTED STREET AND TO THE EAST, ALONG WITH PORTIONS OF THE TUNNEL PREVIOUSLY FILLED. THE TUNNEL IS EXPECTED TO HAVE NOMINAL AMOUNTS OF WATER DUE TO INFILTRATION, WHICH MAY CONTRIBUTE TO SIGNIFICANT FLOWS DEPENDING ON GROUNDWATER CONDITIONS.
3. A BULKHEAD IS INTENDED TO BE CONSTRUCTED AS PART OF THE MORGAN STREET BRIDGE RECONSTRUCTION (IDOT D1 CONTRACT 60W25). THIS BULKHEAD IS INTENDED TO BE THE WESTERN LIMIT OF PROPOSED TUNNEL FILLING WITH CONTROLLED LOW STRENGTH MATERIAL.
4. THE CONTRACTOR SHALL PROVIDE DEWATERING AS NEEDED IN THE EXISTING WATER TUNNEL. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF TUNNEL BULKHEAD, CHICAGO OR CONTROLLED LOW STRENGTH MATERIAL.
5. OBTAIN TWO CORE SAMPLES PER BULKHEAD, ONE (1) AT THE 10 AND ONE (1) AT THE 4 O'CLOCK POSITIONS OR ONE (1) AT THE 2 AND ONE (1) AT THE 8 O'CLOCK POSITIONS FOR COMPRESSION STRENGTH TESTING.
6. AFTER THE INSPECTION OF ALL BULKHEADS, THE TUNNEL MUST BE FILLED. THE FILLED TUNNEL WILL ALLOW WALL CONSTRUCTION TO PROCEED IN THIS AND LATER CONSTRUCTION CONTRACTS. THE TUNNEL WILL BE FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CONTROLLED LOW STRENGTH MATERIAL WITH THE FOLLOWING ADDITIONAL INSTALLATION REQUIREMENTS:
 - A. INSTALLATION OF GROUT OR CLSM SHALL NOT TAKE PLACE UNTIL THE CONCRETE STRENGTH OF THE BULKHEAD ACHIEVES 2,000 PSI IN 2-3 DAYS AFTER PLACEMENT. CONCRETE CYLINDERS SHALL BE CAST AND BROKEN TO VERIFY THE BULKHEAD CONCRETE COMPRESSIVE STRENGTH. SUBMIT THE TEST RESULTS TO THE ENGINEER FOR APPROVAL.
 - B. CONTROLLED LOW STRENGTH MATERIAL SHALL BE PLACED BY PUMPING METHODS CONFORMING TO THE REQUIREMENTS OF SECTION 503.07 OF THE STANDARD SPECIFICATIONS EXCEPT THAT THE PLACEMENT TUBE SHALL BE NO LESS THAN SIX INCHES IN DIAMETER. THE PUMPING METHODS MUST BE APPROVED BY THE ENGINEER PRIOR TO THE START OF MATERIAL PLACEMENT.
 - C. THE GROUT/VENT HOLES REQUIRED TO FACILITATE THE PLACEMENT OF CONCRETE WITHIN THE TUNNELS SHALL BE DRILLED THROUGH THE TOP OF THE ABANDONED WATER TUNNEL AND SHALL BE NO MORE TWELVE INCHES IN DIAMETER. THE CONTRACTOR SHALL DRILL THE GROUT HOLES IN ADVANCE OF THE START OF THE GROUTING OPERATION. AT LOCATIONS WHERE GROUT/VENT HOLES ARE INSTALLED WITHIN PAVEMENT AREAS, THE CONTRACTOR SHALL PROVIDE TEMPORARY PLUGS CAPABLE OF SUPPORTING TRUCK LOADS OVER THE OPENINGS UNTIL THE GROUTING WORK COMMENCES. THE METHOD OF TEMPORARY PLUGGING THE GROUT HOLES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PRIOR TO DRILLING. DRILLING OF VENT/GROUT HOLES TO FACILITATE THE PLACEMENT OF CONCRETE WILL BE INCLUDED IN THE COST OF CONTROLLED LOW STRENGTH MATERIAL.
 - D. ANY WATER REMAINING IN THE TUNNEL AFTER ALL BULKHEADS ARE IN PLACE MUST BE REMOVED PRIOR TO THE PLACEMENT OF CLSM.
 - E. THE WATER TUNNEL FILLING SHALL BE PERFORMED IN FOUR (4) LIFTS. THE FOURTH LIFT INTO THE DRILLED ACCESS HOLE SHALL EXTEND A MINIMUM OF 10 FEET ABOVE THE TOP OF THE EXISTING CROWN OF THE WATER TUNNEL. THE CONTRACTOR SHALL LET THE CLSM SET A MINIMUM 24-HOUR PERIOD BETWEEN LIFTS. THE MINIMUM STRENGTH OF THE CLSM SHALL NOT BE LESS THAN 125 PSI.
 - F. THE CLSM SHALL HAVE A MINIMUM SPREAD DIAMETER OF 20-INCHES USING AN INVERTED SLUMP CONE, APPROVED BY THE ENGINEER.
 - G. THE CONTRACTOR MAY INSTALL AND UTILIZE FILL/VENT PIPE(S) TO FILL THE WATER TUNNEL. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE EXISTING TUNNEL INVERTS. THE CONTRACTOR SHALL ENSURE THE FILL/VENT PIPE(S) ARE SPACED SUCH THAT THE CLSM OR GROUT IS EQUALLY DISTRIBUTED BY GRAVITY FLOW WITHIN THE WATER TUNNEL.
 - H. BACKFILL THE BALANCE OF THE DRILLED SHAFTS WITH SAND, A MINIMUM OF 72-HOURS AFTER THE PLACEMENT OF THE GROUT OR CLSM.
 - I. AT THE COMPLETION OF THE TUNNEL FILLING, CORES ARE REQUIRED TO BE TAKEN AT THE 1/4 POINTS ALONG THE TUNNEL TO INSURE THE TUNNEL IS COMPLETELY FILLED WITH CONCRETE. THE CORES MUST EXTEND TO THE INVERT OF THE TUNNEL. THE AMOUNT OF CONCRETE PLACED BETWEEN THE BULKHEADS AND THE CALCULATED AMOUNT OF CONCRETE NEEDED TO FILL THE TUNNEL, AND THE CORING DATA, MUST BE SUBMITTED IN A LETTER TO THE ENGINEER WITHIN ONE WEEK OF COMPLETING FILLING THE TUNNEL.

FILE PATH = p:\388039-projects\trans\1\local\p\AECOM\01\Documents\01\Americas\Transportation\60269938_Circle\Phase_1\1\000_CAD\005_Roadway\Sheets\60W25-sht-Tunnel_Details



DI60W26-sht-Tunnel Details
USER NAME = chitua
PLOT SCALE = 50.0000' / in.
PLOT DATE = 8/17/2013

DESIGNED - MSC
DRAWN - MSC
CHECKED - DBM
DATE - 8/20/13

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABANDONED CTA WATER TUNNEL
BULKHEADING AND FILLING DETAILS

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-008R	COOK	559	155
CONTRACT NO. 60W26				
ILLINOIS FED. AID PROJECT				