GENERAL NOTES:

1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN THE UNDISTURBED SIDES OF THE TRENCH, SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.

2. ANY CONCRETE PAVING SHALL BE SAW CUT 6" WIDER THAN UNDISTURBED SIDES OF EXCAVATION.

3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX OR TEMPORARY HOT MIX.

4. ROAD BASE AND SURFACE MATERIALS IN THE TRENCH CUT SHALL BE REPLACED IN KIND OF EQUAL THICKNESS, OR MINIMUM BASE THICKNESS OF 10 INCHES, WHICHEVER IS GREATER.

5. ALL DAMAGED AREAS OF PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH MINIMUM OF 8 INCHES OF BASE OR MATCH EXISTING, WHICHEVER IS GREATER.

6. SURFACE PAVEMENT SHALL BE OF THE KIND AND THICKNESS AS EXISTING, OR MINIMUM 2 INCHES, WHICHEVER IS GREATER.

7. CLSM (FLOWABLE FILL) SHALL BE ACCEPTABLE IN LONG RUNS OF PIPE WHERE NO VALVES, AIR RELEASES OR ANY VAULTS ARE LOCATED. AE APPROVAL IS REQUIRED FOR THIS ALTERNATIVE.

8. THERE SHALL BE 3 FEET OF SEPARATION BETWEEN AE CHILLED WATER LINES AND ANY OTHER UTILITY UNLESS PRIOR APPROVAL BY AE OSER PERSONNEL.

STANDARD TRENCH DETAIL

SCALE: 3/4" = 1'-0"
1. The existing paving surface shall be saw cut in a straight line a minimum of 12" wider than the undisturbed sides of the trench, symmetrical about the center line of the excavation.
2. Any concrete paving shall be saw cut 6" wider than undisturbed sides of excavation.
3. If excavation area is open for temporary public use the surface shall be maintained level with adjacent riding surface with cold mix or temporary hot mix.
4. Road base and surface materials in the trench cut shall be replaced in kind of equal thickness, or minimum base thickness of 10 inches, whichever is greater.
5. All damaged areas of pavement outside the trench cut shall be removed and replaced with minimum of 8 inches of base or match existing, whichever is greater.
6. Surface pavement shall be of the kind and thickness as existing, or minimum 2 inches, whichever is greater.
7. CSLM (Flowable Fill) shall be acceptable in long runs of pipe where no valves, air releases or any vaults are located. AE approval is required for this alternative.
8. There shall be 3 feet of separation between AE chilled water lines and any other utility unless prior approval by AE OSER personnel.

GENERAL NOTES:

STANDARD TRENCH DETAIL 9/9/2021

SCALE: R1A NTS
** NOTE: VALVE MUST BE ORIENTED SUCH THAT HANDLE IS PULLED UPWARDS TO OPEN TO FLOW.
PROVIDE 20 FT SLACK IN FIBEROPTIC LINES WITHIN MANHOLE. PROVIDE MIN. 4" MANUFACTURED 3/16" THICK GALV METAL HOOK ON SIDE WALL OF MANHOLE; NEATLY LOOP SLACK FIBER ON HOOK

32" MANHOLE RING AND COVER + SPACERS PER AE DETAILS R9 & R10

PRECAST COVER WITH 36" DIAMETER OPENING

INNERDUCT WITHIN 4" PVC CONDUIT – QUANTITY/STYLE PER SPECIFICATIONS AND DRAWINGS NOTES & DETAILS

48" DIA. X 48" DEEP MANHOLE SECTION

SIDE CONDUIT ENTRY WHERE REQUIRED

12" CONCRETE FLOOR CAST IN PLACE, MINIMUM 6" THICK WITH #4 BAR, 12" ON-CENTER

DIA. OPENING APPROPRIATE FOR CONDUITS AND DRAINAGE

PEA GRAVEL AROUND CONDUIT FOR DRAINAGE

4" PVC CONDUIT

BOTTOM CONDUIT ENTRY WHERE REQUIRED

PVC TELECOM CONDUIT TO HAVE NO ELBOWS LESS THAN 60" RADIUS. IF CONDITIONS DO NOT ALLOW FOR THIS AND FOR BOTTOM ENTRY INTO MANHOLE, CONDUIT MAY BE SLOPED GENTLY UPWARD AND ENTER IN THE SIDE OF MANHOLE.

EXTEND INNERDUCT 6" INTO MANHOLE

CUT FLUSH WITH WALL

4" PVC CONDUIT

COMMUNICATION VAULT

SCALE: R3

6/9/2021
PROVIDE MIN. 4" MANUFACTURED 3/16" THICK GALV METAL HOOK ON SIDE WALL OF MANHOLE FOR FIBER OPTIC LINES. NO FIBER OPTIC LINE IN CONTRACT.

32" MANHOLE RING AND COVER PER AE DETAILS 9 & 10. PROVIDE CONCRETE GRADE RINGS PER SECTION 506 (MIN. 6" THICKNESS). CONSTRUCT GRADE RINGS PER COA STANDARD DETAIL 506S-4

PRECAST COVER WITH 36" DIAMETER OPENING

48" DIA. X 48" DEEP MANHOLE SECTION

INNERDUCT WITHIN 4" PVC CONDUIT - QUANTITY/STYLE PER SPECIFICATIONS AND DRAWINGS NOTES & DETAILS

EXTEND PVC MINIMUM OF 4" INTO MANHOLE

EXTEND INNERDUCT 6' INTO MANHOLE

8" PVC SCH 40. EXTEND INTO PEA GRAVEL BEDDING AT LEAST 6"

8" DIAMETER OF OPENING FOR DRAINAGE. CAST 12"x12" EXPANDED METAL GRATING (3 #E.) OVER OPENING.

CONCRETE FLOOR CAST IN PLACE, MINIMUM 6" THICK WITH #4 BAR, 12" ON-CENTER

REFERENCE DETAIL 3B FOR ORIENTATION OF CCNDLTS IN VAULT #1

COMMUNICATION VAULT

SCALE: R3A

NONE
OPTION 1:
4" PVC CONDUIT WITH THREE
SINGLE RACEWAY INNERDUCTS

COMMUNICATION CONDUIT
SCHEDULE 40 PVC,
4.5" OD x 3.998" ID

3 – 1" HDPE CORRUGATED INNERDUCT PER CONDUIT

NOTE: OWNER TO FURNISH INNERDUCT, CONTRACTOR TO INSTALL.

OPTION 2:
4-CELL COMBINATION CONDUIT/
MULTI-DUCT SYSTEM

FEMALE COUPLING  MALE COUPLING
CHILLED WATER CONNECTION
GENERAL LAYOUT
SEE AE DETAIL AND ENGR DRAWINGS
6/9/2021
NOTES:

1. SUBGRADE SHALL BE COMPACTED AS PER ITEM 201, SUBGRADE PREPARATION.

2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE DETERMINED BY ENGINEER.

3. CLEAN CASTINGS OF ALL DEBRIS DOWN TO VALVE GEAR OPERATOR.

4. REPLACEMENT HMAC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
   a) MIN. 2" HMAC TYPE "D" FOR TRENCH REPAIR IN LOCAL/RESIDENTIAL STREETS.
   b) MIN. 3" HMAC TYPE "C" FOR TRENCH REPAIR IN COLLECTOR/ARTERIAL STREETS. SEE ITEM 3405, SECTION 3405.4.

5. SET PATCH ELEVATION TO LEVEL OF NEW OVERLAY AS DIRECTED BY ENGINEER.

6. "ITEMS" REFER TO REFERENCE ITEM NUMBERS FROM THE "STANDARD SPECIFICATION AND STANDARD DETAILS ADOPTED BY THE CITY OF AUSTIN, DEPARTMENT OF PUBLIC WORKS"

VALVE BOX DETAIL

SCALE: NONE

6/9/2021
32" CI COVER DETAIL

SECTION

2 3/4" [70mm]
1 1/2" [38mm]

32" DIA [813mm]

AUSTIN ENERGY CHILLED WATER

(2) PICK BARS SEE DETAIL

2" [51mm] RAISED LETTERING TYP (RECESSED)

BOTTOM VIEW OF COVER

3 3/4" [95mm]
7/8" [22mm]
1 3/4" R [44mm]
1" DIA. H.R.S. ROD [25mm]

PICKBAR DETAIL

SCALE: R10

6/9/2021

MACHINED SURFACE

EAST JORDAN IRON WORKS, INC.
P.O. BOX 439
EAST JORDAN, MI 49727
1-800-874-4100
FAX 231-536-4458

DRAWN
DATE
DEW
01/16/04

APPROVED
DATE

SPECIAL LETTERED COVER

PRODUCT NO.
00148066

CATALOG NO.
1480A

REF. PRODUCT DRAWING
148194

EST. WT.
COVER: 215 LBS 98kg

OPEN AREA
N/A

MATERIAL SPEC.
COVER – GRAY IRON
ASTM A48, CL35B

LOAD RATING
HEAVY DUTY

Or Approved Equal
Advanced Products & Systems Casing Spacer model SSI or AE approved equal

General Notes:
1. Number of runners and configuration shall comply with manufacturer's approved shop submittal.
2. Configuration is applicable to a single pipe in casing.
3. Vancant space shall be filled with grout. All gaps and voids shall be eliminated and verified using volume calculations.

Typical Casing Spacer Detail

Scale: None

6/9/2021
PIPE PENETRATION THROUGH EXTERIOR WALL

NOTE:
1. WALL THICKNESS VARIES, REFER TO CUSTOMER'S STRUCTURAL DRAWINGS FOR DIMENSIONS. FOR WALLS LESS THAN 12" THICK ONE SET OF LINK SEALS IS REQUIRED. FOR WALLS GREATER THAN 12" THICK TWO SETS OF LINK SEALS ARE REQUIRED.
2. SLEEVE I.D. SIZE SHALL FOLLOW EQUATIONS:
   PIPE SLEEVE SIZE = PIPE O.D. + 3/8" THICK JACKET + 4" FOR INSULATION + LINK SEAL WIDTH.
   FIBER CONDUIT SLEEVE I.D. SIZE = CONDUIT O.D. + LINK SEAL WIDTH

SCALE: R12  NONE  6/9/2021
8208A Cover

3/4" FLAT FACE GOTHIC

1/2 FLAT FACE GOTHIC

EPICO PIC BAR 2 PLACES

EPICO PIC BAR 2 PLACES

BOTTOM VIEW

25 3/4" 1 1/2"

21 13/16"

SECTION A-A

AIR RELEASE VALVE ASSEMBLY LID AND FRAME

SCALE: R13

PRELIMINARY
Submission Number
NPR13-4C22

Design Features
- Materials
- Gray Iron (CL35B)
- Design Load
- Heavy Duty
- Open Area
  n/a
- Coating
  Dipped
- V Designates Machined Surface

Or Approved Equal

Certification
- ASTM A48
- Country of Origin: USA

Drawing Revision
9/13/2013 Designer: MAH
Revised By:

Disclaimer
Weights (lbs/kg), dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact
820 826 4653
ejco.com

5/9/2021
THIS DETAIL IS USED WHEN TEE DIAMETER IS LESS THAN 50% OF THE MAIN PIPE.

REFERENCE STANDARD A.E. DETAIL R15, "HOT TAP USING TAPPING TEE WITH GATE VALVE"

SPECIAL FABRICATED TAPPING TEE

REINFORCING PAD, TWO PIECE, ONE AT EACH SIDE OF NOZZLE

MAIN CHS OR CHR PIPE

LOWER WELDING REINFORCING PAD TO BASE OF NOZZLE; WELD TO NOZZLE AND TO MAIN PIPE. TEST WELDS PER SPECIFICATIONS.

PRESSURE TEST SPACE BETWEEN REINFORCING PAD AND CARRIER PIPE

THREADED PLUG; PLUG HOLE AFTER PRESSURE TESTING

THEADED WEEP HOLE, CUT INTO REINF. PAD PRIOR TO WELDING PAD ON TO NOZZLE & PIPE. INSTALL WEEP HOLE IN EACH PIECE.

STEP 1

STEP 2

HOT TAP SADDLE WELDING DETAIL USING REINFORCING PAD

SCALE: R14

6/9/21

6/9/2021

SCHED STD WEIGHT PIPE THICKNESSES

<table>
<thead>
<tr>
<th>NOM PIPE DIAM</th>
<th>WALL THICKNESS, INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>0.280&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>0.322&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>0.365&quot;</td>
</tr>
<tr>
<td>12&quot; &amp; LARGER</td>
<td>0.375&quot;</td>
</tr>
</tbody>
</table>

REF. DRAWINGS FOR SCHED STD NOZZLE PIPE DIAM.

WIDTH OF RE-PAD TO EQUAL NOZZLE NOMINAL PIPE DIAM.

MT

.250"

MT

FILLET WELD TO EQUAL PIPE THICKNESS

STANDARD SCHED STD PIPE THICKNESS - RE TABLE

REF. DRAWINGS FOR MAIN PIPE DIAM.
NOTE:
1. CONTRACTOR SHALL PERFORM A NDE TEST ON PIPE BEFORE HOT WELDING IS STARTED TO VERIFY PIPE WALL THICKNESS. TEST SHALL CONFIRM THICKNESS OF PIPE IS SAME AS SCHEDULE WEIGHT OF PIPE. IF NOT, PRIOR AE APPROVAL SHALL BE GIVEN BEFORE HOT TAP IS PERFORMED.
"BOX SEAT" CENTERING GUIDE PLATE, SUPPORTED BY PVC PIPE

VALVE BOX RISER BASE

PROVIDE SHORT SEGMENT OF 3" PVC PIPE CENTERED ON VALVE SHAFT, CUT TO LENGTH REQ'D TO HOLD BOX SEAT IN PLACE AT ROUGHLY MID POINT OF VALVE BOX RISER BASE.

PROVIDE 4" PVC SLEEVE THROUGH CONCRETE; CENTERED ON VALVE SHAFT TO ALLOW SEGMENT OF 3" PVC TO BE FREE-FLOATING.

2000 PSI CONCRETE, 16" x 16" x 4" DEEP. ENSURE THAT CONCRETE SUPPORT BLOCKClearS INSULATION OF VALVE FLANGE 6" AND THAT ALL ASSOCIATED COMPONENTS OPERATE PROPERLY

SPECIAL ORDER EXTENDED LENGTH VALVE OPERATOR SHAFT. CONTRACTOR TO DETERMINE SHAFT LENGTH PRIOR TO ORDERING.

GEAR OPERATOR FOR VALVE; REFERENCE SPECIFICATIONS

VALVE WRENCH EXTENSION STEM

SLIP TYPE VALVE BOX RE: AE DETAIL R6A

BOTTOM OF VALVE WRENCH EXTENSION STEM SITS ON TOP OF SQUARE NUT.

SQUARE NUT IS CONNECTED TO VALVE OPERATOR SHAFT. ALL CONNECTIONS SHALL BE KEYED. SET SCREWS WITH LOCKTITE SHALL BE USED. STAINLESS STEEL ROLL PIN SHALL ONLY BE USED WITH AE APPROVAL.

MAINTAIN 1/8" SEPARATION

ENSURE THAT CAVITY BENEATH VALVE BOX IS DRAINABLE – PER GRAVEL REPRESENTS DRAINABLE AREA

STAG-WRAP INSULATION RE: SPECIFICATIONS

CHILLED WATER PIPE

BUTTERFLY VALVE

GEAR OPERATOR/VALVE BOX CONNECTION DETAIL

FACTORY EXTENSION SHAFT

SCALE: R16

NONE

6/9/2021
GEAR OPERATOR/VALVE BOX CONNECTION DETAIL
MANUFACTURED STEM EXTENSION
(not for existing construction)

SCALE: R16A

6/9/2021