NOTES

1) CONSTRUCT IN ACCORDANCE WITH PENN DOT PUBLICATION 408 CURRENT EDITION
SECTION 714; AND ASTM C-478M CURRENT EDITION. STANDARD
SPECIFICATION FOR PRECAST
REINFORCED CONCRETE MANHOLE SECTIONS AS MODIFIED HEREAFTER.

2) MINIMUM CONCRETE COMPRESSIVE STRENGTH:
CAST IN PLACE 4000 PSI
PRECAST 4000 PSI

3) PROVIDE STEEL REINFORCEMENT IN ACCORDANCE WITH ASTM A-185.

4) MANHOLE COATINGS: EXTERIOR COATING; COOPER BLACK NO. 760 TOP
SERVICE BLACK AS MANUFACTURED BY COOPERS CREEK CHEMICAL
CORP. OR APPROVED EQUAL. AT LEAST THREE (3) COATS SHALL BE APPLIED
GIVING A TOTAL DRY FILM THICKNESS OF A MINIMUM 32.0 MILS.
INTERIOR COATING: SHERWIN WILLIAMS MACRO POXY-646 WHITE
(FAST CURE EPOXY).
AT LEAST TWO (2) COATS SHALL BE APPLIED GIVING A TOTAL DRY THICKNESS
OF A MINIMUM 10–14 MILS.

5) FLOW CHANNEL TO BE PRECAST INTO MANHOLE BASE.

6) MANHOLE CONNECTION GASKETS: ECONOSEAL AS MANUFACTURED BY PRESS
SEAL GASKET CORP. (SPEC. ASTM C-923) OR APPROVED EQUAL.

7) MANHOLES SHALL BE CONSTRUCTED WITH STEPS. REFER TO WHITPAWN
TOWNSHIP DETAIL #15 FOR SPEC. OF STEPS.

8) WATERSAVING DISH TO BE INSTALLED BENEATH MH COVER.

MANHOLE SIZE | PIPE SIZE
---|---
4'| | ≤ 20"
5'| | 21–30"
6'| | 33–42"

DETAIL #1
PRECAST SANITARY MANHOLE
WHITPAWN TOWNSHIP
NOT TO SCALE
CONSTRUCT FLOOR TO 3/4 DEPTH OF THE LARGEST SEWER IN MANHOLE AND SLOPE AS SHOWN

CRUSHED STONE INSTALLED TO CENTER LINE OF PIPE. FOR DIP, INSTALL TO 12" ABOVE TOP OF PIPE FOR PVC

CRUSHED STONE INSTALLED AGAINST UNDISTURBED EARTH

AS SPECIFIED

6" MINIMUM

RUBBER GASKET JOINT SEE TYPE "A" JT. OR COMPRESSION SEAL JT. SEE DETAIL # TYPE "B" OR PVC ADAPTER

6" UP TO 12" DEEP MH
12" OVER 12" DEEP MH

NOTES:

1) CONSTRUCT IN ACCORDANCE WITH PENNDOT PUBLICATION 408 CURRENT EDITION SECTION 714. AND ASTM C—478M CURRENT EDITION AND PENNDOT RC STANDARDS CURRENT EDITION.

2) MINIMUM STRENGTH OF CONCRETE
CAST-IN-PLACE 4000 PSI(MIN.)
PRECAST 4000 PSI(MIN.)

3) PROVIDE STEEL REINFORCEMENT MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408 CURRENT EDITION SEC. 709. REINFORCE PER PENNDOT 408 CURRENT EDITION AND RC STANDARD RC—39M CURRENT EDITION.
CONCRETE BASE

MANHOLE RUNGS

FOR POUR ED BASE REINFORCEMENT REFER TO DETAIL #5.

WATERSAVING DISH TO BE INSTALLED BENEATH M.H. COVER.

PROVIDE (4) 1" BOLTS

MAX. OF 3 COURSES OF BRICK OR PRECAST CONCRETE GRADE RINGS TO ADJUST HEIGHT TO GRADE (MAX. 8")

(12" AND ABOVE PRECAST CONCRETE RISERS REQUIRED)

ENTIRE OUTER SURFACE COATED WITH THREE COATS OF BITUMASTIC PAINT

M.H. RUNGS @ 12" CENTERS.

TYP: INSTALL PREFORMED JOINT SEALING COMPOUND (MASTIC)

TOP OF POUR ED CONC. BASE

SEMI-CIRCULAR CONCRETE CHANNELS AND FLOOR TO BE SMOOTH

INSTALL CONCRETE PIPE HAUNCH REFER TO DETAIL #5.

CAST IRON MANHOLE FRAME AND COVER

FINISHED GRADE

CAST IRON FRAME TO HAVE MORTAR PLASTER AROUND EDGE AND OVER FLANGE OF FRAME

PROVIDE 1/2" OF MASTIC BETWEEN THE CAST IRON FRAME AND MANHOLE TOP

SECTION A-A

NOTE:
1. STEEL TEMPLATE TO BE SUPPLIED BY MANHOLE MFR. IN ORDER TO FORM PROPER RECESS IN CONCRETE.
2. RISER TO BE MULTIPLE LENGTHS OF 1'-0", IN ORDER TO SUIT VARIATIONS IN ELEVATION.

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DETAIL #3
PRECAST MANHOLE WITH POUR ED CONCRETE BASE
WHITPAIN TOWNSHIP
NOT TO SCALE
CONCRETE POURED AGAINST UNDISTURBED EARTH

6" MIN.

6' 0"

3"

6" MIN.

6" @ 6" O.C.E.W.

CONCRETE PIPE

HAUNCH

6" 2B CLEAN STONE
(AASHTO #57)

12" (MIN.)

NOTES:
1) IN LIEU OF BELLS, PROVIDE MECH. JOINTS FOR DROP ASSEMBLY WHERE D.I. PIPE IS SPECIFIED.
2) FOR Poured BASE REINFORCEMENT REFER TO DETAIL #5.

SECTION C–C

FLOW

REVERSE 45° WYE BRANCH

CONCRETE

6"

LIMIT OF FIRST POUR FOR PVC PIPE

90° ELL

CONCRETE AGAINST UNDISTURBED EARTH

12" THICKNESS

TYPE 'A'

OPTION: ATLANTIC CONCRETE PRE–CAST DROP ASSEMBLIES MAY BE USED.

TYPE 'B'

TYPE B DROP

MAX. DROP

8" SEWER 3'-6"

10" SEWER 3'-9"

12" SEWER 4'-6"

15" SEWER 4'-6"

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DETAIL #5
DROP MANHOLE
WHITPAIN TOWNSHIP

NOT TO SCALE

---

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<th>1</th>
<th>REVIEWED PER TOWNSHIP</th>
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<td>GENERAL REVIEWS</td>
<td>4-24-12</td>
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SPECIFICATIONS:
- The concrete is designed to obtain a strength of 4,000 psi in 28 days.
- The reinforcing steel has a yield strength of 60,000 psi.
- The manhole is designed to meet the requirements of ASTM C-478, "Precast Reinforced Concrete Manhole Sections."
- The reinforced concrete structure is designed to withstand AASHTO HS-20 live load conditions (design of hatch and/or frame and cover by others).
- A-Lok gaskets are designed to meet the requirements of ASTM C-923, "Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes."
- The reinforced concrete base slab is designed for a maximum depth of 20 ft (depth = f.g. to top of base slab).
CROSS-SECTION OF DROP MANHOLE
NOT TO SCALE

U-SHAPED COLLAR
NOT TO SCALE

ATLANTIC CONCRETE PRODUCTS

DETAIL #7
PRECAST DROP MANHOLE COLLAR
WHITPAINE TOWNSHIP
NOT TO SCALE
NOTES:
1) CORE DRILL HOLE INTO EXISTING MANHOLE WALL.
2) IF PVC OR D.I.P., INSTALL PSX: POSITIVE SEAL (PRESS-SEAL GASKET CORP.) OR APPROVED EQUAL.
3) RESHAPE AND OR RECONSTRUCT EXISTING CHANNEL FOR NEW FLOW PATTERN.
4) CUT OPENING IN EXISTING MANHOLE WALL EQUAL TO PROPOSED SANITARY SEWER O.D. PLUS 2" A WATERSTOP (FERNCO OR APPROVED EQUAL) SHALL BE PLACED AROUND THE PROPOSED SEWER CENTERED IN THE MANHOLE WALL AND EMBEDDED IN NON SHRINK GROUT WHICH SHALL BE USED TO SEAL THE ANNULAR OPENING.
PRECAST REINFORCED RISER SECTION

OPENING BETWEEN EXISTING PIPE AND CUTOUT (TYP.) TO BE FILLED WITH CONCRETE

#5 BARS @ 12" O.C. BOTH WAYS, PLACED IMMEDIATELY BELOW MANHOLE AND EXTENDING BEYOND OUTSIDE PERIMETER AS SHOWN

MANHOLE RISER RESTING ON CINDER BLOCK OR CONCRETE BLOCK AT THREE EVENLY SPACED LOCATIONS PRIOR TO POURING CONCRETE.

6" MIN.

3/4" DIA. OF EXISTING PIPE

7'-0" MIN.

UNDISTURBED EARTH

SHELF SLOPED 1" PER FOOT

STANDARD PRECAST RISER WITH PRECAST OPENINGS

A-LOK HOLE FOR NEW PIPE CONNECTION OR APPROVED EQUAL FORM CHANNEL AS REQUIRED

EXISTING PIPE 3/4" DIA.

CONCRETE BASE POURED IN PLACE AFTER SETTING MANHOLE. CONCRETE TO BE Poured INSIDE AND OUTSIDE TO PROVIDE SEAL AGAINST LEAKS.

4000 P.S.I. CONCRETE POURED AGAINST UNDISTURBED EARTH OR 8" OF 2" STONE IF EARTH IS NOT STABLE

3" MIN. TYP.

7'-0" MIN.

UNDISTURBED EARTH

SET MANHOLE ON 3 CINDER BLOCK OR CONCRETE BLOCK 8" HIGH

NOTE:
1. EXISTING PIPE TO REMAIN UNTIL SATISFACTORY COMPLETION OF MANHOLE TESTING
2. REMOVE CROWN OF EXISTING PIPE FLUSH WITH CONCRETE SHELF.
PIPE CONNECTION JOINT

PRECAST MANHOLE JOINT

OPEN JOINT

CLOSED JOINT
NOTE:
MANHOLE COVERS SHALL NOT BE COATED

EAST JORDAN IRON WORKS PRODUCT NO. 00183549

√ MACHINED SURFACE
PRODUCT NO. 00104637

**FRAME SECTION**
- 26" DIA
- 21 1/2" DIA
- 2 1/2"
- 7"
- 28 7/16" DIA
- 5/8" DIA X 3" LG. SS

**COVER SECTION**
- 27 1/2" DIA
- 26 1/4" DIA
- 1 1/2"

**GROOVE DETAIL**
- 1/4" DIA NEOPRENE GASKET
- 24" DIA
- 28 7/16" DIA
- 36" DIA

**BOLT DETAIL**
- 1/2" X 1 3/4" HEX SS CAP SCREW W/ 1/2" ZINC PLTD & RUBBER WASHERS
- (4) CLOSED PILEHOLES
- (2) CORED PICKBARS
- BOTTOM VIEW
- 1 5/8" DIA

**PICKHOLE DETAIL**
- 1 1/8" X 1 7/8" DIA HOLE ON 32 3/4" DIA BOLT CIRCLE

**PICKBAR DETAIL**
- 1/2" X 1 3/4"
- 1 1/8"

**DANGER SEWER**
- DO NOT REMOVE COVER

**MACHINED SURFACE**

**NOT TO SCALE**

**DETAIL #12**
- CAST IRON WATERTIGHT MANHOLE FRAME AND COVER
- WHITPAIN TOWNSHIP

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**REVISIONS**
- GENERAL REVISIONS: 4-24-12
- PROJECT: 11-13-12
- DATE OF ISSUE: 1-9-04
(4) 1 1/4" (SLOTTED) HOLES ON 28 7/16" DIA BOLT CIRCLE

1 1/4"

1 3/8"

25 1/8" DIA

24 1/16" DIA

7 1/6"

3"

21 1/2" DIA

25 7/8" DIA REF.

31 1/2" DIA

SECTION

√ MACHINED SURFACE

EAST JORDAN IRON WORKS PRODUCT NO. 00183515
MIN. PROJECTION OF 2 1/2" ABOVE PRECAST CONCRETE ADJUSTMENT RING.

3/4" GALV. NUT

3/4" X 1 1/2" GALV. WASHER

3/4" GALV. ALL THREADED ROD

PRECAST CONC. TOP SECT.

CONCRETE INSERT

NOTE:
4 REQUIRED PER MANHOLE
Copolymer Polypropylene Plastic
13mm
1/2"
GRADE 60 STEEL REINFORCEMENT

SECTIONS-A

MEETS: ASTM-C-478
ASTM-D-4101
ASTM-A-615
AASHTO-M-199

M.A. INDUSTRIES, INC.

P.O. Box 2322, 303 Dividend Dr. • Peachtree City, GA 30269 • Phone: (770) 487-7761 • Molding Sales Fax: (770) 487-1482 • Corporate Fax: (770) 431-4679

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DETAIL #15
MANHOLE STEP
WHITPAIN TOWNSHIP

NOT TO SCALE
RESTORATION IN ROADWAY AREAS
(INCL. SHOULDERS & PUBLIC R/W)

ROAD RESTORATION:
1.5" ID-2 WEARING COURSE
2" BINDER COURSE
4" B.C.B.C.

EXISTING ROADWAY

METALLIC WARNING/DETECTION TAPE

WITHIN EXISTING TOWNSHIP ROADWAYS, SHOULDERS OR PUBLIC R/W - FILL ENTIRE TRENCH WITH 2A MODIFIED CRUSHED STONE.

SURFACE TREATMENT SHALL MATCH EXISTING DEPTHS & MATERIALS.

IF APPROVED BY TWP. ENGINEER OR REPRESENTATIVE IN FIELD, SELECT BACKFILL MAY BE USED. BACKFILL IN MAX. 8" LAYERS AND COMPACT WITH MECHANICAL EQUIPMENT.

PIECE O.D.

MAX. TRENCH WIDTH
PIPE O.D. + 1'-4"

6" MIN. #2A MOD. CRUSHED STONE BEDDING

NOTES:

1. WARNING/DETECTION TAPE:
   A. THREE (3) INCHES WIDE METALLIC LINED, STENCIL EVERY TWO (2) FEET.
   B. TAPE SHALL BE GREEN IN COLOR WITH "CAUTION BURIED SEWER LINE BELOW" ON IT.
   C. TAPE IS TO BE PLACED APPROXIMATELY 24" ABOVE PIPE.
   D. TAPE SHALL BE SET AT ALL MAINS AND LATERALS.

2. ROAD RESTORATION IN STATE ROADS SHALL COMPLY REQUIREMENTS OF W/HIGHWAY OCCUPANCY PERMIT.
METHOD OF ENCASING P.V.C. PIPE IN CONCRETE

STAGE No. 1—INSTALL CONCRETE FROM BOTTOM OF TRENCH TO CENTERLINE OF PIPE.

STAGE No. 2—AFTER 24 HOUR PERIOD INSTALL CONCRETE FROM CENTERLINE OF PIPE TO 12” ABOVE BARREL OF PIPE.
<table>
<thead>
<tr>
<th>PIPE SIZE</th>
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<tr>
<td>4&quot;–16&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>18&quot;–48&quot;</td>
<td>8&quot;</td>
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<tr>
<td>54&quot;–84&quot;</td>
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ENCASEMENT OF EXISTING PIPE

NOTES:
1. BACKFILL TO WITHIN 6" OF BELL
2. LEDGE 12" EACH SIDE OF TRENCH ON UNDISTURBED EARTH
3. UPON LEDGES AND BACKFILL, POUR CONCRETE 6" ON OUTSIDE BELL PLACE REINFORCED STEEL AS SHOWN
4. COMPLETE BACKFILLING AFTER CONCRETE HAS SET AT LEAST 24 HR.
NOTES:
1. MINIMUM GRADE OF LATERAL = 1/4" IN 1'-0".
   EXCEPT AS APPROVED OTHERWISE BY TOWNSHIP.
2. 36" MINIMUM COVER.
PVC SDR-26 CONNECTION

BEND

#2A MODIFIED CRUSHED STONE

MODIFY BEDDING & BACKFILL TO FIT JOB CONDITIONS

MIN. 11-1/4" TO MAX. 45"

CUT OPENING IN EXIST. PIPE TO SIZE OF LATERAL

SEWER MAIN

UNDISTURBED EARTH

CONCRETE HAUNCH AROUND EACH TEE SADDLE WITH A MIN. 6" COVER

PRIOR TO INSTALLING CONCRETE HAUNCH PAINT SADDLE CONNECTION WITH BITUMASTIC COATING (CAST IRON SOIL PIPE ONLY).
8' MAX DEPTH @ R/W UNLESS ADDITIONAL DEPTH IS REQUIRED BY DESIGN

FINISHED GRADE

ULTIMATE RIGHT OF WAY

6" LATERAL CONNECTION
MINIMUM SLOPE ¼"/FT.

6" CLASS 52 D.I.P OR DR18.
PIPE AS REQUIRED.

45' BEND

6" LATERAL CONNECTION.

6" 45' BEND IN DIRECTION
OF SERVICE CONNECTION

PIPELINE BEDDING AND BACKFILL
MATERIAL (REFER TO SANITARY
SEWER BACKFILL DETAIL SN #16)

WYE BRANCH

NOTE:
1. 6" LATERAL TO BE EXTENDED TO ULT. R/W.
PLUG CEMENTED IN PLACE

TOP OF RISER SET TO SUIT CONDITIONS, MIN. 6 FT. BELOW SURFACE OF STREET

1/8" BEND
WYE BRANCH

6" SDR-26 PVC PIPE

LIMIT OF POUR FOR PVC PIPE

8" SDR-26 X 6" SDR-26 T-WYE BRANCH

UNDISTURBED EARTH

SECT. A-A

DETAIL #24
DEEP CUT LATERAL
WHITPAINT TOWNSHIP
NOT TO SCALE
90° TO TANGENT OF PIPE

UNDISTURBED EARTH (TYP.)

3,750 P.S.I. CONCRETE

HORIZONTAL BENDS

3,750 P.S.I. CONCRETE

VARIABLE

HORIZONTAL TEES

VARIABLE

12" MIN.

VERTICAL BENDS

3,750 P.S.I. CONCRETE BELL OF PIPE

12" MIN.

TRENCH WIDTH

NOTES:

1. THRUST BLOCKS MUST BEAR AGAINST UNDISTURBED EARTH.
2. SIZE OF THRUST BLOCKS TO BE DETERMINED INDIVIDUALLY AT TIME OF CONSTRUCTION.
3. HARNESS OR RESTRAINT PIPE IF ORDERED.
4. "D" IS EQUAL TO DIAMETER OF PIPE.
Semi-Positive Displacement Type Pump
Directly driven by a 1 HP motor
Capable of delivering 9 gpm at 138° T.D.H.
(34 lpm at 42m T.D.H.)

Note: A concrete anchor is required to prevent the tank from floating.
See installation instructions or specific cut sheet for size and weight of anchor.

E-One Model: DH 152
CURB BOX LID—MUELLER 89081 OR EQUAL WITH INSCRIPTION "SEWER"

CURB STOP—MUELLER H-10283 OR EQUAL COMPLETE W/2'-0" LONG STAINLESS STEEL STATIONARY ROD

CURB STOP—MUELLER H-10283 MARK II ORTISEAL OR EQUAL

1-1/4" SDR 21 PVC PIPE

1-3/8" PVC ADAPTER FEMALE SOCKET X MPT (2 REQUIRED)

1-1/2" PVC SDR 21 PVC STUB TO RIGHT-OF-WAY LINE

FOOT PIECE—MUELLER H-10393 OR EQUAL

NOTES:
1. CURB BOX SHALL BE PLACED 1' INSIDE ROAD RIGHT-OF-WAY LINE.
2. DO NOT PLACE CURB BOX IN PAVED AREAS
3. PROVIDE MINIMUM COVER OF 4' WITH RESPECT TO CURB BOX.
MODIFY EXISTING BENCH CHANNEL FOR PROPOSED 8" PVC SANITARY SEWER DROP CONNECTION.

EXISTING 8" SANITARY SEWER
EXIST. MANHOLE

NOTE:
CUT OPENING IN EXISTING MANHOLE WALL, AT ONE (1) LOCATION, EQUAL TO PROPOSED SANITARY SEWER OUTSIDE DIAMETER PLUS 2". A WATERSTOP (FERNCO OR APPROVED EQUAL) SHALL BE PLACED AROUND THE PROPOSED SEWER, CENTERED IN THE MANHOLE WALL AND EMBEDDED IN NON-SHRINK GROUT WHICH SHALL BE USED TO SEAL THE ANNULAR OPENED.

SECTION A–A

FINISHED GRADE

RIM

6" LONG STUB AT TOP OF CROSS FOR VENT
FLEXIBLE PIPE TO MH SEAL
4'-6"(MIN. COVER)

INSIDE OF MANHOLE TO BE LINED WITH TWO COATS EPOXY, 4 MILS TOPCOAT FINISH, MANUFACTURER TO BE APPROVED BY TOWNSHIP. PER DETAIL #1.

SDR-21 FORCE MAIN
GROUT W/NON-SHRINK GROUT
STAINLESS STEEL BANDS 24" C. TO C.
W/STAINLESS STEEL FASTENERS

SDR-21 PIPE INSTALLED IN FIELD
EXIST. 8" SAN. SEWER

EXIST. MANHOLE

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DETAIL #30
PRESSURE SEWER CONNECTION TO EXISTING SANITARY SEWER (PROPOSED INSIDE DROP)
WHITPAIN TOWNSHIP
NOT TO SCALE