CITY OF HIGHLAND PARK
PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION

CITY ENGINEERING STANDARD DETAILS

Issue Date: March 20, 2017

Revisions

1. 02/28/2014 (3 ea. Water Standards, 1 ea. Patch Detail < 500 ADT)
2. 01/08/2015 (4 ea. Street Standard Details Revised)
3. 01/15/2016 (3 ea. Water Std. Dwg WD 1001, 1002, & 1002 Detail Updated)
4. 02/22/2016 (1 ea. Park Ave Sidewalk Detail, Special Added)
5. 03/04/2016 (1 ea. Flat Curb Detail Added)
6. 02/14/2017 (1 ea. Forestry FOR-1042A, Silt Fence Alternate Added)
7. 03/20/2017 (1 ea. Water Service Saddle Detail Added)
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</tbody>
</table>
F. Miscellaneous Details:

32. Park Ave Sidewalk Detail, Special  
   HP DWG. STR-1037  02/22/2016

33. Flat Curb Detail  
   HP DWG. STR-1038  03/02/2016

34. Sidewalk Ramp ADA Detectable TuTtile 2’x4’ Polymer Panel  
   TT2448-WS-XXX  04/23/2015
Install & maintain 4' tall wooden slat fence secured to metal posts spaced a maximum of 10' apart. The tree fence shall be 1 foot from the tree trunk for each inch of diameter measured 4.5' from ground level. The fence must be secured to the metal post with a minimum of 4 ties.

Installation shall be approved by the CITY FORESTER before the start of the project.

Failure to install and maintain protective tree fencing in accordance with City Standards will result in a ticket or a "STOP WORK ORDER" on the project.
ALTERNATE TO FABRIC TRENCH
(WITH SAND BAGS)

1. Set posts and excavate or fill-trench to 6-inch deep trench upstream along the line of the post
   and fill behind posts.
   6 in.

2. Attach the geotextile filter fabric to each post with a minimum of 3 (three) fasteners per post and
   extend to the bottom of the trench. Acceptable fastener include staples, zip ties, or wire ties.

3. End-fill and compact the excavated spoil materials.

STORMWATER MANAGEMENT COMMISSION

SILT FENCE DETAIL

SILT FENCE DETAIL & Alternate Detail
(USE L.C.S.M.C STD. DETAIL)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. FOR-1042A, Silt Fence-Alternate
Drawn By: M.B.
Revised By: E.J.

DATE: 14 Feb 2017
Approved By: E. Obiez
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

INLET PROTECTION, TYPE C (WITH CURB BOX)

WOOD 2" X 4" EXTENDS 8" BEYOND GRATE
WIDTH ON BOTH SIDES, LENGTH VARIES.
SECURE TO GRATE WITH WIRE OR PLASTIC TIES

INSTALLATION NOTES:

1. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A
   METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED
   SEDIMENT FROM ENTERING THE INLET.

2. TYPE C SHALL BE UTILIZED WITH CURB HEADS, A 1\frac{1}{2}" X 3\frac{1}{2}" MINIMUM, PIECE OF LUMBER SHALL BE WRAPPED AND
   SECURED IN THE FABRIC AND PLACED IN FRONT OF THE CURB HEAD AS SHOWN ON THE PLAN. THE LUMBER SHALL
   NOT BLOCK THE ENTIRE OPENING OF THE CURB BOX AND BE SECURED TO THE GRATE WITH WIRE OR PLASTIC TIES.

3. ALL FABRICS USED AS PART OF AN INLET PROTECTION DEVICE MUST BE SELECTED FROM THE LIST OF APPROVED
   FABRICS CERTIFIED FOR INLET PROTECTION, GEO-TEXTILE FABRIC, IN ACCORDANCE WITH STATE STANDARD SPECS FOR
   ROAD AND BRIDGES CONSTRUCTION - JANUARY 1, 2012, ARTICLE 1080.05 ON PAGE 971.

INLET PROTECTION (TYPE B - W/O CURB BOX; TYPE C - W/ CURB BOX)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1037
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept, 2013
Approved By: J.M.W.
Dummy Contraction Joint every 5'
1-1/2" deep contraction joint @ 15' interval
5/8" Bitum. fibre expansion joint @ 60' interval
Slope 1/4" per foot toward street

Residential Drives
Minimum 10' width at sidewalk
Maximum 18' width at sidewalk
Driveway Tapers = 1:2 Ratio ±
(Max. 5' on each side)
(Min. 3' on either side)

P.C.C. Sidewalk (CI SI)
5" thick normal
6" thick through driveway
P.C.C. Driveway (CL SI) 6" thick

1-1/2" deep sawed joint
1/2" Rebar 24" long (2)

1-1/2" deep sawed contraction joint(s),
maintain width to length ratios of
less than 1:1-1/2

All construction to be per
Illinois Standard Specifications
for Road and Bridge construction.

Plan View

Cross Section View

TYPICAL DRIVEWAY
& SIDEWALK DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1031
Drawn By: M.B.
Revised By: E.J.
DATE: 27th Sept. 2013
Approved By: J.M.W.
CONCRETE CLASS B PATCH DETAIL

EXISTING CONCRETE SURFACE

PIPE O.D. + 18"**+24"

SAW CUT FULL DEPTH BOTH SIDES

12" MIN. (TYP.)

2" GRANULAR SUB-BASE MATERIAL CA-6 CRUSHED STONE

6% COMPACTION MOD. PROCTOR

2' COMPACTION MOD. PROCTOR

RE-INFORCING DOWELS & TIE BARS:

NOTES:

* CONCRETE SHALL BE CLASS-PP HIGH EARLY STRENGTH IN ACCORDANCE WITH ART. 442 OF IDOT STD. SPECS. FOR ROAD & BRIDGE CONSTRUCTION (OR APPROVED EQUAL)

** ADD ANOTHER 18" FOR TRENCH DEEPER THAN 5' &/OR FOR EXCAVATION W/ TRENCH PROTECTIONS AS REQ'D. IN IDOT STD Art. 550.04

CONTRACTOR SHALL STEEL PLATE THE PATCH AFTER POURING CONCRETE TO MAINTAIN TRAFFIC

TRANSVERSE CLASS B PATCHES (across the street)
INSTALL 1 1/8" Ø X 18" @ 12" C.T.S. EPOXY COATED PLAIN DOWEL BARS ANCHORED INTO EXISTING P.C. CONCRETE PAVEMENT ALONG WITH 1 3/16" Ø X 18" @ 12" C.T.S. EPOXY COATED DEFORMED TIE BARS AT REAR FACE OF THE PATCH (rear end of traffic) as detailed in I.D.O.T. STD. 442105-05.

LONGITUDINAL CLASS B PATCHES (along the street)
INSTALL 3/4" Ø X 18" @18" C.T.S. EPOXY COATED PLAIN DOWEL BARS IN CONFORMANCE WITH STATE SPECIFICATIONS. USE 3/4" Ø X 18" @ 18" C.T.S. DEFORMED TIE BARS TO CONNECT CONCRETE CURB & GUTTER.

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1033
Drawn By: M.B.
Revised By: E.J.

DATE: 8th Jan. 2015

Approved By: J.M.W.
PIPE O.D. + 18\"**+24\"

3\" HOT MIX ASPHALT
2 - 3\" LIFTS

EXISTING CONCRETE
SURFACE WITH
H.M.A. OVERLAY

2\" GRANULAR SUB-BASE
MATERIAL CA-6 CRUSHED
STONE

95% COMPACTION
MOD. PROCTOR

MATCH EX. THICKNESS

SAW CUT FULL
DEPTH BOTH
SIDES

90% COMPACTION
MOD. PROCTOR

12\" MIN. (TYP.)

NOTES:
IF UTILITY CUT +12\" FALLS
WITHIN 3\' OF AN EXISTING
JOINT EXTEND CUT TO THAT
JOINT.

NO PAVEMENT UNDER-
CUTTING OR TUNNELING
PERMITTED

CONTRACTOR SHALL STEEL
PLATE THE PATCH AFTER
POURING CONCRETE TO
MAINTAIN TRAFFIC

* CONCRETE SHALL BE CLASS-PP HIGH EARLY
STRENGTH IN ACCORDANCE WITH ART. 442 OF IDOT
STD. SPECS. FOR ROAD & BRIDGE CONSTRUCTION
(OR APPROVED EQUAL)
** ADD ANOTHER 18\" FOR TRENCH DEEPER THAN 5\'
&/OR FOR EXCAVATION W/ TRENCH PROTECTIONS
AS REQ'D. IN IDOT STD ART . 550.04

RE-INFORCING DOWELS & TIE BARS:

TRANSVERSE CLASS B PATCHES (across the street)
INSTALL 1 1/4\" X 18\" @ 12\" C.T.S. EPOXY COATED PLAIN DOWEL BARS ANCHORED INTO
EXISTING P.C.CONCRETE PAVEMENT ALONG WITH 1 1/4\" X 18\" @12\" C.T.S. EPOXY COATED
DEFORMED TIE BARS AT REAR FACE OF THE PATCH (rear end of traffic) as detailed in I.D.O.T.
STD. 442105-05.

LONGITUDINAL CLASS B PATCHES (along the street)
INSTALL 3/4\" X 18\" @18\" C.T.S. EPOXY COATED PLAIN DOWEL BARS IN CONFORMANCE WITH
STATE SPECIFICATIONS. USE 3/4\" X 18\" @ 18\" C.T.S. DEFORMED TIE BARS TO CONNECT
CONCRETE CURB & GUTTER.

CONCRETE PAVEMENT PATCH
WITH H.M.A. OVERLAY DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No.STR-1034
Drawn By: M.B.
Revised By: E.J.

DATE: 8th Jan. 2015
Approved By: J.M.W.
CONCRETE PAVEMENT PATCH WITH H.M.A. OVERLAY DETAIL, ADT < 500

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No.STR-1034 B
Drawn By: M.B.
Revised By: E.J.

DATE: 9th Jan. 2015
Approved By: J.M.W.

TRANSVERSE CLASS B PATCHES (across the street)
INSTALL 3/4"Ø X 18" @ 12" C.T.S. EPOXY COATED PLAIN DOWEL BARS ANCHORED INTO EXISTING P.C.CRETE PAVEMENT ALONG WITH 3/4"Ø X 18" @ 12" C.T.S. EPOXY COATED DEFORMED TIE BARS AT REAR FACE OF THE PATCH (rear end of traffic) as detailed in I.D.O.T. STD. 442105-05.

LONITUDINAL CLASS B PATCHES (along the street)
INSTALL 3/4"Ø X 18" @ 18" C.T.S. EPOXY COATED PLAIN DOWEL BARS IN CONFORMANCE WITH STATE SPECIFICATIONS. USE 3/4"Ø X 18" @ 18" C.T.S. DEFORMED TIE BARS TO CONNECT CONCRETE CURB & GUTTER.
EXISTING BITUMINOUS SURFACE WITH EITHER A BITUMINOUS OR GRANULAR BASE

PIPE OD+18***+24"
3" HOT MIX ASPHALT
2 - 1\(\frac{1}{2}\)" LIFTS
SAW CUT FULL DEPTH BOTH SIDES

12" MIN. (TYPICAL)

7" HOT MIX ASPHALT BASE COURSE - 2 LIFTS

2" GRANULAR SUB-BASE MATERIAL CA-6 CRUSHED STONE

95% COMPACTION MOD. PROCTOR

90% COMPACTION MOD. PROCTOR

NOTES:
IF UTILITY CUT FALLS WITHIN 3' OF AN EXISTING JOINT EXTEND CUT TO THAT JOINT.
NO PAVEMENT UNDER- CUTTING OR TUNNELING PERMITTED.

** ADD ANOTHER 18" FOR TRENCH DEEPER THAN 5' &/OR FOR EXCAVATION W/ TRENCH PROTECTIONS AS REQ'D. IN IDOT STD Art . 550.04

BITUMINOUS PAVEMENT PATCH DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1035
Drawn By: M.B.
Revised By: E.J.

DATE: 8th Jan. 2015
Approved By: J.M.W.
CURB & GUTTER TYPE B-6.12 (IN CONFORMANCE WITH I.D.O.T. STD 606001-04)

NOTES:
1. EXPANSION JOINTS W/ 3/4" PREFORMED EXPANSION JOINT MATERIAL & TWO (2) SMOOTH 1-1/4" EPOXY COATED DOWEL BARS WITH GREASE CAPS SHALL BE PLACED:
   a. AT ENDS OF INTERSECTION RADI, P.C.'S, RADIUS POINTS, & BACK OF CUL-DE-SACS
   b. 5 FT. ON EACH SIDE OF DRAINAGE STRUCTURES
   c. MAX. OF 60 FT. INTERVALS
   d. WHERE NEW CURB MEETS EXISTING CURB, THE EXISTING CURB SHALL BE DRILLED AND TWO (2) SMOOTH 1-1/4" DOWEL BARS GRouted IN PLACE W/ THE GREASE CAP PLACED ON THE SIDE OF THE NEW CURB & GUTTER.
2. TOOL OR SAWCUT CONTRACTION JOINTS AT 15 FT. INTERVALS.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HRS. AND SEALED W/ JOINT SEALANT, JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.
NOTES:
1. USE ECCENTRIC CONES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FLAT SLAB TOPS PERMITTED ONLY FOR MANHOLES TOO SHALLOW FOR CONES.
2. USE:
   4'-0" DIAMETER FOR SEWER SIZES 12" THRU 24",
   5'-0" DIAMETER FOR SEWER SIZES 27" AND LARGER UNLESS OTHERWISE NOTED.

If D=4', then T=4"
If D=5', then T=5"
304 Non-Magnetic Stainless Kor-Band
Non-Magnetic Stainless Steel External Clamp

KOR-N-SEAL Flexible Gasket
Meets ASTM-C443 Requirements

STORM SEWER LATERAL
CONNECTION DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. ST-1022
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
INLET TYPE B

COMPACTED GRANULAR PIPE BEDDING MATERIAL

EXPANSION JOINT

NEENAH R-3010 FRAME & GRATE

EXPANSION JOINT

Curb at inlet detail
R-3250-CV
Combination Inlet Frame, Grate, Curb Box

Heavy Duty

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>GRATE TYPE</th>
<th>SO. FT. OPEN</th>
<th>WEIR PERIMETER LINEAL FEET</th>
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<td>R-3250-CV</td>
<td>I</td>
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<td>R-3250-BV</td>
<td>L</td>
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Also available with tapered face curb box, order R-3250-BV.

R-3250-DV
Adjustable Combination Inlet

Heavy Duty

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<th>GRATE TYPE</th>
<th>SO. FT. OPEN</th>
<th>WEIR PERIMETER LINEAL FEET</th>
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<tr>
<td>R-3250-DV</td>
<td>Y</td>
<td>1.3</td>
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R-3250-DVSP
Combination Inlet Frame, Grate, Curb Box

Heavy Duty

<table>
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<th>WEIR PERIMETER LINEAL FEET</th>
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<td>R-3250-DVSP</td>
<td>Y</td>
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R-3250-EV
Adjustable Combination Inlet

Heavy Duty

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<th>GRATE TYPE</th>
<th>SO. FT. OPEN</th>
<th>WEIR PERIMETER LINEAL FEET</th>
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<td>R-3250-EV</td>
<td>Y</td>
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Hand Excavation Required

P.C.C. Concrete - Class SI - ½ C.Y.

Reinforcing Steel - #4 Deformed Bar
80 L.F. Cut and Bend in Field

< 8" DIAMETER STORM OUTFALL

RAVINE STORM HEADWALL DETAIL
(FOR 6" TO 8" DIA. OUTFALL)
ALL REBARS
#4 @ 12" O.C.E.W.

ROCKFILLED GABION BASKETS
3'X3'X L=8 FT (Compressed)

3.5' x 8"x 1/2" THICK STEEL PLATE
BOLTED WITH 1/2" φ X 1" BOLTS &
NUTS @ 12" C.T.S. TO 3" X 3" X 10'
ANGULAR BARS (3 EA.) MOUNTED
EVENLY ON TOP OF HEADWALL.
TIE ANGULARS BARS TO GABION
WALL BASKETS EVERY 12 INCHES.

12" PVC STORM SEWER
FROM CATCH BASIN

RIPRAP

SECTION

R.C. HEADWALL DETAIL

PLAN

R.C. HEADWALL DETAIL
(FOR 10" to 12" DIA. OUTFALL)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. STR-1019
Drawn By: E.J.
Revised By:

DATE: 27th Sept. 2013
Approved By: J.M.W
DESIGN OF STORM OUTFALL PROTECTION, ROUND PIPE FLOWING FULL, \( tw > 0.5 \text{ dia.} \)
NEENAH R-1712 OR EQUAL WITH SELF-SEALING LID EMBOSSED "SANITARY"

WATERTIGHT JOINTS

PRECAST CONC. ADJUSTING RING MAXIMUM 8 INCHES FOR ADJUSTING RINGS

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS

INVERT CHANNEL TO CONFORM TO ELEVATION SHOWN ON DRAWINGS

LOCKJOINT FLEXIBLE MANHOLE SLEEVE OR PRESSWEDGE II

CONCRETE BENCH

COMPACTED GRANULAR PIPE BEDDING MATERIAL

NOTES:
1. ECCENTRIC CONES REQUIRED.
2. USE 4'-0" MIN. DIAMETER FOR SEWER SIZES 24" OR LESS, 5'-0" MIN. FOR SEWER SIZES 27" OR LARGER UNLESS OTHERWISE NOTED.

MANHOLE STEPS - 16" C. TO C. COPOLYMER PLASTIC W/ CONTINUOUS 1/2" STEEL REINFORCING OR CAST IRON, NEENAH R-1981-I

SLOPE 1"-2" PER FT.

NOTE:
USE OUTSIDE DROP WHEN ANY ENTERING SEWER INVERT DIFFERS BY 2'-0" OR MORE FROM INVERT OF MANHOLE.

"A"-DIAMETER OF SEWER "B"-NEXT SIZE SMALLER THAN "A", BUT NOT SMALLER THAN 8".

OUTSIDE DROP DETAIL

SANITARY SEWER MANHOLE DETAILS

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. SAN-1012
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
NEENAH R-1712 OR EQUAL WITH SELF-SEALING LID EMBOSSED "SANITARY"

PREFACE CONC. ADJUSTING RING MAXIMUM 8 INCHES FOR ADJUSTING RINGS

PREFACE REINFORCED CONCRETE MANHOLE SECTIONS

INVERT CHANNEL TO CONFORM TO ELEVATION SHOWN ON DRAWINGS

LOCKJOINT FLEXIBLE MANHOLE SLEEVE OR PRESSWEDGE II

COMPACTED GRANULAR PIPE BEDDING MATERIAL

WATERTIGHT JOINTS

MANHOLE STEPS - 16" C. TO C.
COPOPLASTIC W/ CONTINUOUS 1/2" STEEL REINFORCING OR CAST IRON,
NEENAH R-1981-I

SLOPE 1"-2" PER FT.

NOTE:
USE OUTSIDE DROP WHEN ANY ENTERING SEWER INVERT DIFFERS BY 2'-0" OR MORE FROM INVERT OF MANHOLE.

"A"- DIAMETER OF SEWER "B"- NEXT SIZE SMALLER THAN "A", BUT NOT SMALLER THAN 8".

SANITARY SEWER MANHOLE DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. SAN-1012
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
NOTE: USE CA-7 TRENCH BACKFILL STONE MATERIALS FOR ALL SERVICES CONNECTION EXCAVATIONS WITHIN THE ROAD PAVEMENT UP TO 2 FEET BEHIND THE EXISTING EDGE OF PAVEMENT OR EXISTING BACK OF CURB.

4" OR 6" SERVICE (D.I.P. CL 52 or PVC SDR 26)

4" OR 6" NDS FLEXIBLE SADDLE TEE-EPOXY GLUED TO SEWER OUTER WALL. USE STAINLESS STEEL BAND & LOCK SEALS, 2 EA. @ MAIN SEWER; 1 EA @ SERVICE

STAINLESS STEEL BAND & LOCK SEALS

PVC ARC PAD (Cut from same size main)

45° Bend

Stopper Cemented in Place

UNDISTURBED EARTH-SLOPE TO PROVIDE UNIFORM BEARING FOR 1/4 OF BARREL CIRCUMFERENCE

Maximum Slope (Slope to be less than 1:1 when necessary to secure bedding in undisturbed earth)

4" OR 6" NDS FLEXIBLE SADDLE TEE-EPOXY GLUED TO SEWER OUTER WALL. USE STAINLESS STEEL BAND & LOCK SEALS, 2 EA. @ MAIN SEWER; 1 EA @ SERVICE

STAINLESS STEEL BAND & LOCK SEALS

PVC ARC PAD (Cut from same size main)

CA-7 STONE BEDDING, 4" INCH THICK

SANITARY SEWER SERVICE
RISER DETAIL (LINED SEWER)

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No.SAN-1013
Drawn By: M.B.
Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W.
CL-1B (CRUSHED STONE GRADATION CA-6) MATERIAL BEDDING SHALL BE COMPACTED TO A MINIMUM OF 95% IN ACCORDANCE WITH ASTM 2321-89

N.S.S.D. SANITARY SEWER PIPE BEDDING DETAIL

STANDARD PIPE BEDDING (FOR SANITARY SEWER)
DOMESTIC METER VAULT
DETAIL

Neenah - R-1910B Frame & Cover,
Lid w/ Center Recess per
reference sheet NF-1910T02 B

AY McDonald meter coupling
up to 1" - 74783S

4" thick precast conc. ring,
16" dia. opening in center

ASTM C-478 concentric
cone per City's
Specifications

AY McDonald meter stop
up to 1" - 74602

2'0" 2'0"
2'10"
1'6"

2" compacted
crushed stone base

6" min

Connection to existing line shall be as follows:

1. copper to copper - Flared fitting, AY McDonald 74758
2. copper to iron pipe - Flared fitting to I.P. threads, AY McDonald 74754
3. copper to lead - AY McDonald 73205

To City Main

To Private Property

*Meter centered on lid
NOTES:
1. CONCENTRIC CONE REQUIRED
2. USE: 4'-0" DIAMETER FOR WATER VALVE SIZES 8" AND SMALLER, 5'-0" DIAMETER OR LARGER FOR SIZES LARGER THAN 8"

FRAME AND COVER NEENAH R-1900-B
Lid w/ Recessed Center
per referenced sheet NF-1900BT05 -B

FINISHED GRADE
WATERTIGHT JOINTS

PRECAST CONC. ADJUSTING RINGS (1 RING, 8" MAX.)

T= 5" FOR 4' DIA.
T= 6" FOR 5' DIA.

5'-6" MIN. COVER

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS

WATER MAIN

3"

8" Min.

CONCRETE BLOCK

COMPACTED GRANULAR PIPE BEDDING MATERIAL

ALL HARDWARE BELOW GRADE SHALL BE STAINLESS STEEL
NOTES:
1. ECCENTRIC CONE REQUIRED
2. USE 4'-0" DIAMETER FOR WATER MAIN SIZES 4" THRU 10",
   USE 5'-0" DIAMETER FOR WATER MAIN SIZES 12" THRU 20",
   USE 6'-0" DIAMETER FOR WATER MAIN SIZES 20" OR GREATER.

FRAME AND COVER NEENAH R-1900-B
Lid w/ Recessed Center per referenced sheet NF-1900BT05 -B

FINISHED GRADE

WATERTIGHT JOINTS

ALIGN VALVE OPERATING NUT WITH
VALVE VAULT RIM COVER OPENING

VALVE

STAINLESS STEEL TAPPING SLEEVE

EXIST. WATER MAIN

CONCRETE THRUST BLOCK

CONCRETE SUPPORT

COMPACTED GRANULAR
PIPE BEDDING MATERIAL

ALL BOLTS BELOW GRADE TO BE STAINLESS STEEL

PRESSURE CONNECTION
VALVE VAULT DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1003
Drawn By: M.B.
Revised By: E.I.

DATE: 15th Jan 2016
Approved By: Emmanuel Gehmez

25
NORTH SHORE SANITARY DISTRICT NOTES:

1. The contractor shall notify the North Shore Sanitary District a minimum of 24 hrs prior to the start of construction either by phone at 847-623-6060 or by mail at engmail@northshoresanitary.org.

2. All sanitary sewer pipe shall be bedded, with a minimum of 6" below the pipe and 12" above the pipe, in CA-6 crushed material. CA-7 may be allowed at the discretion of North Shore Sanitary District if extremely wet conditions are encountered.

3. The connection to downstream extensions shall be televised in the presence of North Shore Sanitary District personnel after having notified the District a minimum of 24 hrs prior to televising either by phone at 847-633-6060 or by mail T entmail@northshoresanitary.org. A copy of the televised sewer extension, in VHS or DVD format, shall be submitted to the District for approval.
All new water main and fittings shall be ductile iron. The pipe shall be of the class specified by the Engineer.

4" compacted granular material (CA-6) bedding beneath adjusted water main shall be extended to the springline of the pipe.

All new water main shall be disinfected by carefully swabbing with a chlorine solution.

ALL HARDWARES BELOW GRADE SHALL BE STAINLESS STEEL
WATEROUS PACER HYDRANT, Model WB67-250

BREAK FLANGE

VALVE BOX W/COVER MARKED "WATER"

18" (MIN.)
26" (MAX.)

MIN. 1 C.Y. OF 1/4" TO 3/4"
WASHED RIVER STONE
OR CA-7 GRADATION STONE

6" AUXILIARY RESILIENT SEAT GATE VALVE

MECHANICAL JOINT TEE

MECHANICAL JOINT ANCHORING FITTINGS OR TIE RODS

CONCRETE BLOCKS

ALL HARDWARE BELOW GRADE TO BE STAINLESS STEEL

FIRE HYDRANT INSTALLATION DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1006
Drawn By: M.B.
Revised By: E.J.

DATE: 28th Feb. 2014
Approved By: J.M.W

27
NOTE: USE CA-7 TRENCH BACKFILL STONE MATERIALS FOR ALL SERVICES CONNECTION EXCAVATIONS WITHIN THE ROAD PAVEMENT UP TO 2 FEET BEHIND THE EXISTING EDGE OF PAVEMENT OR EXISTING BACK OF CURB.

POWER SEAL 3131a, BOLT TYPE SST, CHEK-O-SEAL GASKET SBR, Order # 6870880

PLAN

45° BEND FITTINGS:
AY McDonald 747505 1\(\frac{1}{2}\)" or 2"

45° TAPS IN UPPER 1/2 OF MAIN REQUIRED UNLESS OTHERWISE APPROVED BY CITY

FIN. GRADE

B. BOX A.Y. MCDONALD 5615
(various depth)

VARIABLE
(ONE PIECE OF PIPE)

VARIABLE
(ONE PIECE OF PIPE)

A.Y. MCDONALD ROUNDWAY 76104 (1\(\frac{1}{2}\)" OR 2")

SERVICE PIPE

A.Y. MCDONALD CORPORATION STOP

1\(\frac{1}{2}\)" 74701 B 1\(\frac{1}{2}\)"
2" 74701 B 2"

POWER SEAL 3131a, BOLT TYPE SST, CHEK-O-SEAL GASKET SBR, Order # 6870880

WATER MAIN

SECTION

<table>
<thead>
<tr>
<th>SERVICE PIPE</th>
<th>CORP. STOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1&quot;</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>1 1/2&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>1 1/2&quot; X 2&quot;</td>
</tr>
</tbody>
</table>

NOTE:

1. NO WATER MAIN TAP FOR NEW DEVELOPMENT UNTIL PERMITS ARE ISSUED.
2. ALL MATERIALS SHALL BE LEAD FREE.

WATER SERVICE DETAIL

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1007
Drawn By: M.B.
Revised By: E.J.

DATE: 20th Mar, 2017
Approved By: E. Gomez
THRUST BLOCK SCHEDULE:

All Thrust Blocking Incidental to Water Main Construction.

Thrust Blocking for all fittings under 10 inches shall have a minimum dimension of 1'x1' at the point of contact with **undisturbed earth**.

Plugged Ends shall be thrust blocked the same as Tee.

Tabulated Thrust Blocking is figured on Allowable Bearing Pressure of Soil at 4,000 PSF. If Allowable Bearing Pressure of Soil is 2,000 PSF, the tabulated bearing area of contact to the undisturbed earth shall be doubled.

Notes:
1. All Thrust Blocking shall be constructed of poured concrete, supported with wood forms and undisturbed earth.
2. MEGA-LUG retainers shall be used.
3. All nuts, bolts and washers shall be **STAINLESS STEEL**.
## THRUST BLOCK SCHEDULE:

<table>
<thead>
<tr>
<th>FITTINGS</th>
<th>DIMENSIONS (FT.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H</td>
</tr>
<tr>
<td>TEE: 16&quot; x 16&quot; x 16&quot;</td>
<td>2.5'</td>
</tr>
<tr>
<td>16&quot; - 90&quot;</td>
<td>3.0'</td>
</tr>
<tr>
<td>16&quot; - 45&quot;</td>
<td>3.0'</td>
</tr>
<tr>
<td>16&quot; - 22 1/2&quot;</td>
<td>2.0'</td>
</tr>
<tr>
<td>TEE: 14&quot; x 14&quot; x 10&quot;</td>
<td>2.0'</td>
</tr>
<tr>
<td>14&quot; - 90&quot;</td>
<td>2.5'</td>
</tr>
<tr>
<td>14&quot; - 45&quot;</td>
<td>2.0'</td>
</tr>
<tr>
<td>TEE: 12&quot; x 12&quot; x 12&quot;</td>
<td>2.0'</td>
</tr>
<tr>
<td>TEE: 12&quot; x 12&quot; x 8&quot;</td>
<td>1.5'</td>
</tr>
<tr>
<td>TEE: 12&quot; x 12&quot; x 6&quot;</td>
<td>1.0'</td>
</tr>
<tr>
<td>12&quot; - 90&quot;</td>
<td>2.0'</td>
</tr>
<tr>
<td>12&quot; - 45&quot;</td>
<td>1.5'</td>
</tr>
<tr>
<td>12&quot; - 22 1/2&quot;</td>
<td>1.0'</td>
</tr>
<tr>
<td>TEE: 10&quot; x 10&quot; x 10&quot;</td>
<td>1.5'</td>
</tr>
<tr>
<td>10&quot; - 90&quot;</td>
<td>2.0'</td>
</tr>
<tr>
<td>10&quot; - 45&quot;</td>
<td>1.5'</td>
</tr>
</tbody>
</table>

## THRUST BLOCK LEGEND:

- **H**: Thickness
- **L**: Length from unexcavated soil
- **W**: Space between fittings and soil
- **F**: Width at fittings
Notes:
1. Casing Pipe shall be 3/8" Steel.
2. Casing Spacers shall be Stainless Steel by CASCADE or approved equal. 3 spacers per pipe.
3. Temporary fence shall be installed and maintained around both the jacking and receiving pit.

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Casing Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>16&quot;</td>
</tr>
<tr>
<td>10&quot;</td>
<td>20&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>20&quot;</td>
</tr>
<tr>
<td>18&quot;</td>
<td>30&quot;</td>
</tr>
</tbody>
</table>
R.C. WATER METER / VALVE VAULT DETAIL
FOR 8" Ø F4000 FIRE SERVICE METER WITH 8" Ø WM MAIN BYPASS LINE

City of Highland Park
Department of Public Works
1150 Half Day Rd, Highland Park, IL 60035

H.P. DWG. No. WD-1015 Sheet 1 of 2
Drawn By: M.B. Revised By: E.J.

DATE: 27th Sept. 2013
Approved By: J.M.W
R.C. WATER METER /VALVE VAULT DETAIL
FOR 8" φ F4000 FIRE SERVICE METER WITH 8" φ WM MAIN BYPASS LINE
NOTES:
1. DRILL AND GROUT #6 EPOXY COATED TIE BARS 18" LONG @ 24" C-C
2. SEE SPECIAL PROVISION, PARK AVE SIDEWALK (SPECIAL)
3. RESTORE TO EXISTING GRADE WITH TOPSOIL, SEED, AND BLANKET
2' RESTORED GREENSPACE

COMPACTED BACKFILL

FULL DEPTH SAWCUT

PROPOSED OVERLAY

CLASS SI CONCRETE

EXISTING PAVEMENT AND SUBGRADE

EGANDALE RD
VINE AVE

NOTES:

1) SEE SPECIAL PROVISION, FLAT CURB AND GUTTER, NEW
PHYSICAL CHARACTERISTICS - POLYMER

DOME GEOMETRY
ADA (R305.1.1) specifies truncated domes shall have a base diameter of 0.9" minimum, a top diameter of 50% of the base diameter minimum, and a height of 0.2".

DOME SPACING
ADA (R305.1.2) specifies truncated domes shall have a center-center of 1.6" to 2.4".

POLYMER WET-SET (REPLACEABLE) / SURFACE APPLIED (REPLACEABLE)

Material - Proprietary Thermoplastic Polyolefin

<table>
<thead>
<tr>
<th>Standard</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM C 501</td>
<td>Abrasion Resistance</td>
<td>124 (lower number = better wear properties)</td>
</tr>
<tr>
<td>ASTM C 1028</td>
<td>Slip Resistance</td>
<td>Dry 1.28, Wet 1.23</td>
</tr>
<tr>
<td>ASTM D 570</td>
<td>Water Absorption</td>
<td>0.04%</td>
</tr>
<tr>
<td>ASTM D 1308</td>
<td>Chemical Stain Effects</td>
<td>No Effect</td>
</tr>
<tr>
<td>ASTM C 1308</td>
<td>-70Hrs/70° C</td>
<td>No Effect</td>
</tr>
<tr>
<td>ASTM D 117</td>
<td>-Motor Oil</td>
<td>No Effect</td>
</tr>
<tr>
<td>ASTM D 790</td>
<td>-Antifreeze</td>
<td>No Effect</td>
</tr>
<tr>
<td>ASTM D 638</td>
<td>-Coffee</td>
<td>No Effect</td>
</tr>
<tr>
<td>ASTM D 695</td>
<td>Salt Spray (200 Hrs)</td>
<td>No Change</td>
</tr>
<tr>
<td>RCRA-C</td>
<td>Flexural Strength</td>
<td>3901 psi</td>
</tr>
<tr>
<td>ASTM D 1709 (modified)</td>
<td>Compressive Properties</td>
<td>2885 psi</td>
</tr>
<tr>
<td></td>
<td>Non-Hazardous Classification</td>
<td>6844 psi</td>
</tr>
<tr>
<td></td>
<td>Dart Drop Impact Test: 48 lb steel dart with spherical head and 1.8&quot; diameter radius dropped from 2 feet equaling 100ft/lbs of force</td>
<td>Non-Hazardous</td>
</tr>
<tr>
<td></td>
<td>Nubs flattened on tile, tile did not crack</td>
<td></td>
</tr>
</tbody>
</table>
Colonial Red (City of Highland Park)
04/22/2015