

WATER MAIN NOTES

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY. THE MUNICIPALITY STANDARD NOTES, DETAILS AND SPECIFICATIONS SHALL BE INCORPORATED AS PART OF THESE PLANS.

WATER MAIN SHALL BE OF THE TYPE, SIZE & CLASS DESIGNATION INDICATED ON THE PLANS.

THE CONTRACTOR SHALL NOTIFY MISS DIG (1-800-482-7171) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

THE UNDERGROUND SITE CONTRACTOR SHALL INSTALL ALL WATER MAIN BUILDING SERVICE TO WITHIN FIVE (5) FEET OF PROPOSED BUILDING.

THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL SITE INSPECTIONS.

PROPOSED WATER MAIN SHALL BE CONFORMING TO A.N.S.I./A.W.W.A. SPECIFICATION C151/A21.51, CLASS 54, DUCTILE IRON FITTINGS SHALL CONFORM TO A.N.S.I./A.W.W.A. SPECIFICATION C110/A21.10 FOR STANDARD FITTINGS OR TO A.N.S.I./A.W.W.A. SPECIFICATION C153/A21.53 FOR COMPACT FITTINGS. DUCTILE IRON PIPE AND FITTINGS SHALL HAVE A DOUBLE THICKNESS CEMENT MORTAR LINING CONFORMING TO A.N.S.I. SPECIFICATION A21.4.

JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE U.S. PIPE AND FOUNDRY COMPANY "TYTON JOINT" OR APPROVED EQUAL.

ALL WATER MAIN SHALL BE INSTALLED WITH A MINIMUM COVER OF 5.5 FEET BELOW FINISH GRADE. WHEN WATER MAINS MUST DIP TO PASS UNDER A STORM SEWER OR SANITARY SEWER, THE SECTIONS WHICH ARE DEEPER THAN NORMAL, SHALL BE KEPT TO A MINIMUM LENGTH BY THE USE OF VERTICAL ELEVEN AND ONE-QUARTER (11 1/4) DEGREE BENDS, PROPERLY ANCHORED.

ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OF THE FORTY-FIVE (45) DEGREE LINE OF INFLUENCE OF EXISTING OR PROPOSED PAVEMENT, SIDEWALK OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT.

HYDRANTS SHALL BE E.J.I.W. 6 BR TRAFFIC TYPE PER MUNICIPALITY STANDARDS. HYDRANT BURY SHALL BE 5.5 FEET.

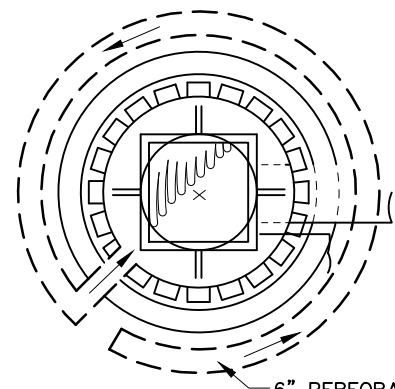
THE CONTRACTOR WILL FILL, FLUSH, DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN CONSTRUCTION, IN THE PRESENCE OF THE GOVERNING MUNICIPALITY WATER DEPARTMENT.

BACTERIOLOGICAL TESTING SHALL BE PERFORMED BY THE GOVERNING MUNICIPALITY WATER DEPARTMENT.

BEFORE ANY WATER MAIN WILL BE ACCEPTED BY THE MUNICIPALITY, IT MUST PASS A PRESSURE TEST COMPLYING WITH THE CURRENT SPECIFICATIONS AND PROCEDURES OF THE MUNICIPALITY AND THE DETROIT WATER DEPARTMENT.

ALL DUCTILE IRON PIPE SHALL BE ENCASED IN POLYETHYLENE FILM CONFORMING TO A.N.S.I./A.W.W.A. SPECIFICATION A21.5/C-105, WHERE REQUIRED BY THE MUNICIPALITY.

GATE VALVE COVERS SHALL BE E.J.I.W. NO. 1040 OR APPROVED EQUAL. WHERE GATE VALVES ARE LOCATED WITHIN PAVEMENT GREATER THAN SEVEN (7) INCHES THICK, THE GATE WELL COVER SHALL BE E.J.I.W. NO. 1050 OR APPROVED EQUAL.



NOTE:
PROVIDE 6" PERFORATED UNDERDRAIN
AROUND STRUCTURE AT 2FT. BELOW RIM
UNDERDRAIN DETAIL
N.T.S.

SANITARY SEWER NOTES

THE CONTRACTOR SHALL NOTIFY THE INSPECTION SECTION OF THE DETROIT WATER AND SEWERAGE DEPT. AT (313) 833-4682 AT LEAST 48 HOURS PRIOR TO THE START OF ANY SANITARY SEWER CONSTRUCTION.

ALL SEWERS TO BE PLACED ON CLASS "B" BEDDING OR BETTER.

WYES, RISERS AND HOUSE LEADS ARE TO BE PLACED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL WYES ARE INCIDENTAL.

EACH WYE OR HOUSE LEAD SHALL HAVE A PLUG OF THE SAME TYPE OF JOINT AS THE HOUSE LEAD.

HOUSE LEADS SHALL BE A MINIMUM OF 9 FEET DEEP AT THE PROPERTY LINE.

WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, HOLES ARE TO BE DRILLED AT 4 INCH CENTER TO CENTER SPACINGS AROUND THE PERIPHERY OF THE PROPOSED OPENING TO CREATE A PLANE OF WEAKNESS JOINT - A 12 INCH THICK CONCRETE COLLAR IS TO ENCASE THE NEW PIPE AND OPENING.

MAXIMUM INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS. FOR PURPOSES OF TESTING INFILTRATION, A BULKHEAD WITH A ONE INCH DIAMETER PIPE SHALL BE PROVIDED AT THE DOWNSTREAM MANHOLE.

THE INSIDE JOINTS FOR ALL SANITARY SEWERS 30" AND LARGER SHALL BE CEMENT POINTED.

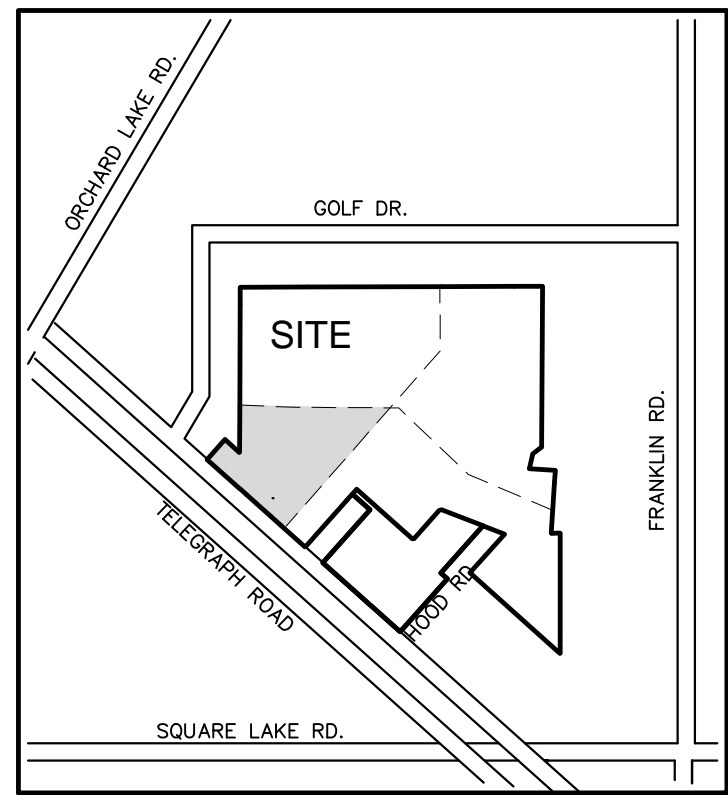
ALL SANITARY SEWER MANHOLES SHALL BE PROVIDED WITH WATER TIGHT BOLT DOWN COVERS.

ALL CONCRETE SANITARY SEWER, MANHOLE AND PIPE JOINT SHALL BE MODIFIED GROOVED TONGUE WITH RUBBER GASKETS AS REQUIRED UNDER THE CURRENT ADOPTED A.S.T.M. C-443.

CONTACT THE OFFICE OF THE MACOMB COUNTY PUBLIC WORKS COMMISSIONER AT 469-5325, 48 HOURS BEFORE CONSTRUCTION.

NO GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWNSPOUT OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.

ALL SANITARY SEWER LEADS SHALL BE INSTALLED TO A POINT 5 FEET FROM THE PROPOSED BUILDING.



LOCATION MAP
N.T.S.

LEGEND

CLEAN-OUT	MANHOLE	EXISTING SANITARY SEWER
HYDRANT	GATE VALVE	EXISTING WATER MAIN
INLET	RYCB	EXISTING STORM SEWER
		EXISTING BURIED CABLES
		EXISTING GAS MAIN
UTILITY POLE	GUY POLE	GUY WIRE
EXISTING LIGHT POLE	EXISTING SIGN	EXISTING OVERHEAD LINES
C.O.	MANHOLE	PR. SANITARY SEWER
HYDRANT	GATE VALVE	PROPOSED WATER MAIN
INLET	RYCB	PROPOSED STORM SEWER
COMPACT TO 95% MAX. DENSITY		PR. SAND BACKFILL
A		UTILITY CROSSING
TC 600.00		PR. TOP OF CURB ELEVATION
SU 600.00		PROPOSED GUTTER ELEVATION
TW 600.00		PR. TOP OF WALK ELEVATION
TP 600.00		PR. TOP OF PAVEMENT ELEV.
FG 600.00		PROPOSED FINISH GRADE
600		PROPOSED CONTOUR
		PROPOSED SWALE
		PR. DRAINAGE DIRECTION
		PROPOSED INLET FILTER
		DRAINAGE AREA LIMITS
		PROPOSED SILT FENCE
		LIMITS OF SOIL DISRUPTION

ESTIMATED QUANTITIES

COMMERCIAL DEVELOPMENT ZONE

DESCRIPTION	QUANTITY	UNITS
6" D.I. CLASS 54 WATER MAIN (PUBLIC)	27	L.F.
6" HYDRANT ASSEMBLY	1	EA.

GATE VALVE SCHEDULE

9	ADJUST EX. GATE VALVE RIM 950.27
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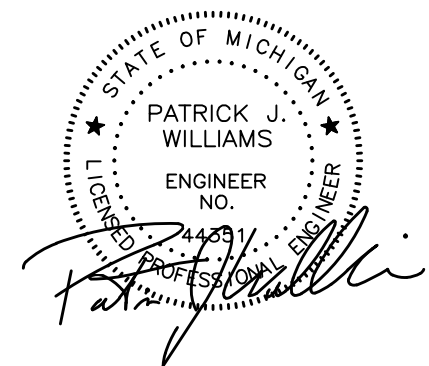
HYDRANT SCHEDULE

13	RELOCATED FIRE HYDRANT F.G. 953.50	6" STANDARD FIRE HYDRANT F.G. 950.85
14	EXISTING FIRE HYDRANT TO REMAIN F.G. 950.86	



NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257

SEAL



PROJECT

Village at Bloomfield

CLIENT

REDICO
One Towne Square,
Suite 1600
Southfield, MI 48076

Contact:

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Phone: (248) 784-6486

PROJECT LOCATION

Part of the W. 1/2 of Section 5, T. 2N., R. 10E., and part of the NE 1/4 of Section 6, T. 2N., R. 10E., Bloomfield Township, The City of Pontiac and Bloomfield Township (conditionally transferred to The City of Pontiac) Oakland County, Michigan

SHEET

Sanitary Sewer &
Water Main Plan



DATE ISSUED / REVISED

05-12-17 Bids / Permits

DRAWN BY:

A. Wiseman

DESIGNED BY:

A. Wiseman

APPROVED BY:

P. Williams

DATE:

April 3, 2017

SCALE: 1" = 40'

40 20 0 20 40 60

NFE JOB NO.

A116-21

SHEET NO.

C-27