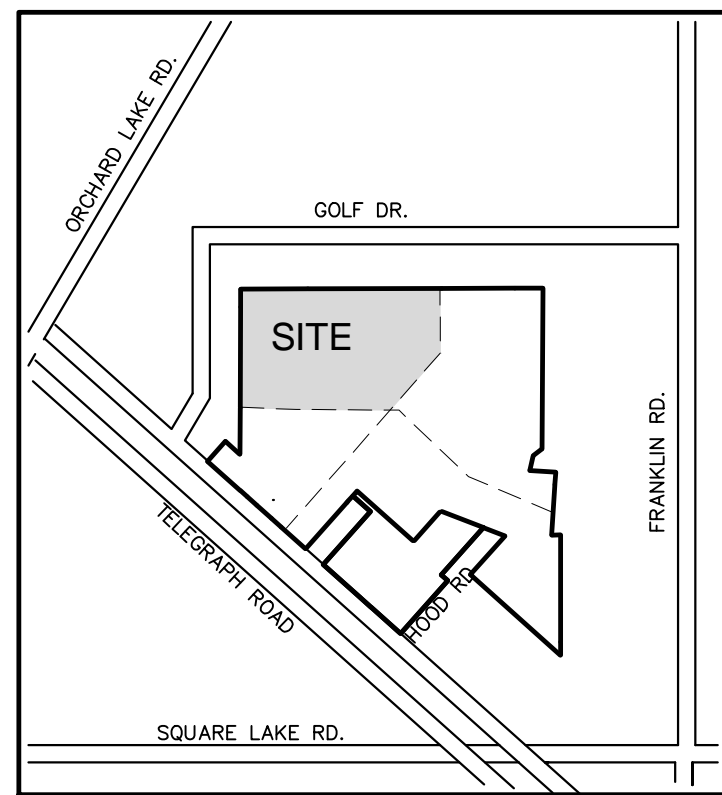


LIMITS OF MENARDS
DEVELOPMENT ZONE

LIMITS OF COMMERCIAL
DEVELOPMENT ZONE



NF
ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

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

LEGEND

CLEAN-OUT	MANHOLE	EXISTING SANITARY SEWER
HYDRANT	GATE VALVE	EXISTING WATER MAIN
INLET	RYCB	EXISTING STORM SEWER
UTILITY POLE	GUY POLE	EXISTING BURIED CABLES
EXISTING LIGHT POLE	EXISTING SIGN	EXISTING GAS MAIN
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		
A		PR. SAND BACKFILL
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

LEGEND

	LIMITS OF MENARDS DEVELOPMENT ZONE
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ESTIMATED QUANTITIES

WATER MAIN

DESCRIPTION	QUANTITY	UNITS
12" D.I. CLASS 54 WATER MAIN (PUBLIC)	1,034	L.F.
6" D.I. CLASS 54 WATER MAIN (PUBLIC)	139	L.F.
12" D.I. CLASS 54 WATER MAIN (PRIVATE)	8	L.F.
8" D.I. CLASS 54 WATER MAIN (PRIVATE)	260	L.F.
4" D.I. CLASS 54 WATER MAIN (PRIVATE)	8	L.F.
6" HYDRANT ASSEMBLY	6	EA.
12" GATE VALVE & WELL	2	EA.

ESTIMATED QUANTITIES

WATER MAIN

DESCRIPTION	QUANTITY	UNITS
12" D.I. CLASS 54 WATER MAIN (PUBLIC)	1,293	L.F.
8" D.I. CLASS 54 WATER MAIN (PUBLIC)	28	L.F.
6" D.I. CLASS 54 WATER MAIN (PRIVATE)	156	L.F.
4" D.I. CLASS 54 WATER MAIN (PRIVATE)	16	L.F.
6" HYDRANT ASSEMBLY	5	EA.
12" GATE VALVE & WELL	3	EA.

SANITARY SEWER

DESCRIPTION	QUANTITY	UNITS
12" ABS TRUSS SEWER PIPE	719	L.F.
6" PVC TRUSS SEWER PIPE	348	L.F.
6" PVC SDR 23.5 SENDER PIPE	73	L.F.
4" DIA. SANITARY MANHOLE	4	EA.
SEWER TAP/CONNECTION	1	EA.

GATE VALVE SCHEDULE

1	12" GATE VALVE IN WELL RIM 950.08	3	8" GATE VALVE IN WELL RIM 949.42
2	12" GATE VALVE IN WELL RIM 950.18	4	12" GATE VALVE IN WELL RIM 949.10
		5	12" GATE VALVE IN WELL RIM 951.05

HYDRANT SCHEDULE

1	ADJUST EX. FIRE HYDRANT F.G. 949.62	8	ADJUST EX. FIRE HYDRANT F.G. 950.50
2	6" STANDARD FIRE HYDRANT F.G. 950.50	9	6" STANDARD FIRE HYDRANT F.G. 950.40
3	6" STANDARD FIRE HYDRANT F.G. 950.10	10	6" STANDARD FIRE HYDRANT F.G. 950.75
4	6" STANDARD FIRE HYDRANT F.G. 950.30	11	6" STANDARD FIRE HYDRANT F.G. 951.30
5	6" STANDARD FIRE HYDRANT F.G. 951.40	12	6" STANDARD FIRE HYDRANT F.G. 951.20
6	6" STANDARD FIRE HYDRANT F.G. 950.75	20	6" STANDARD FIRE HYDRANT F.G. 951.40

SANITARY SCHEDULE

SEE SANITARY PROFILE SHEET C-43 FOR SANITARY SEWER STRUCTURE SCHEDULES

SANITARY SEWER BASIS OF DESIGN

Shop / Warehouse	=	244,025	Total Square Footage	
Unit Factor	=	0.31	Per 1,000 sq ft	
Total REU Units in district	=	75.65	Units	
Equivalent Population	=	3.50	People Per Unit	
Total Population	=	264.77	People	
Average Flow	=	100 Gal/Per/Day * Population =	26,477 GPD	
		7.48*60*60*24		
Average Flow	=		0.041 CFS	
Peak Flow	=	18 * (# of Persons/1000) ^ 0.50 =	4.274 CFS	
		4 * (# of Persons/1000) ^ 0.50 =	2.065 CFS	
Peak Flow	=		0.168 CFS	
Available Capacity (Existing)	=	8 In. Dia. @ 0.40 % =	0.764 CFS	
Waste Generated:		0.041 CFS * 646,272 (Gallons/Day)/CFS =	26,477 GPD - Average	
		0.168 CFS * 646,272 (Gallons/Day)/CFS =	108,983 GPD - Peak	

MENARDS

F.F. 951.50

F.F. 951.50

LIMITS OF MENARDS
DEVELOPMENT ZONE

LIMITS OF COMMERCIAL
DEVELOPMENT ZONE

MATCHLINE SEE SHEET C27

MATCHLINE SEE SHEET C28

MATCHLINE SEE SHEET C28