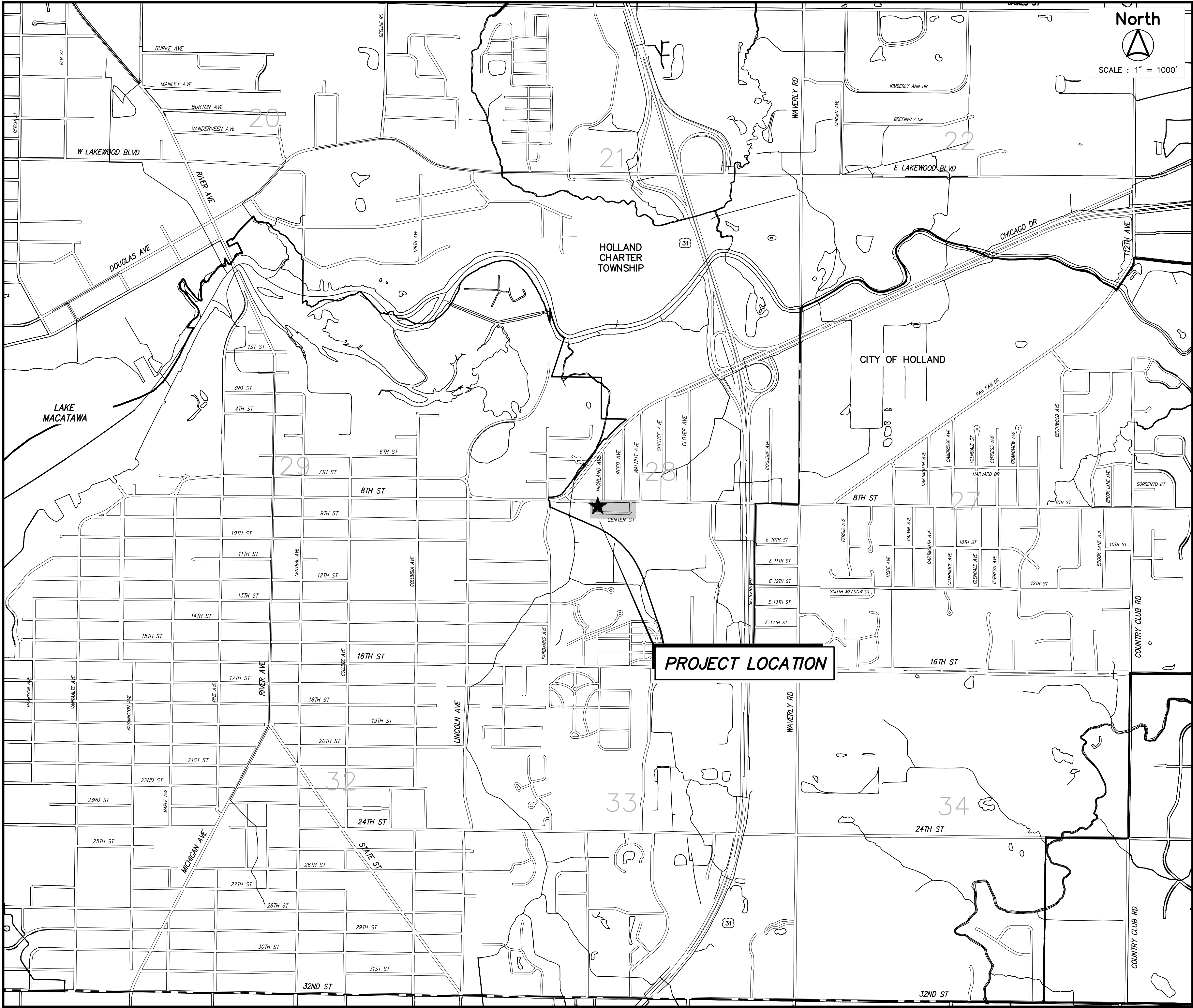


HOLLAND CHARTER TOWNSHIP
OTTAWA COUNTY, MICHIGAN
PARKING LOT IMPROVEMENTS
#420 8TH STREET



SOIL BORING GENERAL NOTES

WITHIN EACH SOIL BORING, WHERE SHOWN, SOIL SAMPLES WERE OBTAINED BY THE STANDARD PENETRATION TEST METHOD, ASTM D1586, WHEREBY A SPLIT-SPOON SAMPLER IS DRIVEN THREE SUCCESSIVE 15-INCH INCREMENTS WITH A 140-POUND WEIGHT FALLING 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER FOR EACH INCREMENT IS PRESENTED ON THE SOIL BORING LOGS.

GRANULAR SOILS (COARSE-GRAINED) HAVE MORE THAN 50% OF THEIR DRY WEIGHT RETAINED ON A #200 SEVE. THEY ARE DESCRIBED AS: BOULDERS, CORBELS, GRAVEL, OR SAND. FINE-GRAINED SOILS HAVE LESS THAN 50% OF THEIR DRY WEIGHT RETAINED ON A #200 SEVE. THEY ARE DESCRIBED AS: CLAYS OR CLAYEY SILTS IF THEY ARE COHESIVE, AND SILTS IF THEY ARE NON-COHESIVE. IN ADDITION TO GRAVATION, GRANULAR SOILS ARE DEFINED BASED ON THEIR *IN-SITU* DENSITY, FINE GRAINED SOILS ARE FURTHER DEFINED BASED ON THEIR STRENGTH OR CONSISTENCY, AND ON THEIR PLASTICITY.

MAJOR SOIL COMPONENT	GRADATION RANGE	DESCRIPTION TERM(S) (OF MINOR SOIL CONSTITUENTS)	PERCENT OF DRY WEIGHT
BOULDERS	OVER 12 INCHES (305mm)	TRACE	1 - 10
CORBELS	12 INCHES TO 3 INCHES (305mm TO 76mm)	LITTLE	10 - 20
GRAVEL	3 INCHES TO 3/4 INCHES (76mm TO 19mm)	SOME	20 - 35
FINE	3/4 INCHES TO #4 SEVE (19mm TO 4.75mm)	AND	35 - 50
SAND	#4 SEVE TO #10 SEVE (4.75mm TO 2.00mm)		
COARSE	#10 SEVE TO #40 SEVE (2.00mm TO 0.425mm)		
MEDIUM	#40 SEVE TO #200 SEVE (0.425mm TO 0.075mm)		
FINE	PASSING #200 SEVE (0.075mm) TO 0.005mm		
SILT			
CLAY	SMALLER THAN 0.005mm		

IN-SITU DENSITY OF GRANULAR SOILS		CONSISTENCY OF COHESIVE SOILS	
N - BLOWS/FT	IN-SITU DENSITY	UNCOMFINED COMP STRENGTH, <i>q_u</i> (kPa)	CONSISTENCY
0 - 4	VERY LOOSE	<0.25	VERY SOFT
5 - 10	LOOSE	0.25 - 0.50	SOFT
11 - 30	MEDIUM DENSE	0.50 - 1.00	MEDIUM (FIRM)
31 - 50	DENSE	1.00 - 2.00	STIFF
51 - 70	VERY DENSE	2.00 - 4.00	VERY STIFF
71 - 90		4.00 - 8.00	HARD
91 - 110		>8.00	VERY HARD

WATER LEVELS INDICATED ON THE BORING LOGS ARE THE LEVELS MEASURED IN THE BORING AT THE TIMES INDICATED. IT SHOULD BE NOTED THAT GROUNDWATER LEVELS OBSERVED DURING DRILLING IN PREDOMINANTLY COHESIVE SOILS ARE NOT NECESSARILY INDICATIVE OF THE STATIC GROUNDWATER LEVEL. THIS IS DUE TO THE RELATIVELY LOW PERMEABILITY OF CLAY SOILS AND THE TENDENCY OF DRILLING OPERATIONS TO TEMPORARILY SEAL OFF NATURAL PATHS OF GROUNDWATER MIGRATION INTO THE BOREHOLE. ADDITIONALLY, FLUCTUATIONS IN GROUNDWATER LEVELS SHOULD BE ANTICIPATED WITH SEASONAL VARIATIONS AND FOLLOWING PERIODS OF HEAVY OR PROLONGED PRECIPITATION.

THE SOIL BORING LOGS SHOWN ON THE CONSTRUCTION PLANS ARE BEING FURNISHED FOR YOUR CONVENIENCE AND GENERAL INFORMATION ONLY. THE DATA SHOWN ON THE BORING LOGS REPRESENTS SOIL AND GROUNDWATER CONDITIONS ENCOUNTERED AT THE RESPECTIVE BORING LOCATIONS. VARIATIONS MAY OCCUR BETWEEN THESE LOCATIONS. ADDITIONALLY, THE STRATIGRAPHIC LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES. HOWEVER, THE TRANSITION MAY BE MORE GRADUAL THAN WHAT IS SHOWN. THE BODER WILL BE RESPONSIBLE FOR MAKING THOSE WHO ARE FAMILIAR WITH SUBSURFACE CONDITIONS BY WHATEVER MEANS THEY DEEM NECESSARY AND SHALL MAKE THEIR OWN DETERMINATIONS THEREFROM.

THE BODER BY SUBMITTING A BID, WAIVES ALL CLAIMS FOR DAMAGES WHICH THEY MAY SUFFER BY REASONS OF THE INADEQUACIES OR DISCREPANCIES OF THE INFORMATION SHOWN ON THESE SOIL BORING LOGS AND UNDERSTANDS THAT NO COMPENSATION WILL BE PAID TO THEM DUE TO AN INADEQUACY OR DISCREPANCY IN THIS DATA.

UTILITIES

WATER & SANITARY SEWER HOLLAND CHARTER TOWNSHIP 353 N 120TH AVENUE HOLLAND, MI 49424 PHONE : (616) 396-1891	WATER & SANITARY SEWER HOLLAND BOARD OF PUBLIC WORKS 625 HASTINGS AVENUE HOLLAND, MI 49424 PHONE : (616) 355-1643
COUNTY DRAIN OTTAWA COUNTY WRC 12220 FILLMORE STREET, ROOM 141 WEST OLIVE, MI 49460 PHONE : (616) 994-4530	CABLE/COMMUNICATIONS CHARTER COMMUNICATIONS 110 JAMES STREET HOLLAND, MI 49424 PHONE : (616) 741-4470
GAS SEMCO ENERGY 7339 PAW PAW DRIVE HOLLAND, MI 49423 PHONE : (231) 392-8060	CABLE/COMMUNICATIONS COMCAST 1371 E BELTLINE AVE NE GRAND RAPIDS, MI 49525 PHONE : (616) 414-2351
ELECTRIC HOLLAND BPW 1 ENERGY PARK WAY HOLLAND, MI 49423 PHONE : (616) 355-1500	TELEPHONE ACENTEK 6568 LAKE MICHIGAN DRIVE ALLEDALE, MI 49401 PHONE : (616) 892-0143
ELECTRIC CONSUMERS ENERGY COMPANY 4000 CLAY AVENUE SW GRAND RAPIDS, MI 49501 PHONE: (616) 530-4185	TELEPHONE AT&T 245 E 24TH STREET HOLLAND, MI 49423 PHONE : (616) 392-7017

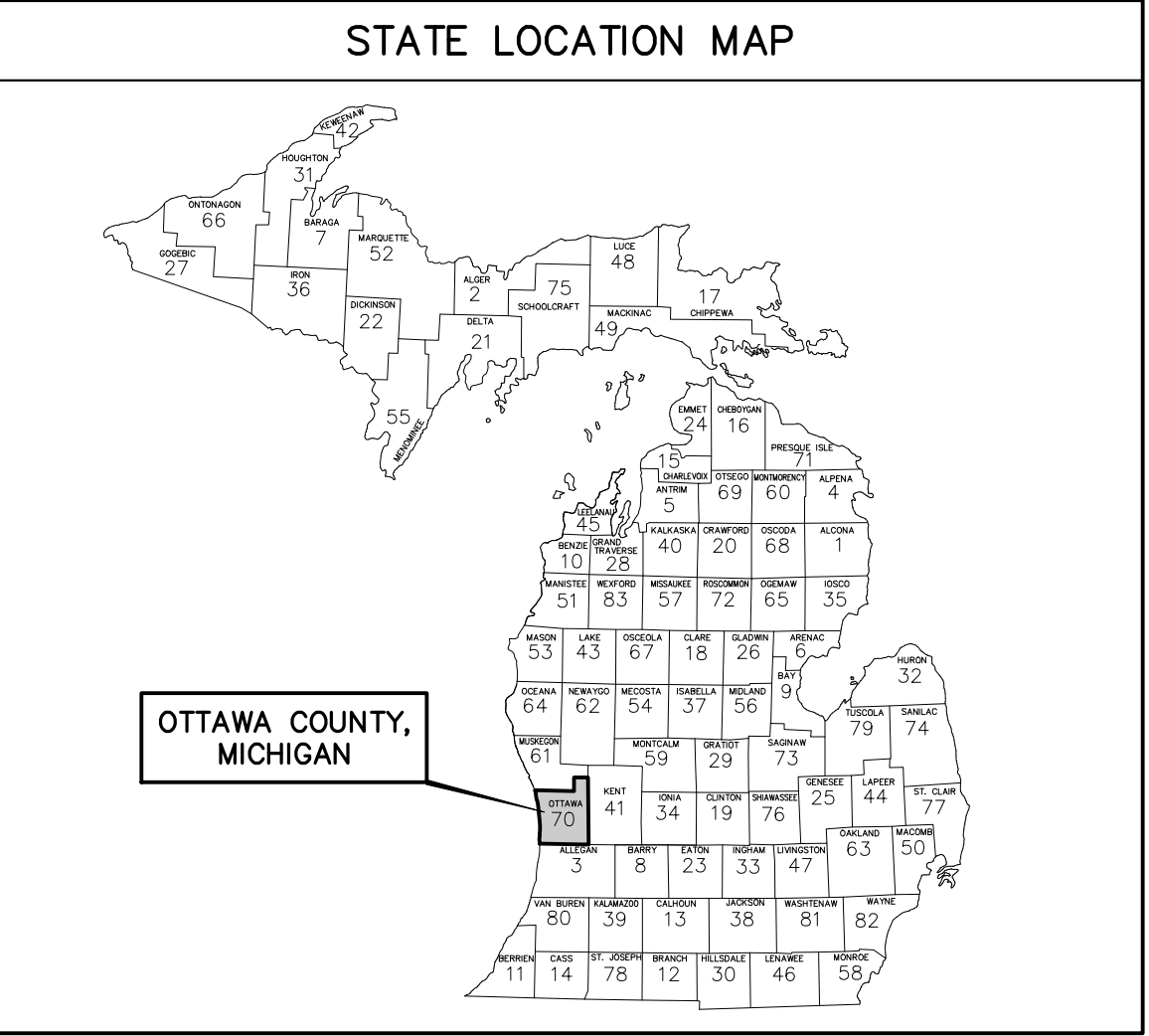

Know what's below.
Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

PROJECT DATUM INFORMATION

COORDINATE SYSTEM : STATE PLANE GRID
ZONE : MICHIGAN SOUTH 2113
ELLIPSOID : GRS 80
HORIZONTAL DATUM : NAD 83 (2011)
VERTICAL DATUM : NAVD 88
GEOID : GEOID 18
UNITS : INTERNATIONAL FEET

PROJECT COMBINED SCALE FACTOR (PCSF) = 0.9999082443
GROUND DISTANCE = GRID DISTANCE/PCSF



SHEET INDEX	
SHEET No.	DESCRIPTION
1	COVER SHEET
2	TYPICAL CROSS SECTIONS & DETAILS
3	EXISTING & PROPOSED SITE PLANS
4	MARKING & GRADING PLAN
5	LANDSCAPE PLAN
6	IRRIGATION PLAN
7	WEST ST./CENTER ST./EAST ST. MARKING & SIGNING PLAN

PER O.C.R.C. REVIEW JUNE, 2026
ISSUED FOR PERMITS MAY, 2026



Engineers • Surveyors • Environmental • Laboratory

PROJECT NO.
2260233

SHEET NO.
1 OF **7**

