

EROSION CONTROL MEASURES			
KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	Mulch		On flat areas, slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive forces from wind or water.
4	Trees, Shrubs, Vines and Ground Cover		When bare soil or recently vegetated slopes are exposed to erosive forces from wind and/or water.
5	Perimeter Sediment Control Measures (Silt Fence, Straw Wattles, etc.)		As a temporary measure used to capture sediment from sheet flow. May also divert small volumes of sheet flow to protected outlets.
7	Storm Drain Inlet Protection		Around the entrance to a catch basin or an inlet that will capture runoff from an earth change activity.
28	Stone Construction Access		At locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.

*SESC MEASURES SHALL COMPLY WITH MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SESC MANUAL SPECIFICATIONS

SESC NOTES

TOTAL DISTURBED AREA: 117,471 SFT (4.27 ACRES)

ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THE SITE PLAN MAY BE NECESSARY AS SITE WORK PROGRESSES. PERMITTEE IS RESPONSIBLE FOR ALL MEASURES NECESSARY TO PREVENT OFFSITE SEDIMENTATION.

GEOTEXTILE SILT FENCE AND ALL CATCH BASIN PROTECTION MEASURES SHALL BE PROPERLY PLACED AS SHOWN ON PLANS AND AS NEEDED TO RETAIN SOILS ONSITE. PERIODIC MAINTENANCE AND INSPECTION OF SESC MEASURES IS REQUIRED FOR PROPER EFFECTIVENESS.

STABILIZE SITE AS SOON AS POSSIBLE.

STORM STRUCTURE NOTES

STORM SEWER LENGTHS PROVIDED ARE MEASURED FROM CENTER OF STRUCTURE. RIM ELEVATIONS ARE MEASURED AT EDGE OF METAL.

STORM SEWER SHALL BE WATER-TIGHT, SOLID-WALL HDPE OR APPROVED EQUAL, UNLESS INDICATED ON THE PLANS.

MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH MDOT STANDARD SPECIFICATIONS. CATCH BASINS SHALL INCLUDE 2-FT SUMP.

ALL EXISTING CATCH BASINS TO REMAIN SHALL BE CLEANED AND INSPECTED TO VERIFY OPERABILITY.

CONNECTIONS TO MANHOLES SHALL BE MADE WITH A RESILIENT CONNECTOR FOR PIPE DIAMETERS 24 INCHES OR LESS.

MANHOLE RIM ELEVATIONS SHALL BE SET 1/4" BELOW PLAN GRADE.

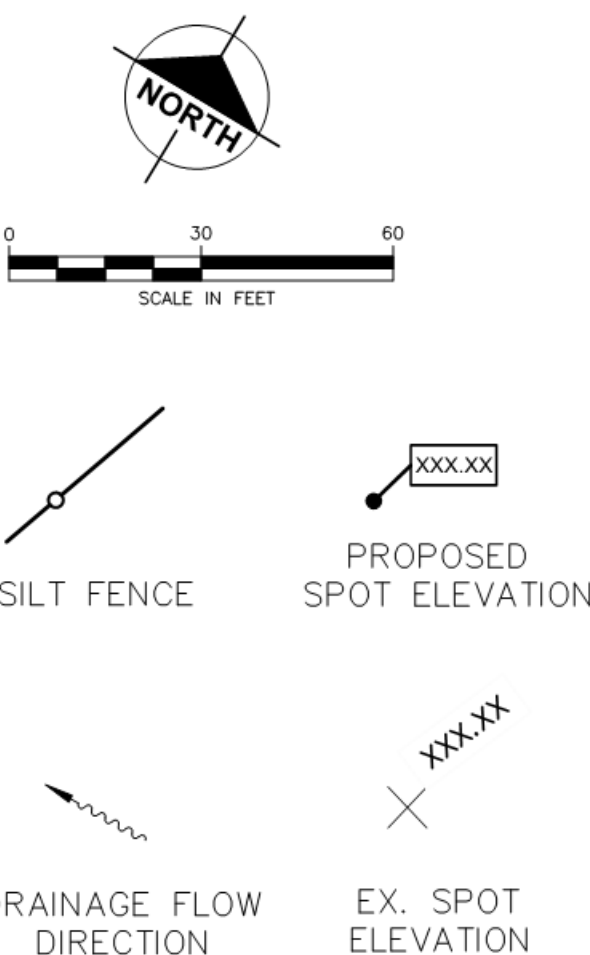
CATCH BASIN RIM ELEVATIONS SHALL BE SET 1 3/8" BELOW PLAN GRADE.

THE UNDERGROUND SYSTEM SHALL INCLUDE INSPECTION PORTS ON EACH ROW.

ALL CURB DIMENSIONS ARE MEASURED FROM EDGE OF METAL.

THE CONTRACTOR SHALL EXPOSE AND VERIFY LOCATION AND DEPTH OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. CONFLICTS IN GRADES SHALL BE REPORTED TO ENGINEER AND ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO OWNER.

CK GARDENS - PHASE 2			
Runoff "C" value	0.75	Existing Conditions	
Drainage Area (acres)	2.40	Bldg:	sft 0.00 Acres
		Pavement Area:	sft 0.00 Acres
		Sidewalks and Concrete	sft 0.00 Acres
Maximum Allowable Outflow (cfs/acre)	0.15	Gravel Areas	sft 0.00 Acres
Maximum Allowable Outflow (cfs)	0.36	Pond Area	sft 0.00 Acres
Storm Recurrence Interval (yrs)	100	Lawn/Natural:	sft 0.00 Acres
		Total Area:	0 sft 0.00 Acres
Flood Control			
$D_{100} = 50*(Q_p/C_p)^{0.984}$	242.29	min.	$C_w = (0.21(.95)+0.19(0.95)+0.13(0.95)+0.0(0.70)+0.0(1.00)+0.75(0.17))/1.28 =$
			$C_w =$ #DIV/0!
$I = (38.41647*\tau^{0.2082})/(12.3258+D_{100})^{0.8405}$	0.95	in/hr	Proposed Conditions
			Bldg:
$V_{24} = (60.5*D_{100}*C^*A^*) - (60*D_{100}*Q^*A^*)$	19743.53	cft	28,315 sft 0.65 Acres
Infrastructure / Channel Protection			
$I_{2yr, 24hr}$	0.10	in/hr	Pavement Area:
2yr, 24 hr pre-dev Peak flow rate	#DIV/0!	cfs	35,448 sft 0.81 Acres
2yr, 24 hr post-dev Peak Flow rate	0.126	cfs	Sidewalks and Concrete
$V_{24YR} = 6.897*\Delta C^*A$	#DIV/0!	cft	13,377 sft 0.31 Acres
Extended Detention/CP Volume			
$V_{ED} = 6.897*C^*A$	12339.6	cft	Gravel Areas
			sft 0.00 Acres
			Pond Area
			sft 0.00 Acres
			Lawn/Natural:
			27,361 sft 0.63 Acres
			Total Area:
			104,501 sft 2.40 Acres
VED Volume < Flood Control Volume. Therefore use Flood Control Volume for Total Detention Volume			
Water Quality Volume			
$WQ = 65752 * (1/12)$	8708.4	cft	Achieved via extended detention
Drain Time			
	43.44	Hrs	
STORMWATER STORAGE PROVIDED	20092	cft	See ADS Cut Sheets

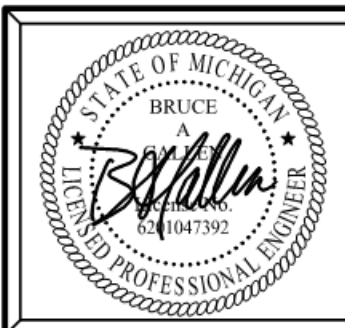


PRELIMINARY - NOT FOR CONSTRUCTION

SUBSURFACE CONDITIONS

Contractor(s) shall familiarize themselves with the information and findings presented in the Geotechnical Evaluation Report prepared by Soils & Structures dated June 20, 2023.

Soils & Structures Project No. 2023.0578



Plan Prepared By:
Bruce A. Callen, PE
Callen Engineering, Inc.
108 E. Savidge St.
Spring Lake, Michigan 49456
Tel: 616-414-5260
email: bcallen@callenengineering.com

For protection of underground utilities, the CONTRACTOR shall dial 1-800-482-7171 OR 811 a minimum of three working days, excluding Saturdays, Sundays and holidays, prior to excavation in the vicinity of utility lines. All "MISS DIG" participating members will thus be routinely notified. This does not relieve the CONTRACTOR of the responsibility of notifying the utility owners who may not be part of the "MISS DIG" alert system.

DATE OF PLAN: 09-08-25

AMERICAN COMMUNITY DEVELOPERS, INC.

20250 HARPER AVENUE
DETROIT, MI 48225

313-881-8150

CLEMENT KERN GARDENS - PHASE 2

A MIXED USE DEVELOPMENT

CITY OF DETROIT, MI 48216

WAYNE COUNTY, MICHIGAN

GRADING, DRAINAGE, AND SESC PLAN

DRAWN BY J.W.C.	DATE SEP '25
ENGINEER B.A.C.	DATE SEP '25
EDIT	DATE
SCALE	
DRAWING	PLOT SCALE
AS NOTED	1:1
PROJECT 024 CLEMENT KERN	
SHEET NO.	