

BACKGROUND INFORMATION
 Developed Area Tributary to Pond: A_d = 23.2 Acres (includes Pond)
 Runoff Coefficient: C_d = 0.35 Commercial
 Time of Concentration: T_c = 20 Minutes

Allowable Outflow:
 Variable Release Rate:
 Q_{min} = 1.055 × (0.25 × L^{0.5})
 Q_{max} = 0.46 CFS/AC
 Allowable Outflow = Q_{min} × A = 10.67 CFS

100-Year Storm Inflow:
 Q₁₀₀ = 100-year storm inflow use Rational Method: Q₁₀₀ = 10.67 CFS
 C = 0.35
 L = 275
 T_c = 20 min.

WATER QUALITY CONTROL (WQC)
 V₁₀ = 3,630 × L × C × A
 V₁₀ = 29,478 Cu. Ft.

CHANNEL PROTECTION VOLUME CONTROL (CPVC)
 V₁₀ = 3,630 × L × C × A
 V₁₀ = 35,371 Cu. Ft.

CHANNEL PROTECTION RATE CONTROL - EXTENDED DETENTION (CRCE)
 V₁₀ = 3,630 × L × C × A
 V₁₀ = 56,004 Cu. Ft.

DETECTION & FLOOD CONTROL (DFC)
 Primary Design: The greater of Macomb County Method or 2" over tributary area

I. New Macomb County Method Detention Volume Requirements
 V₁₀ = (V₁₀ × R) - V₁₀ × C
 V₁₀ = 3,630 × L × C × A = 153,273 Cu. Ft.
 V₁₀ = Infiltration Volume, use conservative presumption = 0
 R = 0.206 - 0.15 × (L^{0.5} / Q₁₀₀)
 C = Allowable Outflow = 0.46 CFS
 Q₁₀₀ = Peak 100 yr Inflow = 10.67 CFS
 R = 0.206 - 0.15 × (275^{0.5} / 10.67) = 0.437
 V₁₀ = (153,273 × 0.437) - V₁₀ × 0.437 = 66,980 Cu. Ft.

II. 100-Year Detention per 2" over Tributary Area Method:
 V₁₀ = A × 27.2 × C × 43.560 = 168,432 Cu. Ft.
 Use the larger of the Two = 168,432 Cu. Ft.

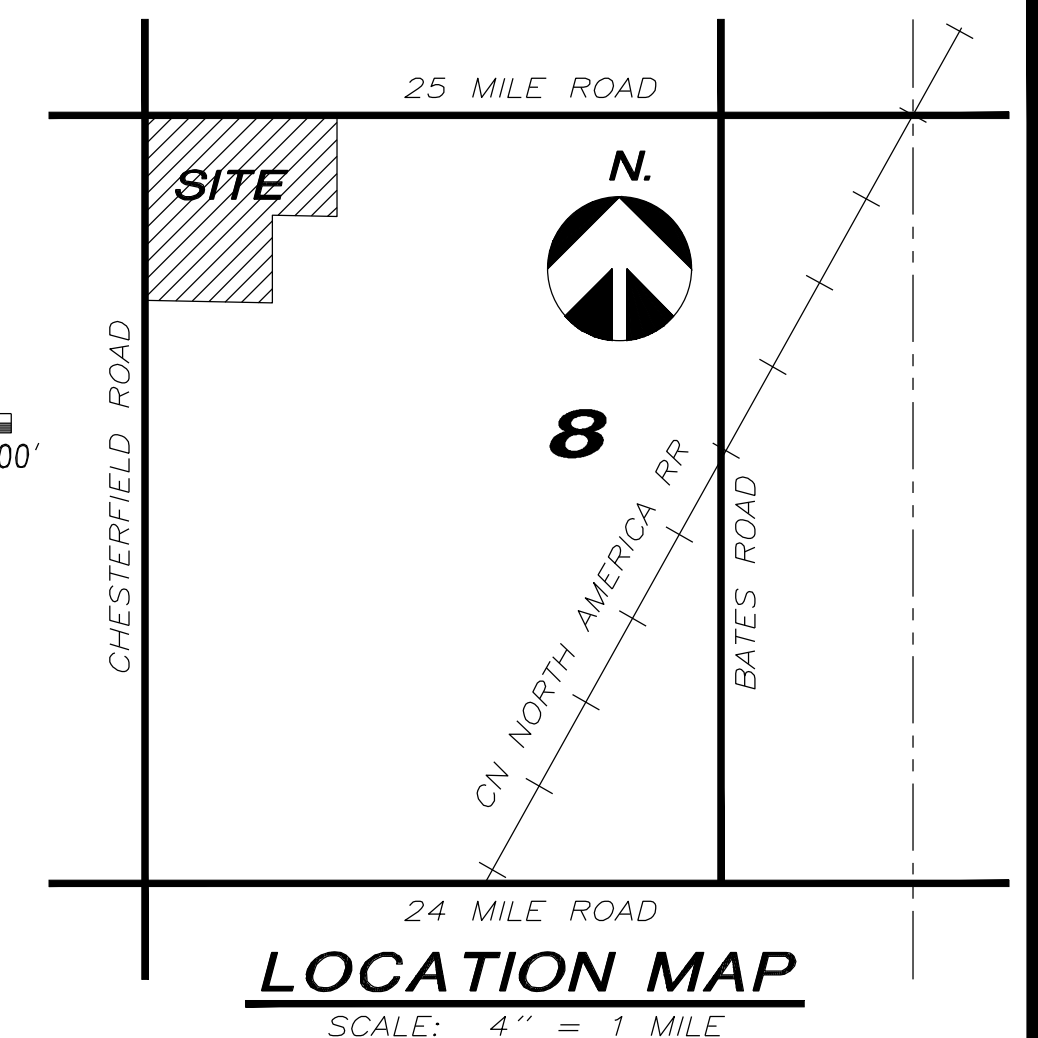
Detention Volume Provided
 V₁₀ = 1.73 × H × (A₁ + A₂ + V(A₁A₂))
 Elevation Area (S.F.) H (ft.) Volume (Cu. Ft.)
 630.00 115.700 2.00 210,981
 628.00 95,000
 V₁₀ = 210,981 Cu. Ft. > 168,432 Cu. Ft. so okay!



SCALE: 1"=100'

BENCHMARKS

- DATUM=NAVD88
1. T/HYD. E. SIDE CHESTERFIELD RD. 2ND HYD. S. OF 25 MILE RD. ELEVATION=627.83
 2. T/HYD. E. SIDE CHESTERFIELD RD. 1ST HYD. S. OF 25 MILE RD. ELEVATION=627.72
 3. T/HYD. S. SIDE 25 MILE RD. 1ST HYD. E. OF CHESTERFIELD RD. HSE #27775 ELEVATION=634.68
 4. T/HYD. S. SIDE 25 MILE RD. 2ND HYD. E. OF CHESTERFIELD RD. HSE #27301 ELEVATION=643.38



PROPERTY DESCRIPTION

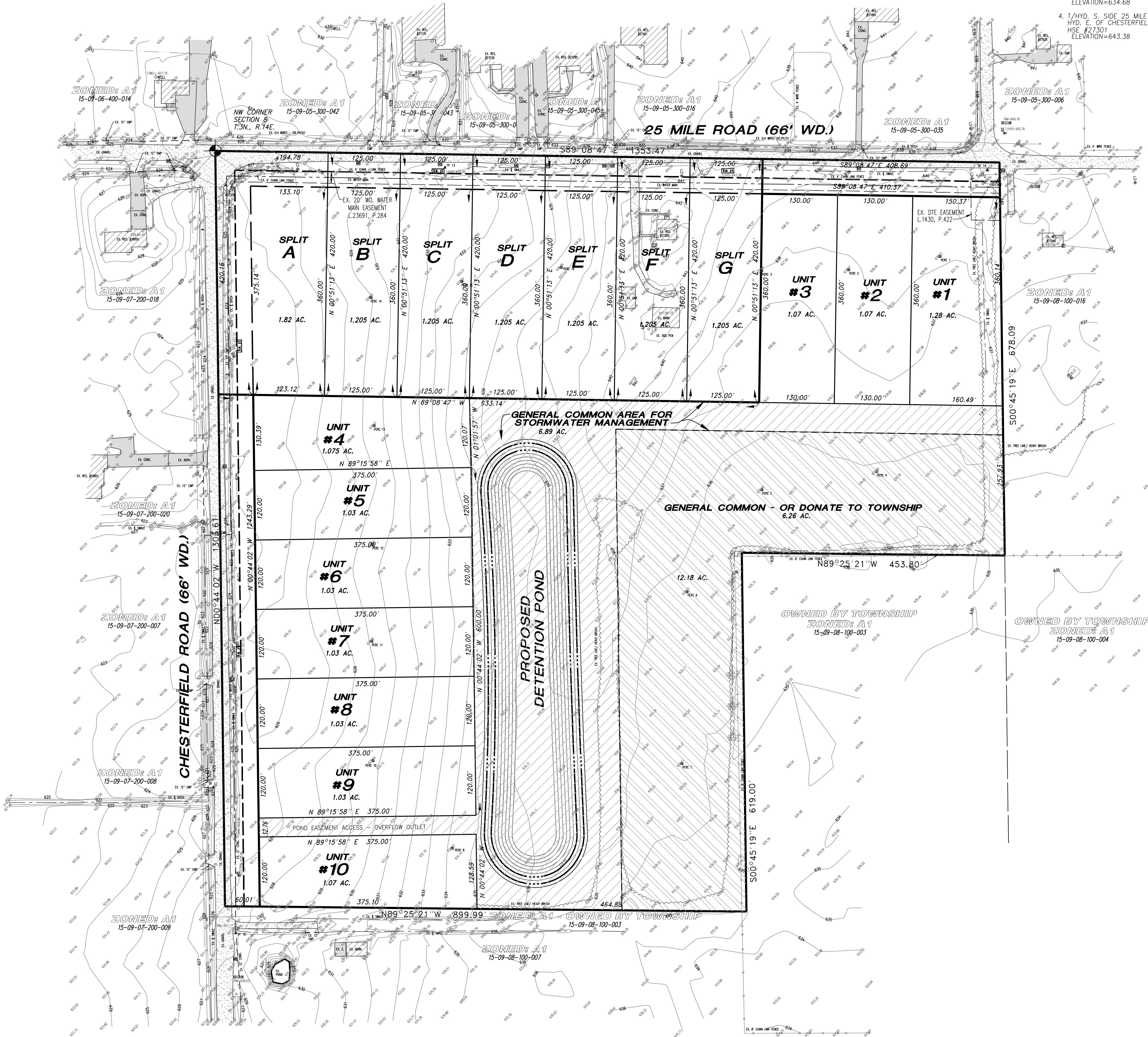
Record Description:
 The NW 1/4 of the NW 1/4 of Section 8, T.03N., R.14E., Chesterfield Township, Macomb County, Michigan except beginning at the SE corner of the NE 1/4 of the NW 1/4 of Section 8; thence West, 453.80 feet; thence North, 659.00 feet; thence East, 453.80 feet; thence South, 659.00 feet to the point of beginning. Also, except the South 40.00 feet of the NW 1/4 of the NW 1/4 of Section 8 extending from a point 453.80 feet West of the East line of the NE 1/4 of the NW 1/4 of the West line of Section 8.

As Surveyed:
 A parcel of land in the NW 1/4 of Section 8, T.03N., R.14E., Chesterfield Township, Macomb County, Michigan described as: Beginning at the NW corner of Section 8; thence S.89°08'47"E., 1353.47 feet along the north line of Section 8; thence S.00°45'19"E., 619.00 feet; thence N.89°25'21"W., 453.80 feet; thence S.00°45'19"E., 619.00 feet; thence N.89°25'21"W., 899.99 feet to a point on the west line of Section 8; thence along said line N.00°44'02"W., 1303.61 feet to the Point of Beginning and containing 33.06 acres.

Subject to the rights of the public for highway purposes along Chesterfield Road and 25 Mile Road and to all other assessments of record.

SITE CRITERIA

- PARCEL IDENTIFICATION #: 15-09-08-100-001
 - EXISTING ADDRESS: 27300 25 MILE ROAD
 - EXISTING ZONING: A1
 - ADJACENT ZONINGS: A1
 - AREA OF SITE: 33.06 ACRES
- LOT SUMMARY:**
- MINIMUM LOT SIZE: 1 ACRE
 - MINIMUM LOT FRONTAGE: 120'
- BUILDING SETBACKS:** FRONT = 95' FROM CENTERLINE
 REAR = 35'
 SIDE = 10'



LEGEND

- 100 EXISTING CONTOURS
- 100.00 EXISTING GRADE
- EXISTING GRAVEL
- EXISTING PAVEMENT
- GENERAL COMMON AREA (STORMWATER MANAGEMENT)
- GENERAL COMMON AREA OR DONATE TO TOWNSHIP

TOPOGRAPHY LEGEND

- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- EASEMENT
- EX. U.G. ELEC.
- EX. U.G. WIRES
- EX. U.G. TELE.
- EX. U.G. GAS
- ROUND CATCH BASIN
- SQUARE CATCH BASIN
- UTILITY MANHOLE
- STORM MANHOLE
- END OF PIPE
- SANITARY MANHOLE
- CLEAN-OUT
- MANHOLE
- HYDRANT
- GATE VALVE WELL
- WATER VALVE
- WATER BOX
- VALVE
- LIGHT POLE
- AIR CONDITIONER
- MAIL BOX
- FENCE POST
- DOWN SPOUT
- SOIL BORING
- ELEC TRANS PAD
- UTILITY POLE
- GUY ANCHOR
- GUY POLE
- SIGN POST
- SPRINKLER HEAD
- GAS METER
- TELEPHONE RISER
- ELECTRICAL RISER
- CABLE TV RISER
- FINISHED FLOOR
- GARAGE FLOOR
- BASEMENT FLOOR
- CONC. CONCRETE
- SET IRON BAR
- SET IRON BAR
- FOUND IRON BAR
- FOUND C. MONUMENT

SHEET INDEX

1. SITE PLAN
2. EXISTING CONDITIONS



Contractor Note:
 The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.

SITE PLAN
 PART OF THE N.W. 1/4 OF SECTION 8
 T.3N., R.14E., CHESTERFIELD TOWNSHIP,
 MACOMB COUNTY, MICHIGAN

DATE: 23/12-2023
 JOB NO.: 230123-8900
 DATE: 3-17-2023
 SCALE: 1"=100'
 DRAWN P.S.: P. S. P. S.
 CHECK P.S.: P. S. P. S.
 SHEET 1 OF 2
 FILE NO.: 6-12-23 REVISED LAYOUT PER CLIENT. SPLITS

EXISTING
 CHESTERFIELD and 25 MILE ROAD
 FOR: MIKE DeMILL
 PLANNING MANAGEMENT
 27000 25 MILE ROAD
 NEW HAVEN, MI 48048
 (586) 270-2038

URBAN LAND CONSULTANTS
 PLANNERS LAND SURVEYORS
 8800 23 MILE ROAD
 SHELBY TWP., MI 48316-4516