

HOWELL TOWNSHIP BOARD

REGULAR MEETING

3525 Byron Road

Howell, MI 48855

March 3, 2025

6:30 pm

1. Call to Order
2. Roll Call: () Mike Coddington () Matt Counts
 () Sue Daus () Bob Wilson
 () Jonathan Hohenstein () Tim Boal
 () Shane Fagan
3. Pledge of Allegiance
4. Call to the Board
5. Approval of the Minutes:
 A. Regular Board Meeting February 10, 2025
6. Call to the Public
7. Unfinished Business:
8. New Business:
 A. MHOG Percent Allocation and Budget – MHOG Director Greg Tatara
 B. Mark Juett, PC2024-17, Parcel #4706-28-100-071, Vacant land – Hydraulic Drive, Request to rezone parcel from Industrial (I) to Industrial Flex Zone (IFZ)
 C. Heritage Square PUD Agreement
 D. Heritage Square PUD Final Site Plan Approval for Phase I, Parcel # 4706-32-400-013
 E. Heritage Square PUD Amendment request to increase lot coverage percentage
9. Call to the Public
10. Reports:
 A. Supervisor B. Treasurer C. Clerk D. Zoning
 E. Assessing F. Fire Authority G. MHOG H. Planning Commission
 I. ZBA J. WWTP K. HAPRA L. Property Committee
 M. Park & Recreation Committee N. Shiawassee River Committee
11. Closed Session – Burkhart Ridge v. Howell Township
12. Disbursements: Regular and Check Register
13. Adjournment

This meeting is open to all members of the public under Michigan's Open Meetings Act.

Persons with disabilities who need accommodations to participate in this meeting should contact the Township Clerk's Office at 517-546-2817 at least two (2) business days prior to the meeting.

5A

DRAFT

HOWELL TOWNSHIP REGULAR BOARD MEETING MINUTES

3525 Byron Road Howell, MI 48855

February 10, 2025

6:30 P.M.

MEMBERS PRESENT:

Mike Coddington	Supervisor
Sue Daus	Clerk
Jonathan Hohenstein	Treasurer
Matthew Counts	Trustee
Tim Boal	Trustee
Shane Fagan	Trustee
Bob Wilson	Trustee

MEMBERS ABSENT:

Also in Attendance:

5 people signed in.

Supervisor Coddington called the meeting to order at 6:30 p.m. The roll was called. Supervisor Coddington requested members rise for the Pledge of Allegiance.

CALL TO THE BOARD:

None

APPROVAL OF THE AGENDA:

February 10, 2025

Motion by Counts, **Second** by Hohenstein, “**To approve the agenda.**” Motion carried.

APPROVAL OF BOARD MEETING MINUTES:

January 13, 2025

REGULAR BOARD MEETING MINUTES

Motion by Hohenstein, **Second** by Boal, “**To accept the minutes from January 13th as presented.**”

Motion carried. 1 dissent.

CALL TO THE PUBLIC:

No response from the public

UNFINISHED BUSINESS:

- A. Howell-Mason LLC v. Howell Township
Treasurer Hohenstein stated that the court documents for Howell Mason LLC v Howell Township were added to the packet for the Board’s review.
- B. Storage Container Ordinance
Treasurer Hohenstein gave a brief overview of the storage container ordinance which included additional language that was previously requested by the Board. **Motion** by Hohenstein, **Second** by

Counts, **“To accept the Zoning Ordinance amendments to allow portable storage containers and cargo containers and to include the Township Planner’s draft language for the duration of portable storage containers as presented.”** Motion carried. 1 dissent.

NEW BUSINESS

- A. Financial Audit – Gabridge & Company, PLC
Joe Verlin from Gabridge and Company, PLC gave an overview of the 2023-2024 Township audit and stated that Howell Township is in a healthy financial condition. Discussion followed.
- B. Financial Report
Deputy Supervisor Kilpela gave an overview of the current Township budget ending January 31, 2025, discussed the Township cash flow and answered questions from the Board. **Motion** by Counts, **Second** by Fagan **“To make budget amendments to the engineering contracted services expenses from \$10,000 to \$15,000.”** Motion carried. Discussion followed.
- C. TextMyGov
Deputy Supervisor Kilpela shared a video presentation on the services that are available through TextMyGov. The consensus of the Board was to obtain more quotes before moving forward with a decision.
- D. Wellhead Protection Ordinance
Treasurer Hohenstein gave a brief overview of the Wellhead Protection Ordinance. **Motion** by Hohenstein, **Second** by Boal, **“To accept the Wellhead Protection Ordinance including the changes from the Director of MHOG, Greg Tatara, as presented.”** Motion carried. 2 dissents. Discussion followed.
- E. Sidewalk Easement
Treasurer Hohenstein spoke on the Oak Grove sidewalk easement. **Motion** by Counts, **Second** by Hohenstein, **“To accept a public sidewalk easement for 1907 Oak Grove Road, as presented.”** Motion carried. 2 dissents.
- F. Draft Lawn, Landscape and Snow Contracts
Treasurer Hohenstein discussed the drafted contracts for lawn, landscape and snow services, and asked the Board for their recommendation of any changes that they would like to be made to the drafted contracts before the contracts are put out to bid. Discussion followed.
- G. Township Planner – Contract Renewal
Treasurer Hohenstein spoke on the 3-year contract renewal for the Township Planner. The consensus of the Board was to send out the contract for additional bids. Discussion followed.
- H. Township Social Media Policy
Treasurer Hohenstein spoke on the drafted social media policy. **Motion** by Counts, **Second** by Hohenstein, **“To approve the Howell Township Social Media Policy as presented.”** Motion carried. 1 dissent.

- I. Road Chloride Bid
Treasurer Hohenstein presented to the Board a quote from Chloride Solutions LLC for dust control. **Motion** by Counts, **Second** by Boal, **“To approve Chloride Solutions dust control quote as presented.”** Discussion followed. Motion carried.

- J. Spring and Fall Clean-Up Day Approvals
Treasurer Hohenstein reported on Deputy Treasurer Murrish’s summaries for spring clean-up day and fall clean-up day. It was the consensus of the Board to approve the cost for spring clean-up, and to keep the tire disposal prices as it has been in the past. **Motion** by Counts, **Second** by Boal, **“To approve fall clean-up day on Saturday, September 13th as presented.”** Discussion followed. Motion carried. 2 dissents.

CALL TO THE PUBLIC:

John Mills, 1750 Oak Grove Rd.: Spoke about property taxes, Oak Grove sidewalk easement, and Township legal fees.

Jonathan Black, 10500 N. Antcliff Rd.: Inquired on where he could sign up for the Spring and Fall clean-up events

REPORTS:

- A. SUPERVISOR:
No report

- B. TREASURER: Treasurer Hohenstein reported that the Treasurer’s department is busy processing tax payments. See the board packet for reports.

- C. CLERK: Clerk Daus reported that the Clerk’s department had a successful Early Voting State audit

- D. ZONING:
See Zoning Administrator Hohenstein’s report

- E. ASSESSING:
See Assessor Kilpela’s report

- F. FIRE AUTHORITY:
Supervisor Coddington reported on Fire Authority

- G. MHOG:
Trustee Counts reported on MHOG

- H. PLANNING COMMISSION:
Trustee Boal reported on Planning Commission

- I. ZONING BOARD OF APPEALS (ZBA):
Trustee Counts reported on ZBA

J. WWTP:

Treasurer Hohenstein gave an overview on Wastewater Treatment Plant and noted that Board action is needed to decide on Hatch Stamping's request for a grinder pump to be installed. **Motion** by Hohenstein, **Second** by Counts, **"To accept the Wastewater Treatment Plant Committee's recommendation to deny Hatch's, and the owner's, request that the Township install the grinder pump at the Township's expense."** Motion carried.

K. HAPRA:

See report

L. PROPERTY COMMITTEE:

No report

M. PARK & RECREATION COMMITTEE: Treasurer Hohenstein informed the Board that the reports are back for phase one of the environmental study and they will be made public soon.

N. Shiawassee River Committee:

Supervisor Coddington reported on Shiawassee River Committee

DISBURSEMENTS: REGULAR PAYMENTS AND CHECK REGISTER:

Motion by Hohenstein, **Second** by Daus, **"To accept the disbursements as presented and any normal and customary payments for the month."** Motion carried.

ADJOURNMENT: **Motion** by Counts, **Second** by Boal, **"To adjourn"** Motion carried. The meeting was adjourned at 9:02 pm.

Sue Daus, Howell Township Clerk

Mike Coddington, Howell Township Supervisor

Tanya Davidson, Recording Secretary

8A



MEMO

TO: Howell Township Board

FROM: Greg Tatara, Utility Director

DATE: February 17, 2025

RE: Approval of Utility Department Amended Budget for FY Ending March 31, 2025 and Proposed Budget for FY Ending March 31, 2026

For consideration at tonight's Board Meeting, is the approval of the shared system allocation percentage for Fiscal Year (FY) 2025 as well as the DPW FY25 Amended Budget and the proposed DPW Budget for FY 2026.

The DPW Budget covers the expenses associated with Genoa Township personnel, who jointly work to operate the two Genoa Utility Systems of Oak Pointe and Lake Edgewood, the Howell Township Sanitary System, as well as the Genoa -Oceola (G-O) Sewer and Water Authority Sanitary System and the Marion, Howell, Oceola, and Genoa (MHOG) Sewer and Water Authority Water system.

Presented in **Attachment 1**, is a summary of the operational conditions we used to estimate the overall percentage of time and equipment in each system. Typically, there is not much change from year to year, but this year Lake Edgewood Wastewater plant (WWTP) was taken off line, which lowered the efforts on Lake Edgewood and increased slightly the allocation for the two remaining wastewater plants of Genoa-Oceola and Howell Township. Given the work load over the past year, we agree that these two systems required some additional effort.

The amended DPW Budget for FY 2025 and the proposed FY 2026 budget is presented as **Attachment 2**. It should be noted that the MHOG, G-O, and Howell Township systems have to approve the budget as well. For tonight's meeting, we would like to highlight some of the key changes for the DPW Budgets.

FY 2025 Amended Budget

1. For the amended budget, we are once again looking to finish under budget and provide money back to each system. The primary reason for finishing under budget was lower costs associated with numerous line items. For example, with lower gas prices, our fuel expenditures were less than anticipated. Also, labor costs are coming in lower than anticipated, with overtime being down this year. Correspondingly, this also lowers our retirement contribution. Finally, phone expenses, uniform and PPE costs, and Vactor Truck repairs were also down this year.
2. We also are anticipating revenues to come in about \$70,000 over what was projected. This is due primarily to all the new development in the system and these developments reimbursing our DPW Fund to cover staff time for inspecting them.
3. Unfortunately, we also had some expenditure categories come in above what was originally budgeted. Most of our expense categories finished near the initial projections when drafting the budget. The exceptions that were under the original budget amounts were computer maintenance expenses (+\$5,542 – software costs), GIS and Work Orders (+\$34,000 due to Board Approved Re-investment in our Work Order Software and more consultant time to have GIS as the backbone of the work order software and to input all of the new development infrastructure), and insurance (+\$20,769 due to BCBS changes from single to family).
4. Overall, we are projected in the amended budget to have revenue exceed expenditures by \$175,073. If everything holds as projected, we will once again be able to provide refunds to the sewer and water districts.

FY 2026 Proposed Budget

1. For the proposed budget, we are recommending an overall budget increase of 4.36%. A primary reason for the increase is the addition of an Administrative Assistant I position for the utility department. We have two employees retiring within the next two years who are responsible for billing all 15,000 accounts, schedule all meter installation, maintenance and repair, tracking new development, and performing customer interaction. With only three administrative billing personnel, the future retirement will leave us with shortfall that the one remaining staff person would be unable to train as well as handle the duties. Therefore, we want to hire a person now to have ample training and education time on a complex job to continue to seamlessly serve our customers.
2. It should be noted that we are working hard to control all other expenditures. If we did not have the additional position, our budget would of only increased 2.69%.

I will be happy to answer any budget questions and we are asking the board to approve the Amended FY-2025 DPW Budget and the proposed FY 2026 Budget. Based on the above explanation and attached budget document, we respectfully ask the board to consider the motion presented below:

Moved by _____, supported by _____ to approve the FY 2026 System Labor and Equipment Percentage Allocation, the Amended DPW Fund Budget for FY ending March 31, 2025, and the proposed DP Fund Budget for the FY Ending March 31, 2026.

PROPOSED

FY 2026 System Labor Equipment Percentage Calculation

System	Billed Connections	%	Miles of Pipe	%	Avg. Daily Flow (2024)	%	Storage / Pump Station with Daily Checks	%	Full Time Staff Equivalents to Operate	%	Annual Budget	%	Grinder Pumps or Hydrants	%	Total Avg.
MHOG	6,290	42.11%	153.34	45.51%	1,750,684	46.61%	8	33.47%	8	30.19%	\$3,363,237	32.16%	1,744	69.26%	42.76%
Genoa-Oceola	4,864	32.57%	93.79	27.83%	1,330,000	35.41%	6.9	28.87%	8.5	32.08%	\$2,922,713	27.95%	103	4.09%	26.97%
Oak Pointe Sewer	1,347	9.02%	31.73	9.42%	0	0.00%	2	8.37%	2.5	9.43%	\$1,215,285	11.62%	439	17.43%	9.33%
Oak Pointe Water	933	6.25%	15.46	4.59%	257,186	6.85%	3	12.55%	3	11.32%	\$533,250	5.10%	144	5.72%	7.48%
Lake Edgewood	519	3.47%	12.75	3.78%	60,000	1.60%	1	4.18%	1	3.77%	\$445,125	4.26%	88	3.49%	3.51%
Howell Township	983	6.58%	29.90	8.87%	358,000	9.53%	3	12.55%	3.5	13.21%	\$1,977,000	18.91%	0	0.00%	9.95%
Total	14,936	100.00%	337	100.00%	3,755,870	100.00%	24	100.00%	26.5	100.00%	10,456,610	100.00%	2,518	100.00%	100.00%

System	Existing Allocation %	Proposed Percentage	Difference
MHOG	42.92%	42.76%	-0.16%
Genoa-Oceola	26.54%	26.97%	0.43%
Oak Pointe Sewer	9.34%	9.33%	-0.01%
Oak Pointe Water	7.54%	7.48%	-0.06%
Lake Edgewood	4.17%	3.51%	-0.66%
Howell Township	9.49%	9.95%	0.46%

GENOA TOWNSHIP - DPW FUND #233
 BUDGET TO ACTUAL REPORT FOR YEAR ENDING 3/31/25 COMPARED TO
 ACTUAL REVENUES AND EXPENSES FOR 9-MOS ENDING 12/31/24
 AMENDED BUDGET WORKSHEET FOR YEAR ENDING 3/31/25
 PROPOSED BUDGET FOR FY ENDING 3/31/26

WITH ADMIN POSITION ADDED FOR 6-MO

ACCOUNT#	ACCOUNT DESCRIPTION	APPROVED BUDGET FOR YEAR ENDING 3/31/25	ACTUAL FOR 9 MOS ENDING 12/31/24	%	PROPOSED AMENDED BUDGET FOR THE YEAR ENDING 3/31/25	PROPOSED BUDGET FOR YEAR ENDING 3/31/2026	INCREASE (DECREASE)	NOTES
REVENUES								
233-000-400-000	FEES - EXCLUDING OPER LABOR							
233-000-626-005	MARION SEWER (BILLING ONLY)	27,576	21,420	77.68%	28,560	28,000	424	
233-000-626-008	LAKE EDGEWOOD WATER (BILLING ONLY)	4,150	3,079	74.19%	4,105	4,105	(45)	
233-000-626-002	HOWELL TOWNSHIP BILLING-							Delete Line Item
	SUBTOTAL - FEES EXCLUDING OPER LABOR	31,726	24,499	77.22%	32,665	32,105	379	
FEES - INCLUDING OPER LABOR								
233-000-626-010	OAK POINTE WATER	268,734	201,220	74.88%	268,734	279,293	10,559	
233-000-626-011	OAK POINTE SEWER	332,888	249,447	74.93%	332,888	348,369	15,481	
233-000-626-013	MHOG WATER	1,529,715	1,145,785	74.90%	1,529,715	1,596,598	66,883	
233-000-626-014	LAKE EDGEWOOD SEWER	148,623	111,438	74.98%	148,623	131,058	(17,565)	
233-000-626-015	GENOA/OCEOLA SEWER	945,914	708,393	74.89%	945,914	1,007,022	61,108	
233-000-626-007	HOWELL TOWNSHIP	338,234	253,218	74.86%	338,234	371,519	33,285	
	SUBTOTAL - FEES INCLUDING OPER LABOR	3,564,108	2,669,501	74.90%	3,564,108	3,733,858	169,750	
VACTOR TRUCK								
233-000-626-016	OAK POINTE WATER	9,350	6,015	64.33%	9,350	9,350	-	
233-000-626-018	OAK POINTE SEWER	11,100	7,137	64.30%	11,100	11,100	-	
233-000-626-019	MHOG WATER	52,450	33,732	64.31%	52,450	51,450	(1,000)	
233-000-626-020	LAKE EDGEWOOD SEWER	5,130	3,298	64.29%	5,130	5,130	-	
233-000-626-021	GENOA/OCEOLA SEWER	32,550	20,933	64.31%	32,550	32,550	-	
233-000-626-022	HOWELL TOWNSHIP	11,420	7,404	64.83%	11,420	11,420	-	
	SUBTOTAL - VACTOR TRUCK REVENUE	122,000	78,519	64.36%	122,000	121,000	(1,000)	
OTHER INCOME								
233-000-672-001	MISCELLANEOUS	9,000	8,276	91.96%	10,000	9,000	-	
233-000-628-003	CONSTRUCTION FEES	8,000	70,204	877.55%	75,000	20,000	12,000	
233-000-665-001	INTEREST INCOME	13,000	14,350	110.38%	19,100	12,000	(1,000)	
	SUBTOTAL - OTHER INCOME	30,000	92,830	309.43%	104,100	29,000	(1,000)	
	TOTAL REVENUE	3,747,834	2,865,349	76.45%	3,822,873	3,915,963	168,129	
EXPENDITURES								
ACCOUNTING								
233-600-801-071	AUDIT SERVICES	4,000	4,000	100.00%	4,000	4,500	500	Slight Increase for Next Year
233-600-801-073	ACCOUNTING SERVICES	8,250	5,980	72.48%	8,250	8,500	250	Slight Increase for Next Year
	TOTAL ACCOUNTING EXPENSES	12,250	9,980	81.47%	12,250	13,000	750	
AUTO/TRUCK EXPENSES								
233-601-860-001	FUEL	77,913	44,928	57.66%	60,000	72,174	(5,739)	Reduce based on FY 2025 Fuel Consumption
233-601-991-009	LOAN PAYBACK	100,000	75,000	75.00%	100,000	100,000	-	Hold
233-601-932-001	ROUTINE MAINTENANCE	34,375	16,992	49.43%	23,000	34,250	(125)	Newer fleet vehicles, reduce
233-601-936-001	DEDUCTIBLE/BODY DAMAGE REPAIR	2,000	6,837	341.85%	7,000	2,000	-	Multiple Trucks, Trees & Hail Damage
233-601-936-002	AUTO INSURANCE	24,500	24,318	99.26%	24,318	27,000	2,500	
233-601-981-001	VEHICLE PURCHASES							Delete Line Item, Vehicle Purchase Out of Reserves
	TOTAL AUTO/TRUCK EXPENSES	238,788	168,075	70.39%	214,318	235,424	(3,364)	
ADMINISTRATIVE EXPENSES								
233-602-803-009	RECEIPTING	33,176	24,882	75.00%	33,176	34,000	824	~3% Increase to Genoa
233-602-940-001	OFFICE RENT & SUPPLY	26,183	19,638	75.00%	26,183	27,000	817	~3% Increase to Genoa
	HERBST BARN RENTAL					16,000		New Line Item - 10 Year Lease
	TOTAL ADMINISTRATIVE EXPENSES	59,359	44,520	75.00%	59,359	61,000	1,641	
COMPUTER/SW EXPENSES								
233-603-948-001	COMPUTER HARDWARE EXPENSES	2,800	-	0.00%	-	2,800	-	Hold amount,
233-603-948-003	COMPUTER SOFTWARE EXPENSES	-	-	-	-	-	-	
233-603-948-005	BSA Utility Billing Module	5,000	7,143	142.86%	7,143	7,500	2,500	Not sure with potential for cloud
233-603-948-004	Web Site Maintenance	2,500	2,649	105.96%	2,649	2,750	250	Increase, web site modifications
233-603-948-006	Other (Adobe Upgrades, etc)	1,000	6,493	649.30%	6,500	1,000	-	
	Security Cameras at Barns & internet					1,200	1,200	Cost for monthly Comcast Fee
233-603-950-001	AIR CARDS/JETPACKS	7,500	6,022	80.29%	8,050	8,250	750	
	TOTAL COMPUTER/SW EXPENSES	18,800	22,307	118.65%	24,342	23,500	4,700	
PROFESSIONAL DEVELOPMENT								
233-604-910-001	EMPLOYEE	13,650	4,229	30.98%	6,000	7,500	(6,150)	Utilization down on professional development
233-604-910-003	INTERNAL TRAINING	7,800	1,070	13.72%	2,500	2,500	(5,300)	Safety training
	TOTAL PROFESSIONAL DEVELOPMENT	21,450	5,299	24.70%	8,500	10,000	(11,450)	
233-606-959-001	CONTINGENCY	-	-	-	-	-	-	
233-608-709-001	EMPLOYER'S PAYROLL TAXES	155,571	114,267	73.45%	152,356	162,962	7,391	
GIS & WORK ORDERS								
233-609-977-003	ANNUAL CENTRAL SQUARE DUES	12,500	25,790	206.32%	30,000	12,728	228	High this year due to reinvestment, lower next year
233-609-977-005	MAINTENANCE OF LUCITY					2,500	2,500	Monthly check ins, changes to maintain functionality
233-609-977-006	ARC GIS ON-LINE LICENSES	9,000	8,936	99.29%	9,000	12,000	3,000	Expect price increase next year
233-609-977-008	Near Map License	4,500	4,950	110.00%	5,000	5,000	500	Annual license
233-609-977-007	ROUTINE GIS MAINTENANCE	19,000	32,338	170.20%	35,000	25,000	6,000	Higher due to large number of new development
233-609-948-005	HARDWARE (TABLETS)	-	-	-	-	-	-	
	TOTAL GIS	45,000	72,014	160.03%	79,000	57,228	12,228	
INSURANCE								
233-612-840-005	BC/BS MICHIGAN	390,190	304,166	77.95%	405,554	432,728	42,538	Includes 8% increase for last quarter, new family plan for new Admin
233-612-840-006	EHIM	88,725	33,520	37.78%	45,000	95,550	6,825	
233-612-836-001	EHIM RESERVE	-	-	-	40,000	-	-	
233-612-836-001	WELLNESS PROGRAM	7,865	-	0.00%	6,225	7,865	-	Budget for FY 2026 assumes full utilization
233-612-844-001	LIFE/DISABILITY	22,000	18,167	82.58%	24,222	19,966	(2,034)	
233-612-844-002	WORKERS COMPENSATION	37,787	24,240	64.15%	32,320	39,253	1,466	
233-612-936-003	PROPERTY/LIABILITY INSURANCE	35,000	24,366	69.62%	48,000	48,685	13,685	
233-612-844-003	DENTAL INSURANCE	31,985	24,814	77.58%	33,000	32,735	750	
	TOTAL INSURANCE	613,552	429,273	69.97%	634,321	676,782	63,230	
233-613-804-001	LEGAL FEES	1,500	800	53.33%	-	-	(1,500)	Review of Personnel Manual Updates
233-615-742-001	CREDIT CARD FEES	18,000	13,571	75.39%	19,250	9,000	(9,000)	Customers begin paying after 6-Mo
EMPLOYEE RECRUITING								
233-616-742-001	ADVERTISING	2,500	-	0.00%	-	2,500	-	No One Left in FY 2025 - Hold Line Item
233-616-742-003	BACKGROUND CHECK	500	-	0.00%	-	500	-	No One Left in FY 2025 - Hold Line Item
233-616-742-004	PRE-EMPLOYMENT PHYSICALS/DRUG SCREEN	1,000	-	0.00%	-	1,000	-	No One Left in FY 2025 - Hold Line Item
233-616-742-005	CDL PHYSICALS AND DRUG TESTING	2,000	445	22.25%	500	1,000	(1,000)	No One Left in FY 2025 - Hold Line Item
	TOTAL EMPLOYEE RECRUITING	6,000	445	7.42%	500	5,000	(1,000)	
OFFICE EXPENSES								
233-617-934-001	FURNITURE/CAPITAL	-	-	0.00%	-	-	-	Budget Place Holder
233-617-750-099	SUPPLIES	7,500	5,617	74.89%	7,500	7,500	-	Hold
233-617-851-001	POSTAGE & SHIPPING	12,000	6,757	56.31%	9,000	10,000	(2,000)	Reduce, more e-bills
	TOTAL OFFICE	19,500	12,374	63.46%	16,500	17,500	(2,000)	
233-618-965-001	OTHER EXPENSES	-	-	-	-	-	-	Budget Place Holder

GENOA TOWNSHIP - DPW FUND #233
 BUDGET TO ACTUAL REPORT FOR YEAR ENDING 3/31/25 COMPARED TO
 ACTUAL REVENUES AND EXPENSES FOR 9-MOS ENDING 12/31/24
 AMENDED BUDGET WORKSHEET FOR YEAR ENDING 3/31/25
 PROPOSED BUDGET FOR FY ENDING 3/31/26

WITH ADMIN POSITION ADDED FOR 6-MO

ACCOUNT#	ACCOUNT DESCRIPTION	APPROVED BUDGET FOR YEAR ENDING 3/31/25	ACTUAL FOR 9 MOS ENDING 12/31/24	%	PROPOSED AMENDED BUDGET FOR THE YEAR ENDING 3/31/25	PROPOSED BUDGET FOR YEAR ENDING 3/31/2026	INCREASE (DECREASE)	NOTES
233-630-702-001	SALARIES							
233-627-715-001	RETIREMENT	204,198	148,040	72.50%	198,000	215,649	11,451	
233-630-702-002	STRAIGHT TIME	1,846,959	1,340,375	72.57%	1,788,000	1,923,320	76,361	New Admin for 6 Mos.
233-630-702-007	OVERTIME	161,807	107,292	66.31%	143,056	165,064	3,257	
233-630-702-011	CONTRACT ENGINEER	58,000	43,068	74.26%	58,000	68,000	10,000	
	COMPENSATION CALCULATION	2,100	2,596	123.62%	2,596	10,000	7,900	Need to wage study
	TOTAL SALARIES	2,273,064	1,641,371	72.21%	2,189,652	2,382,032	108,968	4.79%
233-640-753-001	SUPPLIES & TOOLS	7,500	4,371	58.28%	5,828	7,500	-	
233-651-853-001	TELEPHONE							
233-651-853-003	ANSWERING SERVICE	3,750	2,069	55.17%	2,800	3,500	(250)	Based on number of calls we receive
233-651-853-004	CELL PHONE ALLOWANCE	25,500	18,509	72.58%	24,678	26,010	510	
233-651-853-005	CELL PHONES	1,500	946	63.07%	946	500	(1,000)	Only department provided floater/emergency phone
233-651-853-007	CUSTOMER LINE	1,750	636	36.34%	1,000	1,200	(550)	800 Number for Customers
	TOTAL TELEPHONE	32,500	22,160	68.18%	29,424	31,210	(1,290)	
233-699-995-861	TRANSFERS TO EQUIPMENT RESERVES	80,000	60,000	75.00%	80,000	80,000	-	
233-699-995-862	TRANSFERS TO PERSONNEL RESERVES	1,000	750	75.00%	1,000	1,000	-	
233-705-767-001	UNIFORMS & PROTECTIVE CLOTHING							
233-705-767-002	UNIFORMS/Pants/Boots/Safety Clothing	22,000	11,248	51.13%	15,000	21,825	(175)	
	TOTAL UNIFORMS & PROTECTIVE CLOTH.	22,000	11,248	51.13%	15,000	21,825	(175)	
233-706-767-006	VACTOR TRUCK							
233-706-932-050	VT - FUEL	4,500	1,850	41.11%	2,500	3,500	(1,000)	Diesel Fuel was less this year
233-706-932-051	VT - EQUIPMENT/TOOLS	2,500	-	0.00%	-	2,500	-	Special equipment, jet heads, hoses
233-706-932-052	VT - ANNUAL TRANS TO RESERVES	100,000	75,000	75.00%	100,000	100,000	-	New Truck Savings - Currrent 2016
233-706-934-040	VT - REPAIRS	15,000	1,670	11.13%	7,500	15,000	-	Keep amount, truck is aging, repairs are expensive
	TOTAL VACTOR TRUCK	122,000	78,520	64.36%	110,000	121,000	(1,000)	
	TOTAL EXPENDITURES	3,747,834	2,711,345	72.34%	3,651,600	3,915,963	168,129	4.49% Increase with Admin Position / Current Staff would have been 2.69% 4.49%
	CHANGE IN FUND BALANCE	-	154,004		171,273	-		
	BEGINNING FUND BALANCE	302,509	302,509		302,509	246,273		
	LOAN REPAYMENT - ADDITIONAL	(125,000)	(125,000)		(125,000)			
	REFUNDS TO W/S DISTRICTS	(102,509)	(102,509)		(102,509)	(101,117)		
	ENDING FUND BALANCE	75,000	229,004		246,273	145,156		

8B

RECEIVED

DEC 16 2024

HOWELL TOWNSHIP
Application for Re-Zoning/Text Amendment

3525 Byron Road Howell, MI 48855

Phone: 517-546-2817 ext. 108

Email: inspector@howelltownshipmi.org

HOWELL TOWNSHIP

Fee: \$1000.00

Parcel ID #: 4706-28 - 100 - 071 Date 12/11/24

Applicant Name Mark Juett Applicant Address 1785 Rock Road, Commerce

Phone 248.217.8308 Fax _____ Email markjuett@sbcglobal.net

Property Owner Name R & K II Development, LLC

Phone 313.938.9237 Fax _____ Email culverdi81@gmail.com

Current Zoning Classification Industrial - I Proposed Zoning Classification Industrial Flex Zone

Existing Use Vacant Proposed Use Outdoor Storage Yard

Legal Description (attach copy if necessary):
See attached Survey

Requested change in Ordinance / Zoning Map:

Reason for Requested Change:
Required for proposed development of the property.

Has the Applicant made a previous request to rezone the property?

Yes No

If yes, state when and the decision of the Township Board:

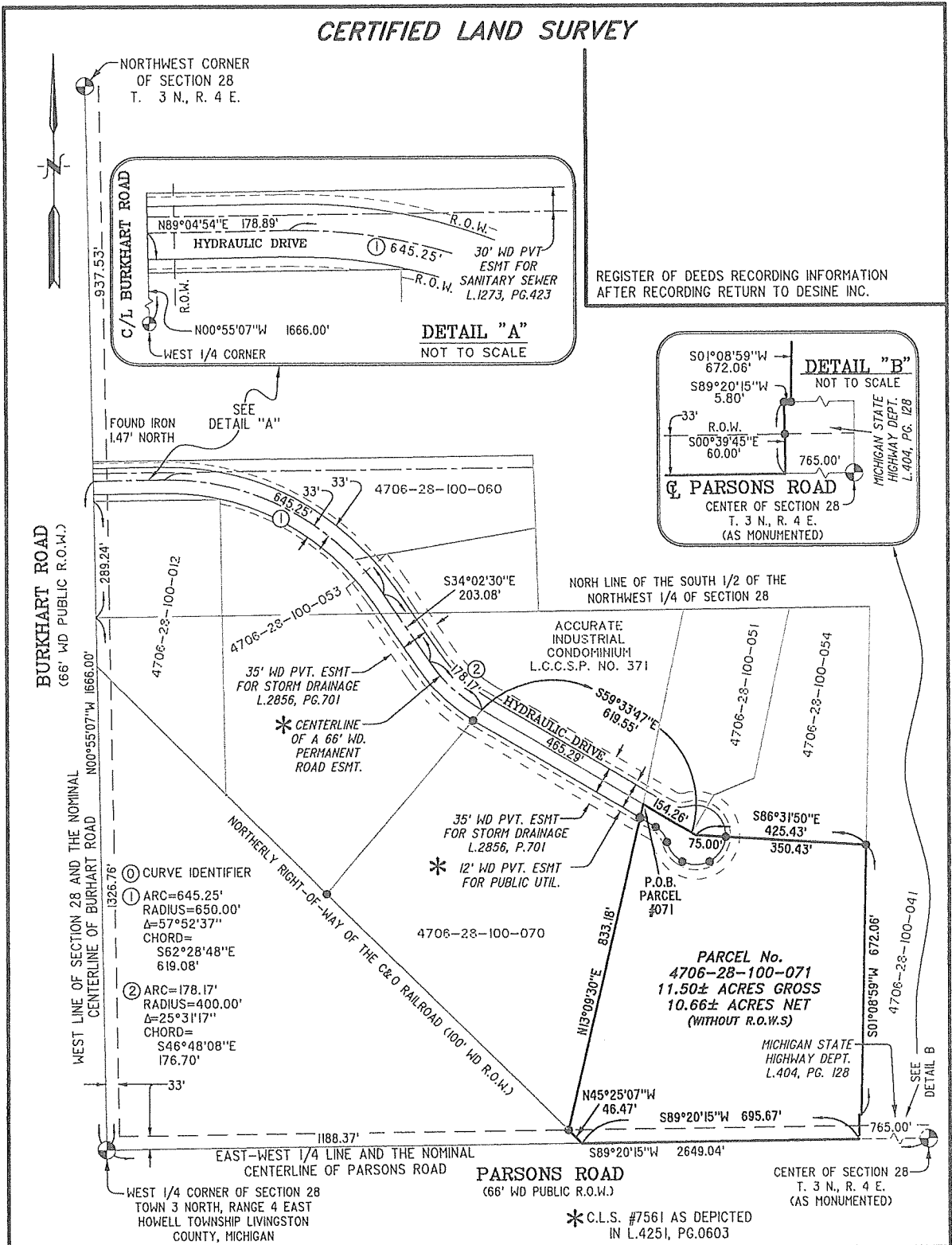
Owner, being first fully sworn, on oath deposes and says that all of the above statements in this application herewith are true.

DocuSigned by:
Owner Signature Kenneth S. Culver Date 12/11/24
Printed Name Kenneth Culver

Subscribed and sworn to before me
This 11th day of December, 2024
Tina Grayshaw
Notary Public
Wayne County, Michigan
My commission expires: 5/7/2028
Acting in Oakland County.

TINA GRAYSHAW
Notary Public - State of Michigan
County of Wayne
My Commission Expires May 7, 2028
Acting in the County of Oakland

CERTIFIED LAND SURVEY



REGISTER OF DEEDS RECORDING INFORMATION
AFTER RECORDING RETURN TO DESINE INC.

SCALE: 1" = 300' | ALL DISTANCES SHOWN ARE IN FEET OR DECIMALS THEREOF.

CIVIL ENGINEERS
LAND SURVEYORS

(810) 227-9533
FAX (810) 227-9460
EMAIL: desine@desineinc.com
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

PREPARED FOR
R & K II DEVELOPMENT, L.L.C.
A MICHIGAN LIMITED LIABILITY CO.

SECTION 28, TOWN 3 NORTH, RANGE 4 EAST
HOWELL TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

JOB No. 1-06-28-214185	DATE 06/17/24
DWG 214185-132	DRAWN SES SHEET 1 OF 3

TRAVIS R. PRATT
PROFESSIONAL SURVEYOR No. 4001062878

LEGAL DESCRIPTION OF RECORD

Reference: Certified Land Survey as recorded in
Document No. 2021S-0117, Livingston County Records

PARCEL No. 4706-28-100-071 11.50± Acres

PARCEL 5B

Commencing at the West 1/4 Corner of Section 28, Town 3 North, Range 4 East, Howell Township, Livingston County, Michigan; thence N00°55'07"W 1666.00 feet along the West line of said Section and the centerline of Burkhart Road; thence along the centerline of a 66 foot wide permanent road easement (Hydraulic Drive) the following four courses:

- 1) N89°04'54"E 178.89 feet,
- 2) Southeasterly 645.25 feet along the arc of a 650.00 foot radius curve to the right through a central angle of 56°52'37" and having a chord bearing S62°28'48"E 619.08 feet,
- 3) S34°02'30"E 203.08 feet,
- 4) Southeasterly 178.17 feet along the arc of a 400.00 foot radius curve to the left through a central angle of 25°31'17" and having a chord bearing S46°48'08"E 176.70 feet and
- 5) S59°33'47"E 465.29 feet to the **PLACE OF BEGINNING**;

thence S59°33'47"E 154.26 feet; thence S86°31'50"E 425.43 feet; thence S1°08'59"W 697.81 feet; thence S89°20'15"W 5.80 feet; thence S00°39'45"E 60.00 feet; thence S89°20'15"W 695.67 feet; thence N45°25'07"W 46.47 feet; thence N13°09'30"E 833.18 feet to the Place of Beginning. Containing 11.50 acres, more or less. Subject to and together with a 66 foot wide permanent road easement (Hydraulic Drive) as described in Certified Land Survey #7561 recorded in Liber 4251, Page 603, Livingston County Michigan, also being subject to and together with a 35 foot wide private easement for storm drainage as previously described in said Certified Land Survey #7561, also being subject to a 12 foot wide private easement for public utilities over all that part of Parcel "5" lying 12 feet exterior of, adjacent to and parallel with said 66.00 foot wide road easement, also being subject to easements and restrictions of record, if any.

LEGALS SUBSQUNT TO SURVEY

PARCEL No. 4706-28-100-071 11.50± Acres (Net 10.66± Acres without Right-of-Ways)

Commencing at the West 1/4 Corner of Section 28, Town 3 North, Range 4 East, Howell Township, Livingston County, Michigan; thence N00°55'07"W 1666.00 feet along the West line of said Section and the centerline of Burkhart Road; thence along the centerline of a 66 foot wide permanent road easement (Hydraulic Drive) the following four courses:

- 1) N89°04'54"E 178.89 feet,
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- 3) S34°02'30"E 203.08 feet,
- 4) Southeasterly 178.17 feet along the arc of a 400.00 foot radius curve to the left through a central angle of 25°31'17" and having a chord bearing S46°48'08"E 176.70 feet and
- 5) S59°33'47"E 465.29 feet to the **PLACE OF BEGINNING**;

thence S59°33'47"E 154.26 feet; thence S86°31'50"E 425.43 feet; thence S1°08'59"W 697.81 feet; thence S89°20'15"W 5.80 feet; thence S00°39'45"E 60.00 feet; thence S89°20'15"W 695.67 feet; thence N45°25'07"W 46.47 feet; thence N13°09'30"E 833.18 feet to the Place of Beginning. Containing 11.50 acres, more or less. Subject to and together with a 66 foot wide permanent road easement (Hydraulic Drive) as described in Certified Land Survey #7561 recorded in Liber 4251, Page 603, Livingston County Michigan over the Northwesterly portion as occupied, also being subject to and together with a 35 foot wide private easement for storm drainage as previously described in said Certified Land Survey #7561, also subject to a 12 foot wide private easement for public utilities lying adjacent to and exterior said 66.00 foot wide road easement, also being subject to easements and restrictions of record, if any.

CIVIL ENGINEERS
LAND SURVEYORS



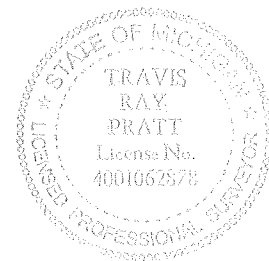
PREPARED FOR
R & K II DEVELOPMENT, L.L.C.
A MICHIGAN LIMITED LIABILITY CO.

SECTION 28, TOWN 3 NORTH, RANGE 4 EAST
HOWELL TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

JOB No. 1-06-28-214185 DATE 06/17/24

DWG 214185-132 DRAWN SES SHEET 2 OF 3

TRAVIS R. PRATT
PROFESSIONAL SURVEYOR No. 4001062878



NOTES:

- 1) Bearings are based on MDOT Plans for Highway I-96, File #47-R-2, Route M-59, Project 47-26, Sheet 51.
- 2) The purpose of this survey is to remove the previously depicted Hydraulic Drive easement connecting the cul-de-sac and Parsons Road. The Livingston County Road Commission does not recognize an existing right of way at that location and no easement agreement was ever executed and recorded.

REFERENCES:

L.C.R. = Livingston County Records

- 1) Certified Land Survey as recorded in Liber 2484, Pages 581-585, L.C.R.
- 2) Certified Land Survey as recorded in Liber 774, Pages 387-388, L.C.R.
- 3) MDOT Plans - File #47-R-2, Route M-59, Project 47-26, Sheet 51.
- 4) Certified Land Survey (Unrecorded), Prepared by Desine Inc., Job No 8801, Dated November 17, 1999 and Job No. 9128, Dated January 3, 2000.
- 5) Certified Land Survey #7561 as recorded in Liber 4251, Page 0610, L.C.R.
- 6) Certified Land Survey as recorded in Document No. 2021S-0117, L.C.R.
- 7) Warranty Deed as record in Document No. 2021R-049842, L.C.R. (Parcel No. 4706-28-100-070)

WITNESSES FOR CORNERS OF SECTION 28
 Town 3 North, Range 4 East
 Howell Township, Livingston County, Michigan

Northwest Corner (E9) - Found Brass Cap Stamped "Livingston Co. Monumentation Corner"

Ref: L.S.C. #852M

- N87°E 32.36' Nail and Tag on South Side of Utility Pole
- N66°E 112.49' Southwest Corner Brick Garage
- N77°W 29.53' Nail and Tag on South Side of Utility Pole
- N10°W 91.68' Nail and Tag on East Side of 36" Oak
- West 1.00' Center of Road

West 1/4 Corner (E10) - Found Brass Cap Stamped "Livingston Co. Monumentation Corner"

Ref: L.S.C. #853M

- S60°E 52.23' Nail and Tag on North Side of 18" Maple
- N71°W 55.58' Nail and Tag on South Side of Utility Pole
- N33°W 111.64' Southeast Corner of Concrete Block Building
- S74°E 91.32' Nail and Tag on North Side of 18" Maple

Center of Section (F10) - 5/8" Iron Rod

Ref: L.S.C. #366

- S25°W 25.50' Elm Stump
- S65°W 58.20' 10" Elm
- S02°E 17.00' Utility Pole
- S47°W 51.20' 48" Red Oak

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I HAVE SURVEYED AND MAPPED THE PARCEL(S) HEREON DESCRIBED AND THAT THE RELATIVE POSITIONAL PRECISION OF EACH CORNER IS WITHIN THE LIMITS ACCEPTED BY THE PRACTICE OF PROFESSIONAL SURVEYING AND THAT ALL THE REQUIREMENTS OF P.A. 132 OF 1970, AS AMENDED, HAVE BEEN COMPLIED WITH.

CIVIL ENGINEERS
LAND SURVEYORS

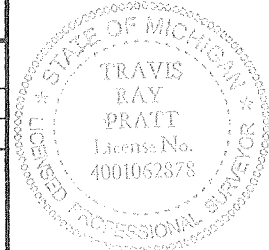


PREPARED FOR
R & K II DEVELOPMENT, L.L.C.
A MICHIGAN LIMITED LIABILITY CO.

SECTION 28, TOWN 3 NORTH, RANGE 4 EAST
 HOWELL TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

JOB No. 1-06-28-214185	DATE 06/17/24
DWG 214185-132	DRAWN SES SHEET 3 OF 3

TRAVIS R. PRATT
 PROFESSIONAL SURVEYOR No. 4001062878





Wilson Design Associates
1030 N. Crooks Road, Suite E
Clawson, Michigan 48017

248-930-1565p.
Joe@wilson-design.net

CONTRACTORS:

CLIENT:
MR. MARK JUETT

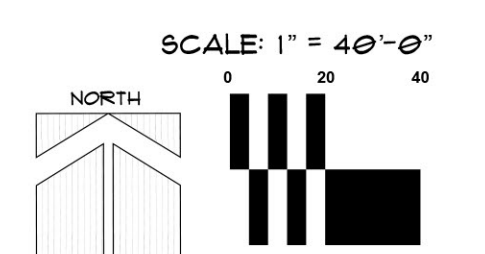
PROJECT:
**Outdoor Storage -
Howell**

DRAWN BY:
JW

ISSUE:
03.30.2024

REVISIONS:
11.26.2024
12.17.2024

DESCRIPTION:



L.01

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Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: January 20, 2025

Land Use and Zoning Analysis For Howell Township, Michigan

Applicant:	Mark Juett
Project Name:	Hydraulic Drive Outdoor Storage Rezoning
Location:	Parcel #4706-28-100-071
Current Zoning:	I, Industrial
Action Requested:	Rezoning from I (Industrial) to IFZ Conditional (Industrial Flex Zone)

PETITION

The applicant is requesting a rezoning for parcel #4706-28-100-071. Located North of W Highland Road on Hydraulic Drive. The petitioner requests that the parcel be re-designated from I, Industrial to IFZ, Industrial Flex Zone. The applicant has indicated that their intend use is an outdoor storage yard with fenced storage spaces and vehicle storage spaces.

SITE DESCRIPTION/CURRENT USE

The subject site is 11.50 acres and is currently vacant. The site is next to parcel #4706-28-100-070 which operates as a storage lot and across from parcels #4706-28-100-051 with address 1684 Hydraulic Dr. which currently operates as a center for businesses including an electrical equipment supplier, computer support and services, and a recycling center, and and #4706-28-100-054 which is vacant. The parcel is less than a quarter mile from W Grand River Ave.

Figure 1 - Aerial Image of Site and Surroundings



Source: Nearmap

SURROUNDING ZONING AND LAND USE

The following chart compares zoning, future land use designation per the Master Plan, and existing land use for the subject parcel and its adjacent parcels.

	Zoning	Existing Land Use	Future Land Use Designation
Subject parcel	Industrial	Vacant	Industrial Flex Zone
Northwest	Industrial	IT / Electrical Services	Industrial Flex Zone
Northeast	Industrial	Vacant	Industrial Flex Zone
South	Industrial Flex Zone / Highway Service Commercial	Landscaping Business	Industrial Flex Zone
East	Industrial Flex Zone	Trucking Company	Industrial Flex Zone
West	Industrial Flex Zone	Outdoor Storage	Industrial Flex Zone

MASTER PLAN

Figure 2 - Current Zoning Map

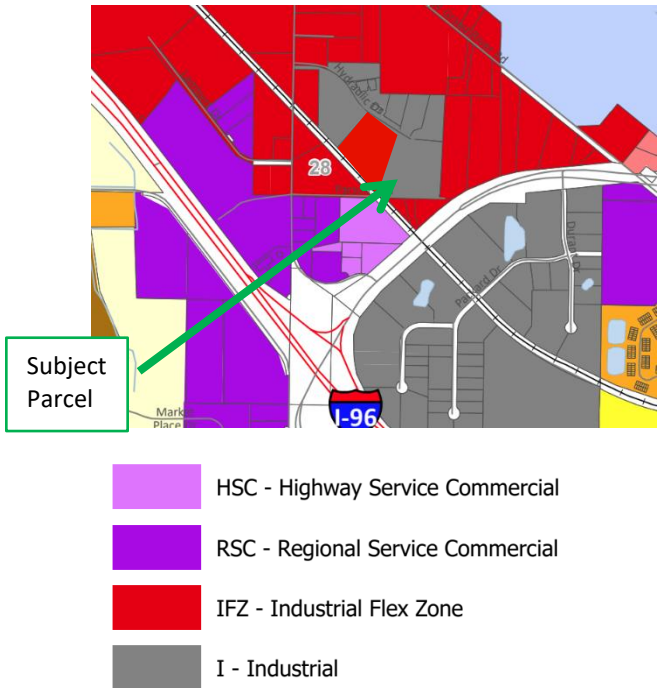
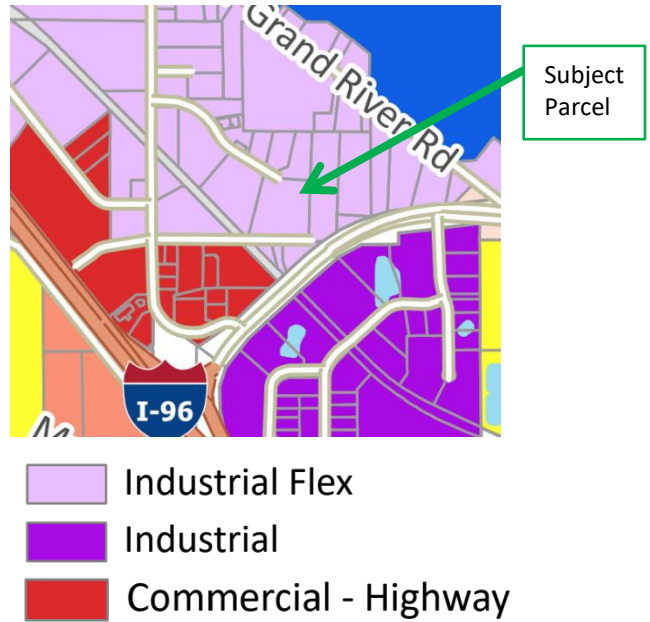


Figure 3 - Future Land Use Map



As noted above and depicted in Figure 2, which portrays the current zoning map, the subject site is presently zoned I-Industrial. Figure 3 depicts the Future Land Use Map from the adopted 2023 Howell Township Master Plan. The Future Land Use Plan designates the subject site as being IF-Industrial Flex, which the Master Plan defines as:

“Intended to be flexible with regard to specific uses that might be permitted while being more prescriptive with regard to design and quality of development. It is recognized that some of the uses permitted in the industrial and commercial districts could be compatible land uses. In fact, often, such uses have the same or similar building and special requirements. This area is intended to allow for mixed industrial and commercial development; eliminate blighted properties; incorporate Low Impact Design (LID) practices, as well as ensure safe and complementary vehicular and pedestrian circulation patterns; improve environmental quality and remediate degraded properties; and provide an attractive transition between residential and non-residential properties.”

DEVELOPMENT POTENTIAL

Current Zoning: Industrial

A small portion of the Township is zoned Industrial, with the majority being clustered along busy roadways. Much of this zoning district is planned as Industrial Flex in the 2023 Master Plan. The Industrial District's intent is to support the development of industrial sites for manufacturing, assembling, or processing goods for industrial or wholesale markets. It permits only low-impact industrial uses that minimize emissions of noise, pollution, or other adverse effects beyond the property boundaries. Currently, this includes uses such as glass production, electrical machinery, furniture production and agricultural products, but not limited to office computing and accounting machines, warehouses, or lumber yards.

Proposed Zoning: Industrial Flex Zone

The IFZ-Industrial Flex Zone is to provide flexibility for land uses while being more prescriptive regarding design and quality of development. Many industrial or large format commercial uses could be compatible, because such uses often have the same or similar building and spatial requirements such as floor area and building height.

The design requirements of this district are intended to allow for the mixing of certain industrial and commercial uses, and promote the reuse of buildings and sites for multiple such uses. The flexibility of this district is intended to foster economic development, create employment opportunities, and increase the tax base by promoting the development, redevelopment, or continued use of land adjacent to existing industrial and commercially developed property.

It is also the intent of the Industrial Flex Zone to allow development of property that eliminates blighted properties, ensures safe and complementary vehicular and pedestrian circulation patterns, improves environmental quality and remediates degraded properties, while also providing an attractive transition between residential and non-residential properties.

Permitted uses within the IFZ district include general office buildings, educational and training facilities, research and testing laboratories, photography and art studios, sale of new vehicles, warehouses or distribution centers, and retail sales in conjunction with wholesale of parts equipment for plumbing, electrical, home appliances, or gardening/landscaping.

Proposed Use

As noted above the applicant has indicated that they would like to use the site for an outdoor storage yard. They have described a use where they would rent space to various

contractors for the outdoor storage of their equipment and materials. “Contractor buildings, structures and equipment and materials storage yards for building and other types of construction such that any area used for outdoor storage is completely enclosed and screened from external visibility beyond such storage area” is listed as a permitted use in the IFZ, however, if the rezoning is approved any permitted or special use in the IFZ could be established on the property, subject to site plan review and approval as well as review of any special use permit and supplemental regulations.

FINDINGS FOR REZONING

In reviewing an application for the rezoning of land, whether the application be made with or without an offer of conditions, factors that should be considered by the Planning Commission and the Township Board include, but are not limited to, the following:

- a) Whether the rezoning is consistent with the policies and uses proposed for that area in the Township’s Master Land Use Plan;

CWA The Future Land Use Map in the Master Plan designates this area as being Industrial Flex. These areas are intended to foster economic development, create employment opportunities, and increase the tax base by promoting the development or redevelopment of land that is adjacent to existing industrial and commercially developed property. This area is intended to allow for mixed industrial and commercial development; eliminate blighted properties; incorporate Low Impact Design (LID) practices, as well as ensure safe and complementary vehicular and pedestrian circulation patterns; improve environmental quality and remediate degraded properties; and provide an attractive transition between residential and non-residential properties.

The proposed use does promote the redevelopment of land that is adjacent to existing industrial and commercial property. The Master Plan recognizes that some of the uses permitted in the industrial flex zoning district could be compatible in industrial districts.

- b) Whether all uses allowed under the proposed rezoning would be compatible with other zones and uses in the surrounding area;

CWA The site is situated between industrial uses and vacant land, with the intent of the area mapped out in the Master Plan as continuing to develop in this manner. The Future Land Use Map plans for Industrial Flex on adjacent parcels. It will be necessary to review a site plan for the eventual proposed use to understand the scope of intensity of the use. The site plan evaluation would come after the rezoning is completed.

- c) Whether any public services and facilities would be significantly adversely impacted by a development or use allowed under the requested rezoning; and

CWA The proposed zoning should not adversely impact public services and facilities.

- d) Whether the uses allowed under the proposed rezoning would be equally or better suited to the area than uses allowed under the current zoning of the land.

CWA The uses permitted in the Industrial Flex Zone could be compatible with this area. The site is situated in an area that is surrounded by existing or planned industrial uses. As noted throughout this report, the development of any proposed use would require site plan approval. Through the site plan review the Planning Commission would need to evaluate the proposed layout, the scope of the activity.

RECOMMENDATIONS

The Planning Commission should review each of the findings in this report to determine if the proposed rezoning is appropriate before making a recommendation to the Township Board.



CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal



CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

#PC-2025-01



Livingston County Department of Planning

February 20, 2025

Scott Barb
AICP, PEM
Director

Robert A. Stanford
AICP, PEM
Principal Planner

Martha Haglund
Principal Planner

Howell Township Board of Trustees
c/o Sue Daus, Clerk
3525 Byron Road
Howell, MI 48855

Re: Planning Commission Review of Rezoning Z-08-25.

Dear Board Members:

The Livingston County Planning Commission met on Wednesday, February 19, 2025, and reviewed the zoning map amendment referenced above. The County Planning Commissioners made the following recommendation:

Z-08-25 Approval. The proposed rezoning from Industrial to Industrial Flex Zone is consistent with the overall goals and objectives of the 20222 Howell Township Master Plan and the Livingston County Comprehensive Plan.

Copies of the staff review and Livingston County Planning Commission meeting minutes are enclosed. Please do not hesitate to contact our office should you have any questions regarding county action.

Sincerely,

Scott Barb

Scott Barb

sb

Enclosures

c: Wayne Williams, Vice Chair, Planning Commission
Jonathan Hohenstein, Township Zoning Administrator

Meeting minutes and agendas are available at:
<http://www.livgov.com/plan/agendas.aspx>

Department Information

Administration Building
304 E. Grand River Avenue
Suite 206
Howell, MI 48843-2323

(517) 546-7555
Fax (517) 552-2347

Web Site
<http://www.livgov.com>



Livingston County Department of Planning

LIVINGSTON COUNTY PLANNING COMMISSION MEETING

Wednesday, February 19, 2025 – 6:30 p.m.

Administration Building, Board of Commissioners Chambers
304 East Grand River, Howell, MI 48843

Via Zoom (on-line meetings):

<https://zoom.us/j/3997000062?pwd=SUdLYVFFcmozWnFxbm0vcHRjWkVIZz09>

Via the Zoom app

Join a meeting, with meeting number: **399 700 0062**

Enter the password: **LCBOC** (ensure there are no spaces before or after the password)

Meeting ID: **399 700 0062**

Password: **886752**

Scott Barb
AICP, PEM
Director

Robert A. Stanford
AICP
Principal Planner

Martha Haglund
AICP Candidate
Principal Planner

Please note that this is a hybrid meeting with County Planning Commissioners and staff meeting in-person. Audience participants are welcome to attend in-person or via Zoom by using the meeting link at the bottom of the agenda.

Agenda

1. Call to Order
2. Pledge of Allegiance to the Flag
3. Roll and Introduction of Guests
4. Approval of Agenda – February 19, 2025
5. Approval of Meeting Minutes – January 15, 2025
6. Call to the Public
7. Zoning Reviews
 - A. Z-06-25: Hartland Township Ordinance Amendments, Section 5.14.3.D Private Swimming Pools
 - B. Z-07-25: Genoa Township Rezoning, Section 23, Agriculture to LDR/RPUD
 - C. Z-08-25: Howell Township Rezoning, Section 28, Industrial to Industrial Flex
9. Old Business:
10. New Business:
 - A. Upcoming 2025 Livingston County Citizen Planner Program – March 6, 2025
11. Reports
12. Commissioners Heard and Call to the Public
13. Adjournment

Department Information

Administration Building
304 E. Grand River Avenue
Suite 206
Howell, MI 48843-2323

●
(517) 546-7555
Fax (517) 552-2347

●
Web Site
<https://milivcounty.gov/planning/>

DRAFT
LIVINGSTON COUNTY PLANNING COMMISSION
MEETING MINUTES
FEBRUARY 19, 2025
6:30 p.m.
Hybrid In-Person and Virtual Zoom Meeting

Zoom Virtual Meeting Room Meeting ID: 399-700-0062 / Password: LCBOC
<https://zoom.us/j/3997000062?pwd=SUdLYVFFcmozWnFxbm0vcHRjWkVIZz09>

PLANNING COMMISSION			
COMMISSIONERS PRESENT:	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Bill Anderson Dennis Bowdoin Bill Call Matt Ikle </td> <td style="width: 50%; border: none;"> Margaret Burkholder Paul Funk Kevin Galbraith </td> </tr> </table>	Bill Anderson Dennis Bowdoin Bill Call Matt Ikle	Margaret Burkholder Paul Funk Kevin Galbraith
Bill Anderson Dennis Bowdoin Bill Call Matt Ikle	Margaret Burkholder Paul Funk Kevin Galbraith		
COMMISSIONERS ABSENT:			
STAFF PRESENT:	Scott Barb Rob Stanford Martha Haglund		
OTHERS PRESENT:	Bruce Powellson, Marion Township; Troy Langer, Hartland Township Planning Director; Tim Boal, Howell Township; Brian Biskner, Applicant for Genoa Township case. Online: "Kirk"		

1. **CALL TO ORDER:** Meeting was called to order by Planning Commissioner Anderson at 6:30 PM.
2. **PLEDGE OF ALLEGIANCE TO THE FLAG**
3. **ROLL AND INTRODUCTION OF GUESTS:** None.
4. **APPROVAL OF AGENDA:**

Commissioner Action: IT WAS MOVED BY COMMISSIONER IKLE TO APPROVE THE AGENDA DATED FEBRUARY 19, 2025, SECONDED BY COMMISSIONER FUNK.

All in favor, motion passed 7-0.

5. **APPROVAL OF PLANNING COMMISSION MEETING MINUTES**

Commissioner Action: IT WAS MOVED BY COMMISSIONER CALL TO APPROVE THE MINUTES, DATED JANUARY 15, 2025, SECONDED BY COMMISSIONER BOWDOIN. COMMISSIONER FUNK REQUESTED THE LCRC REPORT TO BE ADDED TO THE MINUTES.

All in favor, motion passed 7-0.

6. **CALL TO THE PUBLIC:** None.

7. ZONING REVIEWS:

A. Z-06-25: HARTLAND TOWNSHIP, AMENDMENTS TO ZONING ORDINANCE ARTICLES – ARTICLE 5.14.3.D, PRIVATE SWIMMING POOLS.

Hartland Township is proposing to amend their zoning ordinance to allow in-ground swimming pools, in the front yard setback for waterfront homes. The front yard setback for waterfront homes is considered to be located between the water and the dwelling. The amendments include language for the required fencing around an inground pool.

Township Recommendation: Approval. The Hartland Township Planning Commission held a work session September 26, 2024; to discuss the proposed amendments, the consensus was to amend the zoning ordinance. The Hartland Township Planning Commission recommended approval for the proposed amendments at their public hearing on January 23, 2024.

Staff Recommendation: Approval. The proposed text amendments are appropriate and consistent with existing zoning language. Staff encourages the township to consider all staff comments prior to final adoption.

Commission Discussion: Commissioner Ikle inquired about water removal from pools and whether there are considerations for non-point pollution near other water bodies. Troy Langer, Hartland Township Planning Director, clarified that EGLE monitors and enforces issues related to such issues. Commissioner Funk also questioned the issue and the need for Township monitoring. Commissioner Anderson asked about fencing around in-ground pools.

Public Comment: None.

Commission Action

Commissioner Action: IT WAS MOVED BY COMMISSIONER BOWDOIN TO RECOMMEND APPROVAL, SECONDED BY COMMISSIONER BURKHOLDER.

Motion passed: 7-0.

B. Z-07-25: GENOA TOWNSHIP, REZONING: AG AGRICULTURE TO LDR, LOW DENSITY RESIDENTIAL, WITH A RPUD, RESIDENTIAL PLANNED UNIT DEVELOPMENT OVERLAY, IN SECTION 23.

Current Zoning: AG AGRICULTURE

Proposed Zoning: RPUD RESIDENTIAL PLANNED UNIT DEVELOPMENT (OVERLAY)

Section: Section 23

Township Master Plan: Genoa Township's Master Plan splits the subject area into two categories, described below:

Low Density Residential (77 acres, western portion of site): This designation is for single family residential development located between rural residential areas and the more developed areas of the Township. While these areas are not planned for sewer service, they have fewer environmental constraints found in the Rural Residential. These areas are only intended for residential uses or small-scale neighborhood-serving non-residential uses. Single family residential uses within these areas will be located on lots of at least 1 acre in size.

Large Lot Rural Residential (51 acres, eastern portion of site): This designation identifies areas to be developed as single family residential on large lots. Many of the areas have significant natural limitations such as wetlands or severe soil limitations and are not planned for sanitary sewer. These areas are only intended for residential uses or small-scale neighborhood-serving non-residential uses. This classification is recommended for single family residences on lots no smaller than 2 acres or clustered development with a net density of 1 unit per acre.

Township Planning Commission Recommendation: Approval. The Genoa Township Planning Commission recommended approval at their January 13, 2025, meeting. There were two prior Planning Commission meetings to review this case. Commissioner discussion included: screening, wetland protection, density of the development, providing active recreation and traffic studies. Public comments included: traffic concerns, potential future well issues, tree removal, runoff, and preservation of the wetlands.

Staff Recommendation: Approval. The proposed rezoning from Agriculture (AG) to Low Density Residential (LDR) with a Residential Planned Unit Development (RPUD) Overlay using cluster option (10.03.01(d)), is compatible with surrounding land uses and compatible with the Township Master Plan.

Commission Discussion: Commissioner Ikle asked about the egress to east near Challis Road. The applicant explained this as an emergency exit as required by the local fire department. There were also questions regarding the lots adjacent to the railroad tracks and any potential safety elements.

Public Comment: None.

Commission Action:

Commissioner Action: IT WAS MOVED BY COMMISSIONER FUNK TO RECOMMEND APPROVAL, SECONDED BY COMMISSIONER IKLE.

Motion passed: 7-0.

**C. Z-08-25: HOWELL TOWNSHIP REZONING:
I, INDUSTRIAL TO IFZ - INDUSTRIAL FLEX ZONE, IN SECTION 28.**

Current Zoning: I INDUSTRIAL

Proposed Zoning: IFZ INDUSTRIAL FLEX ZONE

Section: Section 28

Township Master Plan: The Howell Township Future Land Use Map (2022) designates the subject parcel as Industrial Flex. The Township Master Plan states the following regarding the Industrial Flex future land use classification:

This area is intended to be flexible with regard to specific uses that might be permitted while being more prescriptive with regard to design and quality of development. It is recognized that some of the uses permitted in the industrial and commercial districts could be compatible land uses. The flexibility of the district is intended to foster economic development, create employment opportunities, and increase tax base by promoting development or redevelopment of land that is adjacent to existing industrial and commercial uses....

The property is located along a highly industrial area of N. Burkhart Road and Hydraulic Drive with numerous existing industrial land uses that are already well established including electrical services, tool repair, auto collision repair, and outdoor storage. The subject property is master planned as industrial flex with industrial and highway commercial future land use categories nearby that parallel the intentions of the Howell Township Master Plan.

The proposed rezoning is compatible with the goals and objectives of the Howell Township Master Plan and a rezoning to Industrial Flex is appropriate for the subject parcel.

Township Planning Commission Recommendation: Approval. The proposed rezoning was approved at the January 28, 2025, public hearing. There were no major comments indicated in the draft meeting minutes from the January 28, 2025, public hearing.

Staff Recommendation: Approval. The proposed rezoning from I (Industrial) to IFZ (Industrial Flex Zone) is consistent with the overall goals and objectives of the 2022 Howell Township Master Plan and the Livingston County Comprehensive Plan.

Commission Discussion: None.

Public Comment: None.

Commission Action:

Commissioner Action: IT WAS MOVED BY COMMISSIONER IKLETO RECOMMEND APPROVAL, SECONDED BY COMMISSIONER GALBRAITH.

Motion passed: 7-0.

8. OLD BUSINESS: None.

9. NEW BUSINESS:

A. Livingston County Citizen Planner Training for Local Officials: A brief overview was provided on the citizen planner training that is beginning on March 6, 2025.


10. REPORTS:

11. COMMISSIONERS HEARD AND CALL TO THE PUBLIC: Commissioner Bowdoin expressed gratitude to Commissioner Funk for getting trees removed near the Fowlerville Post Office. Commissioner Bowdoin also discussed MDARD Scholarships are available for graduating students this year and many go unclaimed.

12. ADJOURNMENT:

Commissioner Action: IT WAS MOVED BY COMMISSIONER CALL TO ADJOURN THE MEETING AT 7:10 PM, SECONDED BY COMMISSIONER BURKHOLDER.

Motion passed: 7-0.

	LIVINGSTON COUNTY PLANNING DEPARTMENT REZONING REQUEST	CASE NUMBER:
		Z-08-25

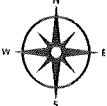
COUNTY CASE NUMBER:	Z-08-25	TOWNSHIP:	Howell Township
REPORT DATE:	February 11, 2025	SECTION NUMBER:	Section 28
STAFF ANALYSIS BY:	Scott Barb	TOTAL ACREAGE:	11.50 acres

APPLICANT / OWNER:	Mark Juett/R&K II Development
LOCATION:	Vacant lot on Hydraulic Drive
LAND USE:	Current site is vacant

CURRENT ZONING:	REQUESTED ZONING:
I – Industrial	IFZ - Industrial Flex Zone
PERMITTED/SPECIAL USES (Not all inclusive):	PERMITTED/SPECIAL USES (Not all inclusive):
<u>Permitted:</u> I: Agricultural products; Furniture and fixtures; Glass products; Electrical machinery; Professional & scientific goods; Jewelry & other office materials; Canvas products; Biological products, drugs, and medical preparation.	<u>Permitted:</u> IFZ: General office buildings; Educational and training facilities; Warehouses; Retail sales; Car dealerships; Product development; Testing laboratories; Service establishments; Tool & die shops; Machine shops; Light assembly; Other similar uses.
<u>Special:</u> I: Junk yards; Asphalt and cement mixing plants; Any permitted or principal use that cannot meet the minimum performance requirements for noise, vibration, etc.;	<u>Special:</u> IFZ: Indoor/outdoor recreation facilities; Water parks; Commercial kennels; Veterinary clinics; Open air businesses; Storage of RV's; Metal products; Professional and scientific instruments and goods; Electrical machinery and components; Supplies for such uses.

Minimum Lot Areas: I: 2 acres, 40,000 sq. ft. with water and sewer; IFZ: 2 acres or 40,000 sq. ft with water and sewer.

TOWNSHIP PLANNING COMMISSION RECOMMENDATION AND PUBLIC COMMENTS:	ESSENTIAL FACILITIES AND ACCESS:
The proposed rezoning was approved at the January 28, 2025, public hearing. There were no major comments indicated in the draft meeting minutes from the January 28, 2025, public hearing.	Water: Well
	Sewer: Septic
	Access: Property will be accessed via Hydraulic Drive

EXISTING LAND USE, ZONING AND MASTER PLAN DESIGNATION:			
	Land Use:	Zoning:	Master Plan:
	Subject Site:	Vacant Land	Industrial Flex Zone
	To the North:	Electrical Services	Industrial Flex Zone
	To the East:	Trucking Company and Repair	Industrial Flex Zone
	To the South:	Landscaping Company	Industrial Flex Zone and Highway Service Comm.
	To the West:	Outdoor Storage Uses	Industrial Flex Zone

ENVIRONMENTAL CONDITIONS:	
Soils / Topography:	The site is composed of Conover loams with 0 – 6% slopes. These soils are considered prime farmland type soils with stability and are not highly erodible.
Wetlands:	The MIDEQ map tool illustrates no significant wetlands on the site.
Vegetation:	The parcel is in its natural, undeveloped state.
County Priority Natural Areas:	There are no priority natural areas on the site of the proposed rezoning.

TOWNSHIP MASTER PLAN DESIGNATION:
<p>The Howell Township Future Land Use Map (2022) designates the subject parcel as Industrial Flex. The Township Master Plan states the following regarding the Industrial Flex future land use classification:</p> <p><i>'This area is intended to be flexible with regard to specific used that might be permitted while being more prescriptive with regard to design and quality of development. It is recognized that some of the uses permitted in the industrial and commercial districts could be compatible land uses. The flexibility of the district is intended to foster economic development, create employment opportunities, and increase tax base by promoting development or redevelopment of land that is adjacent to existing industrial and commercial uses....'</i></p> <p>The property is located along a highly industrial area of N. Burkhart Road and Hydraulic Drive with numerous existing industrial land uses that are already well established including electrical services, tool repair, auto collision repair, and outdoor storage. The subject property is master planned as industrial flex with industrial and highway commercial future land use categories nearby that parallel the intentions of the Howell Township Master Plan.</p> <p>The proposed rezoning is compatible with the goals and objectives of the Howell Township Master Plan and a rezoning to Industrial Flex is appropriate for the subject parcel.</p>

COUNTY COMPREHENSIVE PLAN:

The 2018 Livingston County Master Plan does not direct future land use patterns, or development within Livingston County, but does provide development guidance to avoid potential land use conflicts on a more regional and county-wide level. The proposed rezoning of the subject parcel does not promote any conflicts with other townships or jurisdictions and is an appropriate change within the township boundaries.

COUNTY PLANNING STAFF COMMENTS:

The applicant is proposing a rezoning from I (Industrial) to IFZ (Industrial Flex Zone) for the purpose of outdoor storage on the parcel. Industrial Flex zoning allows outdoor storage on the subject property as a permitted use with appropriate screening and permits open air businesses.

Article 23 of the Howell Township Zoning Ordinance establishes the criteria and factors that are to be considered by the Planning Commission and Township Board when consideration is given to a potential rezoning of land. These four factors are the following (Section 23.02 (D) (5):

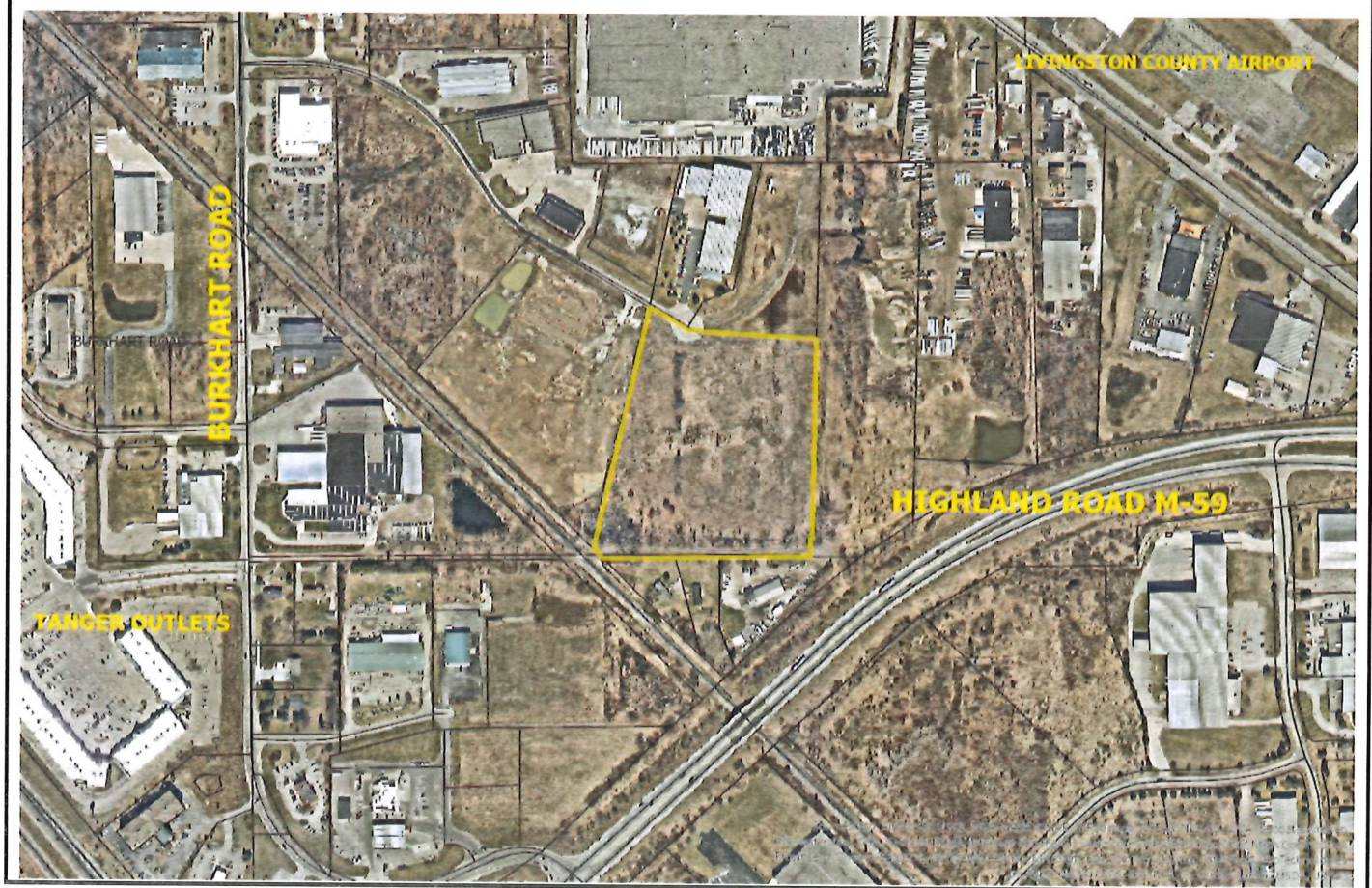
1. **Whether the rezoning is consistent with the policies and uses proposed for that area in the Township's Master Land Use Plan.** The Howell Township Master Plan designates the subject parcel as Industrial Flex and is consistent with the Future Land Use map for the Township.
2. **Whether all the uses allowed under the proposed rezoning would be compatible with other zones and uses in the surrounding area.** The proposed rezoning is compatible with surrounding uses in the area. Industrial and Highway Commercial are near the site of the rezoning and both designations are considered 'intense use' categories that are similar to the requested Industrial Flex rezoning request.
3. **Whether any public services and facilities would be significantly adversely impacted by a development or use allowed under the requested rezoning.** The proposed use would not adversely affect any public services or facilities that we are aware of.
4. **Whether the uses allowed under the proposed rezoning would be equally or better suited to the area than uses allowed under the current zoning of the land.** The Industrial Flex Zone designation is intended to foster development and redevelopment of land that considers similar uses that would be found in industrial categories. Industrial Flex is appropriate for the request.

The subject parcel is master planned as Industrial Flex and shares many of the same development characteristics as other more intense uses found in the general area. The Industrial Flex Zone is designed to be compatible for a wide range of uses including outdoor storage, general office, educational, outdoor sales and display, warehousing, contractor buildings and associated storage. The requested rezoning from Industrial to Industrial Flex is compatible with both the Howell Township Master Plan and the Livingston County Comprehensive Plan.

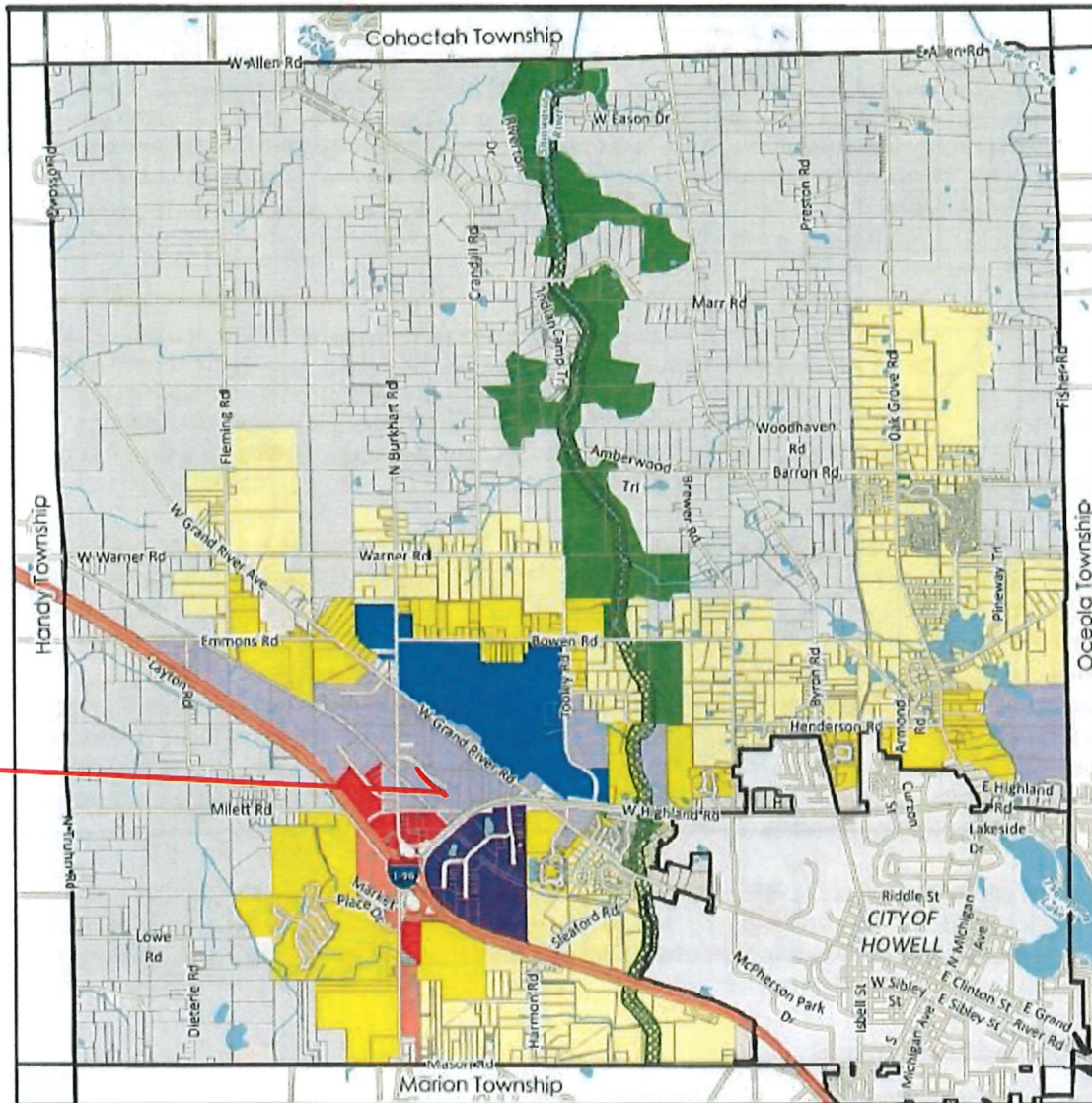
COUNTY PLANNING STAFF RECOMMENDATION:

APPROVAL. The proposed rezoning from I (Industrial) to IFZ (Industrial Flex Zone) is consistent with the overall goals and objectives of the 2022 Howell Township Master Plan and the Livingston County Comprehensive Plan.

SUBJECT PARCEL AND SURROUNDING AREA



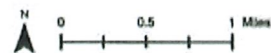
FUTURE LAND USE MAP



- Agricultural Preservation
- Airport
- Commercial - Local
- Commercial - General
- Commercial - Highway
- Residential - Low Density
- Residential - Medium Density
- Industrial Flex
- Industrial
- Recreation and Preservation
- Shiawassee River 200 foot Overlay

Future Land Use

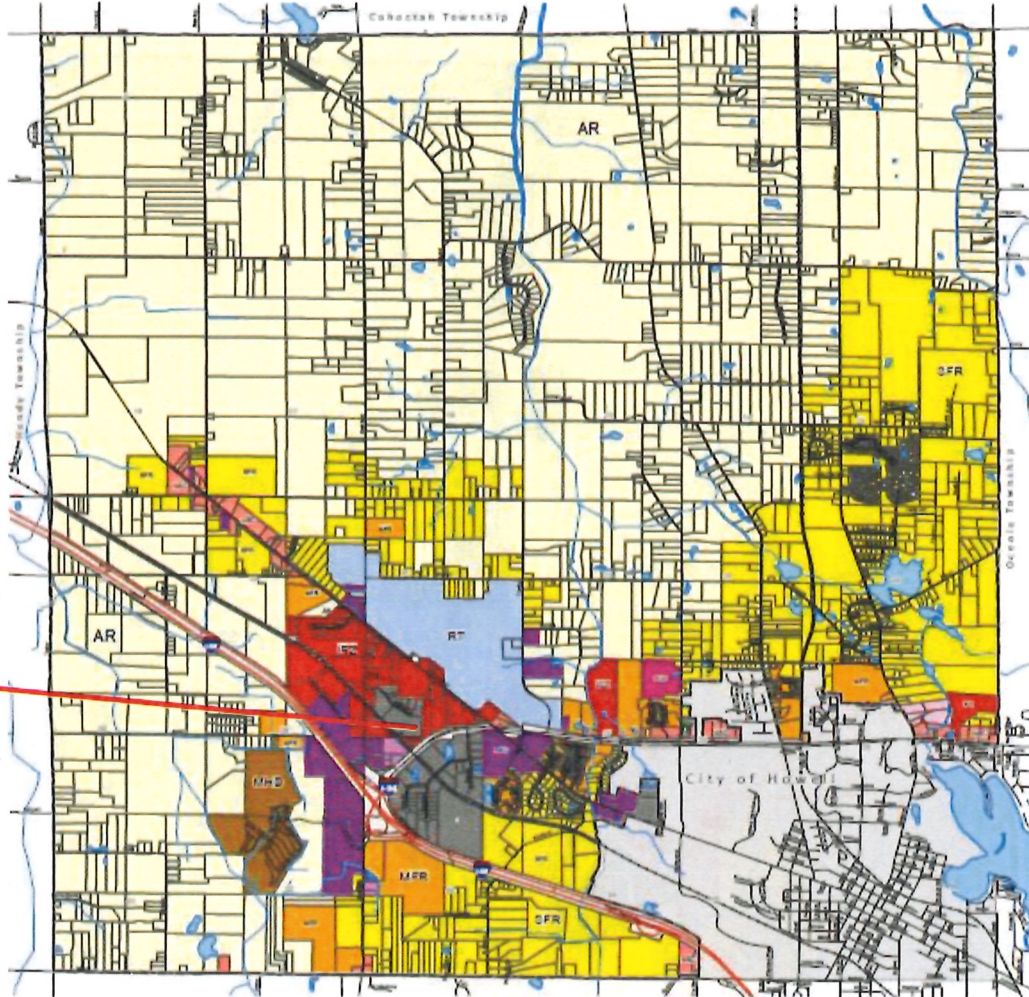
Howell Township
Livingston County, Michigan



Date: Livingston County, State of Michigan
 Prepared by: Certise/Worlman Associates, Inc.
 Date: December 7, 2022



TOWNSHIP ZONING MAP

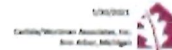
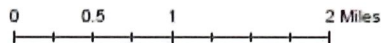


Zoning Designation	
	Conditional Rezoning
	FUD - Planned Unit Development
	AR - Agricultural Residential
	SFR - Single Family Residential
	MFR - Multiple Family Residential
	MFD - Manufactured Housing District
	OS - Office Service
	NSC - Neighborhood Service Commercial
	HSC - Highway Service Commercial
	RSC - Regional Service Commercial
	IFZ - Industrial Flex Zone
	I - Industrial
	RT - Research & Technology

CERTIFICATION
 This is to certify that this is the official zoning map prepared by and in the zoning jurisdiction of Howell Township, Livingston, Michigan.
 Township Supervisor: *Scott Barb* Date: 2-11-2025
 Township Clerk: *Stephanie...* Date: 2-11-2025

ZONING DISTRICTS MAP

Howell Township
Livingston County



SCHEDULED PUBLIC HEARINGS:

- A. Mark Juett PC2024-17, Parcel # 4706-28-100-071, Vacant land- Hydraulic Drive.
Request to re-zone from Industrial (I) to Industrial Flex Zone (IFZ), Applicant Mark Juett discussed his proposed use for the vacant property to be used as an outdoor storage yard, no building would be present. Rental space will be available to store boats, RVs, Semi- trailers, and contractors to store equipment/materials. Commissioner Boal questioned the site plan and concerned of the positioning and how it will look from the road. Commissioner Lollo questions screens/trees to block external visibilities. Vice Chair Spaulding questioned recycled asphalt vs. impervious surfaces for the area. Township Planner Montagno reviewed his report. This parcel is around other Industrial/ Industrial Flex Zoned districts and is designated as being zoned Industrial Flex in the future land use plan. Findings: would this proposed rezoning would be compatible with other zones and uses in the surrounding area and if any public service or facilities would be significantly impacted by the development of the use allowed under the rezoning. **Motion** from Spaulding, **Second** by Boal, **“Move to open the public hearing to discuss PC2024-17 on Parcel 4706-28-100-071.”** Motion Carried. **Motion** by Newstead, **Second** by Frantjeskos, **“To Close the public hearing.”** Motion Carried. Discussion followed. **Motion** by Boal, **Second** by Newstead, **“To recommend to the Township Board approval to rezone parcel 4706-28-100-071 from Industrial to Industrial Flex Zone under PC2024-17.”** Motion Carried.

OTHER MATTERS TO BE REVIEWED:

- A. Annual Report to the Township Board: Treasurer Hohenstein discussed priorities, education opportunities and budgeting for year 2025 that need to be taken to the Township Board for approval. Chairman Williams discussed which Zoning Ordinances to review and update. Township Planner Montagno spoke on the drafted proposal to update ordinances that will be submitted to the Township Supervisor soon and the possibility of yearly training for the board. Discussion followed. It was the consensus to send the Annual Report to the Board and to request an increase in the education budget for the Planning Commission and request the Board approve the budget to re-do the Zoning Ordinance.
- B. Officer Selection per Section 2 of the Planning Commission By-laws- **Motion** by Boal, **Second** by Frantjeskos, **“To nominate the current President Wayne, Vice- Chair Rob and Secretary Mike to the current positions for 2025.”** Motion Carried. Chairman Williams questioned term expiration. Planner Montagno clarified that the by-laws state that new officers are selected at the beginning of each year.

OLD BUSINESS:

- A. ADU Ordinance- Township Planner Montagno updated the presented language changes on the ADU ordinance and discussed options to be decided by the Planning Commission that can be taken to the Township Board for approval. Commissioner Lollo is concerned with detached ADUs and potentially becoming a rental. Commissioner Spaulding is concerned with detached ADUs and potential problems for homeowners and neighbors. Chairman Williams is concerned with allowing detached ADUs and future ramifications. Secretary Newstead is in favor of supporting an option for a detached ADU. Board Representative Boal questioned splitting property into parcels and attaching additions to the existing home and is concerned about detached ADUs. Discussion followed. **Motion** by Boal, **Second** by Lollo with friendly amendments, **“To recommend to the Board a denial of proposed ordinance language.”** Roll Call: Stanley- yes, Newstead- no, Lollo-yes, Frantjeskos-yes, Boal-yes, Williams-yes, Spaulding- no. Motion passed 5-2.

8C

PLANNED UNIT DEVELOPMENT AGREEMENT

(HERITAGE SQUARE)

This Planned Unit Development Agreement (the "**Agreement**") is entered into this __ day of _____ 2025 (the "**Effective Date**"), between Mason and Burkhart LLC, whose address is 29350 Woodward Ave, Royal Oak, MI 48073 (the "**Developer**") and Howell Township, a Michigan municipal corporation, whose address is 3525 Byron Road, Howell, MI 48855 ("**Township**").

RECITALS

Developer is the owner of certain land located in Howell Township, Livingston County, Michigan, the legal description of which is set forth on **Exhibit A** attached hereto (the "**Property**").

Developer desires to develop the Property to contain: a residential site condominium project consisting of 176 single-family site condominium units (the "**Single Family Project**"); and a multi-family project (the "**Multi-Family Project**") containing a 296-unit apartment project and a 90-unit senior living apartment project (the "**Senior Apartment Project**"). Unless specified otherwise in this document, the Single Family Project, Multi-Family Project and Senior Apartment Project are collectively referred to as the "**Project**").

Developer desires to develop the Property as a planned unit development ("**PUD**") in accordance with Article 27, PUD-Planned Unit Development Projects, of the Howell Township Zoning Ordinance (the "**Zoning Ordinance**").

On December 19, 2023, the Township Planning Commission recommended approval of the revised site plan (dated October 23, 2023 for the PUD previously approved by the Township Board on February 13, 2023). This approval was subject to certain conditions.

On January 8, 2024, the Township Board granted preliminary approval for the revised site plan and rezoning application to rezone the property from SFR and MFR to PUD in accordance with Sections 20.06(C) and 27.02.B.2 of the Zoning Ordinance.

On November 19, 2024 the Township Planning Commission recommended Approval with conditions of the final site plan for the PUD subject to: the Township Planner's conditions of phase one, applicant must update their open space calculations and demonstrate the amount of open space that is being provided as part of phase one, draft plan to be finalized by a licensed engineer, consider modifications to the landscape plan around the detention basins, a PUD agreement shall be completed and executed, the Engineer's letter dated November 12, 2024,

the Fire Department review dated October 2, 2024, the Livingston County Drain Commissioner's review dated September 27, 2024, and the Road Commission's review dated November 6, 2024.

On _____, the Township Board [Approved, Approved with conditions] the final site plan for the first Phase of the PUD (dated _____) in accordance with Sections 20.08.J.2.c and 27.07(M)(4).

NOW, THEREFORE, Developer and Township, in consideration of the mutual covenants of the parties described in this Agreement, agree as follows:

GENERAL TERMS

- 1.1 Binding Representations.** Township and Developer acknowledge and represent that the recitals set forth above are incorporated herein and are true, accurate and binding.
- 1.2 Reliance.** Township acknowledges and represents that this Agreement may be relied upon for future land use and development of the Property by Developer and Developer's assigns and successors in interest.
- 1.3 Approved Site Plan.** The Site Plan attached hereto as **Exhibit B** (the "**Site Plan**") has been duly approved by Township in accordance with all applicable Township ordinances and depicts the land uses which will be permitted, and which may be developed, on the Property.
- 1.4 General Ordinance Compliance.** The Site Plan complies with the Zoning Ordinance requirements, except as specifically provided otherwise within this Agreement.
- 1.5 Qualifying Purpose.** Pursuant to Section 27.01 of the Zoning Ordinance, the proposed development consists of a mixture of residential densities consistent with the underlying zoning districts, but they do not follow the delineation of those zoning districts, therefore a Type 2 PUD is proposed. The densities were deemed by the Planning Commission and Township Board to be in compliance with Section 27.07.A.
- 1.6 Permitted Uses.** The Planning Commission and Township Board determined that the land uses proposed in the PUD and Site Plan are compatible with the permitted uses; are compatible with nearby existing and permitted land uses; and meet the intent of the PUD chapter and the intent of the Comprehensive Plan.
- 1.7 Site Plan Approval.** Upon approval by the Township Board of the final site plan for the Project or any Phase (as hereinafter defined), all references contained herein to the Site Plan, as it relates to the Project or the applicable Phase shall be deemed to refer to the approved final site plan for the Project or the Phase, as applicable, in accordance with Section 27.07(M).
- 1.8 Site Plan Layout.** The location and uses of all buildings, all uses and mixtures thereof, all yards, setbacks, buffer areas, and all other information regarding the uses of the Property as shown on or as part of the Site Plan shall have the full force and effect of the

Zoning Ordinance as though such PUD and supporting information were specifically set forth as requirements in the Zoning Ordinance.

- 1.9 Changes to the PUD.** Changes to the approved PUD and Site Plan shall be permitted only under the circumstances and standards laid out in the Zoning Ordinance. A proposed change, other than a minor amendment, as determined by the Zoning Administrator, shall be submitted as a major amendment to the PUD and shall be processed in the same manner as an original PUD application procedure set forth in the Zoning Ordinance, except that the PUD zoning shall remain in place. The Zoning Administrator may refer any decision regarding any proposed change to an approved Site Plan to the Planning Commission for review and approval.
- 1.10 Minor Amendment.** Minor Amendments to the PUD and Site Plan may be administratively approved by the Zoning Administrator pursuant to the standards laid out in the Zoning Ordinance. In deciding whether a change is a minor amendment, or whether to refer an amendment to the Planning Commission for recommendation and/or approval by the Township Board in accordance with the Zoning Ordinance, the Zoning Administrator may consult with the Planning Commission in accordance with the Zoning Ordinance. Any subsequent amendment—whether minor or major—shall have all proper amended documentation, such as an amended site plan and/or PUD plan recording such amendments.
- 1.11 Binding Agreement.** This Agreement, including the approved Site Plan, are for the benefit of the Property, and shall run with the Property, and shall bind and inure to the benefit of the heirs, successors, assigns and transferees of the parties to this Agreement, in accordance with the time limitations set forth in this Agreement.
- 1.12 Escrow Fees.** The Township has incurred various costs attributable to Developer's project related to consultant review, including planning, engineering, and legal. Developer agrees to pay such costs, and such costs shall be paid no later than 90 days after execution of this Agreement or prior to receipt of the first building permit related to development under this Agreement.

REZONING APPROVAL, USES, AND SETBACKS

- 2.1 Rezoning Approval.** Township acknowledges and represents that the Property has been rezoned as a PUD District in accordance with Section 23.02 of the Zoning Ordinance.
- 2.2 PUD Approval.** Township acknowledges that the PUD Site Plan has been reviewed and approved by the Township Board, subject to the required conditions for final approval of a PUD in Section 27.12 and all other requirements and conditions articulated in this Agreement, approving resolutions, and the Zoning Ordinance.
- 2.3 PUD Uses. Approved Use.** The Planning Commission and Township Board have determined that the proposed use within the PUD—that of a mixed density residential development consisting of a total of 562 dwelling units including 176 single-family houses, 296 multi-family units, a 3-story assisted living building with 90 units, and a

clubhouse, pool and outdoor recreation area comports with the requirements of Section 23.02 of the Zoning Ordinance. The proposed land uses are compatible with the permitted uses in the SFR and MFR districts; are compatible with nearby existing and permitted land uses; and meet the intent of the PUD chapter and the intent of the Comprehensive Plan. The Single Family Project, and Multi-Family Project may be developed in phases, as provided in this Agreement (each a "Phase" and collectively, the "Phases"). The proposed Phases are identified in Sheet C-1.1 of the Site Plan attached as **Exhibit B**. To the extent not identified in Sheet C-1.1 of the Site Plan, the final site plan and construction drawings submitted for each Phase shall include a narrative description of the work to be done in such Phase, a phasing schedule, and a phasing plan in conformance with Section 27.07(M). A Zoning Compliance Permit must be obtained to begin each phase.

2.4 Approved Setbacks. Approved minimum setbacks for the land uses within the PUD are as follows:

Density, Placement, and Height Regulations

Single-Family	Required	Proposed
Lot Area	10,000 SF w/ public sewer	5500 SF min
Lot Width	70 Feet	50 Feet
Front Setback	30 Feet	24 Feet
Side Setback	10 Feet	7 Feet
Rear Setback	40 Feet	25 Feet
Perimeter Setback	50 feet	40 Feet (Adjacent to SFR) 30 Feet (Adjacent to MFR)
Lot Coverage	30 % Max	Review for individual units
Building Height	2.5 stories/35 Feet Max	Review for individual units

Multi-family	Required	Provided
Lot Area	31 Acres	40 Acres
Lot Width	200 Feet	768.79 Feet
Front Setback	30 Feet	40 Feet
Side Setback	30 Feet	30 Feet
Rear Setback	50 Feet	40 Feet
Lot Coverage	40 % Max	37.8 %
Building Height	5 stories/60 Feet Max	31.1 Feet

- 2.5 Signs.** The Project Signs shown on the PUD Plan shall comply with the requirements of Section 19 of the Zoning Ordinance and are subject to review and approval of the zoning administrator based on compliance with section 19.03 and Section 19.07 of the Zoning Ordinance. If a sign is proposed a separate sign permit must be obtained before installation.

OPEN SPACE REGULATIONS

- 3.1 Dedicated Open Space.** PUDs shall maintain dedicated open space ("**Open Space**") in compliance with Section 27.07.E.1 of the Zoning Ordinance.
- 3.2 Standards for Open Space.** The PUD Plan and Site Plan meet the standards for Open Space found in Section 27.07.E.2-6. All open space in the open space development plan will be available and accessible to all residents of the PUD including single family units, multiple family units, and assisted living units. Further, the proposed open space is for the use of all occupants and users of the PUD Project, including the use of the playground amenities, and the pool and clubhouse, as set forth below.

APPROVAL STANDARDS AND CONDITIONS

- 4.1 Qualifying Standards.** The Township has determined that the PUD meets all qualifying standards, as set forth in Section 27.09 and the PUD approval will comply with the recommendations within the Planners Staff Report dated November 14, 2024, subject to those conditions of approval.
- 4.2 Resolution Conditions.** The PUD shall incorporate any and all conditions placed upon it by: (a) the Planning Commission, including the recommendations within the Planners Staff Report dated November 14, 2024; (b) the Engineers Staff Report dated November 12, 2024 and (c) the Township Board during the consideration and approval process, along with the required conditions pursuant to Section 27.12 of the Zoning Ordinance, which are attached as **Exhibit C** hereto. The following additional conditions are included in this Agreement:
- a) The Developer complies with Section 15.09.B.3. (i.e., cutting and removing of trees) of the Zoning Ordinance.
 - b) The wetland boundaries are verified by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and a permit must be obtained.
 - c) The internal road connection from Mason Road Multi-Family Project to the N. Burkhart Road Single Family Project (the "**Secondary Access Road**") must be installed no later than the completion of the development of Phase 2 of the Single Family Project or Phase 2 of the Multi-Family Project, whichever occurs first. (Sheet C-1.1 of Site Plan attached as **Exhibit B**). Prior to the commencement of Phase 2 of the Single Family Project or Phase 2 of the Multi-Family Project, whichever occurs first, Developer shall provide a cash performance guarantee to the Township in accordance with Section 20.15 of the Zoning Ordinance which covers the estimated cost of installing the Secondary

Access Road reviewed by the Township Engineer, which shall include a 10% contingency. The Secondary Access Road must be installed (minus topcoat if desired) concurrently with the development of Phase 2 of the Single Family Project or Phase 2 of the Multi-Family Project, whichever occurs first. Following Developer's completion of the Secondary Access Road and The Township's inspection and approval of the Secondary Access Road, the Township agrees to return the performance guaranty to Developer, minus 10% contingency if the topcoat has not been installed. The Township and Developer also agree that if the Secondary Access Road has not been installed prior to the commencement of Phase 2 of the Single Family Project, upon written notice to Developer and the Township, the developer of the Single Family Project shall have the right, but not the obligation required of the Developer, to install the Secondary Access Road concurrently with its development of Phase 2 of the Single Family Project. If the developer of the Single Family Project installs the Secondary Access Road, upon the completion of the Secondary Access Road and the Township's inspection and approval of the Secondary Access Road, the Single Family developer shall be entitled to obtain reimbursement from the performance guaranty funds held by the Township for the third party costs incurred by the Single Family developer to install the Secondary Access Road upon presentation of a statement signed by the Single Family developer that certifies to the Township the costs incurred by the Single Family developer, and any remaining performance guaranty funds shall be returned to Developer. If the costs incurred by the Single Family developer exceed the amount of the performance guaranty funds held by the Township, Developer shall be obligated to reimburse the Single Family developer for the deficiency, and the Township shall have no obligation in connection therewith. The Township agrees to use good faith efforts to perform its inspections and approve Developer's request for the return of the performance guaranty, or the Single Family developer's request for reimbursement from the performance guaranty funds, whichever is applicable, within a reasonable time period from the Township's receipt of a written request therefore.

- d) The completion of Livingston County Road Commission requirements, including lane work at the entrance on Burkhart and on Mason Roads
- e) Submittal and administrative approval of a lighting plan with lighting details for all exterior lights that demonstrate compliance with Section 14.22.

4.3 Road Improvements. The proposed PUD will have significant traffic impacts as identified in the traffic study completed in September 2021, as required per Section 27.05, and reviewed by the Livingston County Road Commission (“LCRC”) and Michigan Department of Transportation. In addition, the Township Engineer prepared a *Heritage Square PUD Review of Traffic Improvement Contribution* memorandum (the “Township Engineer Traffic Memo,” dated January 6, 2025) after review of the Developer’s *Future Traffic Generation Spreadsheet* and *Traffic Contribution* memorandum (dated November 1, 2024) and LCRC cost estimates for the PUD traffic increase (dated August 20, 2024). Specifically, the Township Engineer Traffic Memo identifies a 5.66% contribution of allocated costs for traffic impacts generated by the Project. The Developer shall contribute the following toward the Road Improvements (the “Road Improvements”) to address these direct impacts from the Project:

- a) The Developer shall contribute: \$250,127 (Two hundred fifty thousand, one hundred twenty-seven dollars). The Township shall be authorized to allocate the aforementioned contribution for any combination of Road Improvements specified under Section 4.3(b) of this Agreement.
- b) It is specifically agreed and understood that the Road Improvements covered by this paragraph of the Agreement do not include the specific requirements imposed on the PUD by the LCRC for the Project in question (e.g., acceleration/deceleration lanes, etc.) and all internal road improvements required as part of site plan approval. The proposed off-site Road Improvements include (1) Burkhart Road & Mason Road: Single-lane roundabout or traffic signals with roadway widening; Burkhart & Milett & M-59 & EB I-96 Ramps: Roundabout improvements; Burkhart & Milett & M-59 & EB I-96 Ramps: Relocate Market Place Drive and Milett Road; M-59 & WB I-96 Ramps: Traffic Signals (Township Engineer Traffic Memo, Table 7).
- c) Timing of payment for contributions. It is agreed that the Developer shall make its payment in full to the Township no later than: (1) the commencement of any of the Road Improvements by the LCRC through the award of a contract for construction; or (2) before the Developer turns its respective Project over to a condominium, homeowner's association, its heirs, assigns, or successors or (3) 75% or more of the units are complete within the Single Family Project, Multi-Family Project, or Senior Apartment Project, or 75% or more of the units are complete within the total Project; whichever event occurs first.
- d) In the event the Developer fails to make the payments required in the time required under this Agreement, the Township shall have the right to provide notice and pursue appropriate remedies through a court of competent jurisdiction.
- e) In the event the commencement of Road Improvements by the LCRC through the award of a contract for construction has not occurred at any of the specified locations under Section 4.3(b) or unallocated money remains after completion of the Road Improvement projects, money previously paid by the Developer under Section 4.3(a) shall be refunded back, and the Road Improvement contribution requirement shall be considered satisfied from this Agreement if all of the following conditions have been met: (1) 75% or more of the units are complete within the total Project, and (2) none of the Road Improvements remain on the LCRC "Future Project List" for phased or future construction.

4.4 Phasing; Phasing Plan. The Property may be developed in Phases in accordance with the phasing plan that is part of the Site Plan (**Exhibit B**). Each Phase may be developed by one (1) or more separate developers, provided that each developer complies with this Agreement. To the extent not identified on the Site Plan attached as **Exhibit B**, the final site plan and construction drawings submitted for the first Phase of the Single Family Project shall include a narrative description of the work to be done in each Phase of the Single Family Project, including the infrastructure improvements necessary to serve each Phase within the Single Family Project, a phasing schedule, and a phasing plan for the Phases in the Single Family Project, in conformance with Section 27.07(M). To the extent

not identified on the Site Plan attached as **Exhibit B**, the final site plan and construction drawings submitted for the first Phase of the Multi-Family Project shall include a narrative description of the work to be done in each Phase of the Multi-Family Project, including the infrastructure improvements necessary to serve each Phase within the Multi-Family Project, a phasing schedule, and a phasing plan for the Phases in the Multi-Family Project, in conformance with Section 27.07(M). The developer of each Project Phase shall submit final construction plans for such phase for approval by the Planning Commission and the Township Board, and obtain approval for compliance with the overall approved Site Plan before construction begins.

- 4.5 Internal Roads.** External and internal circulation shall provide continuity of public access between adjacent and connecting public roads to provide continuous public ingress and egress to all private developments within the PUD in compliance with Section 27.07(D) of the Zoning Ordinance. The internal roads within the PUD shall be private roads. The Developer of each Multi-Family Project Phase shall be responsible for maintaining the roads within such Phase. The Developer shall notify the Township in writing of its successors and assigns for maintaining the roads within each phase, if other than the Developer. The condominium association formed to administer the Single Family Project (the "**Condominium Association**") shall be responsible for maintaining the roads within the Single Family Project. If Developer, a Phase owner or Condominium Association fails to maintain any of the internal private roads as required hereby, Township may perform such maintenance and assess the owners of the applicable Phase for such work consistent with state law. No public funds of Township shall be used to build, repair, or maintain the private roads in the PUD. Other than as set forth herein, the internal private roads in the PUD shall comply with Livingston County Road Commission requirements or such other standards as adopted by Township for private roads.
- 4.6 Normative Egress Permitted.** The owners of property within the PUD shall refrain from prohibiting, restricting, limiting or in any manner interfering with the normal ingress and egress and use of the roads within the PUD by any of the other owners of property within the PUD. Normal ingress and egress and use shall include use by family, guests, invitees, tradesmen, and others traveling to or returning from any of the properties within the PUD.
- 4.7 Pedestrian Walkways and Connections.** Pedestrian walkways shall be constructed on both sides of the internal drives as indicated on the site plan. The pedestrian walkways shall be five feet (5') in width with a surface of concrete. Walkways constructed in the Open Space Area shall be of a pervious surface, such as woodchips or gravel. A 5-foot wide concrete sidewalk shall be constructed between lots 37 and 38 as indicated on the site plan and adjacent to Burkhart Road in accordance with the approved PUD. The portion of the foregoing sidewalk (the "Sidewalk") that will connect to Burkhart Road (the "Utilities Easement Sidewalk") and located within an easement granted to the Township by instrument recorded in Liber 4870, Page 412, Livingston County Register of Deeds (the "Easement"), shall be subject to the Encroachment Agreement attached as **Exhibit D**.

4.8 Easements for Access. Developer shall grant easements over the private roads in the PUD to the public for the purpose of emergency and other public vehicles for whatever public access or services are necessary. Developer shall grant to the applicable governmental units and public utilities all necessary easements to provide all public utilities set forth in the PUD Plan and Site Plan.

4.9 Declaration of Easements, Covenants and Restrictions for Shared Amenities. Prior to the development of the first Phase of the Project, Developer will record a declaration of easements, covenants, and restrictions against the Property (the “**Declaration**”) which establishes the easements necessary for the operation of all Phases, including, but not limited to, easements for access over all roads, sidewalks and pathways located within the Project, easements to tie into and connect as necessary to the utilities within another Phase based on the approved engineering plans for each Phase, easements for shared storm water drainage and detention, easements to access and use all open space areas and parks throughout the Project and an easement to access and use the Pool (as defined below).

The Condominium Association formed to administer the Single Family Project shall be responsible for maintaining the entranceways, roads, sidewalks, pathways and utilities (other than utilities dedicated to the public) located within the Single Family Project and the owner of each Phase of the Multi-Family Project shall be responsible for maintaining the entranceways, roads, sidewalks, pathways and utilities (other than utilities dedicated to the public) located within such owner's Phase of the Multi-Family Project. The Declaration shall provide for the formation of a master association (the “**Master Association**”) which will be responsible for the maintenance of the improvements and portions of the Project that will be shared by all the Phases, including the natural open space areas, the detention basin on the west side of the Single Family Project, the park areas located within the Multi-Family Project (including all recreational structures installed within such park areas), and the pathway along Burkart Rd. that runs into and through the Single Family Project (collectively, the “**Shared Facilities**”). The Master Association shall have the authority to assess the Phases for their respective share of the cost of maintaining, insuring and repairing the Shared Facilities, based on the relative number of units in each Phase. Master Association assessments to the Single Family Project shall be made to the Single Family Condominium Association. The Single Family Condominium Association and the owner of each Phase within the Multi-Family Project shall each be entitled to appoint one member to the board of directors of the Master Association. Each director shall have the number of votes that are based on the number of units within the Phase that is represented by such director.

The pool, clubhouse and related improvements identified on the Site Plan (collectively, the “**Pool**”) shall be constructed as part of Phase 2 of the Multi-Family Project, shall be owned by the owner of the apartment project that contains the Pool and shall be a Shared Facility maintained and operated by the Master Association. All tenants within the Multi-Family Project shall have the right to use the Pool. The Single Family Condominium Association, on behalf of its condominium unit owners, shall have the right to elect, on an annual basis, for its unit owners to use the Pool by notifying the Master Association in writing on or before May 1 of each year. If the Single Family Condominium

Association elects for its owners to use the Pool in any given year, the Master Association shall assess all the Phases of the Project, including the Single Family Project, for the cost of maintaining and operating the Pool, based on the relative number of Units in each Phase, including the Single Family Project. If the Single Family Condominium Association does not elect for its owners to use the Pool in any given year, the Master Association shall only assess the Phases of the Multi-Family Project for the cost of maintaining and operating the Pool, based on the relative number of units in each Phase of the Multi-Family Project. The Master Association shall have the right to establish reasonable rules and regulations for the use of the Pool. The foregoing rights and obligations shall be set forth in the Declaration. The Declaration shall be binding on and run with the Single Family Project, the Multi-Family Project and all Phases therein.

4.10 Remedies. Should the Developer violate the terms of this Agreement, the Township shall have the right to enforce.

4.11 Register of Deeds. All necessary documents shall be executed and recorded in the office of the Livingston County Register of Deeds.

TIME LIMIT FOR AN APPROVED PUD DISTRICT

5.1 Construction Timetable. Development of the first Phase of the Project, either the first Phase of the Single Family Project or the first Phase of the Multi-Family Project, shall be commenced within 12 months from the Effective Date. Each phase shall require a zoning permit prior to commencement of construction.

5.2 Effects of Expiration. If the Developer fails to commence development of the first Phase of the Project within 12 months from the Effective Date, the Township may terminate its approval of the Site Plan. Upon the request of the Developer, the Township shall not unreasonably withhold its consent to extensions for good cause shown in conformance with Section 20.07(F) of the Zoning Ordinance.

UTILITIES

6.1 Utility Easements. The PUD shall be serviced with underground utilities, including electrical, natural gas, telephone, and internet, which shall provide utility services to all buildings within the PUD, with non-exclusive easements reserved to the Township for access by utility providers for repair, maintenance, and improvements.

6.2 Township Easements. Developer shall grant an easement to Township, at a location to be approved by the Township's engineer, to accommodate the installation of all necessary facilities and to allow for construction, ingress, egress, maintenance, and repairs for necessary systems.

6.3 Water/Sewer Facilities Expenses. Developer, at its expense, shall be responsible for the design and construction of water and sanitary sewer facilities within the PUD and for the infrastructure lawfully required by Township and the Township's Engineer and any other authoritative body.

- 6.4. Water Connection/Benefit Charges.** All water benefit connection and benefit charges imposed by the Township shall be paid by Developer in accordance with the Township’s ordinances. Developer shall be responsible for paying the reasonable and customary cost of all inspections and shall deposit the estimated cost of such inspections with Township or water servicer as necessary prior to commencement of construction of such facilities. All 75 water residential equivalent units (REUs) and 176 of the 569 sanitary sewer REUs that have been purchased by Developer from Howell Township for the Project shall be assigned and allocated to the Single Family Project, however this does not account for all necessary connection and benefit charges to be paid by Developer for the Project.
- 6.5 Metering.** Metering must comply with the Township’s ordinances and published rules and regulations.

DEVELOPER RIGHTS

- 7.1 Sales Trailers.** The developer of the Single Family Project will be permitted to install, occupy, and operate from a temporary sales trailer within the Single Family Project in accordance with Section 14.20, 14.28 and 16.09(C). of the Zoning Ordinance. The Developer shall also be entitled to occupy and operate from a temporary leasing trailer within the Multi-Family Project after issuance of a zoning permit in accordance with Section 14.20, 14.28 and 16.09.C. of the Zoning Ordinance.
- 7.2 Model Homes.** The Township shall issue a building permit for a model home within the Single Family Project in accordance with Section 8.1 below, prior to completion of development of the Single Family Project, provided there is vehicular access to each such model home.

TOWNSHIP’S RIGHTS AND OBLIGATIONS

- 8.1 Permits and Authorizations.** The Township shall grant to Developer and its contractors and subcontractors and assigns all Township permits and authorizations necessary to bring and/or construct all utilities necessary to service the Property and to otherwise develop and improve the Property in accordance with the Site Plan, provided the Developer or its assignee has first made all requisite filings and submissions for permits, complied with the requirements for said permits or authorizations submittals, and paid all required fees. Any applications for permits or authorizations from the Township will be processed in the customary manner.
- 8.2 Land Divisions.** To facilitate the development and financing of the Phases, upon proper application, the Township will not unreasonably withhold approval of a land division application for each development Phase, provided that such division complies with the Michigan Land Division Act and Township ordinances. Developer shall provide all required documentation for a land division, including surveys in electronic form. Developer shall not seek approval of a land division until Developer has received site plan approval for the area sought to be divided.

OTHER TERMS

- 9.1 Modification.** This Agreement may not be modified, replaced, amended or terminated without the prior written consent of Township and Developer, or Developer's successors in title who assume Developer's rights and obligations under this Agreement. Developer and Township shall be entitled to modify, replace or amend this Agreement without the consent of any other person or entity, regardless of whether such person or entity now or hereafter has an interest in any part of the Property, including tenants, mortgagees, or others. Notwithstanding the foregoing, any amendment that would affect a Phase within the Multi-Family Project that is owned by a person or entity other than Developer shall require the written approval of such Phase owner and any amendment that would affect the Single Family Project shall require the written approval of the developer of the Single Family Project during the period the developer owns any units within the Single Family Project and thereafter the Condominium Association.
- 9.2 Continuing Effectiveness.** The continuing effectiveness of this Agreement is conditioned upon the adherence to all of the terms of this Agreement, adherence to conditions imposed on the PUD, and all relevant provisions of the Zoning Ordinance. In the event of any conflict between the terms and provisions of this Agreement and the Site Plan attached as **Exhibit B** and the Zoning Ordinance or any other Township ordinance or regulations, this Agreement and the Site Plan shall control.

MISCELLANEOUS PROVISIONS

- 10.1 Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan.
- 10.2 Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall be deemed an original and all of which shall constitute one agreement. The signature of any party to any counterpart shall be deemed to be a signature to, and may be appended to, any other counterpart.
- 10.3 Successors and Assigns.** The terms, provisions and conditions of this Agreement are and shall be deemed to be of benefit to the Property and shall run with and bind the Property, and shall bind and inure to the benefit of the successors and assigns of the parties to this Agreement.
- 10.4 Partial Invalidity.** Invalidation of any of the provisions contained in this Agreement or of the application thereof to any person by judgment or court order shall in no way affect any of the other provisions hereof or the application thereof to any other person and the same shall remain in full force and effect.
- 10.5 No Partnership.** None of the terms or provisions of this Agreement shall be deemed to create a partnership or joint venture between Developer and the Township.

10.6 Incorporation of Documents. The recitals contained in this Agreement, the introductory paragraph, and all Exhibits attached to this Agreement and referred to herein shall for all purposes be deemed to be incorporated in this Agreement by this reference and made a part of this Agreement.

10.7 Integration Clause. This Agreement is intended as the complete integration of all understandings between the parties related to the subject matter herein. No prior contemporaneous addition, deletion or other amendment shall have any force or effect whatsoever, unless referenced in this Agreement.

[Signatures and notarization are contained on the following page]

Howell Township

By: _____

Its: Mike Coddington, Supervisor

STATE OF MICHIGAN)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2025, by _____, the _____ of Howell Township on behalf of the Township.

Notary Public
_____ County, Michigan
Acting in _____ County,
Michigan
My Commission Expires: _____

Drafted By:

Wayne R. Beyea (P73961)
Fahey Schultz Burzych Rhodes PLC
4151 Okemos Road
Okemos, Michigan 48864
(517) 381-0100

When Recorded Return To:

Howell Township
Attention: Township Clerk
3525 Byron Road
Howell, MI 48855

EXHIBIT A

LEGAL DESCRIPTION OF PROPERTY

PARCEL 1: SEC 32 T3N R4E COMM AT SE 1/4 COR SEC 32 TH S 89° 55' 08" W 903.41 FT FOR POB TH S 89° 55' 06" W 769.27 FT TH N 00° 05' 59" E 1133.64 FT TH S 89° 55' 08" W 980.63 FT TH N 00° 04' 04" E 1155.25 FT TH S 89° 59' 30" E 2649.93 FT TH S 00° E 1374.40 FT TH S 03° 58' 40" E 10.20 FT TH S 89° 55' 08" W 904.12 FT TH S 00° E 900.16 FT TO POB 95.00 AC LEGAL CORRECTED 11/30/06

(INCL. ROW FOR BURKHARDT ROAD AND MASON ROAD)

PARCEL TAX NUMBER: 47-06-32-400-013

EXHIBIT B

SITE PLAN

EXHIBIT C
CONDITIONS

EXHIBIT D

Encroachment Agreement

ENCROACHMENT AGREEMENT

UTILITIES EASEMENT SIDEWALK FOR HERITAGE SQUARE DEVELOPMENT

THIS AGREEMENT made and entered into this _____ day of _____ 2025, by and between Mason and Burkhart LLC, whose address is 29350 Woodward Ave, Royal Oak, MI 48073 (the “**Developer**”) and Howell Township, a Michigan municipal corporation, whose address is 3525 Byron Road, Howell, MI 48855 (the “**Township**”).

WITNESSETH:

WHEREAS, the Developer is the owner of certain land located in Howell Township, Livingston County, Michigan, the legal description of which is set forth on **Exhibit A** attached hereto (the “**Property**”); and

WHEREAS, the Township holds an easement on the Property, as recorded with the Livingston County Register of Deeds at Liber 4870, Page 0412 and depicted in the attached **Exhibit B** (the “**Easement**”) for purposes of, among other things, to lay, install, maintain, construct connections, operate by means thereof a system for the transportation of sewage, storm water, natural gas, electricity and fiber optic cable, under, in, upon, along, over and across the Property (the “**Utilities**”) ; and

WHEREAS, the Developer has requested the use of a portion of the Easement on the Property, or to otherwise encroach into the Easement area, for purposes of constructing a 5-foot wide concrete connecting sidewalk, in accordance with the approved Planned Unit Development (the “**PUD**”) and engineering survey, as depicted on the attached **Exhibit C** (the “**Utilities Easement Sidewalk**” or “**Sidewalk**”), which may impact the Township’s ability to perform maintenance and/or improvements to the Utilities; and

WHEREAS, a portion of the foregoing Sidewalk will connect the PUD to Burkhart Road and will be located within the Easement area granted to the Township, as depicted in the attached **Exhibit C**; and

WHEREAS, the Township agrees to take all reasonable steps to cooperate with the Developer by allowing the Utilities Easement Sidewalk to encroach within the Easement consistent with the terms of this Agreement.

NOW THEREFORE, in consideration of the premises and covenants of each, the parties agree as follows:

1. The Township gives permission to the Developer for the existence of the Utilities Easement Sidewalk within the Easement, subject to the terms of this Agreement, as well as any other encroachment into the Easement that is authorized by this Agreement (together referred to as “**Encroachments**”).

2. Developer agrees not to commence construction of the Encroachments within the Easement without at least five (5) days advance notice to the Township so that the Township may make arrangements for an inspector to be present during construction if determined necessary by the Township.
3. This Agreement does not waive the necessity for the Developer to obtain all other required federal, state, or local permits, approvals or other obligations within the Easement.
4. The Developer agrees to maintain the Encroachments in a condition that complies with all applicable building and zoning codes or other applicable ordinances and law.
5. The Sidewalk shall be constructed as indicated on the approved PUD site plan and the attached **Exhibit C**. The Sidewalk shall be five feet (5') in width with a surface of concrete designed to withstand the use of heavy machinery. The Sidewalk shall be constructed between lots 37 and 38 and adjacent to Burkhart Road in accordance with the approved PUD site plan, as indicated on the attached **Exhibit C**.
6. The Sidewalk shall be installed approximately two (2') feet from the northern boundary of the Easement, as legally described in **Exhibit B**. In addition, a split rail fence (the "Developer Fence") shall be installed on the south side of the Sidewalk, approximately eight (8') feet north of the northern edge of the gravel drive to the pump station in a manner compatible with the exercise of the Easement as depicted in **Exhibit C**. The Developer shall pay for the construction, installation and maintenance of the Developer Fence, including the cost of temporary removal and replacement of the fence for the Township to gain access in exercising the rights of the Easement.
7. The Township shall have the right to install a safety fence (the "Safety Fence") around the Utilities to prohibit unauthorized access. The Safety Fence shall be constructed and located in a manner compatible with exercising the Easement rights. The Township shall pay for the construction, installation and maintenance of the Safety Fence.
8. The Township reserves the right to temporarily block off the Sidewalk within the Easement area to allow for equipment repairs, installation and maintenance to exercise the rights of the Easement. The Township shall only block off the Sidewalk within the Easement area for a reasonable length of time to allow for the completion of the required maintenance, repairs and related activities of the Utilities.
9. The Developer, its heirs, assigns, successors, or parties in interest shall be solely responsible, at its cost, for the repair of any damage to the Sidewalk caused by any party, including but not limited to, damage caused by the Township, its contractors, or other agents or employees when exercising its rights pursuant to the Easement or this Agreement.

10. The Developer, its successors, employees, agents, heirs, assigns, or parties in interest shall not conduct further additional construction activities within the Easement outside of those specifically described in this Agreement and depicted in **Exhibit C**. In the event that the Developer undertakes additional construction activities within the Easement that impact the Easement without the prior written agreement of the Township, the Developer agrees that it shall be responsible and pay for all costs incurred by the Township to respond to the activities and remedy any damages.
11. The Developer, its successors, employees, agents, heirs, assigns, or parties in interest is responsible for any costs (but only to the extent so increased) to the Township for the operation, maintenance or improvement of the Easement or pump station located thereon, due solely to the existence of the Encroachments in the Easement.
12. Further, the Developer, its successors, employees, agents, heirs, assigns, or parties in interest agrees to pay the total costs incurred by the Township, including all engineering, inspection, recording, legal, and administrative expenses and costs attendant to or arising out of this Agreement.
13. In the event that any of the Encroachments are removed, either by a casual occurrence, Act of God, or through the voluntary acts of the Developer or others, all rights granted under this Agreement shall cease, and the Developer shall not construct a replacement structure within the Easement without a prior written agreement with the Township. Nothing in this Agreement shall prohibit the Developer from making ordinary repairs.
14. Developer agrees to maintain the Encroachments in a condition that complies with all applicable building and zoning codes or other applicable ordinances and laws.
15. The Developer, its successors or assigns, further agrees to indemnify and hold harmless the Township and/or their successors, employees, and agents against any and all claims or liability whatsoever for injuries or damages allegedly sustained by any person or business as a result of, or in any way relating to the Encroachments, conditions of the Encroachments, or conditions created by the Encroachments within the Easement, or related to the responsibilities of the Developer under this Agreement, including payment of actual attorneys and engineering fees incurred in the defense of a claim. Notwithstanding the foregoing, Developer, its successors or assigns, shall not be obligated to indemnify or hold harmless the Township from the negligent acts or omissions of the Township or its contractors.
16. The Developer agrees to maintain liability insurance on the Property sufficient to respond to claims for injuries or damages to persons or property in, on, or caused by the conditions existing on or within the Encroachments.
17. This Agreement shall be recorded with the Livingston County Register of Deeds and shall be binding on the parties, their assigns including but not limited to Condominium Association and successors in interest.

Signatures on following pages

Exhibit A

LEGAL DESCRIPTION OF PROPERTY

PARCEL 1: SEC 32 T3N R4E COMM AT SE 1/4 COR SEC 32 TH S 89° 55' 08" W 903.41 FT FOR POB TH S 89° 55' 06" W 769.27 FT TH N 00° 05' 59" E 1133.64 FT TH S 89° 55' 08" W 980.63 FT TH N 00° 04' 04" E 1155.25 FT TH S 89° 59' 30" E 2649.93 FT TH S 00° E 1374.40 FT TH S 03° 58' 40" E 10.20 FT TH S 89° 55' 08" W 904.12 FT TH S 00° E 900.16 FT TO POB 95.00 AC LEGAL CORRECTED 11/30/06

(INCL. ROW FOR BURKHARDT ROAD AND MASON ROAD)

PARCEL TAX NUMBER: 47-06-32-400-013

Exhibit B

(Easement)

Exhibit C

(Utilities Easement Sidewalk – Engineering Survey of Encroachments)

8D



Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

TO: Howell Township Board of Trustees

FROM: Paul Montagno, AICP, Township Planner
Grayson Moore, Planner

DATE: 2/26/25

RE: Heritage Square, PUD Final Site Plan Approval

Burkhart Mason Community, LLC has submitted the final site plan for Heritage Square PUD, located at the northwest corner of Mason and Burkhart Roads. The Planning Commission approved the final site plan with conditions on November 19, 2024. Additionally, on February 11, 2025, the Planning Commission recommended approval of a PUD amendment to allow an increase in lot coverage for individual single-family residential units from 30% to 40%, subject to an engineering review of stormwater capacity.

Project Background

Heritage Square PUD was originally approved by the Planning Commission on December 19, 2023, and by the Township Board on January 8, 2024. The development spans approximately 95 acres and consists of:

- 176 single-family homes
- 288 multi-family units
- A 3-story assisted living facility with 90 units

The project is designed to integrate with the surrounding community while providing diverse housing opportunities. The approved PUD includes deviations intended to preserve natural open space while permitting higher-density residential development on smaller lots, reducing infrastructure needs. The resulting number of units is equivalent to the numbers of units that could have been developed using the underlying zoning.

Final Site Plan Approval Conditions

The Planning Commission approved the final site plan with the following conditions:

1. Open Space Calculations - The applicant must update calculations to confirm the amount of open space provided in Phase 1.

*Benjamin R. Carlisle, President John L. Enos, Vice President Douglas J. Lewan, Principal
David Scurto, Principal Sally M. Elmiger, Principal R. Donald Wortman, Principal Craig Strong, Principal
Paul Montagno, Principal Megan Masson-Minock, Principal Laura Kreps, Principal Brent Strong, Principal
Richard K. Carlisle, Past President/Senior Principal*

2. Finalized Draft Plan - The final site plan must be certified by a licensed Engineer or Architect.
3. Landscaping Plan Modifications - The applicant must consider enhanced plantings around detention basins.
4. PUD Agreement Execution - The PUD agreement must be finalized and executed between the applicant and the Township.
5. Engineering Plan Submission - The applicant must submit sheet C-11.0, subject to review and approval by:
 - o Township Engineer (Letter dated November 12, 2024)
 - o Howell Area Fire Department (Review dated October 2, 2024)
 - o Livingston County Drain Commissioner (Email dated September 27, 2024)
 - o Road Commission (Letter dated November 6, 2024)

Final Site Plan Compliance

The updated open space calculations demonstrate 10.8 % (245,576 square feet) of net open space provided in Phase 1 exceeding the required 10%. The submitted plans are sealed by a licensed Engineer and the landscaping surrounding the detention basins has been improved. The applicant must address item 5 through the final engineering plans.

The Board of Trustees may approve the final site plan for Heritage Square PUD following acceptance of the PUD amendment and execution of the PUD agreement.



CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal



CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

HOWELL TOWNSHIP
APPLICATION FOR SITE PLAN REVIEW

PARCEL ID #4706 32 - 400 - 013

FILE # PC 2024 - 15

DATE OF APPLICATION: 09/25/2024

CHECK ONE: Preliminary Site Plan Review (20.06)
 Final Site Plan Review (20.07)
 Temporary Use Section (14.34)

Commercial/Industrial Development _____
Subdivision/Site Condo _____
Multi Family/Condo _____
Planned Unit Development (PUD) _____
Type: 1. _____ 2. _____ 3. _____ 4. 5. _____

I. APPLICANT:

Company Name M/I Homes of Michigan, LLC Owner: _____
Phone #: (248) 221-5011 E-Mail: see below
Address: 40950 Woodward Ave, Ste 203, Bloomfield Hills, MI 48304

Applicant: David Straub E-Mail: _____
Phone #: (248) 221-5011 E-Mail: dstraub@mihomes.com
Address: 40950 Woodward Ave, Ste 203, Bloomfield Hills, MI 48304

All Representatives to receive information and/or reports:

Contact Name: David Straub E-Mail: dstraub@mihomes.com
Contact Name: _____ E-Mail: _____
Contact Name: _____ E-Mail: _____

2. LOCATION OF PROPERTY: North of Mason Road, West of Burkhart Road. Northwest of Chestnut Crossing.

- a. Attach legal description of property. See Plan
- b. Current zoning district. PUD - Type 4
- c. Existing use. Agricultural
- d. Description of proposed use. Single Family Residential

HOWELL TOWNSHIP
APPLICATION FOR SITE PLAN REVIEW

3. The Site Plan is to contain the following information or the drawing submitted under the Land Use Permit can be utilized if it also contains the following information and is accurately drawn to scale:
- a. The date, north arrow and scale. The scale shall be not less than 1" = 20' for property under three (3) acres and at least 1" = 100' for those (3) acres or more.
 - b. Statistical data including number of dwelling units, size of dwelling units, if any, and total gross acreage involved. In the case of mobile home park, the size and location of each mobile home site shall be shown.
 - c. The location and height of all existing and proposed structures on and within 100' of the subject property's boundary.
 - d. All lot and/or property lines are to be shown and dimensioned, including building setback lines on corner lots.
 - e. The location and dimensions of all existing and proposed drives, sidewalks, curb openings, signs, exterior lighting, curbing, parking areas (show dimensions of a typical parking space), unloading areas and recreation areas.
 - f. Vehicular traffic and pedestrian circulation features within and without the site.
 - g. The location of all proposed landscaping, fences or walls.
 - h. Size and location of existing and proposed utilities, including proposed connection to public sewer or water supply system.
 - i. A location map indicating the relationship of the site to the surrounding land uses.
 - j. The location and pavement width and right-of-way width of all abutting roads, streets, alleys or easements.
 - k. Show properties and respective zoning abutting the subject property.
 - l. The location and size of all surface water drainage facilities.
 - m. Contour intervals shall be shown at a maximum of 2' intervals, with 1' intervals preferred for topographic features of the site.
4. Applicant to initial the following statements:
- a. Planning Commission has sixty (60) days from filing date to approve or deny Site Plan.
 - b. Acknowledgement that approval of Preliminary Site Plan is valid for a period of one (1) year from date of approval.
- _____

HOWELL TOWNSHIP
APPLICATION FOR SITE PLAN REVIEW

- c. Acknowledge that a one (1) year extension may be granted upon written request of the applicant and approval by Planning Commission
 - d. Acknowledge that the approval of Preliminary Site Plan shall expire one year after approval of Final Site Plan unless zoning permit has been obtained.
 - e. Applicant acknowledges approval of the Final Site Plan expires six (6) months after approval unless a Land Use Permit Application is applied for and granted.
 - f. Applicant acknowledges that the Final Site Plan approval shall expire one year following the date of approval unless construction has begun on the property in accordance with the plan.
 - g. Applicant acknowledges that he can appeal the Planning Commission's ruling of the Final Site Plan to the Board of Appeals within ten (10) days of its decision on all matters except use of the land, use of buildings or structures.
 - i. The Planning Commission has sixty (60) days from the date of the Planning Commission meeting at which the Final Site Plan was received to approve or disapprove.
 - j. Improvements not in conformance with the Final Site Plan shall be deemed a violation of the ordinance and be subject to the penalties of the ordinance.
 - k. Applicant acknowledges that sewer system tap in fee, if applicable, must be paid prior to issuance of a Land Use Permit.
5. Twelve (12) copies of the Preliminary Site Plan drawing shall be submitted with an Application for Site Plan Review (20.06a) **30 DAYS PRIOR TO MEETING.**

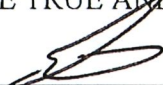









APPLICANT HERBY DEPOSES AND SAYS THAT ALL THE ABOVE STATEMENTS AND INFORMATION CONTAINED IN THIS APPLICATION AND ANY STATEMENTS SUBMITTED HERewith OR ON THE SITE PLAN ARE TRUE AND ACCURATE.

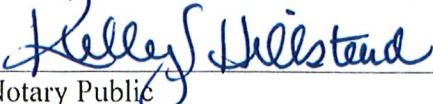


Owner Signature

David Straub

Print Name

Subscribed and sworn to before me this 25th day of September, 20 24.



Notary Public _____ County, Michigan

My Commission Expires: _____, 20____.

KELLY S. HILLSTEAD
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF OAKLAND
My Commission Expires August 18, 2028
Acting in the County of Oakland



Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: November 14, 2024

**Final Site Plan Review
For
Howell Township, Michigan**

Applicant:	Burkhart Mason Community, LLC
Project Name:	Heritage Square PUD
Plan Date:	September 25, 2024
Location:	Northwest Corner of Mason and Burkhart
Zoning:	PUD (pending)
Action Requested:	Final Site Plan & PUD Review
Required Information:	As noted in the following review

PROJECT AND SITE DESCRIPTION

The applicant is seeking approval for the final site plan for Phases 1-6 of the Heritage Square, Planned Unit Development (PUD), which was recommended for approval on December 19, 2023 by the Township Planning Commission. On January 8, 2024, The Township Board granted approval for the revised site plan and rezoning application with conditions. The applicant aims to develop one-hundred and seventy-six (176) single family housing units by 2031 through six (6) phases. The report will identify if the final site plan for these phases comply with the requirements of 27.07(M) of the Zoning Ordinance

The site is located on an approximately ninety-five (95)-acre single parcel of land located on the northwest corner of Mason and Burkhart Roads. The parcel surrounds two developments, a seventeen (17)-acre multi-family residential development and a convenience store, which are located at the intersection of the two roads. The proposed development has frontage on both Mason and Burkhart.

Prior to the approval of the PUD, the subject parcel had split zoning with twenty-seven (27) acres of SFR - Single Family Residential fronting on Burkhart and sixty-five (65) acres zoned MFR -

Multiple Family Residential. The applicant chose to pursue a PUD because of the proposed mixture of residential densities being consistent with the underlying zoning districts, but not following the delineation of those zoning districts. This was processed as a Type 2 PUD which constitutes a rezoning of the property to the PUD designation. The proposed final site plans are consistent with the approved PUD.

Aerial Image of Subject Site and Vicinity



Source: Nearmap

Items to be Addressed: None.

NEIGHBORING ZONING, LAND USE AND MASTER PLAN

Neighboring zoning, land use, and current Master Plan designations are summarized in the following chart:

**Table 1
 Zoning, Land Use and Master Plan Designations**

	North	South	East	West
Zoning	AR & SFR	MFR	SFR	AR
Land Use	Large Lot Rural Residential	Large Lot Rural Residential & Medium Density	Church & Residential	Undeveloped Open Space
Master Plan	Residential – Medium Density	Low Density Residential	General Commercial	Agricultural Preservation

Items to be Addressed: *None.*

DENSITY, AREA, WIDTH, HEIGHT, SETBACKS

During the December 19, 2023 Planning Commission meeting and public hearing, the Planning Commission recommended approval subject to the Planner report dated November 19, 2023. The Planning Commission also determined that the deviations listed in the table below meet the intent of Section 27.08 of the Howell Township Zoning Ordinance.

The PUD designation requires a 10% (6.48 acres) open space exclusive of water surface to be provided. The applicant has provided calculations indicating that they are preserving 8.48 acres of the total 68.4 acres of upland for open space. This represents 11.9 % open space. There is a discrepancy as Sheet C-1.0 proposes five (5) different areas of open space, which is equal to 9.66 acres. The pool area is not proposed as part of phases 1-6. The applicant must update their open space calculations to clearly demonstrate the amount of open space that is being provided as part of the proposed phases 1-6.

The following table summarizes the Density, Placement, and Height Regulations for the approved PUD and what has been provided on the final site plan for phase 1-6.

Density, Placement, and Height Regulations

Single-Family	APPROVED PUD	Proposed
Lot Area	5500 SF min	Average Lot = 6817 SF
Lot Width	50 Feet	Minimum = 54 Feet
Front Setback	24 Feet	24 Feet
Side Setback	7 Feet	7 Feet
Rear Setback	25 Feet	25 Feet
Perimeter Setback	40 Feet (Adjacent to SFR) 30 Feet (Adjacent to MFR)	40 Feet (Adjacent to SFR) 30 Feet (Adjacent to MFR)
Lot Coverage	Review for individual units	29.4% Max
Building Height	Review for individual units	

Items to be Addressed: The applicant must update their open space calculations to clearly demonstrate the amount of open space that is being provided as part of the proposed phases 1-6.

NATURAL RESOURCES

Topography: The site is generally flat. The grade slopes gradually upward towards the northwest corner within the proposed development area.

Woodlands: There are substantial woodlands on the site. Roughly 50 acres of the site contain woodlands. No tree inventory is provided. Sheet V 1.0 indicates that 22.88 acres of woodland will be cleared. The provisions of Section 15.09 would suggest that the area should not be clear cut as this area is designated as a priority 1 environmental feature in the Township Master Plan. The applicant has demonstrated that they are in compliance with section 15.09.B.3. of the Zoning Ordinance.

Wetlands: There are substantial wetlands depicted on sheet V 1.0. 3,219 square feet of wetlands are indicated to be filled. The applicant has provided a permit from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) verifying the wetland boundaries.

Items to be Addressed: None.

PARKING, LOADING

Parking must be provided in accordance with section 18.02. The requirement for single-family dwellings is two (2) parking spaces per unit. This has been provided.

Items to be Addressed: None

SITE ACCESS AND CIRCULATION

There are access points proposed on Burkhardt Road and Mason Road. The residential units are then accessed by a series of internal drives. The access from Mason Road becomes the main drive than runs through the middle of the multi-family area and provides access to the single-family area from Mason Road through the multi-family portion of the development as well as access to the parking area for the multi-family buildings. Currently, the multi-family area is being proposed as a separate development with separate phasing. The Planning Commission has approved the plans provided the connection to Mason Road is installed no later than Phase 2 of the single family development. The Mason Road access point is being shown as part of this final site plan.

Five-foot sidewalks are proposed throughout the site. A pathway is provided along the frontage of Mason Road and along Burkhardt Road from the entrance to the development going south. There are wetlands along the frontage to the north. A pedestrian connection to the north is provided internally though a pathway at the end of the cul-de-sac in the northeast corner of the development. Dimensions of the sidewalks and pathways are needed to determine consistency with the previously approved PUD plans.

Additionally, on Sheet C-1.1, several notes say, "SEE DETAIL SHEET C-11.0." There is no Sheet C-11.0 included in the plan set. This sheet contains details of the concrete path, mailbox cluster, and sidewalk details among other things and should be included.

Items to be Addressed: *Provide Sheet C-11.0.*

LANDSCAPING

The applicant has provided a landscaping plan on Sheet LS-1-5 approved by the Township Board on January 8, 2024.

We recommend that plants located around the detention basins be replaced with alternatives such as meadowsweet, buttonbush, soft stem bulrush, or woolgrass to reduce the plantings shed into the basin.

Items to be Addressed: *Consider a modification to landscaping plan to include better suited plantings surrounding the detention basins.*

LIGHTING

A lighting plan has been proposed by DTE Community Lighting Group. Page 2 of the lighting plan is labeled as a draft without proof of the plan being prepared by a licensed/registered Engineer or Architect as required by 20.06(B)(3). The draft plan has included streetlights at every intersection in the single-family residential areas. This is consistent with what was agreed to by the Planning Commission.

Items to be Addressed: *Provide a final lighting plan prepared by a licensed/registered Engineer or Architect.*

SIGNS

Any proposed sign must meet the requirements of Section 19.03 and Section 19.07. If a sign is proposed a separate sign permit must be obtained before installation.

Items to be Addressed: *None*

FLOOR PLAN AND ELEVATIONS

Floor plans or elevations have been provided for all for the building types in the development. The Township Board approved the proposed exterior materials at their January 8, 2024 meeting.

Items to be Addressed: None.

TRASH ENCLOSURE

Trash enclosures are located throughout the multi-family area. Single family homes will utilize individual bins for each household.

Items to be Addressed: None.

RECOMMENDATIONS

Following the review of plans dated September 18, 2024, for consistency with the previously approved plans and the outstanding items from our previous report dated July 1, 2024. The remaining outstanding items must be addressed:

1. The applicant must update their open space calculations to clearly demonstrate the amount of open space that is being provided as part of the proposed phases 1-6.
2. Draft lighting plan shall be finalized by a licensed/registered Engineer or Architect.
3. Consider a modification to landscaping plan to include better suited plantings surrounding the detention basins.
4. A PUD agreement shall be completed and executed.
5. Provide Sheet C-11.0



CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal



CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

November 12th, 2024

Jonathan Hohenstein
Howell Township
3525 Byron Road
Howell, MI 48855

RE: Heritage Square Single Family Phase 1
Parcel Number 4706-32-400-013
Final Site Plan Review

Mr. Hohenstein,

We have received and reviewed the plans for Heritage Square Single-Family Phase 1, issued as Final Site Plans. Plans were prepared by Monument Engineering Group Associates, Inc on behalf of M/I Homes of Michigan, LCC and are dated September 18th, 2024.

A separate Construction Plan set for all phases of this project was submitted on November 4, 2024 while the review of the Final Site Plan was being conducted. It should be noted that in a cursory review of the Construction Site Plan provided, several of the comments below appear to have been addressed. A more detailed review of the Construction Site Plan will be provided at a later date.

Based on our review of the Final Site Plans for Heritage Square Single Family Phase 1, dated September 18th, 2024, we offer the following comments.

General

The Township Zoning Map shows that the project site has a total area of 92.0 acres, 26.8 acres previously zoned Single Family Residential (SFR) and 65.2 acres previously zoned Multiple Family Residential (MFR). The site is surrounded by AR (Agricultural Residential) to the West and North, SFR to the East and the township boundary to the South.

The setbacks listed on the plans appear to meet the PUD requirements for the rezoning and dimensional setback reductions agreed upon by the Planning Commission and subsequent PUD preliminary site plan approval.

It should be noted that the PUD agreement has not been executed by the Township and the Developer as identified in the Township Planners July, 01, 2024 Administrative Review Letter.

The grading permit may be requested to begin earthwork activities. It must be requested and formal approval must be granted from the Planning Commission to receive the permit.

The Cover Sheet includes the project name, name of Howell Township, Livingston County, Michigan, the developer's, engineer's, and architect's, address, phone and fax number, a location map with north arrow, plan sheet index, and professional architect's or engineer's seal Licensed in the State of Michigan.

November 12, 2024
2 of 5

A legal description has been provided that includes bearings, distances, and closes within acceptable tolerances.

Grading and Drainage

The plans include a topographical survey plan sheet that includes 1-foot contour lines for the entire parcel and the 100 feet abutting.

Two benchmarks with NAVD88 are identified on Sheet V-1.0.

The current site sheet flows generally to the west and the remainder of the site sheet flows to the northeast. There is an existing storm sewer running parallel to Mason Road at the south end of the site. The type, size, and inverts of the existing utilities should be provided.

The storm water management system for this phase is comprised of 12-inch to 30-inch storm sewers that outlets to sedimentation and detention basins to the northwest. It is unclear how the rear yard drainage of the units on the perimeter, that are not adjacent to the basins, is directed to the proposed storm water management system. The rear yards of units 21-25 sheet flow directly to the wooded wetlands to the west, units 26-28 sheet flow directly to the detention basin, units 38-46 sheet flow to the wooded area between the development and Burkhart Road runoff is to be diverted to the proposed detention basins this should be directed to the sedimentation basin. MEGA's November 4, 2024 response letter stated "*As was proposed during the Site Plan stage, all roof areas are being tied into the storm sewer system and directed to the stormwater treatment areas. Rear yard areas adjacent to the wetlands, however, are proposed to drain directly to the adjacent wetlands. These rear yard areas are too low in most cases to capture in the storm sewer system. Also, if the rear yard drainage was redirected from the wetlands, it would cause a water imbalance in those wetlands, particularly those adjacent to the central and north-easterly wetland areas as those areas. These wetlands would receive significantly less runoff than they currently do.*" We defer to LCDC for acceptance of the proposed storm water management plan.

CS-87 to ES-88 should be shown on Plan Sheet C-6.1. A profile and detail of the OCS should also be provided.

No stormwater calculations were provided. It appears that full comprehensive calculations have been provided in the construction plans dated November 4th, 2024. These calculations will be evaluated in our review of the provided November 4, 2024 construction plan set. The storm water management plan must be approved by LCDC prior to earth disturbance.

Sheet C-6.12 includes the pipe segments from MH-7 to MH-9 and sheet C-6.13 includes the pipe segments from MH-54 to MH-57 from Phase 2. Temporary bulkheads, shown on plan sheet C-6.1 South of MH-10 and south of MH-58, from Phase 1 should be labeled on the profile sheets.

November 12, 2024
3 of 5

The following pipe segments are shown on plan sheet 6.1 for Phase 1, but no profile views provided. It is noted that many of these profiles appear to be included in the November 4th submission:

IN-82 TO CB-83
MH-58 TO MH-10
IN-81 TO CB-59
IN-84 TO IN-85
IN-86 TO ES-18
IN-36 TO IN-41
CB-47 TO MH-16
IN-49 TO MH-48
IN-42 TO IN-45
IN-27 TO IN-28
IN-34 TO CB-35
CB-33 TO BULKHEAD SOUTH OF CB-31
Mh-92 to CS-89

All utility crossings including top and bottom pipe elevations, should be shown in the profiles for pages C-6.9 through C-6.13. This appears to have been addressed in the November 4th submission. The crossings will be reviewed in future construction reviews.

Details should be provided for all proposed storm sewer structures.

Sanitary Sewer

The proposed sanitary sewers are 8-inch PVC SDR 26 and 6-inch PVC SDR 23.5 sanitary sewer leads, both meet Howell Township Sanitary Standards. The Sanitary sewers discharge at the existing sanitary pump station #72 in the Northeast corner of the site.

A 30-foot-wide easement for sanitary sewer is shown on the Sanitary and Watermain Plan sheet, C-3.1.

Sanitary sewer profile sheets should be provided including the length, size, type, and slope between each structure. The profile sheets shall also include rim elevations, existing and proposed ground elevations, and utility crossings with bottom of pipe elevations. All sanitary sewers located in the influence of the pavement areas shall be identified as such on the profile sheets. Profiles appear to be in the construction plan set and will be reviewed at a later day for conformance and permitting purposes

The contractor shall verify the sanitary sewer connection point stub elevation at Pump Station #72. Verify invert elevation, diameter and grade of stub before commencing sewer elevation. This elevation is critical to achieve Sanitary permitting from EGLE. The stub and the proposed sewer to connect, must be the same grade / slope.

The sanitary sewer basis of design calculations have been reviewed and no issues were noted.

The Developer is required to submit all required EGLE Part 41 Permit Application information to Township Engineer for review as the resulting sanitary sewer will be publicly owned. The Township's Engineer will submit the EGLE Part 41 Permit Application on behalf of Township. The Township's Engineer will coordinate the permit process with MEGA.

November 12, 2024
4 of 5

The proposed basis of design flow outlined on Sheet C-3.0 is 302 GPM. Pump Station #72 has a firm capacity of 555 GPM. Currently, there is approximately 30 GPM of flow contributing to this station. Based on this information, it is Spicer Group's opinion that Pump Station #72 has sufficient capacity to service the Heritage Square development. No modifications are required for Pump Station #72 at this time.

The basis of design proposes estimated 500.4 REUs will be required for this development. The Township has indicated to the Township that this site currently has 569 sewer REUs allocated to it. No additional sanitary REUs will be required for this site.

Howell Township Sanitary Details should be provided.

Site Access and Paving

ADA stalls are shown on sheet C-1.0 and C-1.1 do not appear to provide access aisles.

Sheet C-1.1 references pavement details on sheet C-11.0. This sheet was not included in this plan set, please include details for all pavement types, curbs and sidewalks.

Water main

The plans include a network of 8" ductile iron watermain, 2" copper water services to each unit, hydrants, and valves.

Water main profiles and details should be provided.

The water main was previously reviewed by MHOG, all comments from their June 24, 2024 review letter should be addressed

We defer to MHOG for further comment on the water main.

Landscaping

A landscaping plan is provided. We defer to the Township Planner to comment on the Landscaping plan.

Lighting

A photometric plan is provided. We defer to the Township Planner for further comments on the lighting requirements.

Recommendations

Based on our review we recommend that the Township grant conditional Final Site Plan approval for Phase 1 with the understanding that all items noted below, and all comments provided by other stakeholders must be addressed and approved in subsequent Construction Plan submissions before any earthwork disturbance commences:

1. Review and approval of the plans by:
 - a. Howell Township Planner
 - b. Fire Marshal
 - c. Livingston County Drain Commissioner

November 12, 2024
5 of 5

- d. MHOG
 - e. Livingston County Road Commission
2. Include CS-87 to ES-88 on plan sheet C-6.1 and provide details and profiles for the outlet control structure.
 3. Please provide all storm water storage and conveyance calculations.
 4. Please omit segments not included in this phase and include bulkheads, plugs and thrust blocks on appropriate profile sheets.
 5. Please include the omitted storm sewer segments on the profile sheets.
 6. Please include all utility crossing information on the profile sheets.
 7. Please include sanitary sewer profile sheets.
 8. Please provide appropriate details for all utilities and pavement.
 9. Please verify and include the elevation of the stub for the proposed sanitary connection at pump station #72

If you have any questions or need anything further, please feel free to contact our office.

Sincerely,



Adam C. Jacqmain
Phone: (989) 598-6196
Mailto: adamj@spicergroup.com



John W. Bradley
Phone: (517) 719-5503
Mailto: johnbradley@spicergroup.com

SPICER GROUP, INC.
1595 W Lake Lansing Rd Suite 200
East Lansing, MI 48823

CC: SGI File
Jonathan Hohenstein, Howell Township Planner
Ken Recker, Livingston County Chief Deputy Drain Commissioner
Paul Montagno, Carlisle Wortman
Bryan Hager, Howell Township Fire Inspector
Kevin McDevitt, MEGA

FINAL SITE PLAN FOR HERITAGE SQUARE SINGLE FAMILY PHASE 1

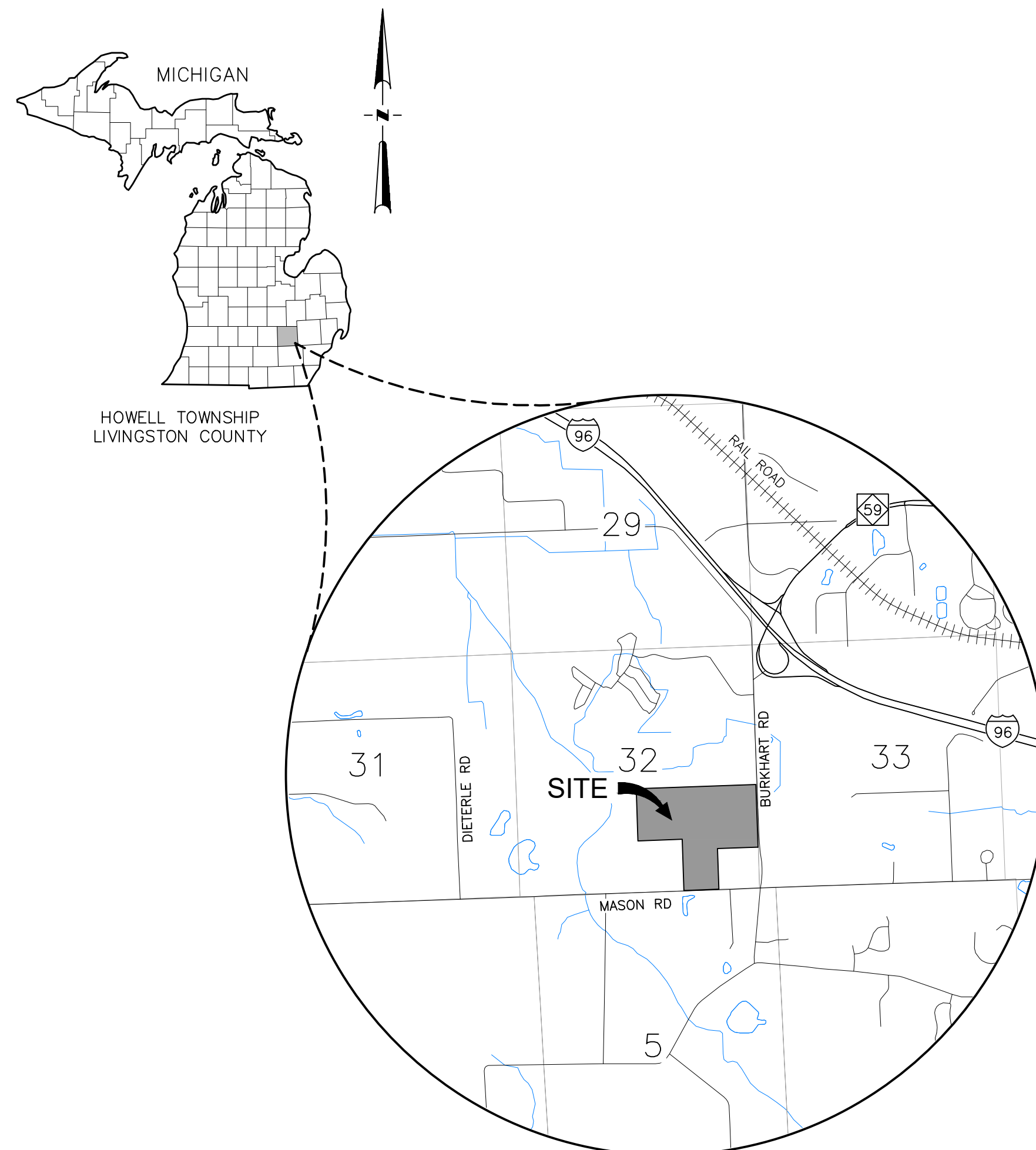
LEGAL DESCRIPTION (AS PROVIDED)

(PER TITLE AGENCY: ATA NATIONAL TITLE GROUP
TITLE COMMITMENT NO: 47-23889492-SCM,
EFFECTIVE DATE: SEPTEMBER 05,2023)

PARCEL TAX NUMBER: 47-06-32-400-013

SITUATED IN THE TOWNSHIP OF HOWELL, COUNTY OF LIVINGSTON, STATE OF MICHIGAN

PART OF THE SOUTHEAST 1/4 OF SECTION 32 AND PART OF THE SOUTHWEST 1/4 OF SECTION 33, TOWN 3 NORTH, RANGE 4 EAST, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE SOUTH LINE OF SAID SECTION 32, SAID POINT BEING SOUTH 89 DEGREES 55 MINUTES 08 SECONDS WEST 903.41 FEET FROM THE SOUTHEAST CORNER OF SECTION 32; THENCE SOUTH 89 DEGREES 55 MINUTES 08 SECONDS WEST 769.27 FEET ALONG THE SOUTH SECTION LINE; THENCE NORTH 00 DEGREES 05 MINUTES 59 SECONDS EAST 1133.64 FEET; THENCE SOUTH 89 DEGREES 55 MINUTES 08 SECONDS WEST 980.63 FEET TO THE NORTH-SOUTH 1/4 LINE; THENCE NORTH 00 DEGREES 04 MINUTES 04 SECONDS EAST 1155.25 FEET ALONG THE NORTH-SOUTH 1/4 LINE; THENCE SOUTH 89 DEGREES 59 MINUTES 30 SECONDS EAST 2649.93 FEET TO THE EAST SECTION LINE; THENCE SOUTH 00 DEGREES WEST 1374.40 FEET ALONG THE EAST SECTION LINE; THENCE SOUTH 03 DEGREES 58 MINUTES 40 SECONDS EAST 10.20 FEET ALONG THE CENTERLINE OF BURKHART ROAD; THENCE SOUTH 89 DEGREES 55 MINUTES 08 SECONDS WEST 904.12 FEET; THENCE SOUTH 00 DEGREES WEST 900.16 FEET TO THE POINT OF BEGINNING.



LOCATION MAP

LAND USE SUMMARY			
LAND USE DATA	CHARACTERISTIC	EXISTING CONDITIONS	PROPOSED CONDITIONS
	TOTAL DEVELOPMENT AREA (AC)	95.02 AC	95.02 AC
	IMPERVIOUS AREA (AC)	0.00 AC	29.95 AC
	TOTAL PERVIOUS AREA (AC)	95.02 AC	65.07 AC
PERVIOUS AREA BREAKDOWN BY COVER TYPE			
PERVIOUS AREA	MEADOW/FALLOW/NATURAL AREAS (NON-CULTIVATED)	19.07 AC	16.12 AC
	PREDOMINANT NRCS SOIL TYPE (A, B, C, OR D)	TYPE C	TYPE C
	IMPROVED AREAS (TURF GRASS, LANDSCAPE, ROW CROPS)	45.28 AC	38.68 AC
	PREDOMINANT NRCS SOIL TYPE (A, B, C, OR D)	TYPE B	TYPE B
	WOODED AREAS	30.67 AC	10.27 AC
	PREDOMINANT NRCS SOIL TYPE (A, B, C, OR D)	TYPE C	TYPE C
CPVC VOLUME CALCULATED (CF)		174,380 CF	
CPVC VOLUME PROVIDED (CF) *		0 CF	
CPRC (EXTENDED DETENTION) VOLUME PROVIDED (CF)		254,863 CF	
* NOTED CPVC VOLUME PROVIDED = 0 DUE TO LACK OF INFILTRATION CAUSED BY HIGH GROUND WATER.			

THE PROFESSIONAL ENGINEER WHO SIGNS AND SEALS THIS SITE PLAN CERTIFIES THAT THE VALUES IN THIS TABLE REFLECT THE WRC STORMWATER CALCULATIONS REQUIRED FOR THIS DEVELOPMENT AND THAT GEOTECHNICAL INVESTIGATIONS WERE PERFORMED THAT PROVIDE CONCLUSIVE DOCUMENTATION THAT DEMONSTRATES WHETHER INFILTRATION (I.E. CPVC VOLUME CONTROL) IS PRACTICABLE.

DESIGN ENGINEER/SURVEYOR



MONUMENT ENGINEERING GROUP ASSOCIATES, INC

INNOVATIVE GEOSPATIAL & ENGINEERING SOLUTIONS

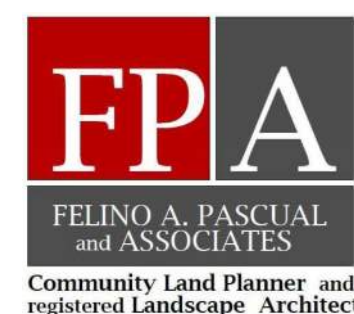
298 VETERANS DRIVE,
FOWLERVILLE, MI 48836
PHONE: 517-223-3512

SINGLE FAMILY DEVELOPER

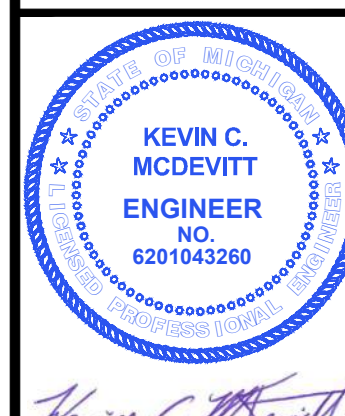
M/I HOMES OF MICHIGAN, LLC

40950 WOODWARD AVE
SUITE 203
BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
PHONE: 248-221-5011

ARCHITECT



FELINO PASCUAL ASSOCIATES
24333 Orchard Lake Road
Suite G
Farmington Hills, MI 48336
POC: Felino A. Pascual (Joel), RLA, CLARB Pas
PHONE: 248-557-5588



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40950 WOODWARD AVE
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BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
(248)-221-5011

COVER
HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

DATE	PLAN SUBMITTALS/REVISIONS
05/09/2024	SITE PLAN SUBMITTAL
09/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVERAGE CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

PROJECT NO: 21-075C

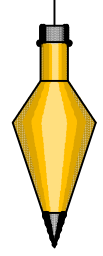
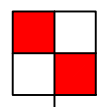
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0 1/2" 1"

FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

G-10

NOTE: BUILDING PERMITS (BUILDING, ELECTRICAL, PLUMBING, MECHANICAL, ETC.) ARE TRACKED SEPARATELY ON THE ARCHITECTURAL PLANS.

NOT FOR CONSTRUCTION



SHEET INDEX	PLAN SUBMITTALS				INCLUDED SHEETS
	SITE PLAN SUBMITTAL	PHASE 1 FINAL SITE PLAN SUBMITTAL	MODIFIED COVERAGE CALCULATION	REVISED PHASE 1 FINAL SITE PLAN	
	5/09/2024	9/18/2024	11/25/2024	2/20/2025	
GENERAL					
SHEET G-1.0	COVER	●	●	●	●
SHEET G-1.1	SHEET INDEX	●	●	●	●
SURVEY					
SHEET V-1.0	TOPO SURVEY AND DEMO PLAN	●	●	●	●
SITE PLAN					
SHEET C-0.0	PHASING PLAN - OVERVIEW	●	●	●	●
SHEET C-0.1	FIRE PROTECTION PLAN	●	●	●	●
SHEET C-1.0	SITE PLAN - OVERVIEW	●	●	●	●
SHEET C-1.1	DIMENSION AND PAVING PLAN - PHASE 1	●	●	●	●
SHEET C-1.2	DIMENSION AND PAVING PLAN - PHASE 2 (WEST)	●	●	●	●
SHEET C-1.3	DIMENSION AND PAVING PLAN - PHASE 2 (EAST)	●	●	●	●
SHEET C-1.4	DIMENSION AND PAVING PLAN - PHASE 3	●	●	●	●
SHEET C-1.5	DIMENSION AND PAVING PLAN - PHASE 4	●	●	●	●
SHEET C-1.6	DIMENSION AND PAVING PLAN - PHASE 5	●	●	●	●
SHEET C-1.7	DIMENSION AND PAVING PLAN - PHASE 6	●	●	●	●
SHEET C-1.8	DIMENSION AND PAVING PLAN - HIGHLANDER PARK DRIVE (PH 2)	●	●	●	●
WETLAND PLANS					
SHEET C-2.0	WETLAND IMPACT PLAN - OVERALL	●	●	●	●
SHEET C-2.1	WETLAND IMPACTS - WETLAND A	●	●	●	●
SHEET C-2.2	WETLAND IMPACTS - WETLAND D	●	●	●	●
SHEET C-2.3	WETLAND IMPACTS - WETLAND Y	●	●	●	●
UTILITY					
SHEET C-3.0	UTILITY PLAN - OVERVIEW	●	●	●	●
SHEET C-3.1	SANITARY SEWER AND WATERMAIN PLAN - PHASE 1	●	●	●	●
SHEET C-3.2	SANITARY SEWER AND WATERMAIN PLAN - PHASE 2	●	●	●	●
SHEET C-3.3	SANITARY SEWER AND WATERMAIN PLAN - PHASE 2	●	●	●	●
SHEET C-3.4	SANITARY SEWER AND WATERMAIN PLAN - PHASE 3	●	●	●	●
SHEET C-3.5	SANITARY SEWER AND WATERMAIN PLAN - PHASE 4	●	●	●	●
SHEET C-3.6	SANITARY SEWER AND WATERMAIN PLAN - PHASE 5	●	●	●	●
SHEET C-3.7	SANITARY SEWER AND WATERMAIN PLAN - PHASE 6	●	●	●	●
SHEET C-3.8	SANITARY SEWER AND WATERMAIN PLAN - HIGHLANDER PARK DR (PH2)	●	●	●	●
SHEET C-4.1	SANITARY SEWER PROFILES - SHAGBARK DR (NORTH) & AMERICAN ELM DR	●	●	●	●
SHEET C-4.2	SANITARY SEWER PROFILES - FORESTRY RD & SEDGEVIEW CIRCLE (WEST)	●	●	●	●
SHEET C-4.3	SANITARY SEWER PROFILES - SEDGEVIEW CIRCLE (NORTH) & SEDGEVIEW COURT	●	●	●	●
SHEET C-4.4	SANITARY SEWER PROFILES - SHAGBARK DR (WEST) & FORESTRY ROAD	●	●	●	●
SHEET C-4.5	SANITARY SEWER PROFILES - SEDGEVIEW CIRCLE (EAST)	●	●	●	●
SHEET C-4.6	SANITARY SEWER PROFILES - SEDGEVIEW CIRCLE (SOUTH & WEST)	●	●	●	●
SHEET C-4.7	SANITARY SEWER PROFILES - HERITAGE SQ DR & FORESTRY RD (EAST)	●	●	●	●
SHEET C-4.8	SANITARY SEWER PROFILES - IRON OAK LANE & MULBERRY LANE	●	●	●	●
SHEET C-5.1	WATER MAIN PROFILES - SHAGBARK DRIVE (WEST) & FORESTRY ROAD	●	●	●	●
SHEET C-5.2	WATER MAIN PROFILES - SHAGBARK DR (NORTH) & AMERICAN ELM DR (NORTH)	●	●	●	●
SHEET C-5.3	WATER MAIN PROFILES - AMERICAN ELM DRIVE (SOUTH)	●	●	●	●
SHEET C-5.4	WATER MAIN PROFILES - SEDGEVIEW CIRCLE (EAST AND SOUTH)	●	●	●	●
SHEET C-5.5	WATER MAIN PROFILES - SEDGEVIEW CIRCLE (SOUTH, WEST & NORTH)	●	●	●	●
SHEET C-5.6	WATER MAIN PROFILES - SEDGEVIEW CIRCLE (NORTH & EAST)	●	●	●	●
SHEET C-5.7	WATER MAIN PROFILES - SEDGEVIEW COURT	●	●	●	●
SHEET C-5.8	WATER MAIN PROFILES - FORESTRY ROAD	●	●	●	●
SHEET C-5.9	WATER MAIN PROFILES - HERITAGE SQUARE DRIVE	●	●	●	●
SHEET C-5.10	WATER MAIN PROFILES - MULBERRY LANE	●	●	●	●
SHEET C-5.11	WATER MAIN PROFILES - IRON OAK LANE	●	●	●	●
SHEET C-5.12	WATER MAIN PROFILES - HIGHLANDER PARK DRIVE	●	●	●	●
SHEET C-5.13	WATER MAIN PROFILES - MASON ROAD	●	●	●	●
SHEET C-6.1	STORM SEWER PLAN (PHASE 1)	●	●	●	●
SHEET C-6.2	STORM SEWER PLAN (PHASE 2) - (WEST)	●	●	●	●
SHEET C-6.3	STORM SEWER PLAN (PHASE 2) - (EAST)	●	●	●	●
SHEET C-6.4	STORM SEWER PLAN (PHASE 3)	●	●	●	●
SHEET C-6.5	STORM SEWER PLAN (PHASE 4)	●	●	●	●
SHEET C-6.6	STORM SEWER PLAN (PHASE 5)	●	●	●	●
SHEET C-6.7	STORM SEWER PLAN (PHASE 6)	●	●	●	●
SHEET C-6.8	STORM SEWER PLAN (OFFSITE) - HIGHLANDER PARK DRIVE	●	●	●	●
SHEET C-6.9	STORM SEWER AND ROAD PLAN & PROFILE - HERITAGE SQUARE DRIVE	●	●	●	●
SHEET C-6.10	STORM SEWER AND ROAD PLAN & PROFILE - SEDGEVIEW CIRCLE (NORTH)	●	●	●	●
SHEET C-6.11	STORM SEWER AND ROAD PLAN & PROFILE - SEDGEVIEW COURT	●	●	●	●
SHEET C-6.12	STORM SEWER AND ROAD PLAN & PROFILE - SEDGEVIEW CIRCLE (EAST)	●	●	●	●
SHEET C-6.13	STORM SEWER AND ROAD PLAN & PROFILE - SEDGEVIEW CIRCLE (WEST)	●	●	●	●
SHEET C-6.14	STORM SEWER AND ROAD PLAN & PROFILE - FORESTRY ROAD (WEST)	●	●	●	●
SHEET C-6.15	STORM SEWER AND ROAD PLAN & PROFILE - FORESTRY ROAD (EAST)	●	●	●	●

SHEET INDEX	PLAN SUBMITTALS				INCLUDED SHEETS
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UTILITY - CONTINUED					
SHEET C-6.16	STORM SEWER AND ROAD PLAN & PROFILE - SEDGEVIEW CIRCLE (SOUTH)	●	●	●	●
SHEET C-6.17	STORM SEWER AND ROAD PLAN & PROFILE - AMERICAN ELM DRIVE	●	●	●	●
SHEET C-6.18	STORM SEWER AND ROAD PLAN & PROFILE - MULBERRY LANE	●	●	●	●
SHEET C-6.19	STORM SEWER AND ROAD PLAN & PROFILE - SHAGBARK DRIVE (WEST)	●	●	●	●
SHEET C-6.20	STORM SEWER AND ROAD PLAN & PROFILE - SHAGBARK DRIVE (NORTH)	●	●	●	●
SHEET C-6.21	STORM SEWER AND ROAD PLAN & PROFILE - IRON OAK LANE	●	●	●	●
SHEET C-6.22	STORM SEWER AND ROAD PLAN & PROFILE - HIGHLANDER PARK DRIVE (S)	●	●	●	●
SHEET C-6.23	STORM SEWER AND ROAD PLAN & PROFILE - HIGHLANDER PARK DRIVE (N)	●	●	●	●
SHEET C-6.24	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.25	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.26	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.27	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.28	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.29	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.30	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.31	STORM SEWER PROFILES	●	●	●	●
SHEET C-6.32	STORM SEWER PROFILES	●	●	●	●
GRADING					
SHEET C-7.1	GRADING PLAN (PHASE 1)	●	●	●	●
SHEET C-7.2	GRADING PLAN (PHASE 2 - WEST)	●	●	●	●
SHEET C-7.3	GRADING PLAN (PHASE 2 - EAST)	●	●	●	●
SHEET C-7.4	GRADING PLAN (PHASE 3)	●	●	●	●
SHEET C-7.5	GRADING PLAN (PHASE 4)	●	●	●	●
SHEET C-7.6	GRADING PLAN (PHASE 5)	●	●	●	●
SHEET C-7.7	GRADING PLAN (PHASE 6)	●	●	●	●
SHEET C-7.8	GRADING PLAN - HIGHLANDER PARK DR (PHASE 2)	●	●	●	●
SOIL EROSION & SEDIMENTATION CONTROL (SESC)					
SHEET C-8.1	SESC PLAN - PHASE 1 ONLY	●	●	●	●
SHEET C-8.2	LDC SESC NOTES AND DETAILS	●	●	●	●
SHEET C-8.3	LDC SESC DETAILS	●	●	●	●
STORM WATER MANAGEMENT					
SHEET C-9.0	EAST POND DRAINAGE AREA PLAN	●	●	●	●
SHEET C-9.1	EAST POND DRAINAGE AREA CALCS	●	●	●	●
SHEET C-9.2	EAST POND STORM SEWER CALCS	●	●	●	●
SHEET C-9.3	EAST POND DETENTION BASIN CALCS	●	●	●	●
SHEET C-9.4	EAST POND DETENTION BASIN DETAILS	●	●	●	●
SHEET C-9.5	WEST POND DRAINAGE AREA PLAN	●	●	●	●
SHEET C-9.6	WEST POND DRAINAGE AREA PLAN	●	●	●	●
SHEET C-9.7	WEST POND DRAINAGE AREA CALCS	●	●	●	●
SHEET C-9.8	WEST POND STORM SEWER CALCS	●	●	●	●
SHEET C-9.9	WEST POND DETENTION BASIN CALCS	●	●	●	●
SHEET C-9.10	WEST POND DETENTION BASIN DETAILS	●	●	●	●
ROAD PLANS					
SHEET C-10.0	TYPICAL COUNTY ROAD SECTIONS	●	●	●	●
SHEET C-10.1	EXISTING CONDITIONS, REMOVAL & CONSTRUCTION PLAN - BURKHART ROAD	●	●	●	●
SHEET C-10.2	EXISTING CONDITIONS, REMOVAL & CONSTRUCTION PLAN - MASON ROAD	●	●	●	●
SHEET C-10.3	GRADING PLAN - BURKHART ROAD	●	●	●	●
SHEET C-10.4	GRADING PLAN - MASON ROAD	●	●	●	●
SHEET C-10.5	MAINTENANCE OF TRAFFIC PLAN - BURKHART ROAD	●	●	●	●
SHEET C-10.6	MAINTENANCE OF TRAFFIC PLAN - MASON ROAD	●	●	●	●
SHEET C-10.7	PAVEMENT MARKING AND SIGNAGE PLAN - BURKHART ROAD	●	●	●	●
SHEET C-10.8	PAVEMENT MARKING AND SIGNAGE PLAN - MASON ROAD	●	●	●	●
DETAILS					
SHEET C-11.0	MISCELLANEOUS DETAILS	●	●	●	●
SHEET C-11.1	MISCELLANEOUS DETAILS	●	●	●	●
SHEET C-11.1	MDOT DETAILS	●	●	●	●
SPECIFICATIONS					
SHEET C-12.0	SPECIFICATIONS	●	●	●	●
SHEET C-12.1	SPECIFICATIONS	●	●	●	●
LANDSCAPE					
SHEET LS-1	OVERALL LANDSCAPE PLAN VIEW	●	●	●	●
SHEET LS-2	PLANTING DETAIL PLAN (SINGLE FAMILY)	●	●	●	●
SHEET LS-3	PLANTING DETAIL PLAN (SINGLE FAMILY)	●	●	●	●
SHEET LS-4	PLANTING DETAIL PLAN (DETENTION POND)	●	●	●	●
SHEET LS-5	PLANTING DETAIL PLAN (SOD AND SEEDING)	●	●	●	●
DTE LIGHTING					
SHEET 1-6	DTE LIGHTING PLANS	●	●	●	●
HOWELL TOWNSHIP, MHOG, LIVINGSTON COUNTY STANDARD DETAILS					

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THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF

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SHEET INDEX

HERITAGE SQUARE (SINGLE FAMILY)
ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

PLAN SUBMITTALS/REVISIONS	DATE
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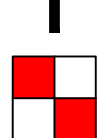
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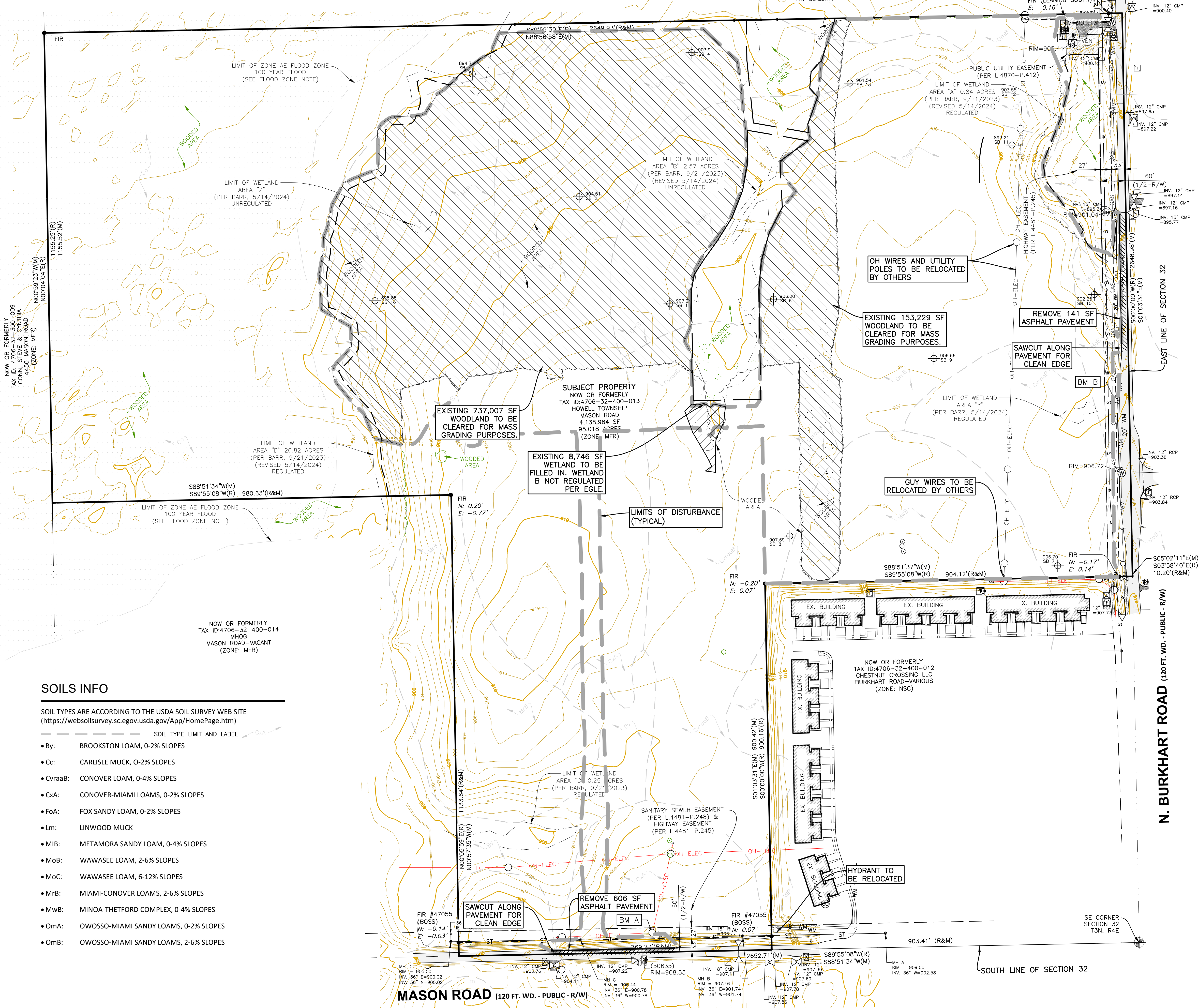
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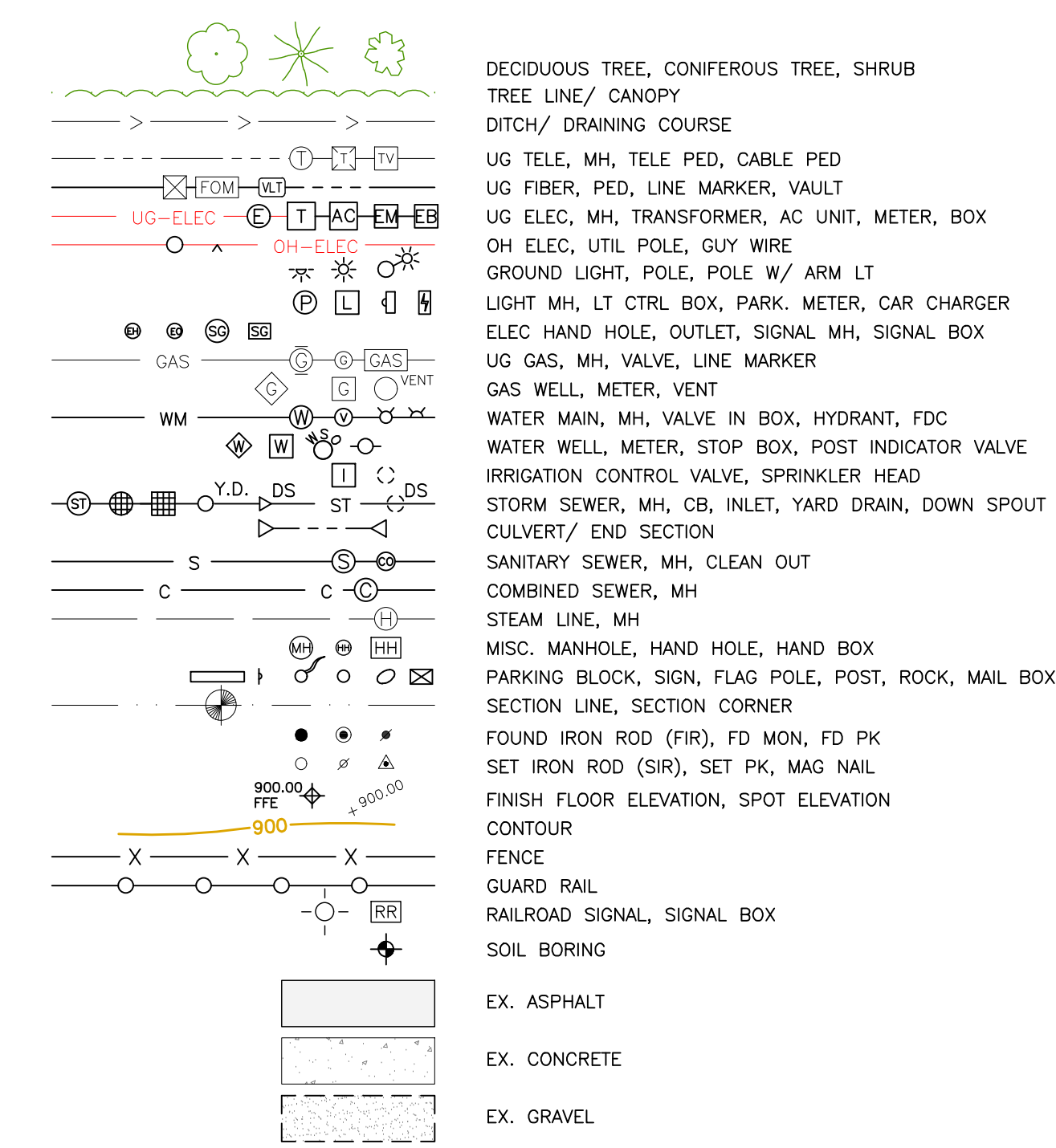


WETLAND NOTE

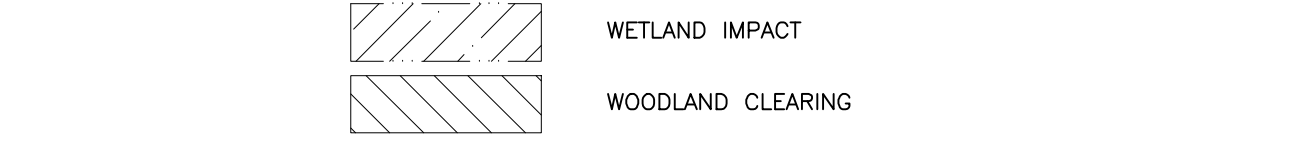
ACCORDING TO THE NATIONAL WETLAND INVENTORY WEBSITE (HTTP://WWW.FWS.GOV/WETLANDSDATAMAPPER.HTML), THERE ARE NOTED WETLANDS ON THE SUBJECT PARCEL. WETLAND LIMITS IDENTIFIED ON THE TOPO ARE PER WETLAND FLAGGING PERFORMED BY BARR ENGINEERING ON SEPTEMBER 21, 2023. EGL performed an on-site WIP review on 5/13/2024, VERIFYING ALL WETLAND BOUNDARIES AND REGULATED STATUS AS NOTED ON PLAN BELOW.



EXISTING LEGEND



REMOVAL LEGEND



FLOOD ZONE

FEMA MAP SCALES DO NOT SUPPLY SUFFICIENT LEVEL OF DETAIL TO PLOT ACCURATELY. ZONES IF PLOTTED HEREIN ARE APPROXIMATE.

BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THE SUBJECT PROPERTY APPEARS TO LIE PARTIALLY IN ZONE (X) AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AND ALSO PARTIALLY IN ZONE (AE) THE 1% ANNUAL CHANCE FLOOD (100 YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALLED OR EXCEEDED IN ANY GIVEN YEAR. THE SPECIAL FLOOD HAZARD AREA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. AREAS OF SPECIAL FLOOD HAZARD MAY INCLUDE ZONES A, AE, AH, AO, A99, V AND VE. THE BASE FLOOD ELEVATION IS THE WATER-SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD; BASED FLOOD ELEVATIONS DETERMINED ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR THE COUNTY OF LIVINGSTON, COMMUNITY PANEL NO. (26093C0282D) & (26093C0301D), BOTH WITH EFFECTIVE DATE 9/17/2008.

UTILITY REFERENCES

WM: RECEIVED:	MARION, HOWELL, OCEOLA & GENOA TOWNSHIPS (MHOG) 8/16/21
SAN: RECEIVED:	MARION, HOWELL, OCEOLA & GENOA TOWNSHIPS (MHOG) 8/16/21
STORM: RECEIVED:	MARION, HOWELL, OCEOLA & GENOA TOWNSHIPS (MHOG) 8/16/21
GAS: RECEIVED:	CONSUMERS ENERGY N/A
ELEC: RECEIVED:	DETROIT EDISON N/A
PHONE/CABLE: RECEIVED:	AT&T ~ CHARTER ~ COMCAST N/A ~ N/A ~ N/A

UTILITY NOTES

- MISS DIG WAS NOT PERFORMED AT TIME OF SURVEY.
- ANY UTILITIES SHOWN ARE FROM ABOVE GROUND VISIBILITY AND ANY PLANS PROVIDED.
- THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

BENCHMARKS

DATUM: NAVD88

BM A:
SET BENCH TIE IN S/SIDE OF UTILITY POLE ON NORTH SIDE OF MASON ROAD 290± WEST OF EAST PROPERTY LINE.
ELEV = 909.83

BM B:
ARROW ON HYDRANT ON WEST SIDE OF BURKHART ROAD 430± NORTH OF SOUTH PROPERTY LINE.
ELEV = 906.59

SOILS INFO

SOIL TYPES ARE ACCORDING TO THE USDA SOIL SURVEY WEB SITE (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm)

- SOIL TYPE LIMIT AND LABEL
- By: BROOKSTON LOAM, 0-2% SLOPES
 - Cc: CARLISLE MUCK, 0-2% SLOPES
 - CvraaB: CONOVER LOAM, 0-4% SLOPES
 - CxA: CONOVER-MIAMI LOAMS, 0-2% SLOPES
 - FoA: FOX SANDY LOAM, 0-2% SLOPES
 - Lm: LINWOOD MUCK
 - MIB: METAMORA SANDY LOAM, 0-4% SLOPES
 - MoB: WAWASEE LOAM, 2-6% SLOPES
 - MoC: WAWASEE LOAM, 6-12% SLOPES
 - MrB: MIAMI-CONOVER LOAMS, 2-6% SLOPES
 - MwB: MINOA-THETFORD COMPLEX, 0-4% SLOPES
 - OmA: OWOSSO-MIAMI SANDY LOAMS, 0-2% SLOPES
 - OmB: OWOSSO-MIAMI SANDY LOAMS, 2-6% SLOPES

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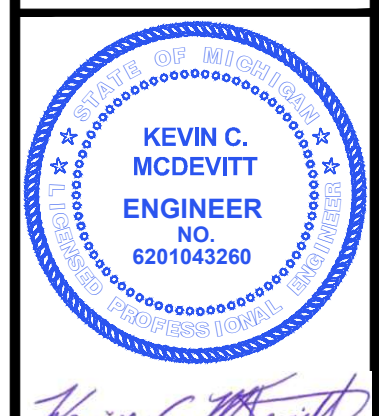
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THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT DEPTHS, LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT :

M/I HOMES OF MICHIGAN, L.L.C.
40950 WOODWARD AVE
SUITE 203
BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
(248)-221-5011

PHASING PLAN - OVERVIEW

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTALS/REVISIONS
09/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/20/2024	MODIFIED COVERAGE CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

PROJECT NO: 21-075C

SCALE: 1" = 120'

FIELD:
DRAWN BY: DC, MN, CK, DJ
DESIGN BY: KM
CHECK BY: KM

C-0.0

NOT FOR CONSTRUCTION

DENSITY AND UNIT COUNT

TOTAL SITE AREA: 92 ACRES

NOTE: DENSITY CALCULATIONS FROM APPROVED PUD PLAN. MULTIFAMILY DEVELOPMENT AND SENIOR LIVING BY OTHERS. SEE UNDERLYING PUD PLAN FOR DETAILS.

AREA CURRENTLY ZONED SFR: 26.8 AC (24.0 AC UPLAND)
AREA CURRENTLY ZONED MFR: 65.2 AC (44.4 AC UPLAND)

OPEN SPACE REQUIRED (27.07.E)
10% OF TOTAL LAND AREA EXCLUSIVE OF WATER SURFACES
10% * (68.4 ACRES UPLAND) = 6.84 ACRES

OPEN SPACES PROVIDED = 8.48 ACRES (11.9% OF UPLAND AREA)

ALLOWED DENSITY (27.07.A)
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UPLAND AREA SFR = 24.0 ACRES
REDUCED 10% FOR REQUIRED OPEN SPACE = 21.6 ACRES
SFR = 3.0 UNITS/ACRE x 1.25 = 3 x 21.6 x 1.25 = 81 UNITS

UPLAND AREA MFR = 44.4 ACRES
REDUCED 10% FOR REQUIRED OPEN SPACE = 40 ACRES
MFR = 12 UNITS/ACRE x 1.25 = 12 x 40 x 1.25 = 600 UNITS

TOTAL ALLOWED UNITS = 681

UNITS PROPOSED

SINGLE FAMILY UNITS: 176 PROPOSED

MULTI-FAMILY UNITS: 288 PROPOSED

- 55 - 3 BR / 2 BA - RANCH STYLE TOWNHOMES
- 81 - 2 BR / 2.5 BA - 2 STORY TOWNHOMES
- 40 - 1 BR / 1 BA - GARDEN STYLE APARTMENTS
- 112 - 3 BR / 2.5 BA - 2 STORY TOWNHOMES W/ GARAGE

3 - STORY SENIOR LIVING BUILDING: APPROX. 90 PROPOSED

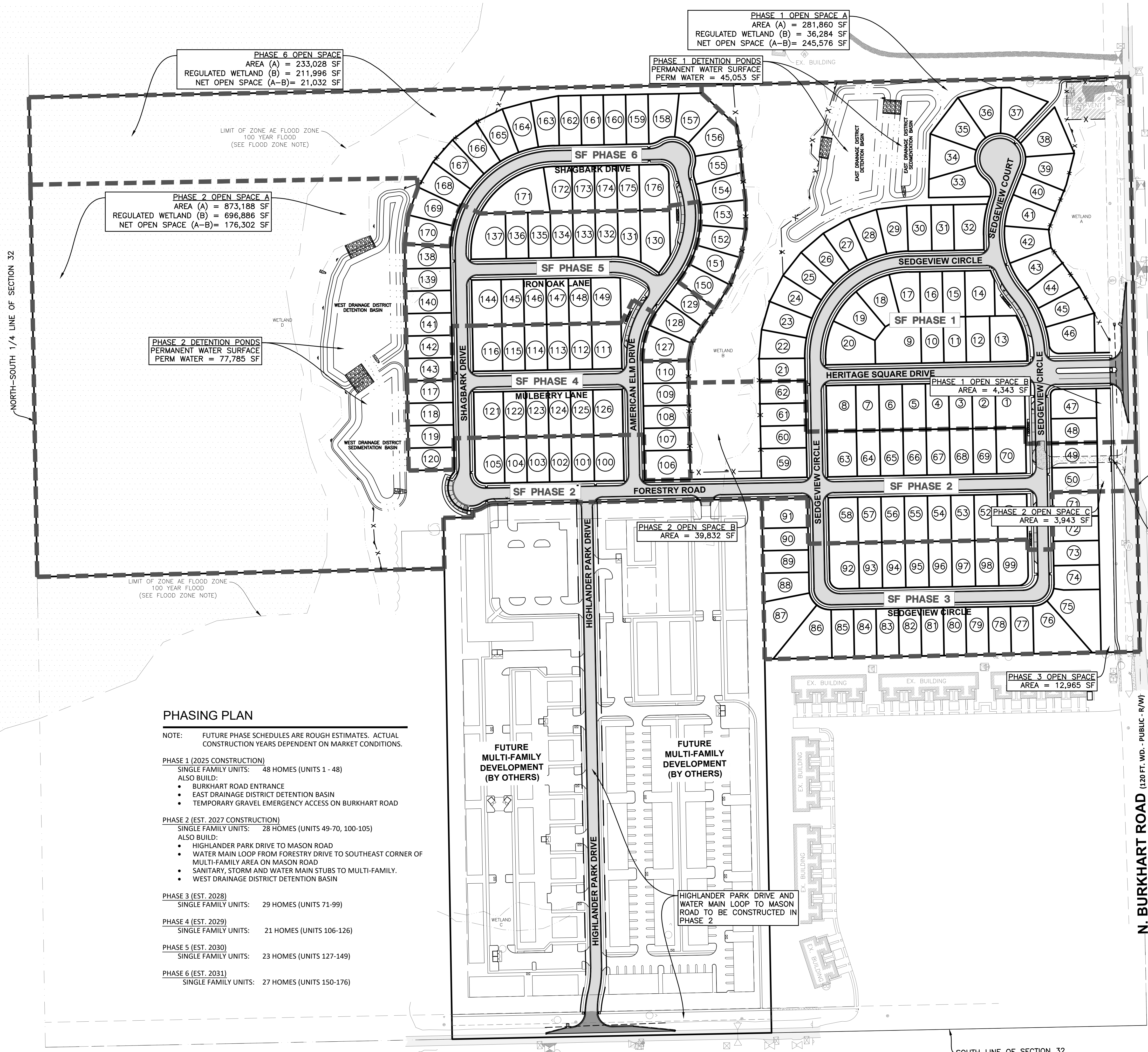
TOTAL: 554 RESIDENTIAL UNITS

OPEN SPACE CALCULATIONS - BY PHASE

TOTAL SINGLE FAMILY AREA	= 3,061,947 SF (70.29 ACRES)
TOTAL SINGLE FAMILY AREA (- REG. WETLAND)	= 2,116,782 SF (48.59 ACRES)
TOTAL SINGLE FAMILY OPEN SPACE (EXCLUDES REGULATED WETLANDS AND PERMANENT WATER SURFACES)	= 381,155 SF
PHASE 1	
PHASE 1 AREA	= 749,909 SFT (17.22 ACRES)
PHASE 1 OPEN SPACE =	
PERMANENT WATER AREA	= 286,203 SFT
REGULATED WETLAND AREA	= 45,053 SFT
NET OPEN SPACE (EXC. WATER & WL)	= 204,866 SFT
OPEN SPACE PERCENT	= 27.3 %
PHASE 2	
PHASE 2 AREA	= 1,208,468 SF (27.74 ACRES)
TOTAL AREA (PHASE 1-2)	= 1,958,377 SF (44.96 ACRES)
PHASE 2 OPEN SPACE	= 916,963 SF
PERMANENT WATER AREA	= 77,785 SF
REGULATED WETLAND AREA	= 696,886 SF
NET OPEN SPACE (EXC. WATER & WL)	= 142,292 SF
TOTAL NET OPEN SPACE (PHASE 1-2)	= 347,158 SF
OPEN SPACE PERCENT	= 17.7%
PHASE 3	
PHASE 3 AREA	= 259,260 SF (5.95 ACRES)
TOTAL DEVELOPED AREA	= 2,217,637 SF (50.91 ACRES)
PHASE 3 OPEN SPACE	= 12,965 SF
TOTAL NET OPEN SPACE (PHASE 1-3)	= 360,123 SF
OPEN SPACE PERCENT	= 16.2%
PHASE 4	
PHASE 4 AREA	= 182,324 SF (4.19 ACRES)
TOTAL DEVELOPED AREA	= 2,399,961 SF (55.10 ACRES)
NO ADDITIONAL OPEN SPACE	
TOTAL NET OPEN SPACE (PHASE 1-4)	= 360,123 SF
OPEN SPACE PERCENT	= 15.0%
PHASE 5	
PHASE 5 AREA	= 205,415 SF (4.72 ACRES)
TOTAL DEVELOPED AREA	= 2,605,376 SF (59.81 ACRES)
NO ADDITIONAL OPEN SPACE	
TOTAL NET OPEN SPACE (PHASE 1-5)	= 360,123 SF
OPEN SPACE PERCENT	= 13.8%
PHASE 6	
PHASE 6 AREA	= 456,572 SF (10.48 ACRES)
TOTAL DEVELOPED AREA	= 3,061,947 SF (70.29 ACRES)
PHASE 6 OPEN SPACE	= 233,028 SF
REGULATED WETLAND AREA	= 211,996 SF
NET OPEN SPACE (EXC. WATER & WL)	= 21,032 SFT
TOTAL NET OPEN SPACE (PHASE 1-6)	= 381,155 SF
OPEN SPACE PERCENT	= 12.4 %

TOWNSHIP PUD ORDINANCE REQUIRES 10% MINIMUM OPEN SPACE.

NOTE: AREAS DO NOT INCLUDE BURKHART ROAD RIGHT OF WAY.



PHASE 6 OPEN SPACE
AREA (A) = 233,028 SF
REGULATED WETLAND (B) = 211,996 SF
NET OPEN SPACE (A-B) = 21,032 SF

PHASE 1 OPEN SPACE A
AREA (A) = 281,860 SF
REGULATED WETLAND (B) = 36,284 SF
NET OPEN SPACE (A-B) = 245,576 SF

PHASE 1 DETENTION PONDS
PERMANENT WATER SURFACE
PERM WATER = 45,053 SF

PHASE 2 OPEN SPACE A
AREA (A) = 873,188 SF
REGULATED WETLAND (B) = 696,886 SF
NET OPEN SPACE (A-B) = 176,302 SF

PHASE 2 DETENTION PONDS
PERMANENT WATER SURFACE
PERM WATER = 77,785 SF

PHASE 2 OPEN SPACE B
AREA = 39,832 SF

PHASE 3 OPEN SPACE
AREA = 12,965 SF

HIGHLANDER PARK DRIVE AND
WATER MAIN LOOP TO MASON
ROAD TO BE CONSTRUCTED IN
PHASE 2

PHASING PLAN

NOTE: FUTURE PHASE SCHEDULES ARE ROUGH ESTIMATES. ACTUAL CONSTRUCTION YEARS DEPENDENT ON MARKET CONDITIONS.

PHASE 1 (2025 CONSTRUCTION)
SINGLE FAMILY UNITS: 48 HOMES (UNITS 1 - 48)
ALSO BUILD:
• BURKHART ROAD ENTRANCE
• EAST DRAINAGE DISTRICT DETENTION BASIN
• TEMPORARY GRAVEL EMERGENCY ACCESS ON BURKHART ROAD

PHASE 2 (EST. 2027 CONSTRUCTION)
SINGLE FAMILY UNITS: 28 HOMES (UNITS 49-70, 100-105)
ALSO BUILD:
• HIGHLANDER PARK DRIVE TO MASON ROAD
• WATER MAIN LOOP FROM FORESTRY DRIVE TO SOUTHEAST CORNER OF MULTI-FAMILY AREA ON MASON ROAD
• SANITARY, STORM AND WATER MAIN STUBS TO MULTI-FAMILY.
• WEST DRAINAGE DISTRICT DETENTION BASIN

PHASE 3 (EST. 2028)
SINGLE FAMILY UNITS: 29 HOMES (UNITS 71-99)

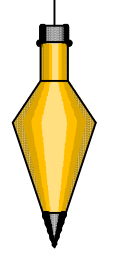
PHASE 4 (EST. 2029)
SINGLE FAMILY UNITS: 21 HOMES (UNITS 106-126)

PHASE 5 (EST. 2030)
SINGLE FAMILY UNITS: 23 HOMES (UNITS 127-149)

PHASE 6 (EST. 2031)
SINGLE FAMILY UNITS: 27 HOMES (UNITS 150-176)

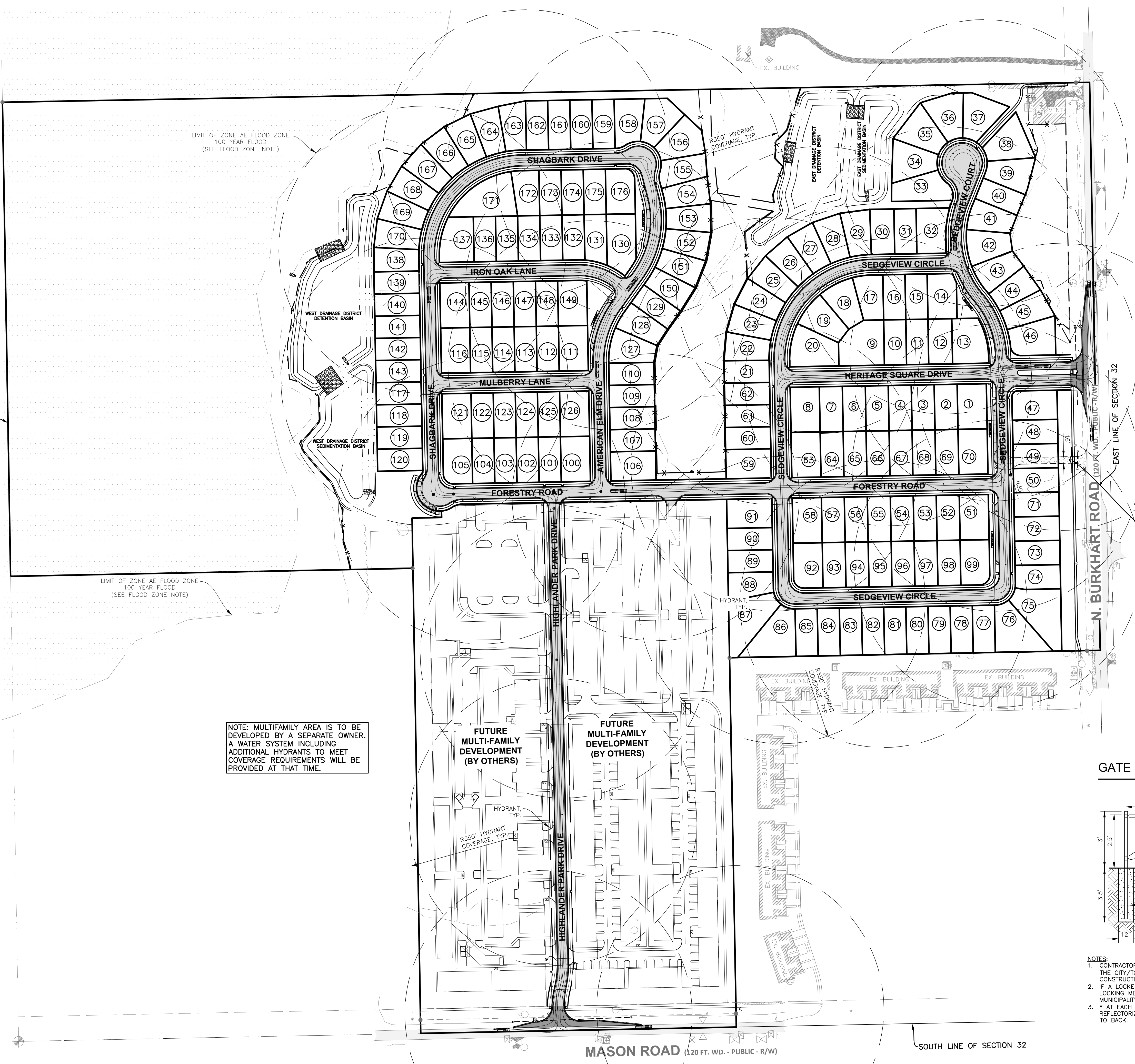
FUTURE
MULTI-FAMILY
DEVELOPMENT
(BY OTHERS)

FUTURE
MULTI-FAMILY
DEVELOPMENT
(BY OTHERS)





NORTH-SOUTH 1/4 LINE OF SECTION 32



LIMIT OF ZONE AE FLOOD ZONE 100 YEAR FLOOD (SEE FLOOD ZONE NOTE)

LIMIT OF ZONE AE FLOOD ZONE 100 YEAR FLOOD (SEE FLOOD ZONE NOTE)

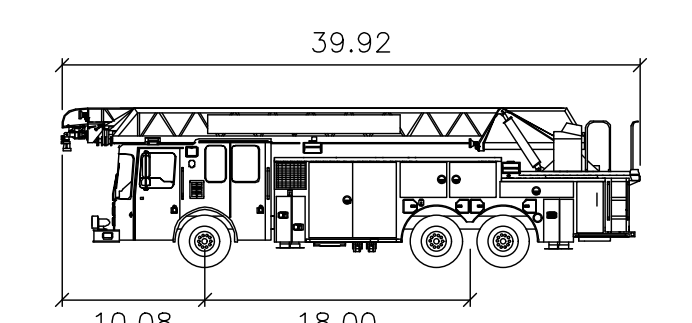
NOTE: MULTIFAMILY AREA IS TO BE DEVELOPED BY A SEPARATE OWNER. A WATER SYSTEM INCLUDING ADDITIONAL HYDRANTS TO MEET COVERAGE REQUIREMENTS WILL BE PROVIDED AT THAT TIME.

FUTURE MULTI-FAMILY DEVELOPMENT (BY OTHERS)

MASON ROAD (120 FT. WD. - PUBLIC - R/W)

SOUTH LINE OF SECTION 32

EMERGENCY VEHICLE



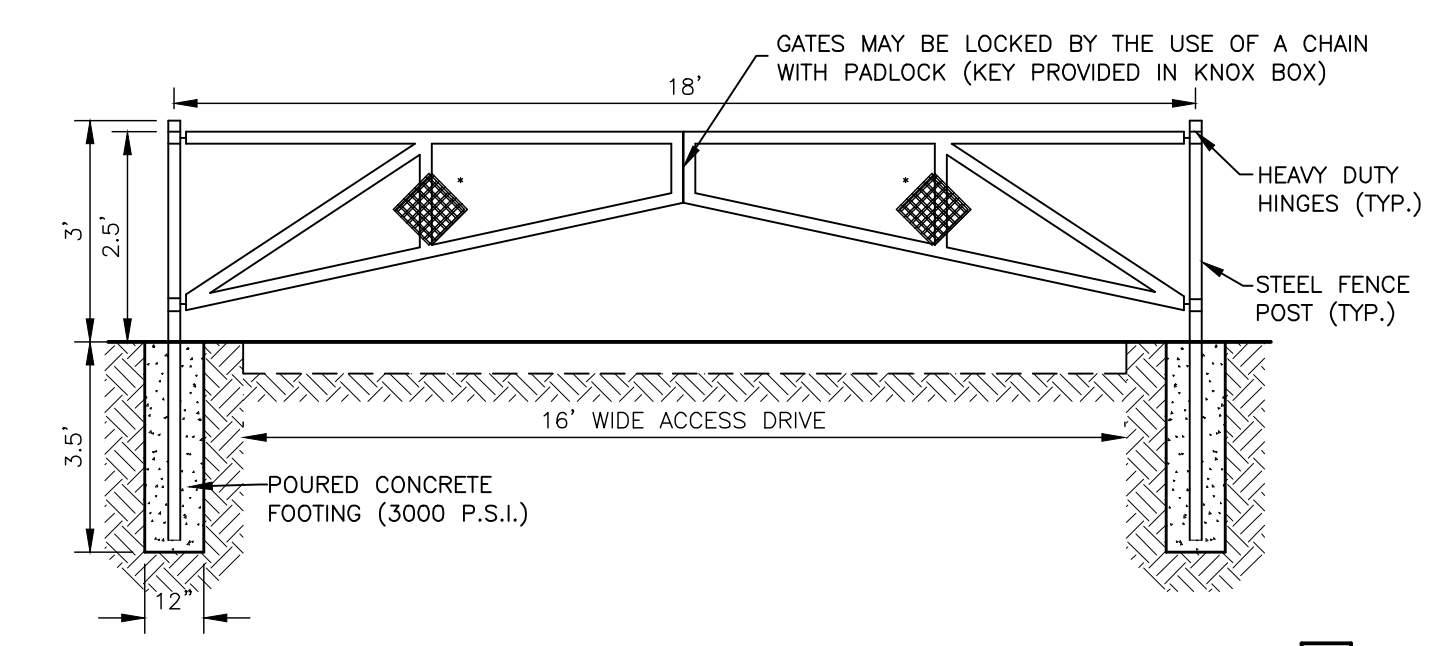
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feet
Width : 8.33
Track : 7.92
Lock to Lock Time : 6.0
Steering Angle : 45.0

FIRE PROTECTION NOTES

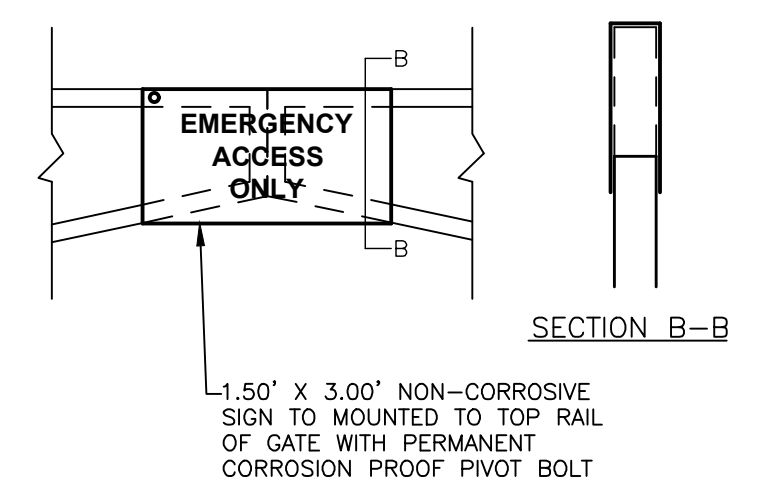
1. PARKING SHALL ONLY BE ALLOWED ON ONE SIDE OF THE INTERNAL STREETS. EACH STREET SHALL HAVE 12"x18" R8-31 "NO PARKING FIRE LANE" SIGNS POSTED AT A MAXIMUM SPACING OF 100 FEET ON THE SIDE OF THE STREET ADJACENT TO HYDRANTS.
2. 12"x18" R8-31 "NO PARKING FIRE LANE" SIGNS SHALL BE POSTED ON BOTH SIDES OF THE TEMPORARY EMERGENCY ACCESS ROAD LOCATED THROUGH UNIT 50, OFF NORTH BURKHART ROAD. SIGNS SHALL BE PLACED FACING TRAFFIC AT BOTH ENDS.
3. EMERGENCY ACCESS DRIVE THROUGH UNIT 50 SHALL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION OF PHASES 1 AND 2, UNTIL HIGHLANDER PARK DRIVE TO MASON ROAD HAS BEEN OPENED TO TRAFFIC.
4. NO OCCUPANCY SHALL BE ALLOWED FOR ANY UNITS BEYOND PHASE ONE (1) UNTIL HIGHLANDER PARK DRIVE IS OPEN TO TRAFFIC. ONCE HIGHLANDER PARK DRIVE IS OPEN TO TRAFFIC, THE CONTRACTOR SHALL REMOVE THE EMERGENCY ACCESS DRIVE (EXCEPT FOR THE APPROACH AND CULVERT, WHICH SHALL REMAIN IN PLACE FOR MHOG AND FIRE AUTHORITY USE).
5. A EMERGENCY ALERT TORNADO SIREN SHALL BE INSTALLED WITHIN THE PARK AT THE INTERSECTION OF FORESTRY ROAD AND SHAGBARK DRIVE. LOCATION OF THE SIREN SHALL BE COORDINATED WITH THE FIRE MARSHAL AND HOWELL TOWNSHIP.
6. A KNOX BOX SHALL BE MOUNTED TO THE EMERGENCY ENTRANCE GATE.

GATED TEMPORARY EMERGENCY ACCESS DRIVE CONSTRUCTED IN PHASE 1. TO BE REMOVED ONCE HIGHLANDER PARK DRIVE IS CONSTRUCTED AND OPEN TO TRAFFIC IN PHASE 2.

GATE DETAIL - EMERGENCY - ACCESS



- NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO THE CITY/TOWNSHIP FOR APPROVAL PRIOR TO CONSTRUCTION.
 2. IF A LOCKED GATE IS DESIRED (OPTIONAL), LOCKING MECHANISMS MUST BE APPROVED BY MUNICIPALITY FIRE DEPARTMENT.
 3. * AT EACH LOCATION, 2-12"x12" RED REFLECTORIZED DIAMOND PANELS, PLACED BACK TO BACK.



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KEVIN C. MCDONNELL
ENGINEER
NO. 6201043260

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BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
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FIRE PROTECTION PLAN

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

PLAN SUBMITTALS/REVISIONS	DATE
SITE PLAN SUBMITTAL	05/09/2024
PHASE 1 FINAL SITE PLAN SUBMITTAL	09/18/2024
MODIFIED COVERAGE CALCULATION	11/25/2024
REVISED PHASE 1 FINAL SITE PLAN	02/20/2025

ORIGINAL ISSUE DATE:
5/09/2024

PROJECT NO: 21-075C

SCALE: 1" = 120'

FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-01

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PAVEMENT LEGEND

[Symbol]	EX. ASPHALT
[Symbol]	EX. CONCRETE
[Symbol]	EX. GRAVEL
[Symbol]	PR. STANDARD DUTY ASPHALT
[Symbol]	PR. CONCRETE
[Symbol]	STANDARD CURB AND GUTTER
[Symbol]	STRAIGHT CURB
[Symbol]	PROPOSED CLUSTER MAILBOX

PROVIDED SETBACKS

SINGLE FAMILY RESIDENTIAL	
FRONT SETBACK:	24 FEET
SIDE SETBACK:	7 FEET (14 TOTAL)
REAR SETBACK:	25 FEET (INTERNAL)
	40 FEET (PERIMETER ADJACENT SFR)
	30 FEET (PERIMETER ADJACENT MFR)

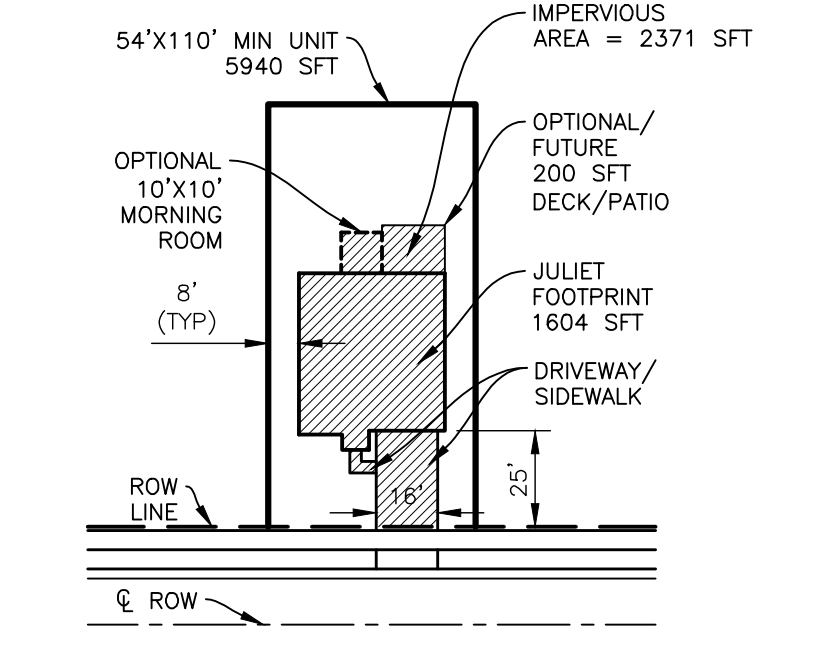
OPEN SPACE

OPEN SPACE IN SINGLE FAMILY (OPEN SPACE 1 & 2)	= 503,994 SF
OPEN SPACE IN MULTI-FAMILY (OPEN SPACE 3, 4 & 5)	= 53,452 SF
TOTAL OPEN SPACE	= 557,446 SF
TOTAL PERMANENT WATER SURFACE IN OPEN SPACE	= 122,838 SF
PERMANENT WATER PERCENT OF TOTAL OPEN SPACE	= 22.0 %
PERMANENT WATER PERCENT ALLOWED	= 25.0 % MAX.
TOTAL OPEN SPACE EXCLUDING WATER = 434,608 SF	= 9.98 ACRES
PERCENT OPEN SPACE = 9.98 / 92.0 ACRES	= 10.8 %
PERCENT OPEN SPACE REQUIRED	= 10%

COVERAGE

SINGLE FAMILY RESIDENTIAL	
AVERAGE PAVED/BLDG AREA PER UNIT:	2371 SF
MAX. HOME FOOTPRINT:	1911 SF +/-
(JULIET W/BONUS ROOM & DECK)	
DRIVE (25' X 16')	400 SF
CONNECTOR WALK (5' X 12')	60 SF
MINIMUM LOT AREA:	5940 SF
PROPOSED MAXIMUM COVERAGE = 40%	
(COVERAGE ALLOWED PER SFR ZONING = 30%)	

AMOUNT OF OPEN SPACE PER UNIT	
OPEN SPACE IN SINGLE FAMILY (OPEN SPACE 1 AND OPEN SPACE 2)	21,251 SF + 434,451 SF = 455,702 SF
OPEN SPACE PER SINGLE FAMILY UNIT	455,702 SF / 176 UNITS = 2,589 SF
COVERAGE WITH OPEN SPACE INCLUDED	
MIN LOT AREA + OPEN SPACE = 5940 SF + 2589 SF = 8,529 SF	
COVERAGE (INCL. OPEN SPACE) = 2,371 SF / 8,529 SF = 28%	



TYPICAL UNIT LAYOUT

SCALE: 1" = 50'	
NOTE: LAYOUT MAY VARY BASED ON FLOOR PLAN AND OWNER SELECTED OPTIONS. TYPICAL UNIT LAYOUT BASED ON JULIET FLOOR PLAN (LARGEST OFFERED BY DEVELOPER). FOOTPRINT SIZE OF OTHER TYPICAL FLOORPLANS BY THIS DEVELOPER ARE AS FOLLOWS (MAX COVERAGE):	
JULIET:	1604 SFT (39.9%)
PEYTON:	1508 SFT (38.3%)
AUBREY:	1472 SFT (37.7%)
BROOKLYN:	1419 SFT (36.8%)
SAWYER:	1330 SFT (35.3%)

NOTE: THIS OVERVIEW PLAN IDENTIFIES FEATURES TO BE CONSTRUCTED BY OTHERS WITHIN THE MULTIFAMILY PORTION OF THE PUD. THIS PLAN SET IS ONLY FOR CONSTRUCTION OF THE SINGLE FAMILY AREA, HIGHLANDER PARK DRIVE, AND THE WATER MAIN LOOP TO MASON ROAD ONLY. THESE PLANS ARE NOT TO BE USED FOR, OR IMPLY APPROVAL OF ANY OTHER CONSTRUCTION WITHIN THE MULTI-FAMILY AREAS.

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BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
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SITE PLAN - PUD OVERVIEW

HERITAGE SQUARE (SINGLE FAMILY) 95 AC. NW CORNER BURKHART & MASON ROADS PART OF THE SE 1/4 OF SEC. 32, T3N, R4E, HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTAL/REVISIONS
09/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVERAGE CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

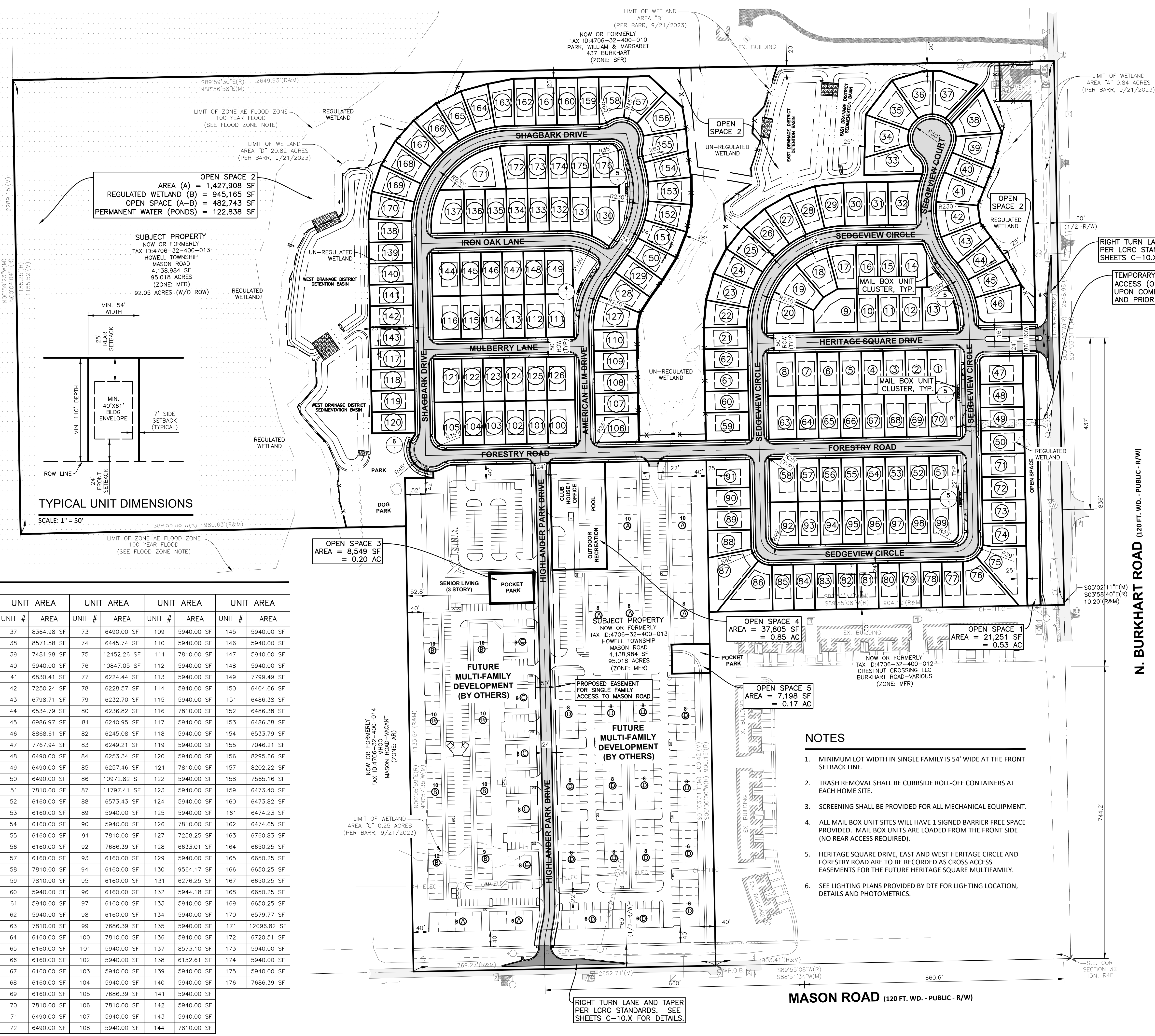
PROJECT NO: 21-075C

SCALE: 1" = 120'

FIELD: DRAWN BY: DC,MM,CK,DJ
DESIGN BY: KM
CHECK BY: KM

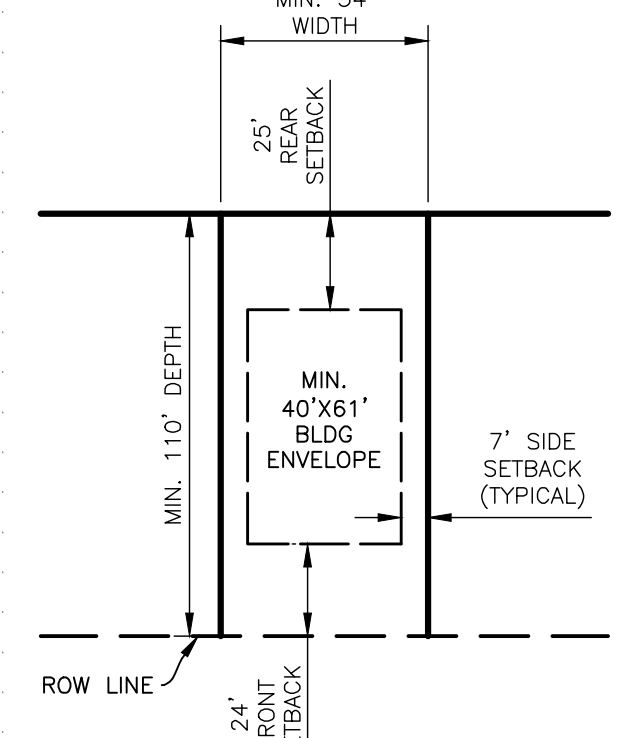
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OPEN SPACE 2
AREA (A) = 1,427,908 SF
REGULATED WETLAND (B) = 945,165 SF
OPEN SPACE (A-B) = 482,743 SF
PERMANENT WATER (PONDS) = 122,838 SF

SUBJECT PROPERTY
NOW OR FORMERLY
TAX ID: 4706-32-400-013
HOWELL TOWNSHIP
MASON ROAD
4,138,984 SF
95.018 ACRES
(ZONE: MFR)
92.05 ACRES (W/O ROW)



TYPICAL UNIT DIMENSIONS
SCALE: 1" = 50'

OPEN SPACE 3
AREA = 8,549 SF
= 0.20 AC

OPEN SPACE 4
AREA = 37,805 SF
= 0.85 AC

OPEN SPACE 1
AREA = 21,251 SF
= 0.53 AC

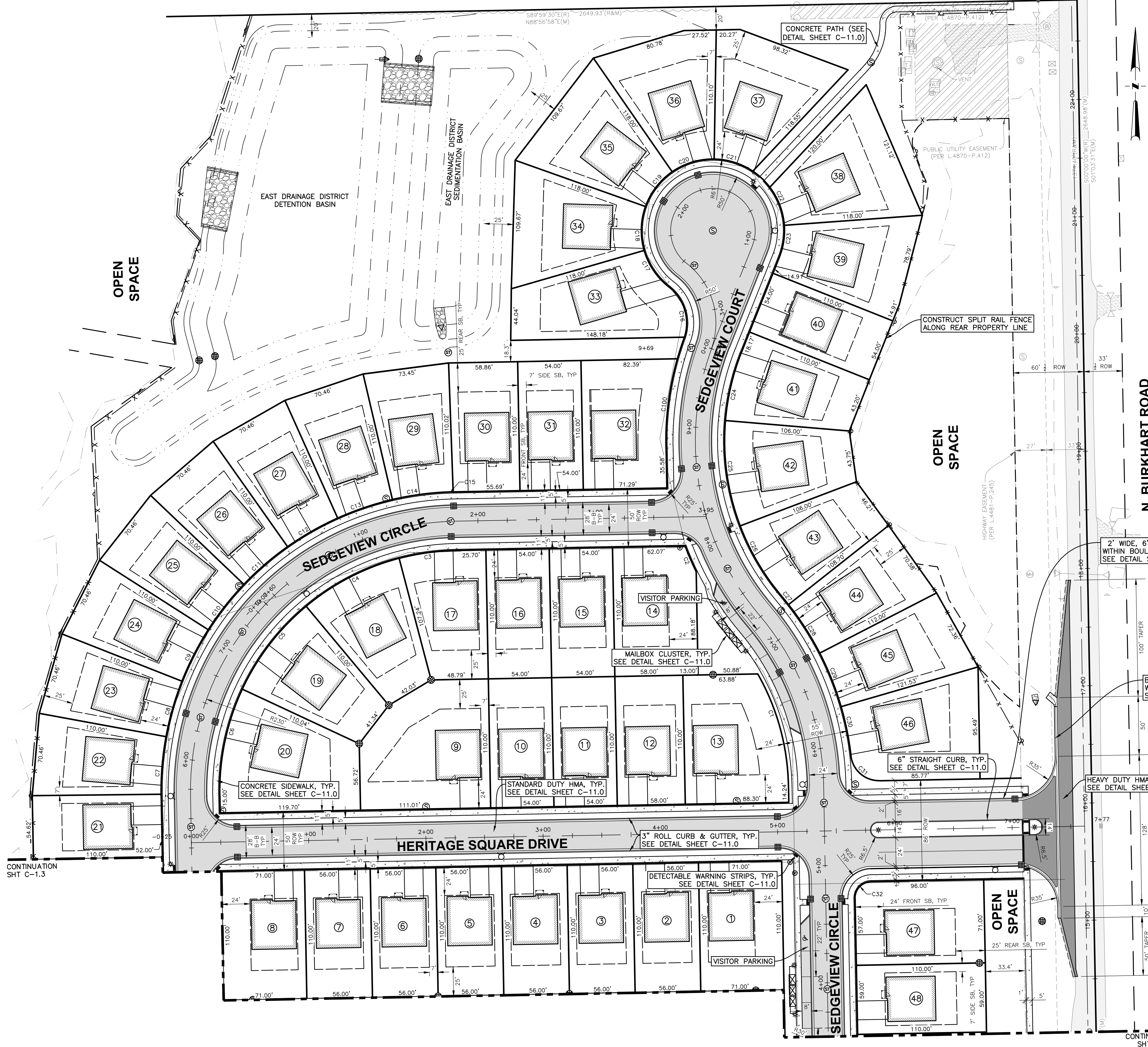
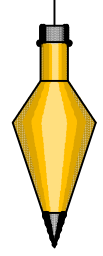
OPEN SPACE 5
AREA = 7,198 SF
= 0.17 AC

NOTES

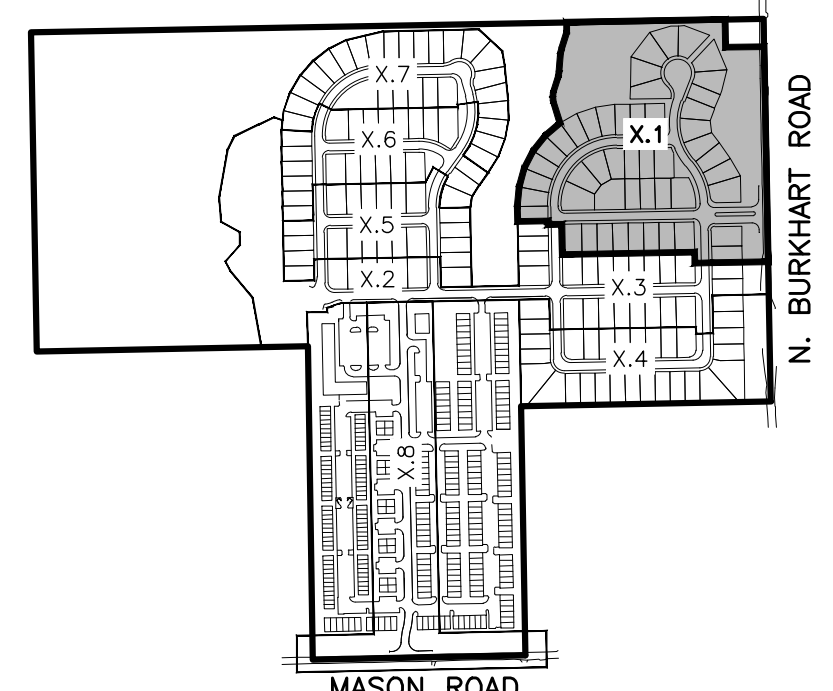
- MINIMUM LOT WIDTH IN SINGLE FAMILY IS 54' WIDE AT THE FRONT SETBACK LINE.
- TRASH REMOVAL SHALL BE CURBSIDE ROLL-OFF CONTAINERS AT EACH HOME SITE.
- SCREENING SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT.
- ALL MAIL BOX UNIT SITES WILL HAVE 1 SIGNED BARRIER FREE SPACE PROVIDED. MAIL BOX UNITS ARE LOADED FROM THE FRONT SIDE (NO REAR ACCESS REQUIRED).
- HERITAGE SQUARE DRIVE, EAST AND WEST HERITAGE SQUARE DRIVE AND FORESTRY ROAD ARE TO BE RECORDED AS CROSS ACCESS EASEMENTS FOR THE FUTURE HERITAGE SQUARE MULTIFAMILY.
- SEE LIGHTING PLANS PROVIDED BY DTE FOR LIGHTING LOCATION, DETAILS AND PHOTOMETRICS.

UNIT AREAS

UNIT #	AREA	UNIT #	AREA	UNIT #	AREA	UNIT #	AREA	UNIT #	AREA
1	7810.00 SF	37	8364.98 SF	73	6490.00 SF	109	5940.00 SF	145	5940.00 SF
2	6160.00 SF	38	8571.58 SF	74	6445.74 SF	110	5940.00 SF	146	5940.00 SF
3	6160.00 SF	39	7481.98 SF	75	12452.26 SF	111	7810.00 SF	147	5940.00 SF
4	6160.00 SF	40	5940.00 SF	76	10847.05 SF	112	5940.00 SF	148	5940.00 SF
5	6160.00 SF	41	6830.41 SF	77	6224.44 SF	113	5940.00 SF	149	7799.49 SF
6	6160.00 SF	42	7250.24 SF	78	6228.57 SF	114	5940.00 SF	150	6404.66 SF
7	6160.00 SF	43	6798.71 SF	79	6232.70 SF	115	5940.00 SF	151	6486.38 SF
8	7810.00 SF	44	6534.79 SF	80	6236.82 SF	116	7810.00 SF	152	6486.38 SF
9	10872.09 SF	45	6986.97 SF	81	6240.95 SF	117	5940.00 SF	153	6486.38 SF
10	5940.00 SF	46	8668.61 SF	82	6245.08 SF	118	5940.00 SF	154	6533.79 SF
11	5940.00 SF	47	7767.94 SF	83	6249.21 SF	119	5940.00 SF	155	7046.21 SF
12	6380.00 SF	48	6253.34 SF	84	6253.34 SF	120	5940.00 SF	156	8295.66 SF
13	8953.35 SF	49	6490.00 SF	85	6257.46 SF	121	7810.00 SF	157	8202.22 SF
14	7708.24 SF	50	6490.00 SF	86	10972.82 SF	122	5940.00 SF	158	7565.16 SF
15	5940.00 SF	51	7810.00 SF	87	11797.41 SF	123	5940.00 SF	159	6473.40 SF
16	5940.00 SF	52	6160.00 SF	88	6573.43 SF	124	5940.00 SF	160	6473.82 SF
17	6740.01 SF	53	6160.00 SF	89	5940.00 SF	125	5940.00 SF	161	6474.23 SF
18	7246.25 SF	54	6160.00 SF	90	5940.00 SF	126	7810.00 SF	162	6474.65 SF
19	7303.38 SF	55	6160.00 SF	91	7810.00 SF	127	7258.25 SF	163	6760.83 SF
20	9574.50 SF	56	6160.00 SF	92	7686.39 SF	128	6633.01 SF	164	6650.25 SF
21	5964.21 SF	57	6160.00 SF	93	6160.00 SF	129	5940.00 SF	165	6650.25 SF
22	6512.90 SF	58	7810.00 SF	94	6160.00 SF	130	9564.17 SF	166	6650.25 SF
23	6512.90 SF	59	7810.00 SF	95	6160.00 SF	131	6276.25 SF	167	6650.25 SF
24	6512.90 SF	60	5940.00 SF	96	6160.00 SF	132	5944.18 SF	168	6650.25 SF
25	6512.90 SF	61	5940.00 SF	97	6160.00 SF	133	5940.00 SF	169	6650.25 SF
26	6512.90 SF	62	5940.00 SF	98	6160.00 SF	134	5940.00 SF	170	6579.77 SF
27	6512.90 SF	63	7810.00 SF	99	7686.39 SF	135	5940.00 SF	171	12096.82 SF
28	6512.90 SF	64	6160.00 SF	100	7810.00 SF	136	5940.00 SF	172	6720.51 SF
29	6832.77 SF	65	6160.00 SF	101	5940.00 SF	137	8573.10 SF	173	5940.00 SF
30	6372.18 SF	66	6160.00 SF	102	5940.00 SF	138	6152.61 SF	174	5940.00 SF
31	5940.00 SF	67	6160.00 SF	103	5940.00 SF	139	5940.00 SF	175	5940.00 SF
32	8114.74 SF	68	6160.00 SF	104	5940.00 SF	140	5940.00 SF	176	7686.39 SF
33	8404.92 SF	69	6160.00 SF	105	7686.39 SF	141	5940.00 SF		
34	8184.99 SF	70	7810.00 SF	106	7810.00 SF	142	5940.00 SF		
35	8184.99 SF	71	6490.00 SF	107	5940.00 SF	143	5940.00 SF		
36	8076.40 SF	72	6490.00 SF	108	5940.00 SF	144	7810.00 SF		



SHEET KEY



PAVEMENT LEGEND

- EX. ASPHALT
- EX. CONCRETE
- EX. GRAVEL
- PR. STANDARD DUTY ASPHALT
- PR. HEAVY DUTY ASPHALT
- PR. CONCRETE
- PR. GRAVEL
- STANDARD CURB AND GUTTER
- REVERSE CURB AND GUTTER

CURVE TABLE				
CURVE #	LENGTH	RADIUS	DELTA	CHORD
C1	99.86'	200.00'	28°36'24"	S15°21'43"E 98.82'
C2	23.59'	255.00'	5°18'01"	S23°19'02"E 23.58'
C3	48.87'	205.00'	13°39'31"	N82°06'43"E 48.75'
C4	89.94'	205.00'	25°08'16"	N62°42'50"E 89.22'
C5	89.95'	205.00'	25°08'23"	N37°34'31"E 89.23'
C6	93.26'	205.00'	26°03'51"	N11°58'24"E 92.45'
C7	49.30'	255.00'	11°04'40"	N04°53'28"E 49.23'
C8	49.30'	255.00'	11°04'40"	N15°58'08"E 49.23'
C9	49.30'	255.00'	11°04'40"	N27°02'47"E 49.23'
C10	49.30'	255.00'	11°04'40"	N38°07'27"E 49.23'
C11	49.30'	255.00'	11°04'40"	N49°12'07"E 49.23'
C12	49.30'	255.00'	11°04'40"	N60°16'47"E 49.23'
C13	49.30'	255.00'	11°04'40"	N71°21'27"E 49.23'
C14	52.30'	255.00'	11°45'07"	N82°46'20"E 52.21'
C15	52.30'	255.00'	11°45'07"	N82°46'20"E 52.21'
C16	47.67'	39.00'	70°02'01"	N17°06'40"W 44.76'
C17	38.36'	61.00'	36°01'51"	N34°06'45"W 37.73'
C18	37.98'	61.00'	35°40'39"	N01°44'30"E 37.37'
C19	37.98'	61.00'	35°40'39"	N37°25'09"E 37.37'
C20	37.98'	61.00'	35°40'39"	N73°05'48"E 37.37'
C21	35.00'	61.00'	32°52'26"	S72°37'40"E 34.52'
C22	35.26'	61.00'	33°07'22"	S20°45'31"E 34.78'
C23	27.56'	61.00'	25°53'26"	S08°44'53"W 27.33'
C24	60.45'	205.00'	16°53'44"	S13°14'44"W 60.23'
C25	91.34'	205.00'	25°31'41"	S07°57'59"E 90.58'
C26	70.22'	205.00'	19°37'29"	S30°32'34"E 69.87'
C27	9.00'	255.00'	2°01'23"	S39°20'37"E 9.00'
C28	49.28'	255.00'	11°04'26"	S32°47'43"E 49.21'
C29	49.28'	255.00'	11°04'26"	S21°43'18"E 49.21'
C30	42.83'	255.00'	9°37'21"	S11°22'24"E 42.78'
C31	35.39'	24.00'	84°29'47"	S48°48'37"E 32.27'
C32	21.99'	14.00'	90°00'00"	N43°56'29"E 19.80'
C100	75.52'	255.00'	16°58'09"	N07°25'34"E 75.25'

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KEVIN C. MCDEVITT
ENGINEER
NO. 6201043260

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POC: DAVID STRAUB
(248)-221-5011

DIMENSION AND PAVING PLAN PH1

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTALS/REVISIONS
09/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVER SHEET CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

PROJECT NO: 21-075C

SCALE: 1" = 40'

FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

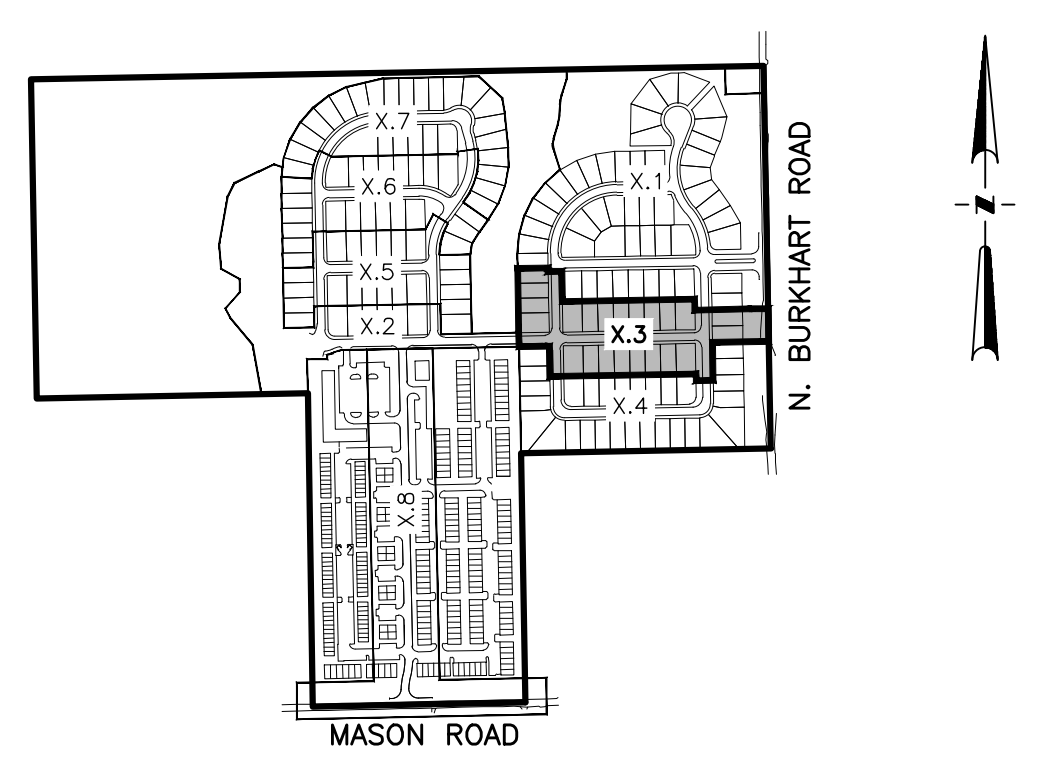
C-11

NOT FOR CONSTRUCTION

NOTE
SEE SHEET C-1.3 FOR CONSTRUCTION OF
TEMPORARY EMERGENCY FIRE ACCESS DRIVE



SHEET KEY

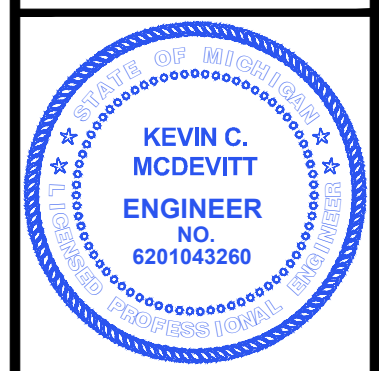


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DIMENSION AND PAVING PLAN PHZE

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

PLAN SUBMITTALS/REVISIONS	DATE
SITE PLAN SUBMITTAL	05/09/2024
PHASE 1 FINAL SITE PLAN SUBMITTAL	09/18/2024
MODIFIED COVERAGE CALCULATION	11/25/2024
REVISED PHASE 1 FINAL SITE PLAN	02/20/2025

ORIGINAL ISSUE DATE:
5/09/2024

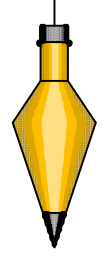
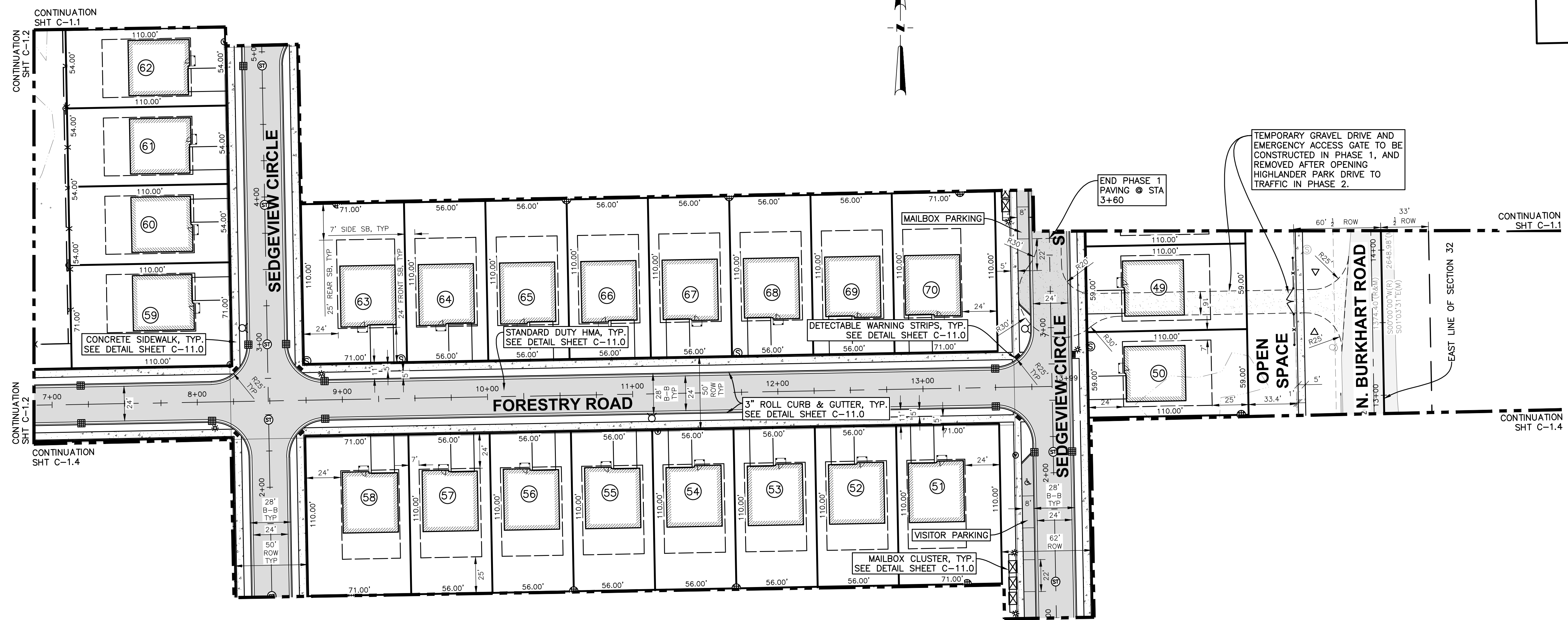
PROJECT NO: 21-075C

SCALE: 1" = 40'
0 1/2" 1"

FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-13

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WETLAND IMPACT PLAN - OVERALL

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTALS/REVISIONS
06/18/2024	SITE PLAN SUBMITTAL
11/25/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

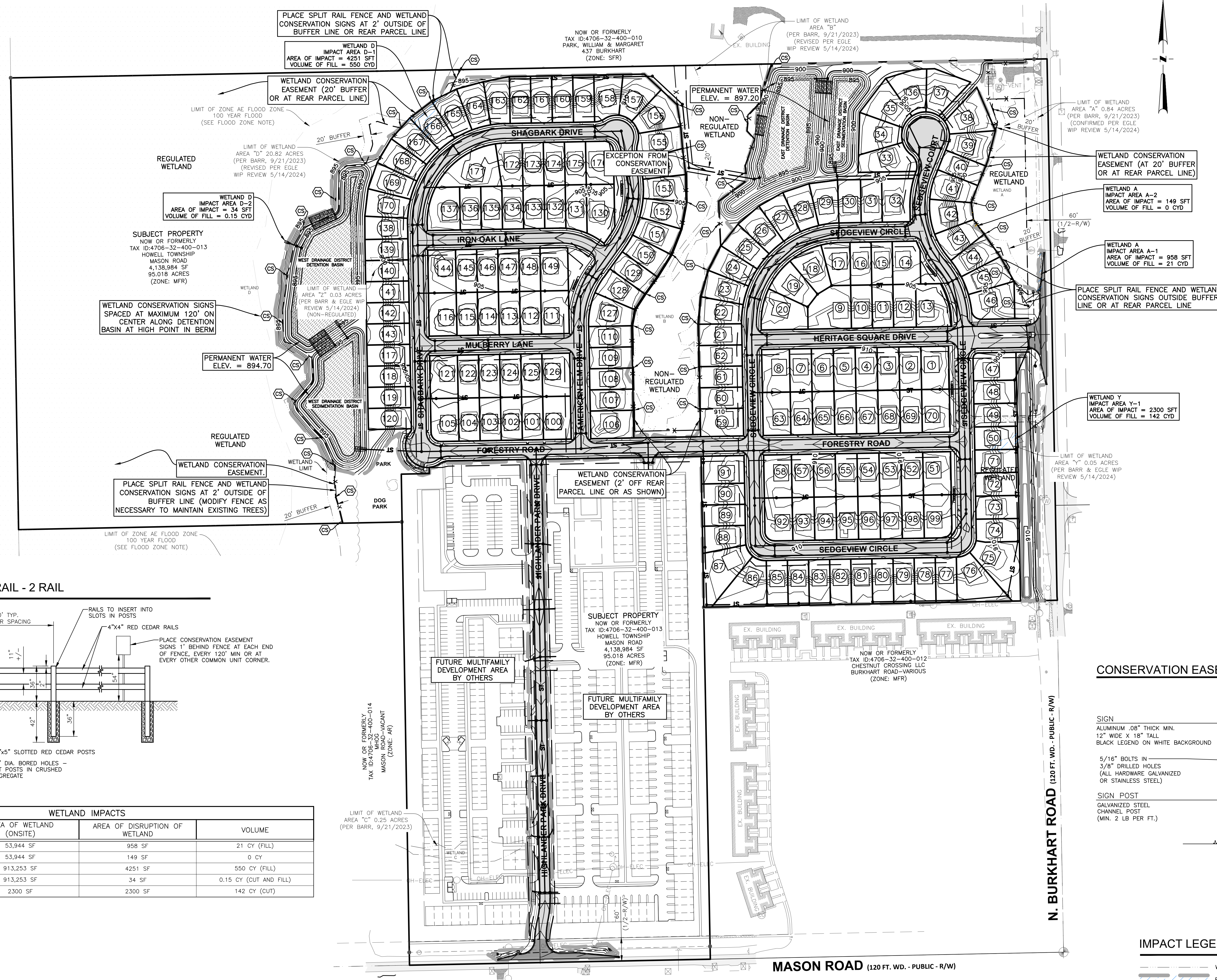
PROJECT NO: 21-075C

SCALE: 1" = 120'

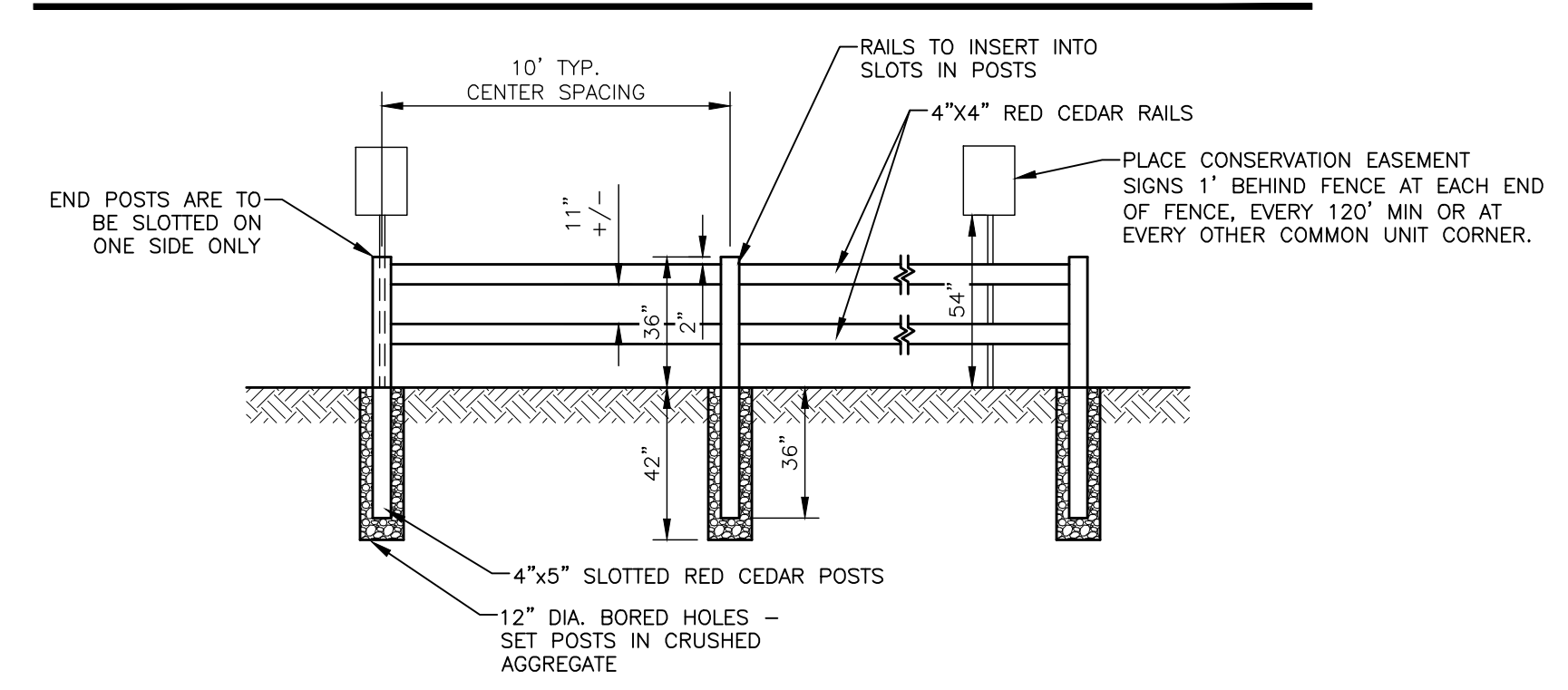
FIELD:
DRAWN BY: DC, MN, CK, DJ
DESIGN BY: KM
CHECK BY: KM

C-2.0

NOT FOR CONSTRUCTION

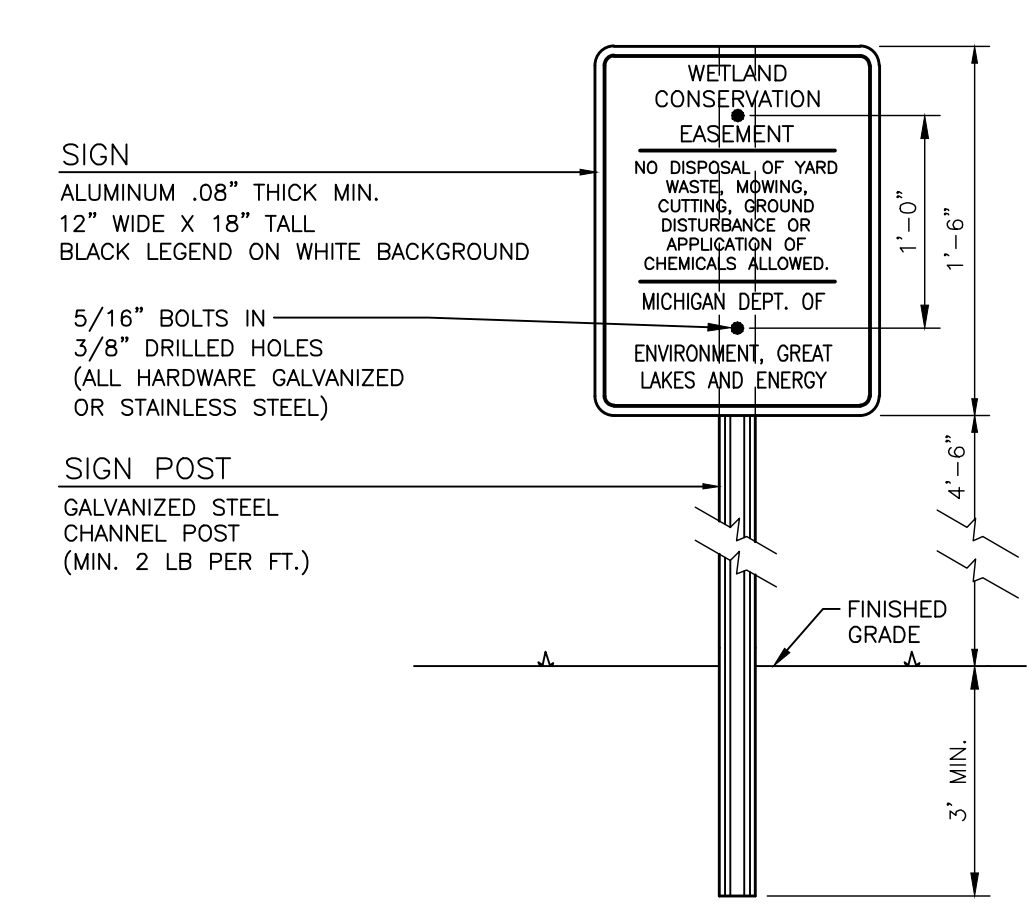


FENCE DETAIL - SPLIT RAIL - 2 RAIL

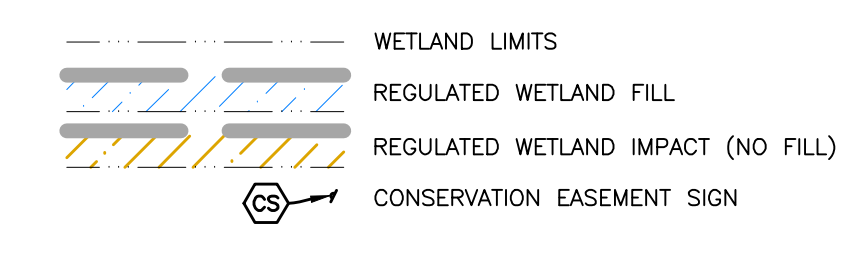


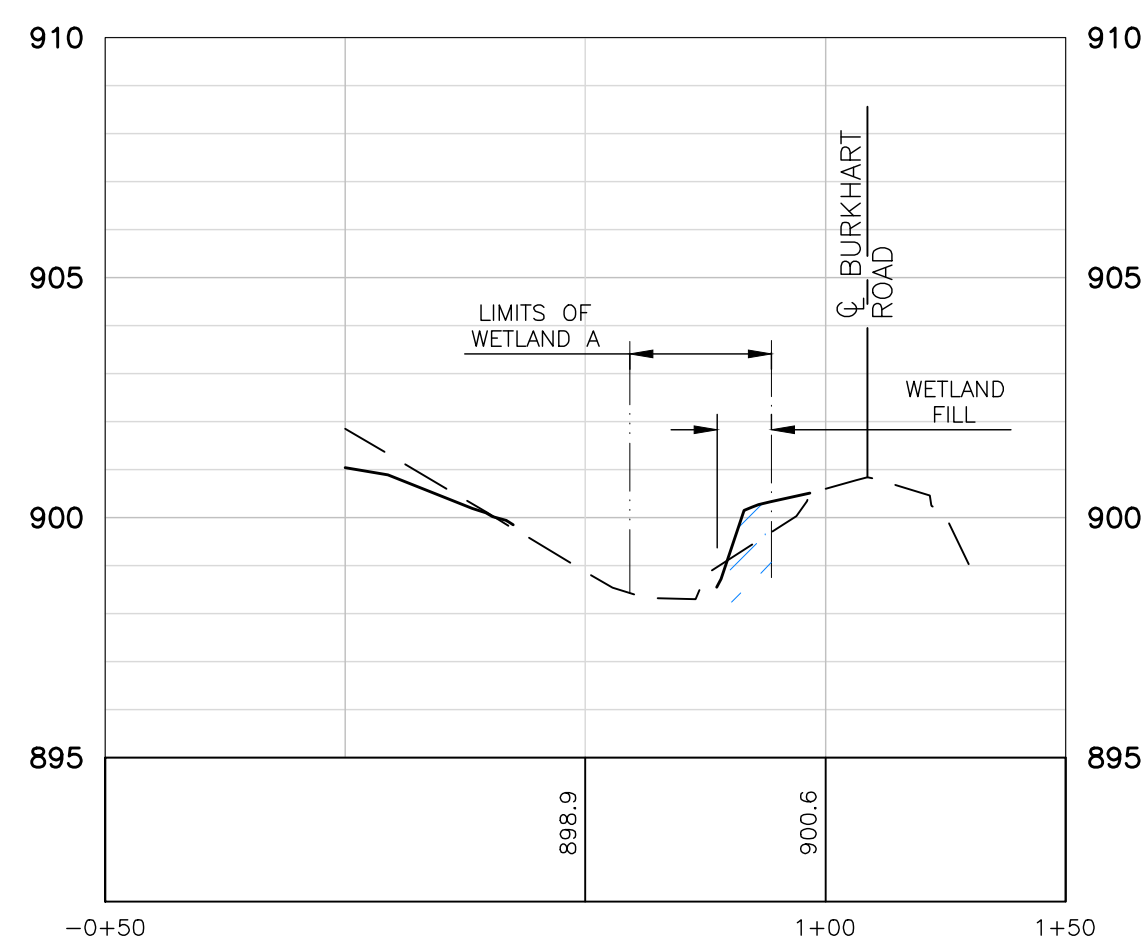
WETLAND IMPACTS			
WETLAND	AREA OF WETLAND (ONSITE)	AREA OF DISRUPTION OF WETLAND	VOLUME
WETLAND A - IMPACT A-1	53,944 SF	958 SF	21 CY (FILL)
WETLAND A - IMPACT A-2	53,944 SF	149 SF	0 CY
WETLAND D - IMPACT D-1	913,253 SF	4251 SF	550 CY (FILL)
WETLAND D - IMPACT D-2	913,253 SF	34 SF	0.15 CY (CUT AND FILL)
WETLAND Y - IMPACT Y-1	2300 SF	2300 SF	142 CY (CUT)

CONSERVATION EASEMENT SIGN DETAIL

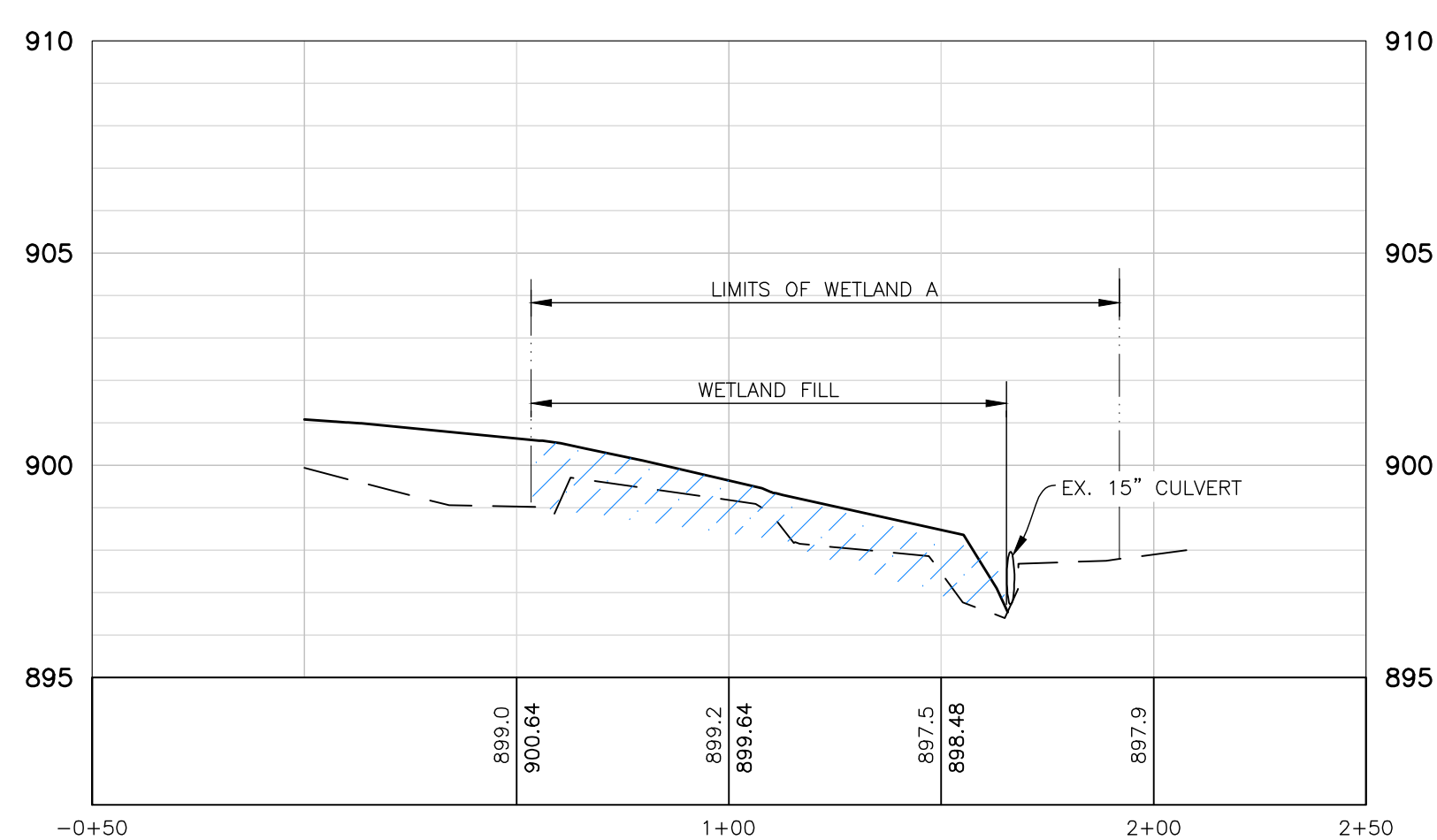


IMPACT LEGEND

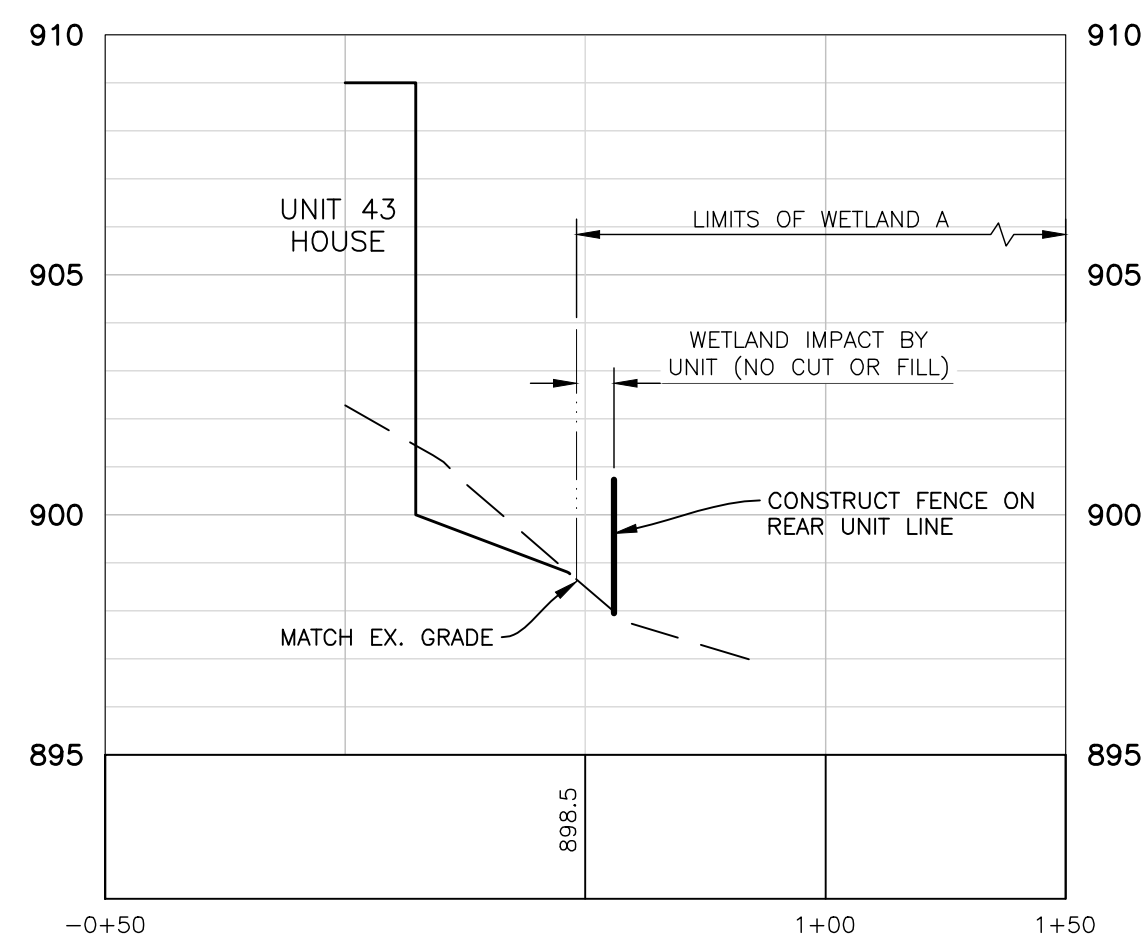




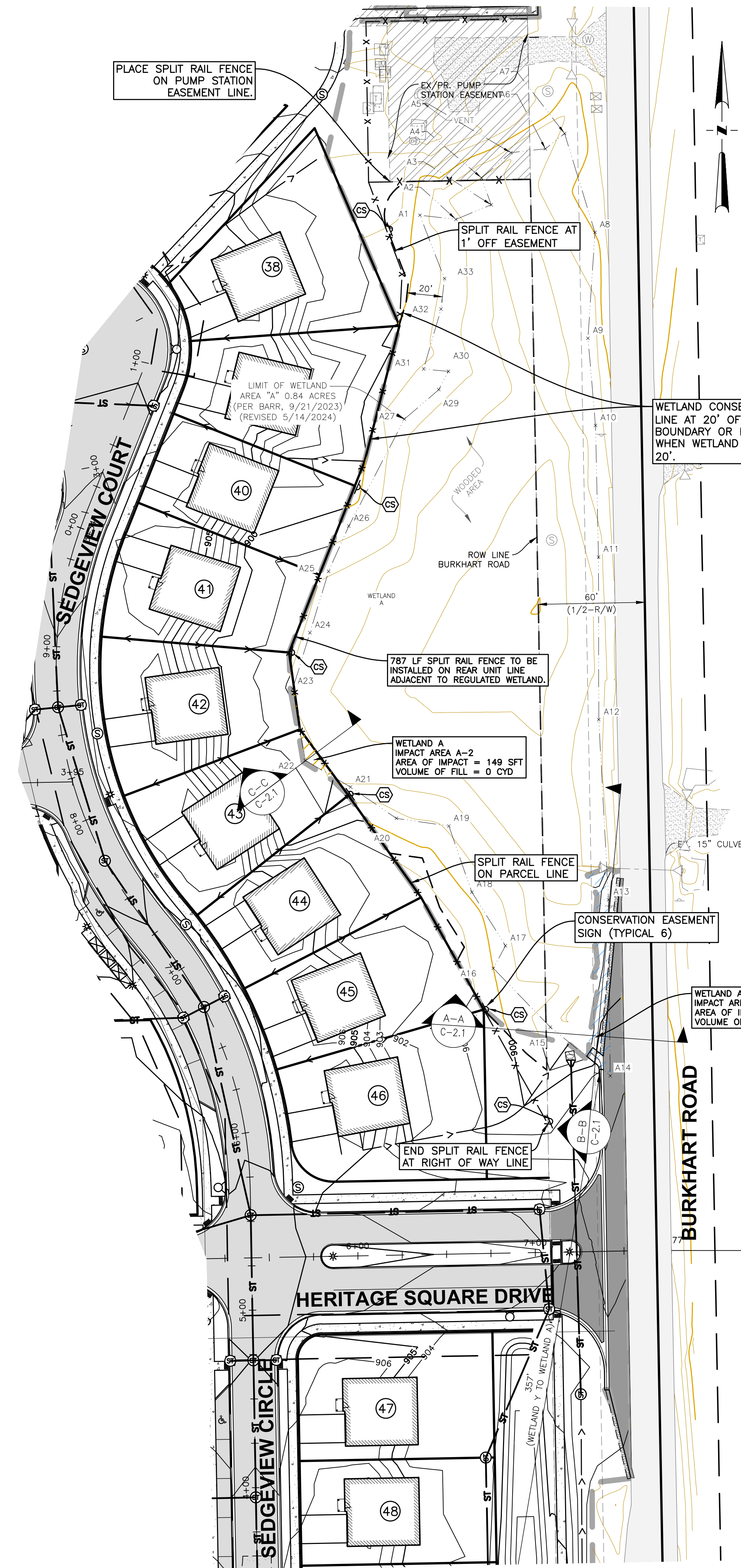
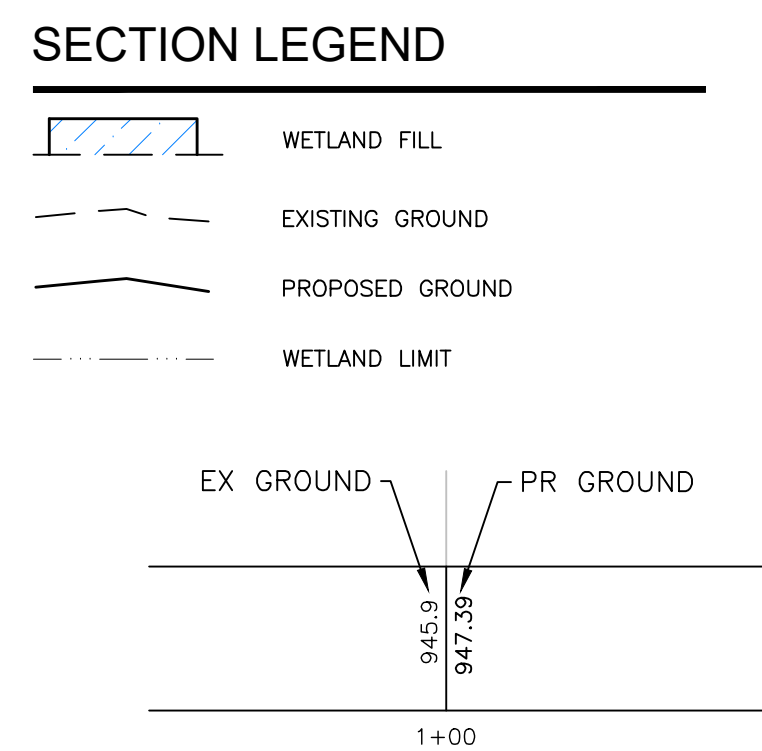
SECTION A-A
C-2.1



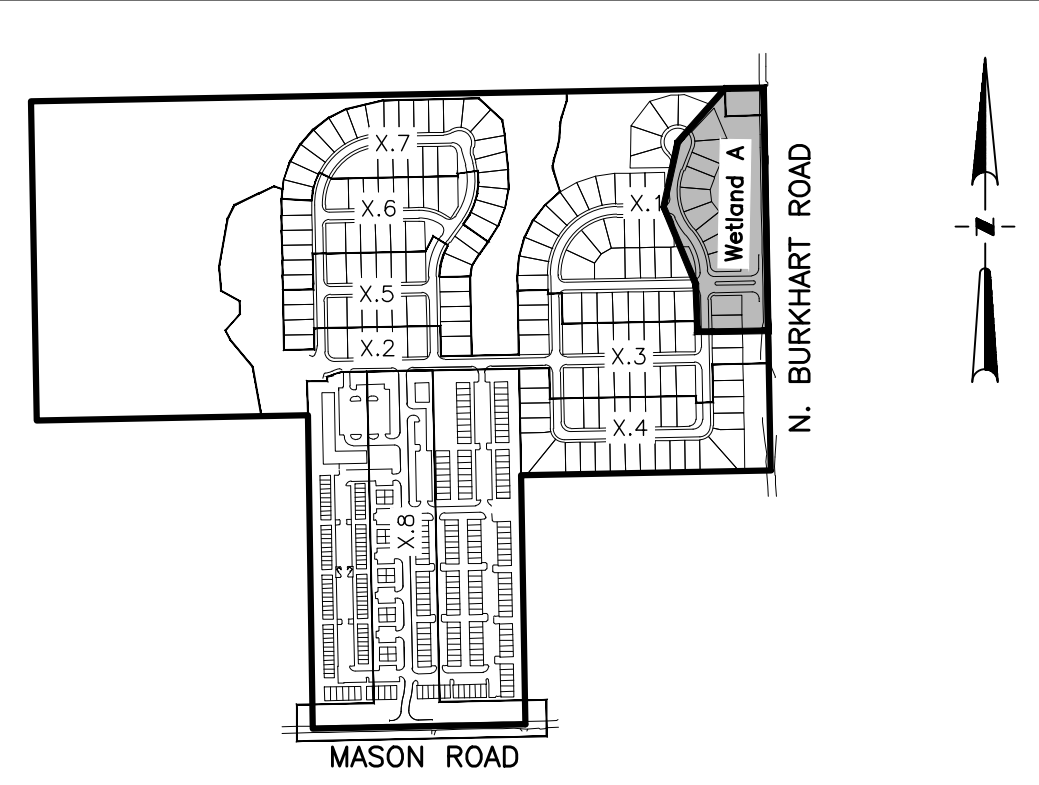
SECTION B-B
C-2.1



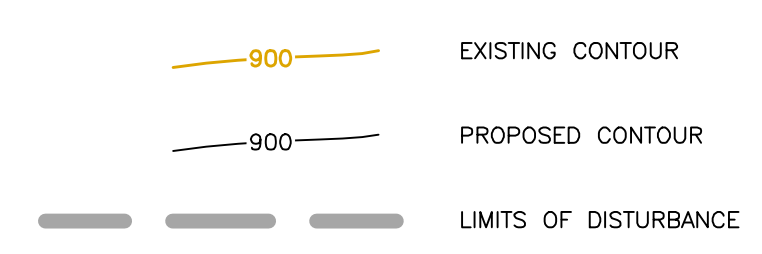
SECTION C-C
C-2.1



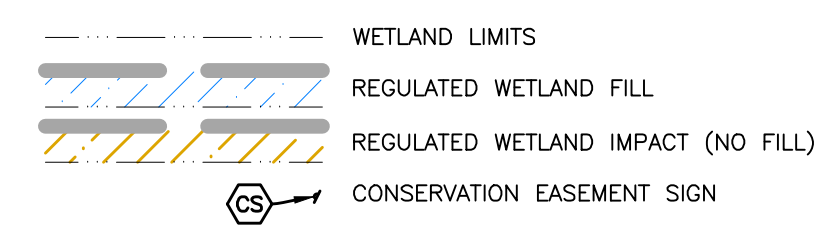
SHEET KEY



TOPOGRAPHIC LEGEND



IMPACT LEGEND



BENCHMARKS

DATUM: NAVD88

BM A:
SET BENCH TIE IN S/SIDE OF UTILITY POLE ON NORTH SIDE OF MASON ROAD 290'± WEST OF EAST PROPERTY LINE.
ELEV = 909.83

BM B:
ARROW ON HYDRANT ON WEST SIDE OF BURKHART ROAD 430'± NORTH OF SOUTH PROPERTY LINE.
ELEV = 906.59

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POC: DAVID STRAUB
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WETLAND IMPACTS - WETLAND A

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTAL
06/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVERAGE CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

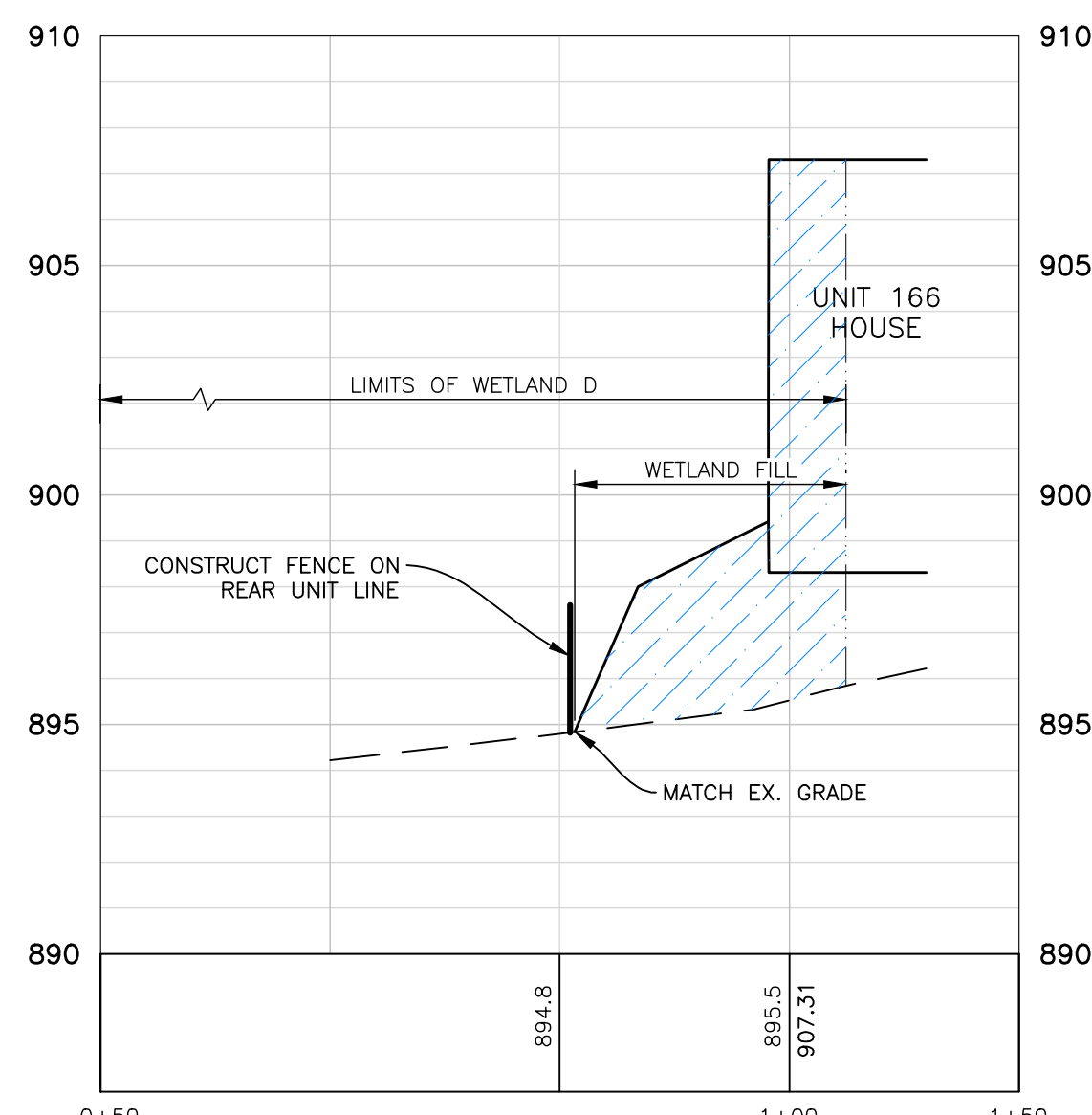
PROJECT NO: 21-075C

SCALE: 1" = 40'

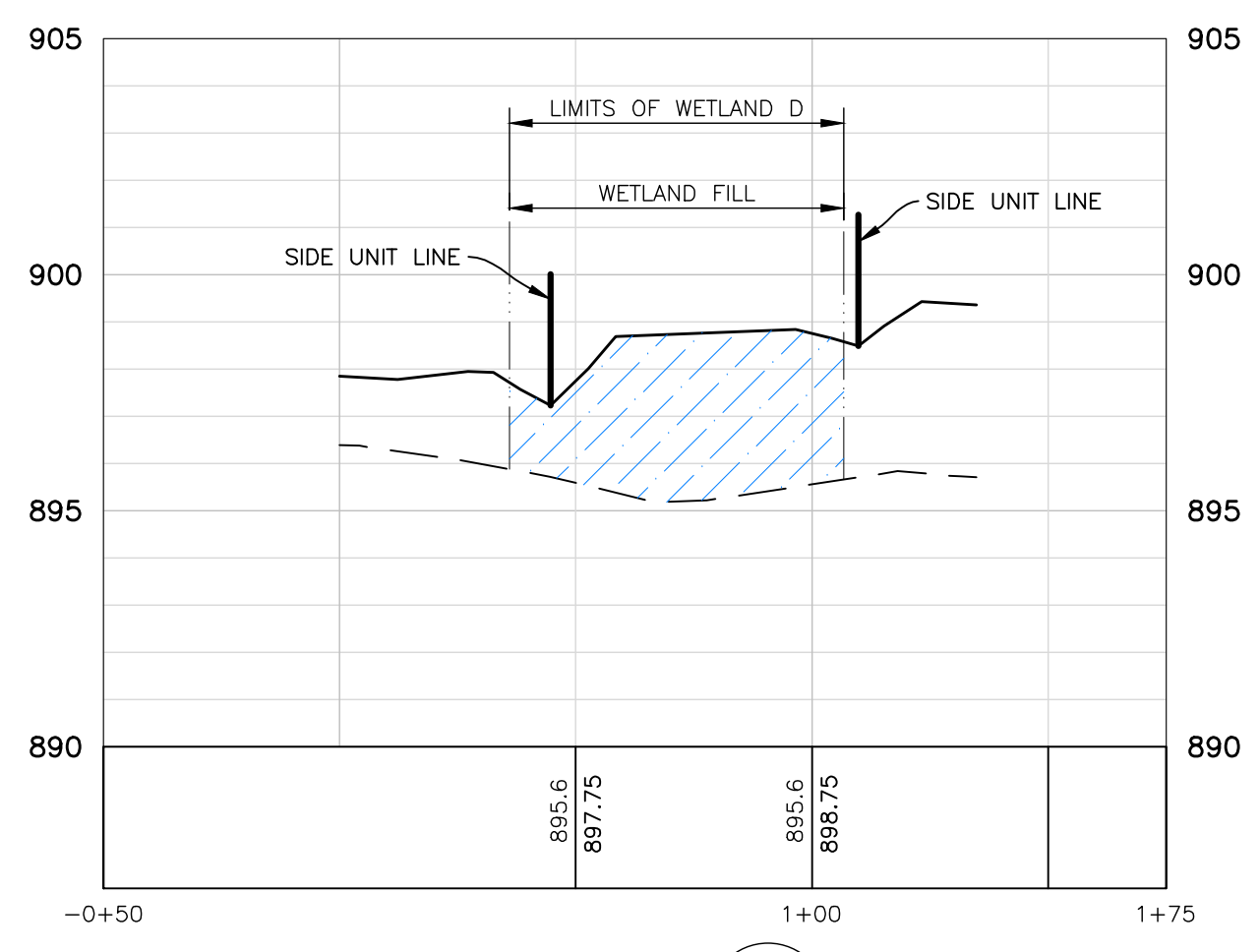
FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-2.1

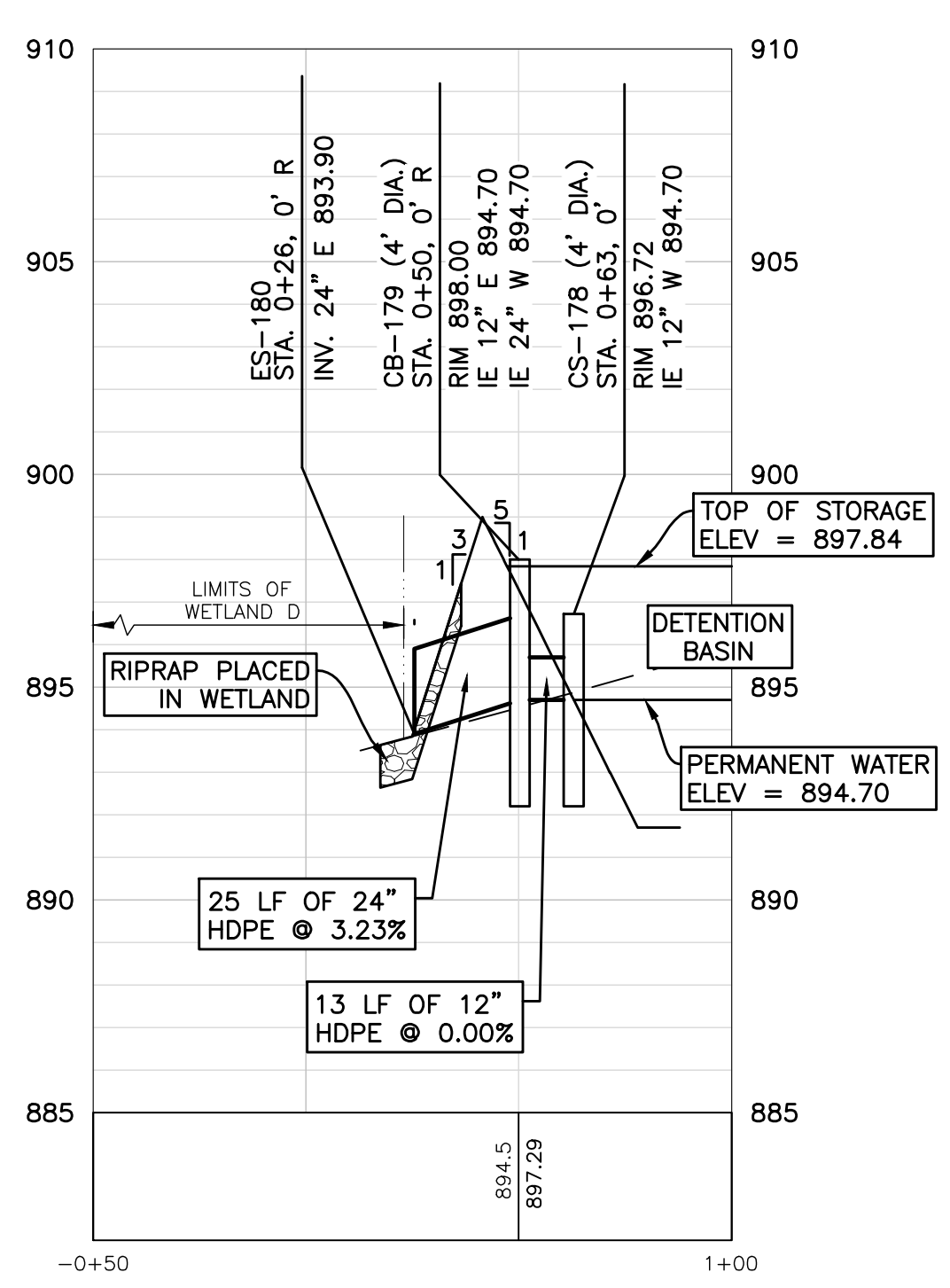
NOT FOR CONSTRUCTION



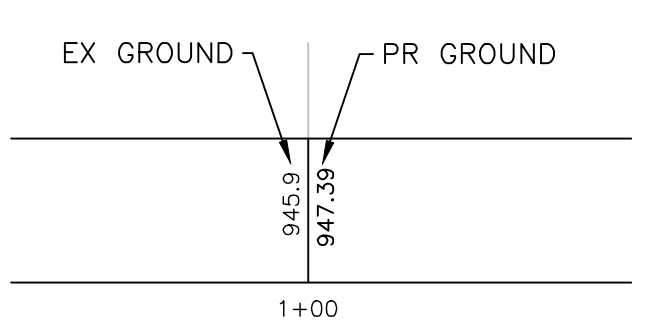
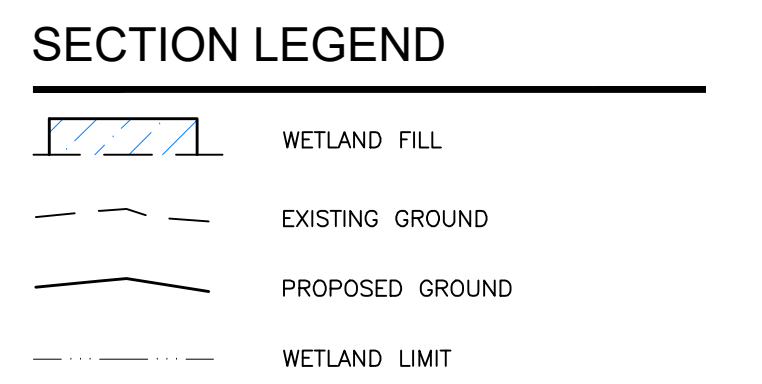
SECTION D-D
C-2.2



SECTION E-E
C-2.2



SECTION H-H
C-2.2



CONSERVATION EASEMENT SIGN - TYPICAL 14 ALONG WETLAND BOUNDARY (SEE SHEET C-2.0 FOR LOCATIONS TO SOUTH OF IMPACT AREA)

354 LF SPLIT RAIL FENCE TO BE INSTALLED ON REAR UNIT LINE ADJACENT TO REGULATED WETLAND.

WETLAND D
IMPACT AREA D-1
AREA OF IMPACT = 4,251 SFT
VOLUME OF FILL = 550 CYD

LIMIT OF WETLAND AREA "D" 20.82 ACRES (PER BARR, 9/21/2023) (REVISED 5/14/2024)

LIMIT OF WETLAND AREA "D" 20.82 ACRES (PER BARR, 9/21/2023) (REVISED 5/14/2024)

PERMANENT WATER ELEV. = 894.70

WETLAND D
IMPACT AREA D-2
AREA OF IMPACT = 34 SFT
VOLUME OF FILL = 0.15 CYD

H-H
C-2.2

D21

D22

D23

D24

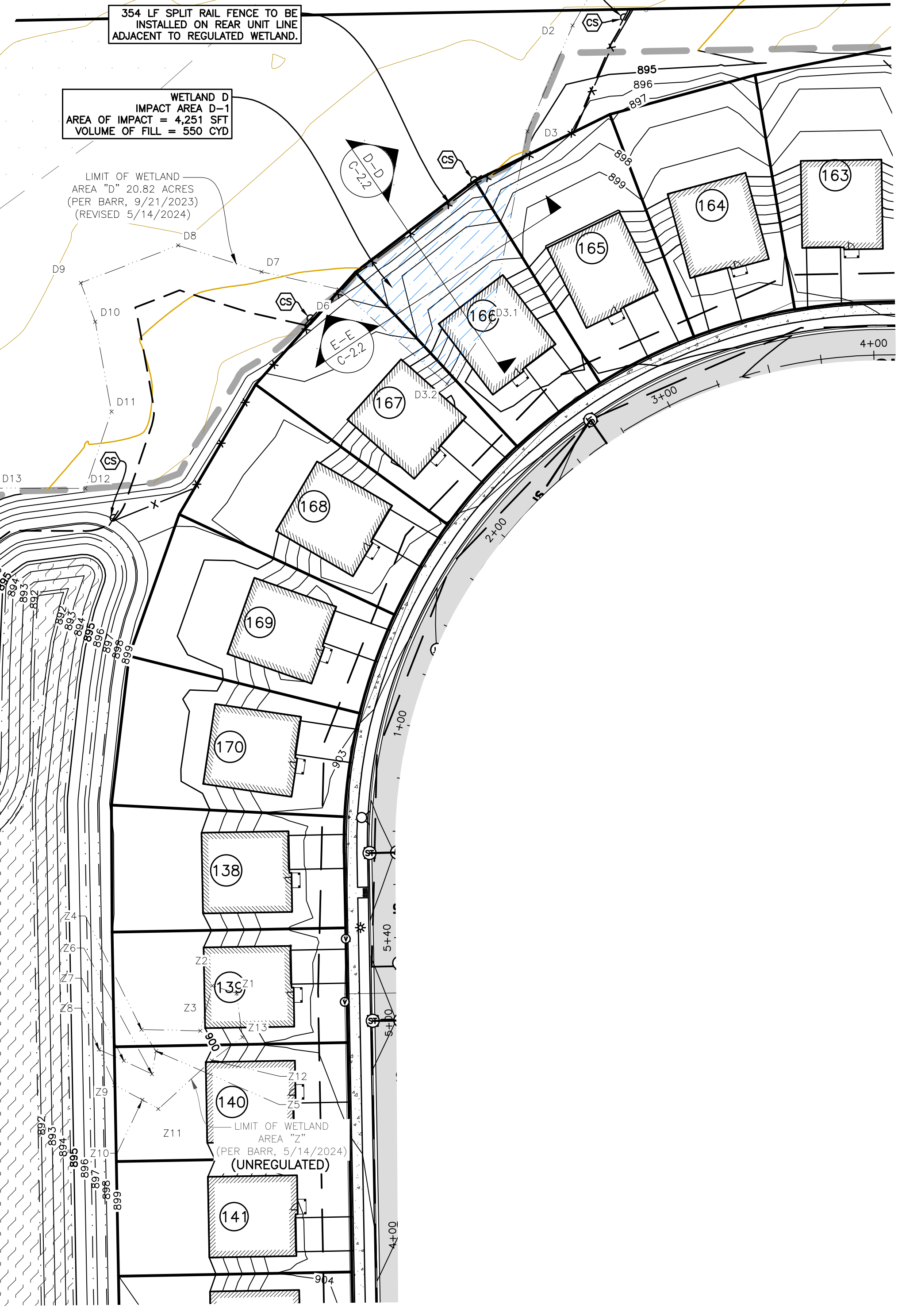
D25

D26

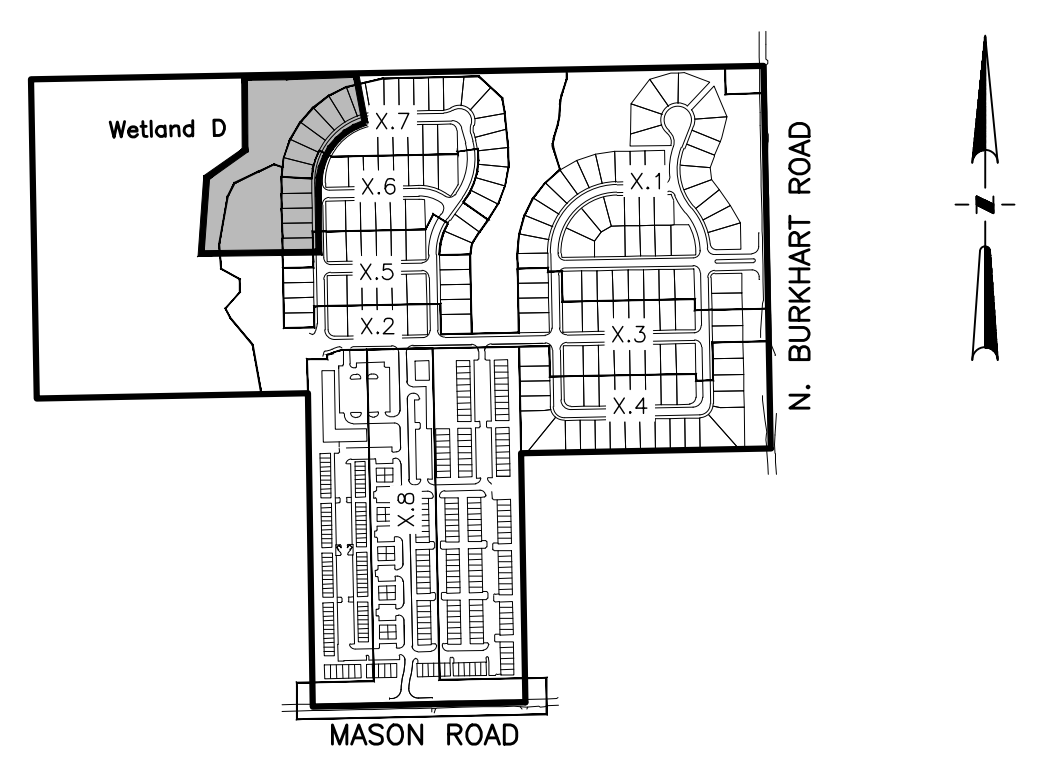
D27

D28

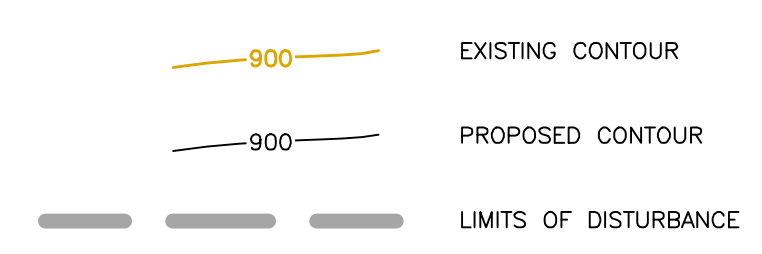
D29



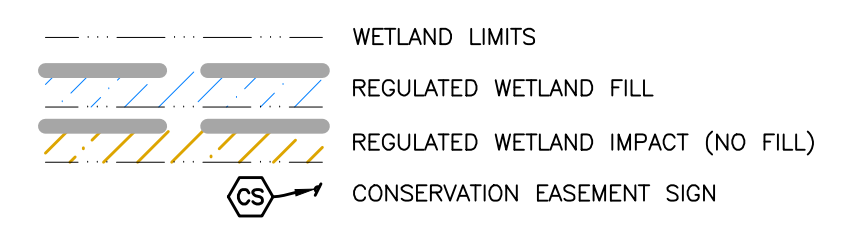
SHEET KEY



TOPOGRAPHIC LEGEND



IMPACT LEGEND



BENCHMARKS

DATUM: NAVD88

BM A:
SET BENCH TIE IN S/SIDE OF UTILITY POLE ON NORTH SIDE OF MASON ROAD 290'± WEST OF EAST PROPERTY LINE.
ELEV = 909.83

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ARROW ON HYDRANT ON WEST SIDE OF BURKHART ROAD 430'± NORTH OF SOUTH PROPERTY LINE.
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WETLAND IMPACTS - WETLAND D

HERITAGE SQUARE (SINGLE FAMILY)
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PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

PLAN SUBMITTALS/REVISIONS	DATE
DATE	05/09/2024
SITE PLAN SUBMITTAL	05/18/2024
PHASE 1 FINAL SITE PLAN SUBMITTAL	09/18/2024
MODIFIED COVERAGE CALCULATION	11/25/2024
REVISED PHASE 1 FINAL SITE PLAN	02/20/2025

ORIGINAL ISSUE DATE:
5/09/2024

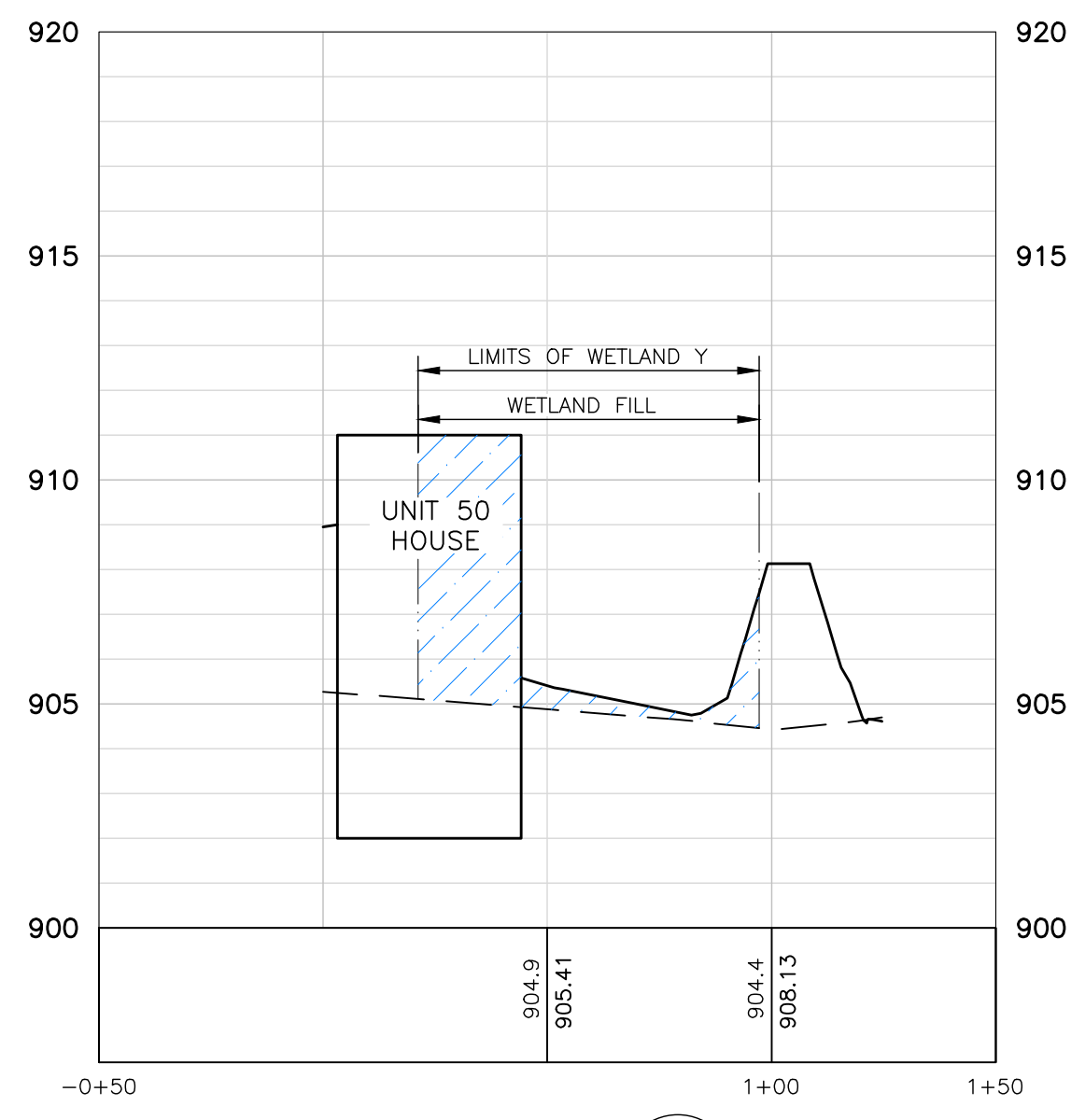
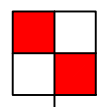
PROJECT NO: 21-075C

SCALE: 1" = 40'

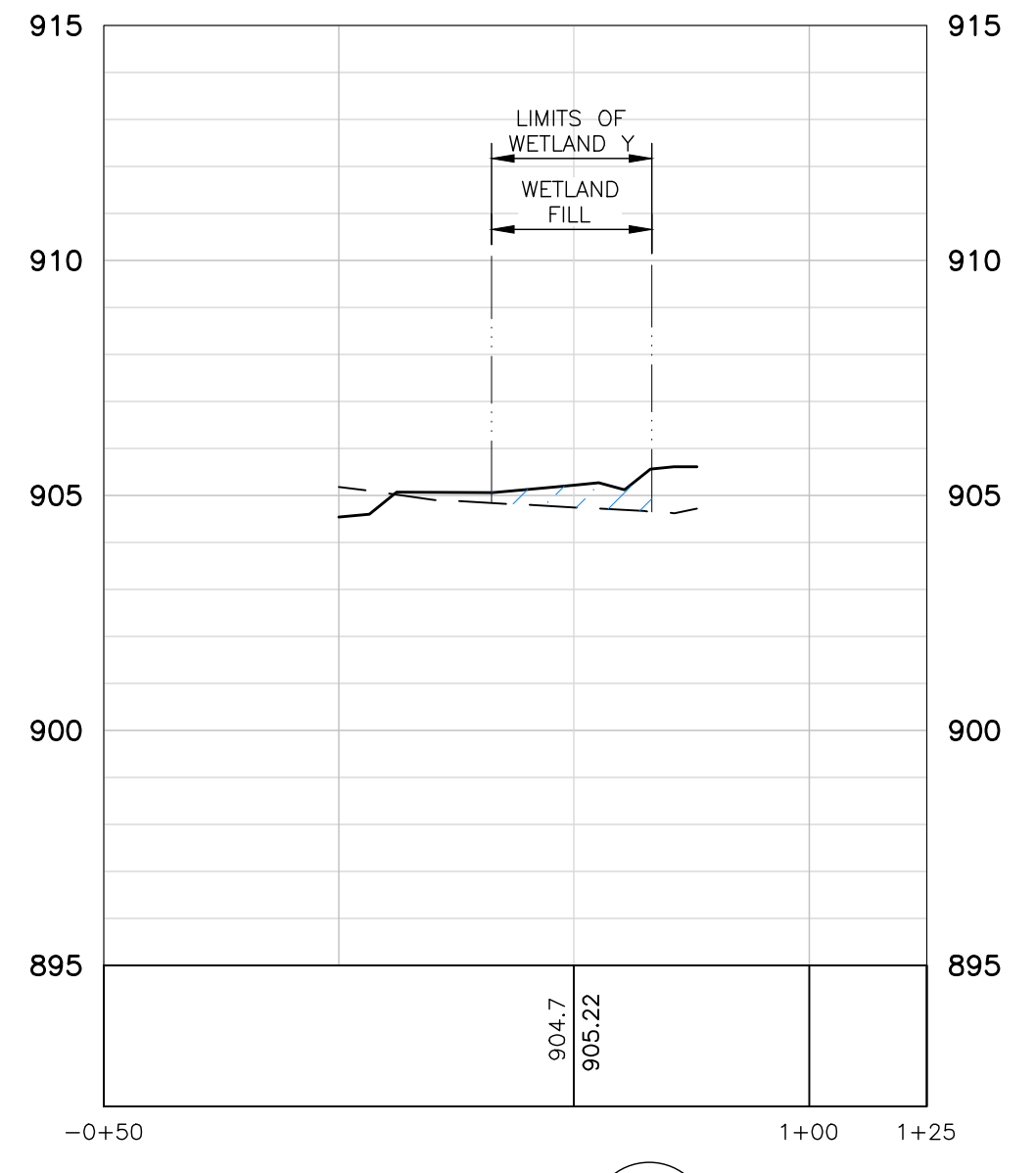
FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-2.2

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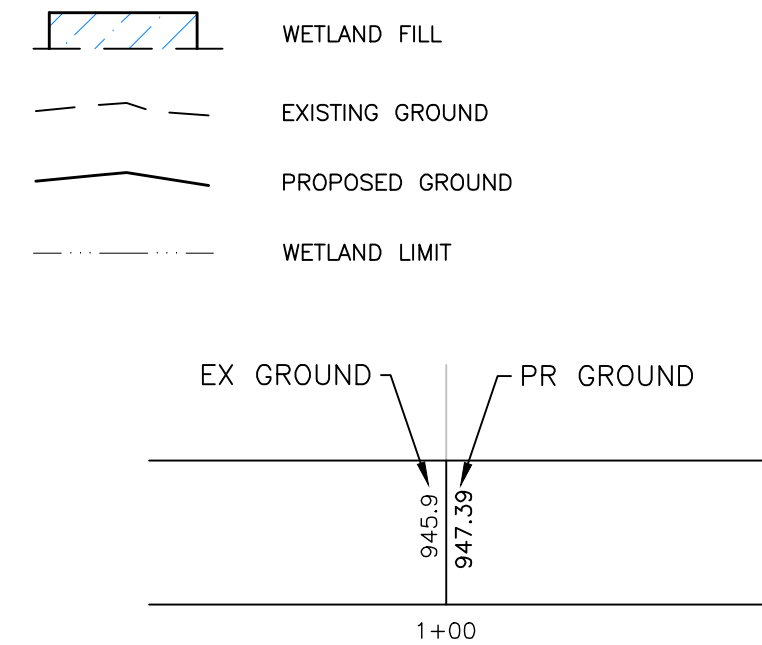


SECTION F-F
C-2.3

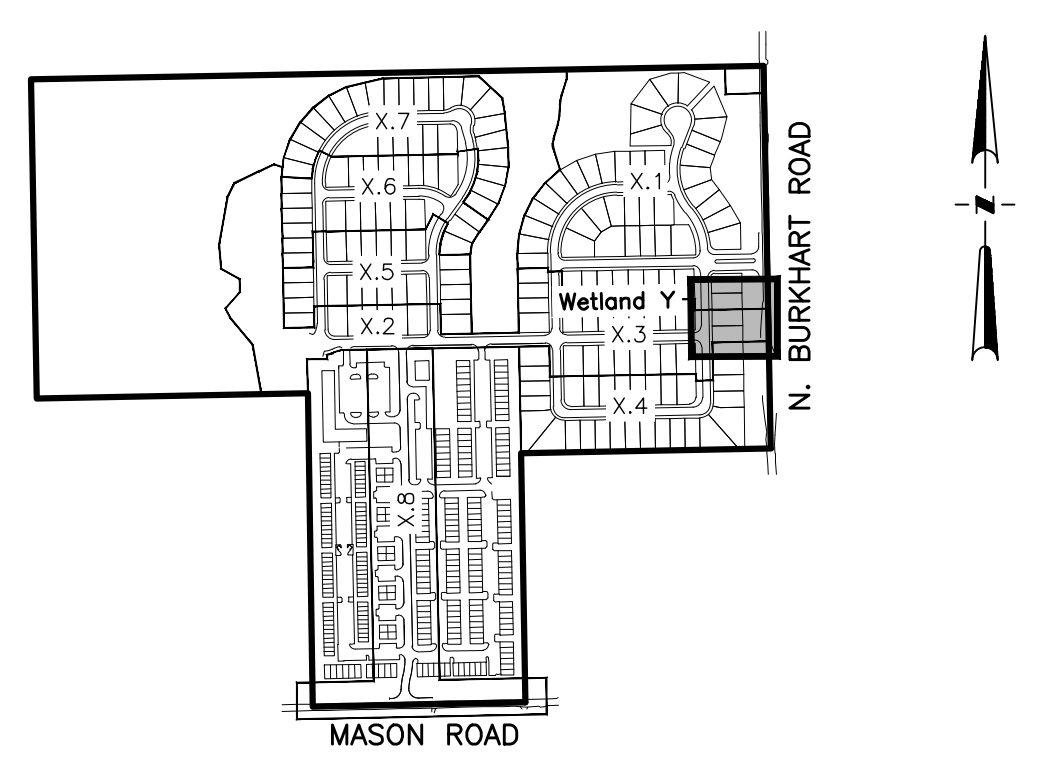


SECTION G-G
C-2.3

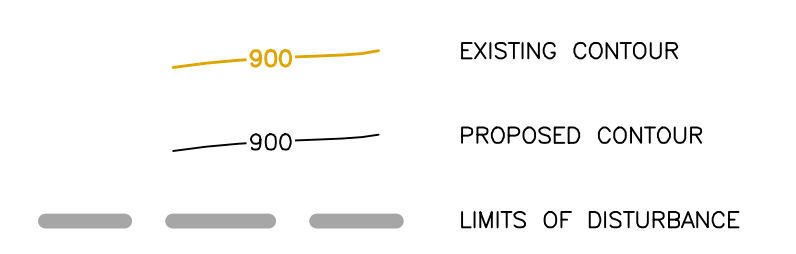
SECTION LEGEND



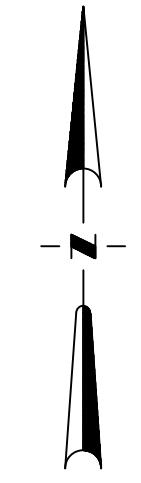
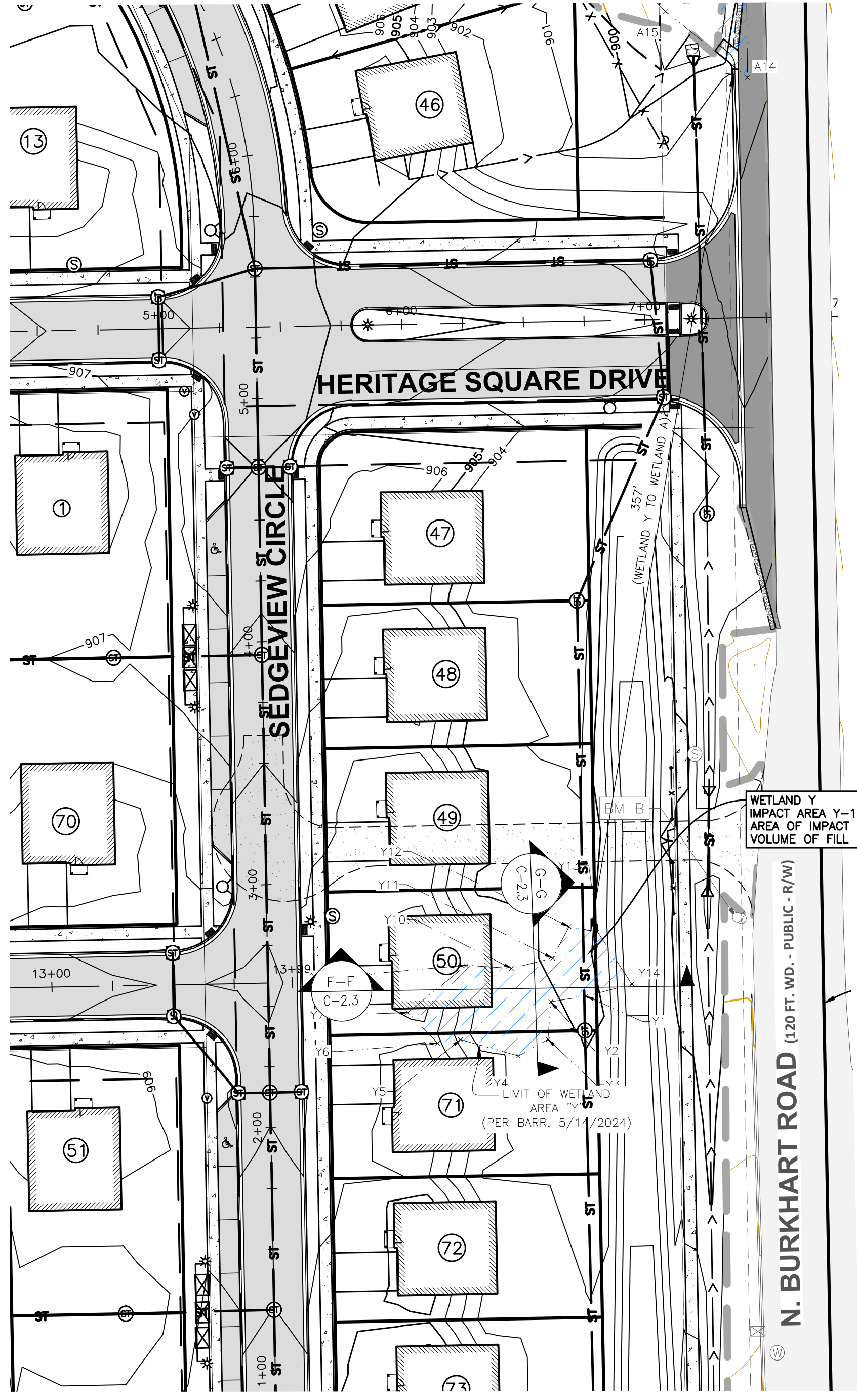
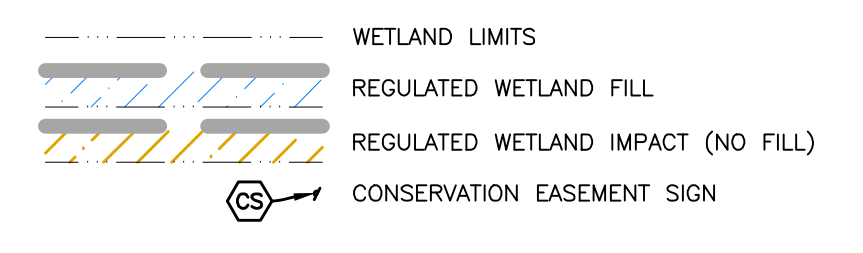
SHEET KEY



TOPOGRAPHIC LEGEND



IMPACT LEGEND



BENCHMARKS

DATUM: NAVD88

BM A:
SET BENCH TIE IN S/SIDE OF UTILITY POLE ON NORTH SIDE OF MASON ROAD 290'± WEST OF EAST PROPERTY LINE.
ELEV = 909.83

BM B:
ARROW ON HYDRANT ON WEST SIDE OF BURKHART ROAD 430'± NORTH OF SOUTH PROPERTY LINE.
ELEV = 906.59

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CLIENT :

M/I HOMES OF MICHIGAN, L.L.C.
40950 WOODWARD AVE
SUITE 203
BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
(248)-221-5011

WETLAND IMPACTS - WETLAND Y

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

PLAN SUBMITTALS/REVISIONS	DATE
SITE PLAN SUBMITTAL	05/09/2024
PHASE 1 FINAL SITE PLAN SUBMITTAL	09/18/2024
MODIFIED COVERAGE CALCULATION	11/25/2024
REVISED PHASE 1 FINAL SITE PLAN	02/20/2025

ORIGINAL ISSUE DATE:
5/09/2024

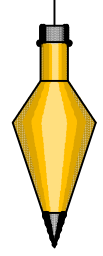
PROJECT NO: 21-075C

SCALE: 1" = 40'
0 1/2" 1"

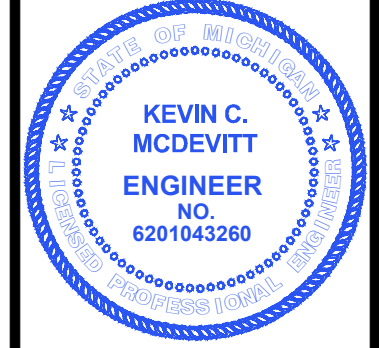
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DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-2.3

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OVERALL UTILITY PLAN
HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTAL
09/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVERGE CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

PROJECT NO: 21-075C

SCALE: 1" = 120'
0 1/2" 1"

FIELD:
DRAWN BY: DC,MM,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-3.0

NOT FOR CONSTRUCTION

SANITARY SEWER QUANTITIES (ALL PHASES)

QTY	UNIT	ITEM
7631	LF	8" PVC SDR 26
9009	LF	6" PVC SDR 23.5
36	EA	4" MANHOLE
12	EA	CLEANOUT

WATER MAIN QUANTITIES (ALL PHASES)

QTY	UNIT	ITEM
9968	LF	8" DI CL 52 WATER MAIN
217	LF	6" DI CL 52 WATER MAIN
9673	LF	1" TYPE K, COPPER WATER SERVICE
1	EA	8" CROSS
17	EA	8"x8"x8" TEE
22	EA	8"x8"x6" TEE
43	EA	8" 45° BEND
22	EA	8" 22.5° BEND
19	EA	8" 11.25° BEND
1	EA	8" TO 6" REDUCER
1	EA	20"x8" TSV&W
24	EA	8" GVB IN 2'X2' CONCRETE APRON
23	EA	STANDARD HYDRANT ASSEMBLY

SANITARY SEWER BASIS OF DESIGN

Monument Engineering Group Associates, Inc.
298 Veterans Drive, Fowlerville, MI 48836
(517) 223-3512
monumentengineering.com

Date: 5/2/2024

PROJECT NAME: Heritage Square PUD
PROJECT LOCATION: Howell Township, Livingston County, Michigan
MEGA PROJECT NO.: 21-075C

METHODOLOGY UTILIZED IN THE FOLLOWING CALCULATIONS:
- 1 SINGLE FAMILY OR MULTIFAMILY UNIT = 1 REU
- SENIOR LIVING APARTMENT BUILDING EQUALS 31 REU PER BEDROOM
- CLUBHOUSE = OFFICE = 1 REU PER 1000 SFT (1000 SFT)
+ POOL = 3 PER 1000 SFT (2500 SFT)
- 1 REU = 218 GPD

SINGLE FAMILY DEVELOPMENT
NUMBER OF SINGLE FAMILY UNITS = 176 UNITS
ASSUMED FLOW PER REU (GALLONS PER DAY) = 218 GPD
ASSUMED PEOPLE PER UNIT (FLOW/100 GPD) = 2.18 CAPITA
AVERAGE DAILY FLOW = DEVELOPMENT UNITS x 218 GPD = 176 x 218 = 38368 GPD
PEAKING FACTOR = (18 + (P^0.5) / (4 + (P^0.5))) = 4.0307
PEAK HOUR FLOW = PEAKING FACTOR x AVERAGE DAILY FLOW = 4.0307 x 38368 = 154649 GPD
= 0.2393 CFS
SINGLE FAMILY FLOW = 107.4 GPM

MULTI-FAMILY DEVELOPMENT
NUMBER OF MULTI-FAMILY UNITS = 288 UNITS
ASSUMED FLOW PER REU (GALLONS PER DAY) = 218 GPD
ASSUMED PEOPLE PER UNIT (FLOW/100 GPD) = 2.18 CAPITA
AVERAGE DAILY FLOW = DEVELOPMENT UNITS x 218 GPD = 288 x 218 = 62784 GPD
PEAKING FACTOR = (18 + (P^0.5) / (4 + (P^0.5))) = 3.9213
PEAK HOUR FLOW = PEAKING FACTOR x AVERAGE DAILY FLOW = 3.9213 x 62784 = 246196 GPD
= 0.3810 CFS
PEAK MULTI-FAMILY FLOW = 171.0 GPM

SENIOR LIVING BUILDING
NUMBER OF SENIOR LIVING APARTMENTS (1 BEDROOM) = 90 UNITS
NUMBER OF REUS (0.31 REU / BEDROOM) = 27.9 REU
ASSUMED FLOW PER REU (GALLONS PER DAY) = 67.6 GPD
ASSUMED PEOPLE PER UNIT (FLOW/100 GPD) = 1 CAPITA
AVERAGE DAILY FLOW = DEVELOPMENT UNITS x 218 GPD = 90 x 67.58 = 6082.2 GPD
PEAKING FACTOR = (18 + (P^0.5) / (4 + (P^0.5))) = 4.2558
PEAK HOUR FLOW = PEAKING FACTOR x AVERAGE DAILY FLOW = 4.2558 x 6082 = 25885 GPD
= 0.0401 CFS
PEAK SENIOR LIVING FLOW = 18.0 GPM

CLUBHOUSE FACILITY
ESTIMATED OFFICE AREA = 1000 SFT
REU = 1 PER 1000 SQ FT = 1 REU
ESTIMATED POOL BUILDING AREA = 2500 SFT
REU = 3 PER 1000 SQ FT = 7.5 REU
FLOW PER REU = 218 GPD
AVERAGE DAILY FLOW = REU x FLOW PER REU = 8.5 x 218 = 1853 GPD
EQUIVALENT POPULATION = ADF / 100 GPD PER CAPITA = 19 CAPITA
PEAKING FACTOR = (18 + (P^0.5) / (4 + (P^0.5))) = 4.3834
PEAK HOUR FLOW = PEAKING FACTOR x AVERAGE DAILY FLOW = 4.3834 x 1853 = 8122 GPD
= 0.0126 CFS
PEAK CLUBHOUSE FACILITY FLOW = 5.6 GPM

TOTAL ESTIMATED DAILY SEWER FLOWS = 109087.2 GPD
TOTAL ESTIMATED PEAK SEWER FLOWS = 434852.3 GPD
PEAK TOTAL FLOW = 0.6720 CFS
PEAK TOTAL FLOW = 302.0 GPM

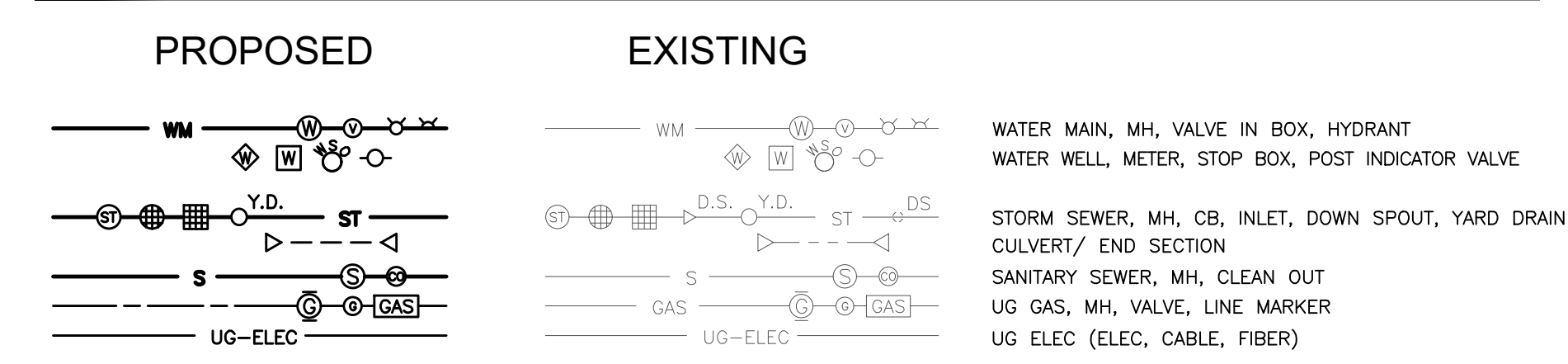
WATER BASIS OF DESIGN (REU'S FROM SEWER CALCS)
TOTAL REU'S CALCULATED (FOR WATER BASIS) = 500.4 REU



UTILITY NOTES

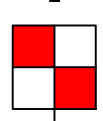
- EXISTING WATER MAIN IS UNDER THE JURISDICTION OF MARION-HOWELL-OCOLA-GENOA WATER AUTHORITY (MHOG). PROPOSED WATER MAIN TO BE 8" CLASS 52 DUCTILE IRON WATER MAIN, AND SHALL BE UNDER THE JURISDICTION OF MHOG. WATER MAIN SHALL BE CONSTRUCTED WITHIN ROAD RIGHT OF WAY OR SHALL BE CENTERED IN A 25' WIDE EASEMENT AS REQUIRED BY MHOG.
- HYDRANT COVERAGE AND SPACING SHALL BE PER MHOG STANDARDS, OR AS MODIFIED BY THE HOWELL AREA FIRE DEPARTMENT FIRE MARSHALL. BUILDINGS SHALL BE FIRE SUPPRESSED IF REQUIRED BY CODE.
- WATER MAIN LOOP TO SOUTHEAST CORNER OF MULTI-FAMILY DEVELOPMENT TO BE CONSTRUCTED IN PHASE 2. HOME OCCUPATION OF PHASE 2 UNITS SHALL NOT BE ALLOWED UNTIL AFTER THE WATER MAIN LOOP IS PLACED INTO SERVICE.
- EXISTING SANITARY SEWER IS UNDER THE JURISDICTION OF HOWELL TOWNSHIP. PROPOSED 8 INCH SANITARY SEWER SHALL BE UNDER THE JURISDICTION OF HOWELL TOWNSHIP. SANITARY SEWER SHALL BE INSTALLED WITHIN PROPOSED RIGHT OF WAY, OR SHALL BE PLACED WITHIN AN EASEMENT AS REQUIRED BY HOWELL TOWNSHIP.
- CONTRACTOR TO EXPOSE AND FIELD MEASURE LOCATION AND DEPTH OF EXISTING 8" SANITARY STUB OUT OF THE EXISTING PUMP STATION. IF ELEVATION AND LOCATION DIFFER FROM RECORD INFORMATION, CONTRACTOR TO INFORM THE OWNER, TOWNSHIP AND MHOG OF ACTUAL LOCATION PRIOR TO CONSTRUCTION OF ANY SANITARY SEWER.
- STORM SEWER SHALL BE ADS HDPE OR HPP PIPE.
- STORMWATER MANAGEMENT SHALL BE CONSTRUCTED PER THE CURRENT STANDARDS OF THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IDENTIFIED PONDS HAVE BEEN SIZED PER THE CURRENT COUNTY STANDARDS.
- ALL UTILITIES INSTALLED BELOW OR WITHIN 1 ON 1 INFLUENCE OF PAVEMENT SHALL BE BACKFILLED WITH CLASS II SAND COMPACTED TO 95% MAXIMUM UNIT DENSITY.
- NATURAL GAS SHALL BE INSTALLED BETWEEN THE CURB AND SIDEWALK ON THE SAME SIDE OF THE ROAD AS THE WATER MAIN.
- ELECTRICAL DISTRIBUTION AND CABLE/COMMUNICATION SHALL BE INSTALLED UNDERGROUND IN AN EASEMENT ALONG THE REAR PROPERTY LINES OF UNITS.

UTILITY LEGEND

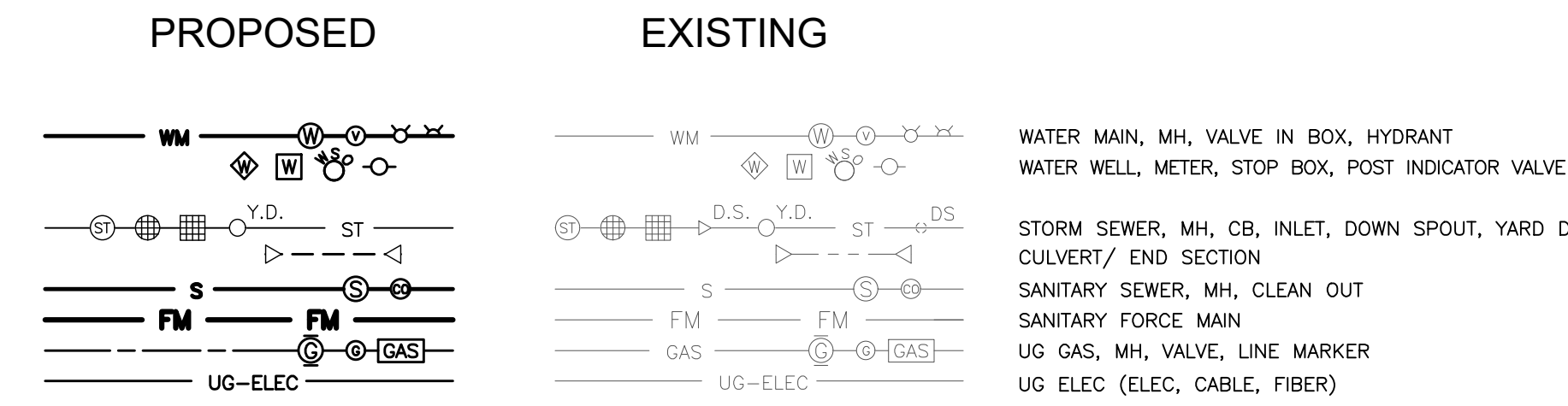


EXISTING OVERHEAD ELECTRIC TO BE RELOCATED TO WITHIN PUBLIC ROAD RIGHT OF WAY. ALL UTILITIES CO-OCCUPYING POLES SHALL ALSO BE RELOCATED.

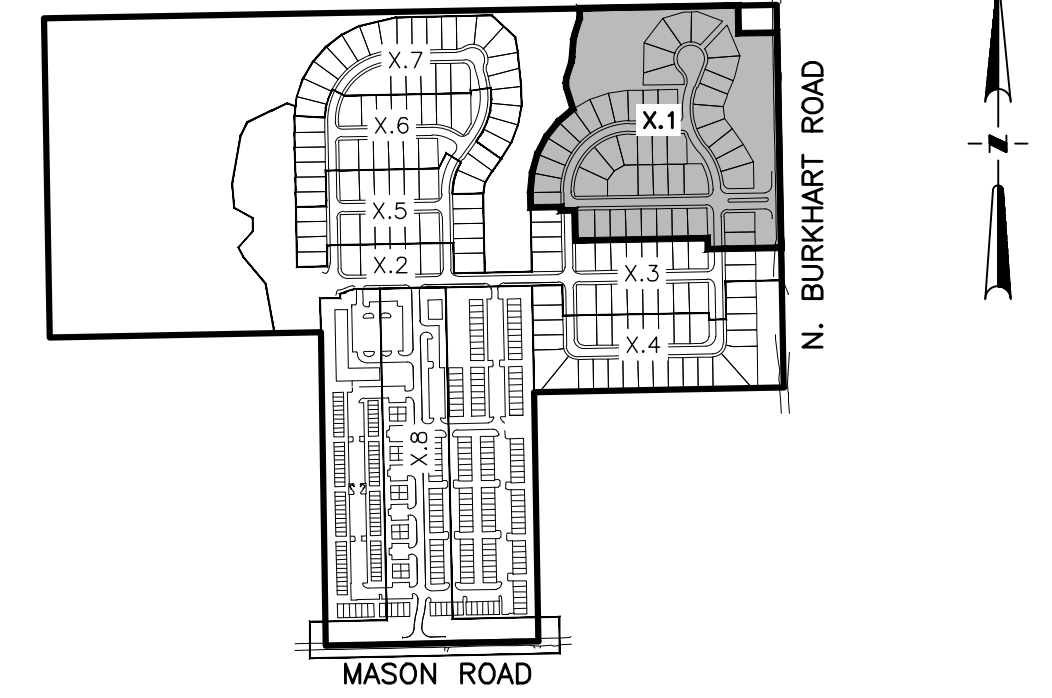
REMOVE EXISTING HYDRANT (WTH-1711) AND REDUCER, AND CONNECT TO EXISTING 8" WATER MAIN. SET TEE AND RE-SET HYDRANT NEAR THE SAME LOCATION IN PHASE 2.



UTILITY LEGEND



SHEET KEY



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POC: DAVID STRAUB
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SANITARY SEWER AND WATERMAN PLAN
HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

Table with columns: DATE, PLAN SUBMITTALS/REVISIONS, SITE PLAN SUBMITTAL, PHASE 1 FINAL SITE PLAN SUBMITTAL, MODIFIED COVER SHEET CALCULATION, REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

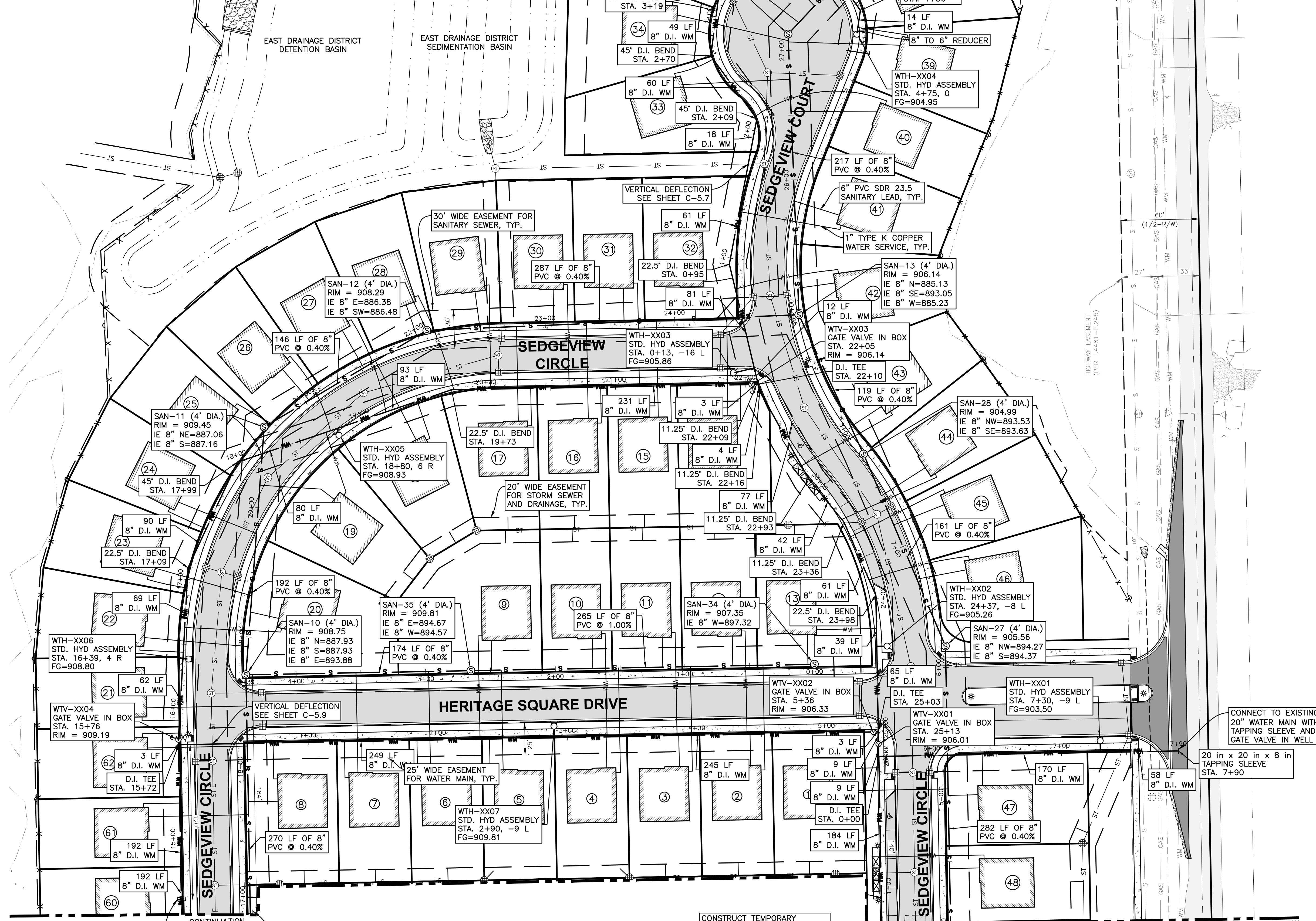
PROJECT NO: 21-075C

SCALE: 1" = 40'
0 1/2" 1"

FIELD: DRAWN BY: DC, MN, CK, DJ
DESIGN BY: KM
CHECK BY: KM

C-3.1

NOT FOR CONSTRUCTION



CONSTRUCT TEMPORARY TERMINAL HYDRANT USING RESTRAINED JOINTS PER MHOG STANDARD PLANS. HYDRANT TO BE RELOCATED IN NEXT PHASE.

CONSTRUCT TEMPORARY WATER TIGHT BULKHEAD IN PHASE 1.

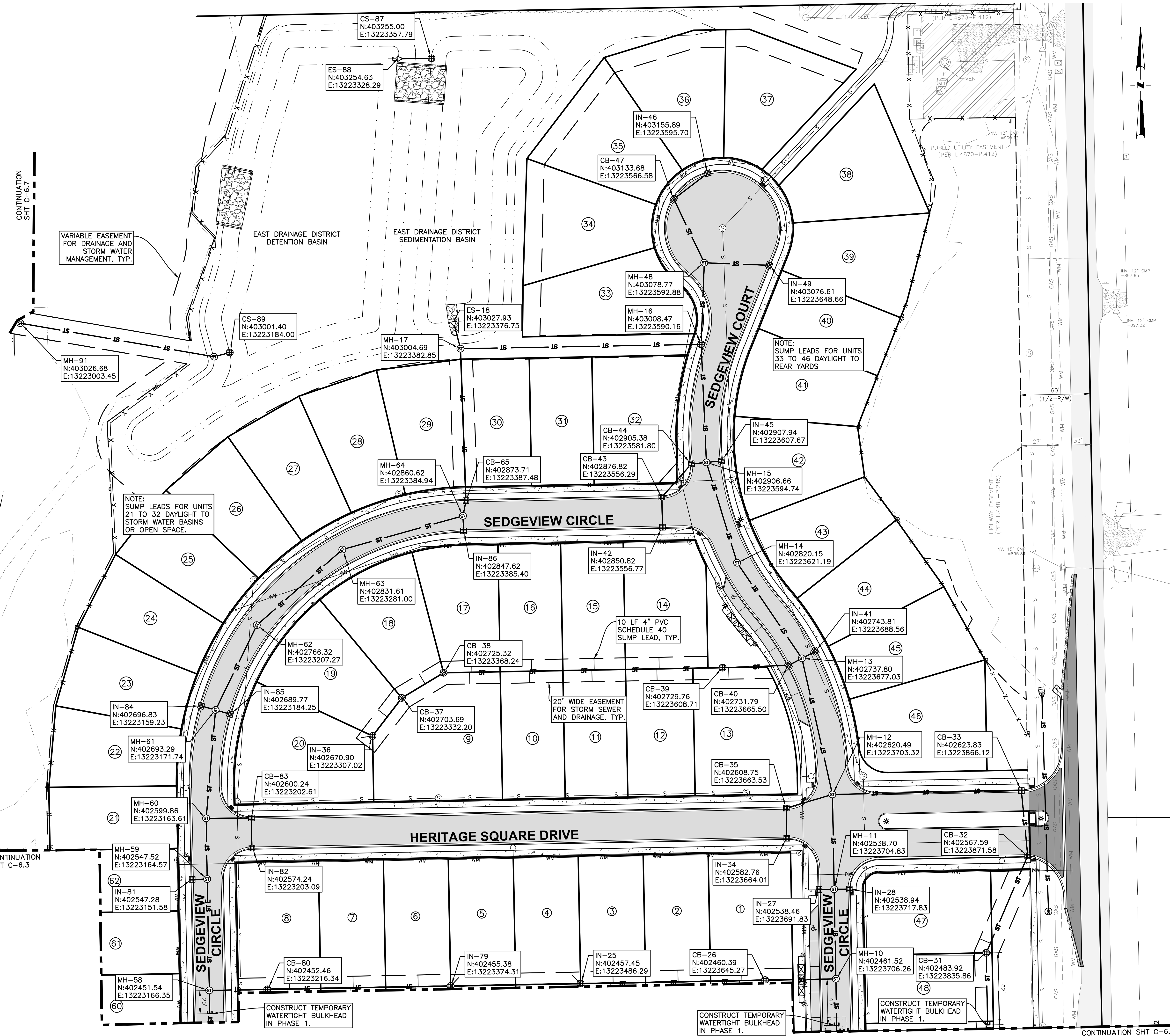
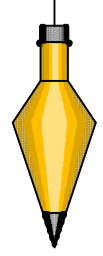
CONSTRUCT TEMPORARY TERMINAL HYDRANT USING RESTRAINED JOINTS PER MHOG STANDARD PLANS. HYDRANT TO BE RELOCATED IN NEXT PHASE.

CONSTRUCT TEMPORARY WATER TIGHT BULKHEAD IN PHASE 1, 226' FROM SAN-27

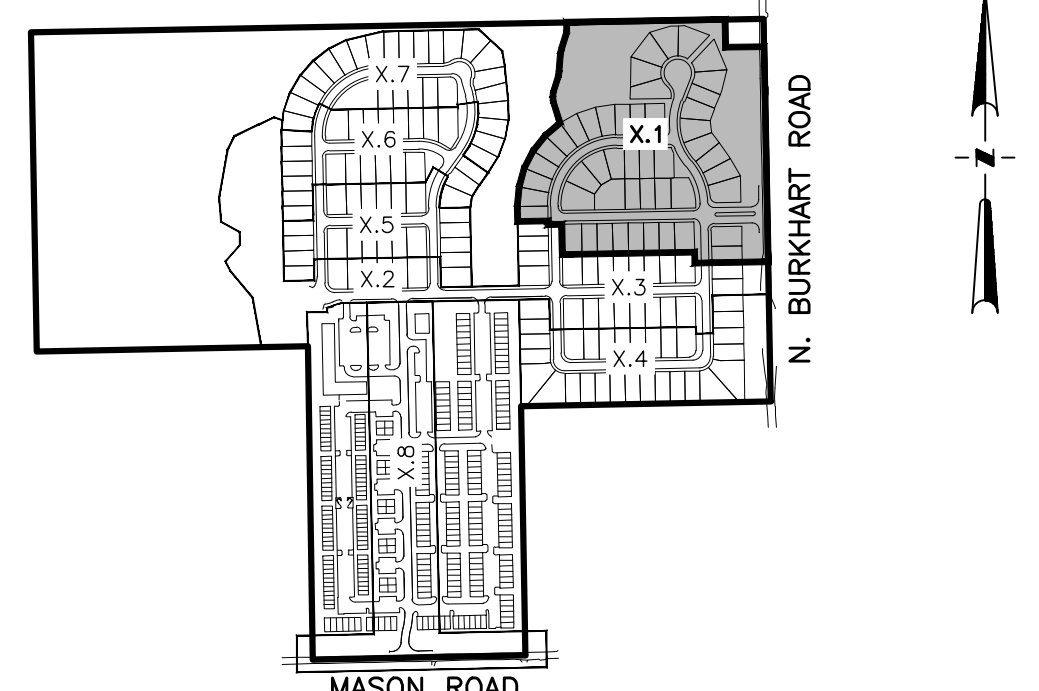


CONTINUATION
SHT C-6.7

CONTINUATION
SHT C-6.3



SHEET KEY



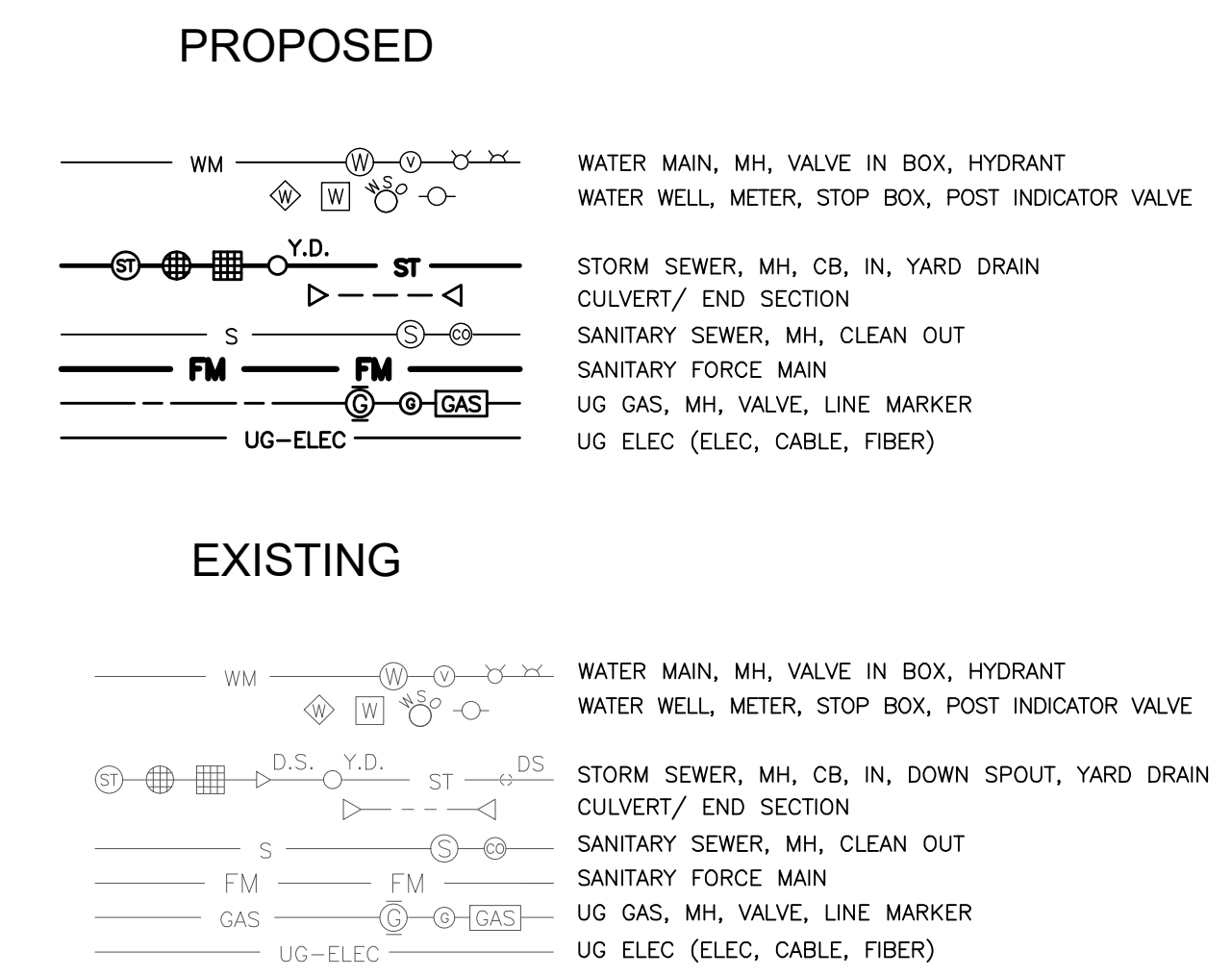
STORM SEWER NOTES

- YARD "IN" & "CB" STRUCTURES SHALL HAVE EJIW 1020 FRAME WITH TYPE O1 BEEHIVE COVER.
- MOUNTABLE CURB "IN" & "CB" STRUCTURES SHALL HAVE EJIW 7060 FRAME WITH TYPE T1 BACK AND M1 GRATE.
- STRAIGHT CURB "IN" & "CB" STRUCTURES SHALL HAVE EJIW 7010 FRAME WITH TYPE T1 BACK AND M1 GRATE.
- STORM "MH" STRUCTURES SHALL HAVE EJIW 1040 FRAME WITH A TYPE A PERFORATED COVER.
- END SECTIONS 18" AND LARGER SHALL HAVE ANIMAL GRATES.
- THE PROPOSED DRAINAGE SYSTEMS ARE TO BE OWNED AND PROPERLY MAINTAINED BY THE SITE CONDOMINIUM PROPERTY OWNER'S ASSOCIATION.
- ALL STORM SEWER OUTSIDE ROAD RIGHT OF WAY SHALL BE LOCATED IN A MINIMUM 20' WIDE STORM EASEMENT.

NOTE

SEE PROFILES ON SHEETS C-6.9 TO C-6.32 FOR SEWER AND STRUCTURE DETAILS

UTILITY LEGEND



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STORM SEWER PLAN (PHASE 1)

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTALS/REVISIONS
09/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
10/14/2024	ECCLE JOINT PERMIT SUBMITTAL
11/07/2024	CONSTRUCTION DOCUMENT REVIEW SET
12/18/2024	REVISED PUD MAXIMUM COVERAGE
02/11/2025	REVISED CONSTRUCTION DOCUMENTS

ORIGINAL ISSUE DATE:
5/09/2024

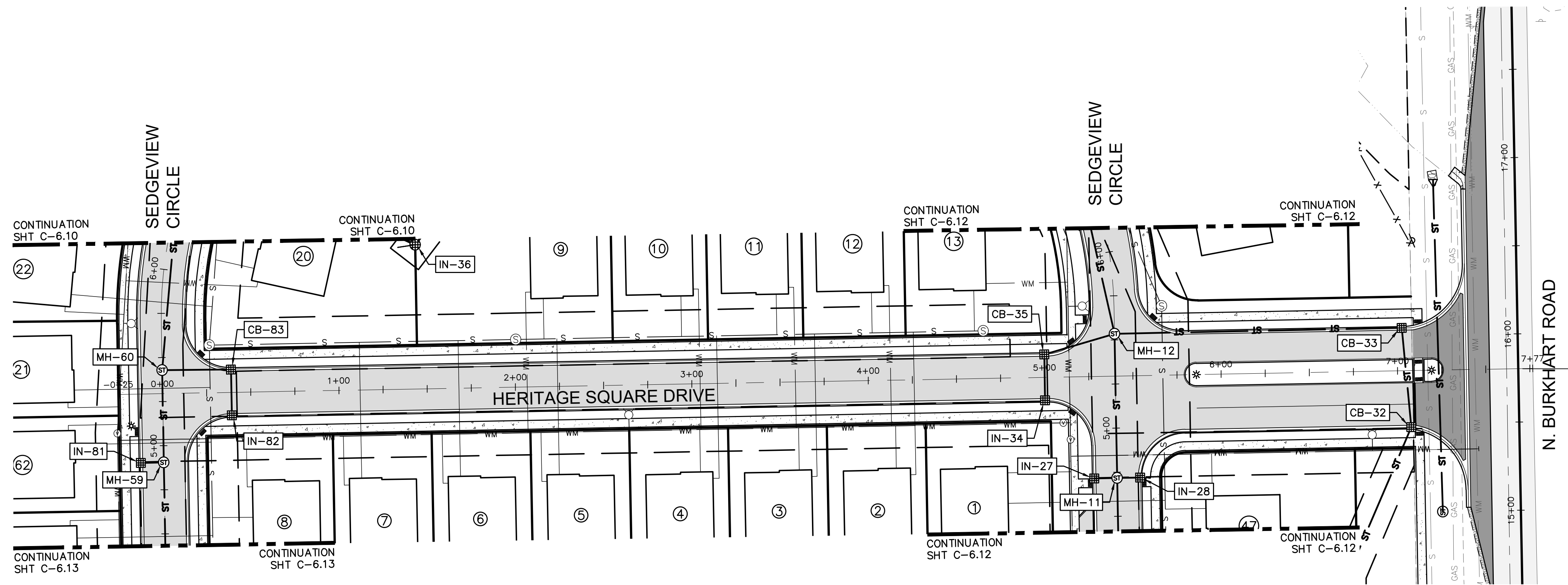
PROJECT NO: 21-075C

SCALE: 1" = 40'

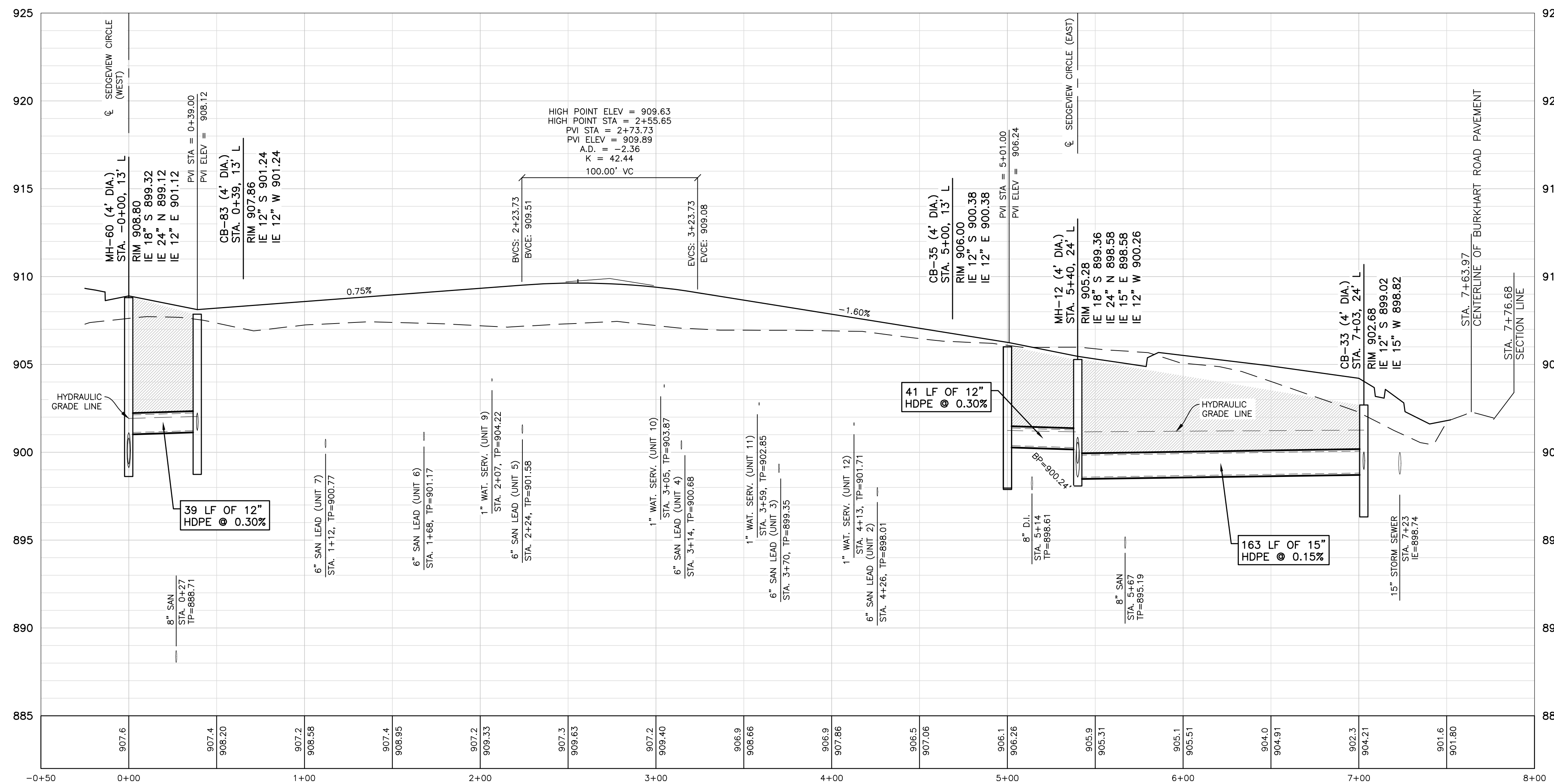
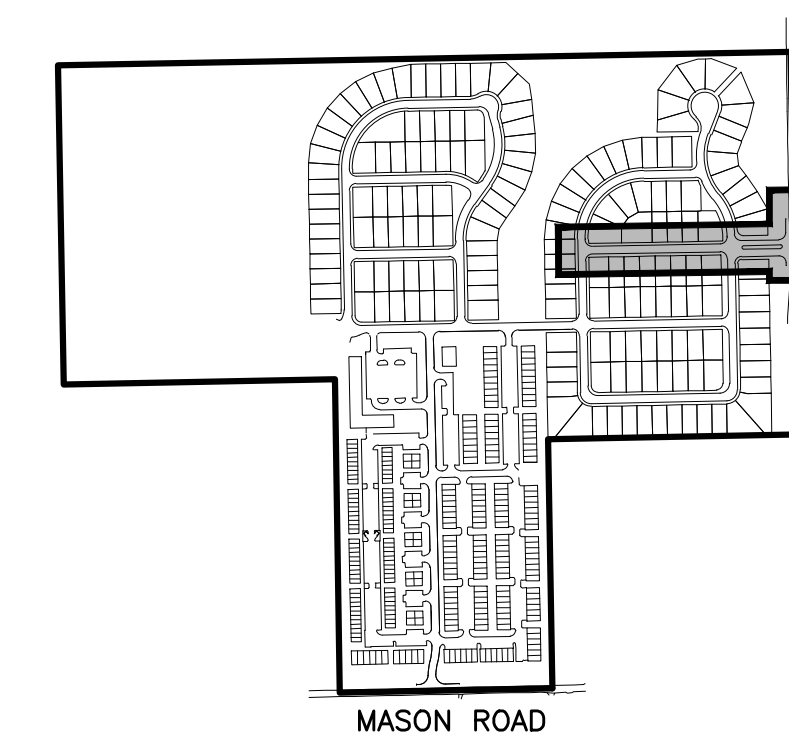
FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-6.1

NOT FOR CONSTRUCTION



SHEET KEY

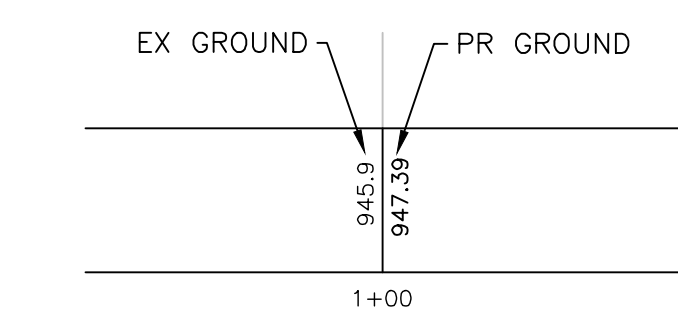


HERITAGE SQUARE DRIVE
STA. 0+00 TO 7+64

PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'

PROFILE LEGEND

- (X) UTILITY CROSSING
- [Hatched Area] SAND BACKFILL (REFER TO TRENCH DETAILS)
- [Dashed Line] EXISTING GROUND
- [Solid Line] PROPOSED GROUND
- [Dotted Line] H.G. LINE



NOTES

1. SAND BACKFILL AND BEDDING TO BE MDOT CL. II.
2. MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
3. ALL PIPES SHOWN TO OUTSIDE DIAMETER.

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STORM SEWER AND ROAD PLAN & PROFILE

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024 <td>DATE</td>	DATE
05/09/2024 <td>DATE</td>	DATE
09/18/2024 <td>DATE</td>	DATE
11/23/2024 <td>DATE</td>	DATE
02/20/2025 <td>DATE</td>	DATE

ORIGINAL ISSUE DATE:
5/09/2024

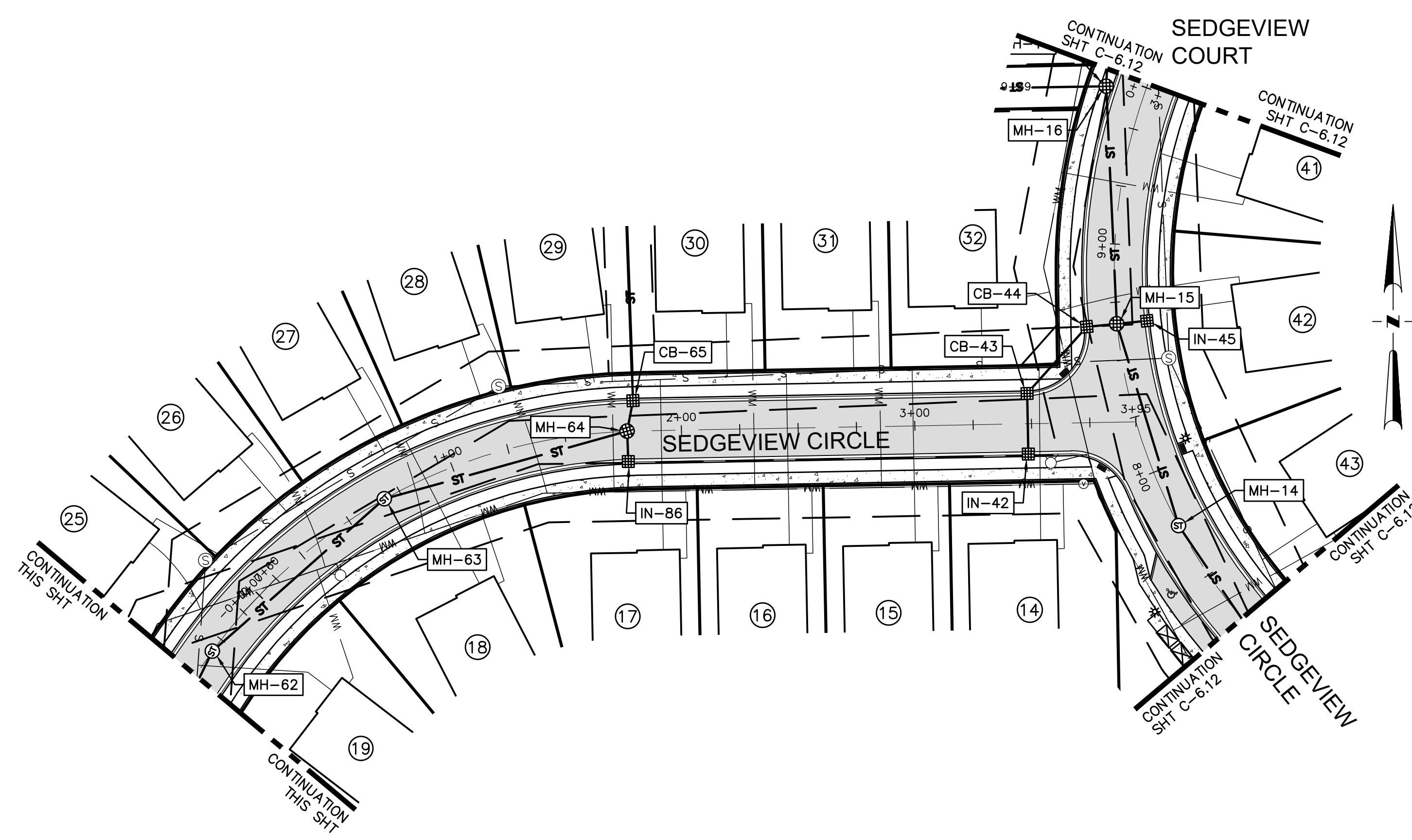
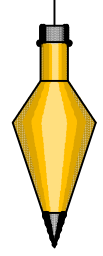
PROJECT NO: 21-075C

SCALE: 1" = 40'
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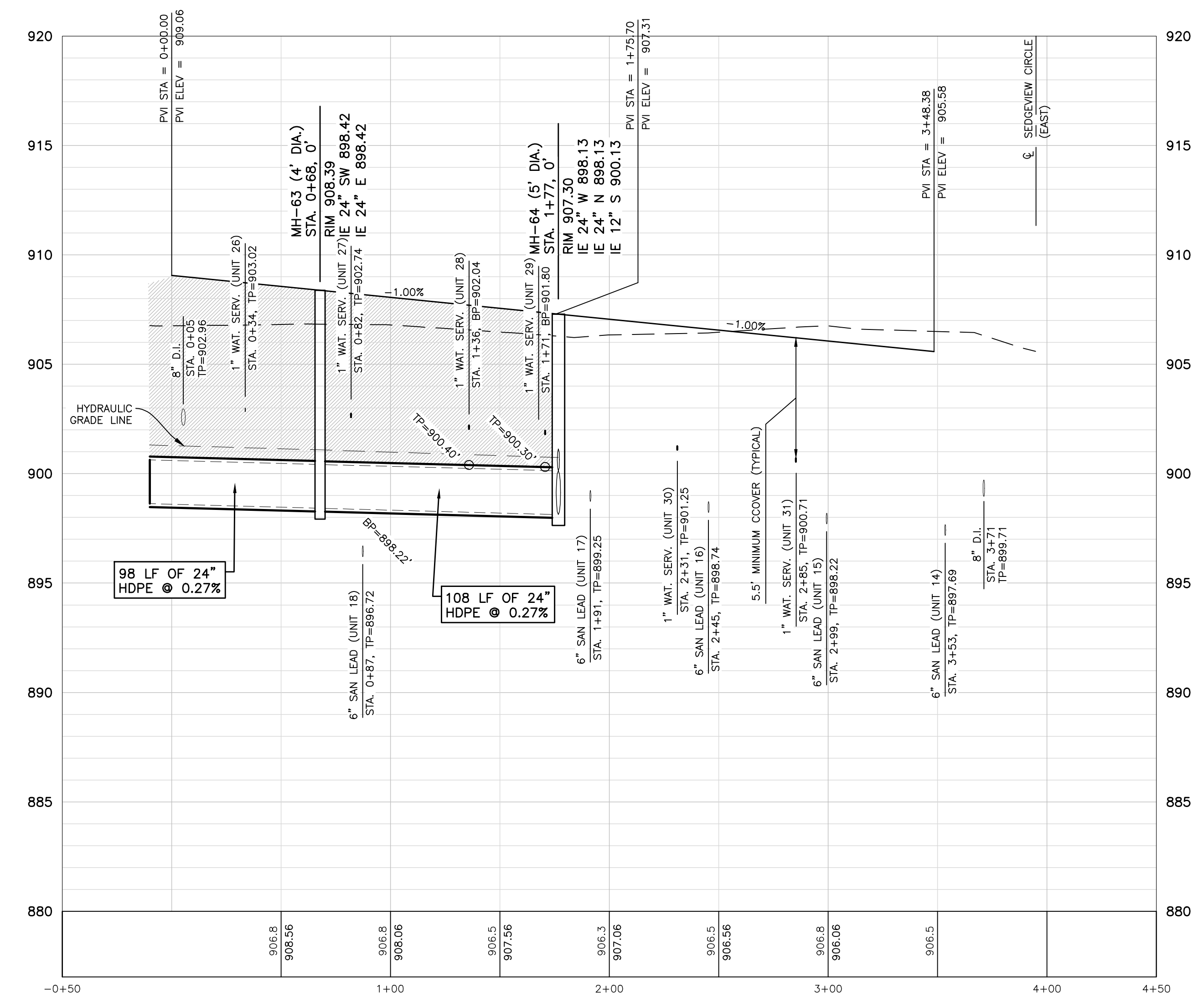
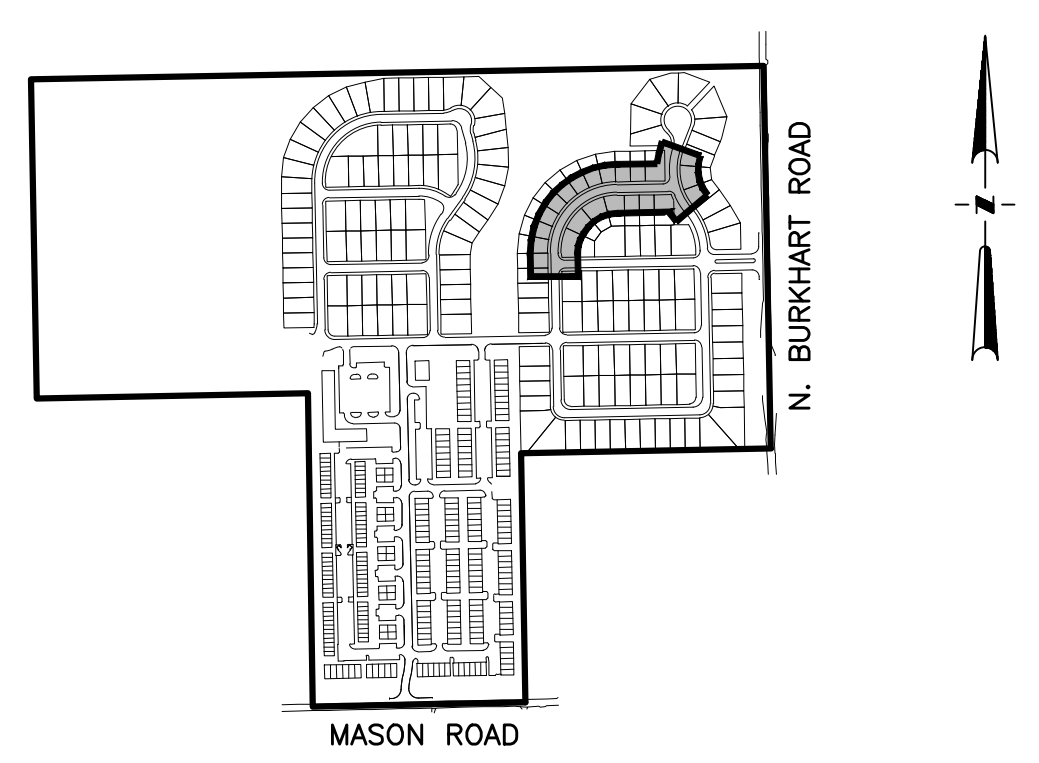
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DRAWN BY: DC,MM,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-6.9

NOT FOR CONSTRUCTION



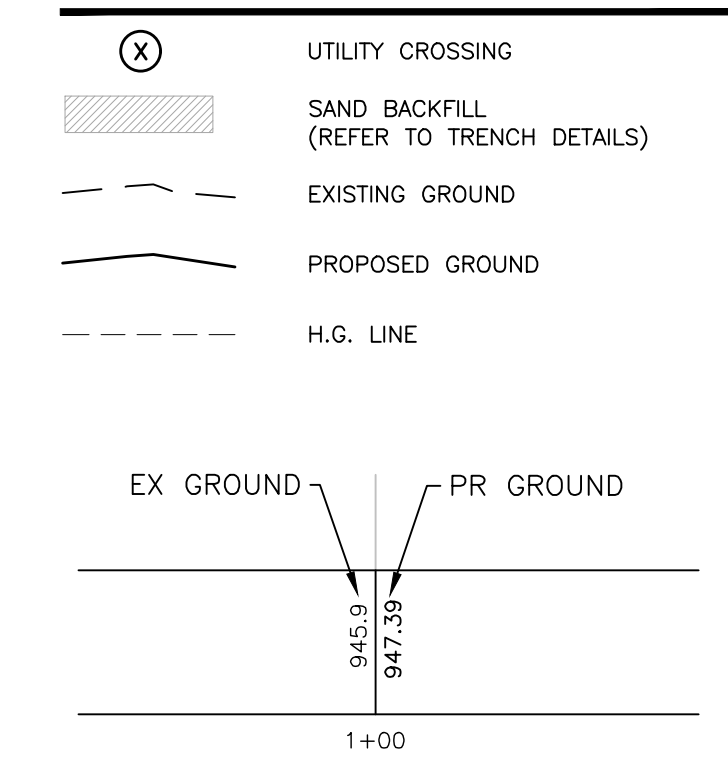
SHEET KEY



SEDGEVIEW CIRCLE (NORTH)

PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'

PROFILE LEGEND



NOTES

- SAND BACKFILL AND BEDDING TO BE MDOT CL II.
- MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
- ALL PIPES SHOWN TO OUTSIDE DIAMETER.

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ENGINEER
NO. 6201043260

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CLIENT :

M/I HOMES OF MICHIGAN, L.L.C.
40950 WOODWARD AVE
SUITE 203
BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
(248)-221-5011

STORM SEWER AND ROAD PLAN & PROFILE

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024 <td>DATE</td>	DATE
09/18/2024 <td>SITE PLAN SUBMITTAL</td>	SITE PLAN SUBMITTAL
11/25/2024 <td>PHASE 1 FINAL SITE PLAN SUBMITTAL</td>	PHASE 1 FINAL SITE PLAN SUBMITTAL
02/20/2025 <td>MODIFIED COVERGE CALCULATION</td>	MODIFIED COVERGE CALCULATION
	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

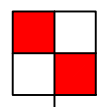
PROJECT NO: 21-075C

SCALE: 1" = 40'
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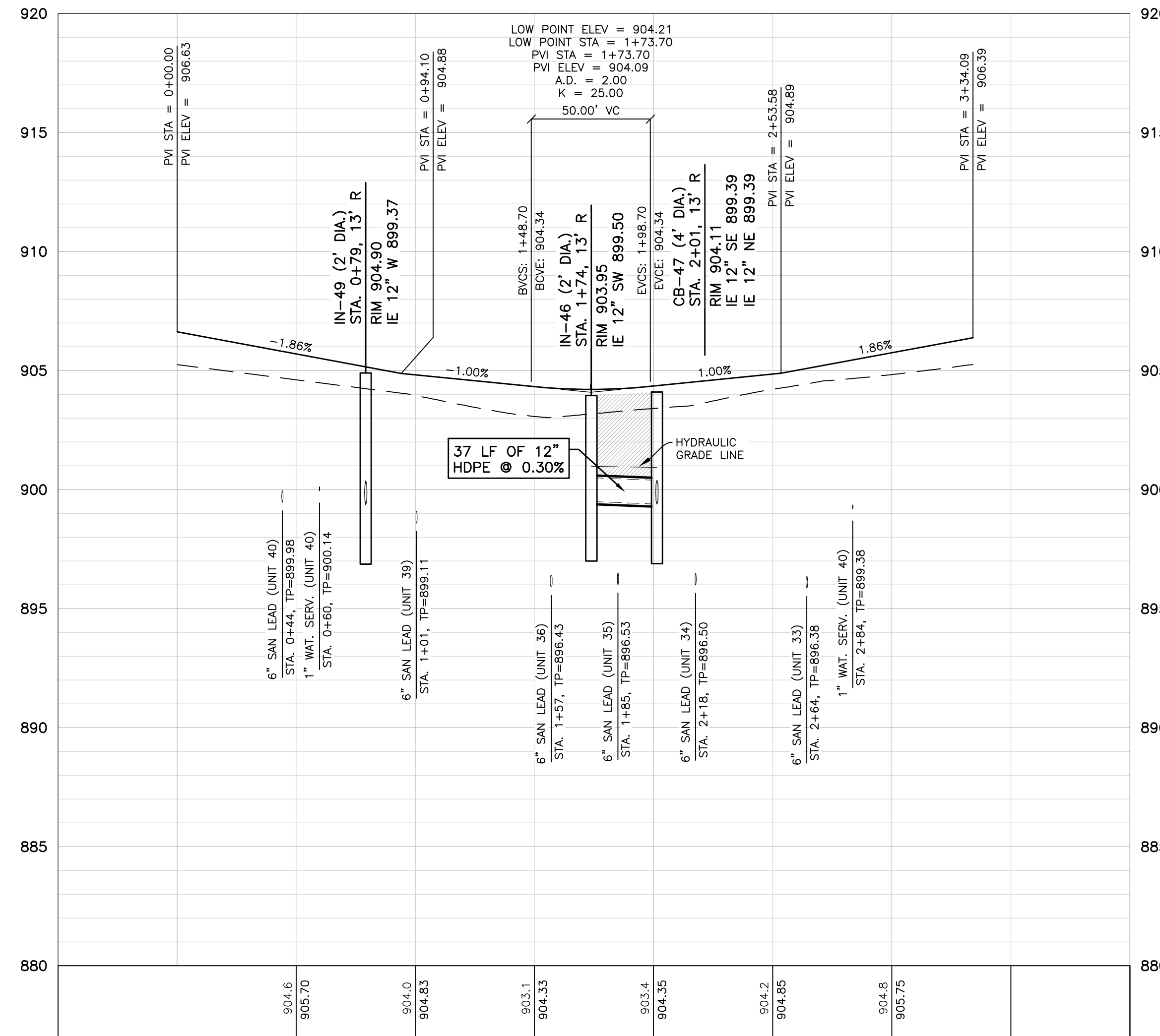
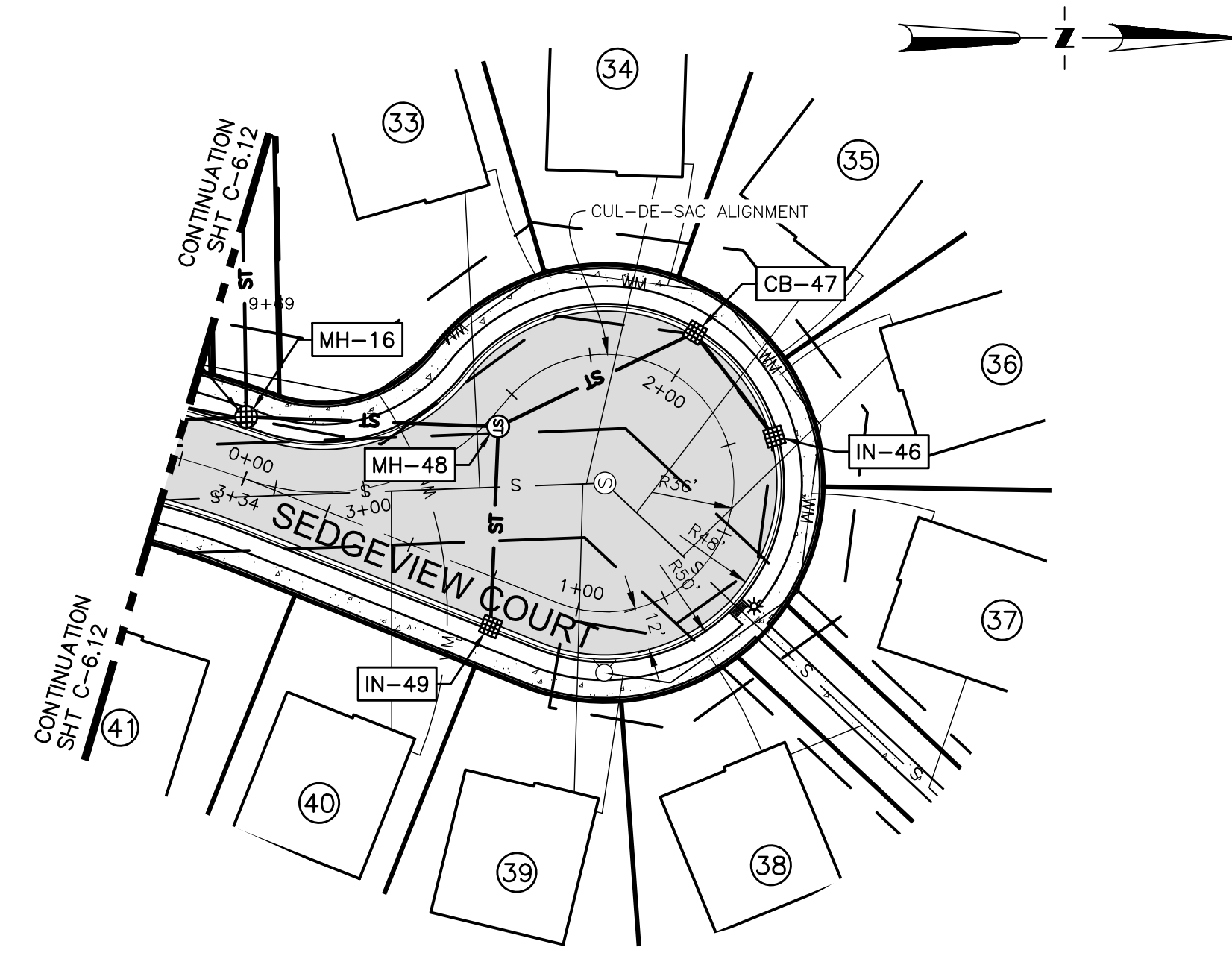
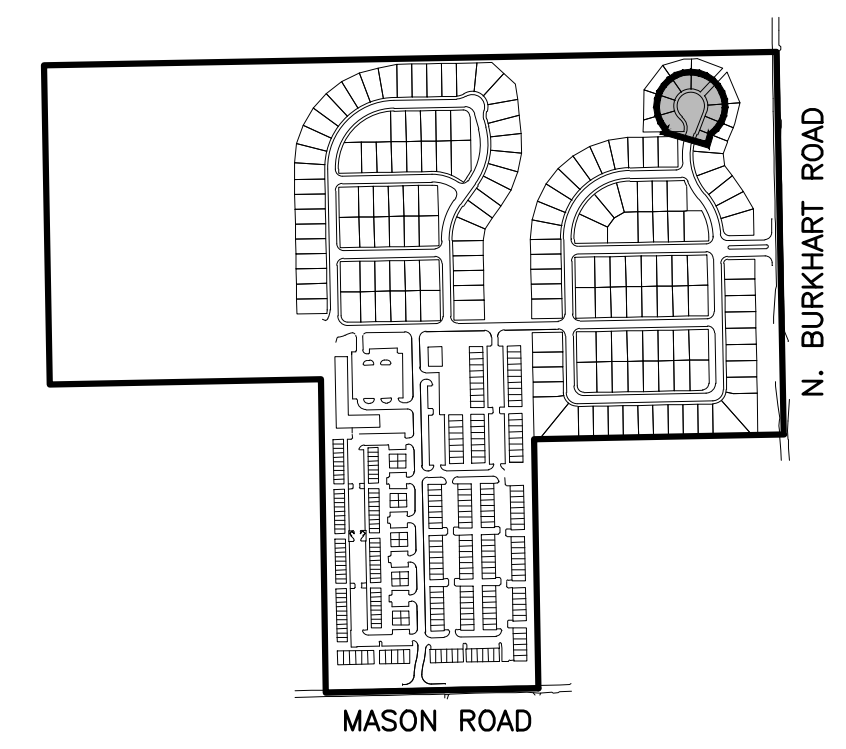
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DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-6.10

NOT FOR CONSTRUCTION



SHEET KEY

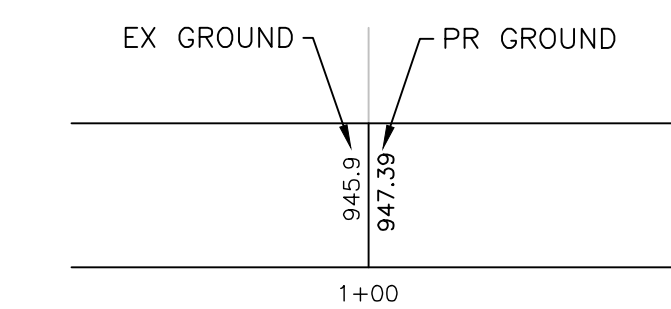


SEDGEVIEW COURT
STA. 0+00 TO 3+34

PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'

PROFILE LEGEND

- UTILITY CROSSING
- SAND BACKFILL (REFER TO TRENCH DETAILS)
- EXISTING GROUND
- PROPOSED GROUND
- H.G. LINE



NOTES

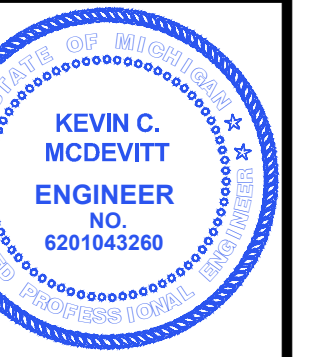
1. SAND BACKFILL AND BEDDING TO BE MDOT CL II.
2. MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
3. ALL PIPES SHOWN TO OUTSIDE DIAMETER.

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STORM SEWER AND ROAD PLAN & PROFILE

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

PLAN SUBMITTALS/REVISIONS	DATE
SITE PLAN SUBMITTAL	05/09/2024
PHASE 1 FINAL SITE PLAN SUBMITTAL	09/18/2024
MODIFIED COVERAGE CALCULATION	11/25/2024
REVISED PHASE 1 FINAL SITE PLAN	02/20/2025

ORIGINAL ISSUE DATE:
5/09/2024

PROJECT NO: 21-075C

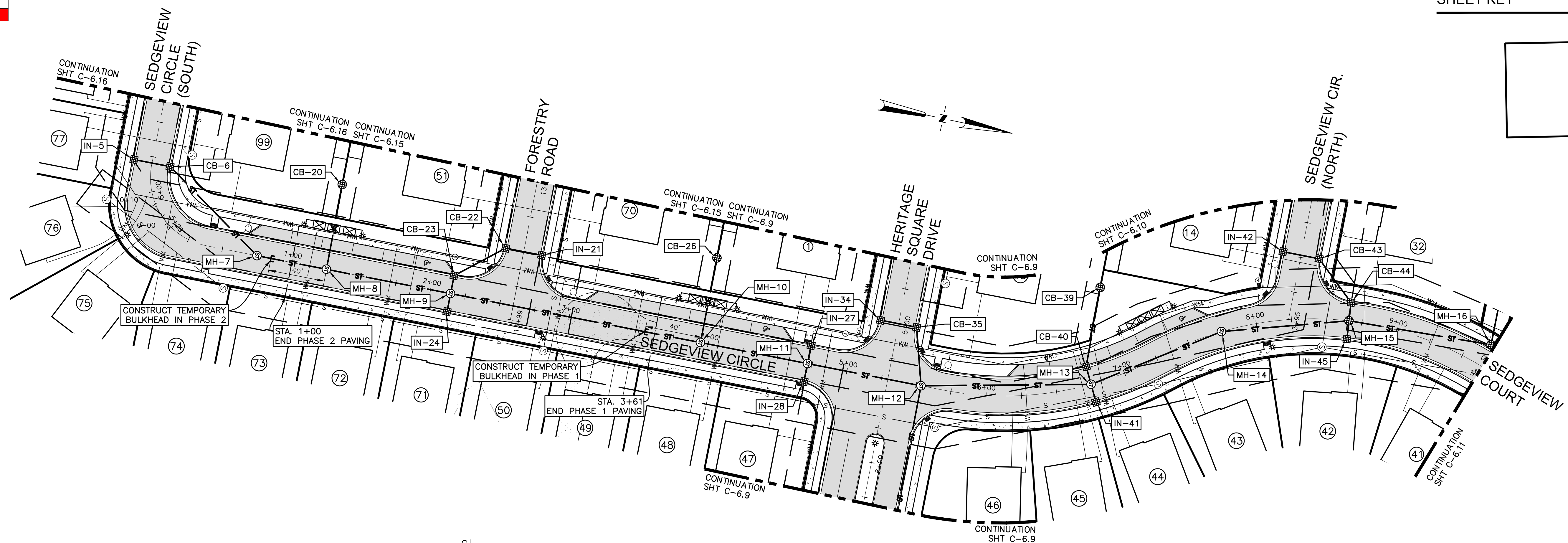
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0 1/2" 1"

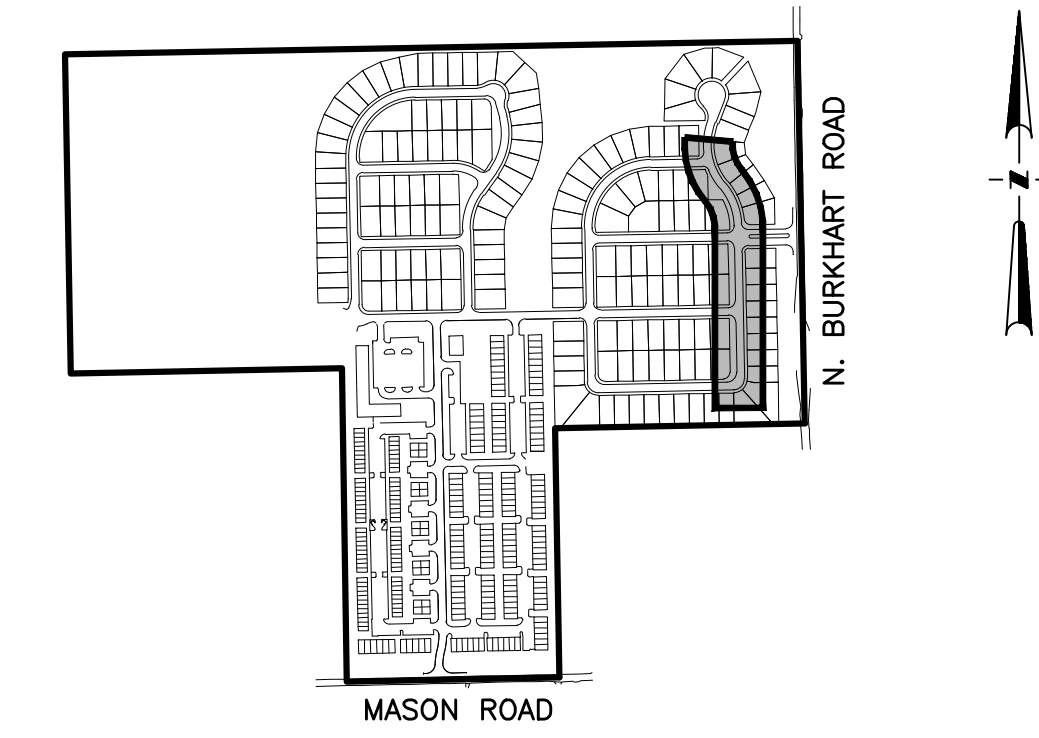
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DESIGN BY: KM
CHECK BY: KM

C-6.11

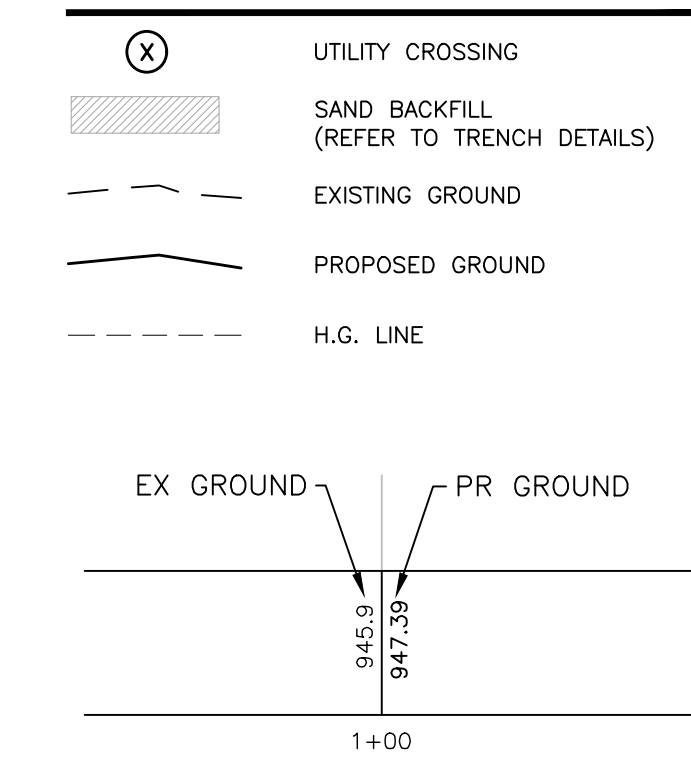
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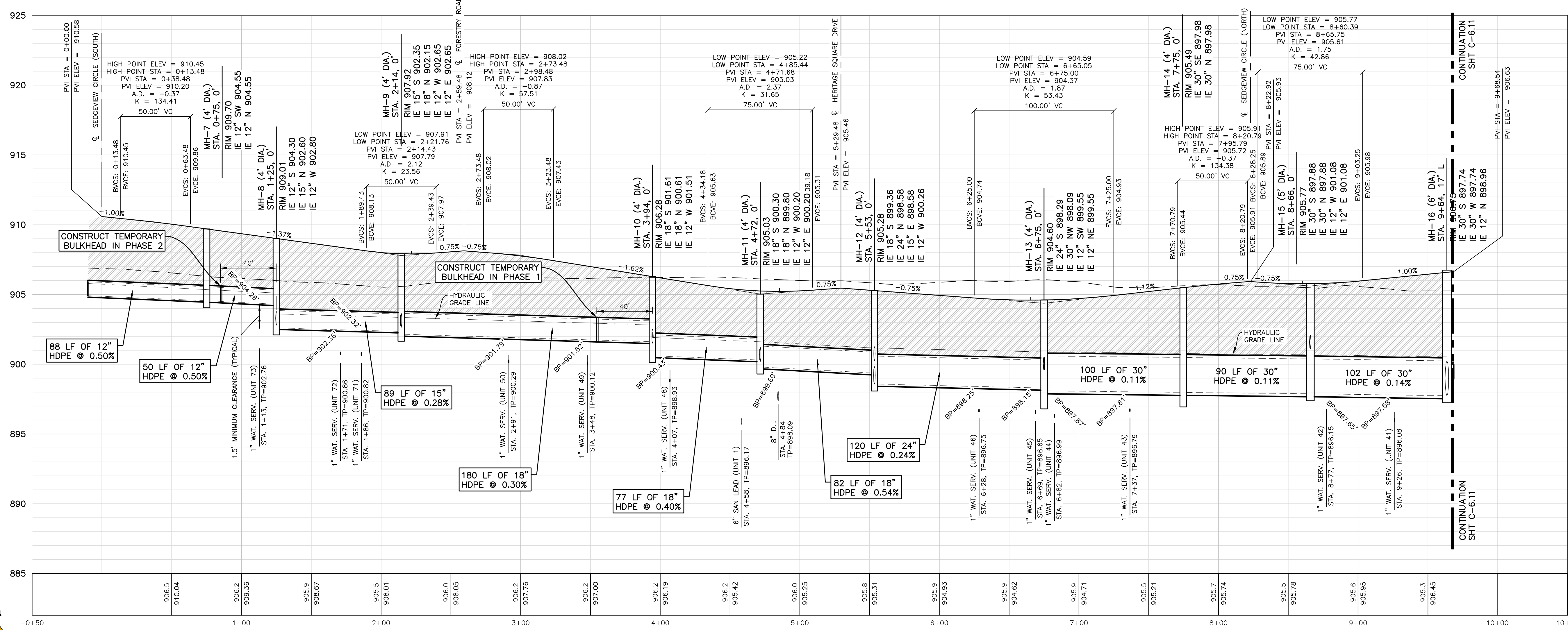


PROFILE LEGEND



NOTES

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2. MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
3. ALL PIPES SHOWN TO OUTSIDE DIAMETER.



SEDGEVIEW CIRCLE (EAST)
STA. 0+00 TO 8+23

PROFILE SCALE
HORIZ: 1"=40'
VERT: 1"=4'

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STORM SEWER AND ROAD PLAN & PROFILE

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
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02/20/2025 <td>REVISED PHASE 1 FINAL SITE PLAN</td>	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

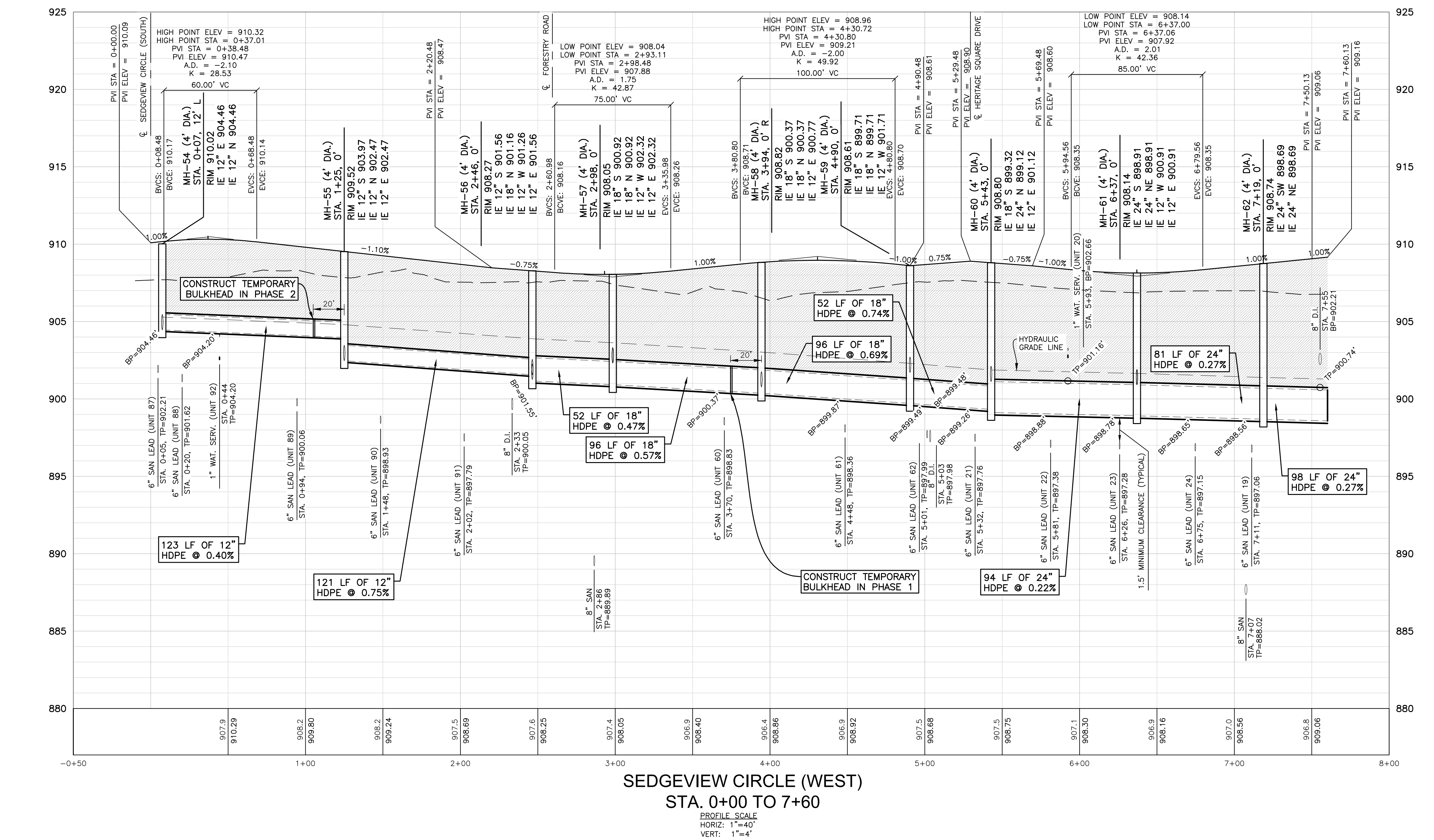
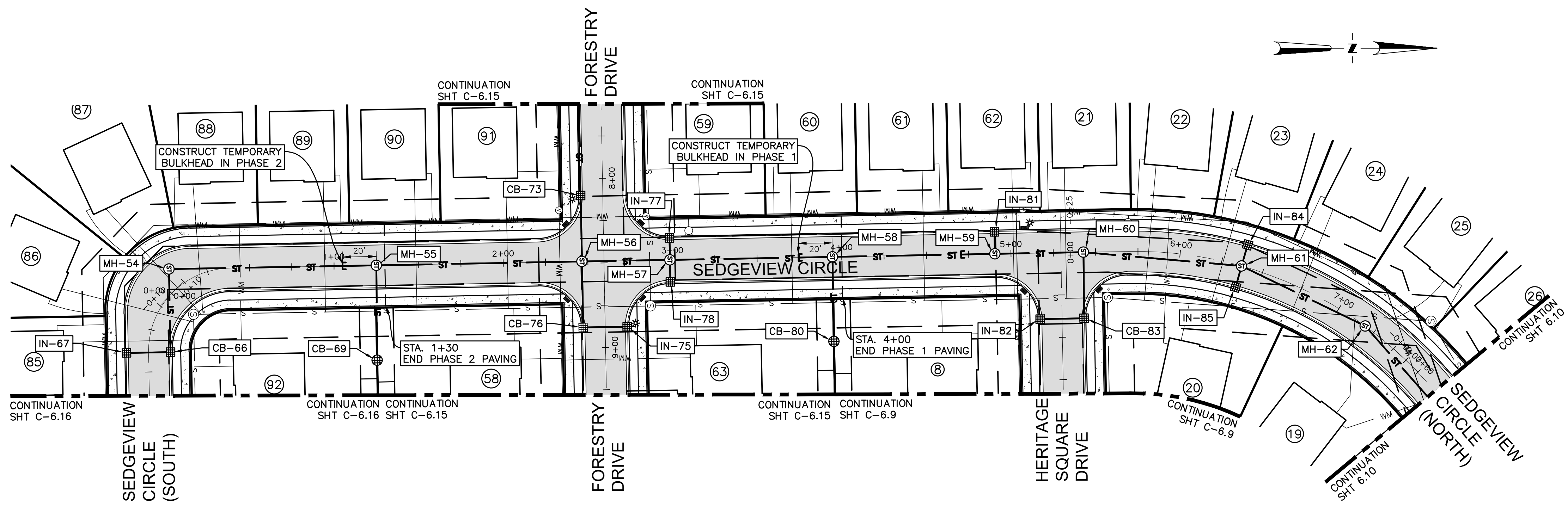
PROJECT NO: 21-075C

SCALE: 1" = 40'

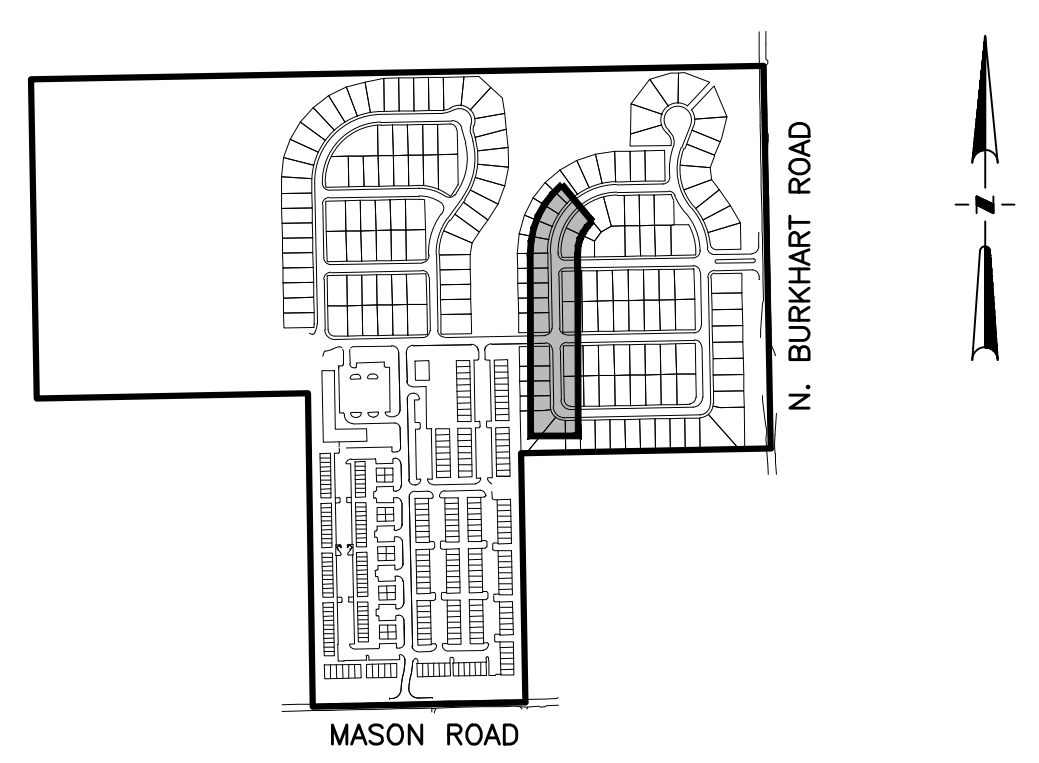
FIELD:
DRAWN BY: DC,MM,CK,DJ
DESIGN BY: KM
CHECK BY: KM

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STORM SEWER AND ROAD PLAN & PROFILE

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	DATE
09/18/2024	PLAN SUBMITTAL
11/25/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

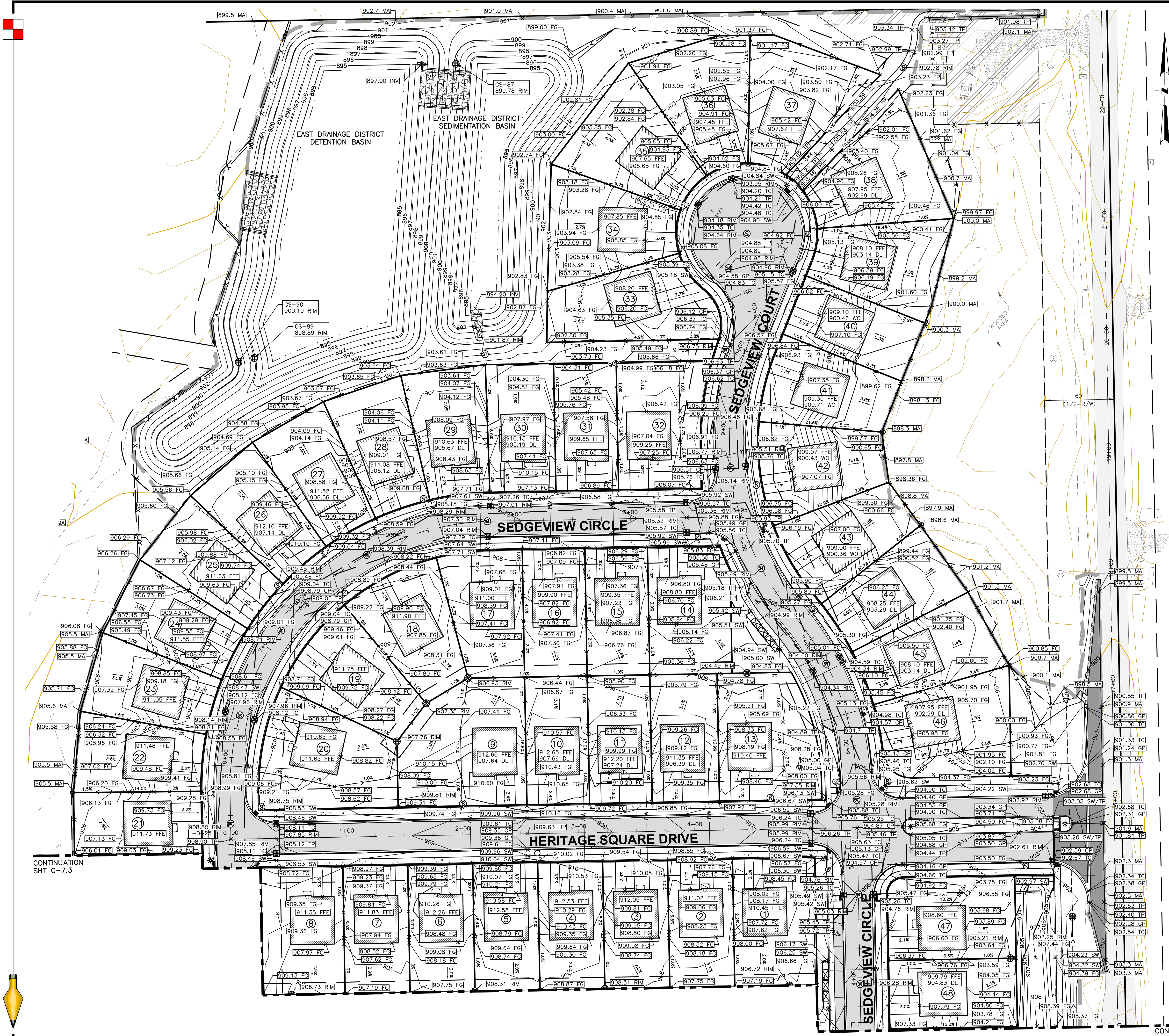
PROJECT NO: 21-075C

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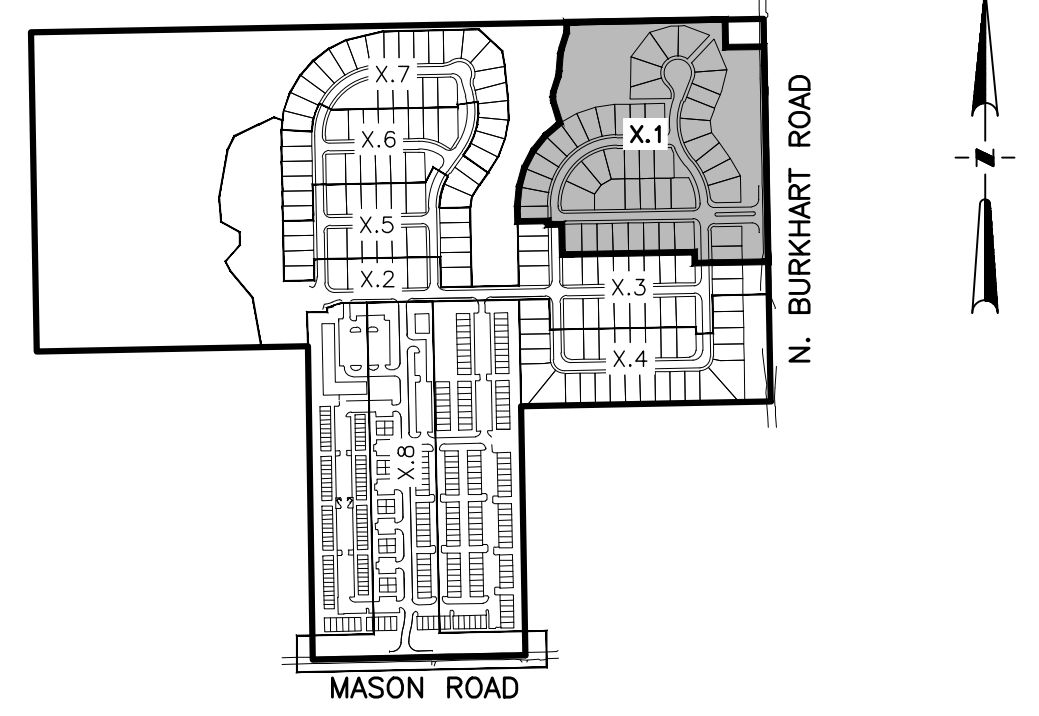
FIELD:
DRAWN BY: DC, MN, CK, DJ
DESIGN BY: KM
CHECK BY: KM

C-6.13

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SHEET KEY



GRADING LEGEND

- X 940.00 TP PROPOSED TOP OF PAVEMENT GRADE
- X 940.00 SW PROPOSED SIDEWALK GRADE
- X 940.00 FG PROPOSED FINISH GRADE
- X 940.00 TC PROPOSED TOP OF CURB GRADE
- X 940.00 GP PROPOSED GUTTER PAN GRADE
- X 940.00 WI PROPOSED TOP OF WALL GRADE
- X 940.00 BW PROPOSED BOTTOM OF WALL GRADE
- X 940.0 MA MATCH EXISTING GRADE
- X 940.0 FFE PROPOSED FINISH FLOOR GRADE
- X 940.0 RIM PROPOSED RIM GRADE
- X 940.00 ADJ-RIM ADJUSTED RIM GRADE
- X 940.00 INV PROPOSED INVERT GRADE
- X 940.00 FFE FIRST FLOOR ELEV (STANDARD GRADING)
- X 940.00 FFE AND BASEMENT FLOOR (WALKOUT)
- X 940.00 FFE PROPOSED FIRST FLOOR ELEVATION AND LOWEST OPENING (DAYLIGHT)
- X 935.04 DL
- R ADA COMPLIANT SIDEWALK RAMP
- L ADA COMPLIANT SIDEWALK LANDING
- 900 EXISTING CONTOUR
- 900 PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- OVERFLOW ROUTE

BENCHMARKS

- DATUM: NAVD88
- BM A:
SET BENCH TIE IN S/SIDE OF UTILITY POLE ON NORTH SIDE OF MASON ROAD
290'± WEST OF EAST PROPERTY LINE.
ELEV = 909.83
- BM B:
ARROW ON HYDRANT ON WEST SIDE OF BURKHART ROAD 430'± NORTH OF
SOUTH PROPERTY LINE.
ELEV = 906.59

GRADING NOTES

- ON JMHOMES WITH STANDARD GRADING, LOWEST OPENING IS EQUAL TO THE LOWEST FINISHED GRADE AS EACH HOME POTENTIALLY WILL HAVE AN EGRESS WINDOW SET IN A WELL. TOP OF WELL ELEVATION WILL BE AT FG.
- LOWEST OPENING ELEVATION ON DAYLIGHT BASEMENTS IS EQUAL TO THE SILL ELEVATION FOR THE BASEMENT EGRESS WINDOWS.

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SUITE 203
BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUH
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GRADING PLAN

HERITAGE SQUARE (SINGLE FAMILY) HOMES
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTALS/REVISIONS
06/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVER SHEET
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

PROJECT NO: 21-075C

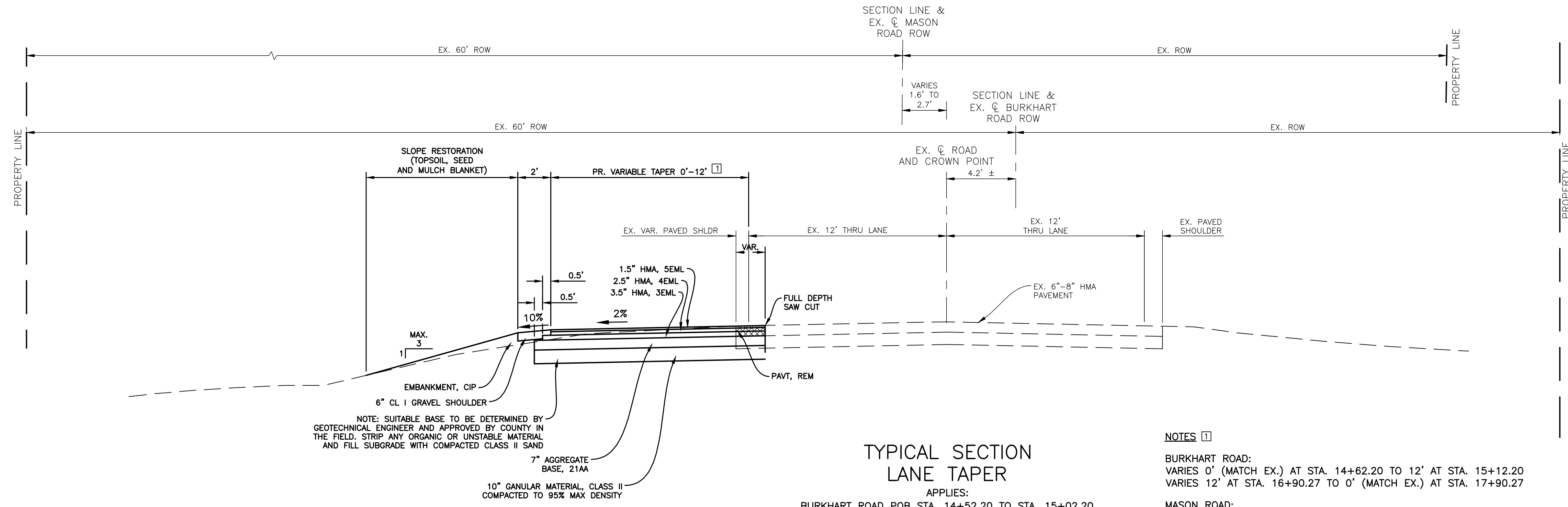
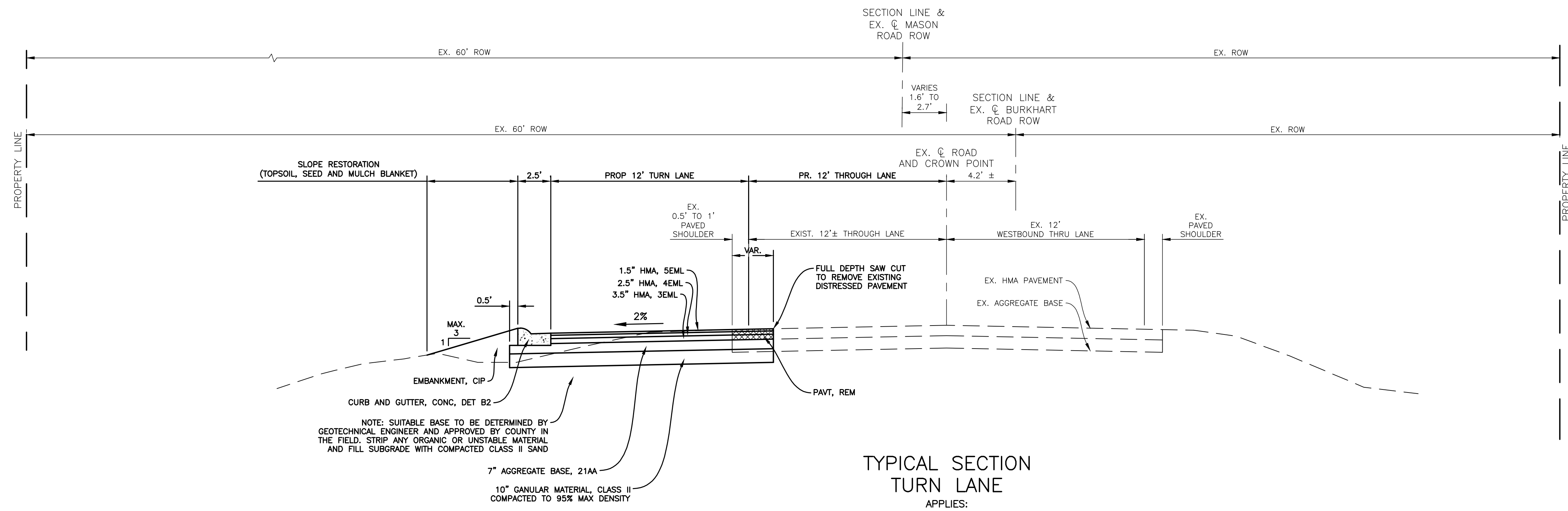
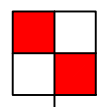
SCALE: 1" = 40'

0 1/2" 1"

FIELD:
DRAWN BY: DC,MN,CK,DJ
DESIGN BY: KM
CHECK BY: KM

C-7.1

NOT FOR CONSTRUCTION



NOTES

BURKHART ROAD:
 VARIES 0' (MATCH EX.) AT STA. 14+62.20 TO 12' AT STA. 15+12.20
 VARIES 12' AT STA. 16+90.27 TO 0' (MATCH EX.) AT STA. 17+90.27

MASON ROAD:
 VARIES 0' (MATCH EX.) AT STA. 12+05.63 TO 12' AT STA. 12+55.63
 VARIES 12' AT STA. 14+13.84 TO 0' (MATCH EX.) AT STA. 15+13.84

IDENTIFICATION NO.	ITEM	THICKNESS	RATE PER SYD	PERFORMANCE GRADE	COMMENTS
5EML	HMA, 5EML	1.5 INCHES	165 LBS	64-22	AWI 260
4EML	HMA, 4EML	2.5 INCHES	275 LBS	64-22	
3EML	HMA, 3EML	3.5 INCHES	385 LBS	58-22	
	BOND COAT		0.05 TO 0.15 GALLONS		SS-1h (FOR INFORMATION ONLY)

INNOVATIVE GEOSPATIAL & ENGINEERING SOLUTIONS

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TYPICAL ROAD SECTIONS

HERITAGE SQUARE (SINGLE FAMILY)
 HERITAGE SQUARE BURKHART & MASON ROADS
 PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
 HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	DATE
09/18/2024	PLAN SUBMITTAL
11/25/2024	PHASE 1 FINAL SITE PLAN
02/20/2025	MODIFIED COVERAGE CALCULATION
	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
 5/09/2024

PROJECT NO: 21-075C

SCALE: N/A

FIELD:
 DRAWN BY: DC, MN, CK, DJ
 DESIGN BY: KM
 CHECK BY: KM

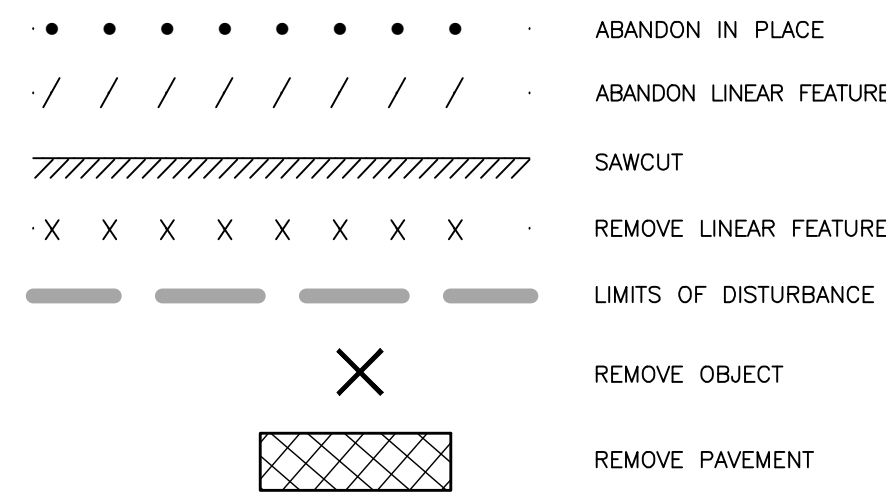
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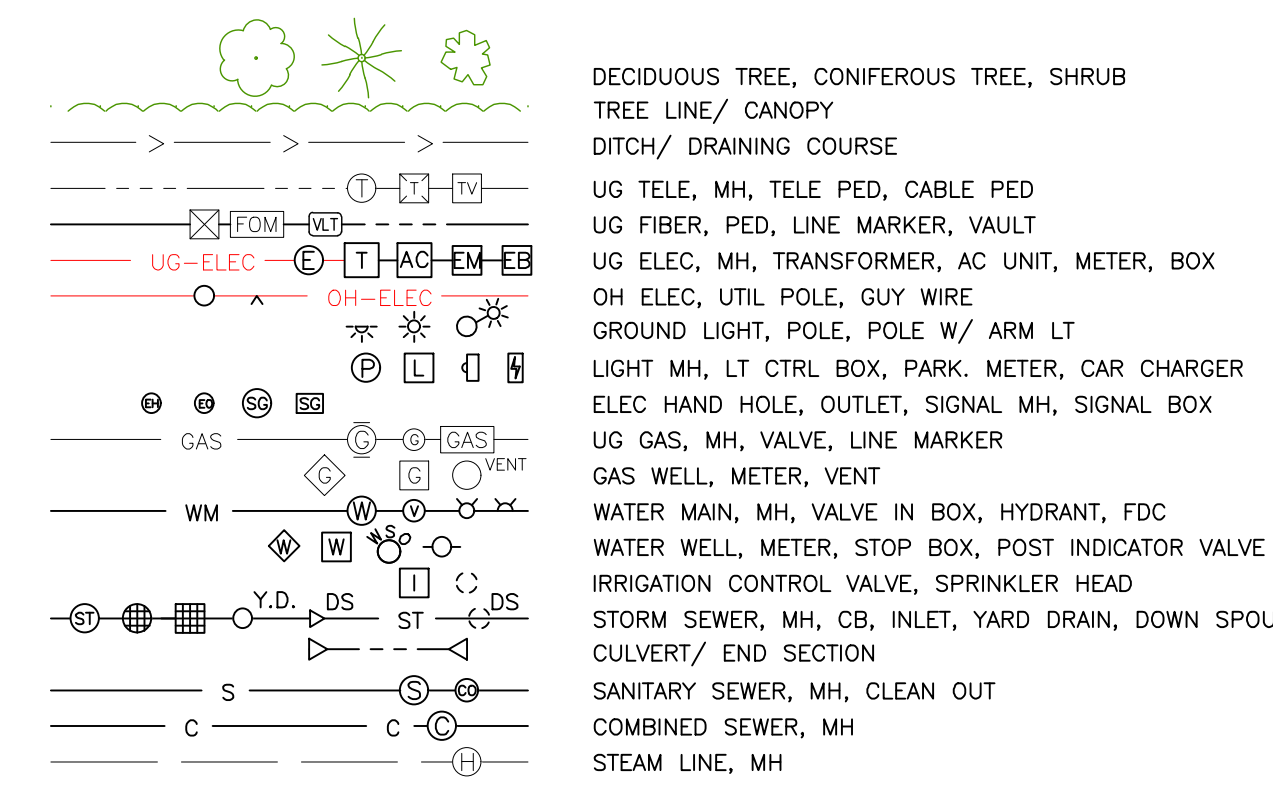
REMOVAL NOTES

- UTILITY OBJECTS SUCH AS GAS METER, TRANSFORMER, TELEPHONE PEDESTAL, UTILITY POLE & WIRES ARE TO BE REMOVED BY OTHERS.
- ANY TREES NOT MARKED PER PLAN ARE TO BE PROTECTED & PRESERVED DURING CONSTRUCTION.
- REMOVAL LIMITS SHOWN FOR UNDERGROUND CONSTRUCTION ARE APPROXIMATE ONLY. CONTRACTOR TO DETERMINE APPROPRIATE REMOVALS NEEDED FOR SAFE EXCAVATION PRACTICES AND TO COMPLY WITH APPLICABLE SAFETY STANDARDS.
- AT LEAST THREE (3) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG (1-800-482-7171) TO VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND SHALL NOTIFY REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK.

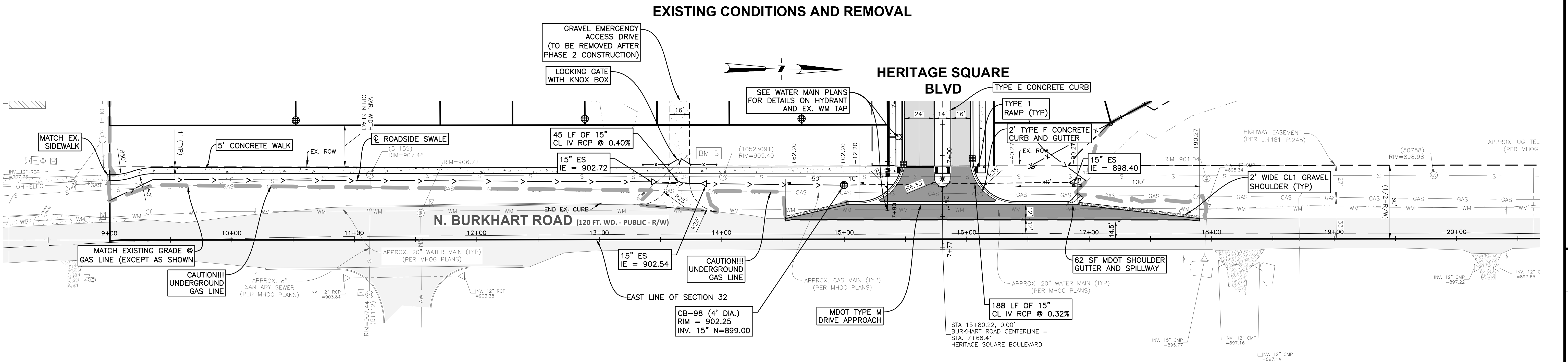
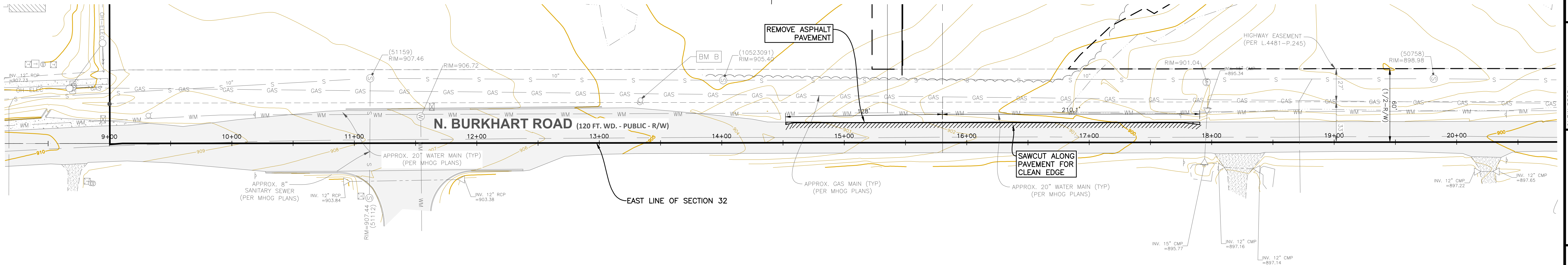
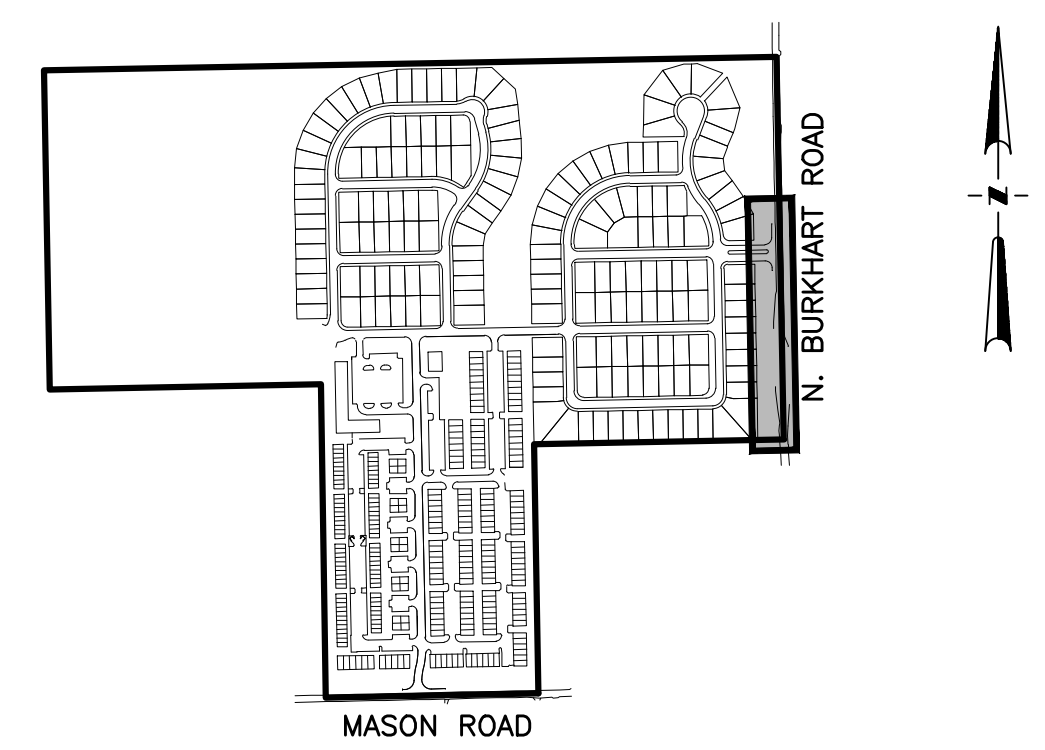
REMOVAL LEGEND



EXISTING LEGEND

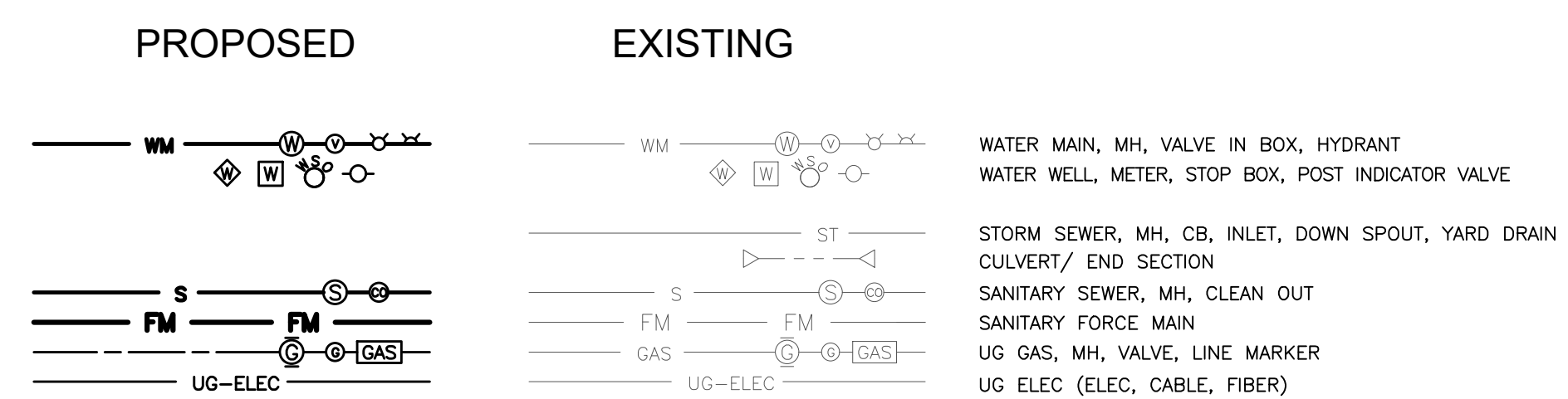


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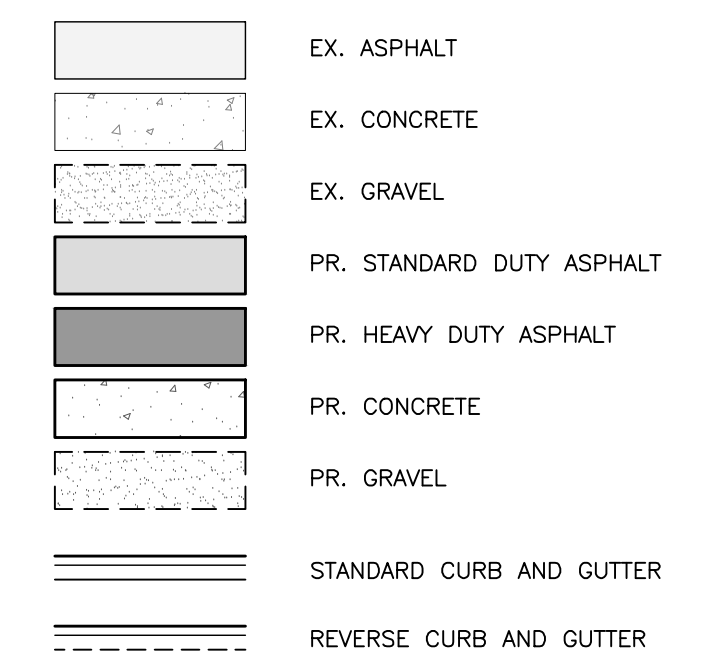


CONSTRUCTION

UTILITY LEGEND



PAVEMENT LEGEND



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EX. CONDITIONS, REMOVAL & CONSTRUCTION PLAN

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PROJECT NO: 21-075C

SCALE: 1" = 40'

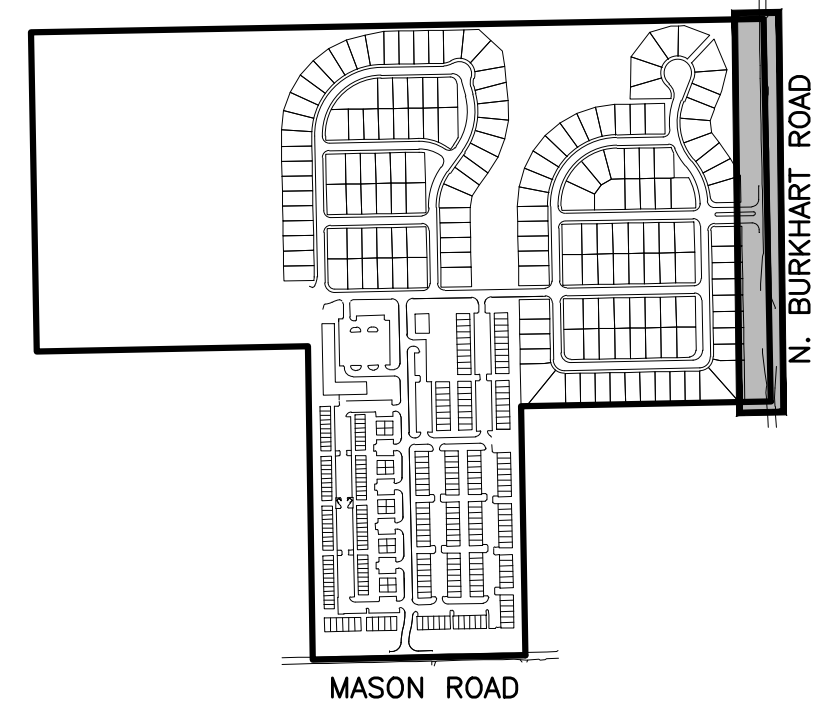
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SHEET KEY



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THE LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTHS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

M/I HOMES OF MICHIGAN, L.L.C.
40950 WOODWARD AVE
SUITE 203
BLOOMFIELD HILLS, MI 48304
POC: DAVID STRAUB
(248)-221-5011

GRADING PLAN - BURKHART ROAD

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP., LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTAL
08/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVER SHEET
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE:
5/09/2024

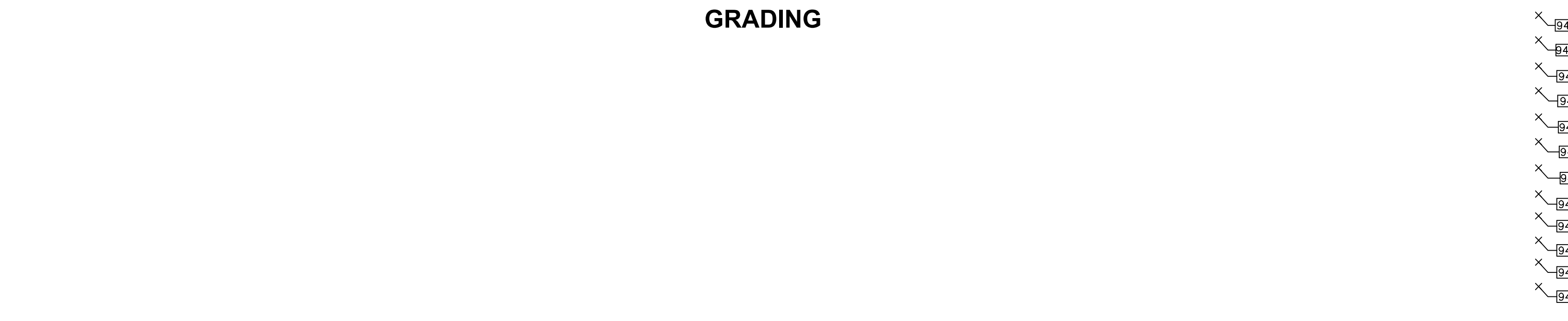
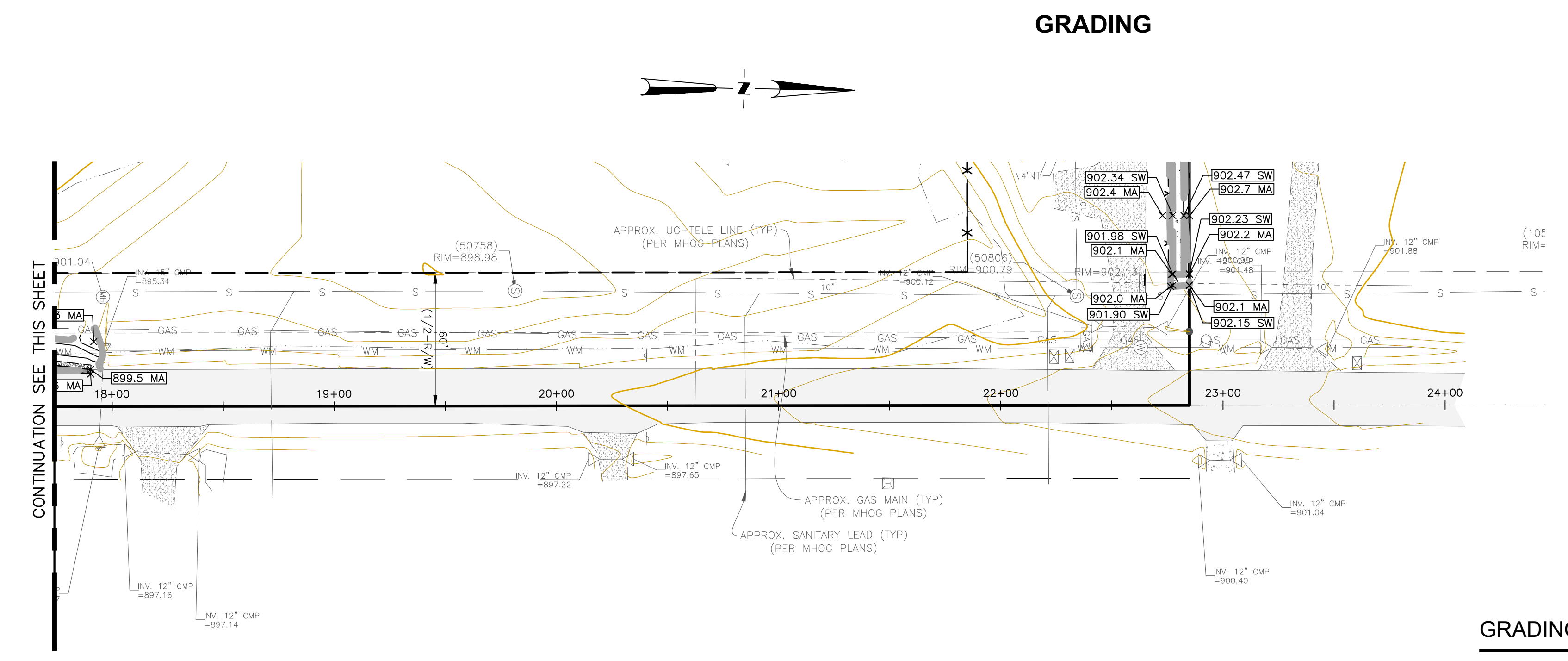
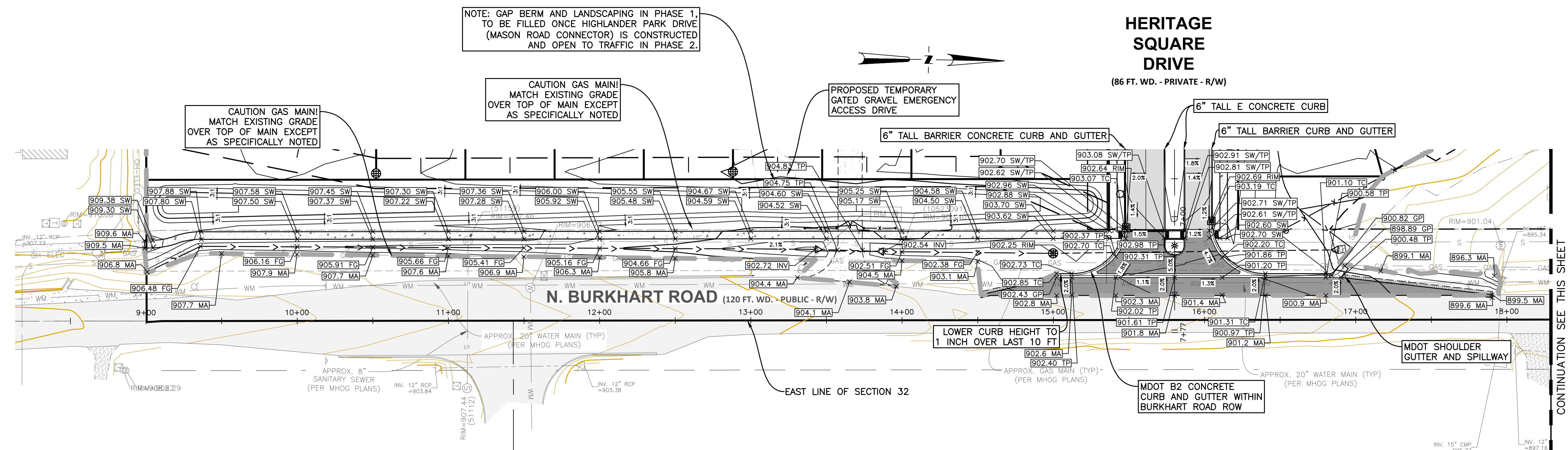
PROJECT NO: 21-075C

SCALE: 1" = 40'
0 1/2" 1"

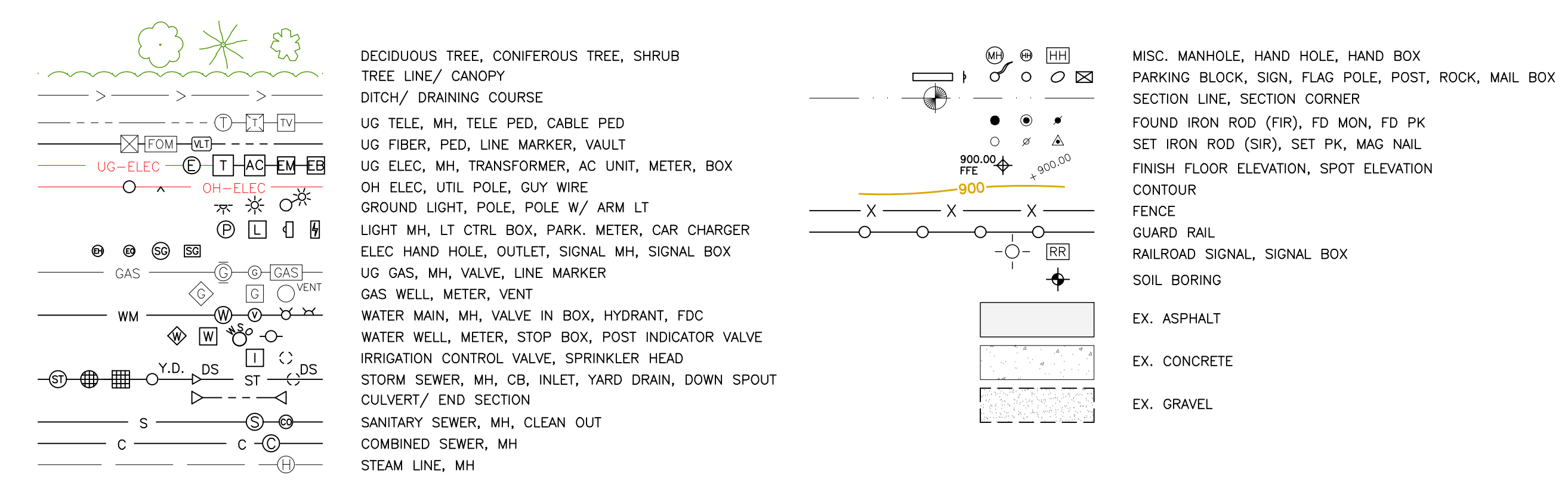
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DESIGN BY: KM
CHECK BY: KM

C-10.3

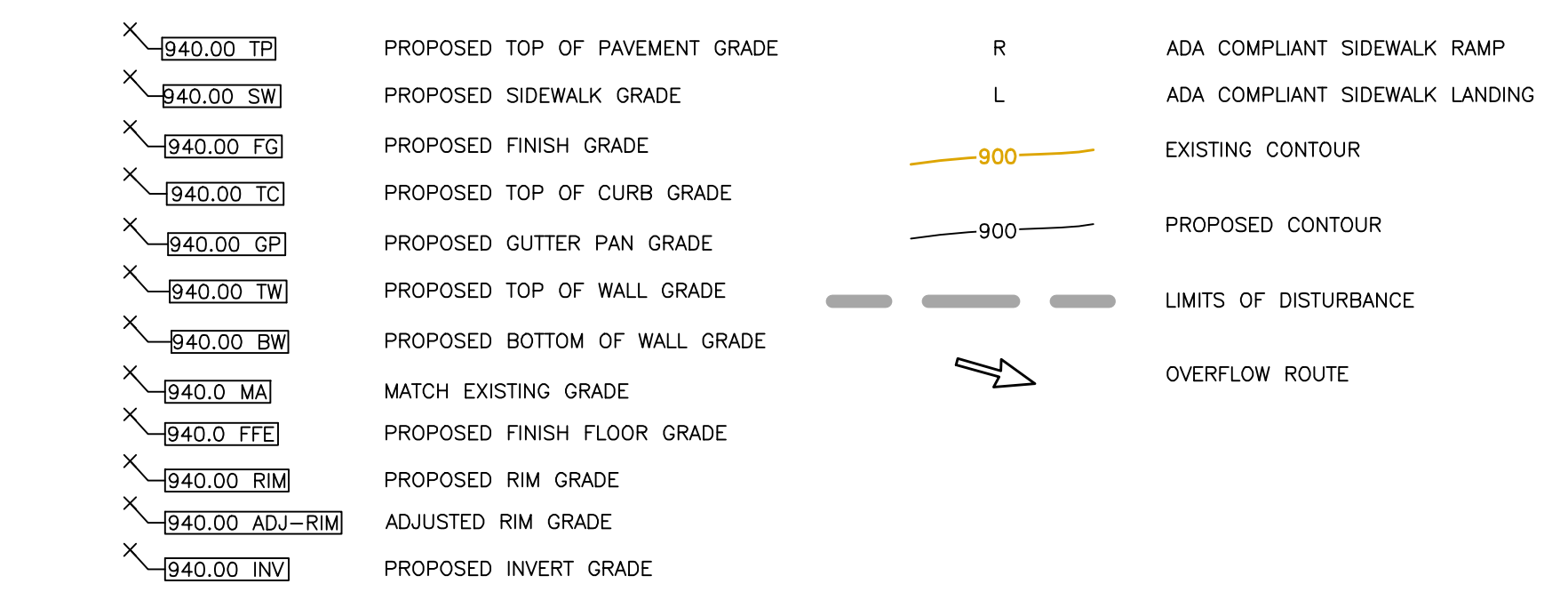
NOT FOR CONSTRUCTION



EXISTING LEGEND



GRADING LEGEND



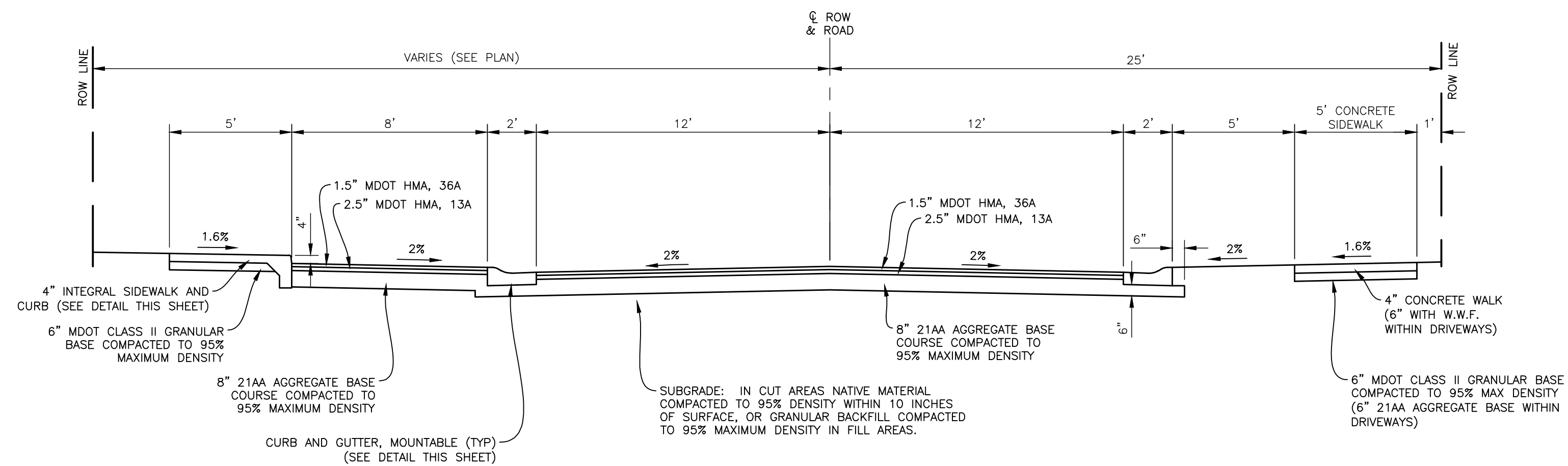
BENCHMARKS

DATUM: NAVD88

BM A:
SET BENCH TIE IN S/SIDE OF UTILITY POLE ON NORTH SIDE OF MASON ROAD
290± WEST OF EAST PROPERTY LINE.
ELEV = 909.83

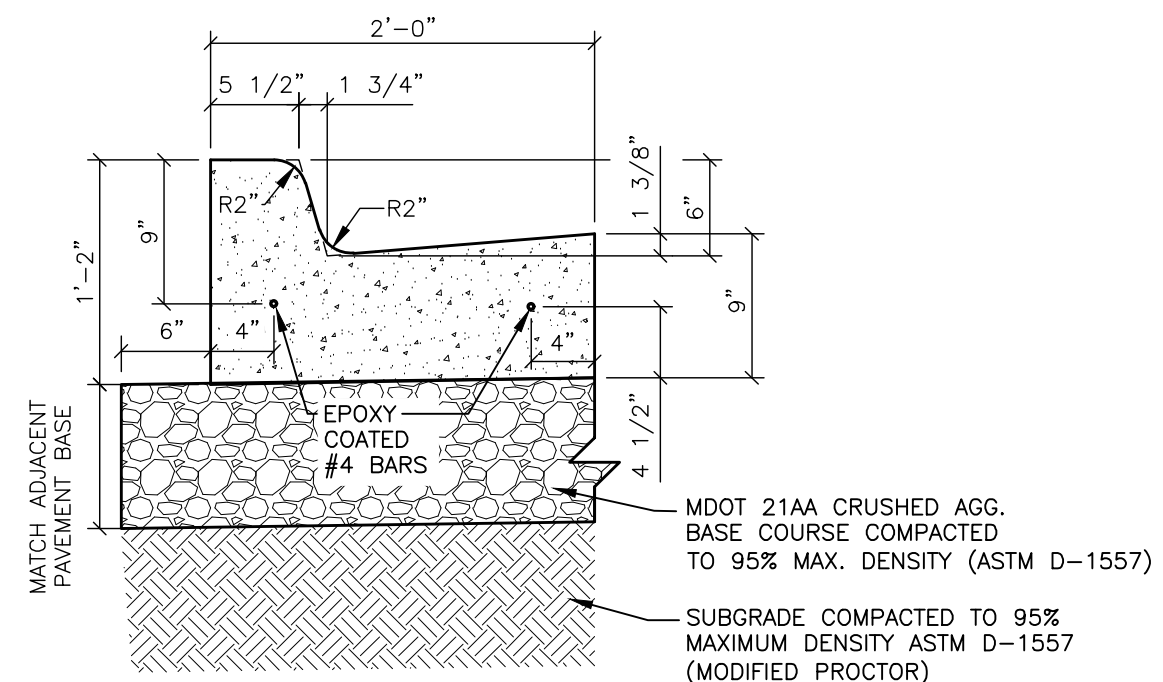
BM B:
ARROW ON HYDRANT ON WEST SIDE OF BURKHART ROAD 430± NORTH OF SOUTH PROPERTY LINE.
ELEV = 906.59

ON-SITE ROADWAY TYPICAL SECTION

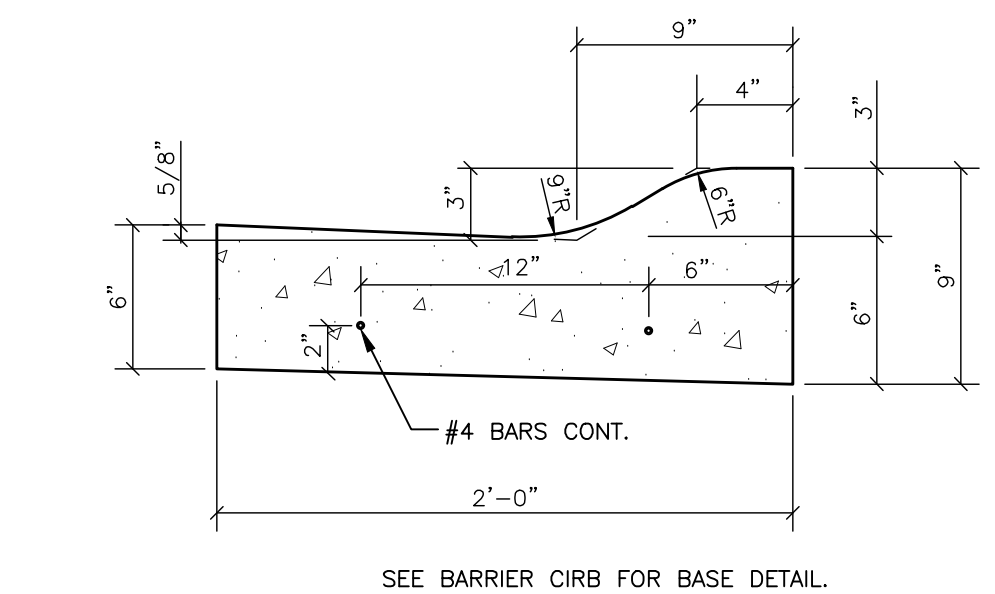


BARRIER CURB AND GUTTER - CONCRETE

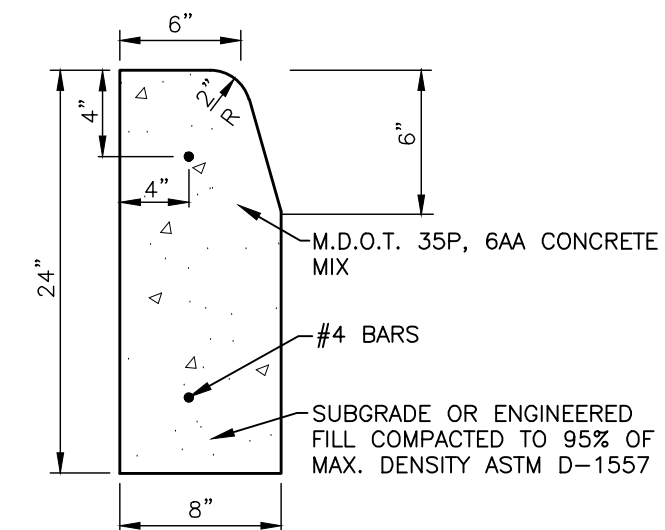
NOTE: TO BE USED ON HERITAGE SQUARE BOULEVARD FROM BURKHART ROAD TO SEDGEVIEW CIRCLE.



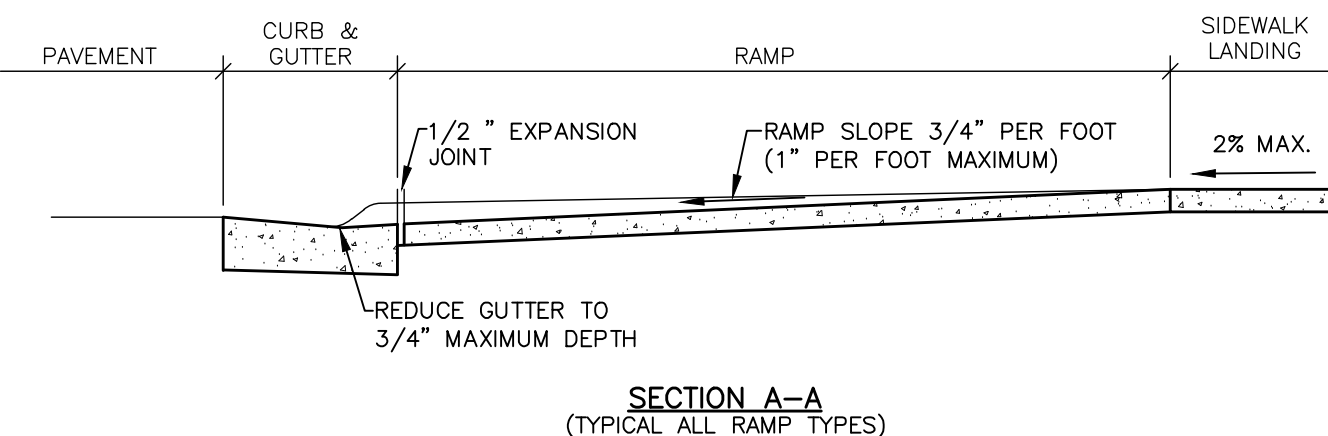
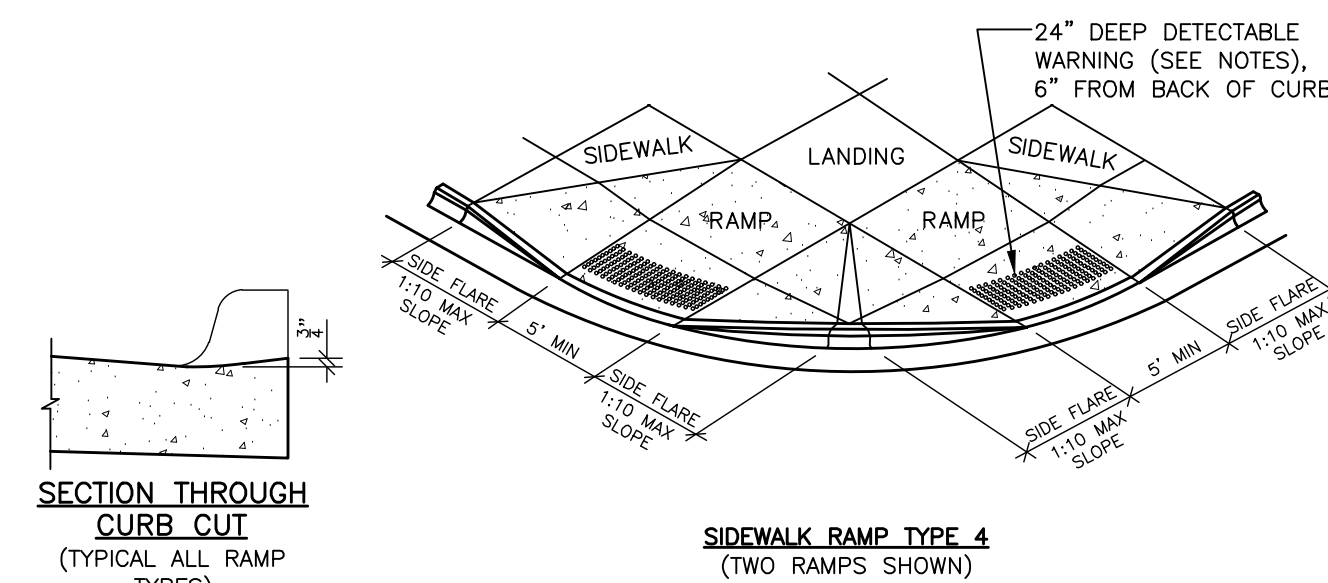
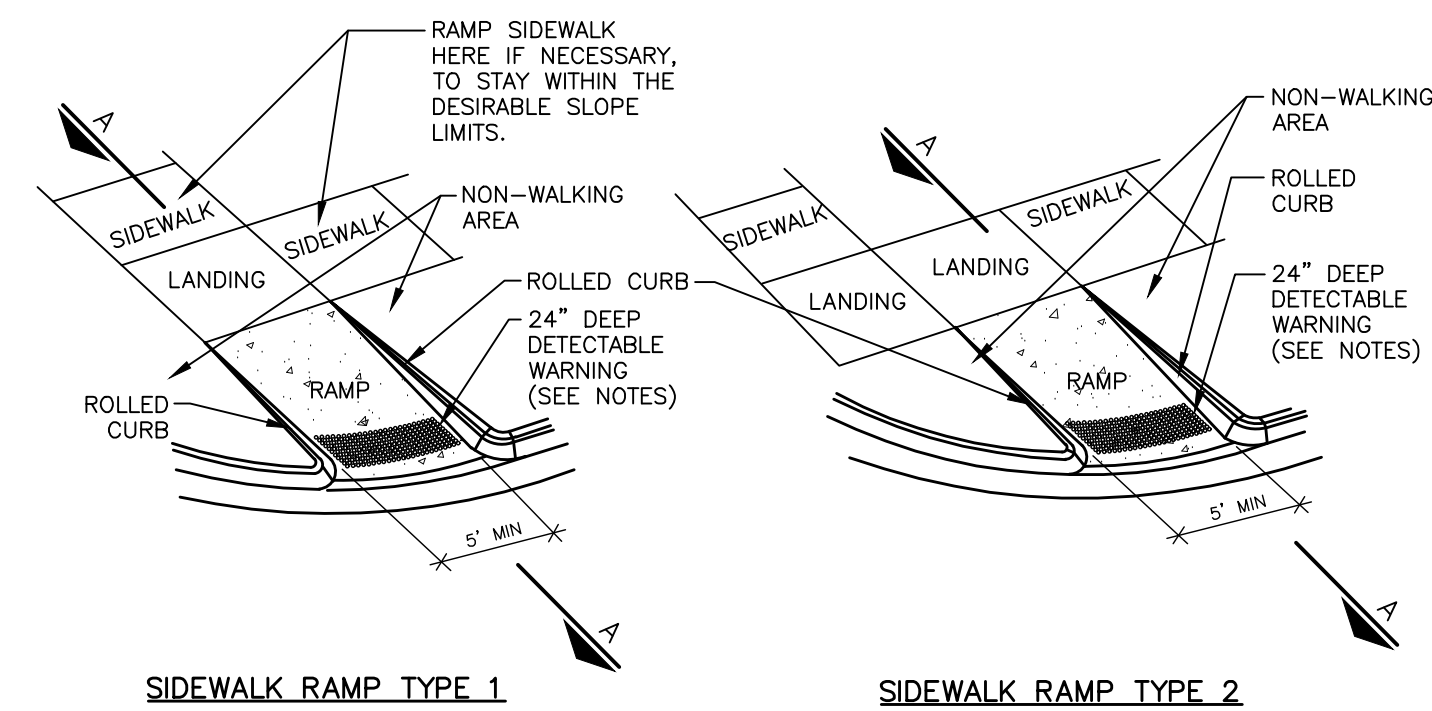
CURB & GUTTER DETAIL - MOUNTABLE - 24\"/>



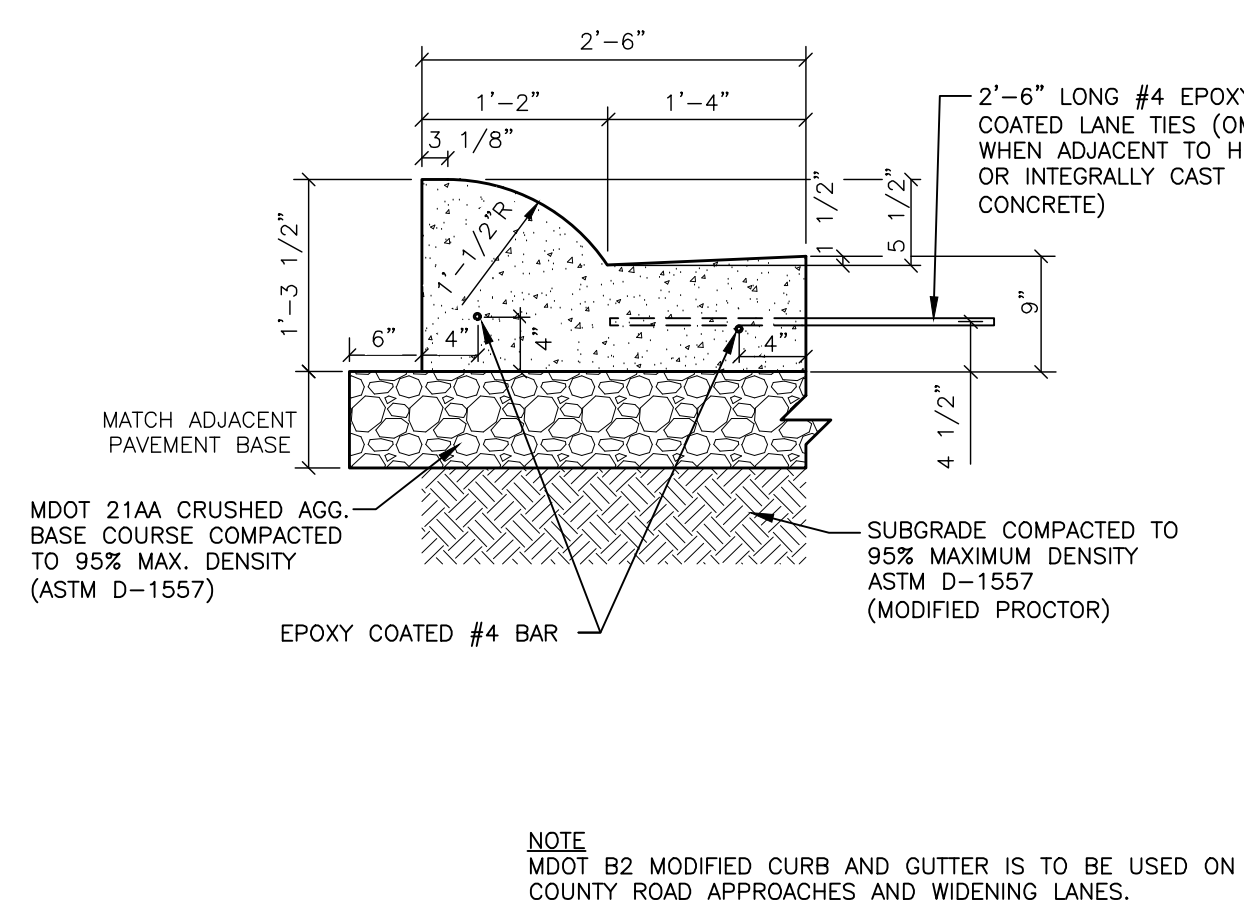
CURB DETAIL - CONCRETE - STRAIGHT - 6\"/>



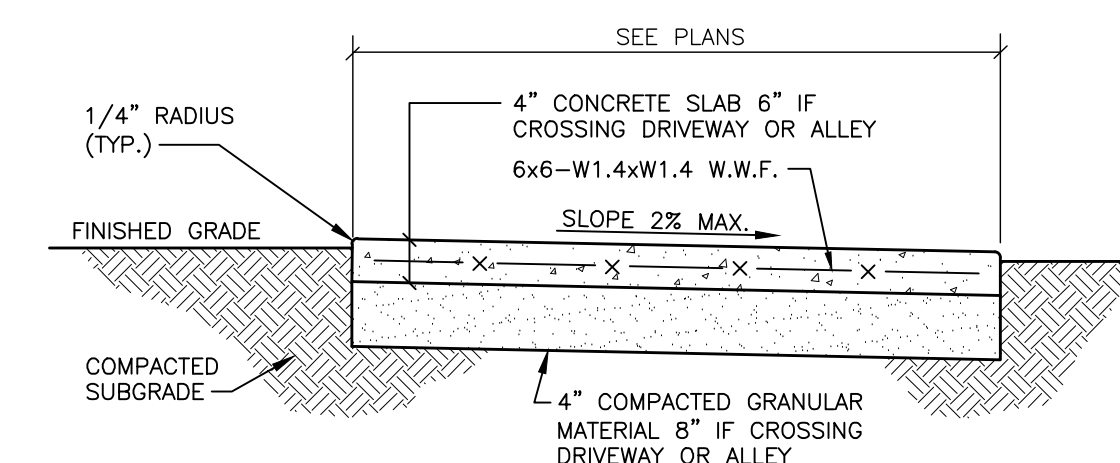
SIDEWALK RAMP DETAIL - WITH NOTES



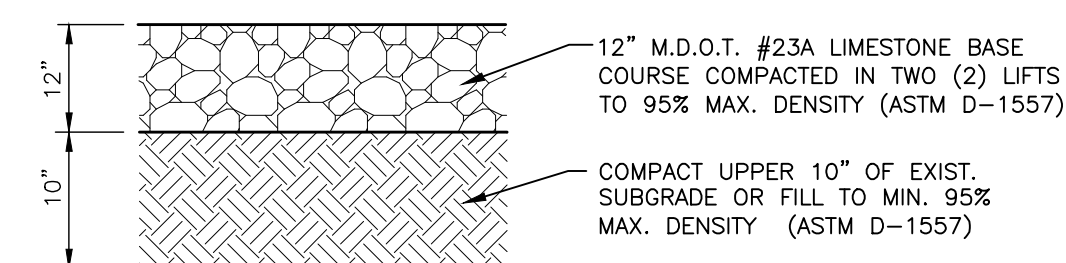
CURB AND GUTTER DETAIL - MDOT - B2 - MODIFIED (USE IN COUNTY ROW)



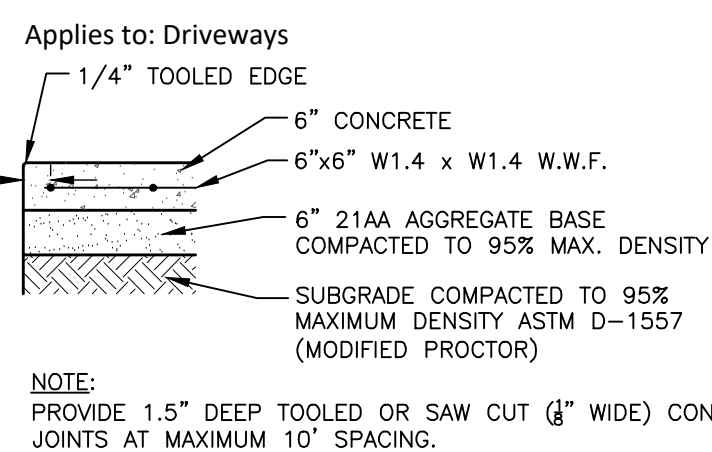
SIDEWALK DETAIL - CONCRETE



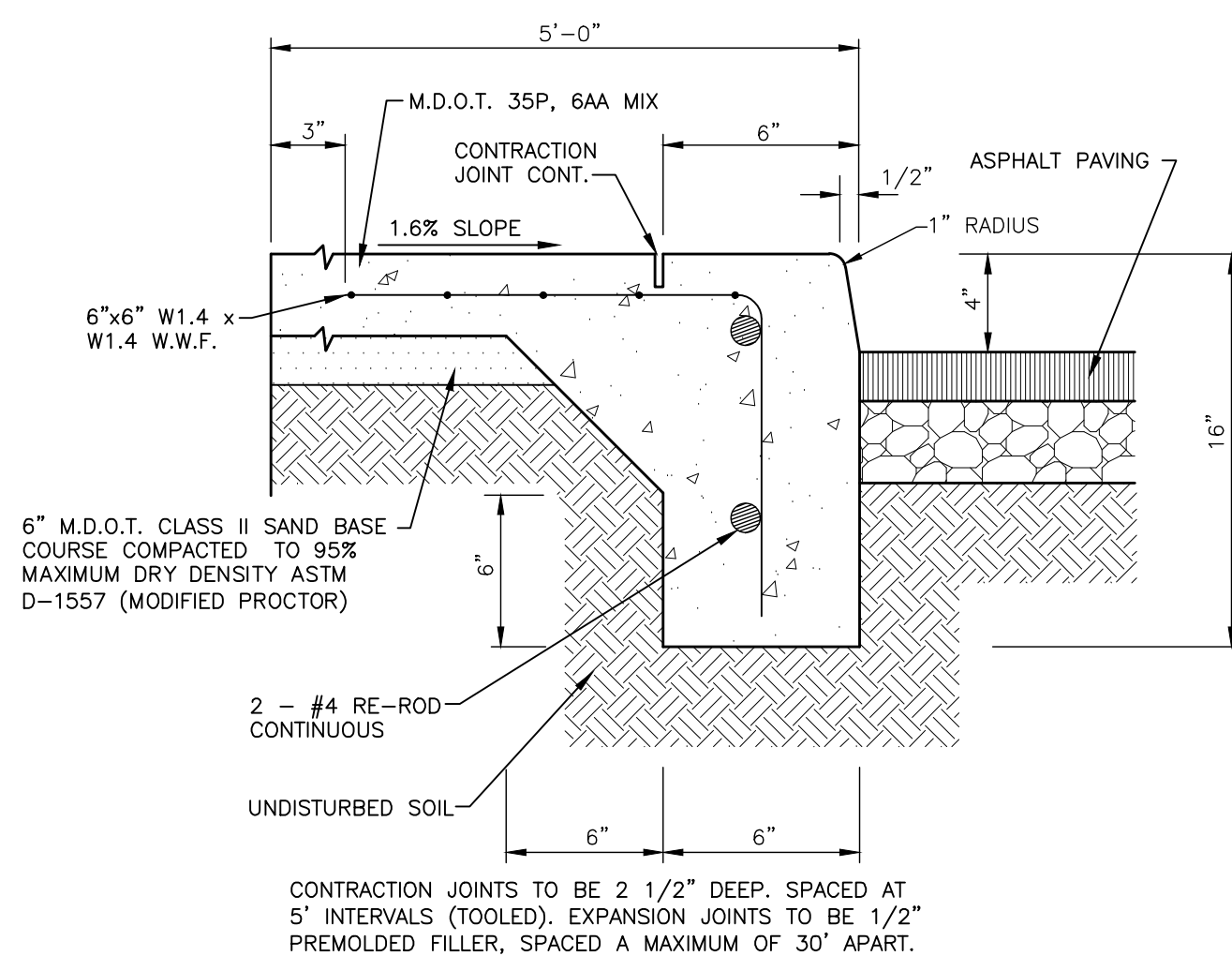
EMERGENCY ACCESS DRIVE GRAVEL PAVEMENT SECTION



CONCRETE DRIVEWAY SECTION



INTEGRAL SIDEWALK AND CURB DETAIL



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INC.

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SMALL BUSINESS (SDVOSB)

KEVIN C. McDEVITT
ENGINEER
NO. 6201043260

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CLIENT :

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40950 WOODWARD AVE
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MISCELLANEOUS DETAILS

HERITAGE SQUARE (SINGLE FAMILY)
HERITAGE SQUARE BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024 <td>DATE</td>	DATE
09/18/2024 <td>PLAN SUBMITTAL</td>	PLAN SUBMITTAL
11/25/2024 <td>PHASE 1 FINAL SITE PLAN SUBMITTAL</td>	PHASE 1 FINAL SITE PLAN SUBMITTAL
02/20/2025 <td>REVISED PHASE 1 FINAL SITE PLAN</td>	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

PROJECT NO: 21-075C

SCALE: N/A

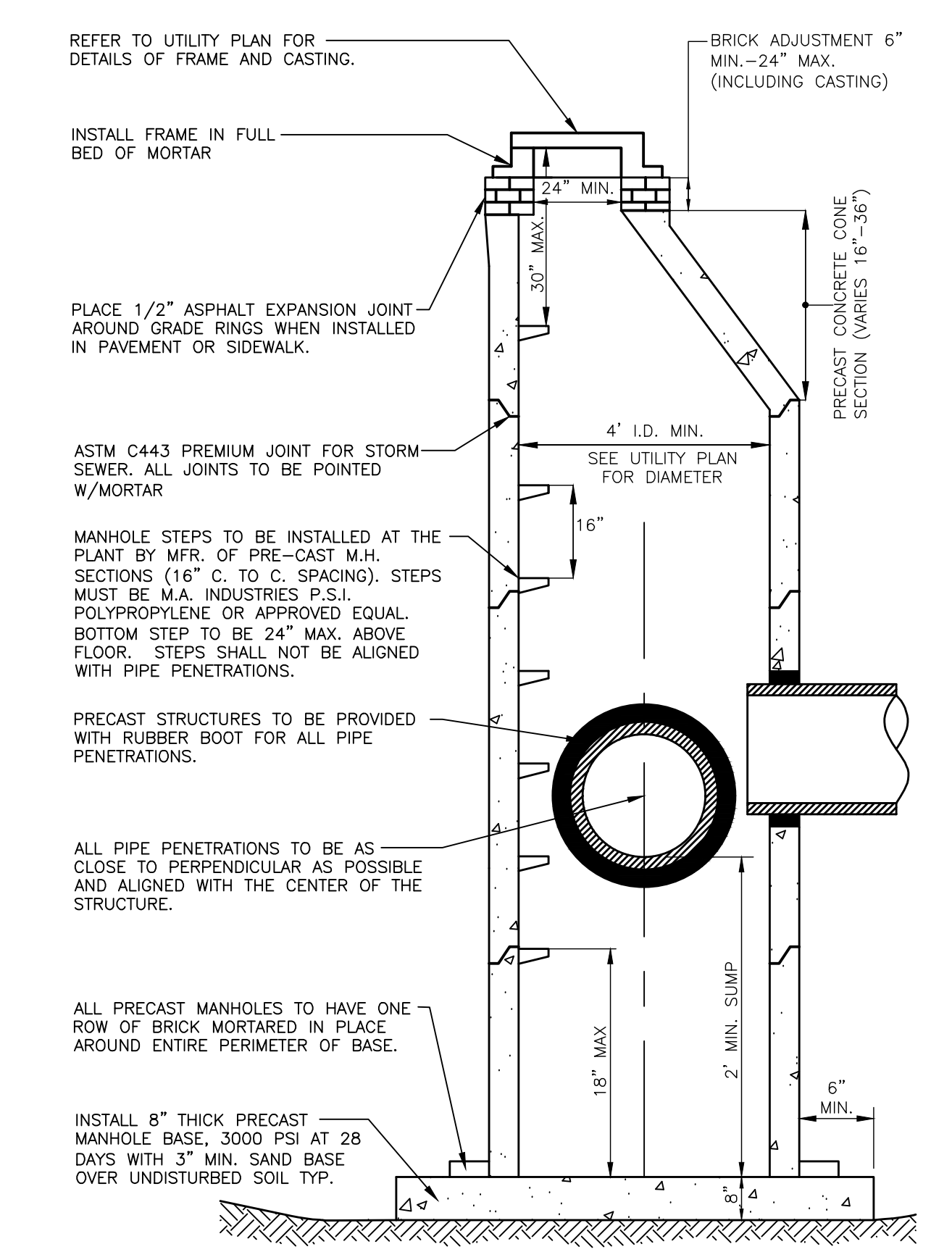
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DRAWN BY: DC, MN, CK, DJ
DESIGN BY: KM
CHECK BY: KM

C-11.0

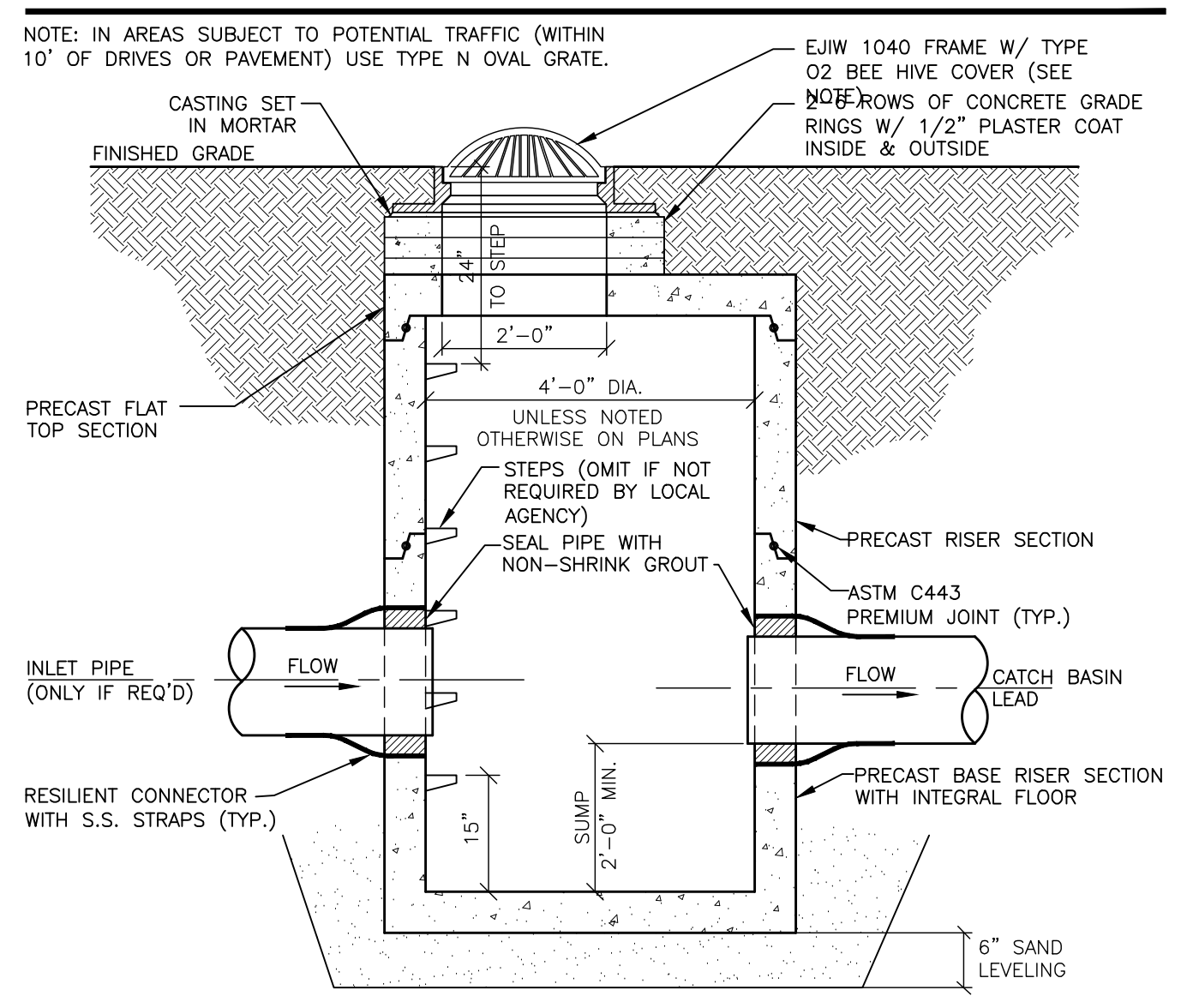
NOT FOR CONSTRUCTION



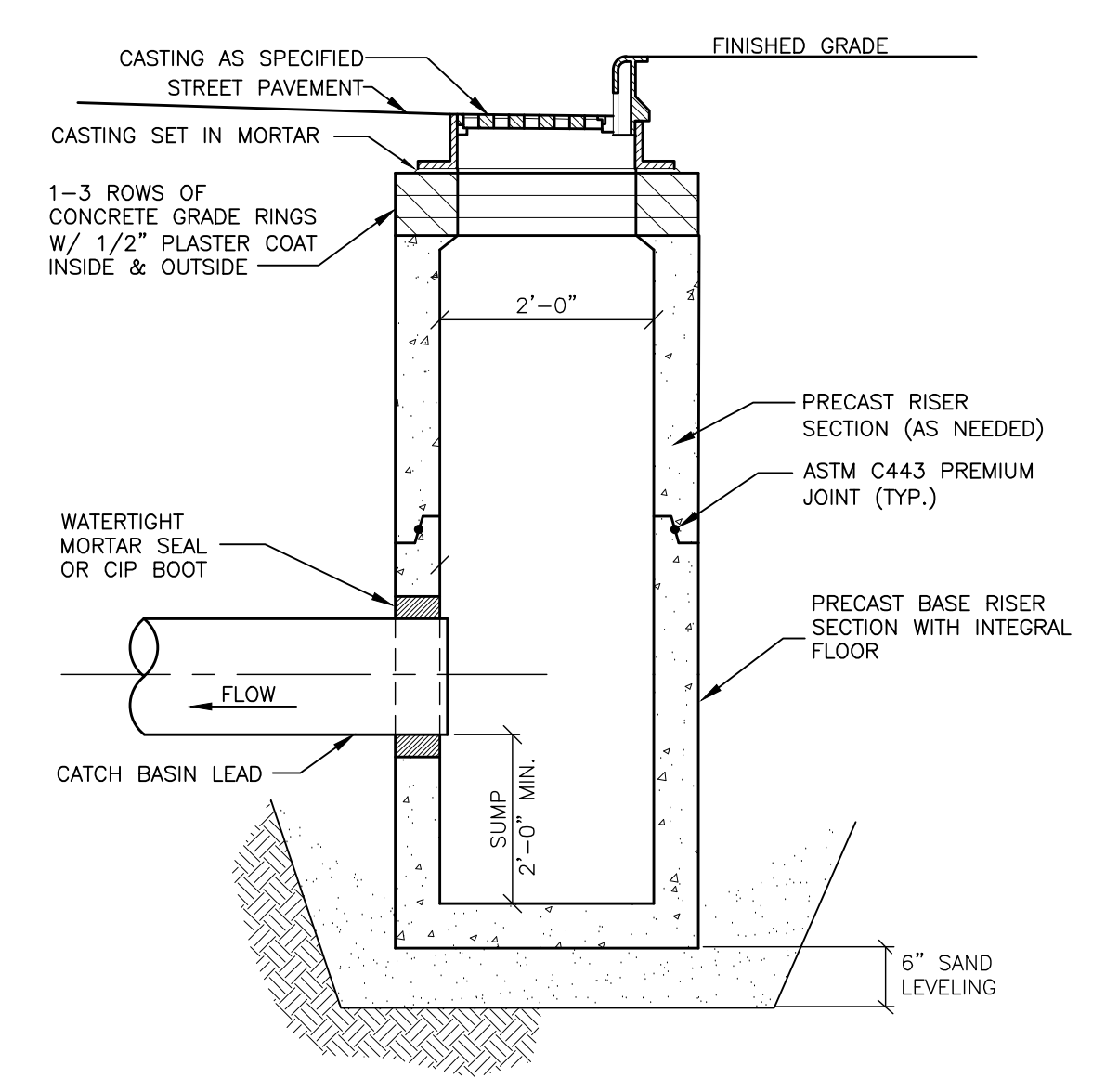
CATCH BASIN DETAIL - 4' DIA. - WITH SUMP - STANDARD



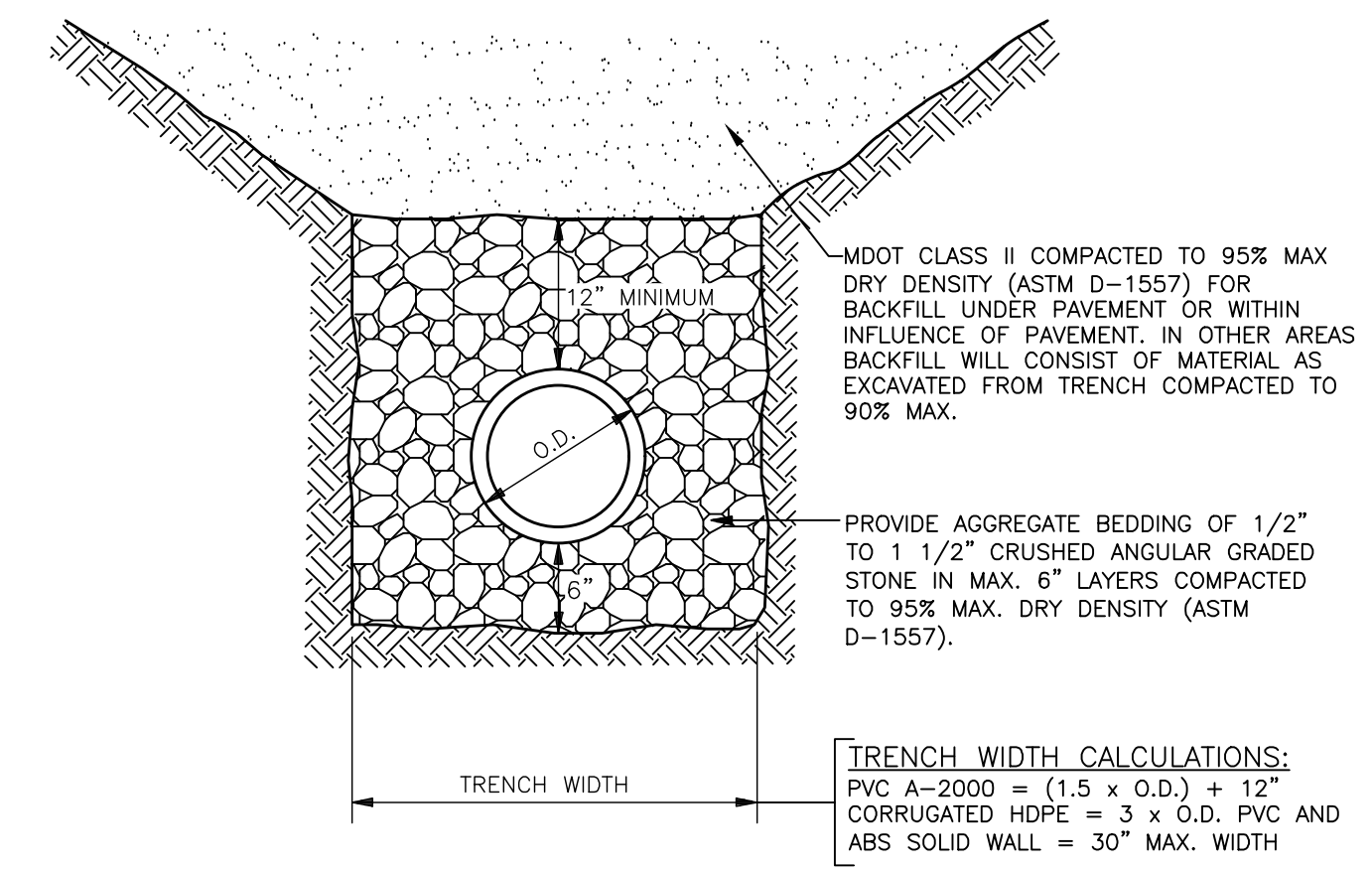
CATCH BASIN DETAIL - 4' DIA. - WITH SUMP - 2 PIPES - WITH BEE HIVE GRATE



CATCH BASIN CURB DETAIL 2' DIA.

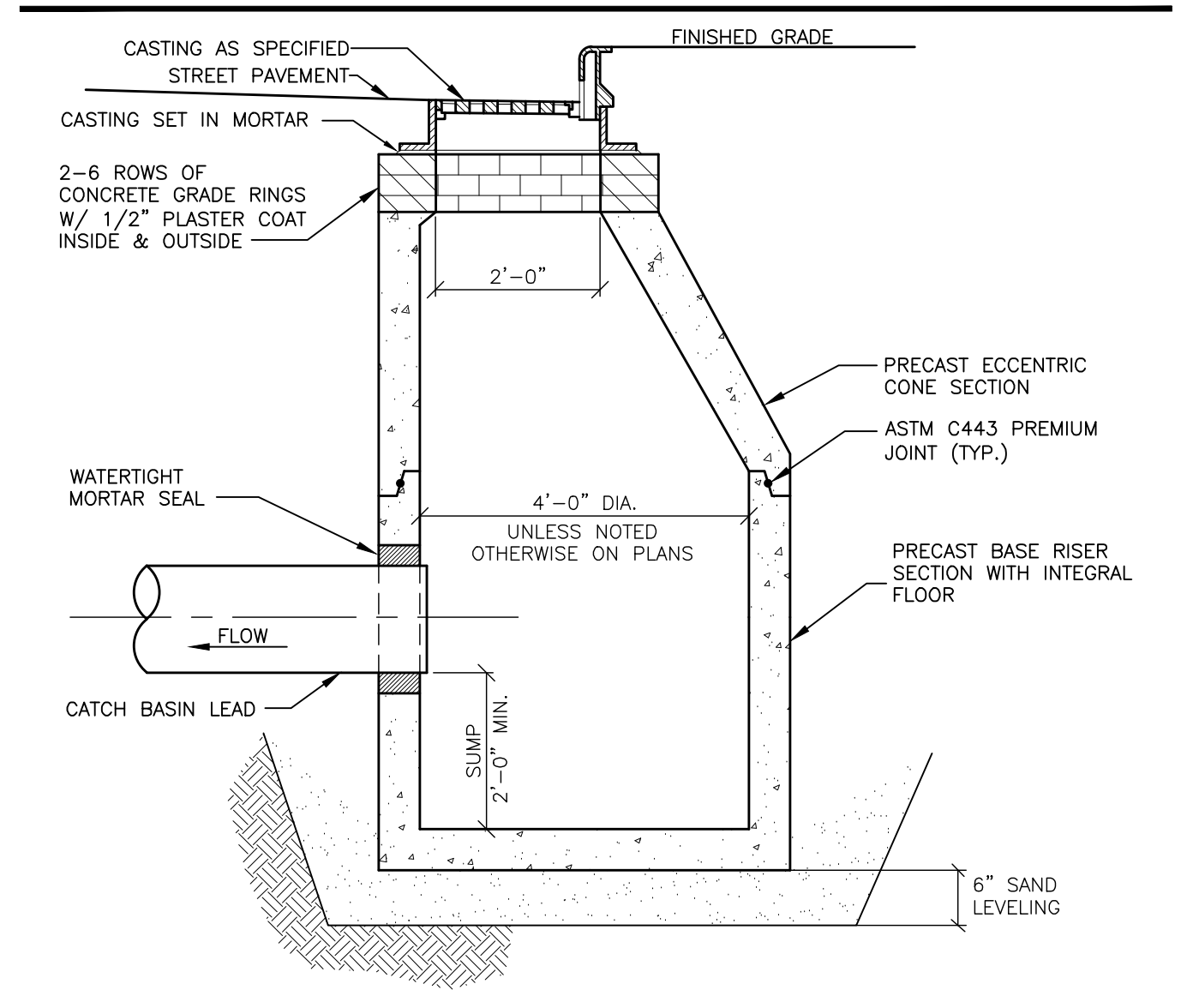


TRENCH PIPE BEDDING DETAIL - FOR FLEXIBLE PIPE

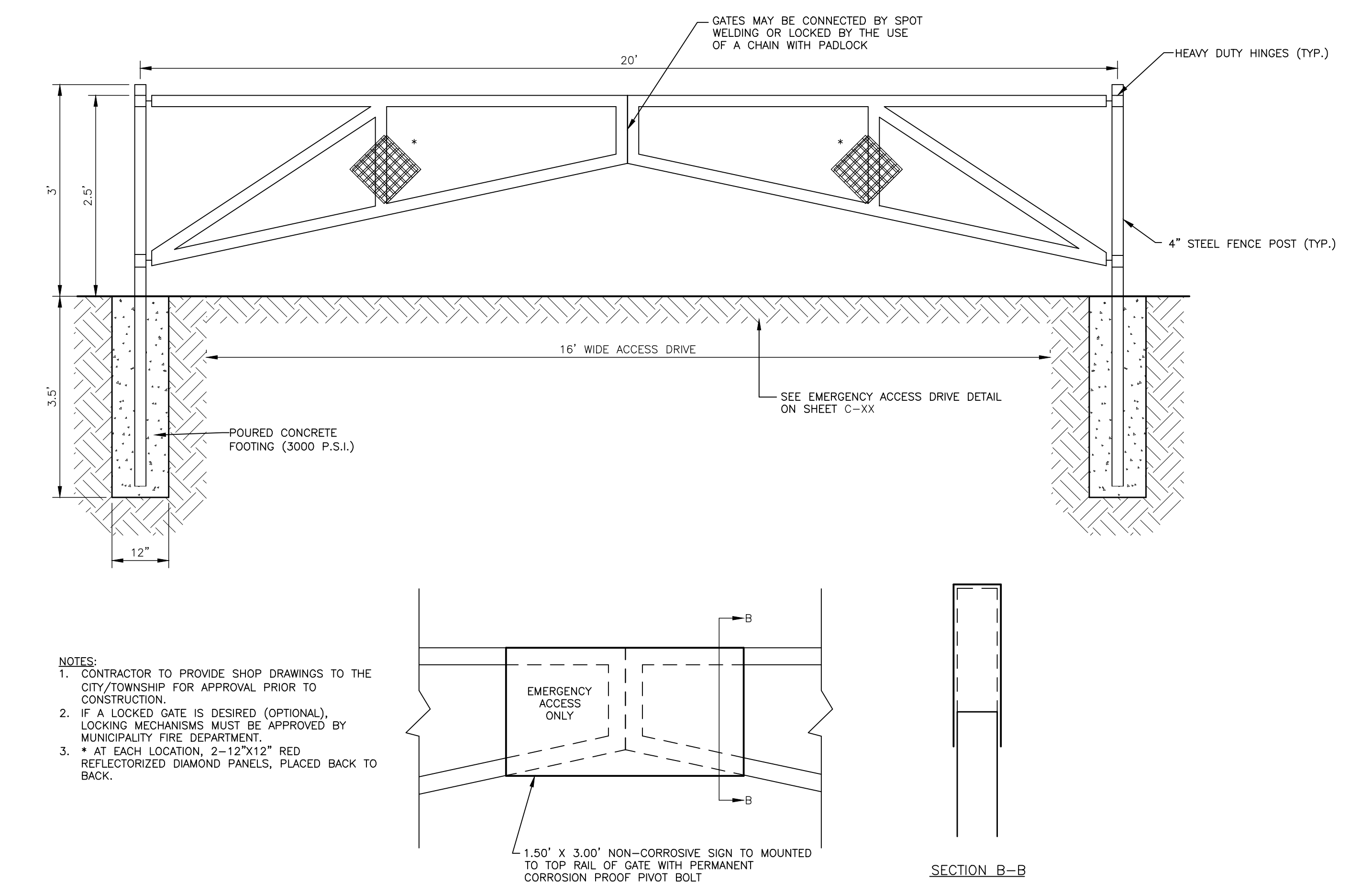


SAND BACKFILL NOTE:
ALL UTILITIES UNDER PAVEMENT OR WITHIN 5' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45' LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557)

CATCH BASIN CURB DETAIL 4' DIA. - WITH SUMP - OFF-CENTERED

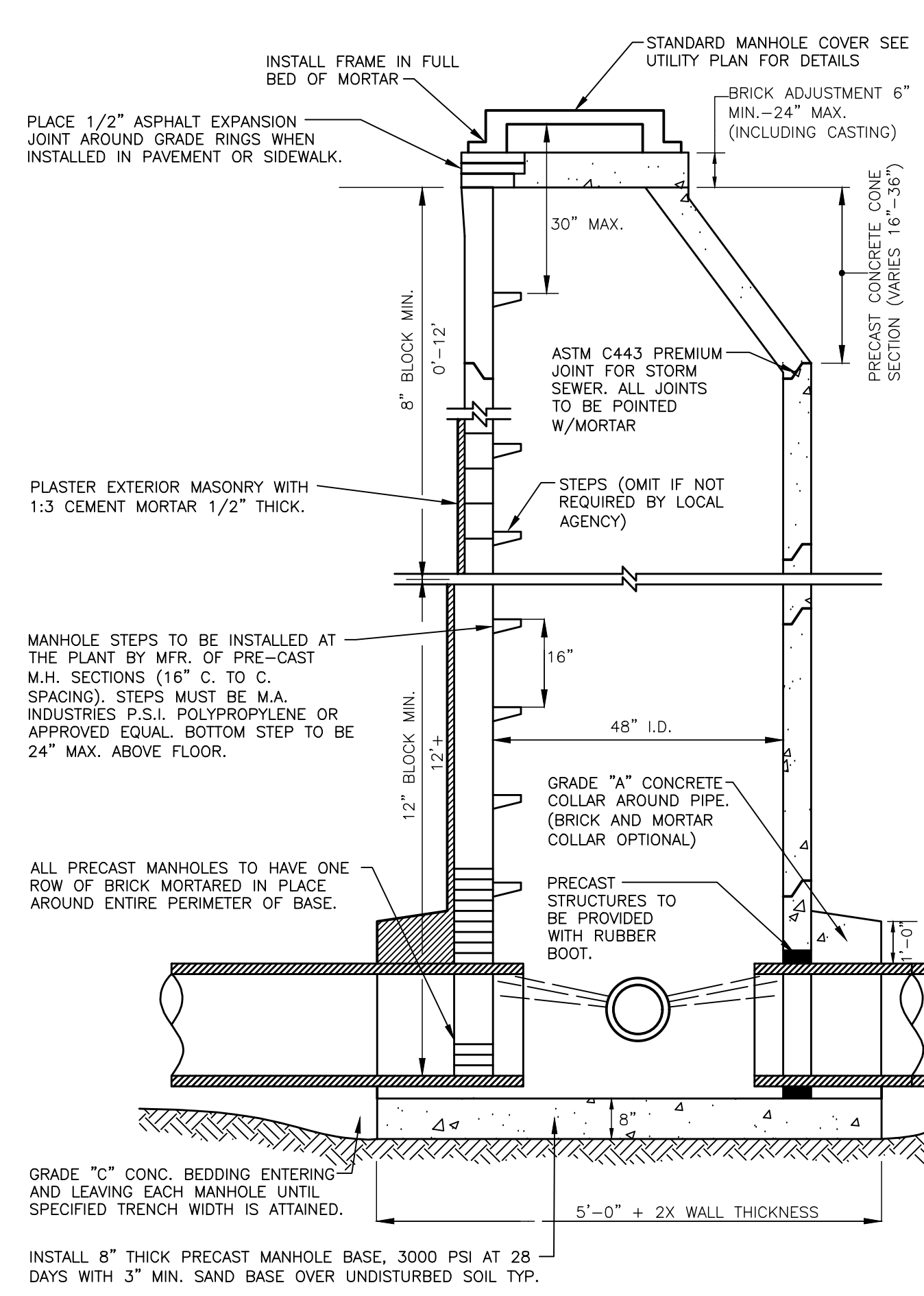


GATE DETAIL - EMERGENCY - ACCESS

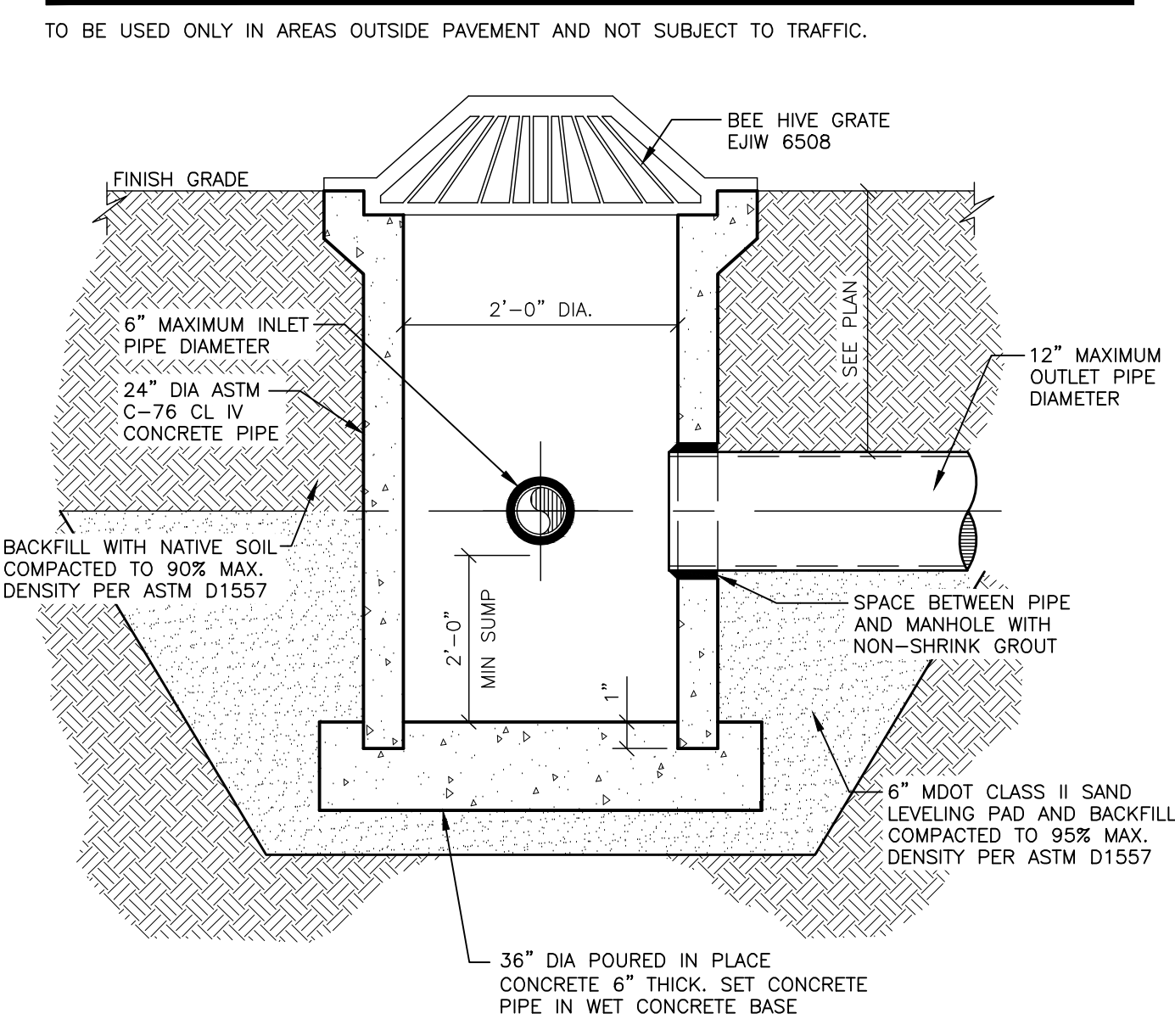


- NOTES:**
- CONTRACTOR TO PROVIDE SHOP DRAWINGS TO THE CITY/TOWNSHIP FOR APPROVAL PRIOR TO CONSTRUCTION.
 - IF A LOCKED GATE IS DESIRED (OPTIONAL), LOCKING MECHANISMS MUST BE APPROVED BY MUNICIPALITY FIRE DEPARTMENT.
 - * AT EACH LOCATION, 2-12"x12" RED REFLECTORIZED DIAMOND PANELS, PLACED BACK TO BACK.

STORM MANHOLE DETAIL - 4' DIA. - STANDARD



YARD BASIN DETAIL (2' DIA.) - WITH BEE HIVE GRATE



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MISCELLANEOUS DETAILS

HERITAGE SQUARE (SINGLE FAMILY)
95 AC. NW CORNER BURKHART & MASON ROADS
PART OF THE SE 1/4 OF SEC. 32, T3N, R4E,
HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTALS/REVISIONS
09/18/2024	SITE PLAN SUBMITTAL
11/25/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

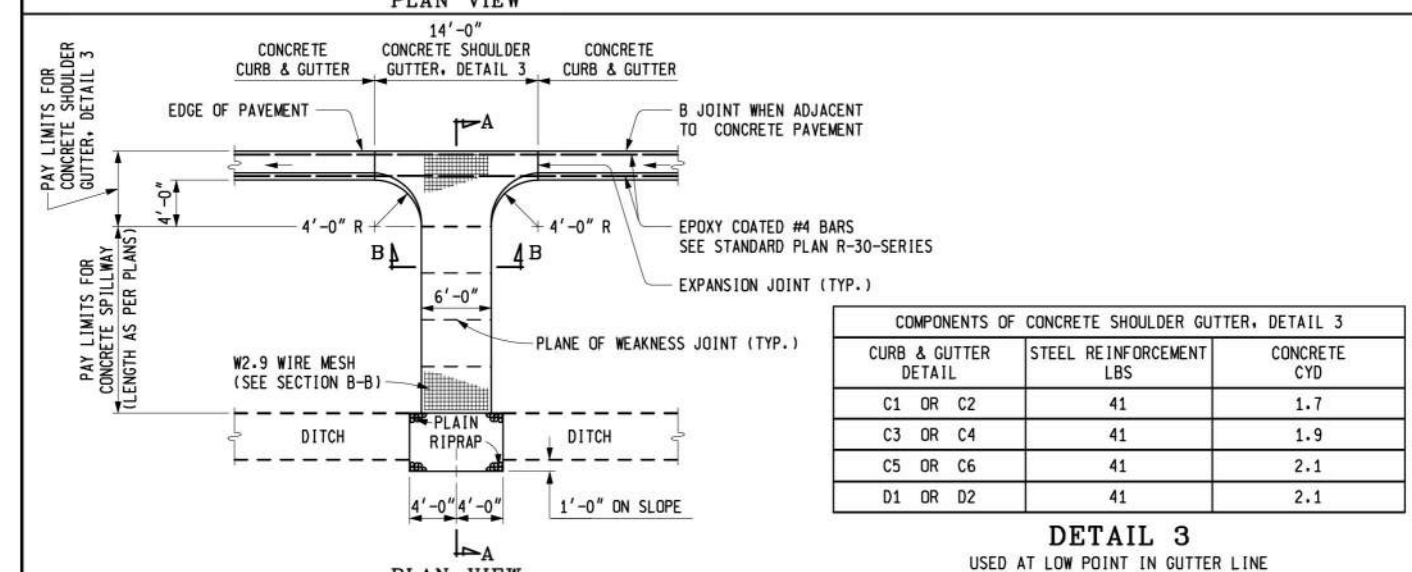
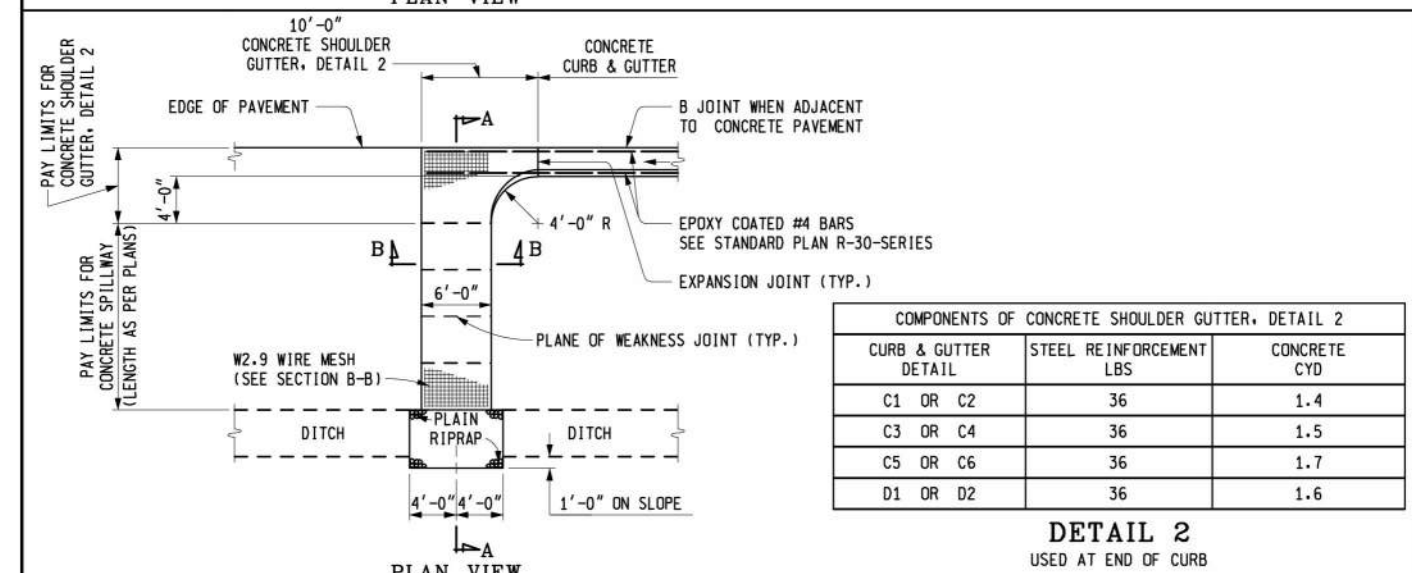
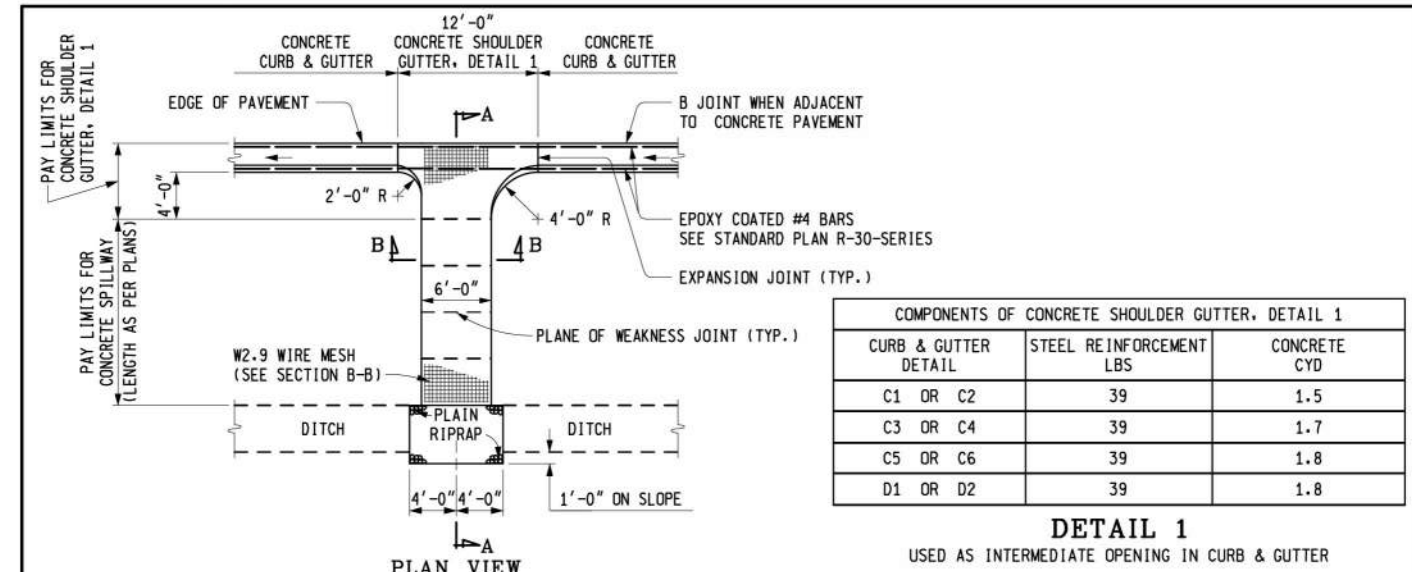
PROJECT NO: 21-075C

SCALE: N/A

FIELD:
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DESIGN BY: KM
CHECK BY: KM

C-11.1

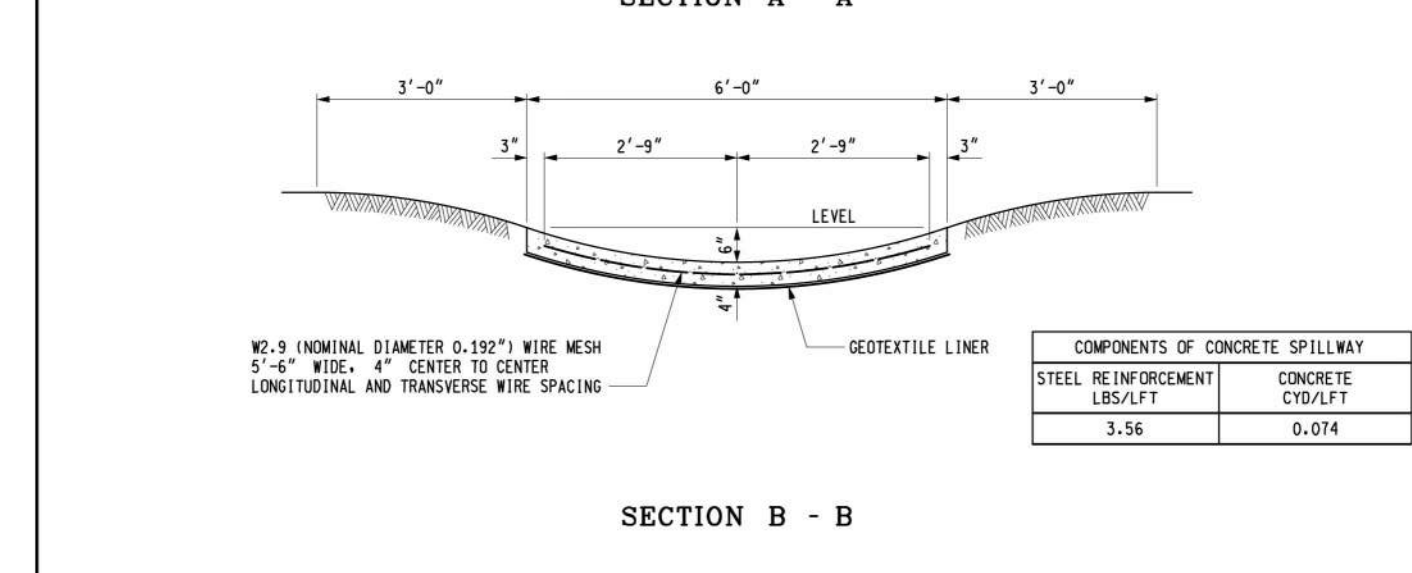
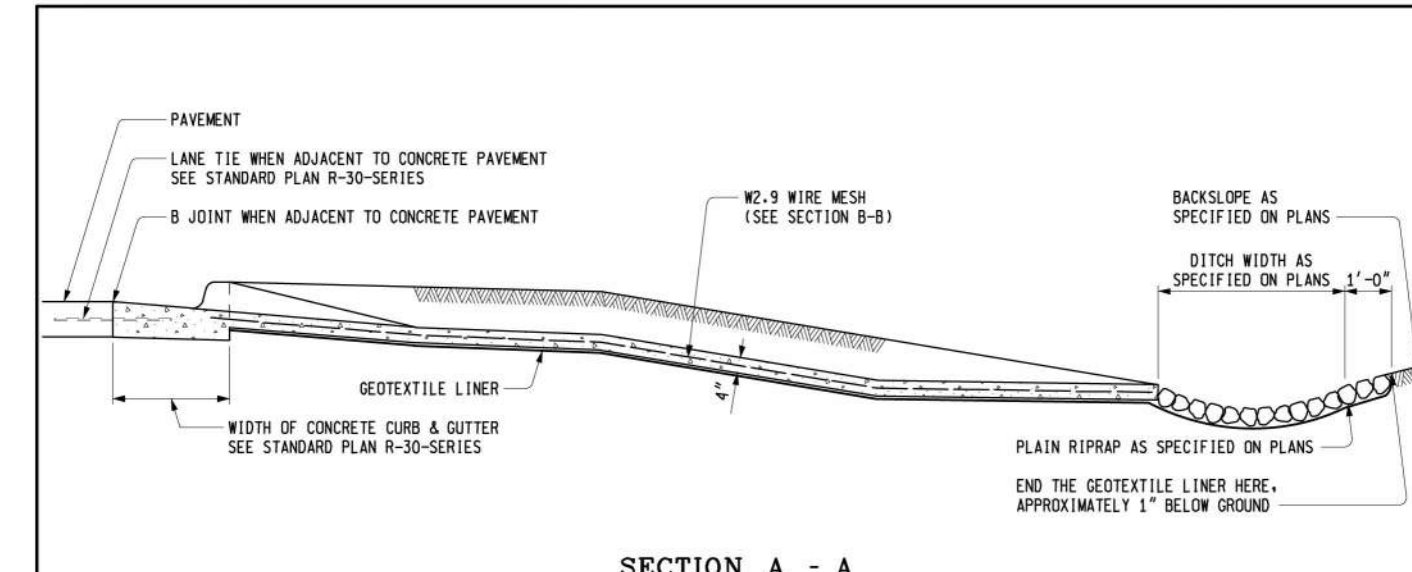
NOT FOR CONSTRUCTION



DEPARTMENT DIRECTOR Paul C. Anglin

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR CONCRETE SHOULDER GUTTER AND SPILLWAY

5-18-2020 7-30-2018 R-35-E SHEET 1 OF 2



NOTES:

A GRADUAL UNIFORM TRANSITION SHALL BE MADE FROM THE STANDARD CONCRETE CURB AND GUTTER TO THE CONCRETE SPILLWAY.

PLANE OF WEAKNESS JOINT SPACING SHALL BE AT UNIFORM INTERVALS OF APPROXIMATELY 4'-0".

THE SPILLWAY SHOULDERS AND FORESLOPES WILL BE UNDERLAID WITH GEOTEXTILE LINER FROM THE BACK SIDE OF CURB TO THE FAR END OF THE PLAIN RIPRAP INCLUDING THE ENTIRE FOOTPRINT OF THE PLAIN RIPRAP.

WHEN USING SPILLWAYS IN OTHER AREAS, SUCH AS BACKSLOPES, THE GEOTEXTILE LINER SHALL UNDERLAY THE FULL LENGTH OF THE SPILLWAY AND THE ENTIRE FOOTPRINT OF THE PLAIN RIPRAP. THE GEOTEXTILE LINER SHALL HAVE A MINIMUM WIDTH EQUAL TO THE WIDTH OF THE SPILLWAY.

THE SPILLWAY SHALL BE GIVEN A TRANSVERSE COARSE BROOM FINISH.

WHILE CONCRETE SPILLWAY IS SHOWN ON THE FORESLOPE, IT MAY BE USED ON THE BACKSLOPE, AS SPECIFIED ON THE PLANS. CONCRETE SHOULDER GUTTER SHOULD BE CORRESPONDINGLY OMITTED.

THE CURB AND GUTTER SHALL BE ALIGNED WITH THE BEAM GUARDRAIL AS SPECIFIED ON STANDARD PLAN R-67-SERIES. THE LOCATION OF GUARDRAIL POSTS SHOULD BE DETERMINED PRIOR TO LOCATING THE SPILLWAY OR DOWNSPOUT HEADER.

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR CONCRETE SHOULDER GUTTER AND SPILLWAY

5-18-2020 7-30-2018 R-35-E SHEET 2 OF 2

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MEGA ENGINEERING GROUP ASSOCIATES INC.

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KEVIN C. MCDEVITT ENGINEER NO. 6201043260

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Michigan's One-Call Utility Notification Organization

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CLIENT:

M/I HOMES OF MICHIGAN, L.L.C.

40950 WOODWARD AVE SUITE 203 BLOOMFIELD HILLS, MI 48304 POC: DAVID STRAUB (248)-221-5011

MDOT DETAILS

HERITAGE SQUARE (SINGLE FAMILY) ROADS PART OF THE SE 1/4 OF SEC. 32, T3N, R4E, HOWELL TWP, LIVINGSTON COUNTY, MICHIGAN

DATE	DESCRIPTION
05/09/2024	PLAN SUBMITTAL
06/18/2024	PHASE 1 FINAL SITE PLAN SUBMITTAL
11/25/2024	MODIFIED COVERAGE CALCULATION
02/20/2025	REVISED PHASE 1 FINAL SITE PLAN

ORIGINAL ISSUE DATE: 5/09/2024

PROJECT NO: 21-075C

SCALE: N/A

FIELD: DRAWN BY: DC, MN, CK, DJ DESIGN BY: KM CHECK BY: KM

C-11.2

NOT FOR CONSTRUCTION

landscape note:

- LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK, CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
- PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON-SITE UTILITIES, GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING.
- NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN-DISCREPANCY WITH LANDSCAPE ARCHITECT.
- ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON-SITE IF NECESSARY.
- ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY HOWELL TOWNSHIP AND LANDSCAPE ARCHITECT.
 - ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED AS DETAILED, SHOWN ON PLAN.
 - PLANT BEDS TO BE DRESSED WITH MIN. 4" OF FINELY DOUBLE SHREDDED HARBARK MULCH.
 - DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANTING HOLE.
 - NATURAL COLOR FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS.
 - REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 4" THICK BARK MULCH FOR SHRUBS AND 4" THICK BARK MULCH FOR PERENNIALS.
 - PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
 - ALL NEW AND DISTURBED LAWN AREAS TO RECEIVE SEEDING UNLESS NOTED OTHERWISE.
 - ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
 - PLANT TREES AND SHRUBS GENERALLY NO CLOSER THAN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS:
 - SHADE TREES 5 FT.
 - ORNAMENTAL AND EVERGREEN TREES (CRAB, FINE SPRUCE, ETC.) 10 FT.
 - SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY 2 FT.
 - NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.
 - ALL LAWN AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH AN AUTOMATIC UNDERGROUND SYSTEM. IRRIGATION SYSTEM TO HAVE SEPARATE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED.
 - UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECEIVE EDGING SHALL BE 4" X 1/2" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTURER'S SPECIFICATION.
 - ALL NEW PARKING ISLANDS AND LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16"-18" DEPTH, BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING SOILS, ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
 - WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
 - ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATE DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
 - THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.

sheet index

- LS-1 OVERALL LANDSCAPE PLAN VIEW
- LS-2 PLANTING DETAIL PLAN (SINGLE FAMILY)
- LS-3 PLANTING DETAIL PLAN (SINGLE FAMILY)
- LS-4 PLANTING DETAIL PLAN (DETENTION POND)
- LS-5 PLANTING DETAIL PLAN (SOD AND SEEDING)

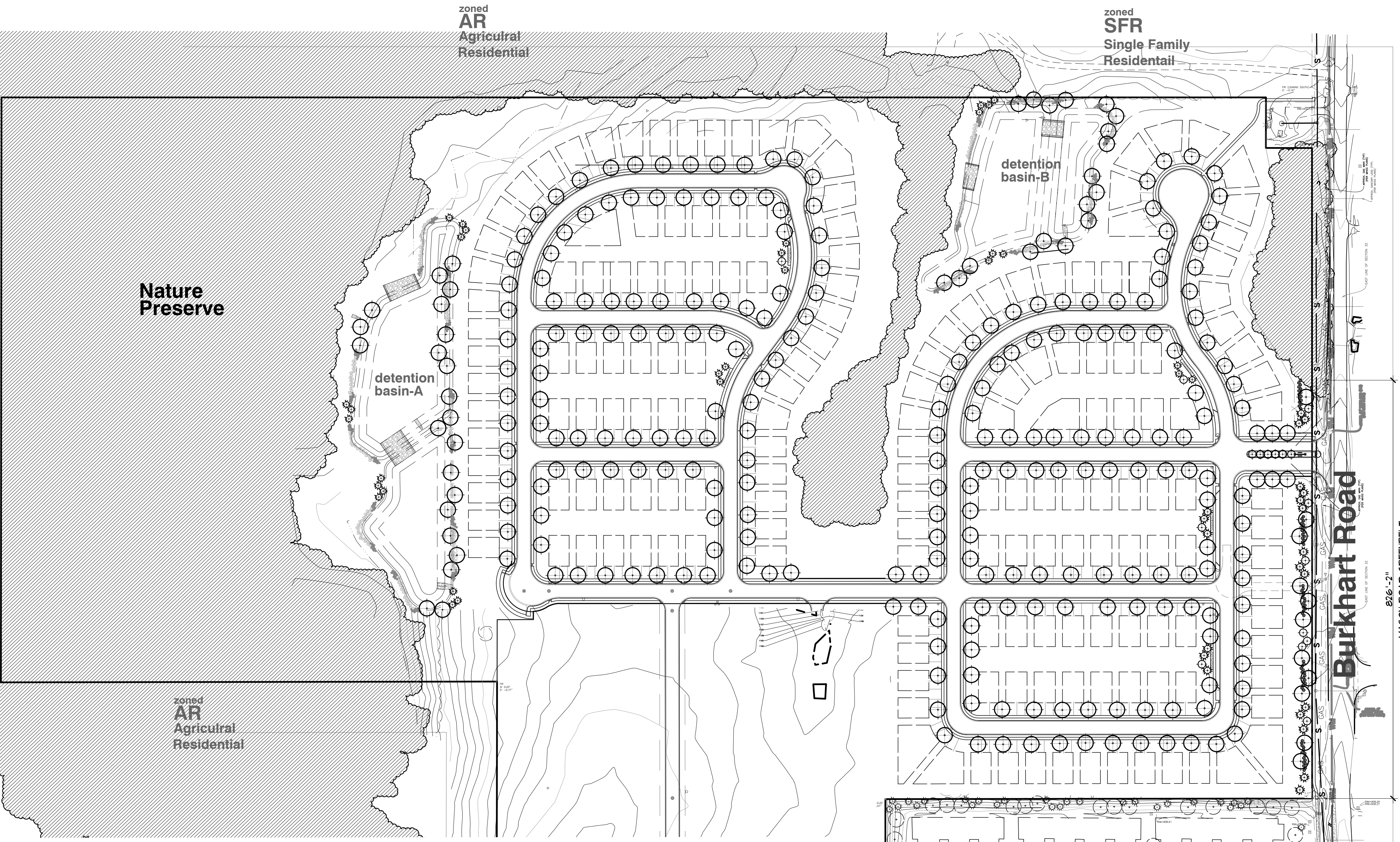
landscape plan for:

"Heritage Square"

a planned residential community

Howell Township, Michigan

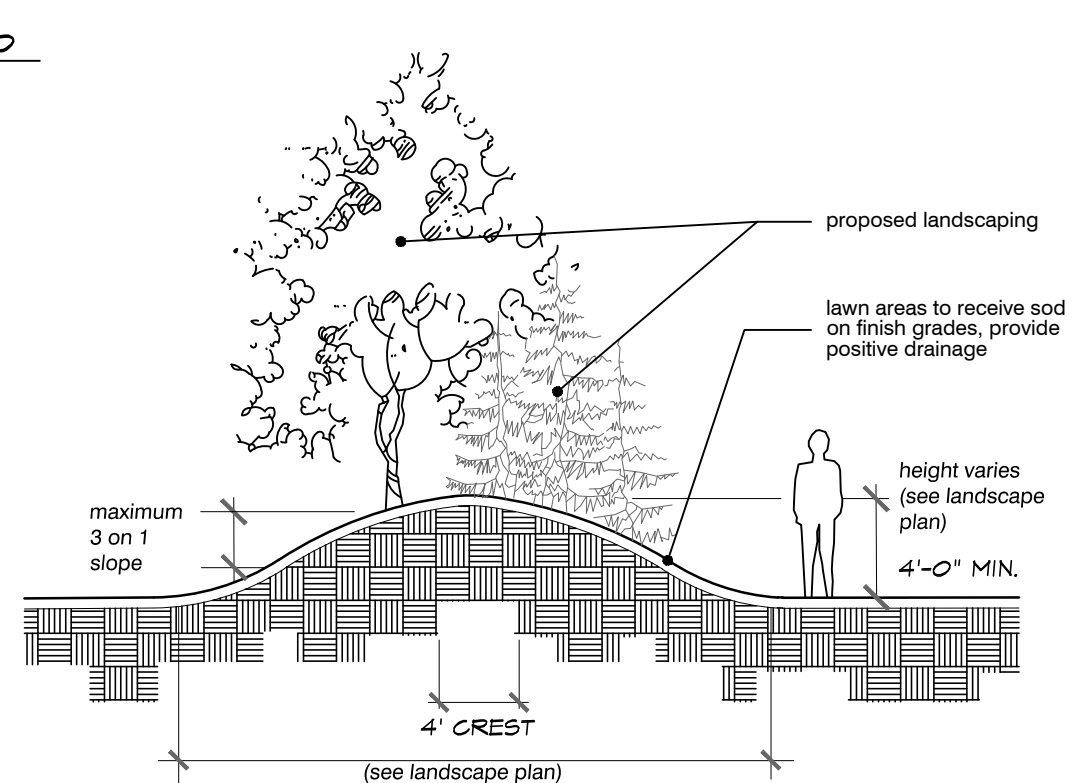
note:
conceptual landscape plan for inspection purposes only
and in no way official or approved for construction.



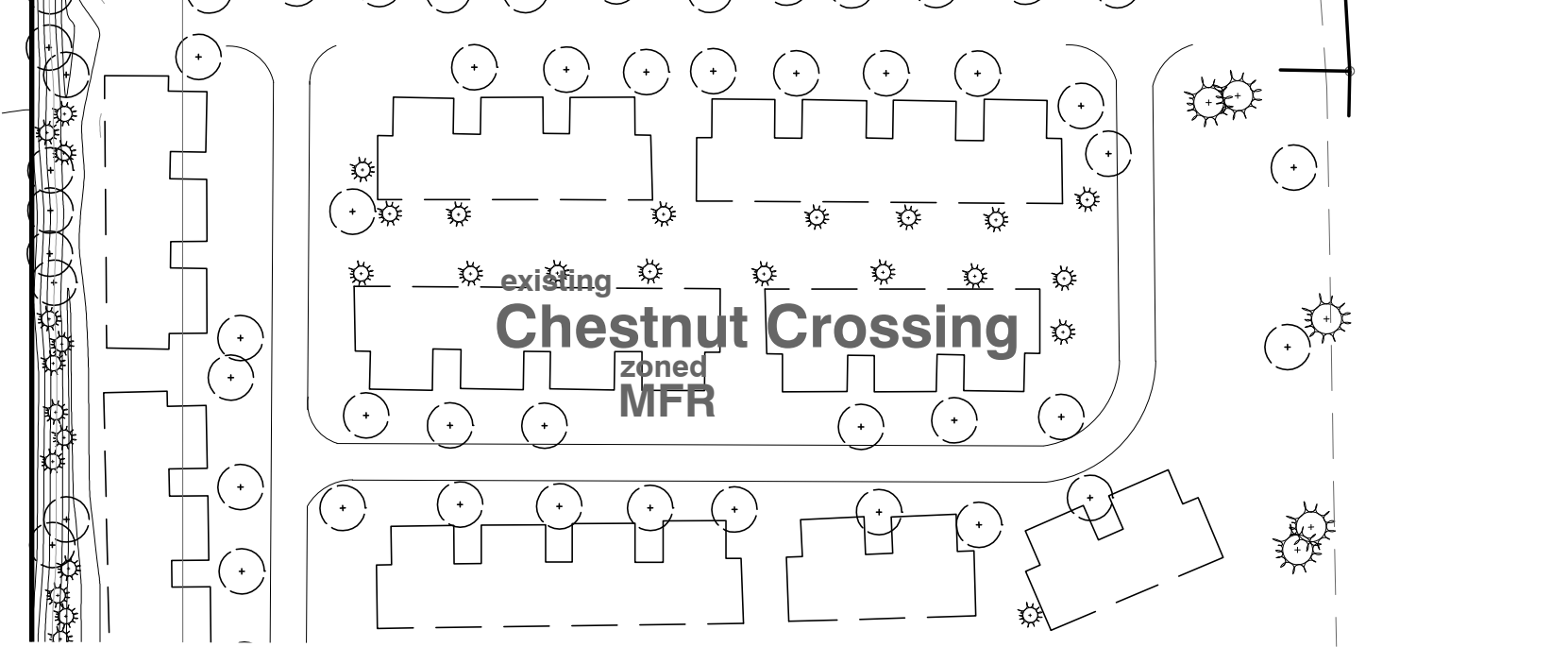
landscape requirement summary

	REQUIRED	PROVIDED
Burkhart Road Frontage Landscape		
TOTAL LIN.FT. OF BURKHART ROAD GREENBELT	746' ±	
(826 LIN.FT. OF BURKHART ROAD LESS 80' ACCESS ROAD)		
ONE (1) CANOPY OR EVERGREEN TREE PER 40'	19	26
(146' / 40' PER TREE = 10.65 TREES)		
ONE (1) ORNAMENTAL TREE PER 100'	7	7+
(146' / 100' PER TREE = 1.4 TREES)		
EIGHT (8) SHRUB PER 40'	144	208
(146' / 40' PER 8-SHRUBS = 10.65 X 8 = 149.2 SHRUBS)		
blvd. island divider median		
TOTAL LIN.FT. OF BLVD. ISLAND	146' ±	
ONE (1) CANOPY OR EVERGREEN TREE PER 30'	5	6
(146' / 30' PER TREE = 4.86 TREES)		
detention pond B		
TOTAL LIN.FT. OF A POND	1230' ±	
ONE (1) CANOPY OR EVERGREEN TREE PER 50'	25	25
(1230' / 50' PER TREE = 24.6 TREES)		
TEN (10) SHRUB PER 50'	246	246
(1230' / 50' = 24.6 X 10 = 246 SHRUBS)		

	REQUIRED	PROVIDED
detention pond A		
TOTAL LIN.FT. OF A POND	1793' ±	
ONE (1) CANOPY OR EVERGREEN TREE PER 50'	36	36
(1793' / 50' PER TREE = 35.86 TREES)		
TEN (10) SHRUB PER 50'	358	358
(1793' / 50' = 35.86 X 10 = 358.6 SHRUBS)		
open space landscape		
TOTAL SQ.FT. OF OPEN AREA	261,746' ±	
ONE (1) CANOPY OR EVERGREEN TREE PER 3000 SQ.FT	87	EXISTING TREES SAVE
(261,746' / 3000 SQ.FT PER TREE = 87.3 TREES)		

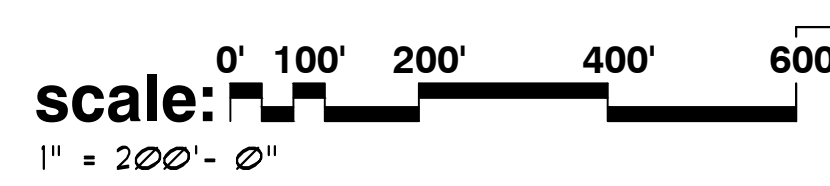


berm planting detail
no scale

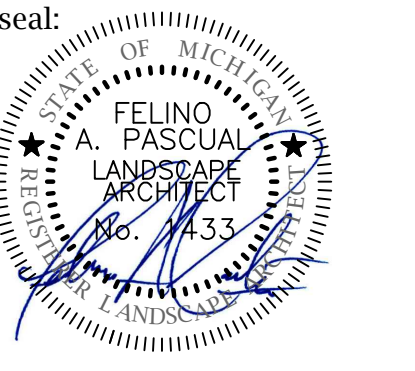


landscape maintenance notes:

- LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.
- PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION. ONLY TO REMOVE DEAD OR DISEASED BRANCHES. SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
- ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH 15 AND NOVEMBER 15 OR UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE.



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Community Land Planner and
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24333 Orchard Lake Rd, Suite G
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ph. (248) 557-5588
fax. (248) 557-5416



client:
BURKHART MASON COMMUNITY LLC.
29350 Woodward
Avenue Royal Oak, Michigan

project:
HERITAGE SQUARE
A PLANNED RESIDENTIAL COMMUNITY

project location:
Howell Township, Michigan
Burkhart Road & Mason Road

sheet title:
OVERALL LANDSCAPE PLAN VIEW

job no./issue/revision date:
LS24.064.06 REVIEW 7-1-2024
LS24.064.09 SPA 9-19-2024
LS24.064.12 SPA 12-20-2024

drawn by:
JP, DK
checked by:
FP
date:
6-3-2024

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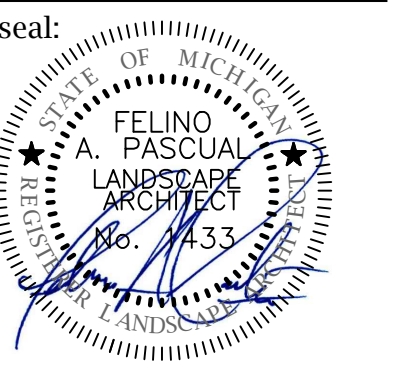
Do Not scale drawings. Use figured dimensions only



The location and elevations of existing underground utilities as shown on this drawing are only approximate; no guarantee is either expressed or implied as to the completeness of accuracy; contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:
LS24.064.06

sheet no:
LS-1 of 5



client:
BURKHART MASON
COMMUNITY LLC.
 29350 Woodward
 Avenue Royal Oak,
 Michigan

project:
HERITAGE
SQUARE
 A PLANNED
 RESIDENTIAL
 COMMUNITY

project location:
 Howell Township,
 Michigan
 Burkhart Road &
 Mason Road

sheet title:
CONCEPTUAL
LANDSCAPE PLAN

job no./issue/revision date:
 LS24.064.06 REVIEW 7-1-2024
 LS24.064.09 SPA 9-19-2024
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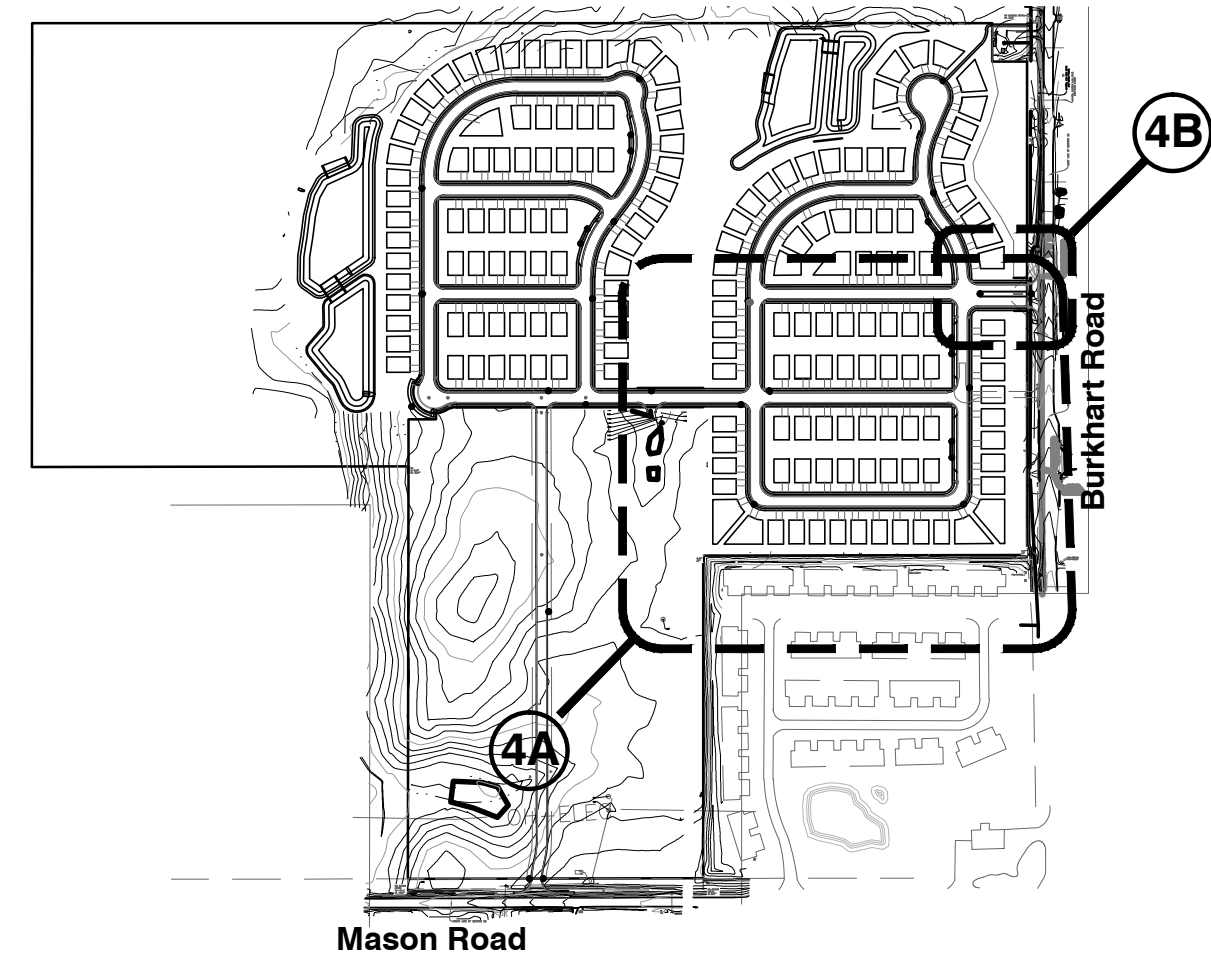
Do Not scale drawings. Use
 figured dimensions only

**3 WORKING DAYS
 BEFORE YOU DIG
 CALL MISS DIG
 1-800-482-7171**
 For free location of public utility lines

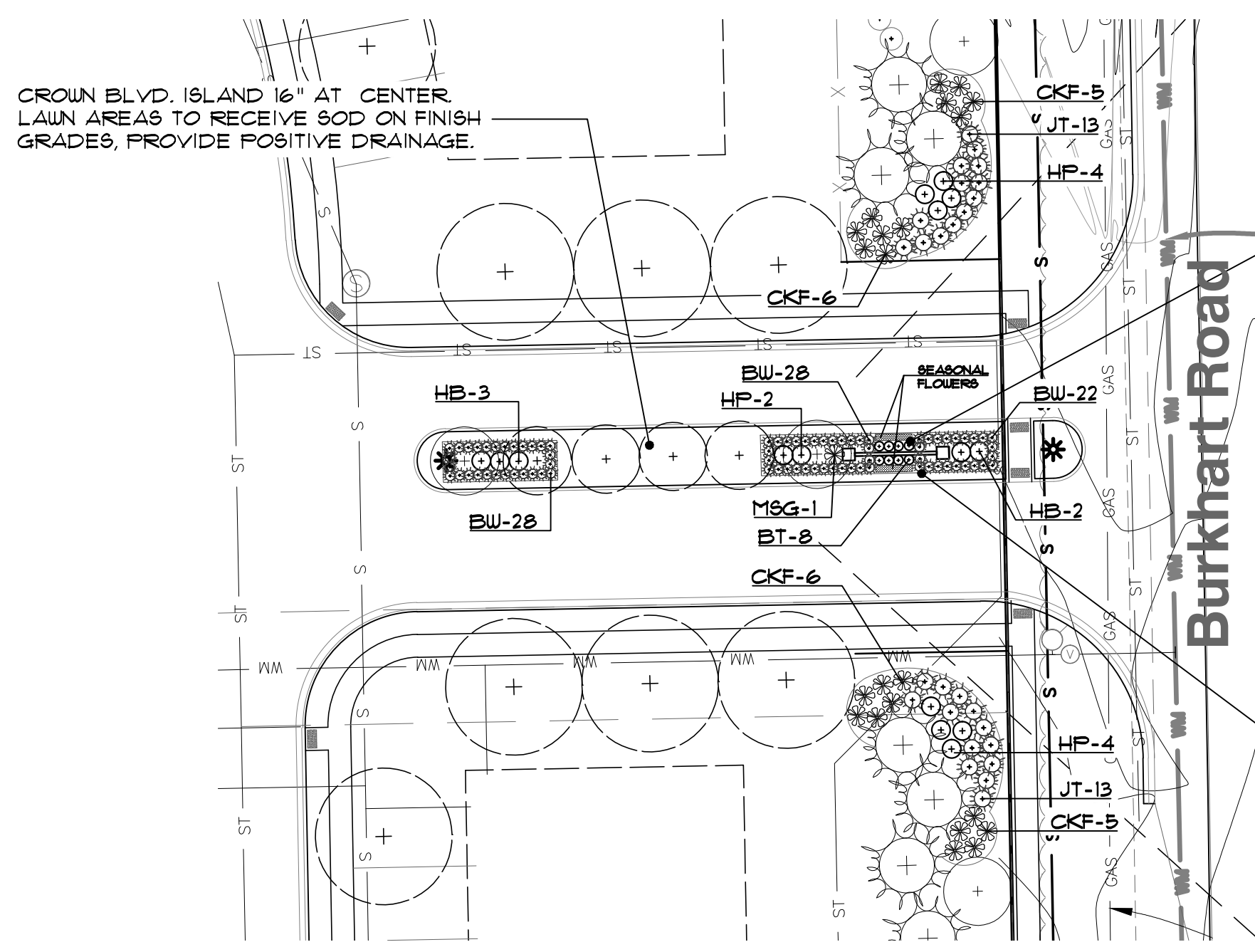
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 of construction

project no:
LS24.064.06

sheet no:
LS-2 of 5

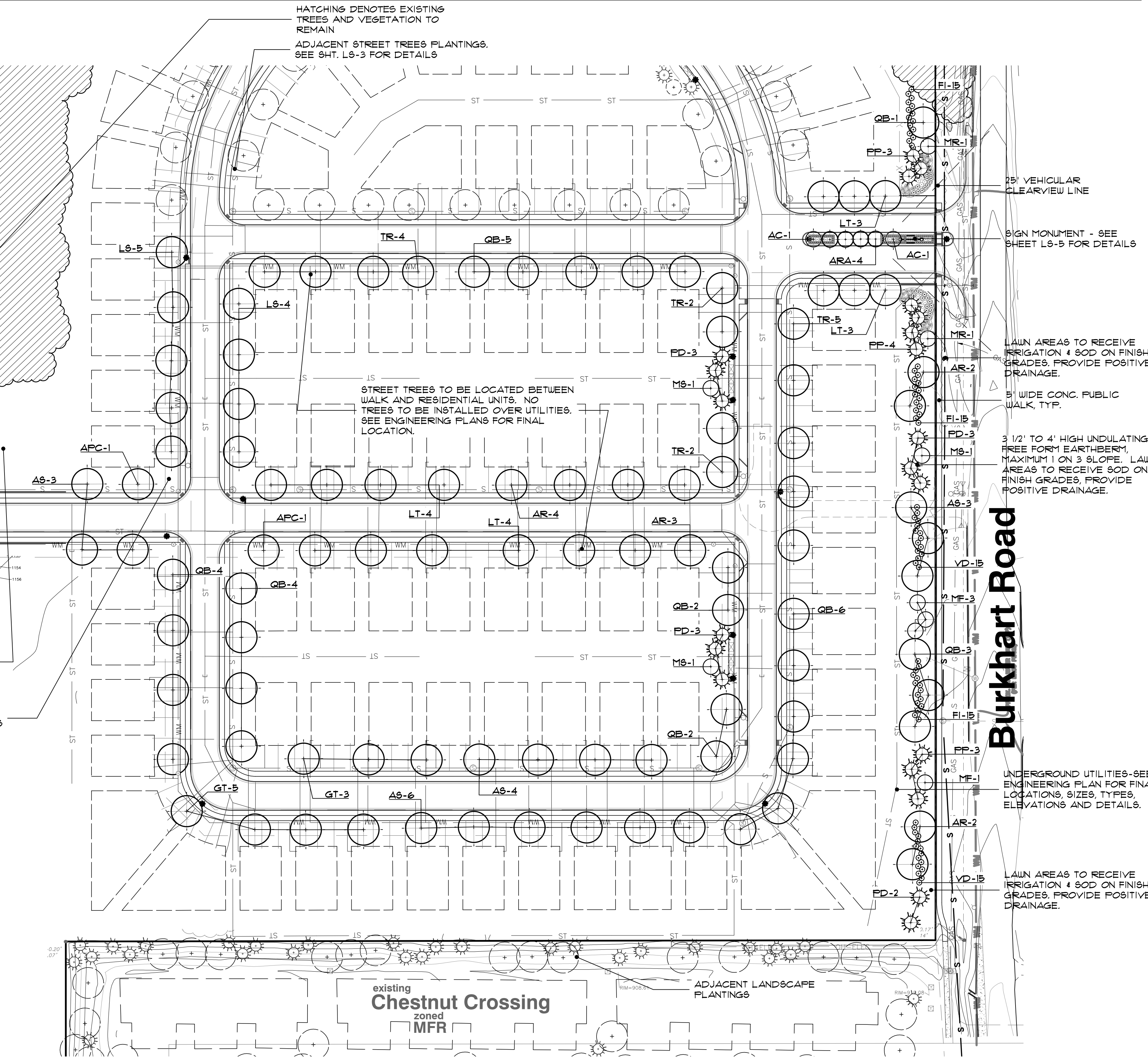


key reference location map
 NO SCALE



entrance landscape planting detail
 SCALE: 1" = 30'-0"

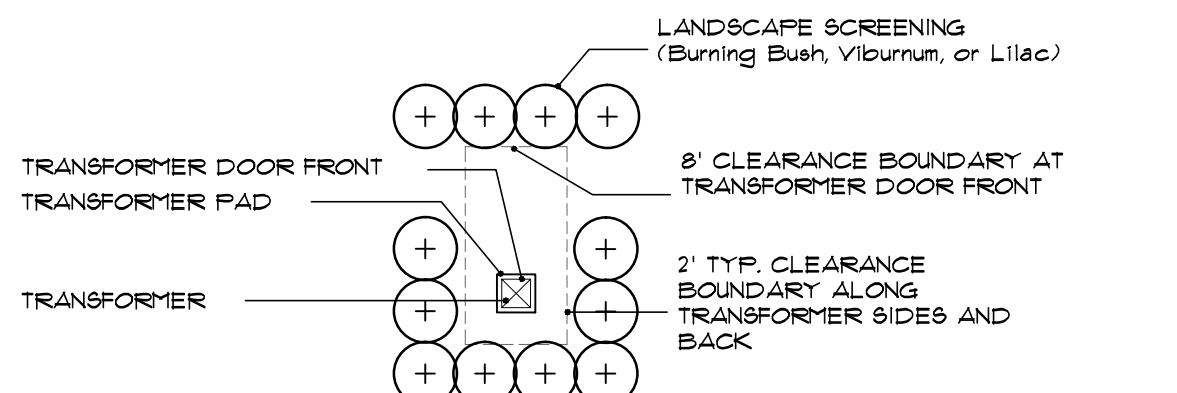
key	quant. 2A	quant. 2B	botanical name	common name	size	comments
DECIDUOUS TREES						
GT	8	-	GLEDITSIA TRI. INERMIS 'SKYCOLE'	SKYLINE LOCUST	2 1/2" BB	
AS	16	-	ACER SACCHARUM	SUGAR MAPLE	2 1/2" BB	
AR	11	-	ACER RUBRUM	RED MAPLE	2 1/2" BB	
ARA	4	-	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	2 1/2" BB	
QB	21	-	QUERCUS BI-COLOR	WHITE SWAMP OAK	2 1/2" BB	
APC	2	-	ACER F. 'CRIMSON KING'	CRIMSON KING NORWAY MAPLE	2 1/2" BB	
LT	14	-	LIRIODENDRON TULIPIFERA	TULIPTREE	2 1/2" BB	
TR	13	-	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	2 1/2" BB	
AC	2	-	AMELANCHIER X 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	8' BB	MULTI-STEM
MF	4	-	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	2" BB	
MS	3	-	MALUS SNOWDRIFT	SNOWDRIFT CRABAPPLE	2" BB	
MR	2	-	MALUS RED BARRON	RED BARRON CRABAPPLE	2" BB	
EVERGREEN TREES						
FP	10	5	PICEA PARVENS	COLORADO GREEN SPRUCE	8' BB	
PD	11	-	PICEA GLAUCO 'DENSATA'	BLACK HILL SPRUCE	8' BB	
SHRUBS						
BW	-	18	BUXUS 'GREEN VELVET'	GREEN VELVET BOXWOOD	18" CONT.	24" O.C. SPACING
FI	45	-	FORSYTHIA INTERMEDIA	BORDER FORSYTHIA	3" CONT.	60" O.C. SPACING
VD	30	-	VIBURNUM DENTATUM 'SYNESTVEDT'	CHICAGO LUSTRE ARROWWOOD VIBURNUM	3" CONT.	60" O.C. SPACING
JT	-	26	JUNIPERUS S. 'TAMARISAFOLIA'	TAM'S JUNIPER	48" CONT.	42" O.C. SPACING
HB	-	5	HYDRANGEA PANICULATA 'BOBO'	BOBO PANICLE HYDRANGEA	36" CONT.	42" O.C. SPACING
HP	-	8	HYDRANGEA PANICULATA 'BULK'	QUICK FIRE HYDRANGEA	36" CONT.	42" O.C. SPACING
BT	-	8	BERBERIS T. 'CRIMSON PYGMY'	CRIMSON PYGMY JAPANESE BARBERRY	18" CONT.	24" O.C. SPACING
CKF	-	22	CALAMAGROTIS ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3" CONT.	36" O.C. SPACING
M6G	-	2	MISCANTHUS 'GRACILLIMUS'	MAIDEN GRASS	5" CONT.	48" O.C. SPACING



landscape planting detail
 SCALE: 1" = 60'-0"

planting landscape notes:

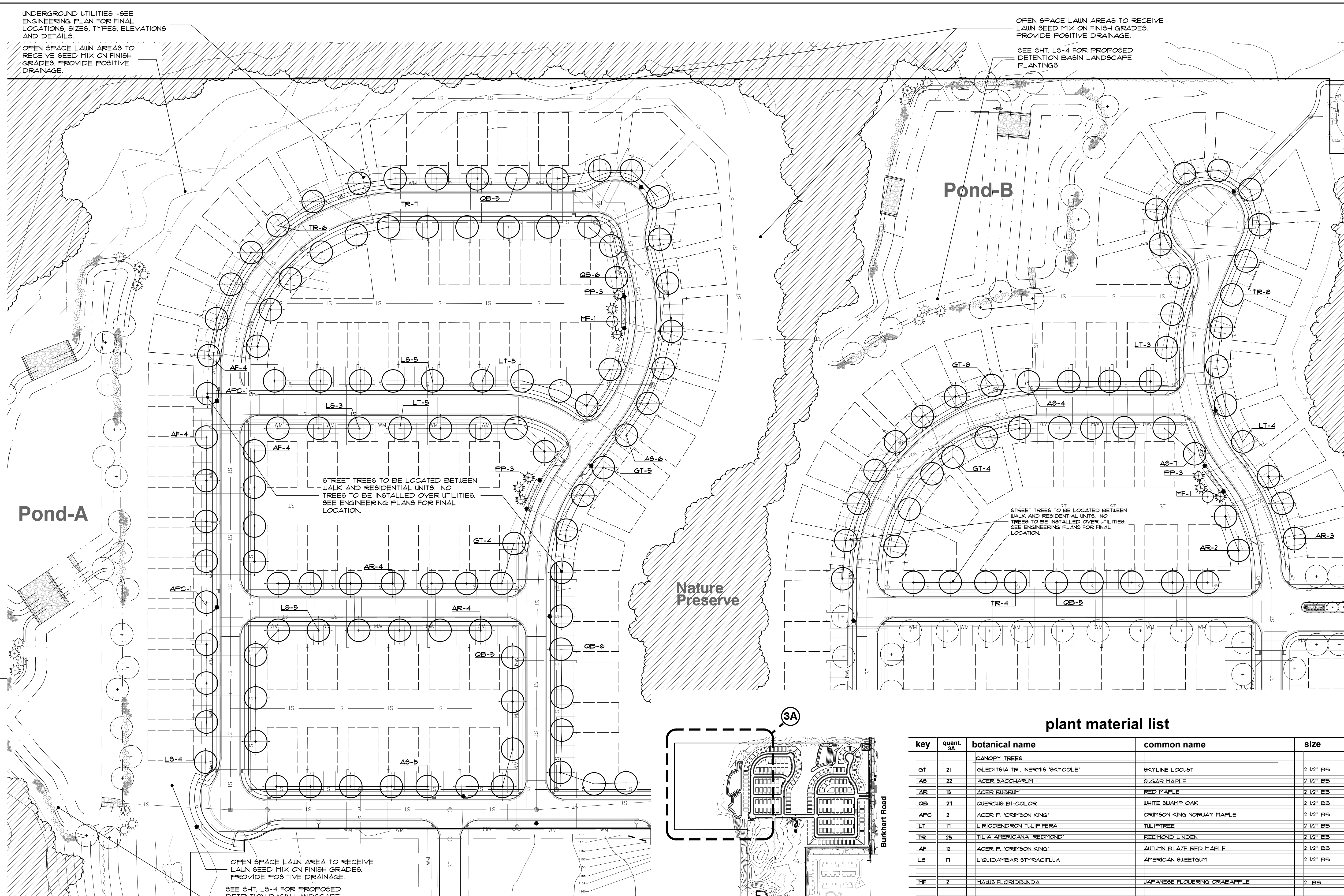
- GENERAL NOTES:**
- PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE HOWELL TOWNSHIP AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
 - PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS. REPLACE FALLING MATERIAL WITHIN 1 YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
 - PLANT MATERIALS TO BE OF PREMIUM QUALITY, NO. 1 GRADE NORTHERN NURSURY GROWN, IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.
 - MULCH IS TO BE NATURAL COLORED, FINELY SHREDDED HARDWOOD BARK OF 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE 1/3" PULLED AWAY FROM TRUNK; 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
 - CALL MISS DIG AT 1-800-482-7171 PRIOR TO ANY CONSTRUCTION.
- DECIDUOUS & EVERGREEN TREE:**
- TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
 - DO NOT PRUNE TERMINAL LEADER PRUNE ONLY DEAD OR BROKEN BRANCHES.
 - REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.
 - REMOVE TREE STAKES, GUY WIRES AND TREE WRAP AFTER ONE WINTER SEASON.
- Burkhart Road Frontage Landscape**
- | | REQUIRED | PROVIDED |
|---|----------|----------|
| TOTAL LIN.FT. OF BURKHART ROAD GREENBELT | 746' ± | |
| (826 LIN.FT. OF BURKHART ROAD LESS 80' ACCESS ROAD) | | |
| ONE (1) CANOPY OR EVERGREEN TREE PER 40' | 19 | 26 |
| (746 / 40' PER TREE = 18.65 TREES) | | |
| ONE (1) ORNAMENTAL TREE PER 100' | 7 | 7+ |
| (746 / 100' PER TREE = 7.4 TREES) | | |
| EIGHT (8) SHRUB PER 40' | 149 | 208 |
| (746 / 40' PER 8-SHRUBS = 18.65 X 8 = 149.2 SHRUBS) | | |



transformer pad planting detail
 SCALE: 1" = 20'-0"

A MINIMUM OF 2' SEPARATION BETWEEN TRANSFORMER AND FULL GROWN SHRUBS AND TREES. GROUND COVERS ALLOWED UP TO TRANSFORMER PAD IF MAINTAINED BELOW 4" FULL GROWTH. IF TRANSFORMER FACES TOWARDS THE HOUSE, THEN SAME CONDITIONS EXIST. NO FULL GROWTH IN FRONT OF THE TRANSFORMER FOR AT LEAST A MINIMUM OF 8'. THERE ARE NO WAIVERS GRANTED TO THE ABOVE CONDITION. DETAIL PER THE DETROIT EDISON COMPANY SERVICE PLANNING DEPARTMENT (9-11-98).

SEE ENGINEERING PLANS FOR PROPOSED LOCATIONS, TOTAL NUMBER OF TRANSFORMERS AND FINAL LOCATION PER DETROIT EDISON REQUIREMENTS.



UNDERGROUND UTILITIES - SEE ENGINEERING PLAN FOR FINAL LOCATIONS, SIZES, TYPES, ELEVATIONS AND DETAILS.

OPEN SPACE LAWN AREAS TO RECEIVE SEED MIX ON FINISH GRADES. PROVIDE POSITIVE DRAINAGE.

OPEN SPACE LAWN AREAS TO RECEIVE LAWN SEED MIX ON FINISH GRADES. PROVIDE POSITIVE DRAINAGE.

SEE SHT. LS-4 FOR PROPOSED DETENTION BASIN LANDSCAPE PLANTINGS

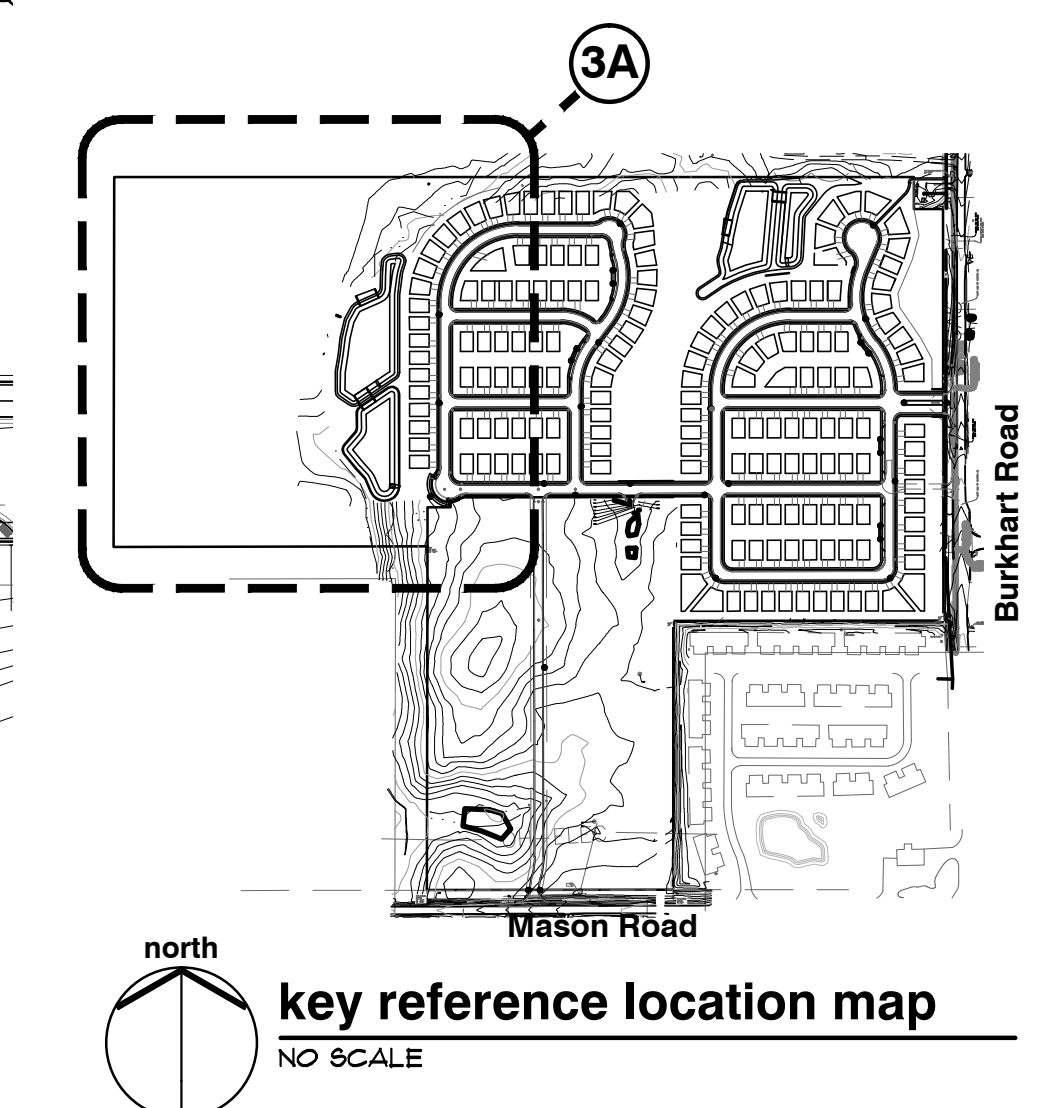
STREET TREES TO BE LOCATED BETWEEN WALK AND RESIDENTIAL UNITS. NO TREES TO BE INSTALLED OVER UTILITIES. SEE ENGINEERING PLANS FOR FINAL LOCATION.

STREET TREES TO BE LOCATED BETWEEN WALK AND RESIDENTIAL UNITS. NO TREES TO BE INSTALLED OVER UTILITIES. SEE ENGINEERING PLANS FOR FINAL LOCATION.

OPEN SPACE LAWN AREA TO RECEIVE LAWN SEED MIX ON FINISH GRADES. PROVIDE POSITIVE DRAINAGE.

SEE SHT. LS-4 FOR PROPOSED DETENTION BASIN LANDSCAPE PLANTINGS

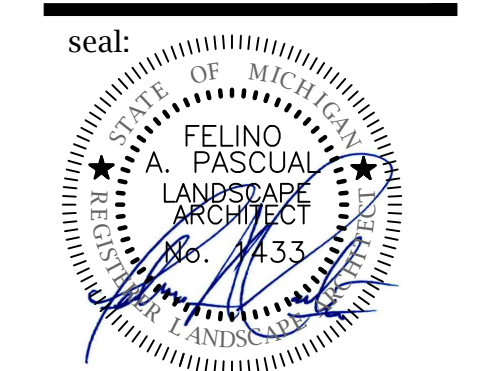
3A landscape planting detail
SCALE: 1" = 60'-0"



plant material list

key	quant.	botanical name	common name	size	comments
CANOPY TREES					
GT	21	GLEDITSIA TRI. INERMIS 'SKYCOLE'	SKYLINE LOCUST	2 1/2" BB	
AS	22	ACER SACCHARUM	SUGAR MAPLE	2 1/2" BB	
AR	13	ACER RUBRUM	RED MAPLE	2 1/2" BB	
QB	21	QUERCUS BI-COLOR	WHITE SWAMP OAK	2 1/2" BB	
APC	2	ACER P. 'CRIMSON KING'	CRIMSON KING NORWAY MAPLE	2 1/2" BB	
LT	11	LIRIODENDRON TULIPIFERA	TULIPTREE	2 1/2" BB	
TR	25	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	2 1/2" BB	
AF	12	ACER P. 'CRIMSON KING'	AUTUMN BLAZE RED MAPLE	2 1/2" BB	
L&S	11	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	
MF	2	MAHUA FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	2" BB	
EVERGREEN TREES					
PP	3	PICEA PUNGENS	COLORADO GREEN SPRUCE	8" BB	

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 FELINO A. PASCUAL
 and ASSOCIATES
 Community Land Planner and
 registered Landscape Architect
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 Farmington Hills, MI 48336
 ph. (248) 557-5588
 fax. (248) 557-5416



client:
**BURKHART MASON
 COMMUNITY LLC.**
 29350 Woodward
 Avenue Royal Oak,
 Michigan

project:
**HERITAGE
 SQUARE**
 A PLANNED
 RESIDENTIAL
 COMMUNITY

project location:
 Howell Township,
 Michigan
 Burkhardt Road &
 Mason Road

sheet title:
**LANDSCAPE
 PLANTING DETAIL**

job no./issue/revision date:
 LS24.064.06 REVIEW 7-1-2024
 LS24.064.09 SPA 9-19-2024
 LS24.064.12 SPA 12-20-2024

drawn by:
JP, DK
 checked by:
FP
 date:
6-3-2024

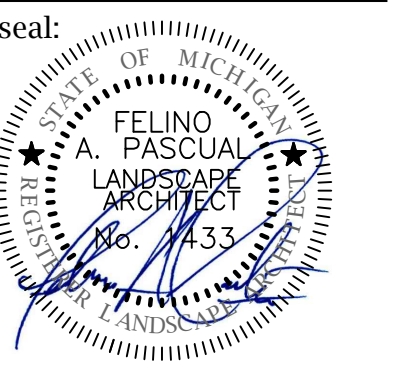
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 of construction

project no:
LS24.064.06

sheet no:
LS-3 of 5



client:
BURKHART MASON
COMMUNITY LLC.
 29350 Woodward
 Avenue Royal Oak,
 Michigan

project:
HERITAGE
SQUARE
 A PLANNED
 RESIDENTIAL
 COMMUNITY

project location:
 Howell Township,
 Michigan
 Burkhardt Road &
 Mason Road

sheet title:
CONCEPTUAL BLDG
FOUNDATION &
ENTRANCE
MONUMENT

job no./issue/revision date:
 LS24.064.06 REVIEW 7-1-2024
 LS24.064.09 SPA 9-19-2024
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 of construction

project no:
LS24.064.06

sheet no:
LS-4 of 5

entry monument notes:

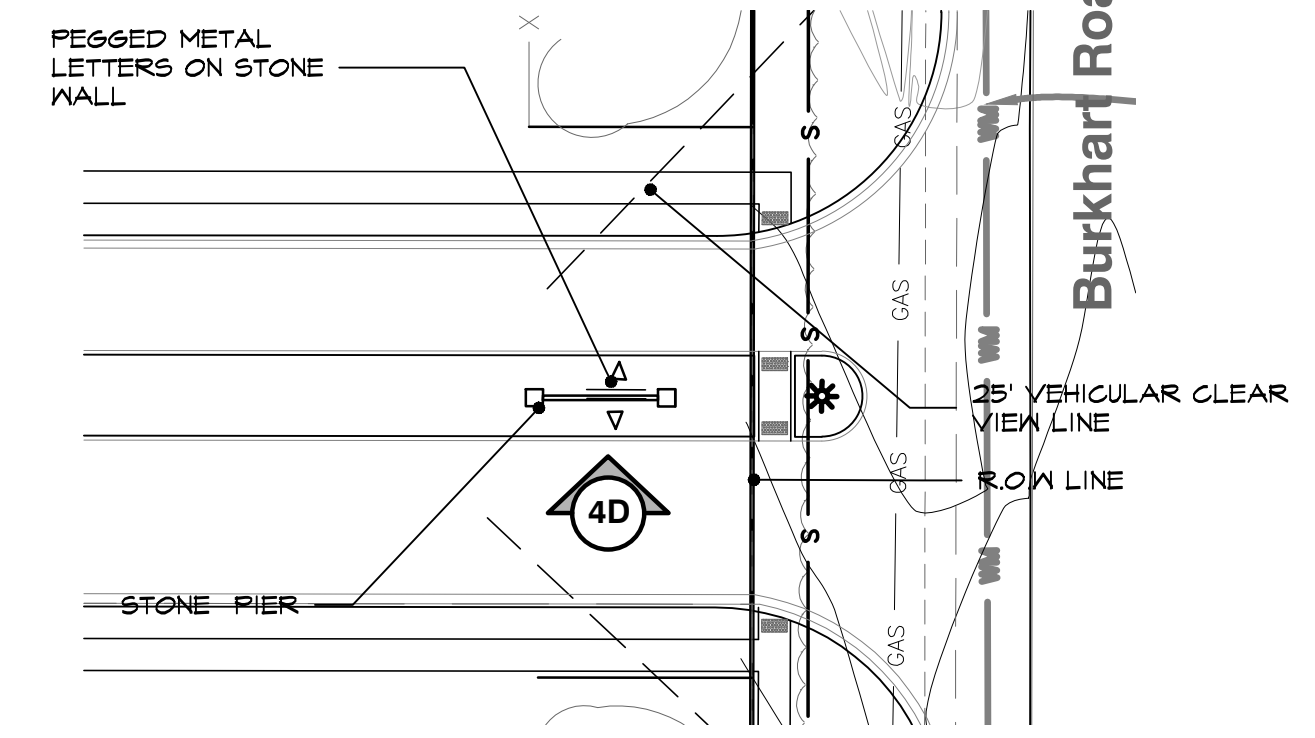
- ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO APPROVAL, AND PERMITS TO BE OBTAINED PRIOR TO CONSTRUCTION FROM ALL NECESSARY AGENCIES.
- CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANS AND RELATED WORK. CONTACT THE OWNER WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLANS AND/OR SITE CONDITIONS.
- PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES. GAS, ELECTRIC, TELEPHONE, CABLE, ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING. CONTACT MISS DIG AT 811 OR 800-482-7171 BEFORE YOU DIG
- DO NOT SCALE DRAWING. USE FIGURED DIMENSIONS ONLY.
- VERIFY SOIL BEARING CAPACITY PRIOR TO ANY FOOTING CONSTRUCTION. IF SOIL BEARING CAPACITY FALLS BELOW STANDARD REQUIREMENTS, CONSULT STRUCTURAL ENGINEER FOR RECOMMENDATION OF FINAL FOOTING DESIGN.
- GRADES BY OTHERS. FINAL GRADES TO PROVIDE POSITIVE DRAINAGE
- FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL WITH AN ASSUMED SAFE BEARING CAPACITY OF 2000 P.S.I. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ARCHITECT. VERIFY FOUNDATION SOIL BEARING PRESSURE IN FIELD BY SOILS ENGINEER.
- PROVIDE NECESSARY SHEETING SHORING BRACING, ETC. AS REQUIRED DURING EXCAVATIONS TO PROTECT SIDES OF EXCAVATIONS.
- MINIMUM CONCRETE STRENGTH TO BE 3000 P.S.I. @ 28 DAYS. U.O.N. SLABS SHALL BE 3500 P.S.I. MIN. U.O.N. EXPOSED CONCRETE SHALL BE 4000 P.S.I. WITH 6% ± 1% ENTRAINED AIR U.O.N.
- ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST RECOMMENDATIONS OF A.C.I.
- PROVIDE DOUELS INTO FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT AT ALL WALLS, UNLESS OTHERWISE NOTED.
- PROVIDE MINIMUM 3" CONCRETE COVER FOR REINFORCEMENT BARS BELOW GRADE AND MINIMUM 2" CONCRETE COVER FOR REINFORCEMENT BARS ABOVE GRADE.
- LOCATE AND STAKE ALL EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION. COORDINATE ANY ADJUSTMENTS WITH ARCHITECT.
- ALL ENTRY WALL LIGHTING SHALL BE CONTROLLED WITH A 'PHOTO-EYE' SWITCH. ALL LIGHTING SHALL BE SHIELDED FROM PUBLIC ROW'S AND ADJACENT PROPERTIES.
- SIGN TEXT AND LOGO TO BE PAINTED METAL LOGO/LETTER ON LIMESTONE STONE. PERMITS TO BE OBTAINED PER CITY OF STERLING HEIGHTS REQUIREMENTS AND APPROVALS.

signage uplighting

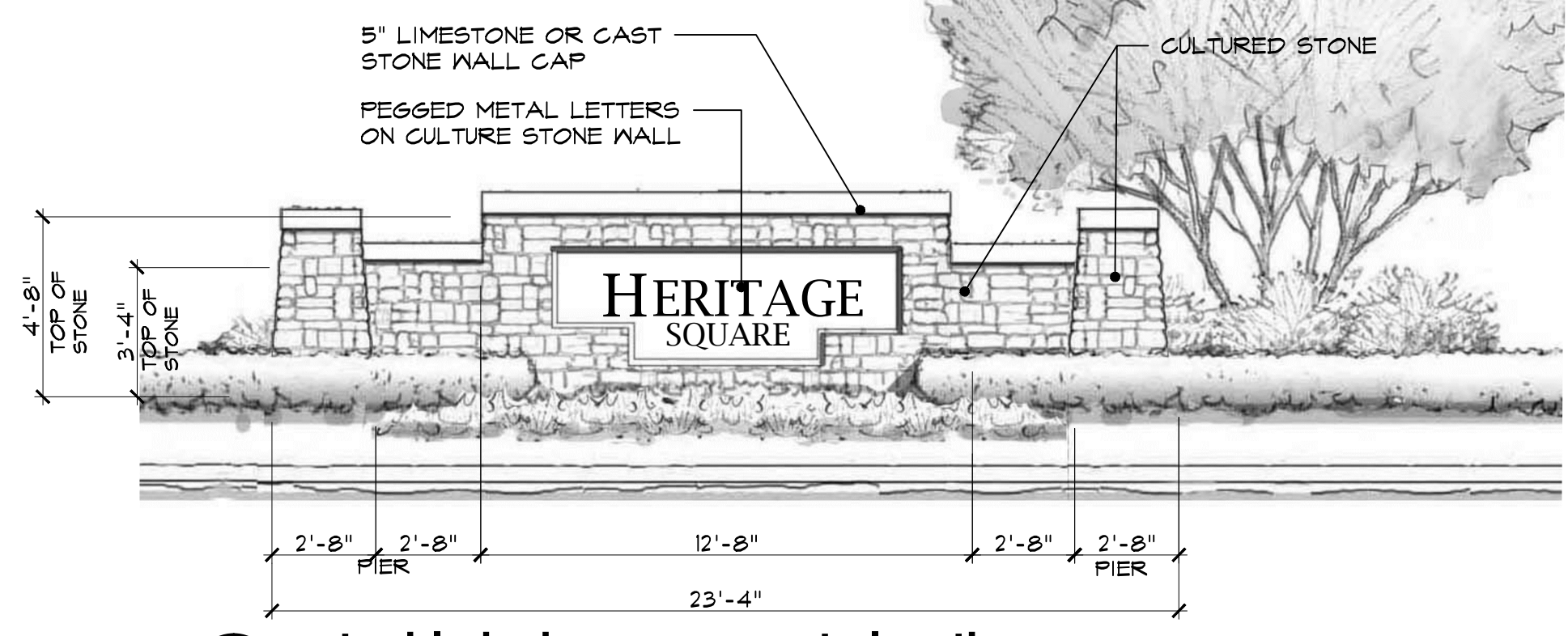
SIGNAGE UPLIGHTING MANUFACTURED BY HYDREL, MODEL NO. 4799, 20660 NORTHOFF STREET, SUITE B CHATSWORTH, CA 91311
 WEB SITE: WWW.HYDREL.COM
 PHONE: 866-533-9921
 FAX: 866533-5291
 FINISH SELECTION: BRONZE



NOTE:
 LIGHT TO BE SHIELD FROM PUBLIC ROW. AND LAMPS SHALL NOT BE VISIBLE FROM NORMAL VIEWING ANGLES



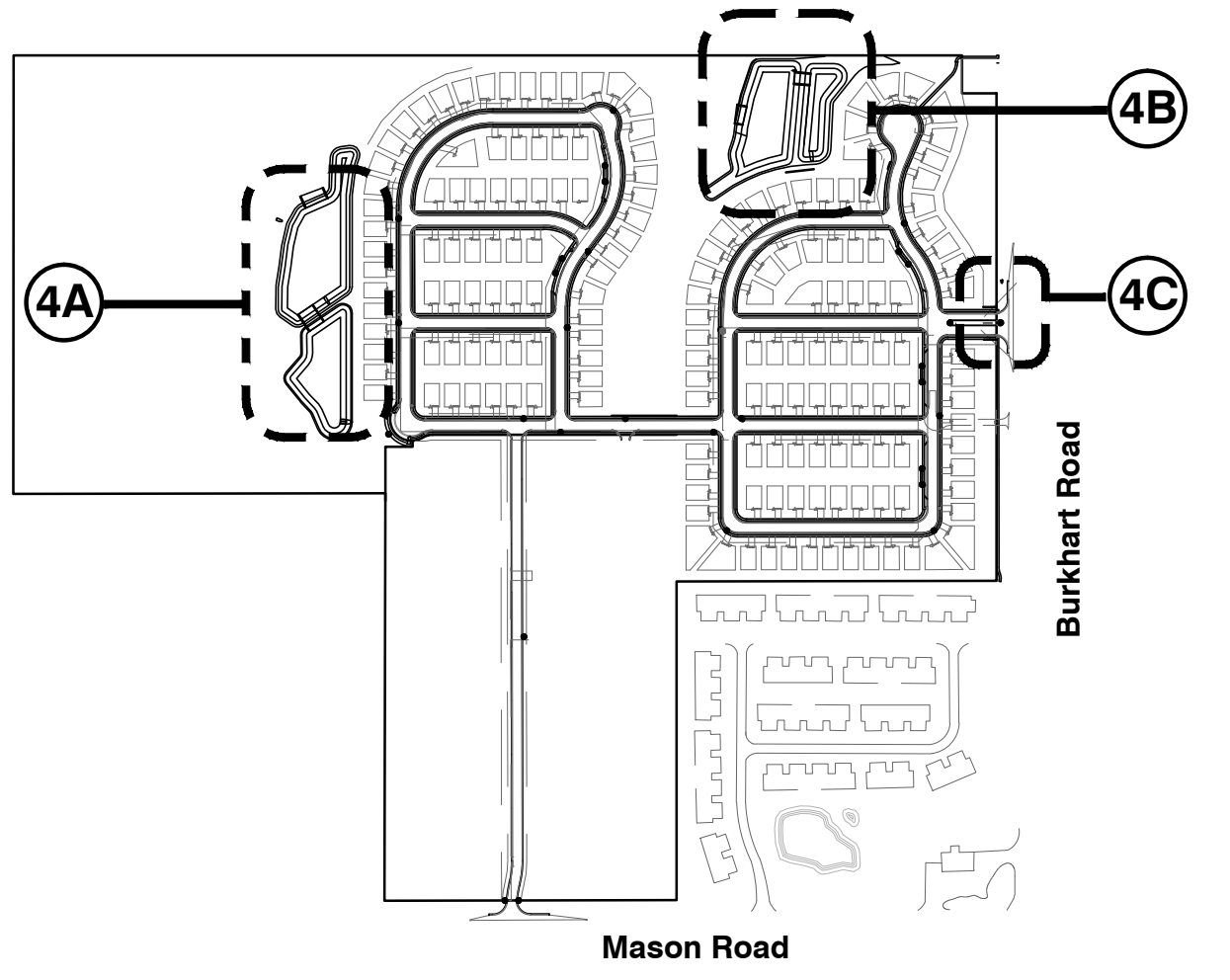
4C conceptual entry site plan
 SCALE: 1" = 50'-0"



4D entry blvd. sign monument elevation
 SCALE: 1/4"=1'-0"

plant material list

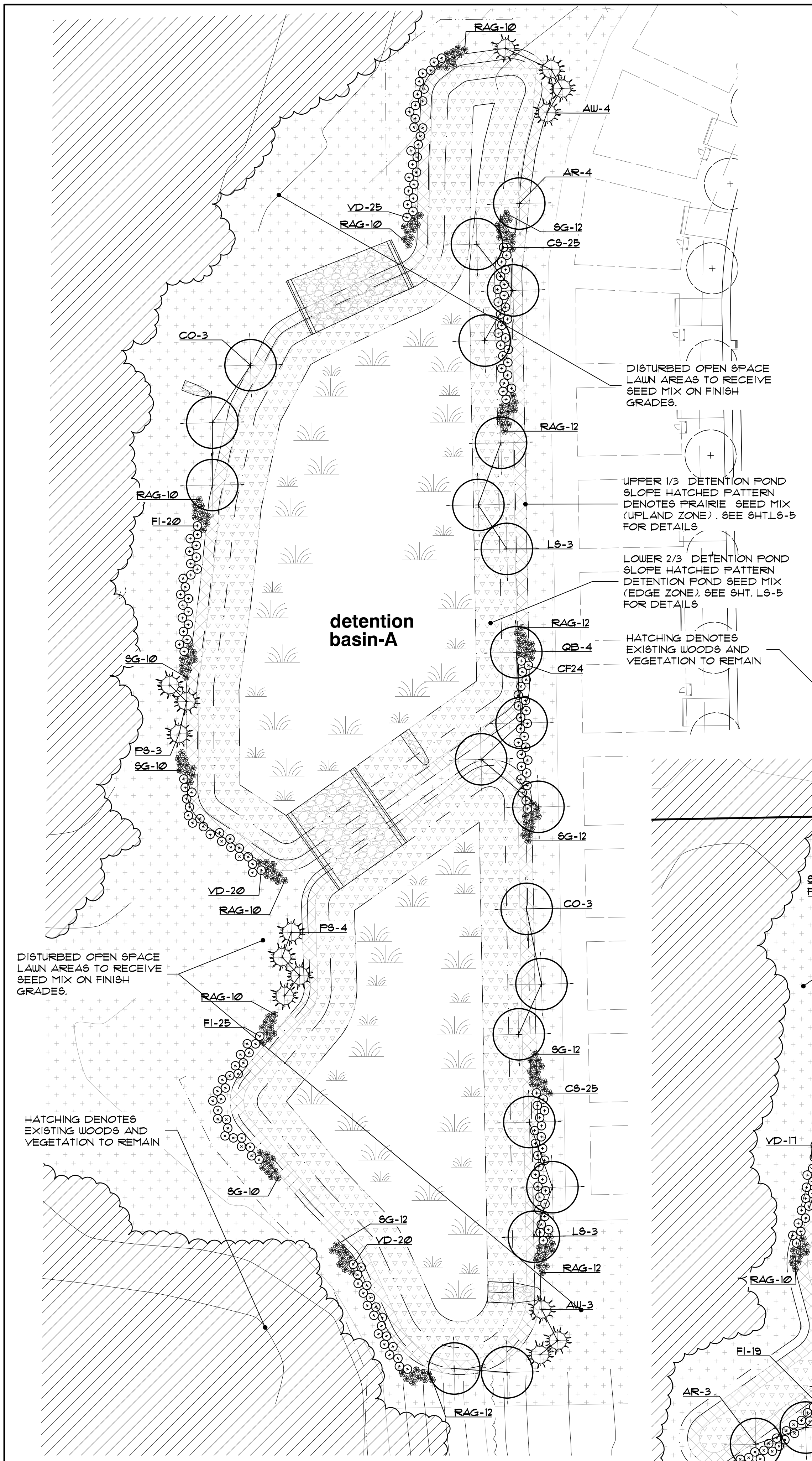
key	quant. 4A	quant. 4B	botanical name	common name	size	comments
TREES						
CO	6	4	CELTIS OCCIDENTALIS	HACKBERRY	2 1/2" BB	
AR	4	3	ACER R. FRANKSRED'	RED SUNSET RED MAPLE	2 1/2" BB	
LS	6	4	LIQUIDAMBAR STRACIFLUA	AMERICAN SWEETGUM	2 1/2" BB	
QB	6	1	QUERCUS BI-COLOR	WHITE SWAMP OAK	2 1/2" BB	
AW	1	-	ABIES CONCOLOR	CONCOLOR WHITE FIR	8' BB	
PS	1	3	PINUS STROBUS	EASTERN WHITE PINE	8' BB	
PD	-	4	PICEA GLAUGA 'DENSATA'	BLACK HILL SPRUCE	8' BB	
SHRUBS						
FI	45	39	FORSYTHIA X INTERMEDIA	BORDER FORSYTHIA	3' BB	60" O.C. SPACING
VD	65	31	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3' BB	48" O.C. SPACING
CF	24	40	CORNUS FLAVIRAMEA	YELLOWTUNG DOGWOOD	3' BB	60" O.C. SPACING
CS	50	20	CORNUS STOLONIFERA	REDTUNG DOGWOOD	3' BB	60" O.C. SPACING
RAG	96	60	RHUS AROMATIC 'GRO-LOW'	'GRO-LOW' FRAGRANT SUMAC	24" CONT	48" O.C. SPACING
SG	18	50	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	30" CONT	42" O.C. SPACING



key reference location map
 NO SCALE

detention landscape requirements

detention pond	REQUIRED	PROVIDED
detention pond A		
TOTAL LINFT. OF A POND	1743' ±	36
ONE (1) CANOPY OR EVERGREEN TREE PER 50'	(1743' / 50' PER TREE = 35.86 TREES)	36
TEN (10) SHRUB PER 50'	(1743' / 50' = 35.86 X 10 = 358.6 SHRUBS)	358
detention pond B		
TOTAL LINFT. OF A POND	1230' ±	25
ONE (1) CANOPY OR EVERGREEN TREE PER 50'	(1230' / 50' PER TREE = 24.6 TREES)	25
TEN (10) SHRUB PER 50'	(1230' / 50' = 24.6 X 10 = 246 SHRUBS)	246



4A detention basin-A planting detail
 SCALE: 1" = 40'-0"

4B detention basin-B planting detail
 SCALE: 1" = 40'-0"

economy prairie seed mix

THIS PRAIRIE SEED MIX OFFERS AN ECONOMICAL WAY TO ESTABLISH A PRAIRIE. IN ADDITION TO NATIVE PRAIRIE GRASSES, FLOWERING SPECIES PROVIDE COLOR THROUGHOUT THE GROWING SEASON AND FOOD SOURCES FOR BIRDS AND BUTTERFLIES. ADDING SEED OR PLANT PLUGS AT A LATER DATE IS A WONDERFUL WAY TO INCREASE A PRAIRIE'S RICHNESS AND DIVERSITY. THIS SEED MIX INCLUDES AT LEAST 6 OF 7 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 10 OF 13 NATIVE FORB SPECIES. APPLY AT 40.95 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
ANDROPOGON GERARDII	BIG BLUESTEM	12.00
BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA	16.00
CAREX SPP.	PRAIRIE SEDGE SPECIES	3.00
ELYMUS CANADENSIS	CANADA WILD RYE	24.00
PANICUM VIRGATUM	SWITCH GRASS	2.50
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	32.00
SORGHASTRUM NUTANS	INDIAN GRASS	12.00
	TOTAL	101.50

TEMPORARY COVER		
AVENA SATIVA	COMMON OAT 512.00	
	TOTAL	512.00

FORBS		
ASCLEPIAS SYRIACA	COMMON MILKWEED	1.00
ASCLEPIAS TUBEROSA	BUTTERFLY WEED	1.00
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	10.00
COREOPSIS LANCEOLATA	SAND COREOPSIS	6.00
ECHINACEA PURPUREA	BROAD-LEAVED PURPLE CONEFLOWER	8.00
HELIOPSIS HELIANTHOIDES	FALSE SUNFLOWER	0.25
MONARDA FISTULOSA	WILD BERGAMOT	0.50
PENSTEMON DIGITALIS	FOXGLOVE BEARD TONGUE	1.00
RATIBIDA PINNATA	YELLOW CONEFLOWER	4.00
RUDBECKIA HIRTA	BLACK-EYED SUSAN	8.00
SOLIDAGO SPECIOSA	SHOWY GOLDENROD	0.50
SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER	1.00
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
	TOTAL	41.75

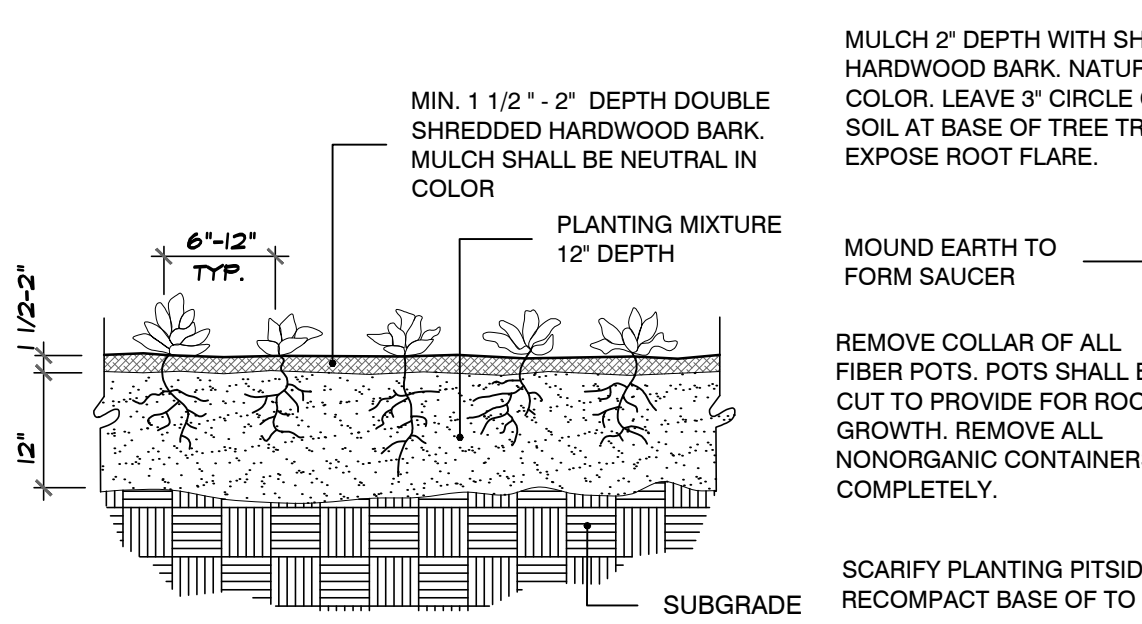
detention basin seed mix

A WETLAND SEED MIX FOR SATURATED SOILS IN A DETENTION POND OR FOR SEEDING A SATURATED BASIN. THIS MIX WILL TOLERATE HIGHLY FLUCTUATING WATER LEVELS AND POOR WATER QUALITY ASSOCIATED WITH URBAN STORMWATER WETLANDS AND PONDS. FOR DETENTION BASINS THAT EXPERIENCE LONG, DRY PERIODS, USE THE ECONOMY PRAIRIE SEED MIX IN THE UPPER THIRD TO HALF OF THE BASIN AREA IN COMBINATION WITH THIS MIX. THIS SEED MIX INCLUDES AT LEAST 10 OF 12 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 13 OF 17 NATIVE FORB SPECIES. APPLY AT 36.22 PLS POUNDS PER ACRE.

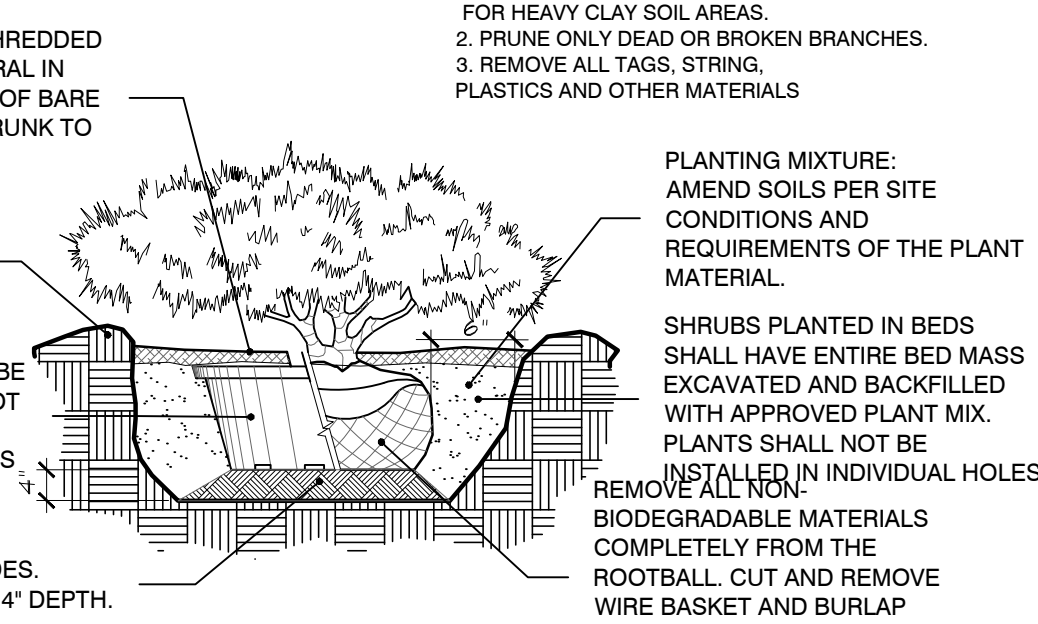
BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
BOLBOSCHOENUS FLUVIATILIS	RIVER BULRUSH	1.00
CAREX CRISTATELLA	CRESTED OVAL SEDGE	0.50
CAREX LURIDA	BOTTLEBRUSH SEDGE	3.00
CAREX VULPINOIDEA	BROWN FOX SEDGE	2.00
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	24.00
GLYCERIA STRIATA	FOWL MANNA GRASS	1.00
JUNCUS EFFUSUS	COMMON RUSH	1.00
LEERSIA ORYZOIDES	RICE CUT GRASS	1.00
PANICUM VIRGATUM	SWITCH GRASS	2.00
SCHOENOPLECTUS TABERNAEMONTANI	GREAT BULRUSH	3.00
SCIRPUS ATROVIRENS	DARK GREEN RUSH	2.00
SCIRPUS CYPERINUS	WOOL GRASS	1.00
	TOTAL	41.50

TEMPORARY COVER		
AVENA SATIVA	COMMON OAT	512.00
	TOTAL	512.00

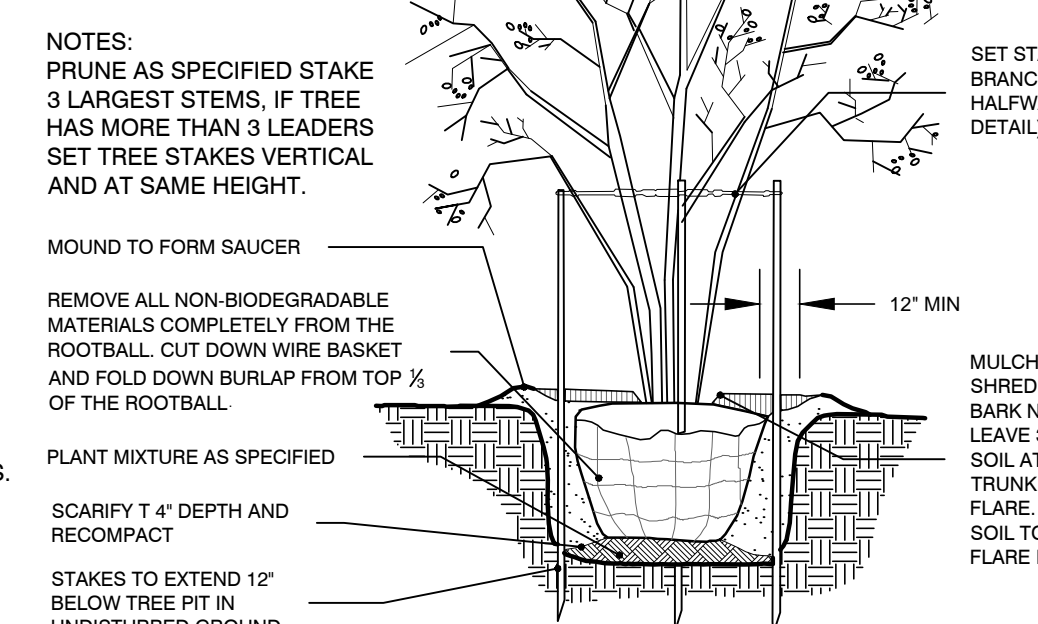
FORBS		
ALISMA SUBCORDATUM	COMMON WATER PLANTAIN	2.50
ASCLEPIAS INCARNATA	SWAMP MILKWEED	2.00
BIDENS SPP. BIDENS	SPECIES	2.00
EUPATORIUM PERFOROLIATUM	COMMON BONESET	1.00
HELIENIUM AUTUMNALE	SNEEZEWEED	2.00
IRIS VIRGINICA V. SHREVEI	BLUE FLAG	4.00
LYCOPUS AMERICANUS	COMMON WATER HOREHOUND	0.50
MIMULUS RINGENS	MONKEY FLOWER	1.00
PENTHORUM SEDOIDES	DITCH STONECROP	0.50
PERSICARIA SPP.	PINKWEED SPECIES	2.00
RUDBECKIA SUBTOMENTOSA	SWEET BLACK-EYED SUSAN	1.00
RUDBECKIA TRILOBA	BROWN-EYED SUSAN	1.50
SAGITTARIA LATIFOLIA	COMMON ARROWHEAD	1.00
SENNA HEBECARPA	WILD SENNA	2.00
SYMPHYOTRICHUM LANCEOLATUM	PANICLED ASTER	0.50
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
THALICTRUM DASYCARPUM	PURPLE MEADOW RUE	2.00
	TOTAL	26.00



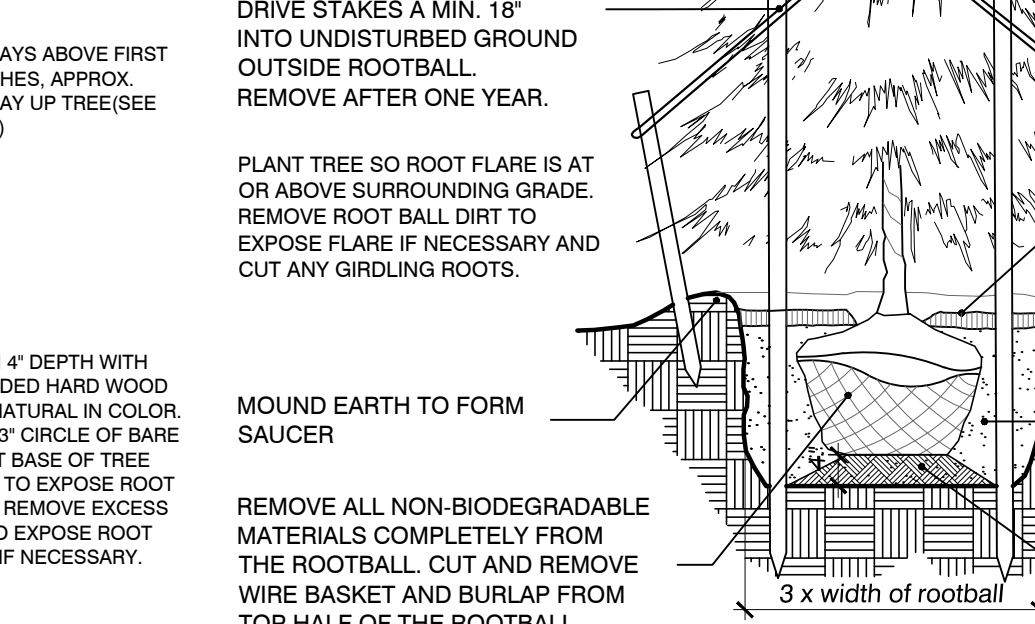
perennial planting detail
no scale



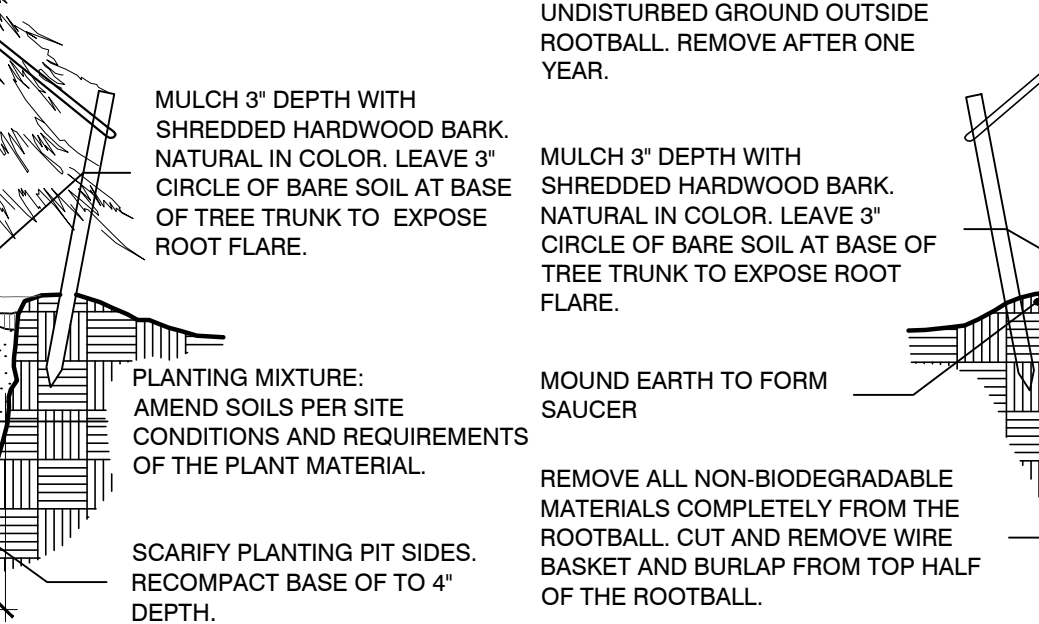
shrub planting detail
no scale



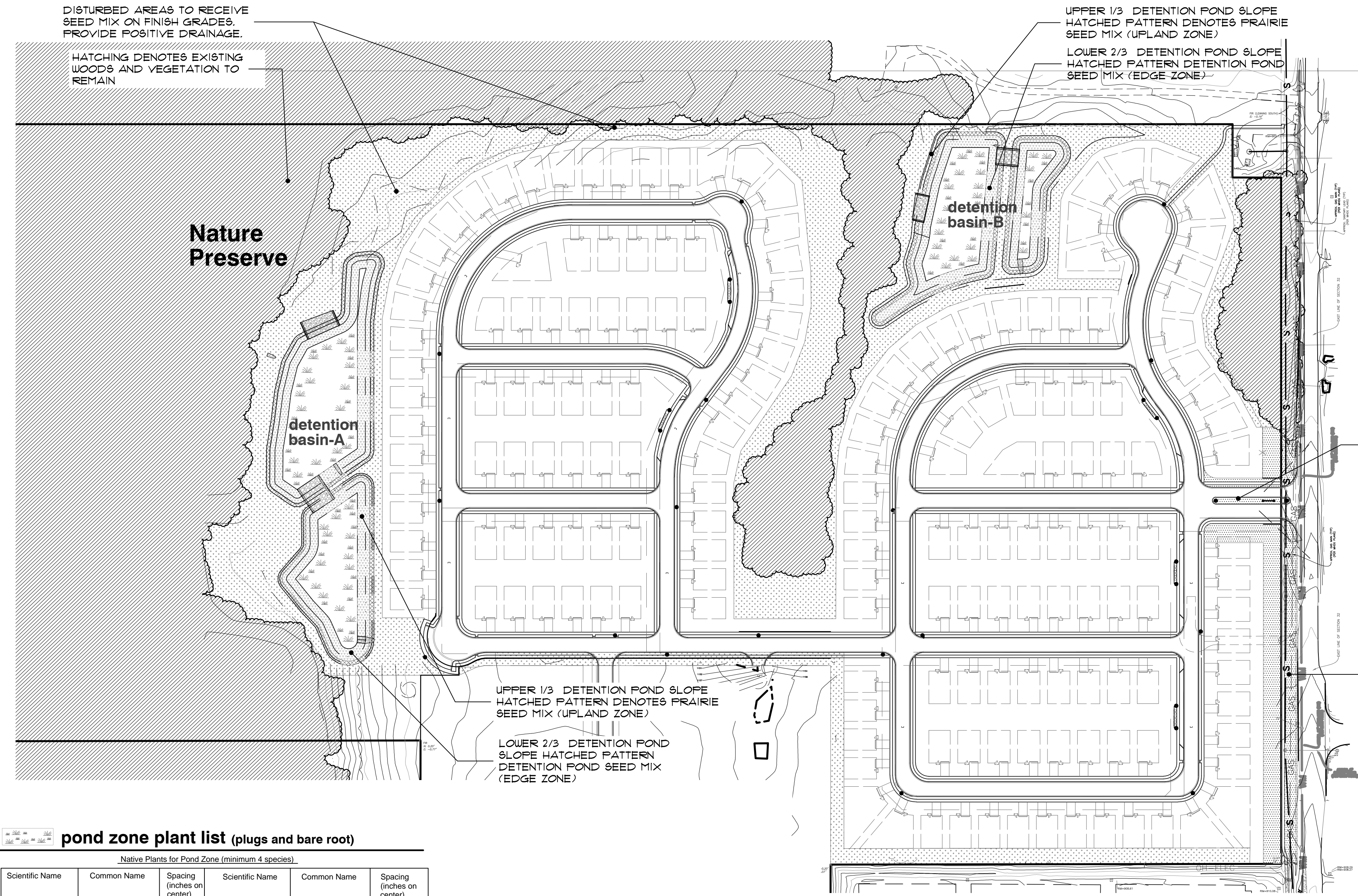
multi-stem planting detail
no scale



evergreen planting detail
no scale



tree planting detail
no scale



pond zone plant list (plugs and bare root)

Scientific Name	Common Name	Spacing (inches on center)	Scientific Name	Common Name	Spacing (inches on center)
Acorus calamus	Sweet flag	24	Polygonum amphibium	Water knotweed	36
Carex lacustris	Common lake sedge	24	Pontederia cordata	Pickertel weed	24
Cephalanthus occidentalis	Butterbush	5 feet	Potamogeton natans	Common pondweed	36
Decodon verticillatus	Swamp Loosteifre	24	Potamogeton pectinatus	Sago pondweed	36
Elochea canadensis	Common waterweed	36	Sagittaria latifolia	Common arrowhead	24
Hibiscus laevis	Halberd-leaved rose mallow	24	Scirpus acutus	Hard-stemmed bulrush	18
Hibiscus palustris	Swamp rose mallow	24	Scirpus atrovirens	Dark green rush	18
Tris virginica shrevei	Blue flag iris	18	Scirpus cyperinus	Wool grass	24
Justicia americana	Water willow	5 feet	Scirpus fluviatilis	River bulrush	18
Nelumbo lutea	Lotus	48	Scirpus validus creber	Great bulrush	18
Nuphar advena	Yellow pond lily	36	Sparganium americanum	American bur reed	18
Nymphaea tuberosa	White water lily	36	Sparganium eurycarpum	Common bur reed	18
Peltandra virginica	Arrow arum	18	Vallisneria spiralis	Tea grass	36

Note: Plant species selected should cover 25% of the pond zone and should also cover the range of water depths within the pond zone (2ft to 3ft). (For example, 4 plant species may not all be placed at an 18ft water depth covering 25% of the pond zone.)

- NOTE:**
- SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE. IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
 - PRUNE ONLY DEAD OR BROKEN BRANCHES.
 - REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS.

- NOTES:**
- PRUNE AS SPECIFIED STAKE 3 LARGEST STEMS. IF TREE HAS MORE THAN 3 LEADERS SET TREE STAKES VERTICAL AND AT SAME HEIGHT.
 - REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT DOWN WIRE BASKET AND FOLD DOWN BURLAP FROM TOP 1/2 OF THE ROOTBALL.
 - PLANT MIXTURE AS SPECIFIED.
 - SCARIFY 4" DEPTH AND RECOMPACT.
 - STAKES TO EXTEND 12" BELOW TREE PIT IN UNDISTURBED GROUND.

5A sod, irrigation and seeding reference plan

SCALE: 1" = 60'-0"

hatch pattern legend

- AREAS TO RECEIVE IRRIGATION AND SOD, MAINTAINED AND MOVED WEEKLY
- AREAS TO RECEIVE LAWN SEEDING
- AREAS TO RECEIVE PRAIRIE SEED MIX (NO MOWED AREA)
- AREAS TO RECEIVE DETENTION POND SEED MIX

lawn area:

SOD LAWN AREAS SHALL BE KENTUCKY BLUE GRASS BLEND GRASS IN A SOD NURSERY ON LOAM SOIL. SOD TO BE INSTALLED ON MINIMUM 4" TOPSOIL.

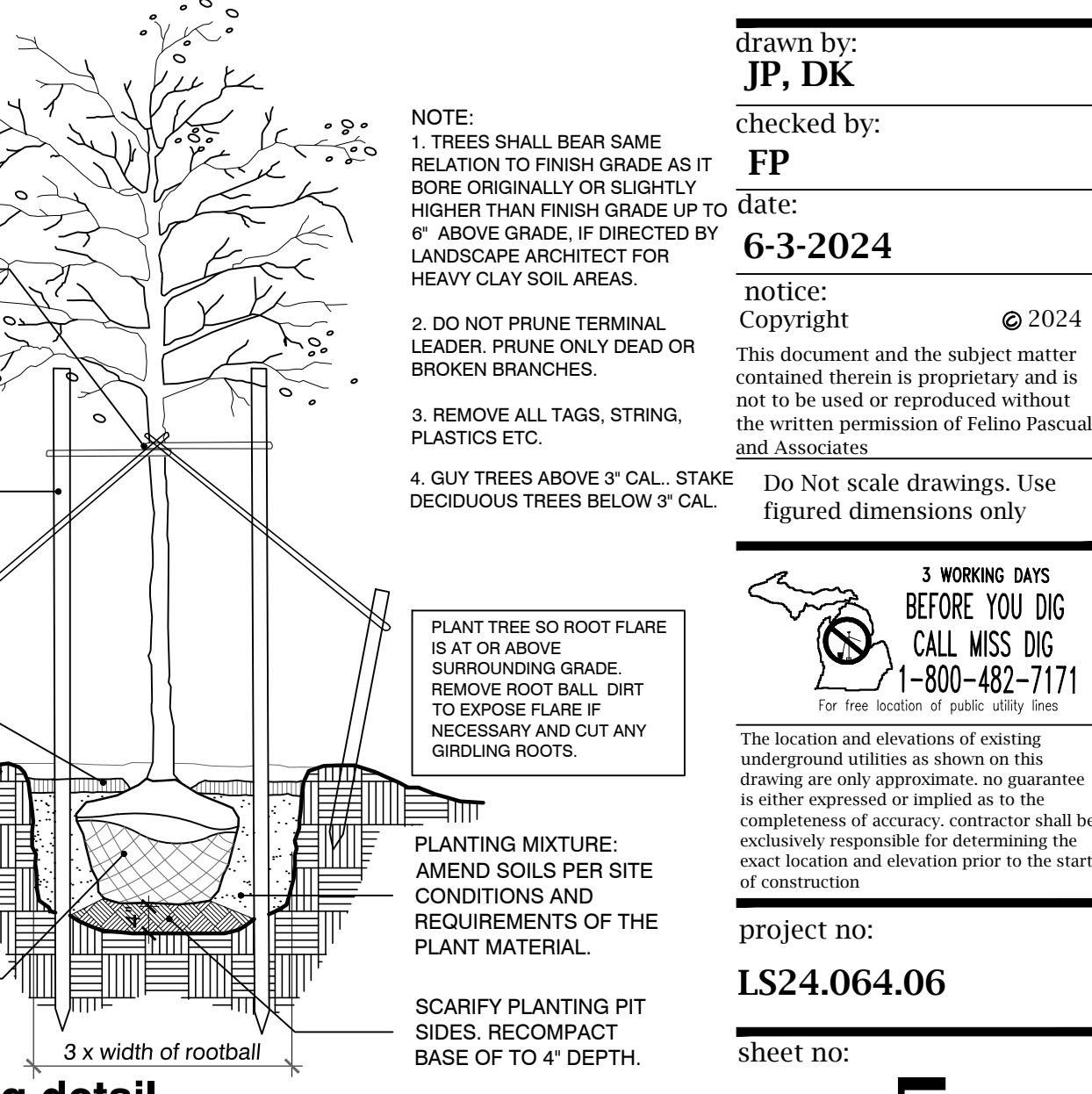
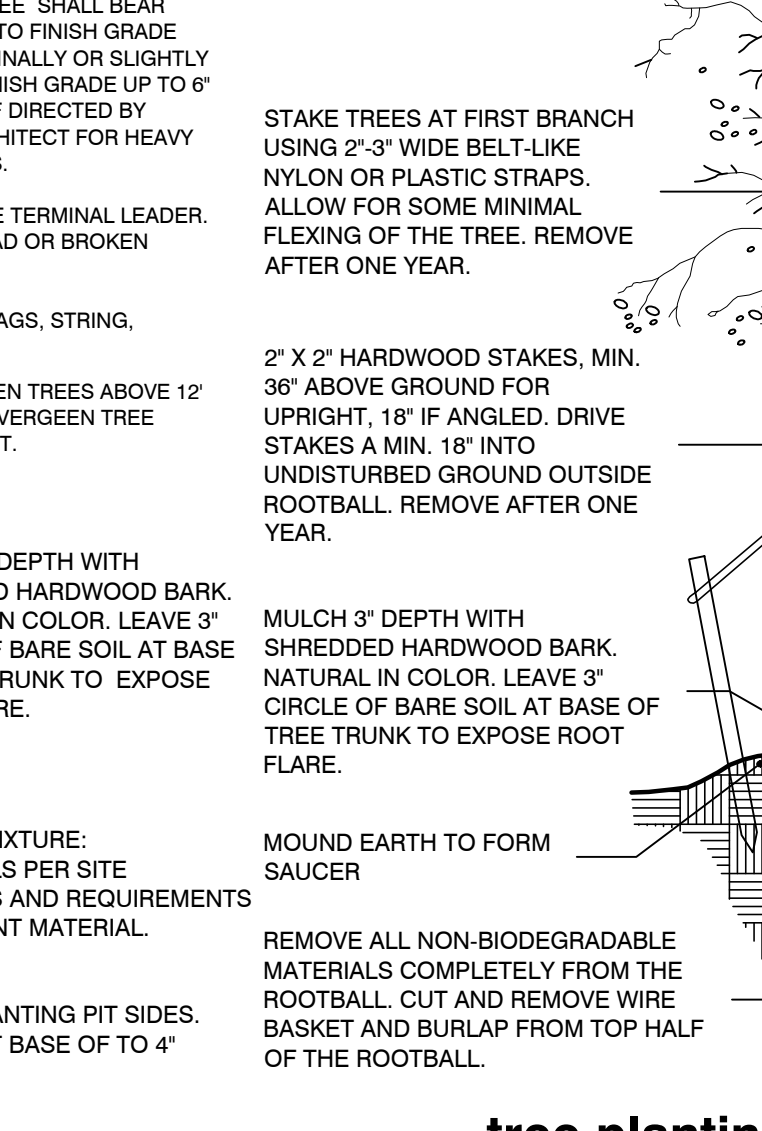
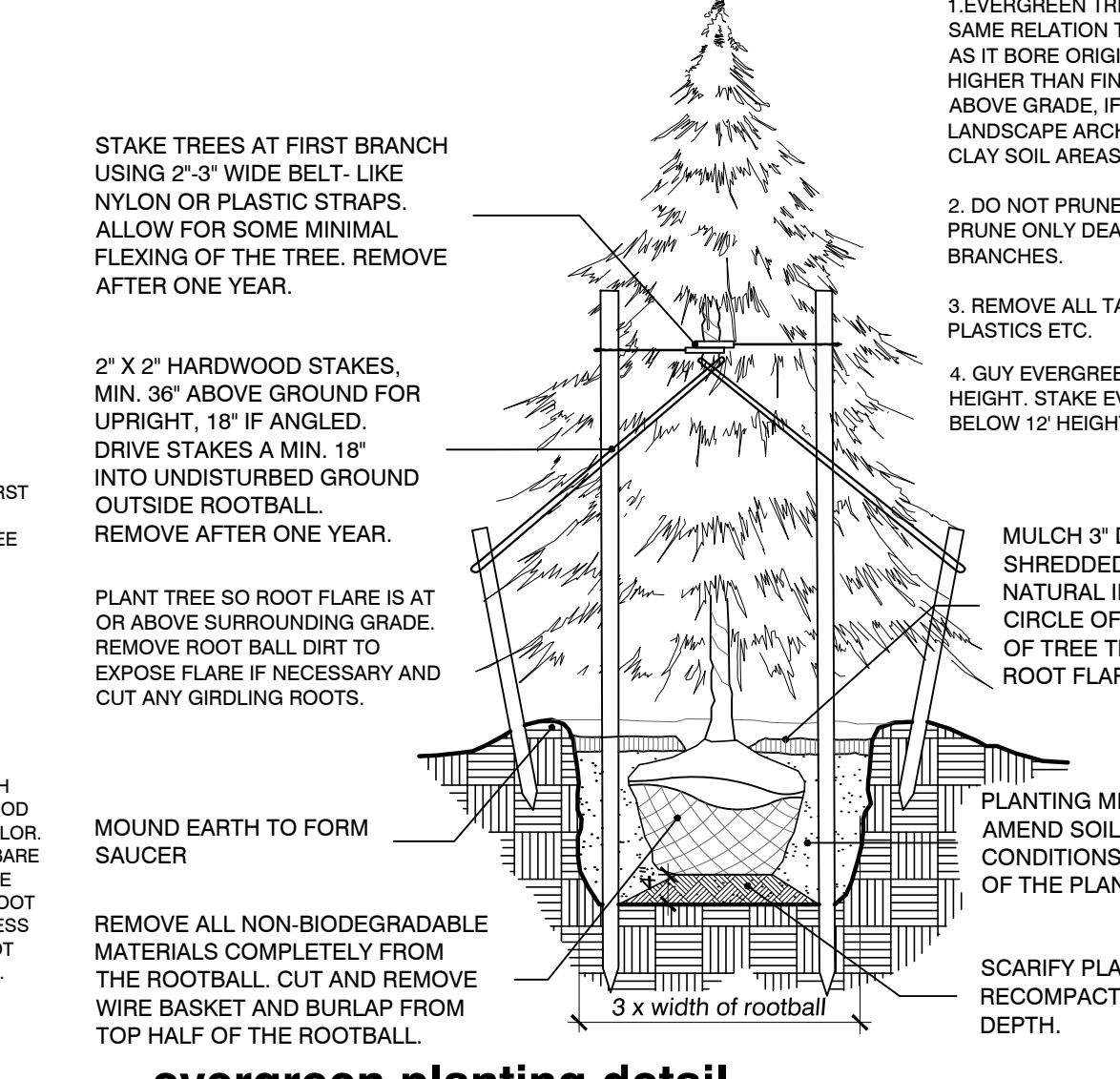
SEEDED LAWN AREAS SHALL CONSIST OF THE FOLLOWING TYPES AND PROPORTIONS:

- 5% PERENNIAL RYE GRASS
- 10% RED FESCUE
- 25% CHEWING FESCUE
- 60% KENTUCKY BLUE GRASS

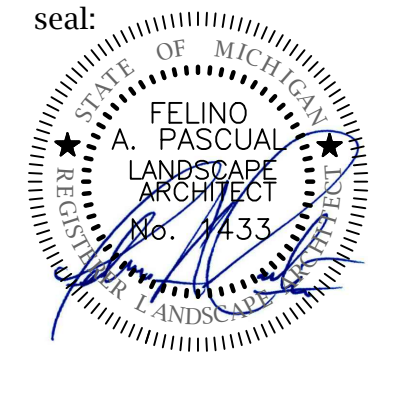
SEED MIX SHALL BE APPLIED AT A RATE OF 200 POUNDS PER ACRE AND LEED CONTENT SHALL NOT EXCEED 1%. SEED, PROVIDE A MINIMUM 4" TOP SOIL ON ALL SEEDED LAWN AREA.

NOTE:

- EVERGREEN TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE. IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
- DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.
- REMOVE ALL TAGS, STRING, PLASTICS ETC.
- GUY EVERGREEN TREES ABOVE 12' HEIGHT. STAKE EVERGREEN TREE BELOW 12' HEIGHT.



FP A
FELINO A. PASCUAL and ASSOCIATES
Community Land Planner and registered Landscape Architect
24333 Orchard Lake Rd, Suite G
Farmington Hills, MI 48336
ph. (248) 557-5388
fax. (248) 557-5416



client:
BURKHART MASON COMMUNITY LLC.
29350 Woodward
Avenue Royal Oak, Michigan

project:
HERITAGE SQUARE
A PLANNED RESIDENTIAL COMMUNITY

project location:
Howell Township, Michigan
Burkhart Road & Mason Road

sheet title:
SOD AND SEEDING REFERENCE PLAN

job no./issue/revision date:
LS24.064.06 REVIEW 7-1-2024
LS24.064.09 SPA 9-19-2024
LS24.064.12 SPA 12-20-2024

drawn by:
JP, DK

checked by:
FP

date:
6-3-2024

notice:
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CALL MISS DIG
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For free location of public utility lines

The location and elevations of existing underground utilities as shown on this drawing are only approximate; no guarantee is either expressed or implied as to the completeness of accuracy; contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:
LS24.064.06

sheet no:
LS-5 of 5



DENSITY AND UNIT COUNT

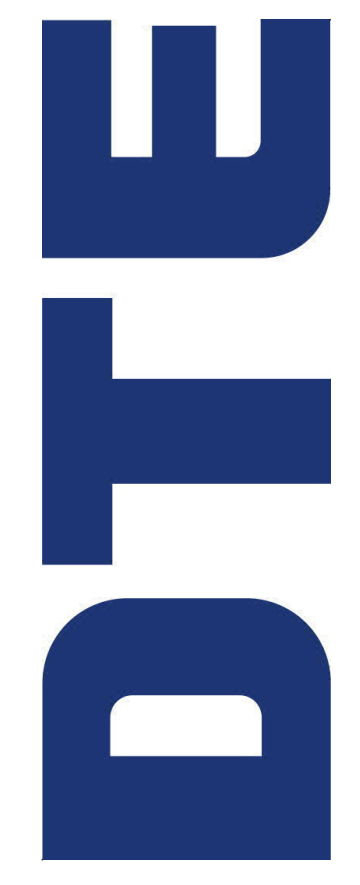
TOTAL SITE AREA: 92 ACRES
 AREA CURRENTLY ZONED SFR: 25.8 AC (24.0 AC UPLAND)
 AREA CURRENTLY ZONED MFR: 65.2 AC (44.4 AC UPLAND)
 OPEN SPACE REQUIRED (27.07 E)
 10% OF TOTAL LAND AREA EXCLUSIVE OF WATER SURFACES
 10% * (68.4 ACRES UPLAND) = 6.84 ACRES
 OPEN SPACES PROVIDED = 8.48 ACRES (11.9% OF UPLAND AREA)
 ALLOWED DENSITY (27.07 A)
 UPLAND AREA SFR = 24.0 ACRES
 REDUCED 10% FOR REQUIRED OPEN SPACE = 21.6 ACRES
 SFR = 3.0 UNITS/ACRE x 1.25 = 3 x 21.6 = 64.8 UNITS
 UPLAND AREA MFR = 44.4 ACRES
 REDUCED 10% FOR REQUIRED OPEN SPACE = 40 ACRES
 MFR = 12 UNITS/ACRE x 1.25 = 12 x 40 = 480 UNITS
 TOTAL ALLOWED UNITS = 544.8
 UNITS PROPOSED
 SINGLE FAMILY UNITS: 176 PROPOSED
 MULTI-FAMILY UNITS: 288 PROPOSED
 35-3 BR / 2 BA - RANCH STYLE TOWNHOMES
 81-2 BR / 2.5 BA - 2 STORY TOWNHOMES
 40-1 BR / 1 BA - GARDEN STYLE APARTMENTS
 112-3 BR / 2.5 BA - 2 STORY TOWNHOMES W/ GARAGE
 3- STORY SENIOR LIVING BUILDING - APPROX. 90 UNITS
 TOTAL: 554 RESIDENTIAL UNITS

PHASING PLAN

SF PHASE 1 (2023)
 SINGLE FAMILY UNITS: 46 HOMES
 PHASE 2 (2024-2025)
 SINGLE FAMILY UNITS: 30 HOMES
 MF PHASE 2 (2024)
 MULTI-FAMILY UNITS: 107 UNITS
 19-3 BR / 2 BA - RANCH STYLE TOWNHOMES
 40-1 BR / 1 BA - GARDEN STYLE APARTMENTS
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 ALSO BUILD OUT CLUBHOUSE, MAIN ROADS, PARK, AND AMENITIES, AND SECOND WATER MAIN CONNECTION.
 SF PHASE 3 (2026)
 SINGLE FAMILY UNITS: 29 HOMES
 MF PHASE 3 (2026)
 MULTI-FAMILY UNITS: 100 UNITS
 36-3 BR / 2 BA - RANCH STYLE TOWNHOMES
 64-3 BR / 2.5 BA - 2 STORY TOWNHOMES W/ GARAGE
 SF PHASE 4 (2027)
 SINGLE FAMILY UNITS: 21 HOMES
 MF PHASE 4 (2028)
 MULTI-FAMILY UNITS: 81
 81-2 BR / 2.5 BA - 2 STORY TOWNHOMES
 SF PHASE 5 (2028)
 SINGLE FAMILY UNITS: 23 HOMES
 MF PHASE 5 (2026 - 2028) - ACTUAL BUILD YEAR TBD
 3- STORY SENIOR LIVING BUILDING - APPROX. 90 UNITS
 SF PHASE 6 (2029)
 SINGLE FAMILY UNITS: 27 HOMES

PHASING PLAN - OVERVIEW

DATE: 5/01/24
 CLIENT: MICHIGAN DEPARTMENT OF TRANSPORTATION
 PROJECT: HERITAGE SQUARE STREET LIGHTING PLAN 4
 SCALE: 1" = 130'



#	Date	Comments

Drawn By: M. Valascho
 Checked By:
 Date: 9/16/2024
 Scale:

Heritage Square Street Lighting Plan 4
 DTE Community Lighting Group

Site Plan_Pole Placements
 Scale: 1 inch= 130 Ft.



DENSITY AND UNIT COUNT

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 SINGLE FAMILY UNITS: 27 HOMES

PHASING PLAN - OVERVIEW

DATE	5/01/24
PLAN SUBMITTAL/REVISIONS	
SITE PLAN SUBMITTAL	
PROJECT	
SCALE	
FIELD	
DRAWN BY	
DESIGN BY	
CHECKED BY	



#	Date	Comments

Drawn By: M. Valascho
 Checked By:
 Date: 9/16/2024
 Scale:

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 DTE Community Lighting Group

Site Plan_Photometric Layout
 Scale: 1 inch= 130 Ft.

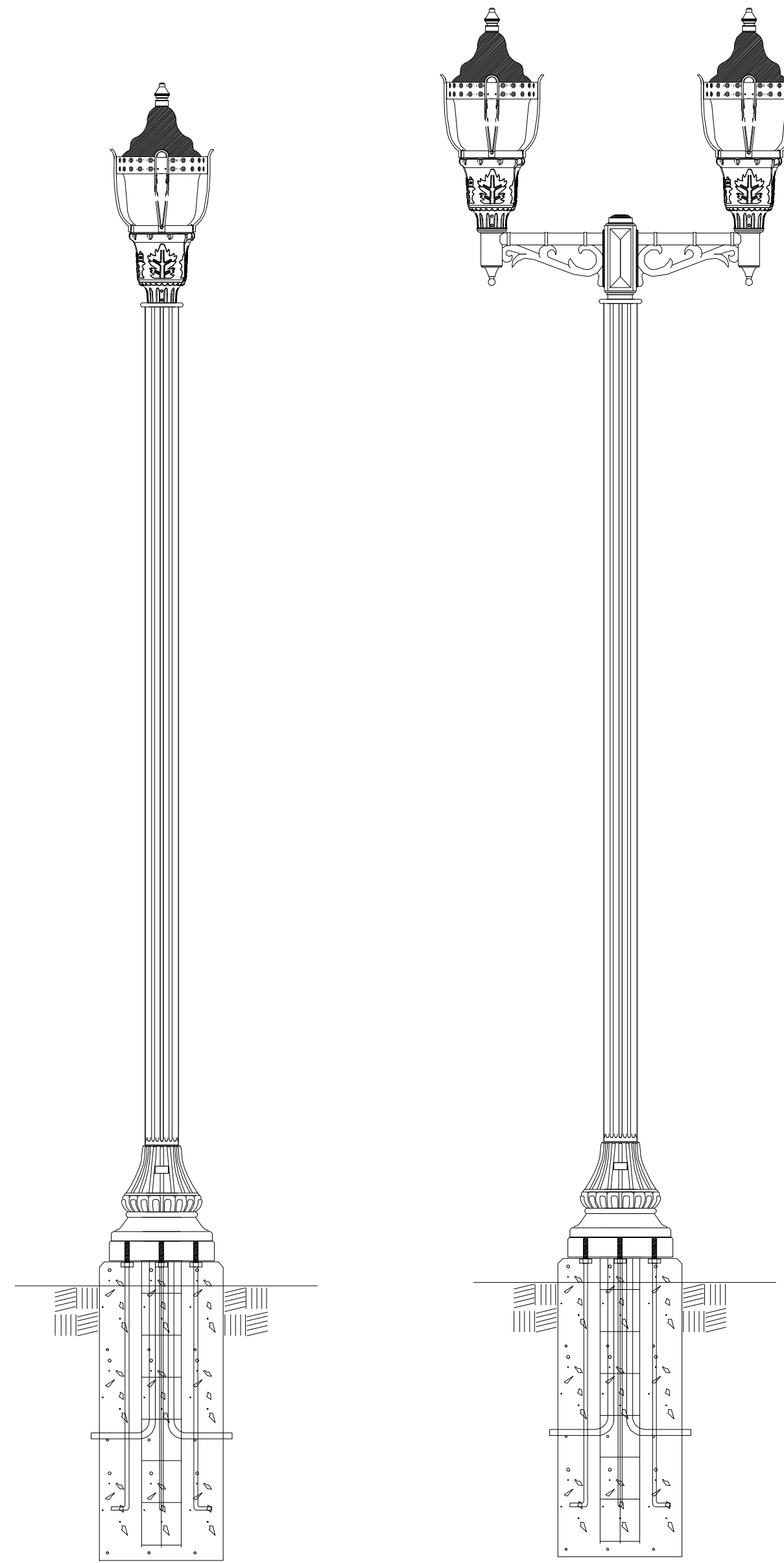


Photometric Layout

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall_Horizontal	Illuminance	Fc	0.01	1.7	0.0	N.A.	N.A.

Isoline Legend	
Illuminance (Fc)	
Color	Value
■	0.1
■	0.5
■	1

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Mounting Height
	1	39W LED_GVD3_FULL COVER_DUAL (0, 180)	Back-Back	14.9
	1	39W LED_GVD3_FULL COVER_DUAL (FWD)	Twin	14.9
	30	39W LED_GVD3_FULL COVER_SINGLE	Single	14

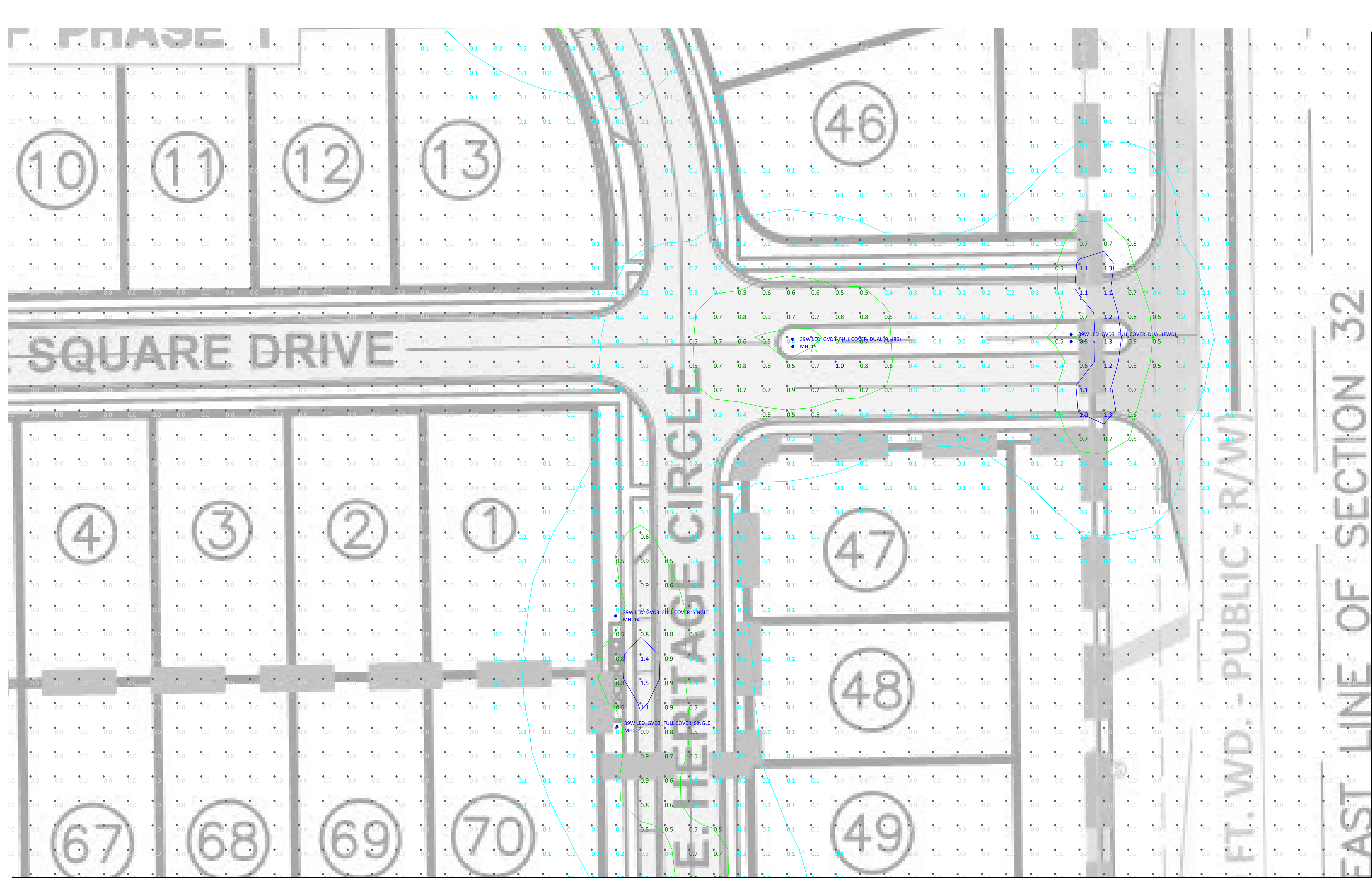


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Revisions		

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 Scale:

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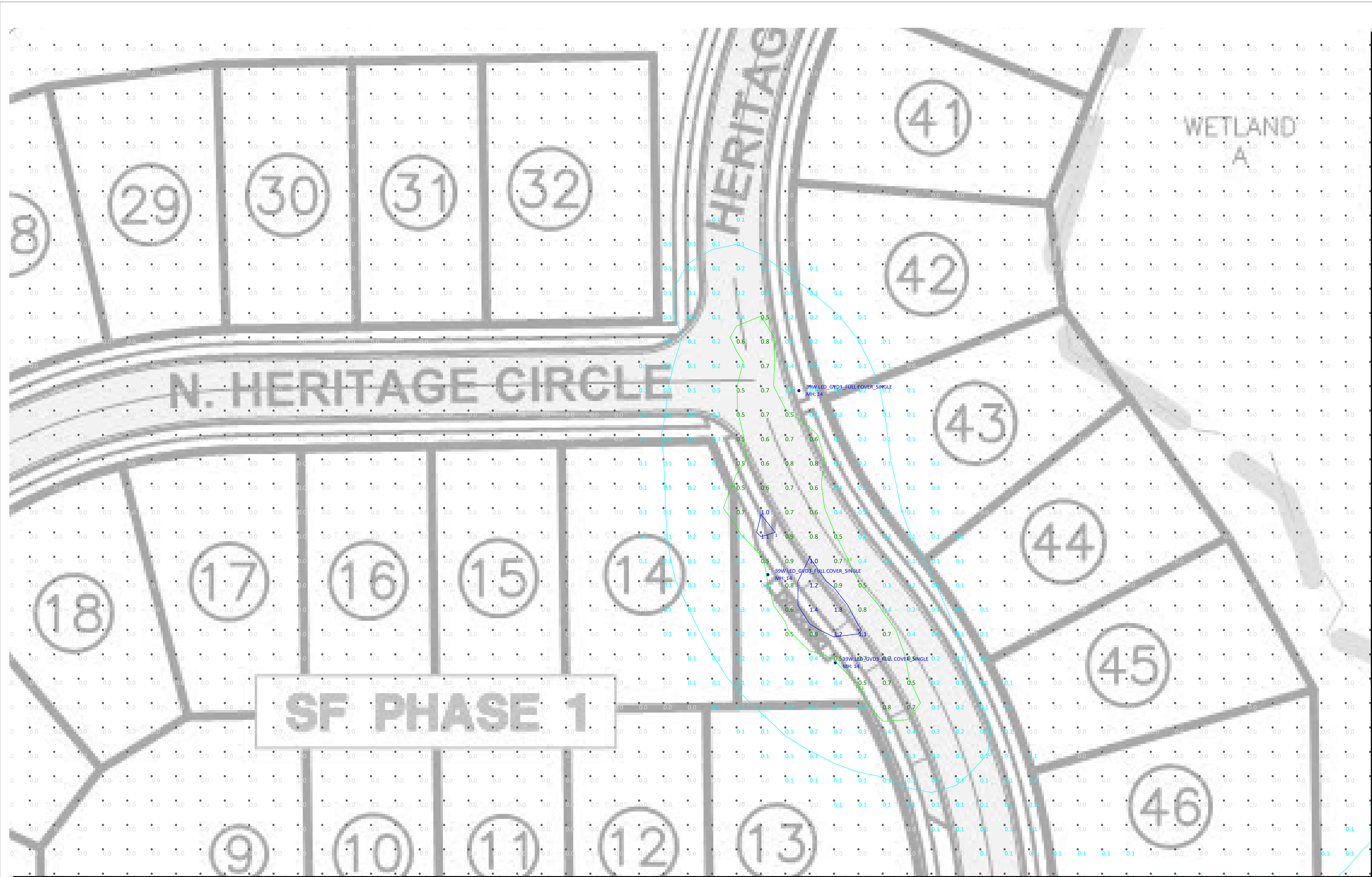
Plan View 1

DTE

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Revisions		

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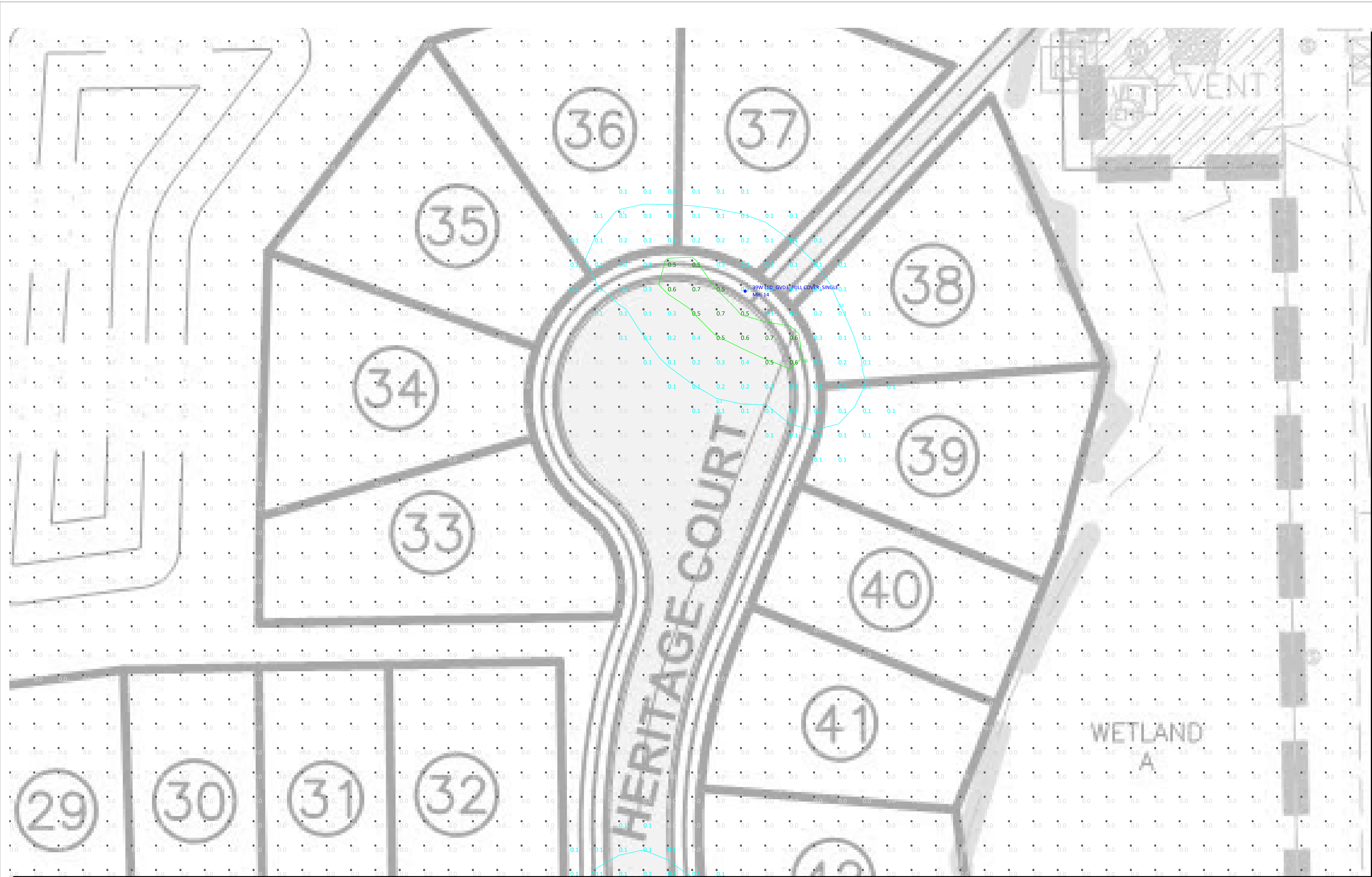
Plan View 2

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 Date: 9/16/2024
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Heritage Square Street Lighting Plan 4
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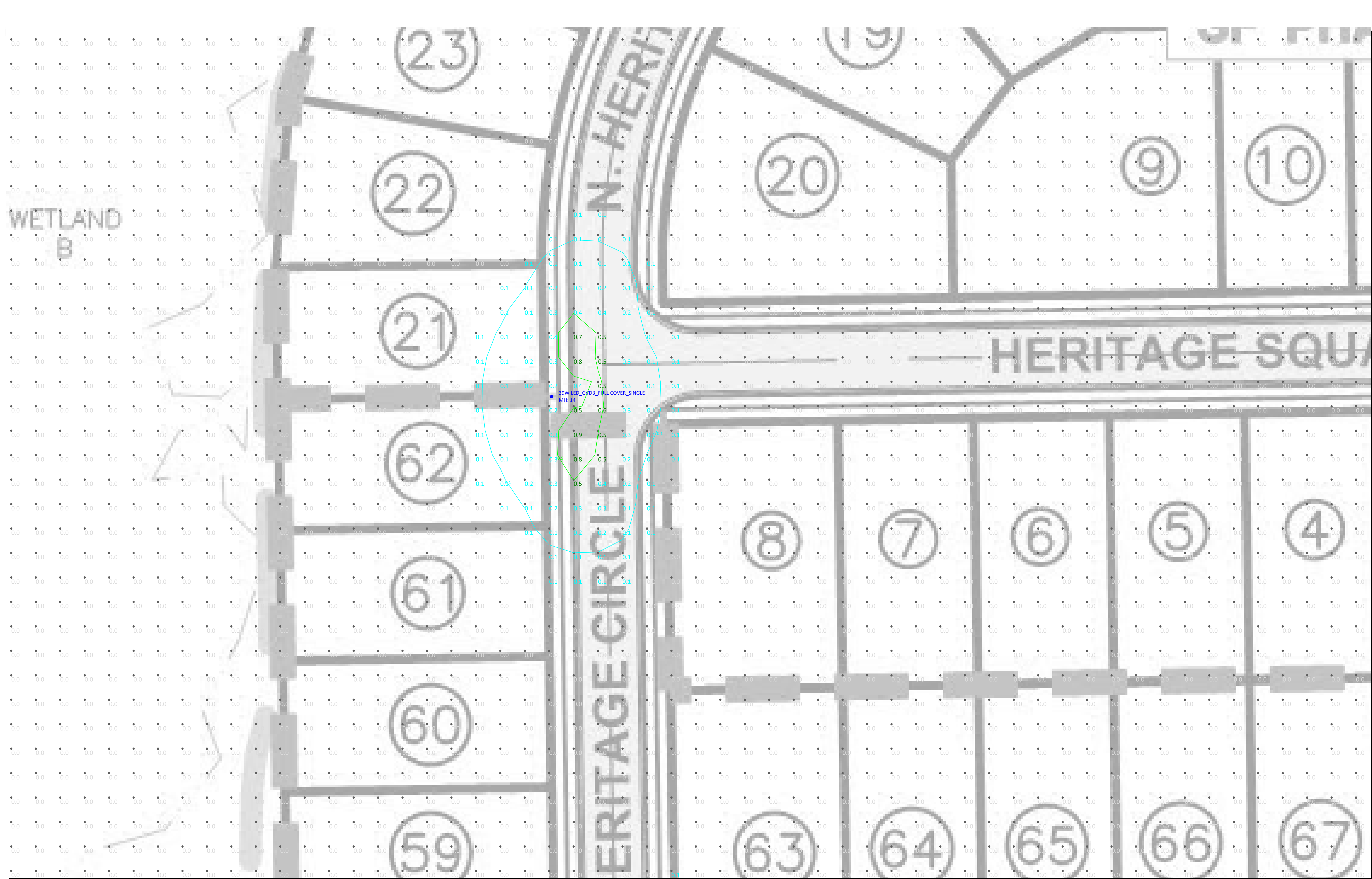
Plan View 3

DTE

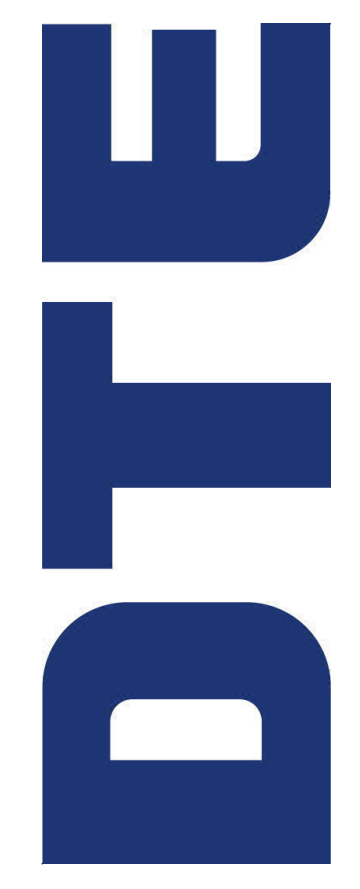
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Drawn By: M. Valascho
Checked By:
Date: 9/16/2024
Scale:

Heritage Square Street Lighting Plan 4
DTE Community Lighting Group



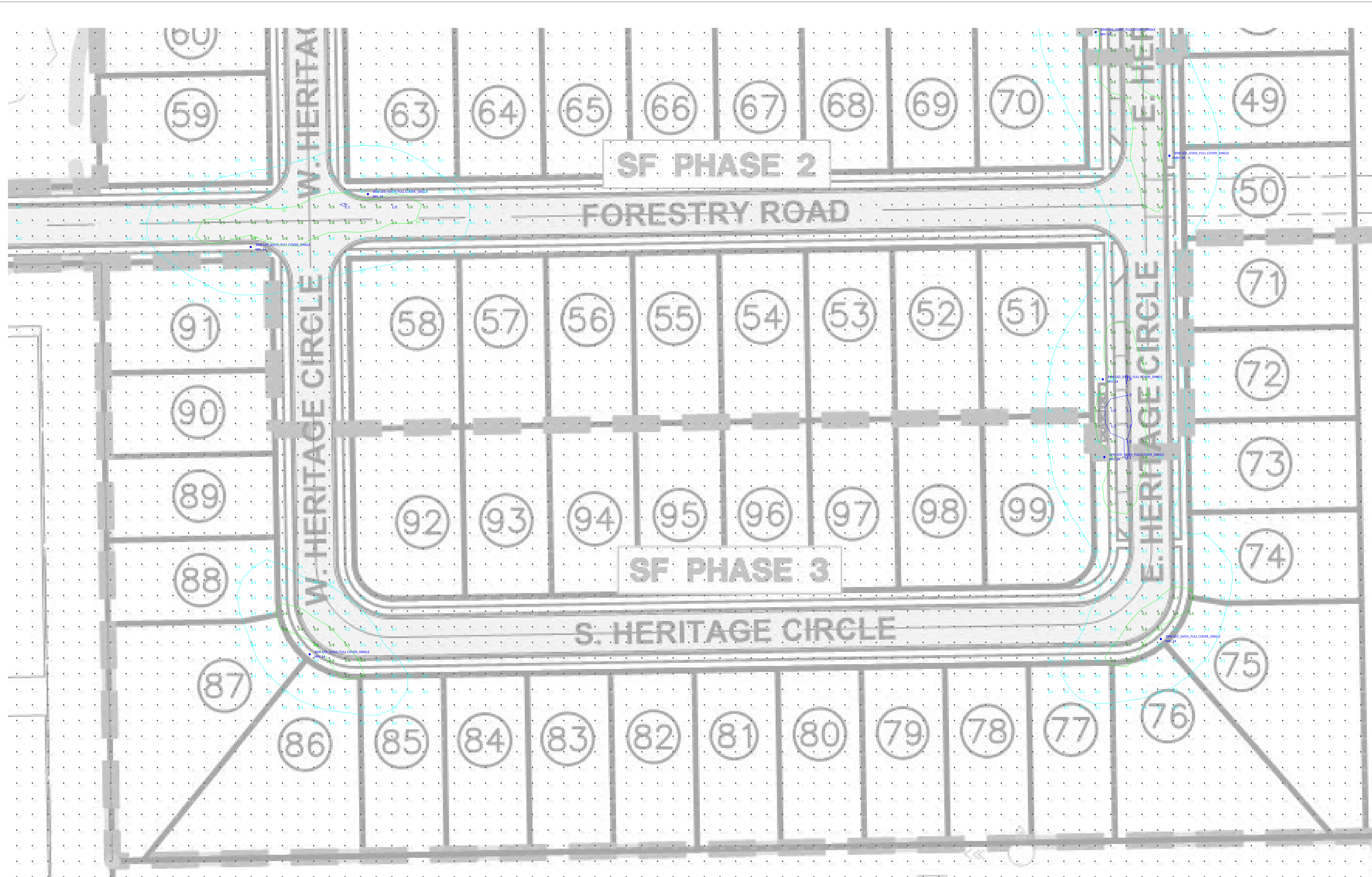
Plan View 4



#	Date	Comments

Revisions	

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Checked By:	
Date: 9/16/2024	DTE Community Lighting Group
Scale:	



Plan View 5

Date Comments

Revisions

Drawn By: M. Valascho

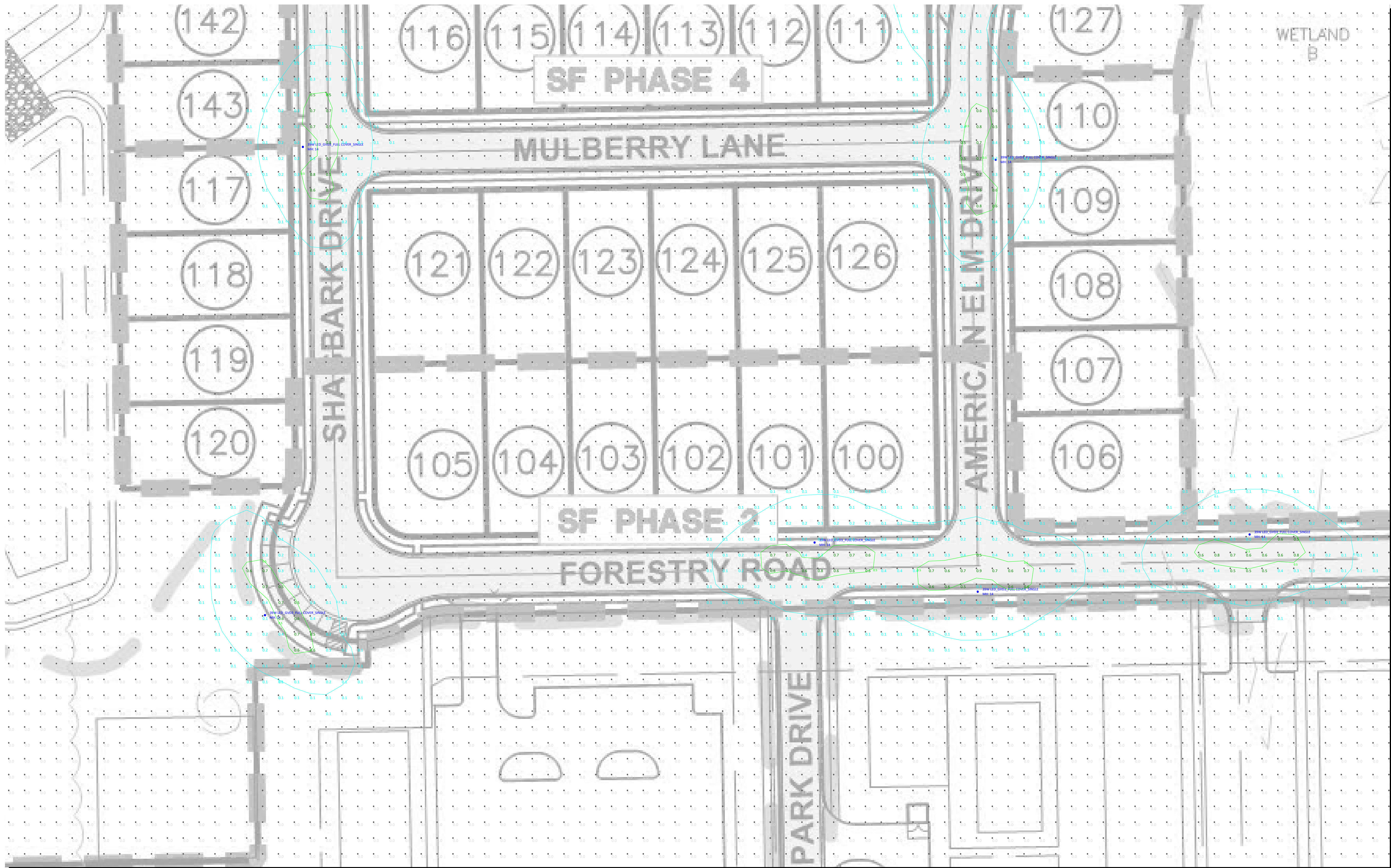
Checked By:

Date: 9/16/2024

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Heritage Square Street Lighting Plan 4

DTE Community Lighting Group



Plan View 6

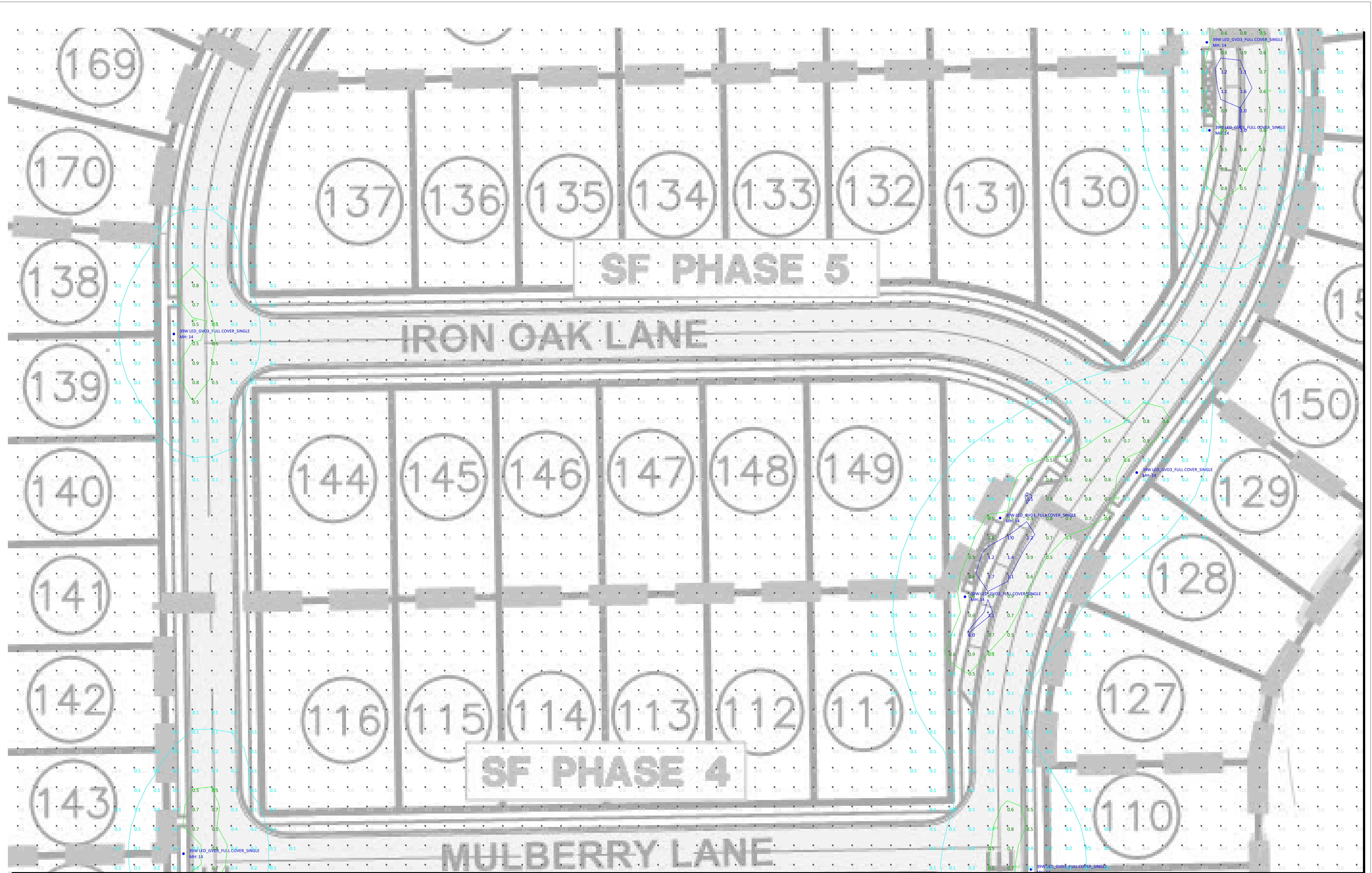


#	Date	Comments

Revisions

Drawn By: M. Valascho
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 Date: 9/16/2024
 Scale:

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 DTE Community Lighting Group



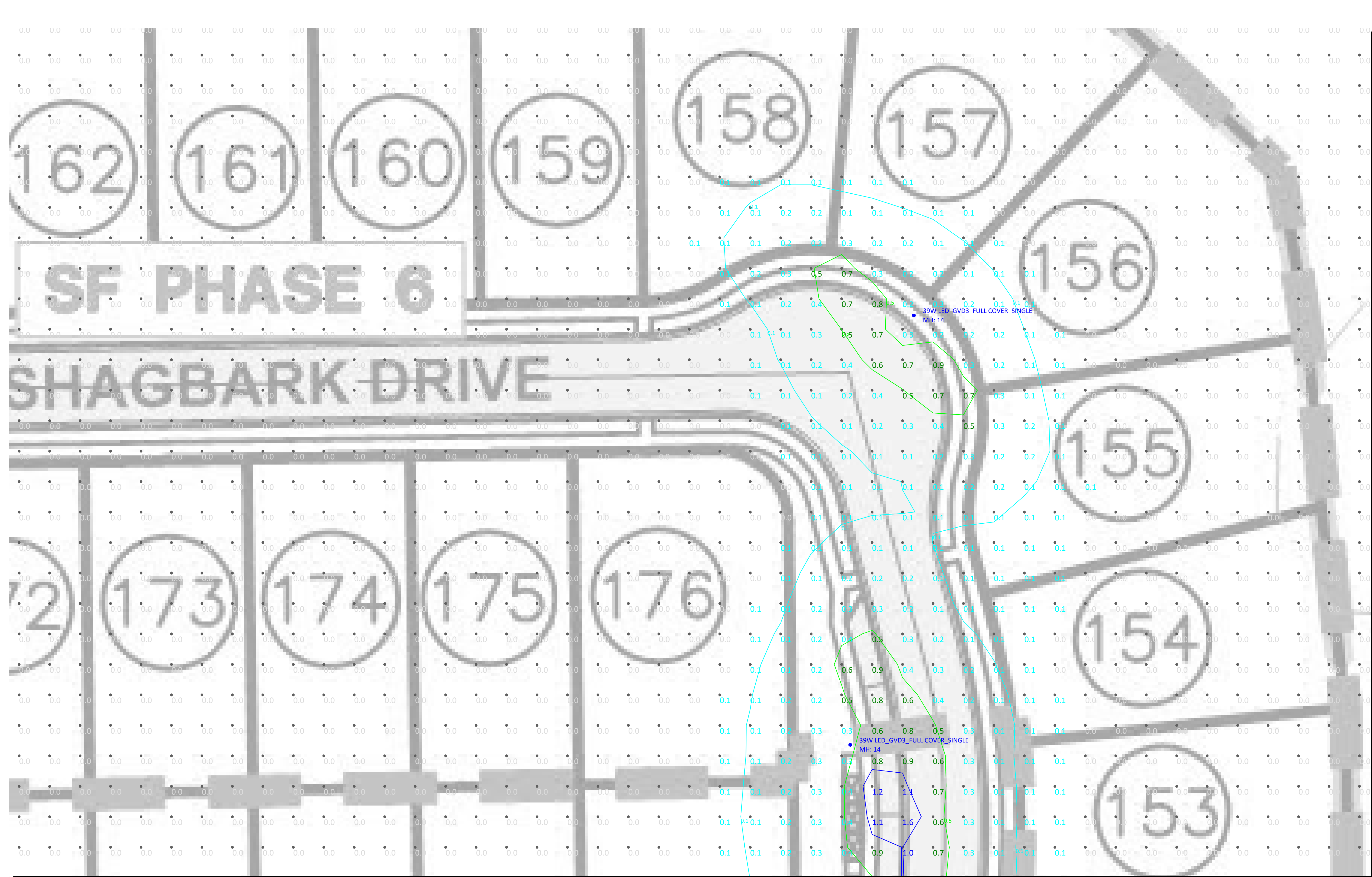
Plan View 7



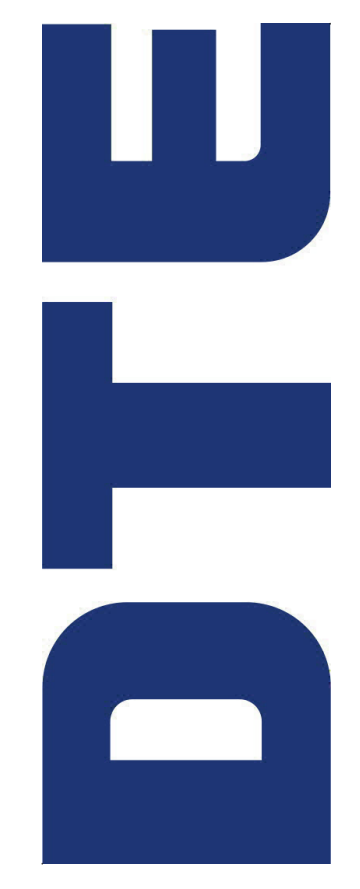
#	Date	Comments

Drawn By:	Checked By:	Date:
M. Valascho		9/16/2024

Heritage Square Street Lighting Plan 4	DTE Community Lighting Group
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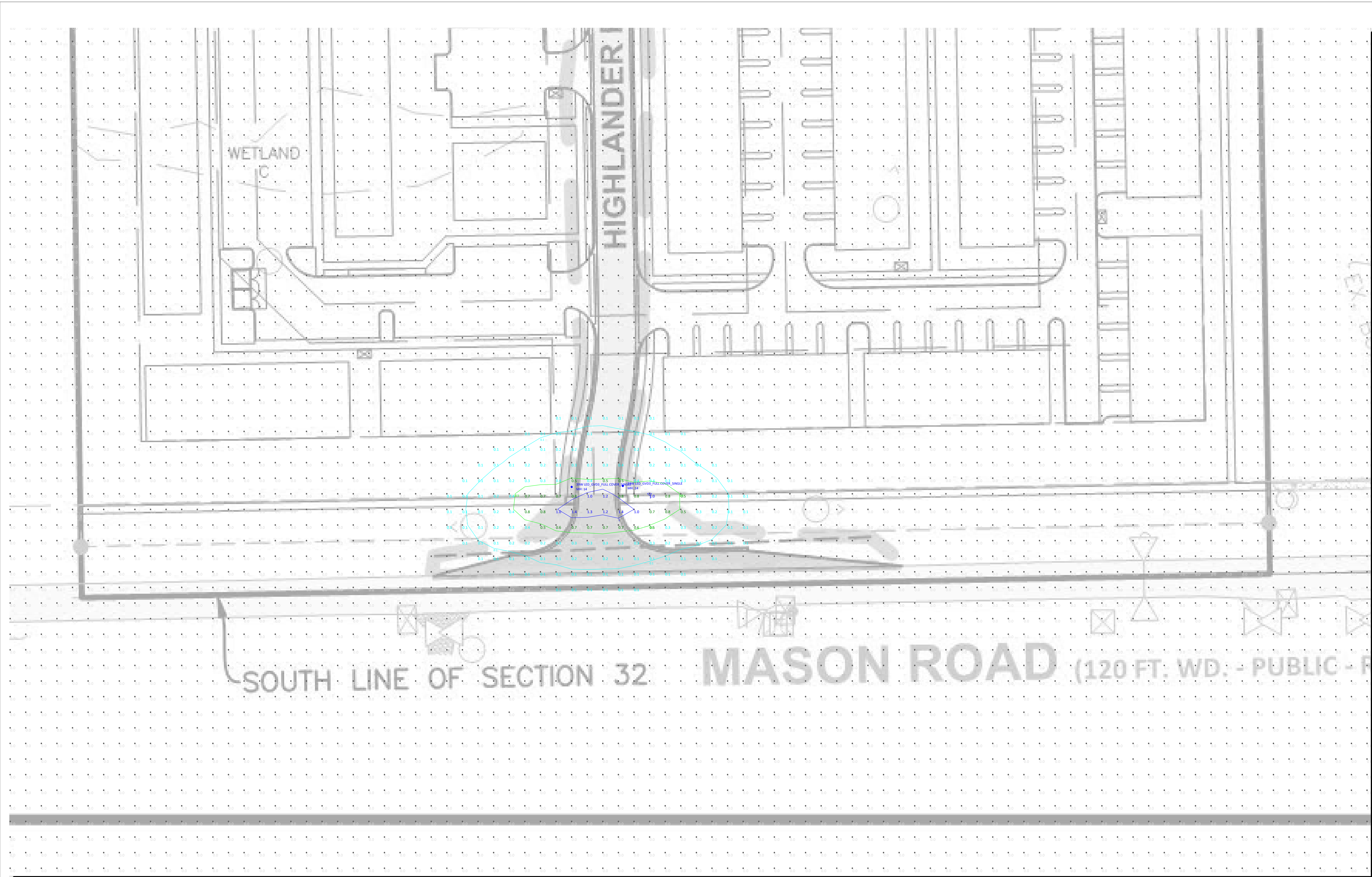
Plan View 8



#	Date	Comments

Drawn By: M. Valascho
Checked By:
Date: 9/16/2024
Scale:

Heritage Square Street Lighting Plan 4
DTE Community Lighting Group



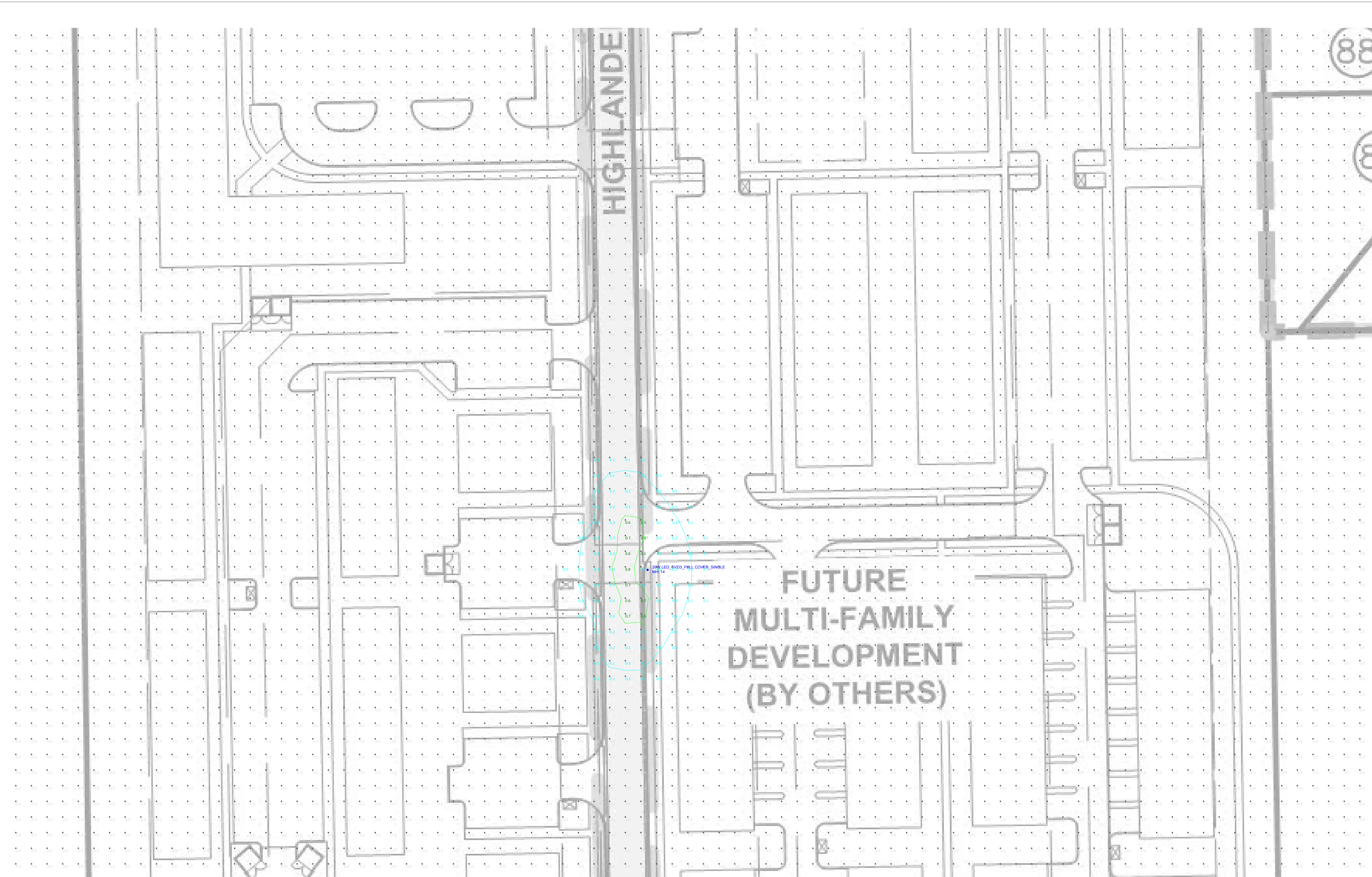
Plan View 9

DTE

#	Date	Comments
Revisions		

Drawn By: M. Valascho
 Checked By:
 Date: 9/16/2024
 Scale:

Heritage Square Street Lighting Plan 4
 DTE Community Lighting Group



Plan View 10



#	Date	Comments
Revisions		

Drawn By: M. Valascho
 Checked By:
 Date: 9/16/2024
 Scale:

Heritage Square Street Lighting Plan 4
 DTE Community Lighting Group

8E


HOWELL TOWNSHIP
Request for Amendment to Approved Site Plan

3525 Byron Road Howell, MI 48855
Phone: 517-546-2817 ext. 108
Email: inspector@howelltownshipmi.org

Fee: \$350.00, submitted with application

Parcel ID #: 4706- <u>32</u> - <u>400</u> - <u>013</u>	Date <u>12/18/24</u>
Location of Property <u>North of Mason Rd, West of Burkhart Rd. Northwest of Chestnut Crossing</u>	
Applicant Name <u>David Straub - M/I Homes</u>	Applicant Address <u>40950 Woodward Ave, Ste 203</u>
Phone <u>248-221-5011</u>	Fax _____ Email <u>dstraub@mihomes.com</u>
Type/Nature of Business <u>Builder/Developer</u>	
Property Owner Name/Title <u>Bruce Michael - Mason and Burkhart LLC</u>	
Phone <u>248-703-4653</u>	Fax _____ Email <u>brucemich@gmail.com</u>

Briefly state a description of the amendment requested and minimums required. Attach drawings or other pertinent information for review.
Increase the maximum lot coverage ratio from 30% to 40%

Applicant Signature 

Date 12/18/24

Owner Signature SEE OWNER AUTHORIZATION LETTER

Date _____

May 15, 2024

To: Howell Township
Livingston County
State of Michigan


To Whom It May Concern:

Mason and Burkhart LLC, a Michigan Limited Liability is the owner of the property located on the northwest quadrant of Mason and Burkhart Roads in Howell Township, Livingston County, Michigan, being tax parcel 06-32-400-013 (the "Property"). We have entered into a Purchase Contract with M/I Homes of Michigan, LLC, as Buyer, for the sale of the Property.

This letter confirms that M/I Homes of Michigan, LLC has the right and authority to apply for and obtain from Howell Township, Livingston County, EGLE, and any other governmental agencies having jurisdiction, for such governmental approvals and permits that are required for the development of the Property, Water and Sewer Agreements, a Development Agreement for the Property as a residential project.

Sincerely,

Mason and Burkhart LLC
a Michigan limited liability company

By: 
Bruce Michael
Title: Authorized Agent



December 13, 2024

Jonathan Hohenstein
Township Treasurer
Howell Township
3525 Byron Rd
Howell, MI 48855

RE: Planned Unit Development (“PUD”) Amendment Request for Heritage Square
NW Corner of Mason Rd and Burkhart Rd
Howell, MI

Good afternoon, Jonathan,

We respectfully submit our request for an Amendment to the approved Heritage Square PUD to allow for a maximum 40% Lot Coverage for the Single Family Detached Residential section of this PUD. The current Township Zoning Ordinance allows for a maximum 30% Lot Coverage ratio.

The Heritage Square PUD was recommended for approval by the Planning Commission on December 19, 2023. On January 8, 2024, the Township Board granted approval for the revised site plan and rezoning application with conditions.

The definition of Lot Coverage in the Township Zoning Ordinance is as follows: “The percentage of the lot or parcel covered by all buildings and structures located on a lot or parcel, elevated above the surface, on the surface or below the surface of the ground and which impairs the percolation of surface water into the subsurface groundwater areas and causes additional surface runoff”. This includes driveways, service walks, decks, and patios.

As the definition indicates, the goal of the Lot Coverage restrictions is to minimize surface runoff and maximize percolation of surface water into the subsurface groundwater areas. Please note that the stormwater management design of this PUD includes two (2) detention basins that have been adequately sized to accommodate the anticipated stormwater runoff. The largest home plan that will be built in this PUD was used in the detention basin volume calculations to ensure that the maximum allowable storage volume can be accommodated in these basins.

During our review of the individual units, it was discovered that our desired home plan lineup exceeds the minimum Lot Coverage ratio on many of the lots in this community. Our calculations included future decks or patios up to 200 square feet so that future homeowners don’t have lot coverage issues when they choose to make these improvements.

M/I Homes will offer its Essential Series plan lineup at Heritage Square with a focus on more attainably priced new housing that is currently lacking in the area. The home plans will be offered range in size from 1,957 to 2,711 square feet of living space and will feature 3-5 bedrooms, 2-1/2 bathrooms, and 2-car garages. The plans are 38' wide and will easily meet the current minimum setback requirements.

The Approved minimum setbacks for the land uses within the PUD are as follows:

Single-Family	Approved	Proposed
Lot Area	5923.61 SF min	5940 SF min
Lot Width	54 Feet	54 Feet
Front Setback	24 Feet	24 Feet
Side Setback	7 Feet	7 Feet
Rear Setback	25 Feet	25 Feet
Perimeter Setback	40 Feet (Adjacent to SFR) 30 FEET (Adjacent to MFR)	40 Feet (Adjacent to SFR) 30 FEET (Adjacent to MFR)
Lot Coverage	Review for individual units	40% Max
Building Height	Review for individual units	Review for individual units

Thank you in advance for your consideration.

Respectfully,

David Straub

M/I Homes of Michigan LLC
40950 Woodward Avenue, Suite 203
Bloomfield Hills, MI 48304

P: (248)- 303-0455

E: dstraub@mihomes.com



Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

TO: Howell Township Planning Commission

FROM: Paul Montagno, AICP, Township Planner
Grayson Moore, Planner

DATE: 1/21/25

RE: Heritage Square, PUD Amendment

We were asked to review a proposal to amend the approved Planned Unit Development (PUD) plan for Heritage Square, located at the northwest corner of Mason and Burkhart Roads. The amendment seeks approval to increase the maximum lot coverage from the current 30% to 40% for single-family detached homes within the development. Because the proposed amendment represents a deviation from the standards in the zoning ordinance the request must be considered an amendment to the PUD and go through the amendment process, which includes a public hearing to be held by the Planning Commission followed by a recommendation to the Township Board, who has the final authority to approve a PUD.

Background

Heritage Square PUD was initially approved by the Planning Commission on December 19, 2023, and by the Township Board on January 8, 2024. The PUD spans approximately 95 acres and includes areas for single-family and multi-family residential units. The development includes 176 single-family houses, 288 multi-family units, and a 3-story assisted living building with 90 units. This development is strategically designed to integrate with the existing landscape and community infrastructure, while allowing a diverse array of housing opportunities that cater to a variety of residents. The approved PUD includes a number of approved deviations designed to preserve natural open space while allowing for the development of housing units on smaller lots using less infrastructure.

Previous plan reviews highlighted the need for effective stormwater management, which was addressed through the detention basins design. Discussions also focused on traffic impact and access routes, resulting in a site plan that includes multiple access points and developer contributions towards road improvements. These adjustments have been made in response to community feedback and regulatory requirements to ensure that the development proceeds with minimal environmental and community impact.

*Benjamin R. Carlisle, President John L. Enos, Vice President Douglas J. Lewan, Principal
David Scurto, Principal Sally M. Elmiger, Principal R. Donald Wortman, Principal Craig Strong, Principal
Paul Montagno, Principal Megan Masson-Minock, Principal Laura Kreps, Principal Brent Strong, Principal
Richard K. Carlisle, Past President/Senior Principal*

Proposed Amendment

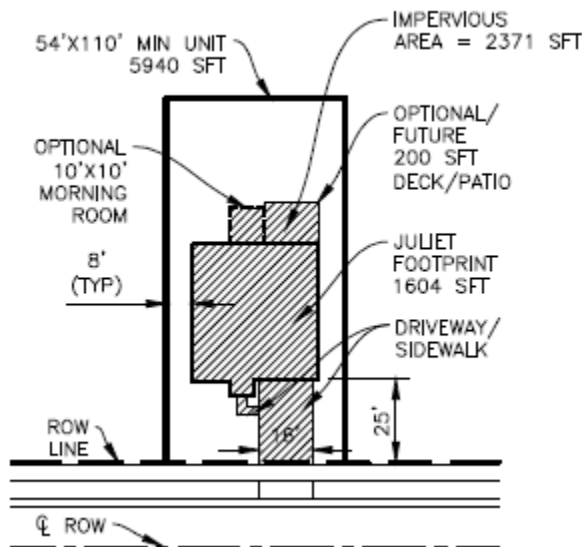
The applicant's amendment request is intended to accommodate larger home designs that could include larger building footprints as well as amenities such as decks and patios. The increase in lot coverage would allow for more spacious living environments without the need for future PUD amendments for modifications that might exceed the existing coverage limits.

Planning and Zoning Considerations

1. Environmental Management:

- The PUD includes two detention basins designed to manage increased stormwater runoff efficiently. The developer has indicated that the basins have been sized considering the maximum footprint of the largest homes planned for the development. We defer to the Township Engineer or County Drain Commissioner to verify these calculations.

COVERAGE	
NOTE: COVERAGE CALCULATION BELOW IS BASED ON THE LARGEST FLOOR PLAN OPTION, ON THE SMALLEST UNIT SIZE.	
<u>SINGLE FAMILY RESIDENTIAL</u>	
AVERAGE PAVED/BLDG AREA PER UNIT:	2371 SFT
MAX. HOME FOOTPRINT :	1911 SFT +/- (JULIET W/BONUS ROOM & DECK)
DRIVE (25' X 16') :	400 SFT
CONNECTOR WALK (5' X 12'):	60 SFT
MINIMUM LOT AREA :	5940 SFT
PROPOSED MAXIMUM COVERAGE = 40%	
(COVERAGE ALLOWED PER SFR ZONING = 30%)	



NOTE: LAYOUT MAY VARY BASED ON FLOOR PLAN AND OWNER SELECTED OPTIONS. TYPICAL UNIT LAYOUT BASED ON JULIET FLOOR PLAN (LARGEST OFFERED BY DEVELOPER). FOOTPRINT SIZE OF OTHER TYPICAL FLOORPLANS BY THIS DEVELOPER ARE AS FOLLOWS (MAX COVERAGE):

JULIET:	1604 SFT (39.9%)
PEYTON:	1508 SFT (38.3%)
AUBREY:	1472 SFT (37.7%)
BROOKLYN:	1419 SFT (36.8%)
SAWYER:	1330 SFT (35.3%)

2. Infrastructure Impact:

- Allowing for an increase in the size of the individual homes, resulting in increased lot coverage, should not impact new or existing infrastructure, particularly in terms of additional strain on sewage and water systems.

3. Public Open Spaces:

- The proposed amendment does not affect the adequacy of the public open spaces as originally planned, despite the increased footprint of individual lots. This is crucial for maintaining community well-being and ecological balance.

4. Community Impact:

- By allowing a 40% lot coverage, the development can offer more substantial housing options, enhancing the variety of available homes without expanding the physical footprint of the developed area.

5. Precedent and Consistency:

- The proposed change maintains the intent of the PUD by providing quality housing while managing environmental impacts effectively.

Recommendation

After reviewing the proposed changes and considering their alignment with the Township's objectives and zoning requirements, we recommend the Planning Commission approve the

amendment to increase the lot coverage to 40% subject to an engineering review of the stormwater capacity.



CARLISLE/WORTMAN ASSOC., INC.
Paul Montagno, AICP
Principal



CARLISLE/WORTMAN ASSOC., INC.
Grayson Moore
Community Planner

January 28th, 2025

Kevin McDevitt
Monument Engineering Group Associates
298 Veterans Drive
Fowlerville, MI 48836

RE: Heritage Square
Parcel Number 4706-32-400-013
Construction Site Plan Review

Mr. McDevitt,

We have received and reviewed the construction site plans for Heritage Square (Single Family). Plans were prepared by Monument Engineering Group Associates, Inc on behalf of M/I Homes of Michigan, LCC and are dated November 4, 2024. Based on our review, we offer the following comments.

General

- A legal description has been provided, including bearings, distances, and closures within acceptable tolerances. However, the bearing for the section line along Mason Road, from the southeast corner of Section 32 to the southwest corner of the parcel, differs between sheets V-1.0 and G-1.0.
- According to the Livingston County Drain Commissioner's letter dated 11/20/24, the CPVC volume in the land use summary table should be listed as zero because the permanent pool volumes are below the groundwater elevations indicated in the soils report. Please update the plans accordingly to reflect this correction.

Grading and Drainage

- It is unclear how the rear yard drainage from units on the perimeter that are not adjacent to the basins (units 21-25, 59-62, 106-110, and 150-153) is directed into the proposed stormwater management system.
- The following two items are not currently included in the provided plans and should be added:
 - Structure IN-34 and the pipe segment between IN-34 and CB-35, which are missing on profile sheet C-6.9,
 - The pipe segment from IN-146 to IN-147, which is not included on the profile sheets.
- Stormwater detention and conveyance calculations have been reviewed, and no issues were noted. However, according to the Livingston County Drain Commission's letter dated November 20, 2024, an increase in the C value due to greater lot coverage will result in a storage deficit.
- LCDC's letter also recommends increasing the diameter of the east detention outlet to 24 inches and adjusting the elevations on sheets CS-176 and ES-177. Please update the plans accordingly to reflect these changes.
- We defer to LCDC for review and approval.

Sanitary Sewer

- Sanitary profile sheet C-4.4 should include a label with the rim and invert elevation information for San-18.
- The contractor must verify the sanitary sewer connection point stub elevation at Pump Station #72 before proceeding with the sewer connection. Confirm the invert elevation, diameter, and grade of the stub to prevent the formation of an inflection point at the connection.
- There must be a 0.10-foot elevation difference between the inlet and outlet pipe inverts within manholes San-9, San-10, San-11, San-12, San-13, San-14, San-15, San-17, and San-20.
- The Developer is required to submit all necessary EGLE Part 41 Permit Application information to the Township Engineer for review, as the resulting sanitary sewer will be publicly owned. The Township Engineer will then submit the EGLE Part 41 Permit Application on behalf of the Township and coordinate the permit process with MEGA. Submission of the permit application is contingent upon final site plan approval from the Planning Commission.
- The proposed basis of design flow outlined on Sheet C-3.0 is 302 GPM, while Pump Station #72 has a firm capacity of 555 GPM. Currently, approximately 30 GPM of flow is contributing to this station. Based on this information, Spicer Group believes that Pump Station #72 has sufficient capacity to service the Heritage Square development, and no modifications to the station are required at this time. The basis of design estimates that 500.4 REUs will be required for this development. The Township has indicated that the site currently has 569 sewer REUs allocated to it, meaning no additional sanitary REUs will be needed for this site.

Site Access and Paving

- The 'concrete path' shown on sheet C-1.1 references a detail on sheet C-11.0; however, this detail does not appear to be included on the indicated sheet.
- Roadway, curb, and sidewalk details are included and meet the requirements, with the exception of the curb and gutter shown for the county road right-of-way. This should be replaced with an MDOT B2 detail, as indicated in the Livingston County Road Commission's red-lined plans dated November 6, 2024.
- All other comments from the Livingston County Road Commission's November 6, 2024 letter should be addressed accordingly.
- The location of the temporary emergency access road should be adjusted to avoid conflict with the existing hydrant on Burkhart Road. Dimensions of the road should be included on the plans and should be a minimum 13-feet in width.
- We defer to LCRC and the Fire Marshal for review and approval.

Water main

- The water main was previously reviewed by MHOG in their January 10, 2025 Construction Plan Review. The plans should be revised to address their comments.
- We defer to MHOG for further comment and approval relating to the water main.

Landscaping

- Landscaping plans have been provided. We defer to the Township Planner to comment on the Landscaping plan for review and approval.

Lighting

- A photometric plan has been provided. The plan indicates that no light is leaving the site. We defer to the Township Planner for further comments and approval of the site lighting.

If you have any questions or need anything further, please feel free to contact our office.

Sincerely,

A handwritten signature in black ink, appearing to read "Adam C. Jacqmain".

Adam C. Jacqmain
Design Engineer
Phone: (989) 598-6196
adamj@spicergroup.com

A handwritten signature in black ink, appearing to read "Philip A. Westmoreland".

Philip A. Westmoreland, P.E.
Principal
Phone: (517) 375-9449
philaw@spicergroup.com

CC: SGI File
Jonathan Hohenstein, Howell Township Planner
Ken Recker, Livingston County Chief Deputy Drain Commissioner
Paul Montagno, Carlisle Wortman
Bryan Hager, Howell Township Fire Inspector
Al Pruss, MEGA

Howell Township Treasurer

From: Ken Recker <KRecker@livgov.com>
Sent: Wednesday, December 18, 2024 5:32 PM
To: Howell Township Treasurer
Cc: Bradley, John W.; Paul Montagno (pmontagno@cwaplan.com); Jennifer McGinty
Subject: RE: Heritage Square - PUD Amendment

Jonathan,

Per our discussion earlier today, the office of the Livingston County Drain Commissioner has no objections to the proposed increase in lot coverage for the Heritage Square PUD, based on Kevin McDevitt's electronic correspondence to our office and Howell Township dated December 16, 2024.

This is of course based on our office and/or Spicer as Township Engineer completing review of construction plans.

If you have any questions give me a call.

Merry Christmas & Happy New Year !

Kenneth E. Recker, II, P.E.
Chief Deputy Drain Commissioner
Livingston County, Michigan
Ph. 517-546-0040

DRAFT

HOWELL TOWNSHIP PLANNING COMMISSION
SPECIAL MEETING MINUTES

3525 Byron Road Howell, MI 48855

February 11, 2025

6:30 P.M.

MEMBERS PRESENT:

Wayne Williams Chair
Robert Spaulding Vice Chair
Mike Newstead Secretary
Tim Boal Board Representative

MEMBERS ABSENT:

Chuck Frantjeskos Commissioner

Matt Stanley Commissioner

Sharon Lollo Commissioner

Also in Attendance:

Township Planner Grayson Moore and Zoning Administrator Jonathan Hohenstein, Kevin McDevitt from Monument Engineering and David Straub from M/I Homes

Chairman Williams called the meeting to order at 6:30 pm. The roll was called. Chairman Williams requested members rise for the Pledge of Allegiance.

APPROVAL OF THE AGENDA:

Motion by Newstead, **Second** by Spaulding, **“To approve the agenda as presented”** Motion carried.

Call to the Public

Bob Wilson, 2935 Brewer Rd: Spoke on his dissatisfaction with the Planning Commission’s decision on ADU’s

Michael Denson, 5828 Crandall Rd: Spoke on concerns with drainage, questioned lot sizes available and maximum house size

Karen Holden, 4383 Mason Rd. (Marion Township): Spoke on concerns with drainage and wetlands

Bob Wilson, 2935 Brewer Rd: Spoke on concerns with water drainage

SCHEDULED PUBLIC HEARINGS:

- A. Heritage Square, PC2024-15, Parcel # 4706-32-400-013. Request to modify PUD to increase the lot coverage percentage. Township Planner Grayson Moore spoke on his findings with the request to increase maximum lot coverage from 30% to 40%. Heritage Square engineer Kevin McDevitt spoke on the request to increase for single family detached development to allow for larger home designs and enough room for decks/ patios. He spoke on their error when calculating lot coverage discussing the need for the amendment to the PUD. He answered concerns on drainage calculations, wetlands, retention ponds, lot sizes available and maximum house size (1900-2700 sq ft). Chairman Williams questioned the engineering report from Spicer Group Engineering and their concerns. Commissioner Lollo questioned if all houses would be able to have decks and patios, Engineer McDevitt confirmed they would all be allowed to have a deck/patio. Chairman Williams questioned square foot of house vs footprint of the house. Board Representative Boal questioned prices of the homes to be built, concerns with lot sizes, drainage issues and if there was final

PUD agreement with project. David Straub from M/I Homes spoke on the amendment to increase lot coverage, discussed price of homes will vary from mid-upper 300's to low 400's and recent issuing of their wetland permit. Zoning Administrator Hohenstein gave an update on the process of crafting and finalizing the PUD agreement. Commissioner Spaulding questioned if there would be model homes and if potential buyers would be able to pick lots vs building houses to sell. Engineer McDevitt answered there would be a combination of both, they will have different elevations, exterior color schemes and they won't all be the same. Discussion followed. **Motion** by Newstead, **Second** by Spaulding, **"To open the public hearing Heritage Square, PC2024-15. Parcel #4706-32-400-013."** Motion carried.

Bob Wilson- spoke on average income and housing affordability

Motion by Spaulding, **Second** by Boal, **"To close the public hearing"** Motion carried. **Motion** by Spaulding, **Second** by Newstead, **"To Approve the amendment to increase lot coverage from the approved 30% to 40% subject to the engineering review of the storm water capacity even though in the Township it has already been done on parcel 4706-32-400-013, otherwise known as the Heritage Square Development."** Roll Call: Newstead-yes, Lollo-yes, Spaulding-yes, Stanley-yes, Boal-no, Williams-yes. Motion passed 5-1. Commissioner Lollo clarified that the wetlands, drainage, and open spaces have all been addressed and criteria has been met.

CALL TO THE PUBLIC:

Bob Wilson, 2935 Brewer Rd: Questioned if he could cover 40% of his property

Michael Denson, 5828 Crandall Rd: Spoke on concerns with the 40% lot increase

ADJOURNMENT:

Motion by Spaulding, **Second** by Newstead, **"To adjourn."** Motion carried. The meeting was adjourned at 7:31 P.M.

Date

Mike Newstead
Planning Commission Secretary

Marnie Hebert
Recording Secretary

10D

Monthly Permit List

02/25/2025

1/2

Commercial Land Use

Permit #	Applicant	Address	Fee Total	Const. Value
P25-012	RAND CONSTRUCTION	2212 GRAND COMMERCE DR	\$50.00	\$0.00
Work Description: 5,133 sf office buildout				

Total Permits For Type: 1
Total Fees For Type: \$50.00
Total Const. Value For Type: \$0.00

MHOG

Permit #	Applicant	Address	Fee Total	Const. Value
PMHOG24-010	PINEVIEW VILLAGE CONS. GROUP INC.	1688 PINECROFT LN	\$0.00	\$0.00
Work Description:				
PMHOG24-012	PINEVIEW VILLAGE CONS. GROUP INC.	1692 PINECROFT LN	\$0.00	\$0.00
Work Description:				

Total Permits For Type: 2
Total Fees For Type: \$0.00
Total Const. Value For Type: \$0.00

Residential Land Use

Permit #	Applicant	Address	Fee Total	Const. Value
P25-015	Ambia Energy LLC	3152 N BURKHART	\$10.00	\$0.00
Work Description: 5.525 KW residential solar system to be installed on roof				
P25-020	RENEWAL BY ANDERSEN - Store 92	5925 N BURKHART	\$10.00	\$0.00
Work Description: Replacing 10 windows and 1 patio door				
P25-016	Ambia Energy LLC	3889 N BURKHART RD	\$10.00	\$0.00
Work Description: 8.075 KW residential solar system to be installed on roof				
P25-010	PRECISION ROOFING SERVICE	1389 CRESTWOOD LN	\$10.00	\$0.00
Work Description: Remove and replace shingles.				
P25-018	BURKHART RIDGE LLC	1087 ELLINGTON DRIVE	\$0.00	\$0.00
Work Description: New mobile home installation				
P25-019	Erie Home	150 HARMON RD	\$10.00	\$0.00
Work Description: Re-roof - remove existing roofing, replace with fiberglass dimensional shingle also replacing 2 pieces of decking				
P25-013	RENEWAL BY ANDERSEN - Store 92	3446 KNEELAND CIR	\$10.00	\$0.00
Work Description: Replacing 4 windows and 1 storm door				
P25-017	BURKHART RIDGE LLC	4420 POOLSIDE DR	\$0.00	\$0.00

Work Description: New mobile home installation

P25-014 RENEWAL BY ANDERSEN - 131 ROBIN CT \$10.00 \$0.00
Store 92

Work Description: Replacing 11 windows and 1 patio door

Total Permits For Type: 9
Total Fees For Type: \$70.00
Total Const. Value For Type: \$0.00

Sewer Connection

Permit #	Applicant	Address	Fee Total	Const. Value
PWS25-003	BURKHART RIDGE LLC	1087 ELLINGTON DRIVE	\$5000.00	\$0.00
Work Description:				
PWS25-001	BURKHART RIDGE LLC	4420 POOLSIDE DR	\$5000.00	\$0.00
Work Description:				

Total Permits For Type: 2
Total Fees For Type: \$10000.00
Total Const. Value For Type: \$0.00

Sign

Permit #	Applicant	Address	Fee Total	Const. Value
P25-011	MMD Signs LLC	2395 W GRAND RIVER AVE	\$225.00	\$0.00
Work Description: 4' x 9' x 11" channel letter wall sign				

Total Permits For Type: 1
Total Fees For Type: \$225.00
Total Const. Value For Type: \$0.00

Water Connection

Permit #	Applicant	Address	Fee Total	Const. Value
PWS25-004	BURKHART RIDGE LLC	1087 ELLINGTON DRIVE	\$5000.00	\$0.00
Work Description:				
PWS25-002	BURKHART RIDGE LLC	4420 POOLSIDE DR	\$5000.00	\$0.00
Work Description:				

Total Permits For Type: 2
Total Fees For Type: \$10000.00
Total Const. Value For Type: \$0.00

Grand Total Fees:	\$20,345.00
Grand Total Permits:	17.00

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3276 HILL HOLLOW LN Complaint Abandoned junk vehicle left in the road, not working, not in use.	JOHNSTON PHILIP AN	4706-13-302-019	02/25/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.20.25 - Complaint received 2.25.25 - Site visit completed					
222 BAIN DR Complaint Business being run out of the house, camper in front yard, business trucks, building built without a permit.	OTREMBA EMILY AND	4706-14-401-039	02/13/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.13.25 - Complaint received					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3710 BOWEN Complaint Plumbing company is being run out of a home with many vehicles and commercial dumpster in the front yard.	ORDUNA PLUMBING I	4706-21-100-013	02/13/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.13.25 - Complaint received					
3750 BOWEN RD Complaint Business being run out of the home, over 20 vehicles, trailers, and equipment in yard with many temporary buildings.	BENFORD ANDREW T	4706-21-100-028	02/13/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.13.25 - Complaint received					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
2900 BREWER RD Complaint Broken down vehicle in front yard, farm tractor on a lot under 2 acres.	LECHEVALIER KAYED	4706-22-200-014	02/13/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.13.25 - Received complaint 2.14.25 - Spoke to homeowner about violations 2.19.25 - Letter sent to homeowner 2.19.25 - Homeowner provided proof of registration and insurance					
3408 CHERYL DR Complaint Has 3 junk cars, junk boat, junk camper, and at least 80 yards of debris scattered in his backyard.	MELTON HAROLD D &	4706-14-401-029	02/10/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.10.25 - Complaint received. 2.11.25 - Site visit completed. 2.12.25 - Letter sent to owner. 2.18.25 - Owner came into the Township and discussed the violations. The owner has agreed to a schedule to remediate the violations.					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3353 BOWEN RD Complaint Camper parked in the front yard.	FRANTJESKOS CHARL	4706-21-400-005	02/10/2025	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Comments 2.10.25 - Complaint Received 2.11.25 - Site visit completed 2.11.25 - Letter sent to owners 2.24.25 - Spoke to Homeowner RE violation 2.24.25 - Received correspondence from Homeowner RE violation and remediation agreement 2.25.25 - Sent letter to Homeowner RE remediation agreement					
70 HENDERSON RD Complaint Dumpster on site for months. Piles of debris on site and people dropping off garbage and adding to piles of debris.	LESPERANCE CHRIS A	4706-24-301-017	12/02/2024	ANONYMOUS	OPEN - COMPLANT RECEIVE
Comments 12.10.24 - Site visit completed. Verified complaint, dumpster is on site with large pile of junk near the dumpster. Letter sent to owner. 1.27.25 - Site visit completed. Violation still exists. Letter sent to owner. 1.29.25 - Received phone call from homeowner. They did not understand that this was not allowed and will be getting it taken care of. 2-11-2025 - Homeowner (Kate) called, the dumpster has been removed and the junk is being removed either 2-12- or 2-13. She will let us know.					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
5704 CRANDALL RD Complaint	JEWETT RICHARD L &	4706-05-200-004	11/25/2024	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
A person is living in an RV in the back of the property against Township Ordinance.					
Comments					
12.10.24 - Site visit completed. RV is located in the back of the property. Letter sent to owner.					
1.27.25 - Site visit completed. No visible change. Letter sent to owner.					
2.11.25 - Requested additional information from complainant					
<hr/>					
4141 W GRAND RIV Complaint	TONON CHIARINA S	4706-20-400-012	09/24/2024		OPEN - COMPLANT RECEIVE
House is neglected, building unsafe, junk in yard.					
Comments					
9.24.24 - Contacted Livingston County Building Department RE performing dangerous building inspection.					
10.3.24 - Received LCBD determination letter. Contacted Spicer RE Dangerous Buildings Hearing Officer availability. Spicer does not currently have availability to perform these duties.					
10.17.24 - Letter sent to owner.					
12.19.24 - No response received. Second letter sent to owner with tracking.					
1.9.25 - Spoke to owner, is getting quotes from companies to demolish the structures. Provided contact information to Township and will stay in touch with progress reports.					
1.27.25 - Violation still present.					
<hr/>					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
5407 OAK GROVE RD Complaint	CITIZENS BANK NA	4706-02-401-008	09/10/2024	PUBLIC - EMAIL	OPEN - COMPLANT RECEIVE
Garbage outside on the lawn surrounding the house and overflowing from the garage. Garbage is attracting vermin.					
Comments					
9.10.24 - Complaint received. Site visit completed. Letter sent to owner and to bank.					
10.8.24 - Site visit completed. No change in condition. Letter sent to owner and to bank.					
10.17.24 - Original certified letter to owner returned.					
10.21.24 - Letter posted on the house.					
11.6.24 - Site visit. Letter is no longer posted to the house. No change in condition.					
12.10.24 - Site visit. No change in condition. Property in foreclosure.					
30 SANTA ROSA DR Complaint	FAGAN, SHANE	4706-33-400-050	07/02/2024		OPEN - COMPLANT RECEIVE
Owner is operating a manufacturing business in the SFR zoning district.					
Comments					
7.2.24 - Reviewed information regarding Speakeasy Speed Shop. Not a permitted use in the SFR zoning district. Violation letter sent to owner.					
8.1.24 - Site visit completed. No observed business activity at site.					
9.4.24 - Site visit completed. Searched website and watched YouTube videos. Industrial use is continuing at this location in SFR Zoning district. Letter sent to owner.					
9.30.24 - Communication from owner received, attached. Owner is requesting Township Board to modify home occupation portion of Zoning Ordinance to allow this use in SFR Zoning. Enforcement action will pause until a decision has been made.					
10.16.24 - Ticket submitted to Court					
10.17.24 - Ticket presented to homeowner. Discussion with homeowners.					
11.14.24 - Ticket not paid. Owner has requested a formal hearing.					
1.13.25 - Hearing adjourned until 2.12.25.					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
3265 W GRAND RIVER A Complaint Starting to add more parking on adjacent lot owned by MDOT without permits.	AMERICAN LEGION P	4706-28-200-010	05/21/2024		OPEN - COMPLANT RECEIVE
Comments 4.25.24 - Received call regarding work being done by American Legion. Site visit, verified work was underway. Contacted MDOT RE approval. 5.21.24 - Site visit completed, violation still present. Sent letter to American Legion. 6.18.24 - Site visit. More work has been completed including installing gravel in excavated area and a tent and fencing has been erected next to gravel area on MDOT property. Letter sent to American Legion. 8.1.24 - Site visit completed. Tent and fencing have been removed, large pile of dirt has been removed, additional gravel parking area still on MDOT property. 9.4.24 - Site visit completed. Violation still present. Posted Notice of Violation Ticket to front door, mailed a copy of the violation. Ticket #: 0202 9.4.24 - Phone conversation with Commander Laura Goldthwait. Requested letter explaining the violation and steps moving forward. Mailed to Legion, emailed to Laura, attached. 9.12.24 - Received correspondence from Legion's attorney denying all responsibility. Documents provided to Township's attorney. Township's attorney has contacted Legion's attorney. 10.8.24 - Site visit completed. Photos of Legion using the additional parking attached. 12.10.24 - Site visit completed. Christmas trees located in additional parking area and land east of building. Letter sent regarding temporary uses requiring permits. 1.27.25 - No change to property.					
3590 W GRAND RIV Complaint Zoning Violations:Outdoor storage without screening, setback issues, parking not hard surfaced, no sign permit.	HASLOCK PROPERTIE	4706-28-100-024	05/06/2024		OPEN - FIRST LETTER SENT
Comments 5.13.24 - Violation letter to Occupant returned. 5.20.24 - Received phone call from owner. Will be preparing a site plan to take before the Planning Commission for approval. 6.20.24 - Received phone call from owner, discussed site plan requirements. 9.4.24 - Sent letter to owner RE site plan progress. 9.12.24 - Spoke to owner, Engineer has site plans almost complete. Will submit for review in the near future.					

Code Enforcement List

02/25/2025

Address	Owners Name	Parcel Number	Date Filed	Origin	Status
5057 WARNER RD Complaint LARGE AMOUNT OF JUNK AND LITTER IN THE YARD.	HARTER EDWARD H	4706-19-200-005	03/14/2022	PUBLIC/ EMAIL	OPEN - SECOND LETTER SEN
Comments					
4.17.2023 THERE IS MORE JUNK NOW THEN THERE WAS LAST MARCH OF 2022 OR JANUARY OF 2023.					
5.25.2023 I SPOKE WITH MR. HARTER HE IS STARTING TO CLEAN THE SITE UP, HE SAID THAT IT WILL TAKE SOME TIME TO GET IT ALL CLEANED UP. I WILL BEE CHECKING ON HIS PROGRESS EVERY FEW WEEKS TO MAKE SURE HE IS MAKING PROGRESS.					
6.29.2023 SOME PROGRESS HAS BEEN MADE. WILL CHECK BACK IN A COUPLE OF WEEKS.					
1.9.2024 did a site vist there has been no progress made on the clean up.					
1.11.2024 Finial letter sent.					
3.20.24 - Site visit. No remediation of issues has taken place. Photos attached.					
3.25.24 Spoke to owner. Owner is working on cleaning up the property, has dumpsters being delivered, scrap is in piles and ready to be taken to the scrap yard. Has requested 3 months to get the property cleaned up. Letter sent in confirmation of agreement. Scheduled visit for June 25th.					
4.23.24 - Site visit. Violation still present. Scheduled reinspection.					
5.20.24 - Site visit. Work has been started. Violation still present. Scheduled reinspection.					
6.18.24 - Site visit. Violation still present, no evidence of continued clean up activity. Will reinspect on June 25th as agreed.					
6.25.24 - Site visit. Minimal changes to site, violation still present. Letter sent to owner.					
8.1.24 - Site visit completed. Owner still working on clean-up.					
9.4.24 - Site visit completed, spoke to homeowner. Owner claims to have back of property nearly complete. Dumpster to be arriving next week, neighbors helping to remove scrap in the next few days.					
10.8.24 - Site visit completed. No evidence of activity. Final violation letter sent to owner.					
11.6.24 - Site visit completed. No evidence of activity. Will check property on 11.14.24 per letter.					
11.14.24 - Site visit completed. No evidence of activity. Ticket number 0204 issued. Ticket mailed to homeowner 11.18.24.					
12.4.24 - Spoke to homeowner. He will be completing a clean-up schedule and providing it to the Township. If the schedule is followed and clean-up of property is achieved ticket will be waived.					
12.10.24 - Schedule has not been provided to Township. Site visit completed, no change.					
1.27.25 - Site visit completed, no change. Schedule has not been provided to Township. Final violation letter sent to owner.					
2.3.25 - Received phone call from owner's wife, owner is currently in jail. By February 24th they will contact the Township to discuss deadlines for removing the junk from the site. Letter sent to owner to confirm same.					

Records: 15

Population: All Records

10E

Monthly Activity Report for February 2025 – Assessing Dept/Brent Kilpela

MTT UPDATE:

Howell W P Acquisition Group, LLC v Howell Township: Filed answer to appeal on July 2nd. The Michigan Tax Tribunal Prehearing General Call set for July 16, 2025, with valuation disclosure due by March 19, 2025.

SMALL CLAIMS TRIBUNAL:

No Open Appeals

ASSESSING OFFICE:

ASSESSOR: Completed the 2025 Personal Property portion of the Assessment Roll. This includes processing all timely filed statements and exemptions. Reminder letters and estimated values have been sent to all businesses that failed to file. Completed the ECF, Sales, & Land Value Studies for the Board of Review. These are binders of information that the board uses in addressing valuation appeals. This information is also published on the Assessor page of the Howell Township website. The Assessment Notice file was sent to the printer on Wednesday February 12th and was successfully processed. The printed notices went to the post office on February 19th. Most taxpayers received their notice by Monday the 24th.

OTHER: Attended February Wastewater Treatment Plant meeting. Working on Earned Sick Time Act and how the new changes will affect Howell Township.

10H

DRAFT

**HOWELL TOWNSHIP PLANNING COMMISSION
SPECIAL MEETING MINUTES**

3525 Byron Road Howell, MI 48855

February 11, 2025

6:30 P.M.

MEMBERS PRESENT:

Wayne Williams Chair
Robert Spaulding Vice Chair
Mike Newstead Secretary
Tim Boal Board Representative

MEMBERS ABSENT:

Chuck Frantjeskos Commissioner

Matt Stanley Commissioner

Sharon Lollo Commissioner

Also in Attendance:

Township Planner Grayson Moore and Zoning Administrator Jonathan Hohenstein, Kevin McDevitt from Monument Engineering and David Straub from M/I Homes

Chairman Williams called the meeting to order at 6:30 pm. The roll was called. Chairman Williams requested members rise for the Pledge of Allegiance.

APPROVAL OF THE AGENDA:

Motion by Newstead, **Second** by Spaulding, **“To approve the agenda as presented”** Motion carried.

Call to the Public

Bob Wilson, 2935 Brewer Rd: Spoke on his dissatisfaction with the Planning Commission’s decision on ADU’s

Michael Denson, 5828 Crandall Rd: Spoke on concerns with drainage, questioned lot sizes available and maximum house size

Karen Holden, 4383 Mason Rd. (Marion Township): Spoke on concerns with drainage and wetlands

Bob Wilson, 2935 Brewer Rd: Spoke on concerns with water drainage

SCHEDULED PUBLIC HEARINGS:

- A. Heritage Square, PC2024-15, Parcel # 4706-32-400-013. Request to modify PUD to increase the lot coverage percentage. Township Planner Grayson Moore spoke on his findings with the request to increase maximum lot coverage from 30% to 40%. Heritage Square engineer Kevin McDevitt spoke on the request to increase for single family detached development to allow for larger home designs and enough room for decks/ patios. He spoke on their error when calculating lot coverage discussing the need for the amendment to the PUD. He answered concerns on drainage calculations, wetlands, retention ponds, lot sizes available and maximum house size (1900-2700 sq ft). Chairman Williams questioned the engineering report from Spicer Group Engineering and their concerns. Commissioner Lollo questioned if all houses would be able to have decks and patios, Engineer McDevitt confirmed they would all be allowed to have a deck/patio. Chairman Williams questioned square foot of house vs footprint of the house. Board Representative Boal questioned prices of the homes to be built, concerns with lot sizes, drainage issues and if there was final

PUD agreement with project. David Straub from M/I Homes spoke on the amendment to increase lot coverage, discussed price of homes will vary from mid-upper 300's to low 400's and recent issuing of their wetland permit. Zoning Administrator Hohenstein gave an update on the process of crafting and finalizing the PUD agreement. Commissioner Spaulding questioned if there would be model homes and if potential buyers would be able to pick lots vs building houses to sell. Engineer McDevitt answered there would be a combination of both, they will have different elevations, exterior color schemes and they won't all be the same. Discussion followed. **Motion** by Newstead, **Second** by Spaulding, **"To open the public hearing Heritage Square, PC2024-15. Parcel #4706-32-400-013."** Motion carried.

Bob Wilson- spoke on average income and housing affordability

Motion by Spaulding, **Second** by Boal, **"To close the public hearing"** Motion carried. **Motion** by Spaulding, **Second** by Newstead, **"To Approve the amendment to increase lot coverage from the approved 30% to 40% subject to the engineering review of the storm water capacity even though in the Township it has already been done on parcel 4706-32-400-013, otherwise known as the Heritage Square Development."** Roll Call: Newstead-yes, Lollo-yes, Spaulding-yes, Stanley-yes, Boal-no, Williams-yes. Motion passed 5-1. Commissioner Lollo clarified that the wetlands, drainage, and open spaces have all been addressed and criteria has been met.

CALL TO THE PUBLIC:

Bob Wilson, 2935 Brewer Rd: Questioned if he could cover 40% of his property

Michael Denson, 5828 Crandall Rd: Spoke on concerns with the 40% lot increase

ADJOURMENT:

Motion by Spaulding, **Second** by Newstead, **"To adjourn."** Motion carried. The meeting was adjourned at 7:31 P.M.

Date

Mike Newstead
Planning Commission Secretary

Marnie Hebert
Recording Secretary

DRAFT

**HOWELL TOWNSHIP PLANNING COMMISSION
REGULAR MEETING MINUTES**

3525 Byron Road Howell, MI 48855

February 25, 2025

6:30 P.M.

MEMBERS PRESENT:

Wayne Williams	Chair
Robert Spaulding	Vice Chair
Mike Newstead	Secretary
Tim Boal	Board Representative
Chuck Frantjeskos	Commissioner
Matt Stanley	Commissioner
Sharon Lollo	Commissioner

MEMBERS ABSENT:

Also in Attendance:

Township Planner Grayson Moore, Tim Zimmer with Livingston Engineering and Zoning Administrator Jonathan Hohenstein

Chairman Williams called the meeting to order at 6:30 pm. The roll was called. Chairman Williams requested members rise for the Pledge of Allegiance.

APPROVAL OF THE AGENDA:

Motion by Boal, **Second** by Spaulding, **“To approve the agenda as presented”** Motion carried.

APPROVAL OF THE MEETING MINUTES:

January 28, 2025, February 11, 2025

Motion by Spaulding, **Second** by Boal, **“Approval of the regular meeting minutes from January 28, 2025 and the special meeting on February 11, 2025.”** Motion carried.

Call to the Public

Bob Wilson, 2945 Brewer Rd: Spoke on his dissatisfaction with the Planning Commission’s decision on ADUs

Kayedon Lechevalier, 2900 Brewer Rd: Spoke on concerns with ADUs

ZONING BOARD OF APPEALS REPORT:

None

TOWNSHIP BOARD REPORT:

Draft minutes are included in the packet. Board Representative Boal reported that the Storage Container Ordinance language and The Wellhead Protection Ordinance were approved by the Board. Discussed Assessor Kilpela’s financial report and his concerns regarding attorney expenses with revising of Zoning Ordinances.

ORDINANCE VIOLATION REPORT:

Report in packet. Commissioner Lollo questioned time frames regarding the complaint on Henderson Rd. and foreclosure on Oak Grove Rd. Commissioner Spaulding questioned the final violation letter on 5057 Warner Rd.

SCHEDULED PUBLIC HEARINGS:

ADU Ordinance- **Motion** by Boal, **Second** by Stanley, **“To open the Public Hearing.”** Motion carried.

Bob Wilson, 2945 Brewer Rd: Spoke on opposition of having an ADU ordinance if detached ADUs will not be allowed.

Thomas Bull, 2704 Fisher Rd: Spoke on taxing and opposition to detached ADUs

Kayedon Lechevalier, 2900 Brewer Rd: spoke on concerns of detached ADUs

Motion by Newstead, **Second** by Lollo, **“To close the public hearing.”** Motion carried.

OTHER MATTERS TO BE REVIEWED:

None

OLD BUSINESS:

None

NEW BUSINESS:

- A. Kory Leppek, PC2025-01, Parcel #4706-20-100-027, 4640 W. Grand River Ave Preliminary Site Plan Review- Township Planner Grayson Moore gave a review of the preliminary site plan. The area is currently zoned as Industrial Flex. The property will include a pole barn, large gravel yard, nursery stock area, open air storage bins and will include the existing building on site. The storage area must be screened from public view by a wall or fence. Board Representative Boal questioned parking and easement driveway. Tim Zimmer with Livingston Engineering and applicant Kory Leppek answered questions regarding the site plan. Screening from the roadway would be berms, trees and existing fences. The existing building will be office space for landscape designers and there will be storage in the back area that is fenced for small machines and tools. Commissioner Lollo questioned if their existing business in Brighton would remain and if the new location was going to be strictly a landscaping company or open to the public. Chairman Williams questioned business hours, if delivery of landscape supply would be available to the public and garage door size. Secretary Newstead questioned if there was a timeframe of when the pole barn would be built. Commissioner Boal questioned screening at the back of the property, business model, trash enclosure, connecting driveway, current septic system and fire plan to connecting driveway. Commissioner Frantjeskos questioned outside lighting plan. Commissioner Spaulding questioned if the nineteen recommendations from the Township planner have been addressed. Discussion followed. **Motion** by Newstead, **Second** by Spaulding, **“To recommend approving preliminary site plan review for Kory Leppek PC2025-01, Parcel # 4706-20-100-027 at 4640 W. Grand River subject to the findings in the Planner’s report dated February 18, 2025, the Engineer’s report dated February 14, 2025, and the fire report dated January 27, 2025.”** Motion carried.

- B. Renewable Energy Ordinance- Township Planner Moore gave an update on the Zoning Ordinance amendment which regulates renewable energy facilities but would not be a CREO (compatible renewable energy ordinance) as defined under PA 233. Board Representative Boal questioned 75% lot coverage, battery size and storage. Commissioner Stanley spoke on residential battery storage and requirements. Commissioner Lollo questioned decommissioning surety. Commissioner Spaulding

questioned setbacks, if industrial sites are included and overlay district. Zoning Administrator Hohenstein spoke on how the overlay district was determined and why large turbines have not been discussed in the Township. Discussion followed.

CALL TO THE PUBLIC:

Bob Wilson, 2945 Brewer Rd: Questioned solar panel permits and restrictions for residential use

PUBLIC HEARING ADU ORDINANCE (CONTINUED)

Board Representative Boal questioned if there are any restrictions for attached additions if needed in the future for family. Discussion followed. **Motion** by Boal, **Second** by Newstead, **“To postpone the ADU ordinance discussion.”** Motion carried.

ADJOURMENT:

Motion by Newstead, **Second** by Spaulding, **“To Adjourn.”** Motion carried. The meeting was adjourned at 7:50 P.M.

Date

Mike Newstead
Planning Commission Secretary

Marnie Hebert
Recording Secretary

10J

Howell Township Monthly Wastewater Operations Report



North Clarifier Delivery

February 2025

Howell Township Wastewater System Operations Report February 2025

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- Attachment 1.2 - Plant Performance Summary
- Attachment 1.3 – EGLE Discharge Monitoring Report for January 2025
- Attachment 1.4 – Process Data
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- Attachment 1.6 – Clarifier Mechanism on Site
- Attachment 1.7 – Letter to EGLE on Ammonia Violation

Section 2 – Collection System Operation

- Attachment 2.1 – Written Maintenance Summary
- Attachment 2.2 – Weekly Pump Station Inspection Data
- Attachment 2.3 – Union at Oak Grove Pump Station Start Up Report
- Attachment 2.4 – Monthly Miss Dig Log for December 2024

Section 3 – Repairs and Capital Improvements

- Attachment 3.1 – February 2025 Capital Projects Cost and Status Summary
- Attachment 3.2 – FY2026 DPW Budget Memo, Allocation Percentage, and Budget for Approval

Section 1

Plant Operation

Howell Township Plant Operations

Summary for January Activities:

Wastewater Treatment: The Wastewater Treatment Plant (WWTP) processed a total of **10.82 million gallons** (MG) of wastewater. The plant maintained full compliance with all permit requirements, achieving zero permit violations in January. However, we did have two violations in February. The State was notified, and I have sent a detailed letter explaining the situation, which is included in this report.

Preventative Maintenance: All scheduled monthly preventative maintenance tasks were completed as planned. These tasks are essential for ensuring the efficient operation of the WWTP.

Meter Calibration: UIS performed annual calibration on 5 meters at the wastewater treatment plant.

Clarifier Replacement: The clarifier mechanism has arrived at the plant and we are now awaiting FHC to begin installation. I anticipate work will start February 24th and should take around 2-3 weeks to complete.

Process Summary:

- EQ Tank
 - Operating North Tank
 - 5 broken gate valves
- Influent Sampler:
 - Normal Operation
- Headworks:
 - Normal Operation
- FeCl₂ Chemical Room
 - Normal Operation
- Aeration Basin:
 - Normal Operation
- Junction Chamber:
 - Normal Operation
- RAS Building & Clarifier:
 - New clarifier mechanism has arrived
- Sand Filters:
 - Normal Operation
- Post Aeration:
 - Normal Operation
- UV System:
 - Normal Operation
- Recycle Pump Station:
 - Normal Operation

Howell Township WWTP	
Plant Performance	Jan-25
HT WWTP Flows	
TOTAL MONTHLY EFF (MG)	9.06
TOTAL MONTHLY INF (MG)	10.82
Final Effluent Monitoring	
INF pH	7.16
EFF pH	7.27
INF NH3-mg/L	35.73
EFF NH3-mg/L	0.32
INF PO4-mg/L	5.94
EFF PO4-mg/L	0.24
INF TSS-mg/L	195.45
EFF TSS-mg/L	5.61
INF CBOD-mg/L	181.00
EFF CBOD-mg/L	2.29
<i>AVG.% NH3-N REMOVAL</i>	99.12%
<i>AVG.% TOTAL P REMOVAL</i>	95.90%
<i>AVG.% TSS REMOVAL</i>	97.13%
<i>AVG.% CBOD REMOVAL</i>	98.73%
<i>AVG.% OVERALL REMOVAL RATE</i>	97.72%
Chemical Used	
Ferric Gallons	790
Utilities	
Gas	508
Power KWH	51,680
Water Gallons	4,708
Sludge Processing	
Gallons Wasted	169,040
Gallons Hauled	
Weather Summary	
TOTAL PRECIPITATION	0.50
AVG DAILY PRECIPITATION	0.50
MAX DAILY	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY:

PERMITTEE NAME: **Howell Township WWTP**
 MAILING ADDRESS: **3525 Byron Road**
Howell, MI 48855
 FACILITY: **Howell Township WWTP**
 LOCATION: **1222 Packard Drive**
 Permit NO. **MI0055727**

DAILY DISCHARGE MONITORING REPORT

Violations		
NO.	Parameter	Limit

PARAMETER	FLOW	SUSPENDED SOLIDS		CBOD ₅		AMMONIA NITROGEN		TOTAL PHOSPHORUS		TOTAL MERCURY					Chloride	Sulfate	FECAL COLIFORM		pH MIN	pH MAX	D.O.					
		Dates	MGD	7 DAY AVG	<1.0	7 DAY	daily max	<0.01	7 DAY	daily max	<0.1	ng/L	lbs/day	ng/L	ng/L	ng/L	ng/L	mg/L	mg/L	7 DAY	0=1	6.5	9.0	Daily MIN		
		mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/avg	lbs/day	mg/l	lbs/avg	lbs/day	mg/l	lbs/day	ng/L	lbs/day	ng/L	ng/L	ng/L	ng/L	mg/L	mg/L	GEO MEAN	daily MAX	SU	SU	mg/l
Wednesday, January 1, 2025	0.3040			2.6	7	0.9		2.3	0.01		0.0	0.19	0.5									1	1	7.38	7.38	9.8
Thursday, January 2, 2025	0.3217			2.4	6	0.8		2.1	0.01		0.0	0.19	0.5									1	1	7.39	7.39	9.8
Friday, January 3, 2025	0.3161																					2	2	7.29	7.29	9.5
Saturday, January 4, 2025	0.3033																									10.5
Sunday, January 5, 2025	0.3053			7.2	18	1.8		4.6	0.02		0.1	0.19	0.5													10.8
Monday, January 6, 2025	0.3093			4.4	11	1.7		4.4	0.01		0.0	0.19	0.5													10.6
Tuesday, January 7, 2025	0.3070	4.1	10	3.8	10	1.6	3.5	4.1	0.04	0.0	0.1	0.16	0.4									1	3	7.32	7.32	10.6
Wednesday, January 8, 2025	0.3119	4.6	12	5.0	13	1.6	3.9	4.2	0.01	0.0	0.0	0.18	0.5									2	12	7.37	7.37	10.9
Thursday, January 9, 2025	0.2922	5.3	14	6.2	15	1.5	4.2	3.7	0.02	0.0	0.0	0.10	0.2									4	8	7.24	7.24	10.8
Friday, January 10, 2025	0.2928	5.3	14				4.2			0.0												5	11	7.18	7.18	10.8
Saturday, January 11, 2025	0.2723	5.3	14				4.2			0.0												5		7.13	7.13	10.8
Sunday, January 12, 2025	0.2880	5.4	13	7.6	18	1.8	4.1	4.3	0.03	0.0	0.1	0.25	0.6									5		7.23	7.23	10.6
Monday, January 13, 2025	0.2746	5.7	14	6.0	14	1.7	4.0	3.9	0.02	0.1	0.0	0.23	0.5	0.50000	0.0000011	0.50000	0.51000	0.34000	0.20000	230	30	5		7.39	7.39	10.8
Tuesday, January 14, 2025	0.2845	5.9	14	4.8	11	2.0	4.2	4.7	0.02	0.0	0.0	0.30	0.7									8	8	7.32	7.32	10.5
Wednesday, January 15, 2025	0.2787	5.9	14	4.8	11	1.5	4.0	3.5	0.02	0.0	0.0	0.30	0.7									10	15	7.33	7.33	10.7
Thursday, January 16, 2025	0.2788	5.8	14	5.8	13	1.4	3.9	3.3	0.01	0.0	0.0	0.25	0.6									12	20	7.23	7.23	11.0
Friday, January 17, 2025	0.3151	5.8	14				3.9			0.0												15	26	7.30	7.30	10.8
Saturday, January 18, 2025	0.3104	5.8	14				3.9			0.0												16	19	7.33	7.33	10.7
Sunday, January 19, 2025	0.2828	5.6	13	6.8	16	2.3	4.2	5.4	0.02	0.0	0.0	0.26	0.6									16		7.39	7.39	10.3
Monday, January 20, 2025	0.2819	5.6	13	5.8	14	1.8	4.2	4.2	0.01	0.0	0.0	0.25	0.6									16		7.28	7.28	10.8
Tuesday, January 21, 2025	0.2722	6.3	15	8.2	19	2.2	4.3	5.0	0.02	0.0	0.0	0.30	0.7									25	66	7.29	7.29	10.6
Wednesday, January 22, 2025	0.2839	6.6	15	6.2	15	1.9	4.5	4.5	0.03	0.0	0.1	0.27	0.6									39	130	7.29	7.29	11.1
Thursday, January 23, 2025	0.2708	6.6	15	6.2	14	1.7	4.6	3.8	0.03	0.0	0.1	0.33	0.7									48	58	7.24	7.24	11.1
Friday, January 24, 2025	0.2716	6.6	15				4.6			0.0												58	69	7.33	7.33	11.0
Saturday, January 25, 2025	0.2823	6.6	15				4.6			0.0												74	64	7.26	7.26	11.1
Sunday, January 26, 2025	0.2733	6.7	15	7.2	16	2.9	4.8	6.6	0.10	0.1	0.2	0.26	0.6									74		7.09	7.09	10.8
Monday, January 27, 2025	0.2585	6.6	15	5.0	11	2.0	4.9	4.3	0.15	0.1	0.3	0.29	0.6									74		7.07	7.07	10.9
Tuesday, January 28, 2025	0.2696	5.8	13	4.2	9	2.4	4.9	5.4	0.18	0.2	0.4	0.28	0.6									73	63	6.99	6.99	10.2
Wednesday, January 29, 2025	0.3020	5.7	13	5.8	15	7.8	8.0	19.6	1.04	0.7	2.6	0.32	0.8									71	110	7.03	7.03	10.4
Thursday, January 30, 2025	0.2965	5.9	14	7.4	18	7.1	10.7	17.6	5.17	3.3	12.8	0.29	0.7									90	190	7.06	7.06	9.3
Friday, January 31, 2025	0.3525	5.9	14				10.7			3.3												123	340	7.12	7.12	10.3
																						175	370	7.43	7.43	10.4

PARAMETER	FLOW	SUSPENDED SOLIDS	CBOD ₅	AMMONIA NITROGEN	AVG	0.24	0.41	TOTAL MERCURY	FECAL COLIFORM	pH MIN	pH MAX	D.O.
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Name/Title of Principal Executive Officer Or Authorized Agent: _____ I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true and accurate.

Deputy Director: James Aulette

FROM: 1/1/2025
TO: 1/31/2025

Process Data Report

DATE	Process Testing					Ferric		Clarifier Sludge Blanket	Wastings	RAS	Sludge Tanks			UTILITIES			Generator
	PO4 COMP	NH3 COMP	D.O.	Mixed Liquor	Settling	Daily Inches	Gallons	ft	GPD	GPD	1	2	3	GAS METER	KWH * 160	WATER	Hours
Wednesday, January 1, 2025	0.60		9.79			4	32	0.8			4.50	6.00	6.50	8,264	29920	1287440	
Thursday, January 2, 2025	0.59		9.82			4	32	0.5			4.50	6.00	6.50	8,270	29929	1287501	
Friday, January 3, 2025	0.29		9.54	5270		3.5	28	1.0			4.50	6.00	6.50	8,276	29939	1287560	
Saturday, January 4, 2025	0.39		10.49			4	32	1.3			4.50	6.00	6.50	8,283	29949	1287714	
Sunday, January 5, 2025	0.25		10.84			4	32	0.8	5,467		4.50	6.00	6.50	8,290	29960	1288308	
Monday, January 6, 2025	0.23		10.64	5040	680	4	32	1.5	6,680		4.50	6.00	6.50	8,303	29970	1289230	
Tuesday, January 7, 2025	0.30		10.94			3	24	1.3	5,497		4.50	6.00	6.50	8,367	29981	1286324	
Wednesday, January 8, 2025	0.21		10.77			3.5	28	1.5			4.50	6.00	6.50	8,395	29991	1289418	
Thursday, January 9, 2025	0.15		10.80			4.5	36	1.5	5,523		4.50	6.00	6.25	8,399	30001	1289512	
Friday, January 10, 2025	0.26		10.81			3	24	1.5			4.50	6.00	6.25	8,403	30011	1289610	
Saturday, January 11, 2025	0.23		10.58			5	41	1.3	5,521		4.50	6.00	6.00	8,417	30019	1289760	
Sunday, January 12, 2025	0.58		10.77			3	24	2.3			4.50	6.00	6.00	8,448	30030	1290118	
Monday, January 13, 2025	0.51		10.45			2	16	2.0	8,496		4.50	6.00	6.00	8,508	30040	1290234	
Tuesday, January 14, 2025	0.41		10.66			1.5	12	1.5			4.50	6.00	6.00	8,522	30051	1290402	1008
Wednesday, January 15, 2025	0.57		11.04			1.5	12	2.0	8,517		4.50	6.00	6.00	8,536	30059	1290501	
Thursday, January 16, 2025	0.67		10.78			2	16	2.0			4.50	6.00	6.00	8,556	30067	1290806	
Friday, January 17, 2025	0.92		10.74			2	16	2.0	8,523		6.25	6.00	6.00	8,569	30081	1290901	
Saturday, January 18, 2025	0.33		10.34			3	24	3.5	10,533		6.50	6.00	6.00	8,583	30088	1290995	
Sunday, January 19, 2025	0.59		10.84			3	24	2.8	5,550		6.50	6.00	6.00	8,601	30098	1291094	
Monday, January 20, 2025	0.20		10.61			3	24	2.0			6.50	6.00	6.00	8,620	30111	1291190	
Tuesday, January 21, 2025	0.15		11.06	5960		3	24	2.5	5,534		6.50	6.00	6.00	8,641	30122	1291315	
Wednesday, January 22, 2025	0.40		11.07			3	24	3.0			6.50	6.00	6.00	8,669	30132	1291408	
Thursday, January 23, 2025	0.26		11.01			3	24	3.5	10,369		6.50	6.00	6.00	8,686	30153	1291470	
Friday, January 24, 2025	0.13		11.09	5940		3	24	2.5	5,556		6.50	6.00	6.00	8,701	30171	1291592	
Saturday, January 25, 2025	0.23		10.80			3	24	3.0	5,557		6.50	6.00	6.00	8,720	30183	1291683	
Sunday, January 26, 2025	0.70		10.88			3	24	2.5			6.50	6.00	6.00	8,734	30202	1291775	
Monday, January 27, 2025	0.45		10.23	6100		3	24	2.5	5,536		6.50	6.00	6.00	8,747	30219	1291867	
Tuesday, January 28, 2025	0.45		10.37			3	24	3.0	10,541		6.50	6.00	6.25	8,758	30228	1291963	
Wednesday, January 29, 2025	0.30	0.25	9.28			3	24	2.0	5,554		6.50	6.00	6.25	8,765	30236	1292056	
Thursday, January 30, 2025	0.34	1.00	10.30			3	24	2.0	7,586		6.50	6.25	6.25	8,772	30243	1292148	
Friday, January 31, 2025	0.62	3.00	10.44	6380		4	32	7.0	42,500		6.50	6.25	6.25	8,776	30251	1292241	
AVG	0.40	1.42	10.57	5782	680	3.15	25	2	8,897					508	51680	4708	
Total						98	790	66	169,040								

Monthly Influent Report

	WEATHER					RAW SEWAGE QUALITY							
	TEMP	PRECIP	Meter Total	TEMP	pH	cBOD ₅		Sus. Solids		TOTAL - P		NH ₃ - N	
	AIR TEMP F°	Inches	INF MGD	C°	SU	mg/l	LBS	mg/l	LBS	mg/l	LBS	mg/l	LBS
Wednesday, January 1, 2025	30	SNOW	0.337295	11.4	7.0	166	467	192	540	4.4	12.5	28.9	81.3
Thursday, January 2, 2025	24	SNOW	0.343235	10.2	7.2	173	495	188	538	5.1	14.7	31.5	90.2
Friday, January 3, 2025	22	SNOW	0.355355	5.8	7.5								
Saturday, January 4, 2025	18	SNOW	0.328656	10.6	7.1								
Sunday, January 5, 2025	17		0.360499	9.9	7.1	212	637	224	673	4.8	14.5	32.4	97.4
Monday, January 6, 2025	19		0.352096	8.6	7.2	124	364	88	258	5.1	15.0	32.5	95.4
Tuesday, January 7, 2025	19		0.347337	10.3	7.3	170	492	148	429	5.6	16.2	36.1	104.6
Wednesday, January 8, 2025	20		0.359623	9.1	7.2	162	486	192	576	6.5	19.5	35.7	107.1
Thursday, January 9, 2025	5		0.352621	6.3	7.3	155	456	204	600	5.8	16.9	31.9	93.8
Friday, January 10, 2025	17		0.362773	6.9	7.1								
Saturday, January 11, 2025	30	SNOW	0.328485	10.3	7.2								
Sunday, January 12, 2025	25	SNOW	0.342802	9.3	7.2	195	557	192	549	5.8	16.6	37.4	106.9
Monday, January 13, 2025	20	SNOW	0.324301	9.3	7.2	162	438	200	541	5.6	15.1	37.7	102.0
Tuesday, January 14, 2025	14	SNOW	0.340424	8.9	7.2	178	505	176	500	6.2	17.7	38.4	109.0
Wednesday, January 15, 2025	16	SNOW	0.330538	9.1	7.1	160	441	164	452	6.2	17.2	38.3	105.6
Thursday, January 16, 2025	19	SNOW	0.332124	10.0	7.2	145	402	136	377	6.2	17.2	34.1	94.5
Friday, January 17, 2025	21		0.360411	9.8	7.1								
Saturday, January 18, 2025	28		0.339166	10.0	7.2								
Sunday, January 19, 2025	18	SNOW	0.336184	8.9	7.2	187	524	168	471	6.7	18.8	36.3	101.8
Monday, January 20, 2025	2		0.330568	10.4	7.2	195	538	184	507	6.5	17.9	35.2	97.0
Tuesday, January 21, 2025	1	SNOW	0.312499	9.4	7.2	217	566	248	646	7.4	19.2	39.3	102.4
Wednesday, January 22, 2025	-4	SNOW	0.332062	8.3	7.2	161	446	192	532	6.8	18.9	39.6	109.7
Thursday, January 23, 2025	16	SNOW	0.328347	7.3	7.2	166	455	192	526	6.3	17.3	38.4	105.2
Friday, January 24, 2025	14		0.368519	11.1	7.1								
Saturday, January 25, 2025	20		0.357568	6.8	7.1								
Sunday, January 26, 2025	22		0.366449	7.7	7.1	202	617	188	575	5.7	17.3	35.2	107.6
Monday, January 27, 2025	20		0.343717	10.3	6.9	159	456	192	550	5.9	16.8	32.8	94.0
Tuesday, January 28, 2025	24		0.356813	9.8	7.1	188	559	256	762	5.9	17.6	39.7	118.1
Wednesday, January 29, 2025	32		0.349614	10.5	7.1	308	898	228	665	6.0	17.3	40.0	116.6
Thursday, January 30, 2025	27		0.380345	9.8	7.1	197	625	348	1104	6.3	20.0	34.6	109.8
Friday, January 31, 2025	37	0.50	0.461579	11.6	7.0								
TL		0.50	10.82										
AVG	19.13	0.50	0.35	9.3	7.16	181.0	519.3	195.5	562.3	5.9	17.0	35.7	102.3

BRIGHTON ANALYTICAL - Howell WWTP

SAMPLE DAY	Chloride mg/L	Sulfate mg/L	FINAL EFF =	UNCORR	FIELD BLANK	
			0.5	0.5	0.2	0.2
			FINAL EFF	GRAB: UNCORR	FIELD BLANK	METH BLANK
			MERCURY (ng/L)	MERCURY (ng/L)	MERCURY (ng/L)	MERCURY (ng/L)
01/01/25						
01/02/25						
01/03/25						
01/04/25						
01/05/25						
01/06/25						
01/07/25						
01/08/25						
01/09/25	220	29				
01/10/25						
01/11/25						
01/12/25						
01/13/25			0.50	0.5	0.34	0.2
01/14/25						
01/15/25						
01/16/25						
01/17/25						
01/18/25						
01/19/25						
01/20/25						
01/21/25						
01/22/25						
01/23/25						
01/24/25						
01/25/25						
01/26/25						
01/27/25						
01/28/25						
01/29/25						
01/30/25						
01/31/25						





February 6, 2025

EGLE
Water Bureau
525 West Allegan Street
Lansing, Michigan 48909

Dear Brent Bodnar,

I am writing to inform you that on February 2nd, and 3rd, the Plant Effluent Ammonia Nitrogen (as N) exceeded the daily limit of 7.0 mg/L, as defined in permit no. MI0055727. The following are the recorded results:

Date	mg/L
2/2	8.6
2/3	7.5

We believe this violation occurred due to the extremely cold temperatures in the aeration basin, which caused nitrification failure. Cold weather slows the growth of nitrifying bacteria and the rate of bacterial growth decreases by half for every 10°C drop below 25°C. At approximately 4°C, the microorganisms responsible for nitrification become nearly dormant. During this period, water temperatures ranged from 7°C to as low as 5°C.

To mitigate the effects of cold weather on nitrification, we have closely monitored the Mixed Liquor Suspended Solids (MLSS) concentration and the Dissolved Oxygen (DO) levels in the aeration basin. We have taken steps to ensure that there is sufficient DO for nitrification to proceed.

We appreciate your understanding and will continue to monitor the situation closely.

Sincerely,

James Aulette
Deputy Director

Section 2

Collection System Operation

Howell Township Pump Stations

Monthly Summary Report – January 2025

Pump Station Inspections:

All pump stations were inspected on a weekly basis throughout the month of January to ensure proper operation and maintenance.

Union at Oak Grove Pump Station:

On February 5th, we conducted a startup inspection and verification of the Oak Grove Pump Station. A detailed list of findings has been included in the attached report. Once the alarm system is fully operational and the station meets all Township specifications, we will assume full responsibility for the station's continued operation.

Pump Station Status:

The following stations are operating under normal conditions:

- **PS-70:** Normal Operations
- **PS-71:** Normal Operations
- **PS-72:** Normal Operations
- **PS-73:** Normal Operations
- **PS-74:** Normal Operations
- **PS-75:** Normal Operations
- **PS-76:** Normal Operations
- **PS-77:** Normal Operations
- **PS-78:** Normal Operations

Pump Station 70
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Generator Hours	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Cleaned Transducer?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Heater On?	Blow By?	Ran Generator?	Fuel Level in Generator	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Generator Net	Comments
1/18/2024	1:15 PM	wd	5767.2	5486.5	56311	495	YES	YES	YES	YES	YES	YES	NO	NO	YES	NO	YES	FULL	22.5	22.5	239.8	10.0	2.252	2.252	873.0	0.2	
1/23/2024	1:00 PM	JM	5778.5	5497.5	56752	496	YES	YES	YES	YES	YES	YES	NO	NO	YES	NO	YES	FULL	11.3	11.0	119.7	5.0	2.265	2.205	441.0	0.2	
1/29/2024	11:00 AM	db	5795.2	5513.5	57259	496	YES	YES	YES	YES	YES	YES	NO	NO	YES	NO	YES	FULL	16.7	16.0	142.0	5.9	2.823	2.704	507.0	0.2	
2/5/2024	2:15 PM	bc	5813.0	5530.8	57845	496	YES	YES	YES	YES	YES	YES	NO	NO	YES	NO	YES	75%	17.8	17.3	171.2	7.1	2.495	2.425	586.0	0.2	
2/12/2024	8:45 AM	wd	5825.4	5545.9	58363	496	YES	YES	YES	YES	YES	YES	NO	NO	YES	NO	YES	75%	12.4	15.1	162.5	6.8	1.831	2.230	518.0	0.2	
1/13/2025	10:05 AM	wd	6586.5	6290.7	79083	521	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	YES	75%	16.2	15.5	165.3	6.9	2.353	2.251	549.0	0.2	
1/21/2025	2:10 PM	JM	6605.0	6309.1	79732	521	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	YES	75%	18.5	18.4	196.1	8.2	2.264	2.252	649.0	0.2	
1/27/2025	2:15 PM	bc	6618.9	6322.9	80213	521	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	YES	75%	13.9	13.8	144.1	6.0	2.315	2.299	481.0	0.3	
2/4/2025	9:43 AM	sl	6637.3	6340.9	80795	522	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	YES	75%	18.4	18.0	187.5	7.8	2.356	2.304	582.0	0.2	
2/12/2025	10:05 AM	JM	6655.4	6359.0	81418	522	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	YES	75%	18.1	18.1	192.4	8.0	2.258	2.258	623.0	0.3	

Pump Station 71
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Cleaned Transducer?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Odor from Carbon Cannister?	Heater On?	Blow By?	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Comments
1/18/2024	2:15 PM	wd	5845.4	171.0	70103	YES	YES	YES	YES	YES	NO	NO	NO		YES	NO	5.7	5.9	243.1	10.1	0.563	0.583	388.0	
1/23/2024	12:10 PM	JM	5847.9	174.8	70299	YES	YES	YES	YES	YES	NO	NO	NO		YES	NO	2.5	3.8	117.9	4.9	0.509	0.773	196.0	
1/29/2024	10:52 AM	db	5851.4	179.7	70553	YES	YES	YES	YES	YES	NO	NO	NO		YES	NO	3.5	4.9	142.7	5.9	0.589	0.824	254.0	
2/5/2024	1:55 PM	bc	5855.3	185.5	70848	YES	YES	YES	YES	YES	NO	NO	NO		YES	NO	3.9	5.8	171.0	7.1	0.547	0.814	295.0	pump 2 1.9 hours higher.
2/12/2024	9:00 AM	wd	5858.9	190.8	71112	YES	YES	YES	YES	YES	NO	NO	NO		YES	NO	3.6	5.3	163.1	6.8	0.530	0.780	264.0	
1/13/2025	10:45 AM	wd	6072.6	416.9	84489	NO	NO	YES	YES	NO	NO	YES	NO		YES	NO	4.4	4.7	166.1	6.9	0.636	0.679	300.0	
1/23/2025	1:15 PM	bc	6079.0	423.6	84927	NO	NO	YES	YES	NO	NO	YES	NO		YES	NO	6.4	6.7	242.5	10.1	0.633	0.663	438.0	
1/27/2025	1:50 PM	bc	6081.6	426.3	85103	NO	NO	YES	YES	NO	NO	YES	NO		YES	NO	2.6	2.7	96.6	4.0	0.646	0.671	176.0	
2/4/2025	9:02 AM	sl	6086.7	432.1	85455	NO	NO	YES	YES	NO	NO	NO	NO		YES	NO	5.1	5.8	187.2	7.8	0.654	0.744	352.0	
2/10/2025	2:15 AM	JM	6090.8	436.7	85736	NO	NO	YES	YES	NO	NO	NO	NO		YES	NO	4.1	4.6	137.2	5.7	0.717	0.805	281.0	

Pump Station 72
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Generator Hours	Fuel/Gas Read	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Heater On?	Ran Generator?	Blow By?	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Generator Net	Fuel/Gas Net	Comments
1/18/2024	2:30 PM	wd	611.5	1543.6	75410	1251	1278	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	1.3	1.2	243.1	10.1	0.128	0.118	662.0	24.1	67.0	
1/23/2024	12:00 PM	JM	612.2	1544.3	75758	1251	1279	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	0.7	0.7	117.5	4.9	0.143	0.143	348.0	0.5	1.0	
1/29/2024	10:45 AM	db	613.2	1545.2	76113	1252	1281	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	1.0	0.9	142.7	5.9	0.168	0.151	355.0	0.7	2.0	
2/5/2024	2:05 PM	bc	614.2	1546.2	76553	1252	1282	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	1.0	1.0	171.3	7.1	0.140	0.140	440.0	0.5	1.0	
2/12/2024	9:15 AM	wd	615.3	1547.2	76934	1253	1284	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	1.1	1.0	163.2	6.8	0.162	0.147	381.0	0.5	2.0	
1/13/2025	10:50 AM	wd	662.4	1592.9	87557	1278	1351	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	1.0	0.8	166.1	6.9	0.145	0.116	434.0	0.5	2.0	
1/23/2025	1:25 PM	bc	663.1	1594.2	88308	1278	1352	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	0.7	1.3	242.6	10.1	0.069	0.129	751.0	0.5	1.0	
1/27/2025	2:00 PM	bc	664.2	1594.8	88581	1278	1352	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO	1.1	0.6	96.6	4.0	0.273	0.149	273.0	0.0	0.0	gen. failed to start alarm. ran in hand.
2/4/2025	9:20 AM	sl	665.2	1595.7	89048	1279	1353	NO	NO	YES	YES	NO	NO	NO	YES	YES	NO	1.0	0.9	187.3	7.8	0.128	0.115	467.0	0.6	1.0	
2/10/2025	1:30 PM	sl	665.9	1596.4	89466	1280	1355	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	0.7	0.7	148.2	6.2	0.113	0.113	418.0	0.7	2.0	

Pump Station 73
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	Pump 3	KWH	Generator Hours	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Odor from Carbon Cannister?	Heater On?	Ran Generator?	Blow By?	Fuel Level in Generator	Hours #1	Hours #2	Hours #3	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	AVG RUNTIME / DAY PUMP 3	KWH Net	Generator Net	Comments
1/18/2024	2:00 PM	wd		821.1	545.4	3504	612	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	FULL	0.0	15.3	6.0	241.6	10.1	0.000	1.520	0.596	20.0	0.9	
1/23/2024	12:25 PM	JM		827.8	548.0	3515	612	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	FULL	0.0	6.7	2.6	118.4	4.9	0.000	1.358	0.527	11.0	0.0	
1/29/2024	10:20 AM	db		847.7	554.8	3531	612	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	FULL	0.0	19.9	6.8	141.9	5.9	0.000	3.365	1.150	16.0	0.4	
2/5/2024	1:40 PM	bc		865.1	561.0	3547	613	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	FULL	0.0	17.4	6.2	171.3	7.1	0.000	2.437	0.868	16.0	0.9	
2/12/2024	9:45 AM	wd		877.2	565.5	3561	613	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	FULL	0.0	12.1	4.5	164.1	6.8	0.000	1.770	0.658	14.0	-0.2	
1/13/2025	10:35 AM	wd		1096.3	762.5	3984	635	NO	NO	YES	YES	NO	NO	NO	NO	YES	YES	NO	FULL	0.0	3.0	3.1	165.3	6.9	0.000	0.435	0.450	11.0	0.4	
1/23/2025	1:40 PM	bc		1100.8	767.2	4003	635	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	FULL	0.0	4.5	4.7	243.1	10.1	0.000	0.444	0.464	19.0	0.4	low oil pressure/low coolant temp on gen.
1/27/2025	1:40 PM	bc		1103.0	769.3	4010	635	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	FULL	0.0	2.2	2.1	96.0	4.0	0.000	0.550	0.525	7.0	0.0	
2/3/2025	2:23 PM	sl		1106.9	773.3	4023	635	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	FULL	0.0	3.9	4.0	168.7	7.0	0.000	0.555	0.569	13.0	0.4	
2/12/2025	10:35 AM	JM		1111.1	777.4	4038	636	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	FULL	0.0	4.2	4.1	212.2	8.8	0.000	0.475	0.464	15.0	0.8	

Pump Station 74
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Generator Hours	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Odor from Carbon Cannister?	Heater On?	Ran Generator?	Blow By?	Fuel Level in Generator	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Generator Net	Comments
1/19/2024	10:00 AM	wd	94.3	109.7	213.0	2267	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	50%	2.4	2.5	261.0	10.9	0.221	0.230	9.0	18.0	
1/23/2024	12:45 PM	JM	95.2	110.5	217.0	2267	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	50%	0.9	0.8	98.8	4.1	0.219	0.194	4.0	0.0	
1/29/2024	10:05 AM	db	98.8	114.1	224.0	2267	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	50%	3.6	3.6	141.3	5.9	0.611	0.611	7.0	0.8	
2/5/2024	1:25 PM	bc	102.2	117.5	232.0	2268	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	50%	3.4	3.4	171.3	7.1	0.476	0.476	8.0	0.8	
2/12/2024	10:00 AM	wd	104.4	119.6	237.0	2269	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	50%	2.2	2.1	164.6	6.9	0.321	0.306	5.0	0.9	
1/13/2025	9:50 AM	wd	173.2	188.1	442.0	2412	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	50%	1.1	1.2	164.3	6.8	0.161	0.175	6.0	0.7	
1/21/2025	1:40 PM	JM	174.5	189.5	449.0	2413	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	50%	1.3	1.4	195.8	8.2	0.159	0.172	7.0	0.6	
1/27/2025	1:20 PM	bc	175.6	190.4	454.0	2413	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	50%	1.1	0.9	143.7	6.0	0.184	0.150	5.0	0.7	low coolant temp. alarm on gen.
2/3/2025	1:35 PM	sl	176.9	191.8	460.0	2414	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	50%	1.3	1.4	168.2	7.0	0.185	0.200	6.0	0.8	
2/12/2024	9:45 AM	JM	178.4	193.2	467.0	2415	NO	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	50%	1.5	1.4	-8571.8	-357.2	-0.004	-0.004	7.0	0.6	

Pump Station 75
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Generator Hours	Fuel/Gas Read	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Heater On?	Ran Generator?	Blow By?	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Generator Net	Fuel/Gas Net	Comments
1/19/2024	9:40 AM	wd	809.8	2592.1	2814	883	4071	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	6.3	6.1	240.7	10.0	0.628	0.608	10.0	0.8	5.0	
1/23/2024	1:45 PM	JM	812.4	2594.5	2818	883	4074	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	2.6	2.4	100.1	4.2	0.623	0.576	4.0	0.4	3.0	
1/29/2024	9:35 AM	db	816.8	2598.9	2824	883	4074	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	4.4	4.4	139.8	5.8	0.755	0.755	6.0	0.0	0.0	
2/5/2024	1:05 PM	bc	821.4	2603.3	2830	884	4076	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	4.6	4.4	171.5	7.1	0.644	0.616	6.0	0.4	2.0	
2/12/2024	10:35 AM	wd	825.4	2607.3	2835	884	4079	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	4.0	4.0	165.5	6.9	0.580	0.580	5.0	0.4	3.0	
1/13/2025	9:40 AM	wd	1027.6	2800.9	3187	904	4211	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	4.5	4.3	163.7	6.8	0.660	0.631	10.0	0.4	3.0	
1/21/2025	1:10 PM	JM	1033.1	2806.1	3199	905	4216	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	5.5	5.2	195.5	8.1	0.675	0.638	12.0	0.7	5.0	
1/27/2025	1:00 PM	bc	1037.0	2809.9	3209	905	4216	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	3.9	3.8	143.8	6.0	0.651	0.634	10.0	0.0	0.0	
2/3/2025	1:20 PM	sl	1041.9	2814.6	3219	906	4218	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	4.9	4.7	168.3	7.0	0.699	0.670	10.0	0.4	2.0	
2/12/2025	9:30 AM	JM	1047.8	2820.3	3232	906	4223	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	5.9	5.7	212.2	8.8	0.667	0.645	13.0	0.8	5.0	

Pump Station 76
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Generator Hours	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Heater On?	Ran Generator?	Blow By?	Fuel Level in Generator	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Generator Net	Comments
1/19/2024	9:30 AM	wd	3212.8	2565.4	569	590	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	FULL	7.4	8.2	240.8	10.0	0.737	0.817	547.0	0.7	
1/23/2024	1:35 PM	JM	3215.9	2568.8	797	590	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	FULL	3.1	3.4	100.1	4.2	0.743	0.815	228.0	0.0	
1/29/2024	9:25 AM	db	3220.6	2573.8	1106	590	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	FULL	4.7	5.0	139.8	5.8	0.807	0.858	309.0	0.4	
2/5/2024	12:55 PM	bc	3225.9	2579.5	1476	590	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	FULL	5.3	5.7	171.5	7.1	0.742	0.798	370.0	0.3	
2/12/2024	10:20 AM	wd	3230.7	2584.8	1821	591	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	FULL	4.8	5.3	165.4	6.9	0.696	0.769	345.0	0.3	
1/13/2025	9:35 AM	wd	3465.5	2842.6	13414	608	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	75%	4.8	5.6	163.9	6.8	0.703	0.820	336.0	0.3	
1/21/2025	1:00 PM	JM	3471.5	2849.2	13819	608	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	75%	6.0	6.6	195.4	8.1	0.737	0.811	405.0	0.4	
1/27/2025	12:50 PM	bc	3475.8	2854.1	14114	609	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	75%	4.3	4.9	143.8	6.0	0.717	0.818	295.0	0.3	
2/3/2025	12:35 PM	sl	3483.0	2857.4	14430	609	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	75%	7.2	3.3	167.8	7.0	1.030	0.472	316.0	0.3	
2/12/2025	9:11 AM	JM	3490.1	2862.7	14904	609	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	75%	7.1	5.3	212.6	8.9	0.802	0.598	474.0	0.4	

Pump Station 77
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Heater On?	Blow By?	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Comments
1/19/2024	9:15 AM	wd	379.8	536.1	19027	YES	YES	YES	YES	YES	NO	NO	YES	NO	0.4	0.4	239.9	10.0	0.040	0.040	150.0	
1/23/2024	2:00 PM	JM	380.0	536.3	19088	YES	YES	YES	YES	YES	NO	NO	YES	NO	0.2	0.2	100.8	4.2	0.048	0.048	61.0	
1/29/2024	9:10 AM	db	380.3	536.5	19166	YES	YES	YES	YES	YES	NO	NO	YES	NO	0.3	0.2	139.2	5.8	0.052	0.034	78.0	
2/5/2024	12:45 PM	bc	380.6	536.8	19261	YES	YES	YES	YES	YES	NO	NO	YES	NO	0.3	0.3	171.6	7.1	0.042	0.042	95.0	
2/12/2024	10:45 AM	wd	380.9	537.0	19331	YES	YES	YES	YES	YES	NO	NO	YES	NO	0.3	0.2	166.0	6.9	0.043	0.029	70.0	
1/13/2025	9:30 AM	wd	396.3	550.9	21733	NO	NO	YES	YES	NO	NO	NO	YES	NO	0.2	0.2	175.3	7.3	0.027	0.027	87.0	
1/21/2025	12:50 PM	JM	396.6	551.2	21848	NO	NO	YES	YES	NO	NO	NO	YES	NO	0.3	0.3	195.3	8.1	0.037	0.037	115.0	
1/27/2025	12:35 PM	bc	396.8	551.4	21928	NO	NO	YES	YES	NO	NO	NO	YES	NO	0.2	0.2	143.8	6.0	0.033	0.033	80.0	
2/3/2025	12:25 PM	sl	397.2	551.7	22013	NO	NO	YES	YES	NO	NO	NO	YES	NO	0.4	0.3	167.8	7.0	0.057	0.043	85.0	
2/12/2025	1:25 PM	JM	397.5	552.0	22140	NO	NO	YES	YES	NO	NO	NO	YES	NO	0.3	0.3	217.0	9.0	0.033	0.033	127.0	

Pump Station 78
Howell Township
Jan-Feb 2024 - Jan-Feb 2025

Date	Time	Initials	Pump 1	Pump 2	KWH	Operated Pump 1 in Hand?	Operated Pump 2 in Hand?	Quiet?	Cleaned Floats?	Tested High Level Alarm Float?	Wet Well Needs Cleaning?	Grass Needs Mowing?	Heater On?	Blow By?	Hours #1	Hours #2	HOURS SINCE LAST CHECK IN	# OF DAYS	AVG RUNTIME / DAY PUMP 1	AVG RUNTIME / DAY PUMP 2	KWH Net	Comments
1/18/2024	1:00 PM	wd	1535.2	1660.3	7979	YES	YES	YES	YES	YES	NO	NO	YES	NO	13.7	14.5	239.2	10.0	1.375	1.455	494.0	
1/23/2024	1:20 PM	JM	1541.9	1667.3	8222	YES	YES	YES	YES	YES	NO	NO	YES	NO	6.7	7.0	120.3	5.0	1.336	1.396	243.0	
1/29/2024	11:20 AM	db	1551.8	1677.7	8563	YES	YES	YES	YES	YES	NO	NO	YES	NO	9.9	10.4	142.0	5.9	1.673	1.758	341.0	
2/5/2024	2:35 PM	bc	1562.6	1689.1	8942	YES	YES	YES	YES	YES	NO	NO	YES	NO	10.8	11.4	171.3	7.1	1.514	1.598	379.0	
2/12/2024	8:30 AM	wd	1572.0	1699.2	9281	YES	YES	YES	YES	YES	NO	NO	YES	NO	9.4	10.1	161.9	6.7	1.393	1.497	339.0	
1/13/2025	11:00 AM	wd	2037.9	2171.0	25724	NO	NO	YES	YES	NO	NO	NO	YES	NO	10.5	10.6	166.9	7.0	1.510	1.524	378.0	
1/23/2025	2:05 PM	bc	2051.9	2185.3	26259	NO	NO	YES	YES	NO	NO	NO	YES	NO	14.0	14.3	243.1	10.1	1.382	1.412	535.0	
1/27/2025	2:30 PM	bc	2057.6	2191.1	26566	NO	NO	YES	YES	NO	NO	NO	YES	NO	5.7	5.8	96.4	4.0	1.419	1.444	307.0	
2/4/2025	10:10 AM	sl	2069.2	2202.7	27227	NO	NO	YES	YES	NO	NO	NO	YES	NO	11.6	11.6	187.7	7.8	1.483	1.483	661.0	
2/12/2025	10:50 AM	JM	2080.9	2214.0	27892	NO	NO	YES	YES	NO	NO	NO	YES	NO	11.7	11.3	192.7	8.0	1.457	1.408	665.0	

Union at Oak Grove Pump Station Startup Report

Date of Inspection: February 5th, 2025

Location: Oak Grove Pump Station

Performed by: MHOG Utilities

Objective:

The objective of the onsite inspection and startup verification at the Oak Grove Pump Station was to ensure the station is fully operational. This included verifying the functionality of the pumps, standby power system, and the control systems.

Activities Performed:

- **Pump Verification:** Both pumps were inspected to confirm they are functioning correctly.
- **Standby Power Test:** The system was tested to ensure proper operation on standby power.
- **Control System Test:** The station's control systems were tested to ensure everything is working as expected.

Findings:

1. **Block Heater Outlet:**
 - The block heater outlet was found to be non-operational and will need to be replaced.
2. **Pump #2 Rail System:**
 - The rail system for Pump #2 was not stainless steel as required and needs to be replaced with stainless steel components.
3. **Alarm System:**
 - The station currently lacks an alarm system. This is a key issue that needs to be addressed for proper remote monitoring and safety.

Next Steps:

- **Alarm System Installation:** Detroit Pump is working with Kennedy Pumps to install SCADA, which will provide the necessary alarm and monitoring capabilities.
- **Repairs & Replacements:**
 - Replacement of the non-operational block heater outlet.
 - Replacement of the Pump #2 rail system with stainless steel components.



Lift Station Name/Number: Union @ Oak Grove
 Location: 1820 Molly Lane
 Start-Up Date: 2/5/2025 10:00AM
 Technician Name: JA

Pre-Start Check

Site Inspection: Ensure clear access to equipment and safety measures in place

Notes: Made sure we could access the wetwell with are crane truck and vector truck

Pump System Check:

- Inspect Pump 1 for physical damage, wear, or corrosion.
- Inspect Pump 2 for physical damage, wear, or corrosion.
- Pull Pumps and check rotation

Pump 1

MAKE Barnes
 MODEL XSGV2032L
 SERIAL C2104506
 HP 2
 RPM 3450
 AMPS 9

Pump 2

MAKE Barnes
 MODEL XSGV2032L
 SERIAL C2104507
 HP 2
 RPM 3450
 AMPS 9

Confirm proper Voltage and Amps Pump 1

Voltage: 129
 Amps: 6.2

Confirm proper Voltage and Amps Pump 2

Voltage: 128
 Amps: 6.5

CONTROL PANEL AND ELECTRICAL SYSTEM

- Inspect wiring, electrical connections, and grounding
- Verify float switch settings and alarm functionality
- Test alarm sytem

Notes: We need the modbus address to install SCADA Alarm System.

GENERATOR CHECK

- Ensure fuel/oil levels
- Confirm automatic transfer switch
- Run generator under load (pump operations)

Notes: Outlet for block heater does not work

Natural Gas Generator

Wolverine Power System was on site for generator start up

Notes

Pump #2 Rail system needs to be stainless

Outlet for block heater needs to be replaced

We need the modbus address to install SCADA Alarm System.

Once the alarm system is operational and we make sure the station meets all Township specs, we will assume resposibilty for the station.

Monthly Missdig Log

January-25											
Date	Missdig Tickets					Marked					
	Received	Positive Response	Marked	Cleared	Out of System	MHOG	OPW	LE	G/O	OPS	HTS
Wednesday, January 01, 2025	2	0	0	0	0	0	0	0	0	0	0
Thursday, January 02, 2025	22	23	12	21	0	9	0	0	3	0	0
Friday, January 03, 2025	3	10	7	3	0	2	2	0	1	2	0
Saturday, January 04, 2025	3	0	0	0	0	0	0	0	0	0	0
Sunday, January 05, 2025	0	0	0	0	0	0	0	0	0	0	0
Monday, January 06, 2025	13	4	2	2	0	1	0	0	0	0	1
Tuesday, January 07, 2025	6	13	5	8	0	2	2	0	0	1	0
Wednesday, January 08, 2025	18	6	3	3	0	1	0	0	2	0	0
Thursday, January 09, 2025	10	21	9	12	0	3	1	0	2	1	2
Friday, January 10, 2025	2	3	1	2	0	0	0	0	0	1	0
Saturday, January 11, 2025	0	0	0	0	0	0	0	0	0	0	0
Sunday, January 12, 2025	0	0	0	0	0	0	0	0	0	0	0
Monday, January 13, 2025	4	3	2	1	0	1	0	0	0	0	1
Tuesday, January 14, 2025	6	6	5	1	0	2	0	0	0	1	2
Wednesday, January 15, 2025	15	9	4	5	0	1	0	0	3	0	0
Thursday, January 16, 2025	10	7	6	1	0	3	0	0	2	0	1
Friday, January 17, 2025	11	10	3	7	0	2	0	0	1	0	0
Saturday, January 18, 2025	4	0	0	0	0	0	0	0	0	0	0
Sunday, January 19, 2025	0	0	0	0	0	0	0	0	0	0	0
Monday, January 20, 2025	3	0	0	0	0	0	0	0	0	0	0
Tuesday, January 21, 2025	7	17	6	11	0	5	0	0	1	0	0
Wednesday, January 22, 2025	2	8	6	2	0	4	0	0	2	0	0
Thursday, January 23, 2025	15	3	3	0	0	1	0	0	2	0	0
Friday, January 24, 2025	0	0	0	0	0	0	0	0	0	0	0
Saturday, January 25, 2025	0	0	0	0	0	0	0	0	0	0	0
Sunday, January 26, 2025	9	0	0	0	0	0	0	0	0	0	0
Monday, January 27, 2025	4	26	12	15	0	8	1	0	2	1	0
Tuesday, January 28, 2025	19	9	8	1	0	4	0	0	4	0	0
Wednesday, January 29, 2025	6	14	6	8	0	2	1	0	2	1	0
Thursday, January 30, 2025	26	26	20	6	0	9	0	0	5	6	0
Friday, January 31, 2025	9	0	0	0	0	0	0	0	0	0	0
Total	229	218	120	109	0	60	7	0	32	14	7
	Received	Positive Response	Marked	Cleared	Out of System	MHOG	OPW	LE	G/O	OPS	HTS
	7	7	4	4	0	Total					120
	Average Per Day					% Marked to Received					
						52%					

MHOG = MHOG Water System
 OPW = Oak Pointe Water System

LE = Lake Edgewood Sewer System
 G/O = G/O Sewer System
 OPS = Oak Pointe Sewer System
 HTS = Howell Township Sewer System

Section 3

**Repairs
&
Capital Improvements**

Howell Township
Updated Capital Improvement Plan Summary
Updated 2/17/25

Active CIP and Significant Repairs In Progress					
No.	Project Description	Priority	Initial Estimate	Revised Estimate	Update
1	WesTech North Clarifier Upgrade and New RAS Pump	High	\$450,000	\$321,988	All equipment and parts are on site. FHC was to start on February 10, but weather has delayed the start
2	Union at Oak Grove SCADA Integration	High	\$10,000	\$10,000	Present at start up. Information provided to Kennedy.
		Total	\$460,000	\$331,988	

10K

HAPRA MEETING Feb 18,2025

Meeting Called 6:30

Discussed Leave Policy, will come back to the board by April 2025 with recommendations.

Approved Lease with Oceola Township, lease stayed the same as prior years.

Discussion on Coaching for Director and Deputy Director, and full time staff. To look into further and bring back

Kevin Troschak received Michigan Out School Grant for the teen center and the Summer Camps, \$111,000.

St Patrick's Day Scavenger Hunt " Lucky Pursuit" March 17th 7:00 a.m. to 10:00 p.m. this is for ages 18+

Rubber Duck Hunt starting April 1, 2025, 7:00 a.m. to April 30, 2025 9:00 p.m.

10M

Park and Recreation Committee
February 25, 2025
1-2 p.m.

Present: Martha Haglund, Jonathan Hohenstein

Phase I Study Results for Township Property - Tooley Road:

The Committee discussed the results of the Phase I environmental studies completed by ASTI. Due to the reports' length only relevant pages have been included along with this report. For the full reports please see the Township's website. In general, the results were good. Combining what was learned from these reports and the information provided to the Shiawassee River Committee from the EPA and the State, current indicators show that there should be no issue with building the park as designed. However, there are a few items that need to be addressed:

Dump sites and debris were discovered on two of the parcels. The Committee recommends getting these cleaned up.

The animal testing laboratory site will require further testing, but the State has already indicated that they have plans to test the site in the near future. The Committee recommends that after the State completes their tests the Township consider further screening this portion of the property especially when the Township develops the parcel in the future.

Root Cellar on former lab site should be secured or demolished.

All wells should be grouted and capped.

We have requested a Phase II environmental study quote from ASTI. The quote will be evaluated prior to bringing it to the Board for action.

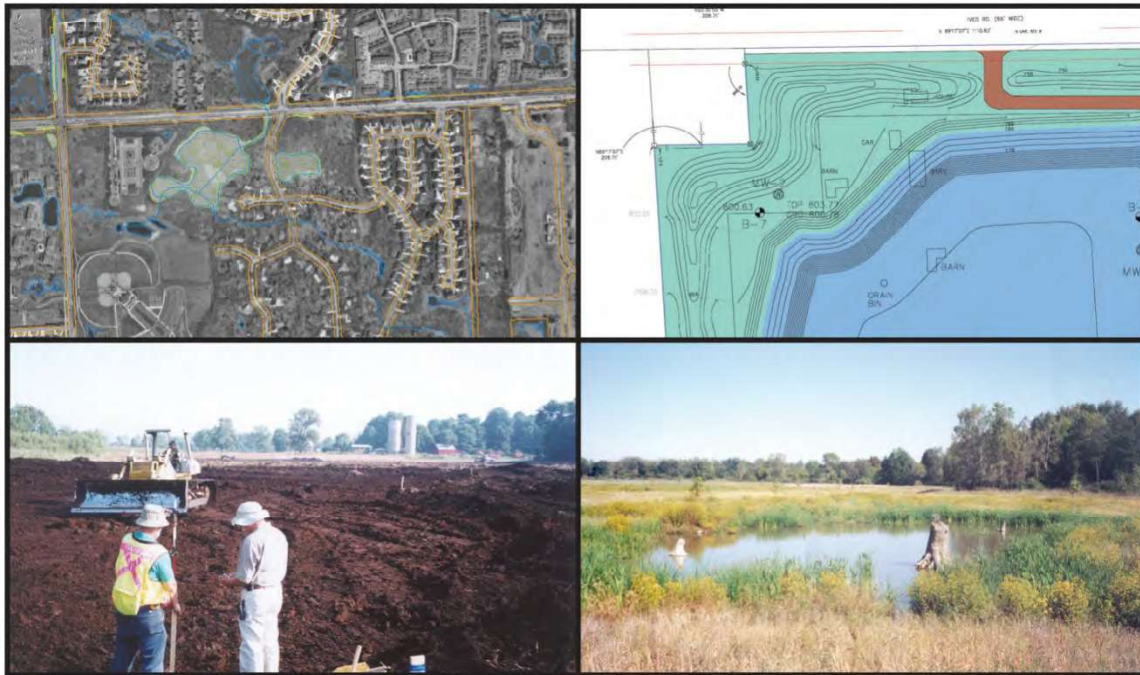
Respectfully submitted,
Jonathan Hohenstein

Phase I Environmental Site Assessment
33.13-Acre Property
Parcel 4706-21-200-020
Howell Township, Livingston County, Michigan

Howell Township

January 20, 2025

ASTI ENVIRONMENTAL



Summary of Findings	<p>The Subject Property was initially included in URS's BEA and Part 201 "facility" classification despite the lack of environmental concern and sampling. As a result of the supplemental information provided by URS, the area of the BEA was refined to exclude the Subject Property.</p> <p>Samples were collected from nearby drinking water wells and analyzed for VOCs and metals. The results did not suggest an impact from the Difco Labs.</p> <p>It was reported that the lab previously maintained two water supply wells; however, ASTI could not determine if these former wells were closed.</p>
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OPINION

Based on the site inspection, interviews, regulatory and municipal records review, and review of historical documentation, the following is opined by the EP.

De Minimis Conditions

The EP did not identify any de minimis conditions associated with the Subject Property.

Significant Data Gaps

The EP did not identify any significant data gaps associated with the Subject Property.

Historical Recognized Environmental Conditions

The EP did not identify any HRECs associated with the Subject Property.

Controlled Recognized Environmental Conditions

The EP did not identify any CRECs associated with the Subject Property.

Recognized Environmental Conditions

The EP did identify RECs associated with the Subject Property.

11.0 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report.

This assessment has revealed the following recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), and/or significant data gaps in connection with the Subject Property.

REC Opinion #1: Biosolids appear to have been applied to the Subject Property as an agricultural nutrient booster. The biosolids were applied by Biotech Agronomics, Inc. and they were sourced from the Pontiac Wastewater Treatment Plant (WWTP). The obtained biosolids application notification was issued on May 29, 2014. The biosolids were tested for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, nitrogen, phosphorus, and potassium. The biosolids do not appear to have been tested for per- and polyfluoroalkyl substance (PFAS), which is now known to be spread through biosolids from WWTPs.

REC Opinion #2: The Subject Property was initially included in a Baseline Environmental Assessment from 2004 that covered a 207-acre site formerly operated by Difco Lab. The report was revised to a smaller fraction that is about 8.6 acres. The Subject Property is not included in the revised area; however, no sampling was conducted on the Subject Property to distinguish or verify its' condition.

12.0 ADDITIONAL SERVICES

Non-Scope Considerations under Appendix X6 of ASTM Practice E1527-21 were not addressed in this investigation.

13.0 REFERENCES

The following references were used in preparing this Phase I ESA:

- Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-21



Mem/site ID
477000219
- see site file (201)
Difco cabs, former
2755 Tooley Rd
201 site = 32/44



**Baseline Environmental Assessment
Conducted Pursuant to Section 20126(1)(c)
of 1994 PA 451, Part 201, as amended,
and the Rules promulgated thereunder**

207-Acre Property
Tooley Road
Howell Township, Michigan

Prepared for:

Manton Creek, LLC
c/o MiK Development & Consulting
Rochester Hills, Michigan

Prepared by:
URS Corporation
Farmington Hills, MI
URS Project #: 13647907

July 12, 2004

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1. Identification of Author and Dates Baseline Environmental Assessment was Conducted and Completed

This Baseline Environmental Assessment (BEA) was completed on behalf of Manton Creek, L.L.C. by URS Corporation (URS) of Farmington Hills, Michigan. Scott Johnson is the Project Manager with primary responsibility for the data assembly, interpretation, and technical conclusions. The BEA was initiated on May 5, 2004, and completed on July 12, 2004.

2. Introduction

Based on the review of historical documents (previous reports, aerial photographs, and topographic maps), site investigations, and site personnel interviews as documented in Sections 8 and 9 of this BEA, the subject property, consisting of approximately 207 acres of largely undeveloped wooded, wetland, and agricultural areas, appears to have been utilized primarily for agricultural, laboratory, and residential uses since as early as 1940. The 207-acre subject property is located along Tooley Road between Warner and Bowen Roads, approximately 1.0 mile north of M-59 in Howell Township, Livingston County, Michigan. A site location map is provided as Figure 1.

Difco Laboratories, a farm and research testing laboratory, encompassing approximately 3.5-acres, was formerly located in the southern central portion of the larger 207-acre subject property. The entire laboratory structure has been razed and the area has been replanted with grass and tree saplings; however, several formerly associated structures (e.g., barn, root cellar, equipment storage building, and silo) remain in various stages of disrepair. Six groundwater monitoring wells are also located in the immediate area of the former laboratory. In addition, a small residence and two barn/storage buildings are located at the northeast corner of Tooley and Warner Roads in the northeast section of the subject property.

A small farmhouse, barn, silo and root cellar comprised a small farm compound, adjacent to Tooley Road in the southern-central portion of the larger 207-acre subject property, since as early as 1940. A small underground storage tank (UST) used for fueling farm equipment was reportedly located adjacent to the former farmhouse in this area of the subject property. Difco Laboratories occupied the area of the former farm compound in the south-central portion of the subject property from the middle 1960s to the late 1980s. Difco Laboratories constructed and operated a small diagnostic research laboratory in this area (former farm compound location) of the subject property until approximately 1988. Several of the former buildings associated with the former farm and laboratory in the southern central portion of the subject property were subsequently razed; however, some dilapidated structures (storage sheds, root cellar, and silo) remain, but have not been in use since the late 1980s. Difco Laboratory's primary activity at the subject property was the production of antibiotic-impregnated paper disks in spring-loaded plastic dispensing cartridges. The remainder of the 207-acre subject property was utilized for agricultural fields since as early as 1940 to the present.

The former farm/Difco Laboratory site on the southern central portion of the subject property has remained vacant since the late 1980s, with the exception of the aforementioned dilapidated storage sheds, root cellar, and silo. The remainder of the 207-acre subject property remains largely agricultural in use. Future use of the 207-acre subject property, including the former farm compound/Difco Laboratories area, is anticipated to consist of a residential development of single-family homes, condominiums and apartments. A site plan depicting the 207-acre subject property is provided as Figure 2.

The BEA was conducted to be in conformance with the requirements of a Category N BEA, pursuant to Michigan Department of Environmental Quality (MDEQ) regulations under the

authority of Section 20126(1)(c) of 1994 PA 451, Part 201, as amended, and the Rules promulgated thereunder.

3. Property Description and Intended Hazardous Substance Use

The subject property is identified by the tax parcel identification numbers: 06-22-100-001, 06-22-100-002, 06-15-300-002, 06-21-200-002, 06-21-200-005, and 06-21-200-006.

Legal descriptions of the subject property, as obtained from the Howell Township Assessing Department, are as follows:

Part of the Southwest 1/4 of Section 15 and the Northeast 1/4 of Section 21 and the Northwest 1/4 of Section 22 all being in T3N-R4E, Howell Township, Livingston County, Michigan being more particularly described as follows: Beginning at the Southwest corner of said Section 15; thence along the East-West 1/4 line of said Section 15, N 00°41'58" W, 1550.05 feet; thence S 72°38'48" E, 415.16 feet; thence S 49°43'37" E, 520.72 feet; thence S 44°20'47" E, 771.84 feet; thence S 00°39'20" E, 535.07 feet to the South line of said Section 15, also being the North line of said Section 22; thence along said line, N 89°53'29" E, 190.10 feet; thence S 00°27'42" E, 1521.71 feet; thence S 87°16'36" W, 247.71 feet; thence S 00°28'17" E, 1129.02 feet to the East-West 1/4 line of said Section 22 and the centerline of Bowen Road (66 feet wide); thence along said line, S 89°59'07" W, 937.41 feet; thence N 00°09'59" W, 184.00 feet; thence S 89°59'08" W, 339.05 feet to the West line of said Section 22, also being the East line of said Section 21 and the centerline of Tooley Road (66 feet wide); thence along said line, N 00°10'58" W, 644.21 feet; thence N 89°59'53" W, 1315.31 feet; thence S 00°15'37" E, 828.27 feet to the East-West 1/4 line of said Section 21 and the centerline of said Bowen Road; thence along said line S 90°00'00" W, 536.20 feet; thence N 00°21'24" W, 350.00 feet; thence S 89°58'00" W, 250.07 feet; thence N 00°24'44" W, 62.53 feet; thence N 89°59'20" W, 527.87 feet to the North-South 1/4 line of said Section 21; thence along said North-South 1/4 line, N 00°21'24" W, 918.96 feet; thence S 89°53'58" E, 1316.16 feet; thence N 00°15'59" W, 1332.40 feet to the North line of said Section 21 and the centerline of Warner Road (66 feet wide); thence along said line, S 89°55'46" E, 1318.25 feet to the Northeast corner of said Section 21 and the Point of Beginning. Containing 208.12 acres more or less and subject to the rights of the public over the existing Warner Road, Bowen Road and Tooley Road, and also any other easements and restrictions of record.

The 207-acre subject property consists of predominantly undeveloped land including wooded, wetland, and agricultural areas. The subject property is located in a rural area, consisting predominantly of farmland and private residences. The former farm compound/Difco Laboratories site was previously located adjacent to Tooley Road in the southern central portion of the larger 207-acre subject property. The entire laboratory structure has been razed and the area has been replanted with grass and tree saplings. However, five structures formerly associated with the farm compound/Difco Laboratories site remain at the site that are in various stages of disrepair, including a cement silo, a burned and dilapidated barn, a dilapidated former equipment storage building, an intact former root cellar, and a dilapidated former feed storage structure.

The dilapidated structures currently remaining at the former Difco Laboratories site were apparently constructed as early as 1940, and were associated with the previously existing farm compound in this location. Past operations at the site have included the production of antibiotic-

impregnated paper disks in spring-loaded plastic dispensing cartridges at the former Difco Laboratory, and a petroleum UST associated with the former farm used for fueling farm equipment. The remaining abandoned structures at the subject property are surrounded by agricultural fields and wooded areas. (Site photographs are attached).

Mr. Richard Van Gilder is the current owner of the 207-acre subject property, in which the former farm compound/Difco Laboratory site is located. MiK Development Consulting, c/o Manton Creek, LLC, has indicated that no significant uses of hazardous substances are anticipated at the site in the future, as the site is to be developed as a residential community.

4. Known Contamination

Site Investigations

Several environmental assessments have been conducted at the former farm/Difco Laboratories site at the subject property between 1992 and 2000. URS reviewed reports and data that were provided by Swanson Environmental, Inc. (SEI) and Radian International, LLC (Radian). ENKON Environmental Service, Inc. (ENKON) conducted environmental assessments at the subject property between March and November 1992. URS was not provided a copy of the ENKON report; however, it was summarized in a 1994 Site Investigation Report, prepared by SEI. Reportedly, ENKON (1) collected and analyzed soil and groundwater samples from several locations throughout the former Difco Laboratory site and analyzed these samples for metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs), and (2) excavated drainage ditches and disposal pits formerly utilized by Difco Laboratories. SEI also prepared a Waste Disposal Pit Remediation Report in March 1996. Radian conducted a Phase I and II ESA in July 1999, and subsequently conducted a follow-up Phase II ESA/Baseline Environmental Site Assessment between May and June 2000. A summary of each investigation is provided in the following paragraphs. (Copies of these prior reports are included as attachments).

ENKON's investigations focused on the following four areas of environmental concern associated with the former Difco Laboratory site at the subject property: a former septic system leach field, a concrete pad drainage area, a stormwater retention pond, and former laboratory waste disposal pits. ENKON reportedly collected and analyzed soil and groundwater samples from several locations throughout these areas at the former Difco Laboratory site and analyzed the samples for metals, VOCs, and SVOCs. The locations of the areas investigated are depicted on Figure 3, attached.

Organic compounds (VOCs and SVOCs) were not detected in any of the identified areas of concern during ENKON's 1992 investigations; however, concentrations of arsenic and silver were reportedly detected in exceedance of the former Michigan Act 307 Type B clean-up criteria in soil samples collected from the septic system's leach field. According to the 1994 SEI report, the drain tile field and gravel associated with the former septic system leach field was subsequently removed from the subject property in October 1992 and ENKON collected five post excavation soil samples. Several of the post-excavation soil samples reportedly contained elevated concentrations of arsenic (13.6 parts per million, ppm) and selenium (190 ppm) above the former Act 307 Type B criteria. These reported concentrations exceed the current Act 451 Part 201 criteria for arsenic (direct contact, 7.6 ppm) and selenium (residential drinking water protection, 4.0 ppm). The former farm/Difco Laboratory site at the subject property previously maintained two water supply wells; however, the site has been vacant since the late 1980s and the wells are no longer utilized as a water source.

A concrete pad and associated drainage ditch was reportedly located at the southeast corner of the former laboratory building, which discharged to a storm water retention pond located in the southeast corner of former Difco Laboratory site, approximately 250 feet to the southeast of the former laboratory building. Soil samples collected from the drainage ditch contained several metals (selenium, silver, and zinc) at concentrations above the former Act 307 Type B cleanup criteria. Elevated concentrations of selenium (81.6 ppm) and mercury (0.25 ppm) were detected above the former Act 307 Type B criteria in soil samples collected from the edge of the storm water retention pond. The selenium and mercury concentrations exceed the current Act 451 Part 201 criteria. ENKON reportedly excavated the drainage ditch between the concrete pad and retention pond in October 1992 and three post-excavation confirmation soil samples were collected and analyzed for metals. ENKON reported that elevated concentrations of selenium (4.38 ppm), silver (2.20 ppm), and zinc (107 ppm) were detected in two of the confirmation soil samples. The reported selenium concentration exceeded the current Act 451 Part 201 criteria for selenium (residential drinking water protection, 4.0 ppm). The reported silver and zinc concentrations were below Part 201 criteria.

Three laboratory waste disposal pits observed to contain a wide assortment of laboratory waste materials (syringes, impregnated disks, dispenser cartridges), animal carcasses, waste building materials, and general refuse were reported to have been located west, southwest and south of the former laboratory building. ENKON reportedly excavated and removed approximately 1,400 cubic yards of the waste materials and soil from the disposal pits and collected confirmatory soil samples beneath the pits and analyzed them for "Michigan 10" metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). No VOCs or SVOCs were detected in any of the samples collected. Metals were reportedly detected at concentrations typical of those naturally occurring in Michigan, with the exception of elevated concentrations of selenium (266 ppm) and arsenic (8.6 ppm). These reported concentrations exceed the current Act 451 Part 201 criteria for arsenic (direct contact, 7.6 ppm) and selenium (residential drinking water protection, 4.0 ppm).

6,600
cysds
total
removed
by prev.
reports
(1984-95)

ENKON also reportedly installed two groundwater monitoring wells at the former Difco Laboratory site; MW-1 is located southeast of the former laboratory building near a small stream leading into the stormwater retention pond, and MW-2 is located northwest of the former laboratory building in the adjacent agricultural field. The wells were reportedly installed to depths of 10 and 12 feet bgs. MW-2 was reportedly dry at the time of ENKON's sampling; however, elevated concentrations of dissolved arsenic (75.7 parts per billion, ppb) and lead (4.5 ppb) were detected in the sample collected from MW-1. These reported concentrations exceed the current Act 451 Part 201 residential drinking water protection criteria for arsenic (50 ppb) and lead (4.0 ppb).

Swanson Environmental, Inc.(SEI): Site Investigation Report (dated December 1994).

SEI evaluated subsurface conditions in the locations that ENKON had previously identified as having elevated metals concentrations, delineated the extent of the laboratory disposal pits, and evaluated the waste material in the pits. Upon review of the ENKON's 1992 investigation reports, SEI concluded that ENKON had not determined the full extent of the buried waste materials at the former Difco laboratory site on the subject property.

SEI initially established the background concentrations of naturally occurring metals in the native soil at the subject property to provide a basis for comparison and to establish clean-up criteria. Based on the background soil sampling results, SEI determined that the elevated arsenic levels detected at the former Difco Laboratory site were native to the clayey silts present at the subject property and were not the result of contamination from the former site operations. Mercury and selenium were not detected in the background samples. Silver was detected in one background sample at 0.5 ppm, well below the current state background default concentration (1.0 ppm) and the Act 451 Part 201 clean-up criteria (4.5 ppm, residential drinking water protection; 2,500 ppm, direct contact). In order to evaluate the analytical data for the site, SEI compared the background soil samples to three sets of clean-up criteria: Act 307 Type B clean-up criteria, generic background criteria (default Act 307 Type A criteria), and site-specific background criteria. SEI chose the highest of these criteria for each metal as the clean-up criterion for the site, which is utilized to assess metals concentrations in soil samples that may have been impacted by site activities. It should be noted that none of the background soil metals concentrations exceeded any of the current Act 451 Part 201 cleanup criteria.

SEI collected soil samples at or near the locations throughout the former Difco Laboratory site on the subject property where ENKON reported elevated metals concentrations, and analyzed the samples for "Michigan 10" metals. The concentrations of metals detected in the soil samples were comparable to background concentrations (mercury) or slightly elevated over background but below the clean-up criterion (selenium), with the exception of silver in one of the five samples collected in the septic system leach field, which was detected at 1.1 mg/kg, slightly above the established clean-up criteria of 1.0 mg/kg. The silver concentration in the one leach field sample exceeded the Act 307 Type B clean-up criterion of 0.66 mg/kg for the protection of groundwater, but was less than the Act 307 Type B clean-up criteria for direct contact with soil (1,200 mg/kg). The silver concentration was also below the current Act 451 Part 201 cleanup criteria of 4.5 ppm for protection of residential drinking water, and 2,500 ppm for direct soil contact. SEI stated that Act 307 specifies that the lower of these criteria apply. However, SEI indicated that Type B clean-up criteria for the protection of groundwater are based on an estimation of leaching rates from the soil. SEI reported that Act 307 allowed for samples to be subjected to Synthetic Precipitation Leaching Procedure (SPLP) (USEAP, SW-846 Method 1312) to evaluate the leachability of the silver from the soil. SEI submitted the soil sample with the elevated silver concentration to the SPLP procedure; the silver concentration in the SPLP extract was 7 ug/l (micrograms per liter, or parts per billion, ppb), well below the Act 307 Type B groundwater clean-up criterion

for silver of 33 ug/l (ppb). SEI concluded that the soil at this location in the former septic system leach field met Act 307 Type B criterion for the protection of groundwater. Elevated metals concentrations in exceedance of clean-up criteria were not detected in any of the other soil samples collected by SEI from the septic system leach field, concrete pad and drainage ditch, stormwater retention pond, or background soil collection areas.

Groundwater samples were collected from groundwater monitoring well MW-1 using a disposable teflon bailer, and analyzed for metals. ENKON reported elevated concentrations of dissolved arsenic (75.7 ug/l) and dissolved lead (4.5 ug/l) in the groundwater sample collected from this well. As indicated previously, these reported concentrations exceed the current Act 451 Part 201 residential drinking water protection criteria for dissolved arsenic (50 ug/l) and lead (4.0 ug/l). Neither dissolved lead nor dissolved arsenic concentrations were detected in the groundwater samples collected during SEI's assessment. The SEI report did not indicate the groundwater sampling method (bailers or peristaltic pump/low flow) ENKON used to obtain groundwater samples in 1992.

SEI determined the potential location of the former waste disposal pits through aerial photography and an extensive magnetometer survey of the former Difco Laboratories site. SEI conducted a test pit investigation of each of the identified possible waste disposal areas. A total of 20 potential waste disposal pits were identified at the former Difco site in the southern central portion of the subject property in six areas to the west, southwest, and south of the former laboratory building. The disposal pits ranged in size, the largest pit was 50 feet long and 12 feet wide, and the depths of the pits ranged from 6 to 16 feet bgs.

Test pits were excavated in each of the six disposal pit areas identified and the excavated material was sorted and identified. SEI reported that evidence of previous waste material removal and backfill with native clayey soil was apparent during the excavation activities. The waste material in the pits generally consisted of laboratory waste (syringes, disk dispensing cartridges, vials, and bottles), metal and plastic debris, paint cans, glass and plastic containers, plastic sheeting, animal carcasses, fencing, lime and other miscellaneous debris. A petroleum odor was noted from wastes excavated from the central and eastern pits of Area 4 (located southwest of the former laboratory building). Soil samples were collected from select locations to evaluate the waste, fill material, and native soils at the base of the pits. Analyses included metals, VOCs, and, where petroleum odors were evident in Area 4, polynuclear aromatic compounds (PNAs). Based on the analytical data, SEI indicated that the soil sample collected from the apparent petroleum impacted soils in Area 4 contained common petroleum constituents, including VOCs and PNAs. One PNA compound (dibenzo(a,h)anthracene), lead, and zinc were detected in excess of the Act 307 cleanup criteria; however, the sample collected from the underlying soils in disposal Area 4 did not contain detectable concentrations of any organic compounds or an elevated lead or zinc concentrations. Based on the analytical results, SEI concluded that it was likely that the waste materials in the disposal pits of Area 4 exceeded the Act 307 Type B clean-up criteria. However, SEI also indicated that contamination exceeding clean-up criteria appeared restricted to

the waste materials because the underlying soils beneath the disposal pits did not contain evidence of contamination.

SEI indicated the one sample of the organic clayey silt used as fill material during the previous ENKON investigations contained concentrations of arsenic in excess of the Act 307 Type B clean-up criteria; no other metals were detected in the fill material in excess of clean-up criteria. SEI stated that it was possible that the arsenic concentration detected in the fill material was representative of naturally occurring organic clayey silt in the subject property area. Native soil samples collected beneath the waste disposal pits did not contain detectable concentrations of VOCs, PNAs, or selenium. The maximum arsenic concentration detected in soil samples collected from the waste pits was 6.3 ppm, just slightly above the Act 307 Type B clean-up criterion of 6.0 ppm, and were attributed to naturally occurring background arsenic concentrations. It should be noted that this arsenic result is below the current Act 451 Part 201 cleanup criteria for arsenic of 7.6 ppm. SEI concluded that the waste disposal pit materials did not appear to have significantly impacted the native soils beneath the pits at the subject property.

SEI's 1994 report concluded that further assessment and/or remediation was warranted at the subject property to address the following issues: arsenic concentrations above Act 307 Type B clean-up criteria, solid waste material present in disposal pits, and aromatic VOCs and PNAs previously detected in one test pit in Area 4.

Swanson Environmental, Inc. (SEI): Waste Disposal Pit Remediation Report (dated March 1996).

10. Based on SEI's communications with former Difco Laboratories personnel and a review of ENKON's investigations and SEI's 1994 investigation, 20 waste disposal pits were identified in six areas at the former Difco Laboratories site on the subject property. SEI excavated each of the pits between December 1995 and January 1996. Approximately 6,600 cubic yards of soil and waste materials were removed from the waste disposal pits and disposed at Browning Ferris Industries' (BFI) Type II landfill in Northville, Michigan. Three of the former waste pits had previously been determined to contain organic compounds and/or metal contaminants in addition to the waste materials. Confirmatory soil samples were collected in accordance with the MDEQs *Verification of Soil Remediation* guidance document from these excavations once the removal effort was completed. Post-excavation soil samples were analyzed for metals, VOCs, and PNAs. The analytical results indicated that none of the soil samples from the excavated pits contained contaminants in excess of the established Act 451 Part 201 clean-up criteria and, therefore, met the criteria for an Act 451, Part 201 residential closure. Soils in the waste pit areas previously identified with elevated arsenic concentrations, as compared to the established site-specific clean-up criteria, were also excavated and removed from the site. The pits were backfilled to grade. SEI did not recommend further remediation or investigative activities at the former Difco site on the subject property in its 1996 report.

Sampling locations conducted during the 1992 ENKON and 1994 and 1996 SEI investigations are depicted in Figure 3.

Radian International, LLC: Phase I & II Environmental Site Assessment Site Data (May 2000).

Radian conducted a Phase I & II ESA at the former farm/Difco Laboratory site at the subject property in July 1999, on behalf of M-59, Inc. (former prospective purchaser), that included the installation of five additional groundwater monitoring wells, including the replacement of MW-2. Based on the results of the Phase I & II ESA, Radian subsequently proposed a Phase II Environmental Investigation/Baseline Environmental Assessment at the subject property in February 2000. Complete copies of Radian's Phase I and II ESA and Phase II/BEA reports were not available for URS' review as the project was terminated by the client prior to report completion; however, URS obtained excerpts from these reports. In excerpts of the Phase II Environmental Investigation/BEA proposal and report provided by URS' Midland, Michigan office (formerly Radian), Radian's Phase I/II ESA identified the following concerns associated with the former Difco Laboratory site at the subject property:

- The former presence of a gasoline UST located near the Difco Laboratory site (associated with the former farm, but not discussed in prior ENKON or SEI reports). The exact location of the UST was unknown, but it was initially reported to likely be within the former barn/equipment storage area. Radian's Phase I report indicated that the UST was previously removed and soil samples had been collected, although it was not report as to who removed the UST or collected the samples. However, the soil samples were reported as being too shallow to confirm that no release had occurred from the former UST.
- Sediment contamination may be present in the onsite stormwater retention pond and associated drainage ditch.

why not
over 4?

Based on the findings of the Phase I ESA, Radian recommended that additional investigation be conducted to evaluate the above-listed areas of concern. Radian subsequently proposed that a Phase II Environmental Investigation/BEA be conducted at the subject property in February 2000. The work was subsequently authorized by M-59, Inc. (former prospective purchaser) and the field investigation and sampling activities were completed in May 2000; however, the project was terminated by the client (M-59, Inc.) before the data was analyzed and the final reports were written.

The purpose of Radian's field investigation was to assess the adequacy of the contaminant removal from the disposal pits, the subsurface conditions of the septic systems' associated leach field, potential subsurface impacts resulting from reported alcohol storage in the root cellar, subsurface conditions in the vicinity of the former UST location, and sediment in the stormwater retention pond and drainage ditch located at the southeast corner of the former Difco Laboratories site.

Radian's field investigation consisted of the advancement of nine soil borings/backhoe test pits (BH-1 through BH-6 were backhoe test pits, and BH-7, BH-8 and BH-10 were

soil borings) and the collection of soil samples in the area of the former Difco Laboratory site, the collection of sediment samples from the drainage ditch and stormwater retention pond, and the collection of groundwater samples from the six groundwater monitoring wells.

how deep?

Radian excavated six test pits (BH-1 through BH-6, see Figure 4) using a backhoe in the former waste disposal pit areas that had been previously excavated and backfilled by SEI. Each excavation was extended through the fill material until native soils were encountered. One soil sample was collected from native soils immediately beneath the excavated fill material in each of the test pits. Radian also advanced three soil borings at the former Difco Laboratory site in the following locations: the former septic leach field (BH-7), adjacent to the root cellar (BH-8), and at the suspected location of the former UST adjacent to the former barn (BH-10). Soil samples collected from BH-1 through BH-10 were analyzed for "Michigan 10" metals, VOCs, and SVOCs. No analyte concentrations in exceedance of the appropriate Part 201 cleanup criteria were detected in the soil samples collected. Soil boring BH-10 was reportedly advanced to 16 feet bgs to ensure that the bottom of the former UST location had been reached; soil samples from BH-10 were also analyzed for total petroleum hydrocarbons. No elevated concentrations of TPH were detected in the soil samples. Radian stated that soils encountered during the advancement of BH-10 near the former barn appeared to be undisturbed, native soils; therefore, Radian concluded that the former UST was likely located elsewhere.

According to the resident of the house located on the northern portion of the 207-acre subject property, and who previously worked at the Difco Laboratories site, the UST was installed at the north side of the former access drive. The former Difco Laboratory employee indicated the former UST, reported to have a 500-gallon capacity or less, was removed in the middle to late 1970s, and contained gasoline for fueling farm equipment.

To evaluate potential contamination in the onsite stormwater retention pond and associated drainage ditch, sediment samples were collected from locations along the drainage ditch (SS-2 and SS-3) and at the edge of the stormwater retention pond (SS-1). Also, groundwater samples were collected from the six monitoring wells (MW-1 through MW-6) located at the former Difco Laboratories site. Soil and groundwater samples were analyzed for VOCs, SVOCs, and "Michigan 10" metals. The resulting analytical data was compared to the Act 451 Part 201 clean-up criteria for direct soil contact and residential drinking water protection. None of the analytes were detected above the Act 451 Part 201 clean-up criteria in the soil and sediment samples. Elevated concentrations of total lead were detected in groundwater samples collected from MW-2, MW-3, and MW-4. The concentrations of lead detected were 5.0 ug/L (micrograms per liter), 49 ug/L, and 19 ug/L, respectively. The Act 451 Part 201 default residential drinking water protection clean-up criteria for lead in groundwater is 4.0 ug/L. Lead in soil concentrations at the subject property were detected below the Act 451 Part 201 residential drinking water protection soil clean-up criteria. As previously indicated, due to the early termination of the property transaction associated with Radian's May 2000 Phase II/BEA assessment, the Phase II/BEA report was never completed; therefore, no conclusions or recommendations for further investigation were provided.

In summary, concentrations of analytes detected in soil and groundwater samples collected during post-remediation confirmation sampling events did not exceed appropriate clean-up criteria, with the exception of elevated lead concentrations in groundwater samples collected from three of the six on-site monitoring wells in May 2000.

In April 2004, URS conducted a Phase I ESA of the 207-acre subject property, which includes the former farm/Difco Laboratory site. Based on URS' Phase I ESA findings and review of the previous reports discussed above, URS' Phase I ESA recommended that additional investigation be conducted at the former Difco Laboratory site on the subject property to address the former onsite UST and the elevated lead concentrations in the groundwater. URS recommended that the additional investigation include: (1) collecting groundwater samples from the existing on-site groundwater monitoring wells and analyzing the samples for dissolved lead, and (2) collecting soil and groundwater samples in the vicinity of the former gasoline UST location to be analyzed for the required MDEQ Operational Memorandum No. 14 (June 1998) leaded gasoline and diesel fuel parameters. It should be noted that upon URS' Phase I ESA field reconnaissance, MW-5 was observed to have been damaged/destroyed, and was no longer able to be sampled.

In May 2004, URS conducted a Phase II investigation in support of this BEA in order to address the concerns identified during URS' Phase I ESA associated with the former UST and lead in groundwater concentrations at the former Difco site on the southern central portion of the 207-acre subject property. The Phase II investigation consisted of advancing 3 Geoprobe® soil borings in the area of the former UST for soil and groundwater sampling, and collecting groundwater samples from the existing onsite monitoring wells. The Geoprobe® soil borings were completed immediately north of the former Difco Laboratory access drive in the location of the former onsite UST as reported by the former Difco employee, and groundwater samples were collected from the 5 existing groundwater monitoring wells along the western and southern perimeters of the former Difco site where previous investigations had indicated elevated total lead concentrations. (URS Corporation, April 15, 2004, Phase I Environmental Site Assessment, 207 Acres of Undeveloped Property, Tooley Road, Howell Township, Michigan). During monitoring well sampling activities, URS noted that the original MW-2 (installed by ENKON in 1992 and previously reported as being dry) contained groundwater. Therefore, URS sampled both MW-2 (designated MW-2s (shallow)) in addition to MW-2R (designated as MW-2d (deep)). It should also be noted that the groundwater samples collected from the existing monitoring wells were also analyzed for the same parameters as those collected from the former UST area (MDEQ Operational Memorandum No. 14 parameters), in addition to dissolved lead as originally proposed. Sampling locations conducted during the 2000 Radian and 2004 URS investigations are depicted in Figure 4.

where is analytical?
Laboratory results indicated that no analytes were detected in any of the soil or groundwater samples collected in the vicinity of the former onsite UST, with the exception of lead, which was detected in all three soil samples, ranging from 2,700 to

3,400 micrograms per kilogram (ug/kg, parts per billion). These concentrations are well below the MDEQ Part 201 Residential Soil Cleanup Criteria of 400,000 ug/kg for Direct Contact and 700,000 ug/kg for Drinking Water Protection. These concentrations are also well below the statewide default background level for lead of 21,000 ug/kg. Laboratory analyses also indicated that no analytes were detected in any of the groundwater samples collected from the existing onsite monitoring wells, with the exception of MW-3 in which dissolved lead was detected at 82 micrograms per liter (ug/L, parts per billion) (0.082 ppm), in exceedance of the MDEQ Part 201 Residential Groundwater Cleanup criterion for lead of 4.0 ug/L (0.004 ppm). MW-3 is located in an agricultural field approximately 170 feet due west of the former Difco Laboratory building (see Figure 4). The details of the analytical results comparison are included in the attached Tables.

Below is a summary of the historical and currently existing exceedances of the Act 451 Part 201 cleanup criterion at the subject property:

Analyte	CAS#	Concentration	Part 201 Criteria	Location
Arsenic	7440382	13.6 ppm	7.6 ppm-direct contact	Septic leach field soils
Selenium	7782492	190 ppm	4.0 ppm-drinking water protection 0.4 ppm - GSI	Septic leach field soils
Selenium	7782492	4.4 ppm	4.0 ppm-drinking water protection	Drainage ditch soils
Selenium	7782492	81.6 ppm	4.0 ppm-drinking water protection 0.4 ppm - GSI	Retention pond sediment
Mercury	7439976	0.25 ppm	0.1 ppm – GSI	Retention pond sediment
Dissolved Lead	7439921	0.082 ppm	0.004 ppm – drinking water	MW-3 (groundwater)

GSI = Groundwater-surface water interface protection criteria.

ppm = parts per million.

ppb = parts per billion

Extent of Impacted Materials

Data collected during site investigations defines the extent of on-site contaminants at concentrations in excess of MDEQ Part 201 Residential cleanup criteria.

Metals - Soil

ENKON's 1992 investigation identified arsenic and selenium concentrations in the former septic leach field area in exceedance of the current Part 201 cleanup criteria. Arsenic was detected at 13.6 mg/kg, above the Part 201 direct contact criteria of 7.6 mg/kg, and selenium was detected at 190 mg/kg, above the residential drinking water protection criteria of 4.0 mg/kg, and the groundwater-surface water interface protection criteria (0.4 mg/kg). ENKON's 1992 investigation identified an elevated selenium concentration (4.4 mg/kg) in the concrete pad drainage ditch, above the Part 201 drinking water protection criteria (4.0 mg/kg) and the groundwater-surface water interface

protection criteria (0.4 mg/kg). Finally, ENKON's 1992 investigation identified elevated selenium and mercury concentrations in soils at the edge of the storm water retention pond at the former Difco Laboratory site above the Part 201 criteria. Selenium was detected at 81.6 mg/kg, above the drinking water protection criteria (4.0 mg/kg) and the groundwater-surface water interface protection criteria (0.4 mg/kg). Mercury was detected at 0.25 mg/kg, above the groundwater-surface water interface protection criteria (0.1 mg/kg), and slightly above the statewide default background concentration of 0.13 mg/kg.

Subsequent soil investigations conducted at the former Difco Laboratories site on the subject property by SEI in 1994 and Radian in 2000, did not identify elevated metals concentrations above the Act 451 Part 201 cleanup criteria in any of the locations previously sampled by ENKON. Based on these results, the elevated metals concentrations detected by ENKON in 1992 appear to be anomalies, possibly due to naturally occurring metals concentrations or residual contamination isolated to very limited areas at the site.

URS' May 2004 Phase II investigation detected lead in all borehole locations where soil samples were analyzed for metals. The concentrations ranged from 2,700 to 3,400 ug/kg. This range of concentrations is significantly below the statewide default background concentration for lead of 21,000 ug/kg, suggesting that lead concentrations in this range are naturally occurring.

Metals-Groundwater

Dissolved lead in the sample from MW-3 was the only groundwater analyte concentration in excess of MDEQ cleanup criteria. As dissolved lead concentrations were "non-detect" in the other wells, including the nearest upgradient and downgradient wells from MW-3, this elevated concentration is presumed to be the result of residual impact from the waste disposal pit materials previously excavated in the immediate vicinity of MW-3.

5. Likelihood of Other Contamination

Given the extent of Phase I and II site investigations and the consistency of previous site use, URS deems it is not likely that additional contamination is present on-site in concentrations exceeding cleanup criteria.

6. Alternative Approaches (if applicable)

This section is not applicable to the former Difco Laboratories, Tooley Road property BEA.

7. Conclusions

The results of the BEA indicate the following:

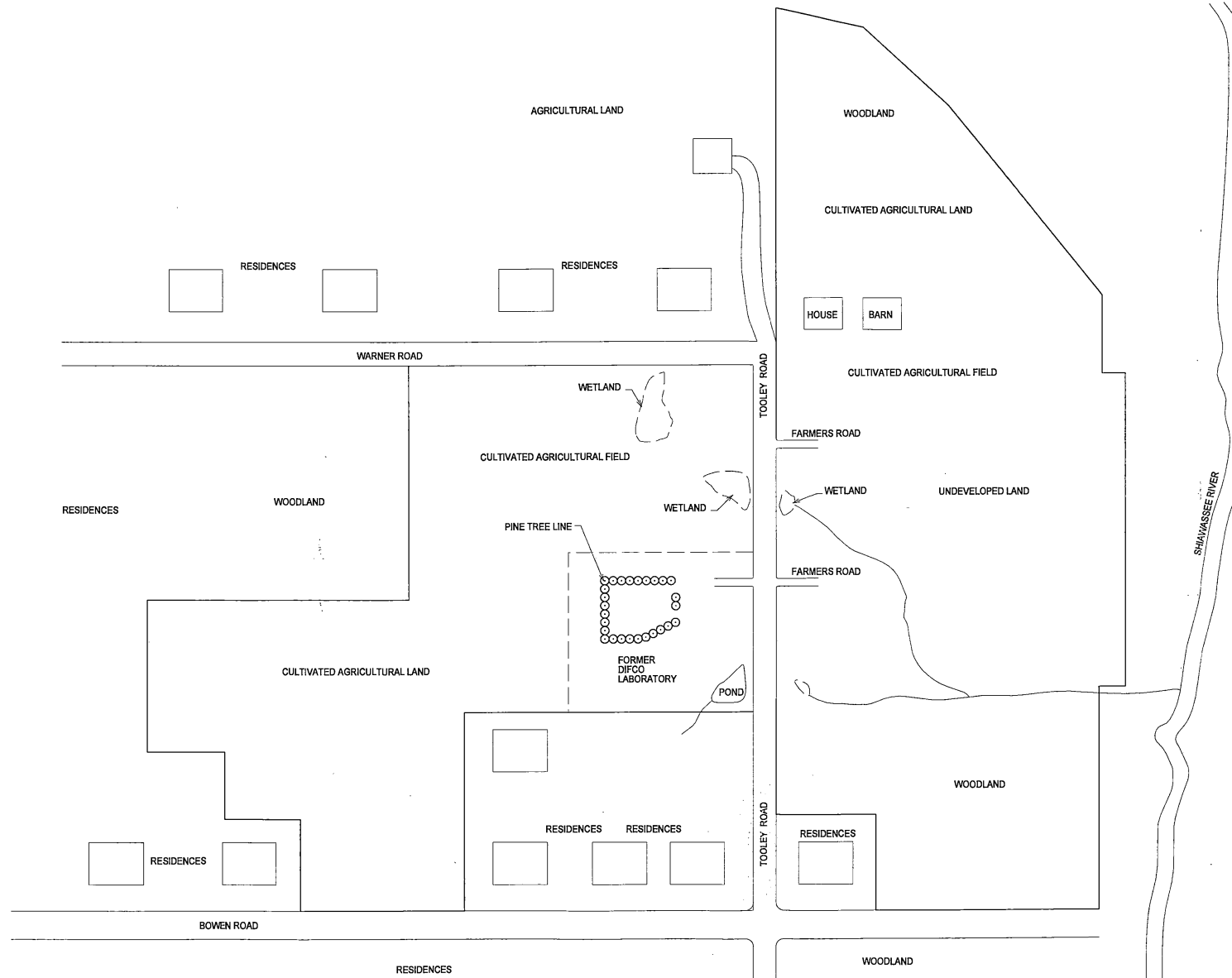
- The site is a “facility” as defined by (MERA) 451 Part 201, as dissolved lead was detected in a site groundwater sample at a concentration in excess of the applicable MDEQ cleanup criteria. In addition, historical elevated concentrations of arsenic, selenium, and mercury were detected in several isolated areas of the former Difco Laboratory site at the subject property.
- As dissolved lead concentrations were “non-detect” in the other wells, including the nearest upgradient and downgradient wells from MW-3, the elevated dissolved lead concentration in MW-3 is considered likely to be the result of residual impact from the waste disposal pit materials previously excavated in the immediate vicinity of MW-3. Based on the results of subsequent soil investigations conducted at the former Difco Laboratory site at the subject property in 1994 and 2000, the elevated metals concentrations detected by ENKON in 1992 appear to be anomalies, possibly due to naturally occurring metals concentrations or residual contamination isolated to very limited areas at the site.
- No other source areas have been identified.
- Based on the planned future subject property use as a residential development, no significant hazardous substance use or storage is anticipated to occur at the subject property.
- Future releases can be discriminated from existing site impacts by the nature and extent of known soil/groundwater conditions. Contaminant materials existing on-site currently are of limited extent and generally in relatively low concentrations.

8. References

1. Radian International, LLC: Phase II Environmental Site Assessment preliminary reports (2000)
2. Review of Michigan's Department of Environmental Quality, Natural Resources Environmental Protection Act, Michigan Public Act 451 of 1994, as amended, "Part 201 Generic Cleanup Criteria and Screening Levels".



NO SCALE



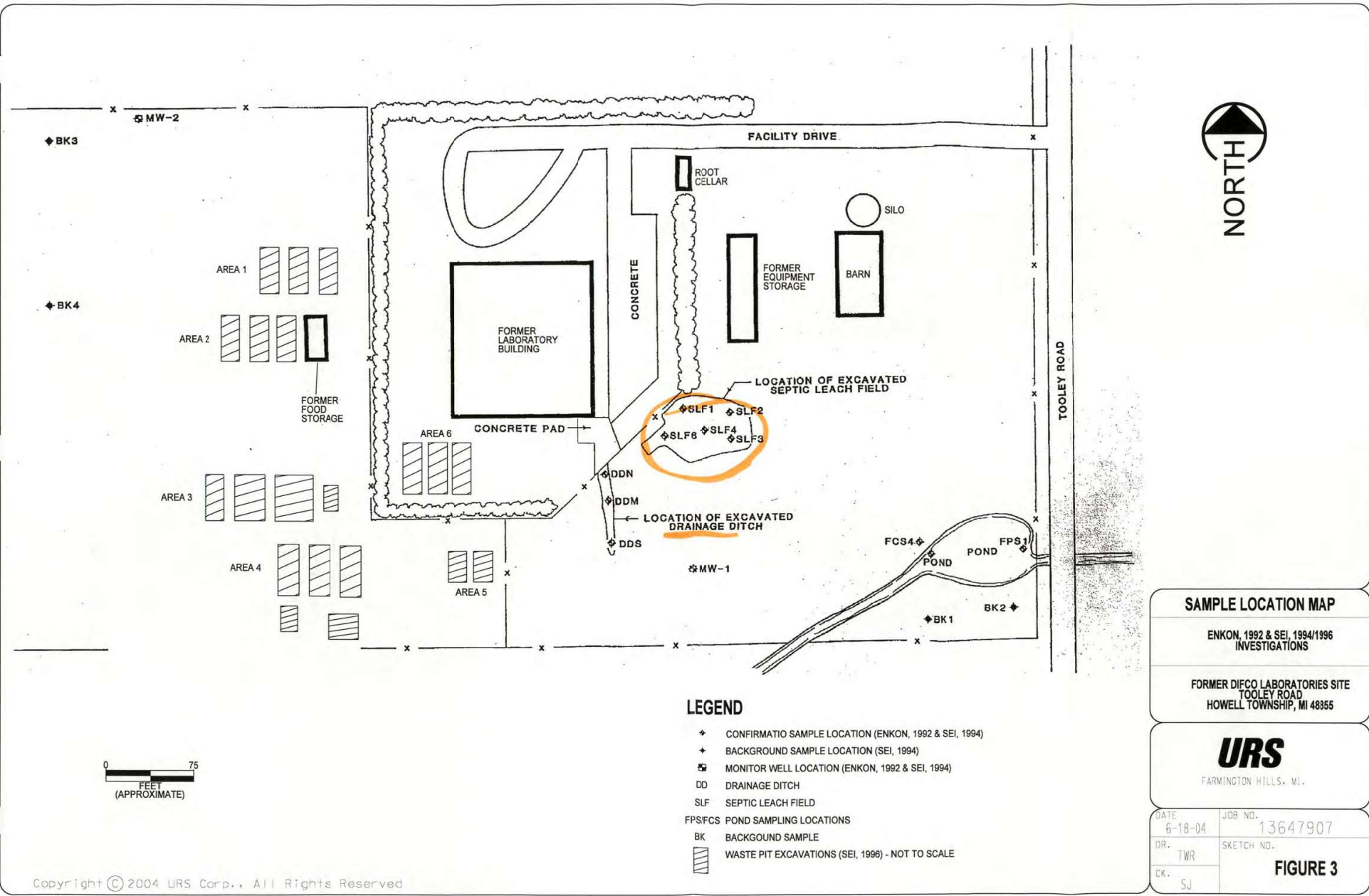
SITE LOCATION MAP

207-ACRE PROPERTY
TOOLEY ROAD
HOWELL TOWNSHIP, MI 48855



FARMINGTON HILLS, MI.

DATE 3-25-03	JOB NO. 13647907
DR. NTW	SKETCH NO.
CK. MLW	FIGURE 2



SAMPLE LOCATION MAP

ENKON, 1992 & SEI, 1994/1996 INVESTIGATIONS

FORMER DFCO LABORATORIES SITE
TOOLEY ROAD
HOWELL TOWNSHIP, MI 48855

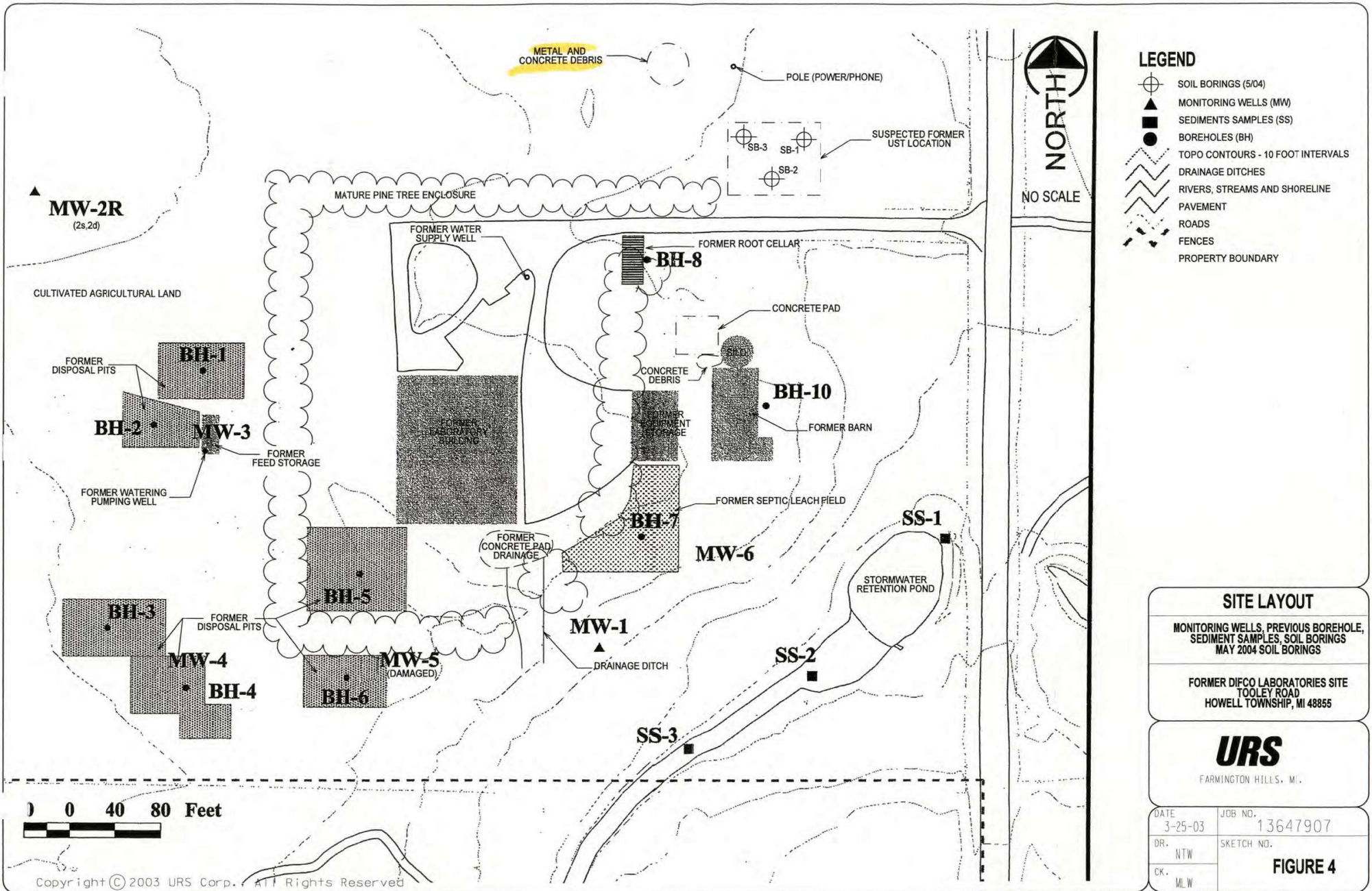


FARMINGTON HILLS, MI.

LEGEND

- ◆ CONFIRMATIO SAMPLE LOCATION (ENKON, 1992 & SEI, 1994)
- ◆+ BACKGROUND SAMPLE LOCATION (SEI, 1994)
- ⊠ MONITOR WELL LOCATION (ENKON, 1992 & SEI, 1994)
- DD DRAINAGE DITCH
- SLF SEPTIC LEACH FIELD
- FPS/FCS POND SAMPLING LOCATIONS
- BK BACKGROUND SAMPLE
- ▨ WASTE PIT EXCAVATIONS (SEI, 1996) - NOT TO SCALE

DATE 6-18-04	JOB NO. 13647907
DR. TWR	SKETCH NO.
CK. SJ	FIGURE 3



MW-2R
(2s,2d)

CULTIVATED AGRICULTURAL LAND

FORMER DISPOSAL PITS

BH-1

BH-2

MW-3

FORMER WATERING PUMPING WELL

FORMER FEED STORAGE

BH-3

FORMER DISPOSAL PITS

MW-4

BH-4

BH-5

MW-5
(DAMAGED)

BH-6

FORMER WATER SUPPLY WELL

MATURE PINE TREE ENCLOSURE

BH-8

FORMER ROOT CELLAR

CONCRETE PAD

CONCRETE DEBRIS

BH-10

FORMER BARN

BH-7

FORMER SEPTIC/LEACH FIELD

MW-6

FORMER (CONCRETE PAD) DRAINAGE

MW-1

DRAINAGE DITCH

SS-1

STORMWATER RETENTION POND

SS-2

SS-3

METAL AND CONCRETE DEBRIS

POLE (POWER/PHONE)

SB-3 SB-1 SB-2

SUSPECTED FORMER UST LOCATION

NORTH
NO SCALE

0 0 40 80 Feet

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July 27, 2005

Ms. Kathy Shirey & Ms. Rebecca Taylor
Environmental Quality Analysts
Michigan Department of Environmental Quality
Remediation & Redevelopment Division
Lansing District Office
Constitution Hall, 4th Floor, North
525 West Allegan Street
Lansing, Michigan 48909-7742



RE: Supplemental BEA Information
Former Difco Laboratories Site
2755 Tooley Road
Howell Township, Michigan
BEA: B200400846LA
MDEQ Facility ID#: 47000219

Dear Ms. Shirey & Ms. Taylor:

Pursuant to subsequent investigations and our recent telephone conversations and discussions with Michigan Department of Environmental Quality (MDEQ), Remediation and Redevelopment Division (RRD) representatives, URS Corporation ("URS") is pleased to submit supplemental information related to URS' July 12, 2004 Baseline Environmental Assessment (BEA) previously submitted to the MDEQ-RRD for the 207-acre Tooley Road property in Howell Township, Michigan, which includes the above-referenced former Difco Laboratories Site (BEA: B200400846LA; MDEQ Facility ID #47000219).

BACKGROUND INFORMATION

The former Difco Laboratories (Difco) site previously occupied a small portion of largely undeveloped land, including several dilapidated structures, located along Tooley Road between Warner and Bowen Roads, approximately one mile north of M-59 in Howell Township, Livingston County, Michigan (a site location map is provided as Figure 1). Difco, a small farm and research testing laboratory, was formerly located on an approximately 8.6-acre parcel of land located in the southern-central portion of the larger 207-acre parent property (Tooley Road Property), which consists of undeveloped wooded, wetland, and agricultural land, split between four contiguous parcels (a site plan map is provided as Figure 2). The entire laboratory structure at the former Difco site has been demolished and the area has been replanted with grass and tree saplings; however, five structures remain at the former Difco site in various stages of disrepair, including a cement silo, a burned and dilapidated barn, a dilapidated former equipment storage building, an intact former root cellar, and a dilapidated former feed storage structure. Six groundwater monitoring wells (MW-1 through MW-6) are also located at this parcel, one of

which (MW-5) is no longer serviceable. The MW-2 location consists of one shallow well and one deep well.

Several environmental investigations have been conducted by various consultants at the former Difco site between 1992 and 2004. These investigations are summarized in the July 2004 BEA. URS has prepared a Phase I Environmental Site Assessment (ESA) in April 2004, conducted a Limited Phase II ESA in May 2004, and prepared and submitted to MDEQ a Category “N” BEA, for disclosure purposes, for the 207-acre Tooley Road property, including the former Difco site, in July 2004. The BEA was conducted in general conformance with Part 201 of Michigan Public Act 451, 1994, as amended.

The aforementioned URS May 2004 Phase II investigation included collecting groundwater samples from all six of the existing monitoring wells at the former Difco site for the analysis of dissolved lead. Laboratory analyses indicated that dissolved lead was not detected in any of the groundwater samples collected, with the exception of MW-3 in which dissolved lead was detected at 82 micrograms per liter (ug/L, parts per billion) (0.082 ppm), in exceedance of the MDEQ Part 201 Residential Groundwater Cleanup criterion for lead of 4.0 ug/L (0.004 ppm).

URS’ Phase II/BEA concluded that the entire 207-acre site was a “facility” as defined by PA 451 Part 201, as dissolved lead was detected in a single groundwater sample at a concentration exceeding the applicable MDEQ cleanup criteria on the 8.6-acre former Difco site. In addition, historical elevated concentrations of arsenic, selenium, and mercury were detected in several isolated areas on the former Difco site. URS’ Phase II/BEA did not identify any potential Recognized Environmental Conditions outside of the 8.6-acre former Difco site.

The table below provides a summary of the historical and recent exceedances of the Part 201 cleanup criterion on the 8.6-acre former Difco site:

Analyte	CAS#	Concentration	Part 201 Residential Criteria	Location
Arsenic	7440382	15.0 ppm	7.6 ppm-direct contact	Septic leach field soils (ENKON, 1992)
Selenium	7782492	190 ppm	4.0 ppm-drinking water protection 0.4 ppm – GSI	Septic leach field soils (ENKON, 1992)
Selenium	7782492	4.4 ppm	4.0 ppm-drinking water protection	Drainage ditch soils (ENKON, 1992)
Selenium	7782492	81.6 ppm	4.0 ppm-drinking water protection 0.4 ppm – GSI	Retention pond sediment (ENKON, 1992)
Mercury	7439976	0.25 ppm	0.1 ppm – GSI	Retention pond sediment (ENKON, 1992)
Dissolved Lead	7439921	0.082 ppm	0.004 ppm – drinking water	MW-3 (URS, 2004)

GSI = Groundwater-surface water interface protection criteria.
 ppm = parts per million.

It should be noted that no exceedances are presently known to exist anywhere within the site, and that many of the historical exceedances were considered likely to be anomalies, as subsequent investigators could not replicate the reported exceedances in the respective sample locations.

In October 2004, URS returned to the site to conduct additional subsurface investigations on the former Difco site, including the collection of several groundwater samples in the immediate vicinity of monitoring well MW-3 to further delineate the extent of dissolved lead in the groundwater in this area. Eight soil borings were advanced in the immediate vicinity of MW-3. The soil borings were advanced to the groundwater table, after which temporary wells were installed in each boring for the collection of groundwater samples, which were field-filtered for the analysis of dissolved lead. Dissolved lead was not detected in any of the groundwater samples collected in the vicinity of MW-3. Subsequently, in November 2004, URS collected another groundwater sample from MW-3 using low-flow sampling techniques. The groundwater sample was field-filtered and submitted for analysis of dissolved lead. Dissolved lead was not detected in the groundwater sample collected from MW-3. Based on these sampling results, it appears that the previous elevated dissolved lead concentration detected in MW-3 was an anomaly and not representative of groundwater conditions at the site. Boring/sampling locations are provided in Figure 3, attached.

It should also be noted that upon MDEQ's review of the July 2004 BEA, MDEQ requested that the Livingston County Health Department conduct groundwater sampling and analysis of eight (8) residential drinking water supply wells in the immediate vicinity of the former Difco site for VOCs, metals, and 1,4-dioxane. MDEQ has since informed URS that no VOCs or 1,4-dioxane were detected in the 8 residential wells (sampled in October 2004), and only low levels of metals (copper, iron, lead, and zinc) were found in one distant upgradient well to the northeast of the former Difco site. Based on its distance (approximately 0.6-mile) and upgradient location from the former Difco site, these metals concentrations are not related to the former Difco site.

According to URS' recent discussions with MDEQ Senior District staff, the previously submitted BEA provides liability protection for the 207-acre subject property, regardless of the size of the impacted area to be designated as a "facility". The MDEQ staff indicated that supplemental information could be submitted in the form of additional site investigations and a legal survey which support delineating only the area of the former Difco site, in which Part 201 exceedances were detected, as a "facility". As a result of these discussions with the MDEQ, URS has prepared this supplemental information that specifies the extent of the area at the 207-acre property in which Part 201 residential criteria exceedances were encountered; (i.e. only the 8.6-acre former Difco site), and provides clarification of the specific subject property area subject to "facility" designation.

The supplemental BEA information has been prepared as follows:

LEGAL SURVEY REVIEW & "FACILITY" CLARIFICATION

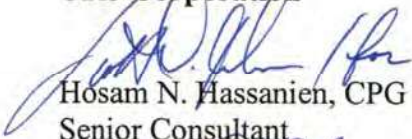
URS reviewed a legal survey and property description of the former Difco Laboratory site area at the 207-acre subject property, prepared by Professional Engineering Associates (PEA), a licensed Michigan surveyor. URS' review of the Difco site survey was performed to ensure that the survey description includes all areas of the former Difco Laboratory site in which Part 201 soil, sediment, or groundwater exceedances have been historically or recently encountered.

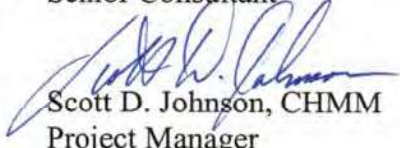
Based on URS' review of PEA's legal survey of the former Difco site, it appears that all areas of the former Difco Laboratory site in which Part 201 soil, sediment, or groundwater exceedances have been encountered are located within the legal survey/property description, which encompasses a reported area of approximately 8.61 acres (noted as Parcel D). A copy of PEA's legal survey and property description is included as Attachment A.

URS' April 2004 Phase I ESA prepared for the 207-acre Tooley Road property did not identify potential Recognized Environmental Conditions outside the 8.6 acre former Difco Laboratories site delineated in the PEA legal survey. **Based on this information, the "facility" designation at the 207-acre Tooley Road subject property, as described in URS' July 2004 BEA, should be limited to only the 8.6-acre former Difco Laboratories site, as described in PEA's surveyed legal description.**

If you have any questions or comments regarding this supplemental BEA information, please feel free to contact us at (248) 553-9449.

Sincerely,
URS Corporation


Hosam N. Hassanien, CPG
Senior Consultant


Scott D. Johnson, CHMM
Project Manager


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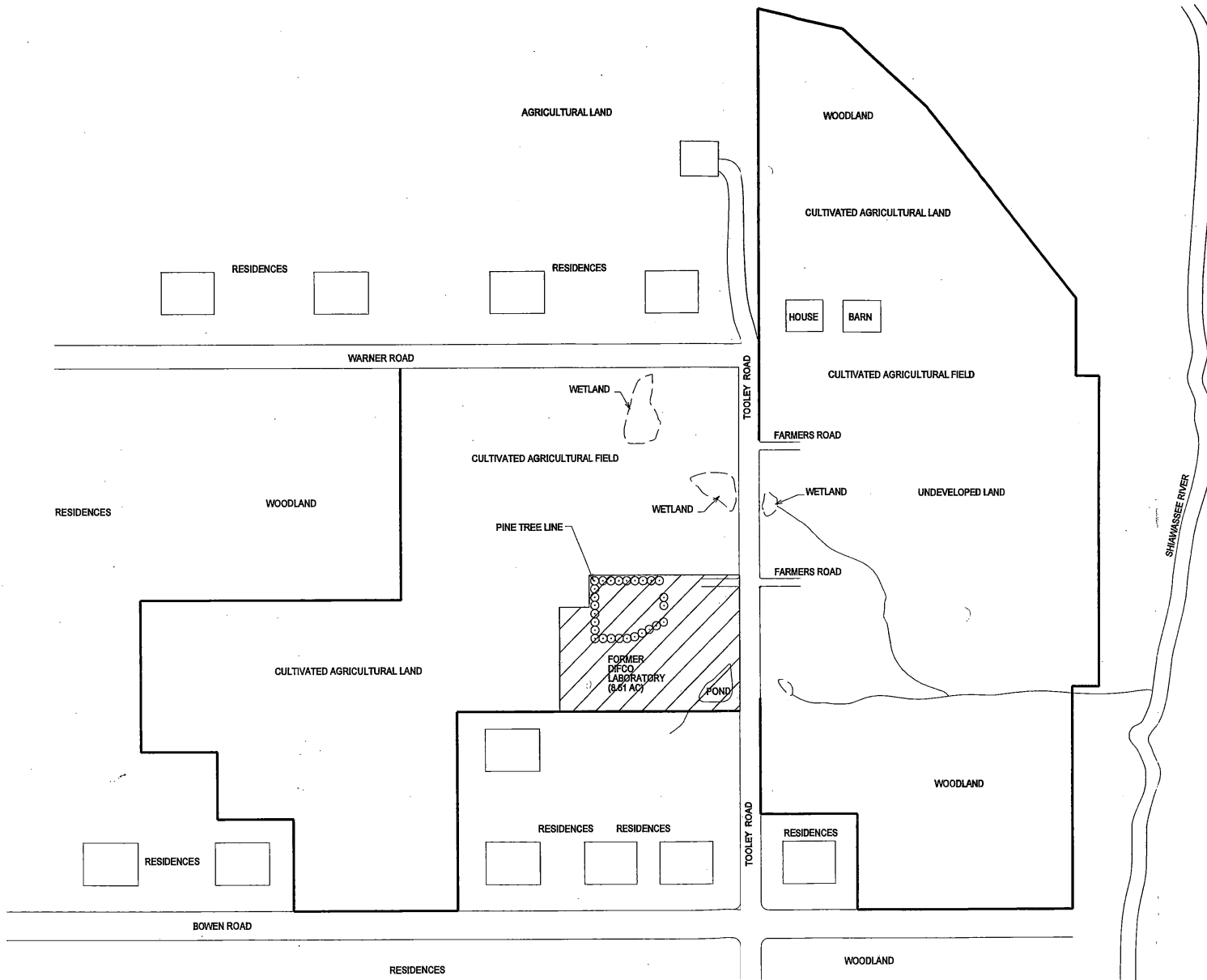
Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Site Features & Sample Location Map; Previous Investigations (ENKON 1992, SEI 1994/1996, Radian 1999/2000 & URS 2004)
Attachment A	June 2005 PEA Legal Survey and Property Description, Former Difco Site



NO SCALE

LEGEND

- PROPERTY BOUNDARY
-  DIFCO LAB PARCEL DESIGNATED AS A FACILITY (SEE ATTACHED LEGAL DESCRIPTION AND SURVEY MAP)



SITE PLAN MAP

UNDEVELOPED PROPERTY
TOOLEY ROAD
HOWELL TOWNSHIP, MI 48855



FARMINGTON HILLS, MI.

DATE
3-25-03

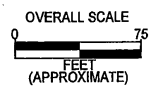
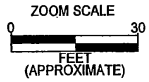
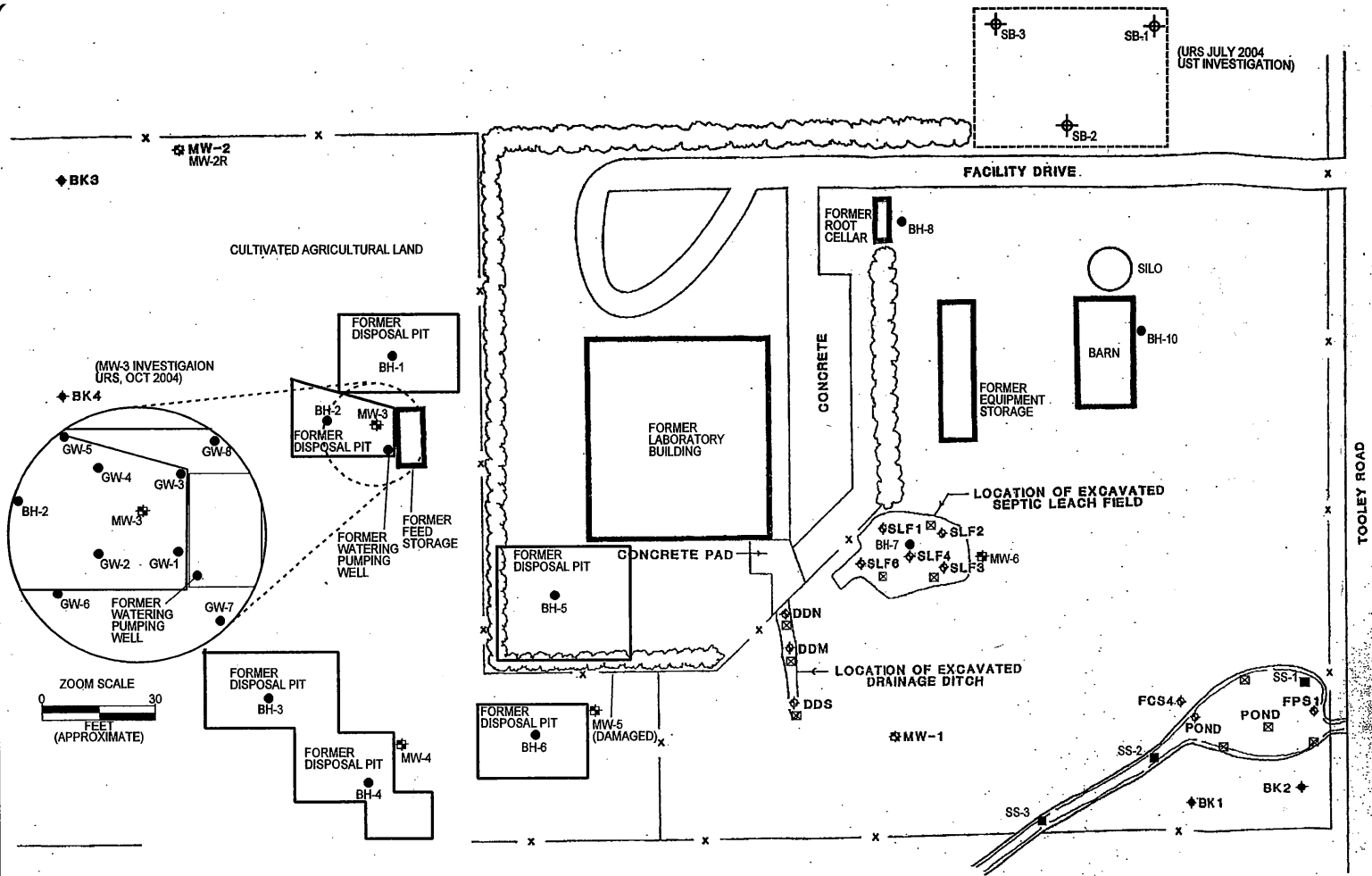
JOB NO.
13647674

DR.
NTW

SKETCH NO.

CK.
MLW

FIGURE 2



LEGEND

- PROPOSED SAMPLE LOCATION (URS, FEB. 2005)
- ◆ CONFIRMATION SAMPLE LOCATION (ENKON, 1992 & SEI, 1994)
- ✦ BACKGROUND SAMPLE LOCATION (SEI, 1994)
- ⊠ MONITOR WELL LOCATION (ENKON, 1992 & SEI, 1994)
- SEDIMENT SAMPLES (RADIAN, 2000)
- BOREHOLES/BACKHOE SAMPLES (RADIAN, 2000)
- DD DRAINAGE DITCH
- SLF SEPTIC LEACH FIELD
- FPS/FCS POND SAMPLING LOCATIONS
- BK BACKGROUND SAMPLE

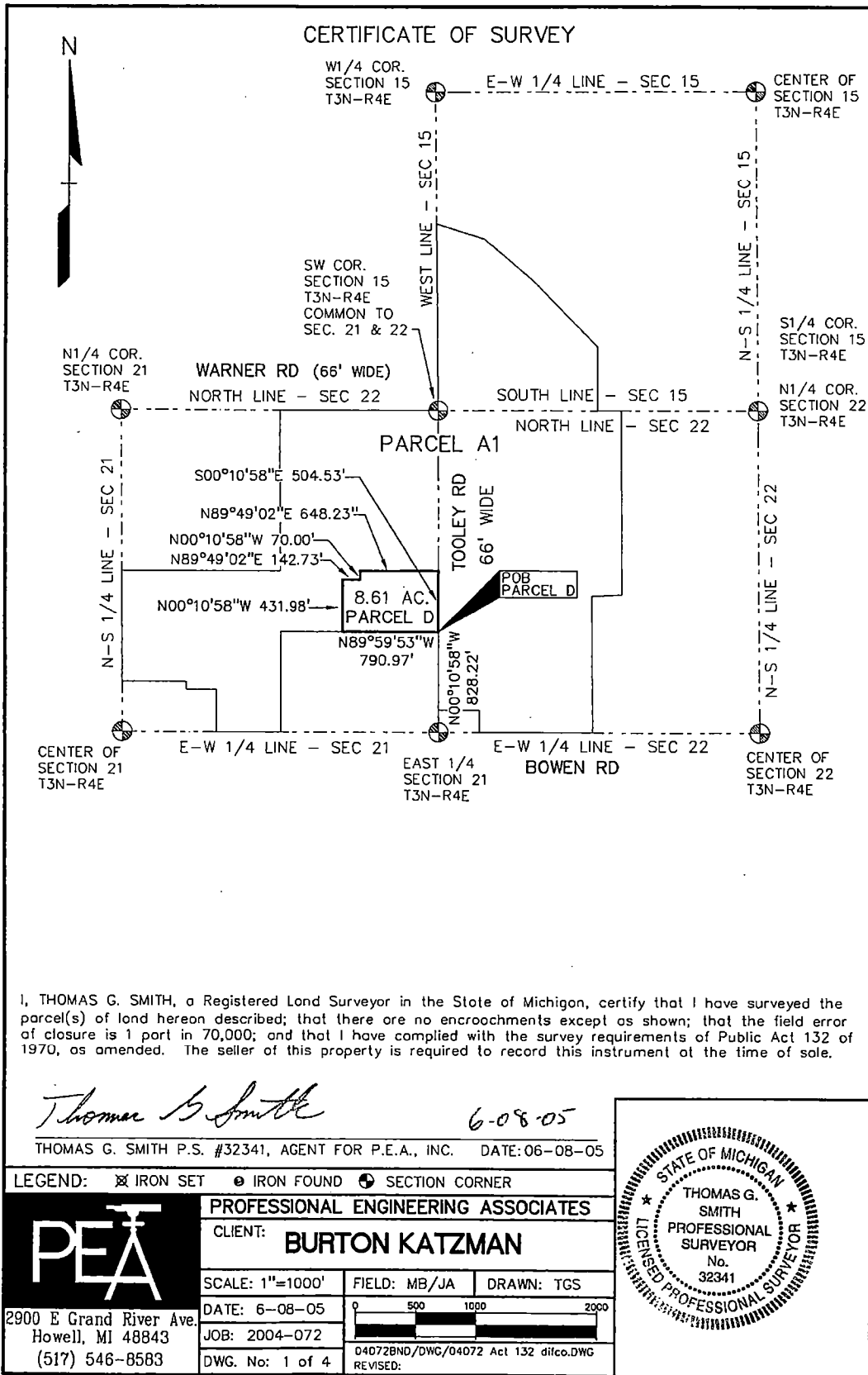
SITE FEATURES / SAMPLE LOCATION MAP

PREVIOUS INVESTIGATIONS
 ENKON 1992, SEI 1994/1998,
 RADIAN 2000, & URS 2004
 PROPOSED URS INVESTIGATION 2005

FORMER DIFCO LABORATORIES SITE
 TOOLEY ROAD
 HOWELL TOWNSHIP, MI 48855



DATE 01-24-05	JOB NO. 13647674
DR. TWR	SKETCH NO.
CK. SJ	FIGURE 3

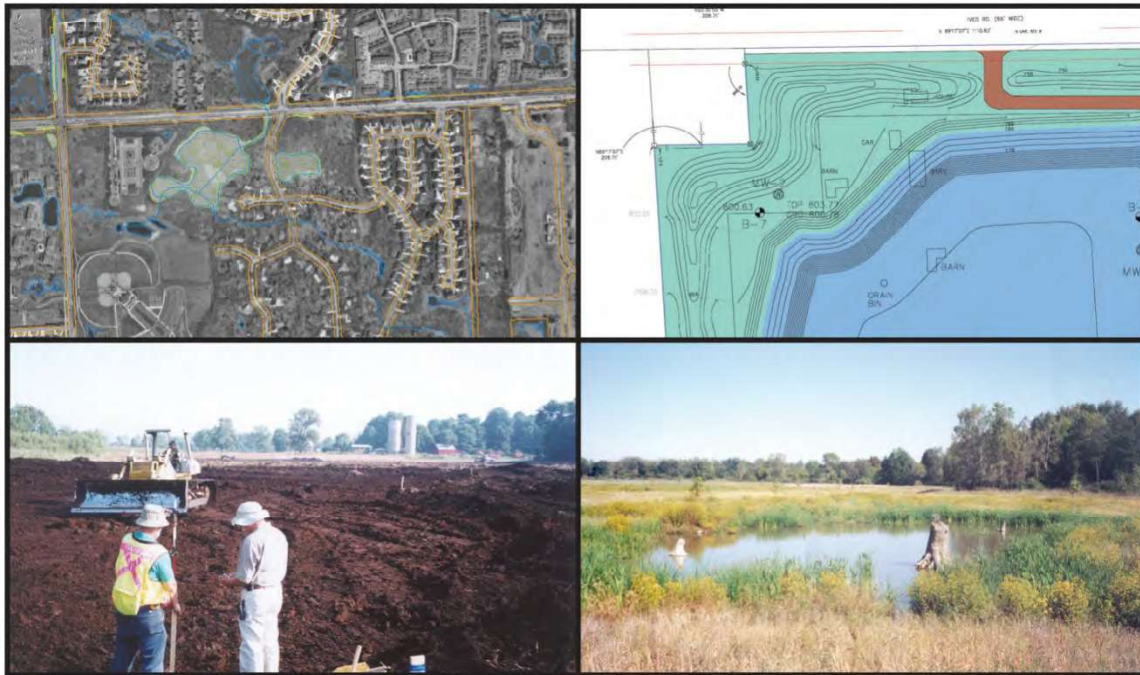


Phase I Environmental Site Assessment
55.27 Acre Property
Parcel 4706-21-200-019
Howell Township, Livingston County, Michigan

Howell Township

February 6, 2025

ASTI ENVIRONMENTAL



1.0 EXECUTIVE SUMMARY

ASTI Environmental (ASTI) was retained by Howell Township to conduct a Phase I Environmental Site Assessment (ESA) of Parcel 4706-21-200-019 in Howell Township, Livingston County, Michigan (Subject Property). The Phase I ESA was conducted in accordance with United States Environmental Protection Agency (US EPA) Standards and Practices for All Appropriate Inquiries (AAI, 40 CFR Part 312) and the American Society for Testing and Materials (ASTM) Practice E1527-21. The information and opinions rendered in this report are exclusively for reliance by Howell Township.

Subject Property Overview	
Address/Location	2755 Tooley Road, Howell Township 48855
Parcel Number(s)	4706-21-200-019
Acreage	±55.36
Current Use	Vacant

The Phase I ESA included (1) a site inspection on December 17, 2024, (2) interviews with knowledgeable site contacts, (3) review of pertinent Michigan Department of Environment, Great Lakes, and Energy (EGLE), Howell Township, and Livingston County records, (4) acquisition and review of a federal and state database search, and (5) review of historical aerial photographs, topographic maps, prior environmental investigations, and city directories.

Below is a summary of our opinion representing the findings of this Phase I ESA. Affirmative answers are discussed following the summary table.

Condition as defined in ASTM E1527 and/or AAI	Identified through a search of <i>Reasonably Ascertainable</i> records
<i>Significant Data Gap</i>	No
<i>De Minimis Condition</i>	No
<i>Historic Recognized Environmental Condition (HREC)</i>	Yes
<i>Controlled Recognized Environmental Condition (CREC)</i>	No
<i>Recognized Environmental Condition (REC)</i>	Yes

Refer to Section 10.0 for a more detailed summary of the findings.

Recognized Environmental Conditions

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the site at Parcel 4706-21-200-019 in Howell Township, Livingston County,

Michigan (Subject Property). Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report.

This assessment has revealed the following RECs, CRECs, and/or significant data gaps in connection with the Subject Property.

The Subject Property, formerly home to Difco Laboratories, is an 8.6-acre parcel within a larger 207-acre property in Howell Township, Michigan. It previously operated as a farm and research testing laboratory and has undergone multiple environmental investigations and remediation activities from 1992 to 2004 due to recognized environmental conditions.

REC Opinion #1: Metal-Impacted Soil and Groundwater Contamination

Environmental investigations by ENKON in 1992 identified arsenic and selenium in soil samples exceeding GRCC in multiple areas, including a septic system leach field, a drainage ditch, and a laboratory waste disposal pit. Additionally, groundwater sample MW-1 contained arsenic and lead exceeding GRCC near a stream that fed a former stormwater pond. While subsequent investigations by SEI in 1994 concluded that these impacts were within background levels or non-leaching, the presence of historical exceedances in soil and groundwater raises concerns regarding residual contamination.

REC Opinion #2: Former Waste Disposal Pits

SEI identified 20 potential waste disposal pits across six areas of the former lab, with approximately 6,600 cubic yards of impacted soil and waste material excavated and disposed of at a landfill. While confirmatory sampling concluded that VOC, PNA, and metal concentrations were below GRCC, the historical disposal of laboratory waste and significant excavation activities present potential subsurface contamination risks that warrant further evaluation.

REC Opinion #3: Lead and Sediment Contamination in Stormwater Pond and Drainage Ditch

Investigations by Radian in 1999 identified sediment contamination in the stormwater retention pond and the associated drainage ditch. Additionally, groundwater samples MW-2, MW-3, and MW-4 contained lead concentrations (5 to 49 ppb) exceeding GRCC for drinking water. Follow-up sampling in 2004 confirmed lead exceedances in MW-3, though later low-flow sampling techniques in 2005 did not detect lead. While EGLE acknowledged the possibility that previous detections were anomalies, the historical presence of lead

contamination in groundwater and sediment remains a REC due to the potential for residual impact.

REC Opinion #4: Biosolids appear to have been applied to the Subject Property as an agricultural nutrient booster. The biosolids were applied by Biotech Agronomics, Inc. and they were sourced from the Pontiac Wastewater Treatment Plant. The obtained biosolids application notification was issued on May 29, 2014. The biosolids were tested for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, nitrogen, phosphorus, and potassium. The biosolids do not appear to have been tested for per- and polyfluoroalkyl substance, which is now known to be spread through biosolids from wastewater treatment plants.

While prior investigations and remediation efforts addressed many issues, the site still exhibits RECs requiring further evaluation. A limited Phase II investigation should focus on confirming the absence or extent of residual contamination in soil and groundwater to ensure compliance with future developments.

2.0 INTRODUCTION

ASTI was retained by Howell Township to conduct a Phase I ESA of the site at Parcel 4706-21-200-019 in Howell Township, Livingston County, Michigan (Subject Property). The Phase I ESA was conducted in accordance with the US EPA Standards and Practices for AAI and the ASTM Practice E1527-21.

2.1 Purpose

The assessment was conducted to identify RECs, HRECs, and CRECs associated with the historical uses of the Subject Property, current site operations, and the condition of surrounding properties. This Phase I ESA can be used by Howell Township to qualify for one of three landowner liability protections (contiguous property owner, innocent landowner, or bona fide prospective purchaser) available under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. This Phase I ESA may also be used to qualify for State of Michigan liability defenses and exemptions that may be available under Part 201 of the Natural Resources and Environmental Protection Act.

4. *Livingston County Department of Public Health, Water Quality Test, dated September 10, 2013*
5. *EGLE Email to Ms. Rebecca Taylor (EGLE) and Howell Township Deputy Treasurer, UST Type A Closure Confirmation, dated August 8, 2024*

BEA, 2004 and EGLE Supplemental Information, 2005

ASTI reviewed a BEA completed by URS Corporation (URS) in 2004 that included a summary of environmental assessments that were conducted at the former farm/Difco Lab site between 1992 and 2000. The original BEA filing covered a 207-acre site that included the Subject Property as well as east and west adjoining parcels, but it was later refined to the 8.6-acre former Difco Lab, which is now the Subject Property. URS completed subsurface investigations and reviewed reports that were completed by ENKON Environmental Service, Inc. (ENKON), Swanson Environmental, Inc. (SEI), and Radian International, LLC (Radian). It was noted that work completed by EKRON was summarized in the SEI report.

ENKON's investigations focused on the following areas of environmental concern: a septic system leach field, a concrete pad and associated drainage ditch, a stormwater retention pond, and laboratory waste disposal pits. To investigate the concerns, ENKON collected soil and groundwater samples from several locations. Groundwater was reported to be between 10 and 12 feet bgs. The samples were analyzed for VOCs, SVOCs, and metals. No VOCs or SVOCs were detected.

Following initial assessments by ENKON in 1992, excavation was completed and VSR samples were collected. VSR samples collected from the drain field excavation contained concentrations of arsenic and selenium exceeding GRCC. VSR samples from drainage ditch excavation contained concentrations of selenium exceeding GRCC. VSR samples from the waste disposal pit excavation contained concentrations of arsenic and selenium exceeding GRCC. Groundwater sample MW-1 contained concentrations of arsenic and lead exceeding GRCC. MW-1 was located near a stream that fed the former stormwater pond.

Beginning in 1994, SEI prepared an additional assessment to evaluate risk and to fully determine the extent of the waste disposal pits. SEI completed background samples and leach testing to achieve regulatory closure with respect to the metal impact reported by EKRON. The results of the investigation concluded that metal impacts to soil were within background levels or, in the case of selenium, exceeded background levels but did not leach at significant concentrations.

The monitoring well MW-1 was resampled, and arsenic and lead were not detected. With respect to these metal impacts, it was concluded the Part 201 Type B closure had been achieved.

SEI identified a total of 20 potential waste disposal pits in six areas around the former lab. Following test pit exploration and assessment, approximately 6,600 cubic yards of impacted soil and waste material were excavated and disposed of at a landfill. VSR samples were collected from the disposal pit excavation, and VOCs, PNAs, and metals were less than GRCC and/or method detection limits. With respect to the disposal pit, it was concluded the Part 201 residential closure had been achieved.

Radian conducted Phase I and II ESAs in 1999 and subsequently conducted a Phase II ESA/BEA in 2000. The following concerns were identified: the former presence of a lead-gasoline UST and sediment contamination in the storm water retention pond and the associated drainage ditch. The former UST's location was somewhat unclear, but reports suggested it was removed in the 1970s and was located near a barn or north of the access drive. Radian's Phase II ESA was completed to investigate these concerns and to determine the adequacy of previously completed work by EKRON and SEI. The scope of work included the completion of nine soil borings/test pits and the installation of five groundwater monitoring wells. Samples were collected and analyzed for VOCs, SVOCs, and metals. No soil or sediment impacts were identified above GRCC. The concentration of lead in groundwater samples MW-2, MW-3, and MW-4 (5 to 49 ppb) exceeded GRCC for drinking water.

URS completed supplement sampling in 2004. Samples were collected by the former gasoline UST and from existing monitoring wells. The samples were analyzed for a combination of lead gasoline and diesel parameters and metals. The groundwater sample MW-3 contained lead above GRCC. The other results were less than the GRCC or method detection limits. URS's BEA reported historical concentrations of the metals arsenic, selenium, and mercury in soil exceeding the GRCC for DC, DWP, and/or GSIP. Lead in groundwater sample MW-3 exceeded the GRCC for drinking water. The soil impacts exceeding GRCC were reported in the former leach field, drainage ditch, and retention pond sediment. Supplemental BEA information was submitted in 2005, which emphasized that the metal concentrations were historical and could not be replicated, and were considered to be "likely to be anomalous". Additional sampling was completed around MW-3, and a new sample was collected from monitoring well MW-3, all using low-flow sampling techniques and field filtering. No lead was detected in the groundwater. It was concluded the previous detections of lead in groundwater were an anomaly.

The BEA was submitted for the entire 207-acre site, which included the Subject Property. However, subsequent discussions with the staff at EGLE revealed that the BEA provided liability protection for the entire 207-acre site regardless of the size of the impacted area. Therefore, supplement information was provided to reduce the Part 201 “facility” designation to the 8.6-acre former Difco Lab.

The Subject Property was initially included in URS’s BEA and designated as a Part 201 “facility” along with the east and west adjoining parcels. However, based on supplemental information provided by URS, the BEA boundary was refined to include only the Subject Property, excluding the adjoining parcels.

EGLE Letter, 2006

In 2006, EGLE acknowledged the revised BEA facility boundary to the 8.6-acre former Difco Lab parcel. The update reflected in EGLE’s database noted that hazardous substances remained within the designated area, preventing delisting. EGLE indicated that future adjustments to the facility boundary could occur if groundwater contamination impacted nearby drinking water wells. Additionally, EGLE requested accurate parcel ID information to maintain updated records.

EGLE Email, 2024

According to emails from EGLE in 2024, a 500-gallon leaded gasoline UST was removed from D&H Farms, which shared an address with Difco Labs. A UST release occurred, and it was granted regulatory closure on May 22, 1993, following the removal of the UST and impacted soil. The VSR samples were non-detectable for BTEX and lead. There were no maps or supporting documents to confirm these statements.

5.3.6 Historical Use Summary of the Subject Property

Based on a review of the obtained historical sources, the Subject Property's former use(s) are summarized as follows.

The southeast portion of the Subject Property contained a small farmhouse, barn, silo, and root cellar comprising a small farm compound from at least 1907 until 1963. A small 500-gallon gasoline UST used for fueling farm equipment was located adjacent to the farmhouse. Difco Laboratories purchased the property to operate a small diagnostic research laboratory from 1963 until 1988. Several of the former buildings associated with the former farm and laboratory were subsequently razed; however, some dilapidated structures (storage sheds, root cellar, etc) remain but have not been used since the late 1980s. Difco Laboratory’s primary activity was the

production of antibiotic-impregnated paper disks in spring-loaded plastic dispensing cartridges. The remainder of the Subject Property has been farmland since at least 1907.

5.3.7 Historical Use Summary of the Adjoining Properties

Based on a review of the obtained historical sources, the former uses of adjoining properties are summarized as follows:

Summary of Historic Uses of Adjoining Properties	
Direction	Historical Use Summary
North	The area has been farmland and residential since at least 1907.
East	The area has been farmland since at least 1907.
South	The area has been farmland and residential since at least 1907.
West	The area has been farmland and residential since at least 1907.

6.0 **SITE RECONNAISSANCE**

6.1 **Methodology and Limiting Conditions**

Assessor Name and Title	Bailey Bishop
Date of Inspection	December 17, 2024
Weather Conditions	38 ° F and cloudy
Methodology	ASTI inspected the Subject Property in a meander and search pattern, including all property boundaries, adjoining properties from the Subject Property, and public access areas.
Access Limitations	Untrimmed vegetation, snow, leaves, trees
Adverse Subject Property Conditions	None

6.2 **Exterior Observations**

The following table summarizes the site's exterior observations. Observed items are further discussed below.

Category	Item	Item Observed
Above Ground Hazardous Substance/Petroleum Product Storage	Drums, barrels, or containers ≥5 gallons in connection with identified uses	No
	Drums, barrels, or containers ≥5 gallons not in connection with identified uses	No
	Unidentified Substance Containers	No
	ASTs	No

Rationale	Although no evidence (i.e., fill ports, vent pipes, or pressure gages, etc) was found during the assessment, based on the age of the former residences, there is a potential that heating oil was used as a fuel source prior to natural gas. If a buried heating oil fuel tank is found during any redevelopment activities, the tank should be properly decommissioned with verification sampling conducted.
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10.0 FINDINGS AND OPINION

FINDINGS

Below is a summary of the findings of this Phase I ESA.

Subject Property Historical Summary

The southeast portion of the Subject Property contained a small farmhouse, barn, silo, and root cellar comprising a small farm compound from at least 1907 until 1963. A small 500-gallon gasoline UST used for fueling farm equipment was located adjacent to the farmhouse. Difco Laboratories purchased the property to operate a small diagnostic research laboratory from 1963 until 1988. Several of the former buildings associated with the former farm and laboratory were subsequently razed; however, some dilapidated structures (storage sheds, root cellar, etc) remain but have not been used since the late 1980s. Difco Laboratory's primary activity was the production of antibiotic-impregnated paper disks in spring-loaded plastic dispensing cartridges. The remainder of the Subject Property has been farmland since at least 1907.

Subject Property Environmental Database Review

Site Name	6148-HT-02 Biosolids Site
Databases Listing(s)	ENVIRO
Location	No address provided
Documentation Requested	<ul style="list-style-type: none"> • WRD: Water Resources Division of EGLE
Summary of Findings	The Subject Property likely received biosolid applications sourced from the Pontiac Wastewater Treatment Plant (WWTP). The application was managed by Biotech Agronomics, Inc., which was responsible for the land application of biosolids. Testing was conducted for various metals commonly associated with biosolids, including arsenic (As), cadmium (Cd), copper (Cu), lead (Pb), mercury (Hg), molybdenum (Mo), nickel (Ni),

Summary of Findings	<p>selenium (Se), zinc (Zn), as well as nutrients such as nitrogen (N), phosphorus (P), and potassium (K). A biosolids application notification was issued on May 29, 2014, though the exact date of application remains unspecified.</p> <p>Recently, testing for per- and polyfluoroalkyl substances (PFAS) has been initiated due to growing environmental concerns.</p>
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Subject Property

Prior Environmental Reports Summary

ASTI reviewed the previous environmental report(s) listed below.

1. *Baseline Environmental Site Assessment, 207-Acre Property, Tooley Road, Howell Township, dated July 12, 2004*
2. *EGLE Supplemental BEA Information, dated July 27, 2005*
3. *EGLE Letter to Ms. Kniahynycky, dated July 13, 2006.*
4. *Livingston County Department of Public Health, Water Quality Test, dated September 10, 2013*
5. *EGLE Email to Ms. Rebecca Taylor (EGLE) and Howell Township Deputy Treasurer, UST Type A Closure Confirmation, dated August 8, 2024*

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Following initial assessments by ENKON in 1992, excavation was completed and VSR samples were collected. VSR samples collected from the drain field excavation contained concentrations of arsenic and selenium exceeding GRCC. VSR samples from drainage ditch excavation contained concentrations of selenium exceeding GRCC. VSR samples from the waste disposal pit excavation contained concentrations of arsenic and selenium exceeding GRCC. Groundwater sample MW-1 contained concentrations of arsenic and lead exceeding GRCC. MW-1 was located near a stream the fed the former storm water pond.

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The VSR samples were non detect for BTEX and lead. There were no maps or supporting documents to confirm these statements.

OPINION

Based on the site inspection, interviews, regulatory and municipal records review, and review of historical documentation, the following is opined by the EP.

De Minimis Conditions

The EP did not identify any de minimis conditions associated with the Subject Property.

Significant Data Gaps

The EP did not identify any significant data gaps associated with the Subject Property.

Historical Recognized Environmental Conditions

The EP identified HRECs associated with the Subject Property.

- **HREC Opinion #1:** The 500-gallon leaded gasoline underground storage tank (UST) removed from D&H Farms in 1993, which shared an address with Difco Labs, is considered a Historical Recognized Environmental Condition (HREC). The UST release achieved regulatory closure following the removal of the tank and impacted soil, and verification sampling results were non-detect for BTEX and lead, indicating the issue was adequately addressed. However, there were no maps or supporting documents confirming these statements, but EGLE correspondence in 2024 affirmed the regulatory closure.

Controlled Recognized Environmental Conditions

The EP did not identify any CRECs associated with the Subject Property.

Recognized Environmental Conditions

The EP identified RECs associated with the Subject Property.

REC Opinion #1: Metal-Impacted Soil and Groundwater Contamination

Environmental investigations by ENKON in 1992 identified arsenic and selenium in soil samples exceeding GRCC in multiple areas, including a septic system leach field, a drainage ditch, and a laboratory waste disposal pit. Additionally, groundwater sample MW-1 contained arsenic and lead exceeding GRCC near a stream that fed a former stormwater pond. While subsequent investigations by SEI in 1994 concluded that these

impacts were within background levels or non-leaching, the presence of historical exceedances in soil and groundwater raises concerns regarding residual contamination.

REC Opinion #2: Former Waste Disposal Pits

SEI identified 20 potential waste disposal pits across six areas of the former lab, with approximately 6,600 cubic yards of impacted soil and waste material excavated and disposed of at a landfill. While confirmatory sampling concluded that VOC, PNA, and metal concentrations were below GRCC, the historical disposal of laboratory waste and significant excavation activities present potential subsurface contamination risks that warrant further evaluation.

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REC Opinion #4: Biosolids appear to have been applied to the Subject Property as an agricultural nutrient booster. The biosolids were applied by Biotech Agronomics, Inc. and they were sourced from the Pontiac Wastewater Treatment Plant. The obtained biosolids application notification was issued on May 29, 2014. The biosolids were tested for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, nitrogen, phosphorus, and potassium. The biosolids do not appear to have been tested for per- and polyfluoroalkyl substance, which is now known to be spread through biosolids from wastewater treatment plants.

While prior investigations and remediation efforts addressed many issues, the site still exhibits RECs requiring further evaluation. A limited Phase II investigation should focus on confirming the absence or extent of residual contamination in soil and groundwater to ensure compliance with future developments.

11.0 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the site at Parcel 4706-21-200-019 in Howell Township, Livingston County, Michigan (Subject Property). Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report.

The Subject Property, formerly home to Difco Laboratories, is an 8.6-acre parcel within a larger 207-acre property in Howell Township, Michigan. It previously operated as a farm and research testing laboratory and has undergone multiple environmental investigations and remediation activities from 1992 to 2004 due to recognized environmental conditions.

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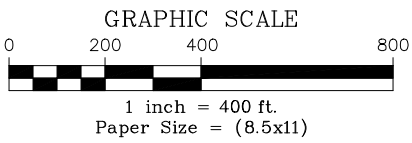
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While prior investigations and remediation efforts addressed many issues, the site still exhibits RECs requiring further evaluation. A limited Phase II investigation should focus on confirming the absence or extent of residual contamination in soil and groundwater to ensure compliance with future developments.

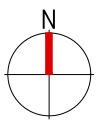
12.0 ADDITIONAL SERVICES

Non-Scope Considerations under Appendix X6 of ASTM Practice E1527-21 were not addressed in this investigation.

\\10.2.0.35\Staff Files\Project Files\Current and Closed\WANTAGEPOINT\A24-1999\A24-1988.00 4 Parcels, Tooley and Bowen Road, Howell Twp, MN\PI\01 (3 Phase 1 ESA)\CAD\A24-1988-00.dwg: 12/16/2024 5:08 PM



LEGEND
— Approximate Property Boundary



2755 Tooley Road
(Parcel ID: 4706-21-200-019)

Client: Jonathan Hohenstein
ASTI Project A24-1988.00, JRN, December 16, 2024

Howell Township, MI



Site Features Map

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 1. Agricultural field, facing west



Photo 2. Driveway gate



Photo 3. Pile of metal sheeting, iron bars and pipes

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 4. Pole-mounted transformers



Photo 5. Pole-mounted transformers



Photo 6. Well

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 7. Large pipes



Photo 8. Within pine tree line

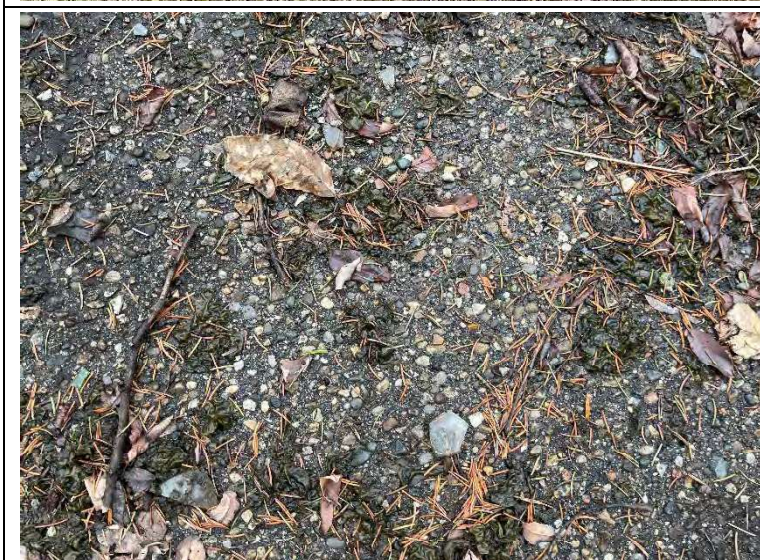


Photo 9. Remaining concrete

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 10. Pipes



Photo 11. Concrete



Photo 12. Large pipes

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 13. Fence opening at northwest corner of tree line



Photo 14. Within pine tree line



Photo 15. Well

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 16. Vent



Photo 17. Shelter with vent



Photo 18. Inside of shelter

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 19. Well in agricultural field



Photo 20. Agricultural field, facing north



Photo 21. North adjoining, residence

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 22. North adjoining, farm



Photo 23. East adjoining, Tooley Road and agricultural field



Photo 24. South adjoining, residence

PHOTO LOG

Parcel 4706-21-200-019, Howell Township, Livingston County, Michigan



Photo 25. West adjoining, forest and residence

Phase I Environmental Site Assessment
160.65-Acre Property
Parcels 4706-22-100-001 and 4706-15-300-002
Howell Township, Livingston County, Michigan

Howell Township

February 5, 2025

ASTI ENVIRONMENTAL



1.0 EXECUTIVE SUMMARY

ASTI Environmental (ASTI) was retained by Howell Township to conduct a Phase I Environmental Site Assessment (ESA) of Parcels 4706-22-100-001 and 4706-15-300-002 in Howell Township, Livingston County, Michigan (Subject Property). The Phase I ESA was conducted in accordance with United States Environmental Protection Agency (US EPA) Standards and Practices for All Appropriate Inquiries (AAI, 40 CFR Part 312) and the American Society for Testing and Materials (ASTM) Practice E1527-21. The information and opinions rendered in this report are exclusively for reliance by Howell Township.

Subject Property Overview	
Address/Location	2990 Tooley Road, Howell Township, MI 48855
Parcel Number(s)	4706-22-100-001 and 4706-15-300-002
Acreage	± 160.65
Current Use	Agricultural

The Phase I ESA included (1) a site inspection on December 17, 2024, (2) interviews with knowledgeable site contacts, (3) review of pertinent Michigan Department of Environment, Great Lakes, and Energy (EGLE), Howell Township, and Livingston County records, (4) acquisition and review of a federal and state database search, and (5) review of historical aerial photographs, topographic maps, and city directories.

Below is a summary of our opinion representing the findings of this Phase I ESA. Affirmative answers are discussed following the summary table.

Condition as defined in ASTM E1527 and/or AAI	Identified through a search of <i>Reasonably Ascertainable</i> records
<i>Significant Data Gap</i>	No
<i>De Minimis Condition</i>	No
<i>Historic Recognized Environmental Condition (HREC)</i>	No
<i>Controlled Recognized Environmental Condition (CREC)</i>	No
<i>Recognized Environmental Condition (REC)</i>	Yes

Refer to Section 10.0 for a more detailed summary of the findings.

Recognized Environmental Conditions

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property. Any exceptions to, or deletions from, this practice

are described in Section 2.4 of this report. This assessment has revealed the following RECs, CRECs, and/or significant data gaps in connection with the Subject Property.

- **REC Opinion #1:** The South Branch Shiawassee River transects the eastern portion of the Subject Property. This segment of the river is part of an 8-mile Super Fund Site caused by PCB contamination from historical discharges at the upstream former Cast Forge Company. Sediment samples collected from the Subject Property (T-168 to T-175 on Parcel -002 and T-186 to T-194 on Parcel -001) revealed PCB concentrations below the Record-of-Decision cleanup threshold of 5 mg/kg, with the highest detected concentration being 0.692 mg/kg. While current levels meet regulatory standards, continued monitoring was recommended due to the site's location within the contamination zone. Institutional controls, including land-use restrictions and fish consumption advisories, appear to be in effect for the contaminated zone. Soil disturbance or excavation in the contaminated zone may require regulatory review and adherence to safety protocols.

Additionally, per- and polyfluoroalkyl substances have been more recently detected at the upstream source, so their presence in the watershed introduces further environmental concern.

- **REC Opinion #2:** Biosolids appear to have been applied to the Subject Property as an agricultural nutrient booster. The biosolids were applied by Biotech Agronomics, Inc. and they were sourced from the Pontiac Wastewater Treatment Plant. The obtained biosolids application notification was issued on May 29, 2014. The biosolids were tested for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, nitrogen, phosphorus, and potassium. The biosolids do not appear to have been tested for per- and polyfluoroalkyl substance, which is now known to be spread through biosolids from wastewater treatment plants.
- **Rec Opinion #3:** The Subject Property was initially included in a Baseline Environmental Assessment from 2004 that covered a 207-acre site formerly operated by Difco Lab. The report was revised to a smaller fraction that is about 8.6 acres. The Subject Property is not included in the revised area; however, no sampling was conducted on the Subject Property to distinguish or verify its' condition.
- **REC Opinion #4:** ASTI observed three relatively small dump sites at the edge of the farmland approaching the South Branch Shiawassee River. The location is west of the

former farm on Tooley Road, so the area appears to have been a farm dump. Two of the dumps were approximately 30-square-feet in size. Within the dumps and in the immediate area, ASTI observed three deteriorated vehicles and three 55-gallon metal drums. All observed drums were empty, but the drums were old and rusty so there is potential for a related leak. Approximately 15 smaller containers, ranging in size from less than one quart to over 10 gallons, were observed. Some of the smaller containers appeared to have been related to paint and motor oil storage while others were food. General rubbish included appliances and other miscellaneous items. Some of the observed items were sunken into the ground, suggesting they had been discarded a long time ago or intentionally buried. Based on observations, there is potential for a release at the dumps.

2.0 INTRODUCTION

ASTI was retained by Howell Township to conduct a Phase I ESA of the Subject Property. The Phase I ESA was conducted in accordance with the US EPA Standards and Practices for AAI and the ASTM Practice E1527-21.

2.1 Purpose

The assessment was conducted to identify RECs, HRECs, and CRECs associated with the historical uses of the Subject Property, current site operations, and the condition of surrounding properties. This Phase I ESA can be used by Howell Township to qualify for one of three landowner liability protections (contiguous property owner, innocent landowner, or bona fide prospective purchaser) available under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. This Phase I ESA may also be used to qualify for State of Michigan liability defenses and exemptions that may be available under Part 201 of the Natural Resources and Environmental Protection Act.

2.2 Detailed Scope of Services

Information required to complete the Phase I ESA was obtained from personal interviews and a review of *practically reviewable* and *reasonably ascertainable* records. Informational sources include the following:

Data Gap	ASTI was unable to determine the source of fill used to return to grade former basements.	
Is this a significant data gap?	No	
Rationale	<p>The source of the fill material is unknown. Because the building was demolished after the 2000s, the fill material is not considered suspect because the typical demolition program required the use of clean fill material by this time.</p> <p>An assessment of potential fill in the location of former buildings with basements can be performed to further reduce environmental risk.</p>	

Data Gap	ASTI was unable to determine past heating fuel sources for the Subject Property. The fuel sources may have included electric, wood, coal, propane, or fuel oil.	
Is this a significant data gap?	No	
Rationale	<p>Although no evidence (i.e., fill ports, vent pipes, or pressure gages, etc.) or information regarding the use of heating fuel was found during the assessment, based on the age of the former residences and buildings (built before 1937), there is a potential that heating oil was used as a fuel source prior to natural gas. If a buried heating oil fuel tank is found during any redevelopment activities, the tank should be properly decommissioned with verification sampling conducted.</p>	

10.0 FINDINGS AND OPINION

FINDINGS

Below is a summary of the findings of this Phase I ESA.

Subject Property

Historical Summary

The Subject Property has primarily been used as farmland. A dwelling and associated outbuildings were located on the southwest portion of Parcel 06-15-300-002 from at least 1937 until their demolition in 2020. A sewer pump station was constructed near the southern boundary of Parcel 06-15-300-001 by the late 2000s. The South Branch Shiawassee River runs along the northeast portion of Parcel 06-15-300-002 and east portion of Parcel 06-15-300-001.

Subject Property
Environmental Database Review

Site Name	6148-HT-02 Biosolids Site
Databases Listing(s)	ENVIRO
Location	No address provided
Documentation Requested	<ul style="list-style-type: none"> • WRD: Water Resources Division of EGLE
Summary of Findings	<p>The Subject Property likely received biosolid applications sourced from the Pontiac Wastewater Treatment Plant (WWTP). The application was managed by Biotech Agronomics, Inc., which was responsible for the land application of biosolids. Testing was conducted for various metals commonly associated with biosolids, including arsenic (As), cadmium (Cd), copper (Cu), lead (Pb), mercury (Hg), molybdenum (Mo), nickel (Ni), selenium (Se), zinc (Zn), as well as nutrients such as nitrogen (N), phosphorus (P), and potassium (K). A biosolids application notification was issued on May 29, 2014, though the exact date of application remains unspecified.</p> <p>Recently, testing for per- and polyfluoroalkyl substances (PFAS) has been initiated due to growing environmental concerns.</p>

Site Name	Kniahynycky-Livingston: 04-47-0030-FP, 3521 and 6243 Shiawasee River South Branch
Databases Listing(s)	ENVIRO
Location	Tooley Road
Documentation Requested	<ul style="list-style-type: none"> • WRD: Water Resources Division of EGLE
Summary of Findings	According to records for Sections 15, 21 & 22, T3N, R4E, a 100-year floodplain evaluation was conducted for a property along the South Branch Shiawasee River. Certain development restrictions may apply according to obtained documents.

Site Name	Shiawasee River, Lucy Road Resources
Databases Listing(s)	NPL, SEMS, US ENG CONTROLS, US INST CONTROLS, PRP, ENVIRO, INVENTORY, PART 201, BEA, WDS, ROD, PFAS
Location	2440 W Highland Road
Documentation Requested	<ul style="list-style-type: none"> • RRD: Remediation and Redevelopment Division of the EGLE • WRD: Water Resources Division of EGLE

Summary of Findings	<p>The Subject Property is located within an 8-mile PCB contamination zone in the South Branch of the Shiawassee River, resulting from historical discharges by the Cast Forge Company (later Western Wheel) between 1969 and 1977. Despite remediation efforts completed by 2005 under a 2001 EPA Record of Decision (ROD), residual PCB contamination persists in the river sediments and floodplain soils. Recent monitoring (2020–2021) identified PCB sources near the former facility, and PFAS contamination detected in 2021 has introduced additional environmental concerns.</p> <p>Sediment samples collected from the Subject Property (T-168 to T-175 on Parcel -002 and T-186 to T-194 on Parcel -001) revealed PCB concentrations below the ROD cleanup threshold of 5 mg/kg, with the highest detected concentration being 0.692 mg/kg. While current levels meet regulatory standards, continued monitoring was recommended due to the site's location within the contamination zone.</p> <p>Institutional controls (ICs), including land-use restrictions and fish consumption advisories, are likely in effect for the Subject Property. Soil disturbance or excavation may require regulatory review and adherence to safety protocols.</p>
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**West Adjoining Property
Environmental Database Review**

Site Name	D& H Farms, DIFCO Labs (former)
Databases Listing(s)	AIRS, RGA PART 201, INVENTORY, PART 201, BEA, WDS
Location	2755 Tooley Road
Distance and Direction	West adjoining
Documentation Requested	<ul style="list-style-type: none"> • RRD: Remediation and Redevelopment Division of EGLE • MMD: Materials Management Division of EGLE • AQD: Air Quality Division of EGLE
Summary of Findings	<p>According to emails from EGLE in 2024, a 500-gallon leaded gasoline UST was removed from D&H Farms which shared and address with Difco Labs. A UST release occurred, and it was granted regulatory closure on May 22, 1993, following the removal of the UST and impacted soil. The VSR samples were non detect for BTEX and lead. There were no maps or supporting documents to confirm these statements.</p> <p>ASTI reviewed a BEA completed by URS Corporation (URS) in 2004 that included a summary of environmental assessments that were conducted at the former farm/Difco Lab site between 1992 and 2000. The original BEA filing covered a 207-acre site that</p>

<p>Summary of Findings</p>	<p>included the Subject Property, but it was later refined to the 8.6-acre former Difco Lab that adjoins the Subject Property to the southwest. URS completed subsurface investigations and reviewed reports that were completed by ENKON Environmental Service, Inc. (ENKON), Swanson Environmental, Inc. (SEI), and Radian International, LLC (Radian). It was noted that work completed by EKRON was summarized in the SEI report.</p> <p>ENKON's investigations focused on the following areas of environmental concern: a septic system leach field, a concrete pad and associated drainage ditch, a stormwater retention pond, and laboratory waste disposal pits. To investigate the concerns, ENKON collected soil and groundwater samples from several locations. Groundwater was reported to be between 10 and 12 feet bgs. The samples were analyzed for VOCs, SVOCs, and metals. No VOCs or SVOCs were detected.</p> <p>Following initial assessments by ENKON in 1992, excavation was completed and VSR samples were collected. VSR samples collected from the drain field excavation contained concentrations of arsenic and selenium exceeding GRCC. VSR samples from drainage ditch excavation contained concentrations of selenium exceeding GRCC. VSR samples from the waste disposal pit excavation contained concentrations of arsenic and selenium exceeding GRCC. Groundwater sample MW-1 contained concentrations of arsenic and lead exceeding GRCC. MW-1 was located near a stream the fed the former storm water pond.</p> <p>Beginning in 1994, SEI prepared an additional assessment to evaluate risk and to fully determine the extent of the waste disposal pits. SEI completed background samples and leach testing to achieve regulatory closure with respect to the metal impact reported by EKRON. The results of the investigation concluded that metal impacts to soil were within background levels or, in the case of selenium, exceeded background levels but did not leach at significant concentrations. The monitoring well MW-1 was resampled, and arsenic and lead were not detected. With respect to these metal impacts, it was concluded the Part 201 Type B closure had been achieved.</p> <p>SEI identified a total of 20 potential waste disposal pits in six areas around the former lab. Following test pit exploration and assessment, approximately 6,600 cubic yards of impacts soil and waste material was excavated and disposed of at a landfill. VSR samples were collected from the disposal pit excavation and VOCs, PNAs, and metals less than GRCC and/or method detection limits. With respect to the disposal pit, it was concluded the Part 201 residential closure had been achieved.</p> <p>Radian conducted Phase I and II ESAs in 1999 and subsequently conducted a Phase II ESA/BEA in 2000. The following concerns</p>
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Summary of Findings

were identified: the former presence of a lead-gasoline UST and sediment contamination in the storm water retention pond and the associated drainage ditch. The former UST's location was somewhat unclear, but reports suggested it was removed in the 1970s and was located near a barn or north of the access drive. Radian's Phase II ESA was completed to investigate these concerns and to determine the adequacy of previously completed work by EKRON and SEI. The scope of work included the completion of nine soil borings/test pits and the installation of five groundwater monitoring wells. Samples were collected and analyzed for VOCs, SVOCs, and metals. No soil or sediment impacts were identified above GRCC. The concentration of lead in groundwater samples MW-2, MW-3, and MW-4 (5 to 49 ppb) exceeded GRCC for drinking water.

URS completed supplement sampling in 2004. Samples were collected by the former gasoline UST and from existing monitoring wells. The samples were analyzed for a combination of lead gasoline and diesel parameters and metals. The groundwater sample MW-3 contained lead above GRCC. The other results were less than the GRCC or method detection limits. URS's BEA reported historical concentrations of the metals arsenic, selenium and mercury in soil exceeding the GRCC for DC, DWP, and/or GSIP. Lead in groundwater sample MW-3 exceeded the GRCC for drinking water. The soil impacts exceeding GRCC were reported in the former leach field, drainage ditch, and retention pond sediment. Supplemental BEA information was submitted in 2005 which emphasized that the metal concentrations were historical and could not be replicated and were considered to be "likely to be anomalous". Additional sampling was completed around MW-3 and a new sample was collected from monitoring well MW-3, all using low-flow sampling techniques and field filtering, and no lead was detected in the groundwater. It was concluded the previous detections of lead in groundwater were an anomaly.

The BEA was submitted for the entire 207-acre site, which included the Subject Property. However, subsequent discussion with the staff at EGLE revealed that the BEA provided liability protection for the entire 207-acre site regardless of the size of the impacted area. Therefore, supplement information was provided to reduce the Part 201 "facility" designation to the 8.6-acre former Difco Lab.

The Subject Property was initially included in URS's BEA and Part 201 "facility" classification despite the lack of environmental concern and sampling. As a result of the supplemental information provided by URS, the area of the BEA was refined to exclude the Subject Property.

Summary of Findings	<p>Samples were collected from nearby drinking water wells and analyzed for VOCs and metals. The results did not suggest an impact from the Difco Labs.</p> <p>It was reported that the lab previously maintained two water supply wells; however, ASTI could not determine if these former wells were closed.</p>
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**Subject Property
Site Reconnaissance**

ASTI observed three small dump sites along the South Branch Shiawassee River. Two of the dump sites were approximately 30 square foot piles and included two deteriorated vehicles.

Approximately three metal 55-gallon drums were identified along the South Branch Shiawassee River. One drum was identified amongst other discarded items in a small dump site. Two additional drums were identified near the dump sites. All drums were rusted and empty.

Unidentified containers, ranging in size from less than one quart to over 10 gallons, were located at the dump sites. There were approximately 15 containers visible, but it is possible that more were unidentified within the pile. Some containers were identified as paint, motor oil and food items. Other observed items included appliances and other miscellaneous items that seemed to be household rubbish. Additionally, there were three old, deteriorated automobiles at the dump sites. Some of the observed items were sunken into the ground, suggesting they had been discarded a long time ago or even intentionally buried.

OPINION

Based on the site inspection, interviews, regulatory and municipal records review, and review of historical documentation, the following is opined by the EP.

De Minimis Conditions

The EP did not identify any de minimis conditions associated with the Subject Property.

Significant Data Gaps

The EP did not identify significant data gaps associated with the Subject Property.

Historical Recognized Environmental Conditions

The EP did not identify any HRECs associated with the Subject Property.

Controlled Recognized Environmental Conditions

The EP did not identify any CRECs associated with the Subject Property.

Recognized Environmental Conditions

The EP did identify RECs associated with the Subject Property.

- **REC Opinion #1:** The South Branch Shiawassee River transects the eastern portion of the Subject Property. This segment of the river is part of an 8-mile Super Fund Site caused by PCB contamination from historical discharges at the upstream former Cast Forge Company. Sediment samples collected from the Subject Property (T-168 to T-175 on Parcel -002 and T-186 to T-194 on Parcel -001) revealed PCB concentrations below the Record-of-Decision cleanup threshold of 5 mg/kg, with the highest detected concentration being 0.692 mg/kg. While current levels meet regulatory standards, continued monitoring was recommended due to the site's location within the contamination zone. Institutional controls, including land-use restrictions and fish consumption advisories, appear to be in effect for the contaminated zone. Soil disturbance or excavation in the contaminated zone may require regulatory review and adherence to safety protocols.

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- **Rec Opinion #3:** The Subject Property was initially included in a Baseline Environmental Assessment from 2004 that covered a 207-acre site formerly operated by Difco Lab. The report was revised to a smaller fraction that is about 8.6 acres. The Subject Property is not included in the revised area; however, no sampling was conducted on the Subject Property to distinguish or verify its' condition.

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11.0 CONCLUSIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 of the Subject Property. Any exceptions to, or deletions from, this practice are described in Section 2.4 of this report. This assessment has revealed the following recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), and/or significant data gaps in connection with the Subject Property:

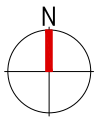
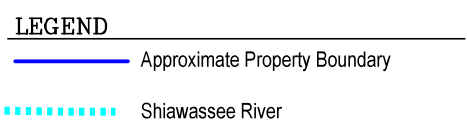
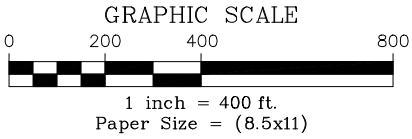
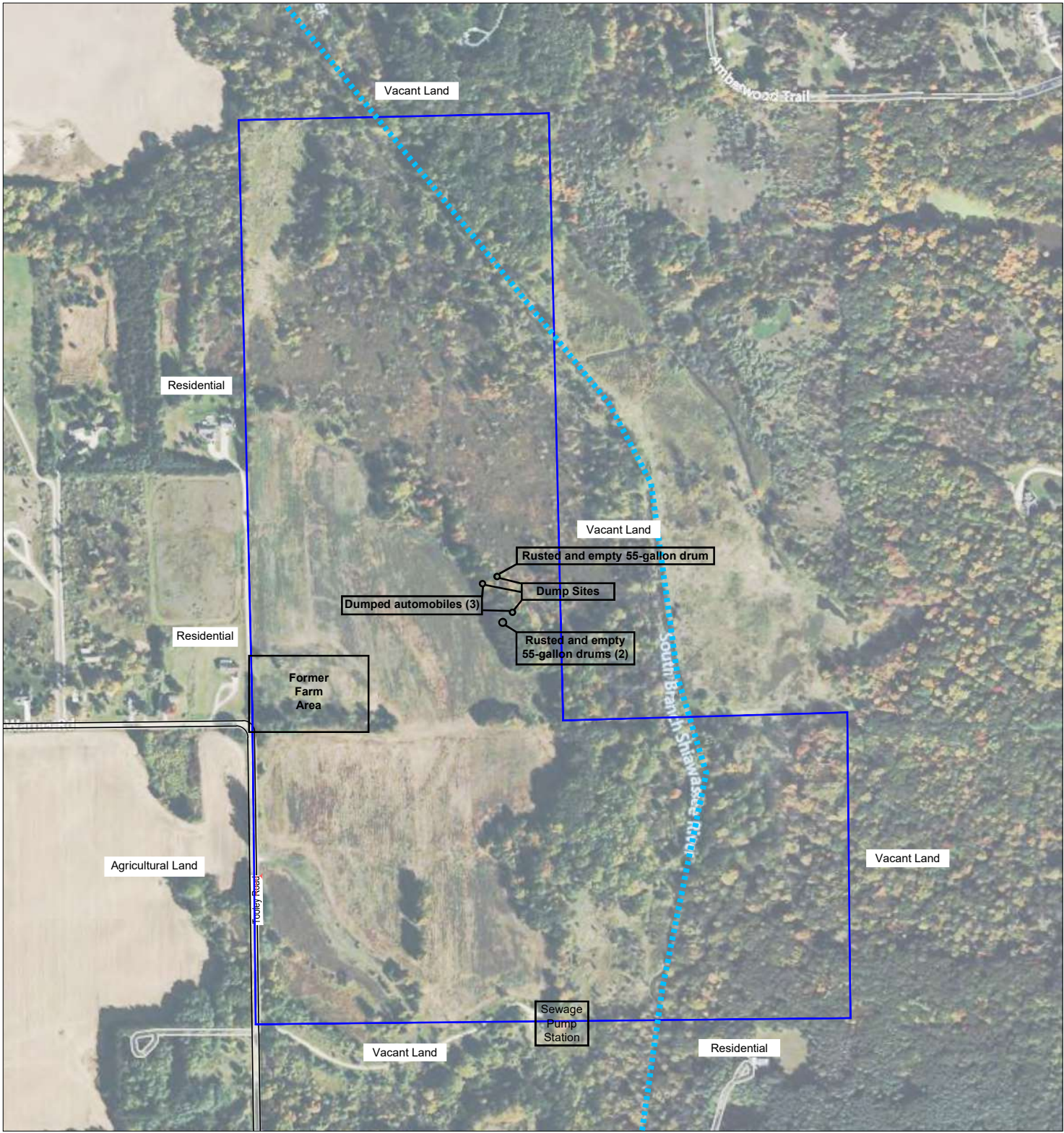
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12.0 ADDITIONAL SERVICES

\\10.2.0.35\Storff Files\Project Files\Current and Closed\WANTAGEPOINT\A24-1998\A24-1998-001 to A24-1998\A24-1998-004 Parcels, Tooley and Bowen Road, Howell Twp, MN\PI01 (3 Phase 1 ESAs)\CAD\A24-1988-00.dwg: 12/16/2024 5:50 PM



0 & 2990 Tooley Road
(Parcels 4706-22-100-001 & 4706-15-300-02)

Howell Township, MI



Client: Jonathan Hohenstein
ASTI Project A24-1988.00, JRN, December 16, 2024

Site Features Map

PHOTO LOG

Parcels 4706-15-300-001 and 4706-15-300-0021, Howell Township, Michigan



Photo 1. Previous farm location near Tooley and Warner Roads



Photo 2. Agricultural field



Photo 3. Wooded area between parcels 4706-15-300-001 and 4706-15-300-0021

PHOTO LOG

Parcels 4706-15-300-001 and 4706-15-300-0021, Howell Township, Michigan



Photo 4. Woodland area near Shiawassee River



Photo 5. Degraded vehicle



Photo 6. Abandoned debris

PHOTO LOG

Parcels 4706-15-300-001 and 4706-15-300-0021, Howell Township, Michigan



Photo 7. Abandoned appliances and various debris, including household items



Photo 8. Abandoned refrigerator



Photo 9. Abandoned auto parts, appliances and various household items

PHOTO LOG

Parcels 4706-15-300-001 and 4706-15-300-0021, Howell Township, Michigan



Photo 10. Degraded empty 55-gallon drum



Photo 11. East adjoining, private road and residence



Photo 12. South adjoining and Subject Property, Sewage Pump Station



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



August 13, 2004

Mr. Manny Kniahynycky, P.E.
MiK Development & Consulting
3680 Edinborough
Rochester Hills, Michigan 48306

AUG 18 2004

Dear Mr. Kniahynycky:

SUBJECT: Floodplain Information, South Branch Shiawassee River
Sections 15, 21 & 22, T3N, R4E; Howell Township, Livingston County

This is in follow-up to your request for 100-year floodplain information for a parcel of property along the South Branch Shiawassee River in the SW $\frac{1}{4}$ of Section 15 and the NW $\frac{1}{4}$ of Section 22 of Howell Township, Livingston County.

A detailed floodplain study has not been done for this portion of the South Branch Shiawassee River. However, based on the information available in our office, the 100-year flood elevation for the South Branch Shiawassee River at this site is estimated to be approximately 7 feet above low water levels of the river. Based on the topographic information you provided, the 100-year flood elevation varies from approximately 868 feet (plan datum) at the north property limit of Parcel B to about 874 feet at Bowen Road.

Any occupation or alteration of the 100-year floodplain will require a permit from the Department of Environmental Quality (DEQ) under the Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

In general, construction or fill may be permitted in the portions of the floodplain that are not floodway, provided local ordinance and building standards are met, and compensating excavation is provided equal to the volume of fill in the floodplain. Floodways are the channel of a river or stream and those portions of the floodplain adjoining the channel which are reasonably required to carry and discharge the 100-year flood; these are areas of moving water during times of flood.

New residential construction is specifically prohibited in the **floodway** portion of the floodplain. Non-residential construction may be permitted in the floodway; however, a detailed engineering analysis may be required to demonstrate the impact the floodway alteration may have on the flow-carrying capacity of the river. The location of the floodway would be identified during the permitting process. As an initial estimate,

Mr. Manny Kniahynycky, P.E.
Page 2
August 13, 2004

ground elevations that are less than 6 feet above the low water levels of the river may be considered to be floodway.

The Michigan Residential Building Code enforced within the Township requires that the lowest floor of a house within the 100-year floodplain be elevated one foot above the 100-year flood elevation; a basement floor (a floor that is below grade on all four sides) must be at or above the 100-year flood elevation.

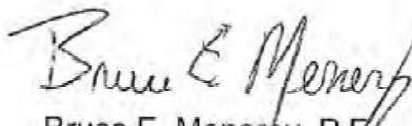
The site plan indicated that a wetland assessment has been done by a wetland consultant. A permit, under the authority of Part 303, Wetlands Protection, of the NREPA would be required prior to any filling, dredging, or construction activities within regulated wetland areas.

If the project will impact wetlands, please contact Mr. Tom Kolhoff in our Lansing District Office at 517-335-6270 for information. The joint permit application, which includes both floodplain and wetland activities, may be found at the following internet address:

<http://michigan.gov/deq/0,1607,7-135--17622--,00.html>

Should you have questions on the floodplain permitting requirements, please contact Ms. Donna Cervelli, also in our Lansing District Office, at 517-335-6266. If I can be of further assistance, feel free to contact me.

Sincerely,



Bruce E. Meneray, P.E.
Hydrologic Studies Unit
Land and Water Management Division
517-335-3181

cc/enc.: Howell Township Supervisor
Livingston County Building Department
Ms. Donna Cervelli, MDEQ, LWMD, Lansing District

12A

Howell Township
Invoice and Check Registers
As of 2/28/2025

INVOICE REGISTER FOR HOWELL TOWNSHIP

Inv Ref #	Vendor	Invoice Date	Due Date	Invoice Amount	Amount Due	Status	Posted
00024247	HOWELL PUBLIC SCHOOLS	02/03/2025	02/03/2025	551.58	0.00	Paid	Y
00024248	HOWELL PUBLIC SCHOOLS	02/03/2025	02/03/2025	838.96	0.00	Paid	Y
00024249	LIVINGSTON COUNTY TREASURER	02/03/2025	02/03/2025	2,392.69	0.00	Paid	Y
00024250	LIV EDUC SERVICE AGENCY	02/03/2025	02/03/2025	1,264.99	0.00	Paid	Y
00024251	LIVINGSTON COUNTY TREASURER	02/03/2025	02/03/2025	1,273.96	0.00	Paid	Y
00024252	HOWELL PARKS AND RECREATION	02/03/2025	02/03/2025	27,381.69	0.00	Paid	Y
00024253	HOWELL AREA FIRE AUTHORITY	02/03/2025	02/03/2025	111,864.20	0.00	Paid	Y
00024254	FOWLERVILLE DIST LIBRARY	02/03/2025	02/03/2025	2,137.49	0.00	Paid	Y
00024255	FOWLERVILLE SCHOOLS	02/03/2025	02/03/2025	15,453.07	0.00	Paid	Y
00024256	HOWELL CARNEGIE LIBRARY	02/03/2025	02/03/2025	56,034.94	0.00	Paid	Y
00024257	HOWELL PUBLIC SCHOOLS	02/03/2025	02/03/2025	150,604.48	0.00	Paid	Y
00024258	LIVINGSTON COUNTY TREASURER	02/03/2025	02/03/2025	39,734.99	0.00	Paid	Y
00024228	BRIGHTON ANALYTICAL	01/20/2025	02/19/2025	480.00	0.00	Paid	Y
00024229	AT&T	01/19/2025	02/09/2025	121.68	0.00	Paid	Y
00024232	GENOA TOWNSHIP DPW	01/30/2025	02/25/2025	1,214.94	0.00	Paid	Y
00024235	CONSUMERS ENERGY	01/21/2025	02/14/2025	144.46	0.00	Paid	Y
00024236	CONSUMERS ENERGY	01/21/2025	02/14/2025	27.02	0.00	Paid	Y
00024259	GENOA TOWNSHIP DPW	02/03/2025	03/03/2025	28,135.32	0.00	Paid	Y
00024260	G-O WWTP VACTOR PAD	02/03/2025	03/03/2025	209.45	0.00	Paid	Y
00024261	NORTHWEST PIPE AND SUPPLY, INC	02/03/2025	03/03/2025	281.26	0.00	Paid	Y
00024269	LIVINGSTON COUNTY TREASURER	02/04/2025	02/28/2025	820.00	0.00	Paid	Y
00024270	LIVINGSTON COUNTY TREASURER	02/04/2025	02/28/2025	128.00	0.00	Paid	Y
00024243	FIRST NATIONAL BANK	02/07/2025	02/07/2025	5,042.09	0.00	Paid	Y
00024244	HOWELL TOWNSHIP	02/07/2025	02/07/2025	123.08	0.00	Paid	Y
00024245	AMERICAN FUNDS	02/07/2025	02/07/2025	3,221.29	0.00	Paid	Y
00024246	EMPOWER	02/07/2025	02/07/2025	1,463.14	0.00	Paid	Y
00024227	CINTAS CORPORATION	01/22/2025	02/10/2025	124.57	0.00	Paid	Y
00024230	AMERICAN VIDEO TRANSFER INC	01/26/2025		445.00	0.00	Paid	Y
00024231	AMERICAN VIDEO TRANSFER INC	01/26/2025	02/25/2025	872.00	0.00	Paid	Y
00024233	PERFECT MAINTENANCE	01/31/2025	02/25/2025	195.00	0.00	Paid	Y
00024234	KENT COMMUNICATIONS INC	02/03/2025	02/15/2025	1,881.00	0.00	Paid	Y
00024237	JONATHAN HOHENSTEIN	01/29/2025	02/14/2025	267.92	0.00	Paid	Y
00024238	CONSUMERS ENERGY	01/17/2025	02/14/2025	960.36	0.00	Paid	Y
00024239	MUTUAL OF OMAHA INSURANCE COMPANY	01/17/2025	02/14/2025	127.74	0.00	Paid	Y
00024240	MICH MUNICIPAL TREAS ASSOC	01/31/2025	02/14/2025	99.00	0.00	Paid	Y
00024241	MICHIGAN STATE UNIVERSITY	01/21/2025	02/14/2025	1,125.00	0.00	Paid	Y
00024242	KEN FRENGER	01/21/2025	02/14/2025	250.00	0.00	Paid	Y
00024262	SPICER GROUP	01/23/2025	02/28/2025	2,796.75	0.00	Paid	Y
00024263	SMART BUSINESS SOURCE, LLC	02/04/2025	02/28/2025	435.48	0.00	Paid	Y
00024264	SPICER GROUP	02/04/2025	02/23/2025	51.25	0.00	Paid	Y
00024265	SPICER GROUP	02/04/2025	02/23/2025	1,011.75	0.00	Paid	Y
00024266	SPICER GROUP	02/04/2025	02/23/2025	868.75	0.00	Paid	Y
00024267	SPICER GROUP	02/04/2025	02/23/2025	904.50	0.00	Paid	Y
00024268	SPICER GROUP	02/04/2025	02/23/2025	102.50	0.00	Paid	Y
00024271	MICRO WORKS COMPUTING, INC	01/23/2025	02/12/2025	179.00	0.00	Paid	Y
00024272	MICRO WORKS COMPUTING, INC	01/23/2025	02/12/2025	179.00	0.00	Paid	Y
00024273	MICHIGAN STATE UNIVERSITY	02/04/2025	02/12/2025	225.00	0.00	Paid	Y
00024274	COMCAST	02/04/2025	02/12/2025	436.60	0.00	Paid	Y
00024275	MICHIGAN TWP ASSOC	02/04/2025	02/12/2025	180.00	0.00	Paid	Y
00024276	DTE ENERGY	02/04/2025	03/10/2025	789.87	0.00	Paid	Y
00024277	ABSOPURE	02/04/2025	02/28/2025	20.85	0.00	Paid	Y
00024278	ABSOPURE	02/04/2025	02/28/2025	12.00	0.00	Paid	Y
00024295	TUCKER GILES W	02/13/2025	02/15/2025	1,698.54	0.00	Paid	Y
00024313	LIVINGSTON COUNTY TREASURER	02/18/2025	02/18/2025	5,361.29	0.00	Paid	Y

INVOICE REGISTER FOR HOWELL TOWNSHIP

Inv Ref #	Vendor	Invoice Date	Due Date	Invoice Amount	Amount Due	Status	Posted
00024314	LIV EDUC SERVICE AGENCY	02/18/2025	02/18/2025	2,834.51	0.00	Paid	Y
00024315	LIVINGSTON COUNTY TREASURER	02/18/2025	02/18/2025	2,854.60	0.00	Paid	Y
00024316	HOWELL PUBLIC SCHOOLS	02/18/2025	02/18/2025	2,457.23	0.00	Paid	Y
00024317	LIVINGSTON COUNTY TREASURER	02/18/2025	02/18/2025	95,348.90	0.00	Paid	Y
00024318	HOWELL PUBLIC SCHOOLS	02/18/2025	02/18/2025	350,524.64	0.00	Paid	Y
00024319	HOWELL CARNEGIE LIBRARY	02/18/2025	02/18/2025	130,418.48	0.00	Paid	Y
00024320	FOWLerville SCHOOLS	02/18/2025	02/18/2025	20,666.67	0.00	Paid	Y
00024321	FOWLerville DIST LIBRARY	02/18/2025	02/18/2025	2,858.62	0.00	Paid	Y
00024322	HOWELL AREA FIRE AUTHORITY	02/18/2025	02/18/2025	257,180.14	0.00	Paid	Y
00024323	HOWELL PARKS AND RECREATION	02/18/2025	02/18/2025	63,729.23	0.00	Paid	Y
00024279	MICH MUNICIPAL TREAS ASSOC	02/04/2025	02/28/2025	599.00	0.00	Paid	Y
00024280	PITNEY BOWES GLOBAL FINANCIAL SERV.	02/08/2025	03/29/2025	403.98	0.00	Paid	Y
00024281	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	275.00	0.00	Paid	Y
00024282	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	2,142.00	0.00	Paid	Y
00024283	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	5,568.00	0.00	Paid	Y
00024284	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	20,006.00	0.00	Paid	Y
00024285	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	408.00	0.00	Paid	Y
00024286	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	11,457.00	0.00	Paid	Y
00024287	FAHEY SCHULTZ BURZYCH RHODES PLC	02/03/2025	03/05/2025	5,321.00	0.00	Paid	Y
00024289	CARLISLE WORTMAN ASSOC, INC.	02/11/2025	03/11/2025	585.02	0.00	Paid	Y
00024290	CARLISLE WORTMAN ASSOC, INC.	02/11/2025	03/11/2025	1,317.50	0.00	Paid	Y
00024291	CARLISLE WORTMAN ASSOC, INC.	02/13/2025	03/11/2025	230.00	0.00	Paid	Y
00024292	CARLISLE WORTMAN ASSOC, INC.	02/13/2025	03/11/2025	90.00	0.00	Paid	Y
00024293	CARLISLE WORTMAN ASSOC, INC.	02/13/2025	03/11/2025	272.50	0.00	Paid	Y
00024294	USA BLUEBOOK	02/12/2025	03/11/2025	2,583.19	0.00	Paid	Y
00024296	REPUBLIC SERVICES	01/31/2025	02/20/2025	127.91	0.00	Paid	Y
00024297	DTE ENERGY	01/31/2025	02/24/2025	629.28	0.00	Paid	Y
00024298	DTE ENERGY	01/31/2025	02/25/2025	416.54	0.00	Paid	Y
00024299	DTE ENERGY	02/03/2025	02/25/2025	217.73	0.00	Paid	Y
00024300	DTE ENERGY	02/10/2025	03/04/2025	472.20	0.00	Paid	Y
00024301	DTE ENERGY	02/10/2025	03/04/2025	732.65	0.00	Paid	Y
00024302	DTE ENERGY	02/10/2025	03/04/2025	6,640.02	0.00	Paid	Y
00024303	DTE ENERGY	02/10/2025	03/04/2025	433.11	0.00	Paid	Y
00024304	DTE ENERGY	02/10/2025	03/04/2025	29.88	0.00	Paid	Y
00024305	GANNETT MICHIGAN LOCALIQ	01/31/2025	02/20/2025	447.42	0.00	Paid	Y
00024306	DTE ENERGY	01/31/2025	02/20/2025	440.98	0.00	Paid	Y
00024324	MICHIGAN STATE UNIVERSITY	02/18/2025	02/18/2025	225.00	0.00	Paid	Y
00024325	DTE ENERGY	02/10/2025	03/04/2025	245.31	0.00	Paid	Y
00024326	HOWELL TOWNSHIP	02/10/2025	03/04/2025	1,500.00	0.00	Paid	Y
00024327	DTE ENERGY	02/10/2025	03/04/2025	424.40	0.00	Paid	Y
00024328	DTE ENERGY	02/13/2025	03/04/2025	75.17	0.00	Paid	Y
00024329	US POSTMASTER	02/13/2025	03/04/2025	1,500.00	0.00	Paid	Y
00024330	CINTAS CORPORATION	02/19/2025	03/10/2025	124.57	0.00	Paid	Y
00024331	WESTECH ENGINEERING LLC	02/19/2025	03/10/2025	72,847.25	0.00	Paid	Y
00024332	BRENT KILPELA	02/19/2025	03/10/2025	160.36	0.00	Paid	Y
00024307	FIRST NATIONAL BANK	02/21/2025	02/21/2025	5,504.16	0.00	Paid	Y
00024308	HOWELL TOWNSHIP	02/21/2025	02/21/2025	123.08	0.00	Paid	Y
00024309	BLUE CARE NETWORK	02/21/2025	02/21/2025	4,583.92	0.00	Paid	Y
00024310	AMERICAN FUNDS	02/21/2025	02/21/2025	3,525.75	0.00	Paid	Y
00024311	TREASURY STATE OF MICHIGAN	02/21/2025	02/21/2025	1,664.05	0.00	Paid	Y
00024312	EMPOWER	02/21/2025	02/21/2025	1,446.70	0.00	Paid	Y

# of Invoices:	105	# Due: 0	Totals:	1,557,214.14	0.00
# of Credit Memos:	0	# Due: 0	Totals:	0.00	0.00

INVOICE REGISTER FOR HOWELL TOWNSHIP

Inv Ref #	Vendor	Invoice Date	Due Date	Invoice Amount	Amount Due	Status	Posted
Net of Invoices and Credit Memos:				1,557,214.14	0.00		
				<i>C Agrees with Check Register</i>			
					<i>BK</i>		
--- TOTALS BY FUND ---							
	101 GENERAL FUND			91,081.48	0.00		
	592 SWR/WTR			119,488.77	0.00		
	701 TRUST & AGENCY			1,178.00	0.00		
	703 TAX FUND			1,345,465.89	0.00		
--- TOTALS BY DEPT/ACTIVITY ---							
	000 OTHER			1,376,642.40	0.00		
	101 TOWNSHIP BOARD			132.82	0.00		
	253 TREASURER			814.34	0.00		
	257 ASSESSING			2,041.36	0.00		
	265 TOWNSHIP HALL			3,820.13	0.00		
	268 TOWNSHIP AT LARGE			47,283.87	0.00		
	447 ENGINEERING			2,796.75	0.00		
	536 SEWER/WATER			72,847.25	0.00		
	537 CHARGES FOR SERVICES			1,500.00	0.00		
	538 WWTP			45,141.52	0.00		
	701 PLANNING			4,043.30	0.00		
	702 ZONING			41.58	0.00		
	703 ZONING BOARD OF APPEALS			108.82	0.00		

CHECK REGISTER FOR HOWELL TOWNSHIP

CHECK DATE 02/01/2025 - 02/28/2025

Check Date	Check	Vendor Name	Description	Amount
Bank GEN GENERAL FUND CHECKING				
02/10/2025	18982	ABSOPURE	WATER DELIVERY 2 BOTTLES	20.85
			WATER COOLER RENTAL	12.00
				<u>32.85</u>
02/10/2025	18983	AMERICAN VIDEO TRANSFER INC	ADDITIONAL MICROPHONE ASSEMBLY	445.00
			LABOR AND CABLE FOR TV INSTALLATION IN	872.00
				<u>1,317.00</u>
02/10/2025	18984	CINTAS CORPORATION	BLUE MATS	124.57
02/10/2025	18985	DTE ENERGY	STREETLIGHTS	789.87
02/10/2025	18986	JONATHAN HOHENSTEIN	TREASURER/ZONING EXPENSES	267.92
02/10/2025	18987	KENT COMMUNICATIONS INC	ASSESSMENT NOTICE POSTAGE	1,881.00
02/10/2025	18988	MICRO WORKS COMPUTING, INC	REPAIR DEPUTY ZA LAPTOP	179.00
			REPAIR DEPUTY TREASURER LAPTOP	179.00
				<u>358.00</u>
02/10/2025	18989	KEN FRENGER	REIMBURSEMENT FOR CLASS FEE	250.00
02/10/2025	18990	MICH MUNICIPAL TREAS ASSOC	TERESA MURRISH MEMBERSHIP	99.00
02/10/2025	18991	MICHIGAN STATE UNIVERSITY	CITIZEN PLANNER (5 REGISTRANTS)	1,125.00
02/10/2025	18992	MICHIGAN STATE UNIVERSITY	SHARON LOLLIO CLASS FEE	225.00
02/10/2025	18993	MICHIGAN TWP ASSOC	SHANE FAGAN CLASS FEE FOR NEW OFFICIALS	180.00
02/10/2025	18994	MUTUAL OF OMAHA INSURANCE COM	FEBRUARY 2024	127.74
02/10/2025	18995	PERFECT MAINTENANCE	FEBRUARY CLEANING TWP HALL	195.00
02/10/2025	18996	SMART BUSINESS SOURCE, LLC	BINDERS, STAMPER, TONER	435.48
02/10/2025	18997	SPICER GROUP	2024 GENERAL ENGINEERING SERVICES - WEL	2,796.75
			Check Request For Bond: BSP24-0005	51.25
			Check Request For Bond: BSP24-0009	1,011.75
			Check Request For Bond: BSP24-0003	868.75
			Check Request For Bond: BSP20-0003	904.50
			Check Request For Bond: BSP24-0010	102.50
				<u>5,735.50</u>
02/19/2025	18998	CARLISLE WORTMAN ASSOC, INC.	JUETT HYDAULIC DR REZONING	585.02
			GENERAL CONSULTATION	1,317.50
			Check Request For Bond: BP25-0001	230.00
			Check Request For Bond: BSP25-0002	90.00
			Check Request For Bond: BSP21-0006	272.50
				<u>2,495.02</u>
02/19/2025	18999	CINTAS CORPORATION	BLUE MATS	124.57
02/19/2025	19000	FAHEY SCHULTZ BURZYCH RHODES	BURKHART ROAD ASSOCIATES (22-292-AA)	275.00
			GENERAL	2,142.00
			ZONING	5,568.00
			HOWELL-MASON LLC LITIGATION (24-32242-C	20,006.00

CHECK REGISTER FOR HOWELL TOWNSHIP
CHECK DATE 02/01/2025 - 02/28/2025

Check Date	Check	Vendor Name	Description	Amount
Bank GEN GENERAL FUND CHECKING				
			HOWELL-MASON, LLC (24-350-AA)	408.00
			HERITAGE SQUARE	11,457.00
			CODE ENFORCEMENT	5,321.00
				<hr/>
				45,177.00
02/19/2025	19001	BRENT KILPELA	ASSESSOR MILEAGE & MAA MEMBERSHIP	160.36
02/19/2025	19002	GANNETT MICHIGAN LOCALIQ	JANUARY PUBLICATIONS	447.42
02/19/2025	19003	MICH MUNICIPAL TREAS ASSOC	TERESA MURRISH 2025 BASIC INSTITUTE	599.00
02/19/2025	19004	MICHIGAN STATE UNIVERSITY	MIKE NEWSTEAD CLASS FEE	225.00
02/21/2025	19005	BLUE CARE NETWORK	Remittance Check	4,583.92
02/07/2025	101001983(E)	EMPOWER	Remittance Check	1,463.14
02/07/2025	101001984(E)	FIRST NATIONAL BANK	Remittance Check	5,042.09
02/07/2025	101001985(E)	HOWELL TOWNSHIP	Remittance Check	123.08
02/07/2025	101001986(E)	AMERICAN FUNDS	Remittance Check	3,221.29
02/10/2025	101001987(E)	COMCAST	FEBRUARY 2025	436.60
02/10/2025	101001988(E)	CONSUMERS ENERGY	JANUARY 2025	960.36
02/21/2025	101001989(E)	EMPOWER	Remittance Check	1,446.70
02/21/2025	101001990(E)	FIRST NATIONAL BANK	Remittance Check	5,504.16
02/21/2025	101001991(E)	HOWELL TOWNSHIP	Remittance Check	123.08
02/21/2025	101001992(E)	AMERICAN FUNDS	Remittance Check	3,525.75
02/21/2025	101001993(E)	TREASURY STATE OF MICHIGAN	Remittance Check	1,664.05
02/19/2025	101001994(E)	DTE ENERGY	FEBRUARY 2025	440.98
02/19/2025	101001995(E)	PITNEY BOWES GLOBAL FINANCIAL	POSTAGE MACHINE RENTAL DEC 30 2024 - MA	403.98
				<hr/>
GEN TOTALS:				
Total of 37 Checks:				91,311.48
Less 0 Void checks:				0.00
Total of 37 Disbursements:				<hr/> 91,311.48
Bank T&A TRUST & AGENCY CHECKING				
02/05/2025	3669	LIVINGSTON COUNTY TREASURER	MOBILIE HOME FEES	820.00
02/05/2025	3670	LIVINGSTON COUNTY TREASURER	DOG LICENSES	128.00
				<hr/>
T&A TOTALS:				
Total of 2 Checks:				948.00
Less 0 Void checks:				0.00
Total of 2 Disbursements:				<hr/> 948.00
Bank TAX TAX CHECKING				
02/03/2025	6089	FOWLerville DIST LIBRARY	2024 WINTER TAXES 1/16 - 1/31/2025	2,137.49
02/03/2025	6090	FOWLerville SCHOOLS	2024 WINTER TAXES 1/16 - 1/31/2025	15,453.07
02/03/2025	6091	HOWELL PARKS AND RECREATION	2024 WINTER TAXES 1/16 - 1/31/2025	27,381.69
02/03/2025	6092	HOWELL AREA FIRE AUTHORITY	2024 WINTER TAXES 1/16 - 1/31/2025	111,864.20
02/03/2025	6093	HOWELL CARNEGIE LIBRARY	2024 WINTER TAXES 1/16 - 1/31/2025	56,034.94
02/03/2025	6094	HOWELL PUBLIC SCHOOLS	2024 SUMMER TAXES 1/16 - 1/31/2025	838.96
02/03/2025	6095	HOWELL PUBLIC SCHOOLS	2024 WINTER TAXES 1/16 - 1/31/2025	150,604.48
02/03/2025	6096	HOWELL PUBLIC SCHOOLS	2024 SUMMER TAXES 1/16 - 1/31/2025	551.58
02/03/2025	6097	LIV EDUC SERVICE AGENCY	2024 SUMMER TAXES 1/16 - 1/31/2025	1,264.99
02/03/2025	6098	LIVINGSTON COUNTY TREASURER	2024 SUMMER TAXES 1/16 - 1/31/2025	2,392.69
02/03/2025	6099	LIVINGSTON COUNTY TREASURER	2024 SUMMER TAXES 1/16 - 1/31/2025	1,273.96
02/03/2025	6100	LIVINGSTON COUNTY TREASURER	2024 WINTER TAXES 1/16 - 1/31/2025	39,734.99

CHECK REGISTER FOR HOWELL TOWNSHIP

CHECK DATE 02/01/2025 - 02/28/2025

Check Date	Check	Vendor Name	Description	Amount
Bank TAX TAX CHECKING				
02/18/2025	6101	FOWLerville DIST LIBRARY	2024 WINTER TAXES 2/1 - 2/15/2025	2,858.62
02/18/2025	6102	FOWLerville SCHOOLS	2024 WINTER TAXES 2/1 - 2/15/2025	20,666.67
02/18/2025	6103	HOWELL PARKS AND RECREATION	2024 WINTER TAXES 2/1 - 2/15/2025	63,729.23
02/18/2025	6104	HOWELL AREA FIRE AUTHORITY	2024 WINTER TAXES 2/1 - 2/15/2025	257,180.14
02/18/2025	6105	HOWELL CARNEGIE LIBRARY	2024 WINTER TAXES 2/1 - 2/15/2025	130,418.48
02/18/2025	6106	HOWELL PUBLIC SCHOOLS	2024 SUMMER TAXES 2/1 - 2/15/2025	2,457.23
02/18/2025	6107	HOWELL PUBLIC SCHOOLS	2024 WINTER TAXES 2/1 - 2/15/2025	350,524.64
02/18/2025	6108	LIV EDUC SERVICE AGENCY	2024 SUMMER TAXES 2/1 - 2/15/2025	2,834.51
02/18/2025	6109	TUCKER GILES W	2024 Sum Tax Refund 4706-13-400-019	1,698.54
02/18/2025	6110	LIVINGSTON COUNTY TREASURER	2024 SUMMER TAXES 2/1 - 2/15/2025	5,361.29
02/18/2025	6111	LIVINGSTON COUNTY TREASURER	2024 SUMMER TAXES 2/1 - 2/15/2025	2,854.60
02/18/2025	6112	LIVINGSTON COUNTY TREASURER	2024 WINTER TAXES 2/1 - 2/15/2025	95,348.90
TAX TOTALS:				
Total of 24 Checks:				1,345,465.89
Less 0 Void Checks:				0.00
Total of 24 Disbursements:				<u>1,345,465.89</u>
Bank UTYCK UTILITY CHECKING				
02/05/2025	3283	BRIGHTON ANALYTICAL	MERCURY TESTING	480.00
02/05/2025	3284	GENOA TOWNSHIP DPW	COMMON COSTS OCT - DEC 2024	1,214.94
02/05/2025	3285	GENOA TOWNSHIP DPW	PLANT OPERATIONS FEE FEB 2025	28,135.32
02/05/2025	3286	G-O WWTP VACTOR PAD	SANITARY DISPOSAL JANUARY 2025	209.45
02/05/2025	3287	NORTHWEST PIPE AND SUPPLY, IN	4 INCH PVC FITTINGS, FLOOR FLANGE, UNIO	281.26
02/19/2025	3288	HOWELL TOWNSHIP	WWTP WATER USAGE	1,500.00
02/19/2025	3289	REPUBLIC SERVICES	WASTE PICKUP SERVICE	127.91
02/19/2025	3290	US POSTMASTER	PREPAID POSTAGE FOR PERMIT#100	1,500.00
02/19/2025	3291	USA BLUEBOOK	2 MAGNETIC LOCATORS, 60" STRIKING HEAD	2,583.19
02/19/2025	3292	WESTECH ENGINEERING LLC	35% RELEASE FOR CLARIFIER PROJECT	72,847.25
02/05/2025	59004099(E)	AT&T	FEBRUARY 2025	121.68
02/05/2025	59004100(E)	CONSUMERS ENERGY	2571 OAKGROVE JAN 2025	144.46
02/05/2025	59004101(E)	CONSUMERS ENERGY	391 N BURKHART JAN 2025	27.02
02/19/2025	59004102(E)	DTE ENERGY	2571 OAK GROVE RD FEB 2025	629.28
02/19/2025	59004103(E)	DTE ENERGY	391 N BURKHART FEB 2025	416.54
02/19/2025	59004104(E)	DTE ENERGY	1009 N BURKHART FEB 2025	217.73
02/19/2025	59004105(E)	DTE ENERGY	1034 AUSTIN CT FEB 2025	472.20
02/19/2025	59004106(E)	DTE ENERGY	1575 N BURKHART FEB 2025	732.65
02/19/2025	59004107(E)	DTE ENERGY	1222 PACKARD DR FEB 2025	6,640.02
02/19/2025	59004108(E)	DTE ENERGY	2559 W GRAND RIVER AVE FEB 2025	433.11
02/19/2025	59004109(E)	DTE ENERGY	1216 PACKARD DR FEB 2025	29.88
02/19/2025	59004110(E)	DTE ENERGY	3888 OAK GROVE FEB 2025	245.31
02/19/2025	59004111(E)	DTE ENERGY	2700 TOOLEY RD FEB 2025	424.40
02/19/2025	59004112(E)	DTE ENERGY	271 E HIGHLAND FEB 2025	75.17
UTYCK TOTALS:				
Total of 24 Checks:				119,488.77
Less 0 Void Checks:				0.00
Total of 24 Disbursements:				<u>119,488.77</u>
REPORT TOTALS:				
Total of 87 Checks:				1,557,214.14
Less 0 Void Checks:				0.00

CHECK REGISTER FOR HOWELL TOWNSHIP
CHECK DATE 02/01/2025 - 02/28/2025

Check Date	Check	Vendor Name	Description	Amount
Total of 87 Disbursements:				<u>1,557,214.14</u>
				<i>(Agrees with Invoice Register 8/12</i>

CHECK REGISTER FOR HOWELL TOWNSHIP
For Check Dates 02/01/2025 to 02/28/2025

Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
02/07/2025	GEN	DD6087	BRENT J. KILPELA	5,304.95	0.00	3,973.29	Open
02/07/2025	GEN	DD6088	CAROL A. MAKUSHIK	2,734.99	0.00	1,803.48	Open
02/07/2025	GEN	DD6089	SUSAN K. DAUS	1,681.65	0.00	1,318.44	Open
02/07/2025	GEN	DD6090	TANYA L. DAVIDSON	2,043.14	0.00	1,511.78	Open
02/07/2025	GEN	DD6091	MICHAEL CODDINGTON	1,409.33	0.00	934.16	Open
02/07/2025	GEN	DD6092	JONATHAN C. HOHENSTEIN	4,317.41	0.00	2,783.62	Open
02/07/2025	GEN	DD6093	TERESA M. MURRISH	1,947.75	0.00	1,448.73	Open
02/07/2025	GEN	DD6094	MARNIE E. HEBERT	2,036.07	0.00	1,705.55	Open
02/21/2025	GEN	DD6095	BRENT J. KILPELA	5,328.49	0.00	3,991.21	Open
02/21/2025	GEN	DD6096	CAROL A. MAKUSHIK	2,734.98	0.00	1,803.48	Open
02/21/2025	GEN	DD6097	MATTHEW E. COUNTS	588.92	0.00	518.83	Open
02/21/2025	GEN	DD6098	SHANE FAGAN	508.92	0.00	448.35	Open
02/21/2025	GEN	DD6099	ROBERT K. WILSON	508.92	0.00	448.35	Open
02/21/2025	GEN	DD6100	SUSAN K. DAUS	1,601.65	0.00	1,257.56	Open
02/21/2025	GEN	DD6101	TANYA L. DAVIDSON	2,160.48	0.00	1,589.35	Open
02/21/2025	GEN	DD6102	TIMOTHY C. BOAL	588.92	0.00	518.83	Open
02/21/2025	GEN	DD6103	CHARLES J. FRANTJESKOS JR	80.00	0.00	70.48	Open
02/21/2025	GEN	DD6104	SHARON LOLLIO	80.00	0.00	70.48	Open
02/21/2025	GEN	DD6105	MICHAEL W. NEWSTEAD	80.00	0.00	70.48	Open
02/21/2025	GEN	DD6106	ROBERT A. SPAULDING	80.00	0.00	70.48	Open

CHECK REGISTER FOR HOWELL TOWNSHIP
For Check Dates 02/01/2025 to 02/28/2025

Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
02/21/2025	GEN	DD6107	MATT STANLEY	80.00	0.00	70.48	Open
02/21/2025	GEN	DD6108	WAYNE R. WILLIAMS JR	80.00	0.00	73.88	Open
02/21/2025	GEN	DD6109	MICHAEL CODDINGTON	1,409.33	0.00	934.18	Open
02/21/2025	GEN	DD6110	JONATHAN C. HOHENSTEIN	4,152.97	0.00	2,674.94	Open
02/21/2025	GEN	DD6111	TERESA M. MURRISH	2,014.00	0.00	1,492.52	Open
02/21/2025	GEN	DD6112	MARNIE E. HEBERT	2,067.32	0.00	1,729.97	Open
02/21/2025	GEN	DD6113	KENNETH A. FRENGER	80.00	0.00	70.48	Open
02/21/2025	GEN	DD6114	JAMES T. MCEVOY	80.00	0.00	70.48	Open
02/21/2025	GEN	DD6115	CAROL M. WEAVER	80.00	0.00	70.48	Open
Report Total:				45,860.19	0.00	33,524.34	
Number of Checks				29			
Total Physical Checks				0			
Total Check Stubs				29			