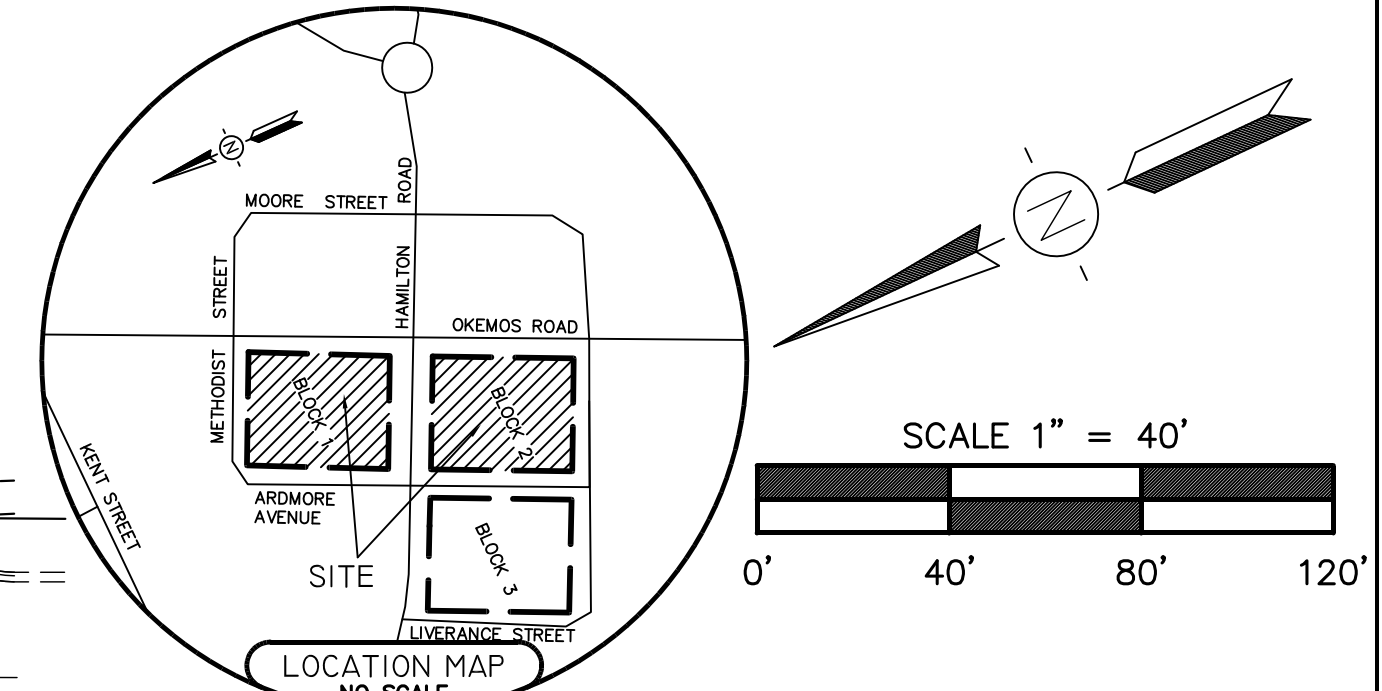


MUPUD PLAN FOR: Village of Okemos

MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN



EX. STORM SEWER INVENTORIES

CATCH BASIN #100 RM ELEV. = 851.88 8" RCP N INV. = 847.69 TOP OF DEBRIS ELEV. = 847.66 SUMP ELEV. = 846.19	CATCH BASIN #126 (DEMO) RM ELEV. = 846.24 6" PVC SE INV. = 846.15 TOP OF DEBRIS ELEV. = 846.10
STORM MANHOLE #101 RM ELEV. = 852.29 12" RCP E INV. = 846.78 15" RCP S ELEV. = 846.59 TOP OF DEBRIS ELEV. = 846.75	CATCH BASIN #127 (DEMO) RM ELEV. = 846.82 8" PVC N INV. = 844.49 SUMP ELEV. = 844.04
CATCH BASIN #102 RM ELEV. = 851.85 12" RCP E INV. = 847.33 TOP OF DEBRIS ELEV. = 847.35	CATCH BASIN #128 (DEMO) RM ELEV. = 847.24 8" VCP NE INV. = 844.05 8" PVC S INV. = 844.05 TOP OF DEBRIS ELEV. = 844.04
CATCH BASIN #103 (DEMO) RM ELEV. = 852.09 SW RESTRICTOR PLATE INV. = 849.23 SW 12" SQUARE OPENING INV. = 849.13 SUMP ELEV. = 846.89	CATCH BASIN #129 (DEMO) RM ELEV. = 848.81 4" S INV. = 845.28 12" RCP NW INV. = 845.19 SUMP ELEV. = 844.11
CATCH BASIN #104 (DEMO) RM ELEV. = 851.00 8" RCP N INV. = 847.68 TOP OF WATER ELEV. = 847.68 SUMP ELEV. = 846.60	CATCH BASIN #130 (ADJUST TO 849.42) 12" RCP E INV. = 844.91 12" RCP SE INV. = 844.93 (REMOVE) SUMP ELEV. = 843.68 PROP. I.E. 12" NW/S 844.93
CATCH BASIN #105 (DEMO) RM ELEV. = 849.67 6" VCP NE INV. = 845.07 8" RCP S INV. = 844.91 SUMP ELEV. = 844.17	CATCH BASIN #131 RM ELEV. = 846.24 15" RCP N INV. = 840.99 15" RCP E INV. = 839.05 8" VCP SW INV. = 842.60 12" RCP W INV. = 843.06 SUMP ELEV. = 838.56
CATCH BASIN #106 (DEMO) RM ELEV. = 850.60 8" VCP W TOP OF PIPE ELEV. = 849.12 TOP OF DEBRIS ELEV. = 848.80	CATCH BASIN #132 RM ELEV. = 846.00 15" RCP S INV. = 841.09 SUMP ELEV. = 838.70
STORM MANHOLE #107 RM ELEV. = 845.47 10" RCP N INV. = 840.22 12" RCP NE INV. = 838.54 (REMOVE) 18" RCP E INV. = 837.26 PROP. I.E. 18" SE 838.75	STORM MANHOLE #133 RM ELEV. = 846.58 12" RCP N INV. = 838.68 12" RCP S INV. = 840.04 15" RCP W INV. = 838.23
CATCH BASIN #108 RM ELEV. = 844.38 10" RCP N INV. = 840.43 10" RCP S INV. = 840.39 TOP OF DEBRIS ELEV. = 840.38	CATCH BASIN #134 RM ELEV. = 846.71 TOP OF DEBRIS ELEV. = 845.41
CATCH BASIN #109 RM ELEV. = 844.72 10" RCP S INV. = 840.72 TOP OF DEBRIS ELEV. = 840.47	STORM MANHOLE #135 RM ELEV. = 844.37 12" RCP NE INV. = 840.73 12" RCP SE INV. = 842.62 SUMP ELEV. = 838.56
CATCH BASIN #110 (DEMO) RM ELEV. = 844.72 12" RCP SW INV. = 839.24 12" RCP NW INV. = 839.01 SUMP ELEV. = 838.12	CATCH BASIN #136 RM ELEV. = 846.68 12" RCP E INV. = 843.69 12" RCP NW INV. = 843.89 SUMP ELEV. = 840.92
CATCH BASIN #111 (DEMO) RM ELEV. = 844.68 12" RCP S INV. = 839.47 SUMP ELEV. = 839.06	STORM MANHOLE #137 RM ELEV. = 846.55 12" RCP N INV. = 841.45 18" RCP N INV. = 833.92 24" RCP E INV. = 833.83 12" RCP SW INV. = 840.56 18" RCP W INV. = 834.37 SUMP ELEV. = 847.22
CATCH BASIN #112 (DEMO) RM ELEV. = 850.32 18" VCP E INV. = 847.39 6" VCP W INV. = 847.39 SUMP ELEV. = 847.22	CATCH BASIN #138 RM ELEV. = 846.01 12" RCP S INV. = 841.59 SUMP ELEV. = 840.09
CATCH BASIN #113 (DEMO) RM ELEV. = 851.08 6" VCP W INV. = 848.40 TOP OF DEBRIS ELEV. = 848.38	CATCH BASIN #140 RM ELEV. = 838.40 8" PVC NW INV. = 836.40 SUMP ELEV. = 836.15
CATCH BASIN #114 (DEMO) RM ELEV. = 850.35 6" VCP SW INV. = 848.23 TOP OF DEBRIS ELEV. = 848.23	STORM MANHOLE #141 RM ELEV. = 839.97 18" RCP NW INV. = 834.70 18" RCP E INV. = 834.52 6" PVC SE INV. = 835.11 SUMP ELEV. = 835.11
CATCH BASIN #115 (DEMO) RM ELEV. = 850.89 4" PVC SE INV. = 848.55 4" PVC SW INV. = 848.52 SUMP ELEV. = 848.09	STORM MANHOLE #142 RM ELEV. = 841.24 12" RCP NE INV. = 834.56 18" RCP S INV. = 834.18 18" RCP W INV. = 834.14 TOP OF DEBRIS ELEV. = 845.76
CATCH BASIN #116 (DEMO) RM ELEV. = 850.06 12" RCP NE INV. = 846.01 4" VCP NW INV. = 846.11 TOP OF DEBRIS ELEV. = 845.76	CATCH BASIN #143 RM ELEV. = 840.02 10" RCP N INV. = 835.36 12" RCP NW INV. = 835.34 SUMP ELEV. = 835.02
CATCH BASIN #117 RM ELEV. = 850.01 12" RCP NE INV. = 845.88 TOP OF DEBRIS ELEV. = 845.88	CATCH BASIN #144 RM ELEV. = 841.65 6" PVC NE INV. = 840.41 4" PVC SE INV. = 838.15 10" RCP S INV. = 837.38 SUMP ELEV. = 836.75
STORM MANHOLE #118 RM ELEV. = 849.82 (ADJUST TO 850.05) 12" RCP E INV. = 846.66 12" RCP SW INV. = 845.77 12" RCP W INV. = 845.77 (REMOVE) PROP. I.E. 12" W 845.77 TOP OF DEBRIS ELEV. = 845.86	STORM MANHOLE #145 RM ELEV. = 837.27 18" RCP E INV. = 832.65 6" PVC S INV. = 832.97 18" RCP W INV. = 832.63
CATCH BASIN #119 RM ELEV. = 849.25 12" RCP NW INV. = 845.94 SUMP ELEV. = 844.75	CATCH BASIN #146 RM ELEV. = 836.82 6" PVC N INV. = 834.15 SUMP ELEV. = 833.47
STORM MANHOLE #120 RM ELEV. = 849.59 12" RCP N INV. = 844.58 12" RCP SE INV. = 845.08 TOP OF DEBRIS ELEV. = 845.08	CATCH BASIN #147 RM ELEV. = 837.62 12" RCP S INV. = 833.02 10" RCP W INV. = 833.13 TOP OF DEBRIS ELEV. = 833.47
STORM MANHOLE #121 RM ELEV. = 849.28 12" RCP N INV. = 840.68 8" RCP NE INV. = 844.49 12" RCP S INV. = 840.65 12" RCP SE INV. = 840.65 12" RCP S INV. = 843.19 8" RCP W INV. = 845.02	CATCH BASIN #148 RM ELEV. = 838.03 12" RCP N INV. = 834.15 TOP OF DEBRIS ELEV. = 833.93
CATCH BASIN #122 RM ELEV. = 849.72 (ADJUST TO 849.30) RM RCP E INV. = 845.86 SUMP ELEV. = 843.42 PROP. I.E. 12" W 845.86	CATCH BASIN #149 RM ELEV. = 851.94 6" VCP N INV. = 847.59 6" VCP S INV. = 847.49
CATCH BASIN #123 RM ELEV. = 849.30 8" RCP SW INV. = 844.59 TOP OF DEBRIS ELEV. = 844.33	CATCH BASIN #150 RM ELEV. = 852.27 TOP OF DEBRIS ELEV. = 850.07
CATCH BASIN #124 RM ELEV. = 848.90 8" METAL E INV. = 841.49 12" RCP S INV. = 841.49 8" RCP W INV. = 845.11 SUMP ELEV. = 841.49	BENCHMARKS BENCHMARK #1 ELEV. = 852.30 (NAV088) PK NW, WEST SIDE UTILITY POLE, WEST SIDE OF OKEMOS ROAD, 242' SOUTH OF BUILDING #4681 OKEMOS ROAD. BENCHMARK #2 ELEV. = 846.57 (NAV088) PK NW, SOUTHEAST SIDE UTILITY POLE, WEST SIDE OF ARDMORE AVENUE, ON LINE WITH SOUTHERLY PROPERTY LINE. BENCHMARK #3 ELEV. = 856.59 (NAV088) RAILROAD SPIKE, NORTHWEST SIDE UTILITY POLE, NORTHEAST QUADRANT OF ARDMORE AVENUE AND HAMILTON ROAD.

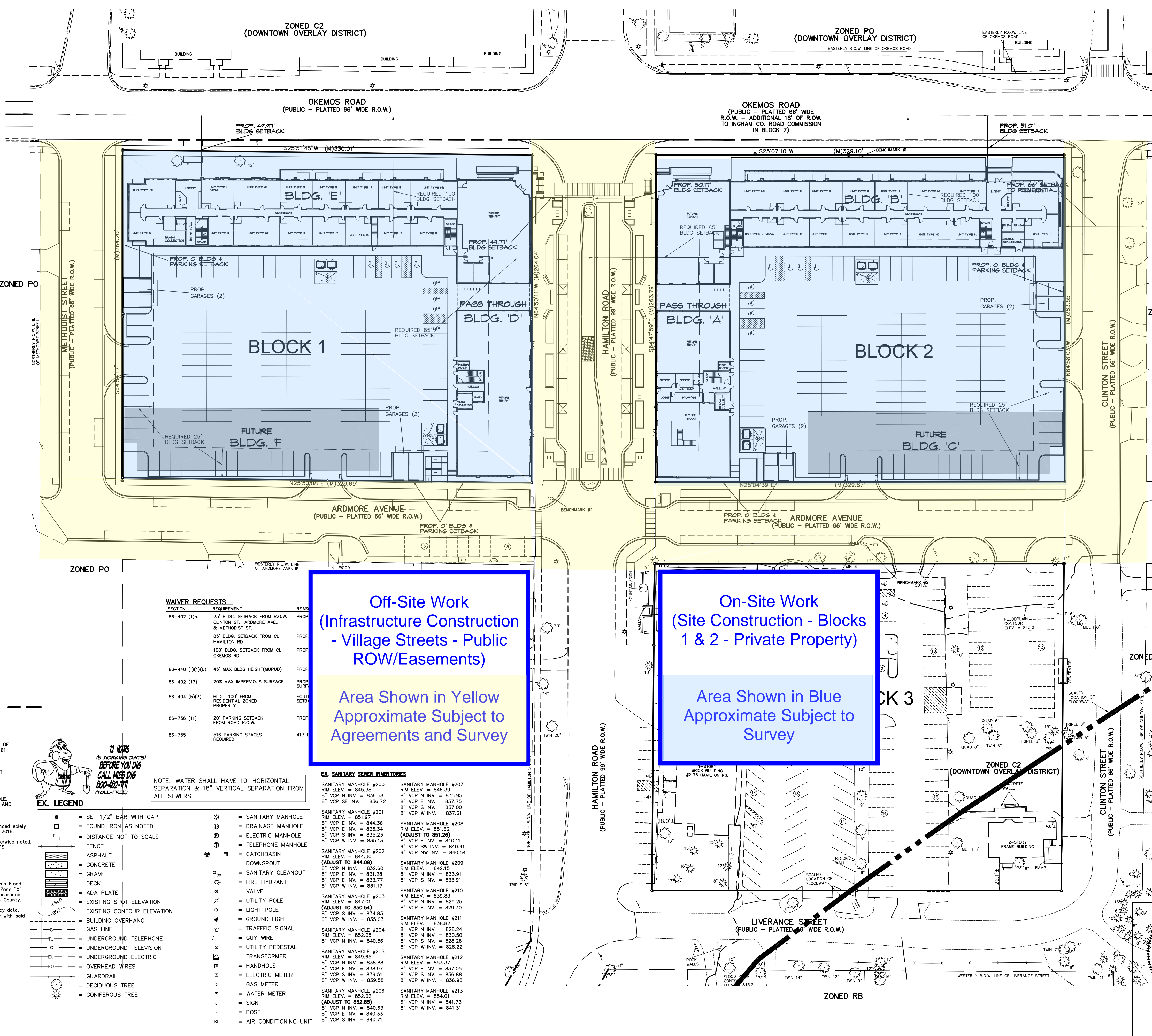
EX. LEGEND

- SET 1/2" BAR WITH CAP
- FOUND IRON AS NOTED
- DISTANCE NOT TO SCALE
- FENCE
- ASPHALT
- CONCRETE
- GRAVEL
- DECK
- ADA PLATE
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR ELEVATION
- BUILDING OVERHANG
- GAS LINE
- UNDERGROUND TELEPHONE
- UNDERGROUND TELEVISION
- UNDERGROUND ELECTRIC
- OVERHEAD WIRES
- GUARDRAIL
- DECIDUOUS TREE
- CONIFEROUS TREE

PROPOSED LEGEND

- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- MANHOLE (NEW)
- PROPOSED C.B. MANHOLE
- UTILITY EASEMENT
- CENTER LINE OF ROAD
- RIGHT OF WAY
- PROPERTY LINE
- FIRE HYDRANT
- WATER VALVE
- THRUST BLOCK
- PROPOSED TOP OF CURB ELEV.

1/7/2022



Off-Site Work
(Infrastructure Construction - Village Streets - Public ROW/Easements)

Area Shown in Yellow
Approximate Subject to Agreements and Survey

On-Site Work
(Site Construction - Blocks 1 & 2 - Private Property)

Area Shown in Blue
Approximate Subject to Survey

WAIVER REQUESTS

SECTION	REQUIREMENT	REASON
86-402 (1)(a)	25' BLDG. SETBACK FROM R.O.W. CLINTON ST., ARDMORE AVE., & METHODIST ST.	PROP. 85' BLDG. SETBACK FROM CL. HAMILTON RD.
86-440 (1)(1)(b)	45' MAX BLDG. HEIGHT (MUPUD)	PROP. 100' BLDG. SETBACK FROM CL. OKEMOS RD.
86-402 (1)(7)	70% MAX IMPERVIOUS SURFACE	PROP. SURF.
86-404 (b)(3)	BLDG. 100' FROM RESIDENTIAL ZONED PROPERTY	SOUTH SETBACK
86-736 (1)(1)	20' PARKING SETBACK FROM ROAD R.O.W.	PROP.
86-735	516 PARKING SPACES REQUIRED	417 P.

EX. SANITARY SEWER INVENTORIES

SANITARY MANHOLE #200 RM ELEV. = 845.38 8" VCP N INV. = 836.58 8" VCP E INV. = 836.72 8" VCP S INV. = 835.13 8" VCP W INV. = 835.13	SANITARY MANHOLE #201 RM ELEV. = 851.97 8" VCP N INV. = 844.36 8" VCP E INV. = 851.62 8" VCP S INV. = 835.23 8" VCP W INV. = 835.13	SANITARY MANHOLE #202 RM ELEV. = 844.36 (ADJUST TO 844.08) 8" VCP N INV. = 832.60 8" VCP E INV. = 831.28 8" VCP S INV. = 833.77 8" VCP W INV. = 831.17	SANITARY MANHOLE #203 RM ELEV. = 847.01 (ADJUST TO 850.54) 8" VCP S INV. = 834.83 8" VCP W INV. = 835.03	SANITARY MANHOLE #204 RM ELEV. = 852.05 8" VCP N INV. = 840.56	SANITARY MANHOLE #205 RM ELEV. = 849.65 8" VCP N INV. = 838.88 8" VCP E INV. = 838.97 8" VCP S INV. = 839.51 8" VCP W INV. = 839.58	SANITARY MANHOLE #206 RM ELEV. = 852.02 (ADJUST TO 852.85) 8" VCP N INV. = 840.83 8" VCP E INV. = 840.33 8" VCP S INV. = 840.71	SANITARY MANHOLE #207 RM ELEV. = 846.39 8" VCP N INV. = 835.95 8" VCP E INV. = 837.75 8" VCP S INV. = 837.00 8" VCP W INV. = 837.61	SANITARY MANHOLE #208 RM ELEV. = 851.62 (ADJUST TO 851.26) 8" VCP E INV. = 840.11 8" VCP N INV. = 840.41 6" VCP NW INV. = 840.54	SANITARY MANHOLE #209 RM ELEV. = 842.15 8" VCP N INV. = 833.91 8" VCP S INV. = 833.91 8" VCP W INV. = 829.25	SANITARY MANHOLE #210 RM ELEV. = 839.83 8" VCP E INV. = 838.92 8" VCP N INV. = 828.24 8" VCP S INV. = 830.50 8" VCP W INV. = 828.26	SANITARY MANHOLE #211 RM ELEV. = 828.24 8" VCP N INV. = 828.24 8" VCP S INV. = 828.26 8" VCP W INV. = 828.22	SANITARY MANHOLE #212 RM ELEV. = 853.37 8" VCP N INV. = 837.05 8" VCP S INV. = 836.88 8" VCP W INV. = 836.98	SANITARY MANHOLE #213 RM ELEV. = 854.01 8" VCP N INV. = 841.73 8" VCP S INV. = 841.31
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LEGAL DESCRIPTIONS:
Lots 1, 2, 3, 4, 5, 6, 7 & 8 in Block 5, Village of Okemos (formerly Village of Hamilton), Meridian Township, Ingham County, Michigan.
Lots 1, 2, 3, 4, 5, 6, 7 & 8 in Block 6, Village of Okemos (formerly Village of Hamilton), Meridian Township, Ingham County, Michigan.

DEVELOPER:
DOWNTOWN OKEMOS, LLC
2362 JOLLY OAK RD.
OKEMOS, MI 48864
PH: (517) 290-4650
c/o JOHN PECKHAM

ENGINEER/SURVEYOR:
KEBS, INC.
2116 HASLETT RD.
HASLETT, MI 48840
PH: (517) 339-1014
FAX: (517) 339-8047

SITE DATA
PROPOSED MIXED USE DEVELOPMENT
TOTAL SITE AREA = ±3.99 ACRES (173,989 S.F.)
ZONED C-2 (DOWNTOWN OVERLAY DISTRICT)
TOTAL LOTS = 200
TOTAL BEDS = 286
TOTAL RESIDENTIAL AREA = 202,238 S.F.
TOTAL COMMERCIAL AREA = 33,273 S.F.
OVERALL DENSITY = 200 UNITS/3.99 ACRES = 50.13 UNITS/AC

BLOCK 1 (1.99 ACRES)
UNITS = 100
BEDS = 143
DENSITY = 100 UNITS/1.99 ACRES = 50.25 UNITS/AC

BLOCK 2 (2.00 ACRES)
UNITS = 100
BEDS = 143
DENSITY = 100 UNITS/2 ACRES = 50 UNITS/AC

BUILDING A/B
1ST FLOOR AREA = 27,347 S.F.
COMMERCIAL AREA = 12,987 S.F.
RESIDENTIAL AREA = 14,360 S.F.
COMMERCIAL AREA (BASEMENT) = 4,053 S.F.
STORAGE (BASEMENT) = 2,977 S.F.
RESIDENTIAL AREA = 10,119 S.F.

BUILDING COVERAGE
RESIDENTIAL 1ST FLOOR = 28,220 S.F.
COMMERCIAL 1ST FLOOR = 25,974 S.F.
BLDG COVERAGE = 54,694 SF./173,989 S.F. = 31.44%

PARKING DATA:
RESIDENTIAL: 200 UNITS x 2 = 400 SPACES
COMMERCIAL: (33,273) x 0.85 = 28,282 S.F.
28,282 USABLE S.F. @ 5/1000 MIN. TOTAL = 141 SPACES

PARKING REDUCTION FOR BIKE PARKING = 1 SPACE/2 BIKE SPACES
50/2 = 25 SPACE REDUCTION
TOTAL REQUIRED PARKING = 541 - 25 = 516 SPACES

PARKING PROVIDED
9' x 20' = 203 SPACES
10' x 18' = 15 SPACES
GARAGE = 8 SPACES
B.F. = 16 SPACES
TOTAL = 242 SPACES + 52 BIKE PARKING

ON-STREET (8' x 23') = 56 SPACES
BLOCK 3 SPACES = 119 SPACES (INCL. 5 B.F.)
TOTAL SPACES PROVIDED = 417 SPACES (INCL. 21 B.F.) + 52 BIKE PARKING
516 - 417 = 99 SPACE WAIVER NEEDED

SHEET INDEX
1. OVERALL PLAN
2. DIMENSION PLAN
3. UTILITY PLAN
4. STORM PLAN
5. GRADING PLAN
6. SOIL EROSION PLAN
7. OPENSACE PLAN
8. CLINTON ST/HAMILTON RD PROFILE
9. METHYST ST PROFILE
10. ARDMORE AVE PROFILE
11. EXISTING FEATURES PLAN
12. DEMOLITION PLAN
13. DETAILS
14. SESC DETAILS

TOWNSHIP DETAILS
SANITARY DETAILS
WATER DETAILS
PATHWAY DETAILS

REVISIONS
1-31-22 SUBMITTAL

KEBS, INC. KYES ENGINEERING BRYAN LAND SURVEYS
2116 HASLETT ROAD, HASLETT, MI 48840
PH. 517-339-1014 FAX. 517-339-8047
Marshall Office
Ph. 269-781-9800

Village of Okemos
OVERALL PLAN

SCALE: 1" = 40'
DATE: 4-14-19
AUTHORIZED BY: DOWNTOWN OKEMOS, LLC

DESIGNER: A.J.P.
PROJECT MGR. A.J.P.
JOB #: 99191

APPROVED BY: A.J.P.
SHEET 1 OF 14

Allen J. Patrick
Professional Engineer
49313
1/31/22

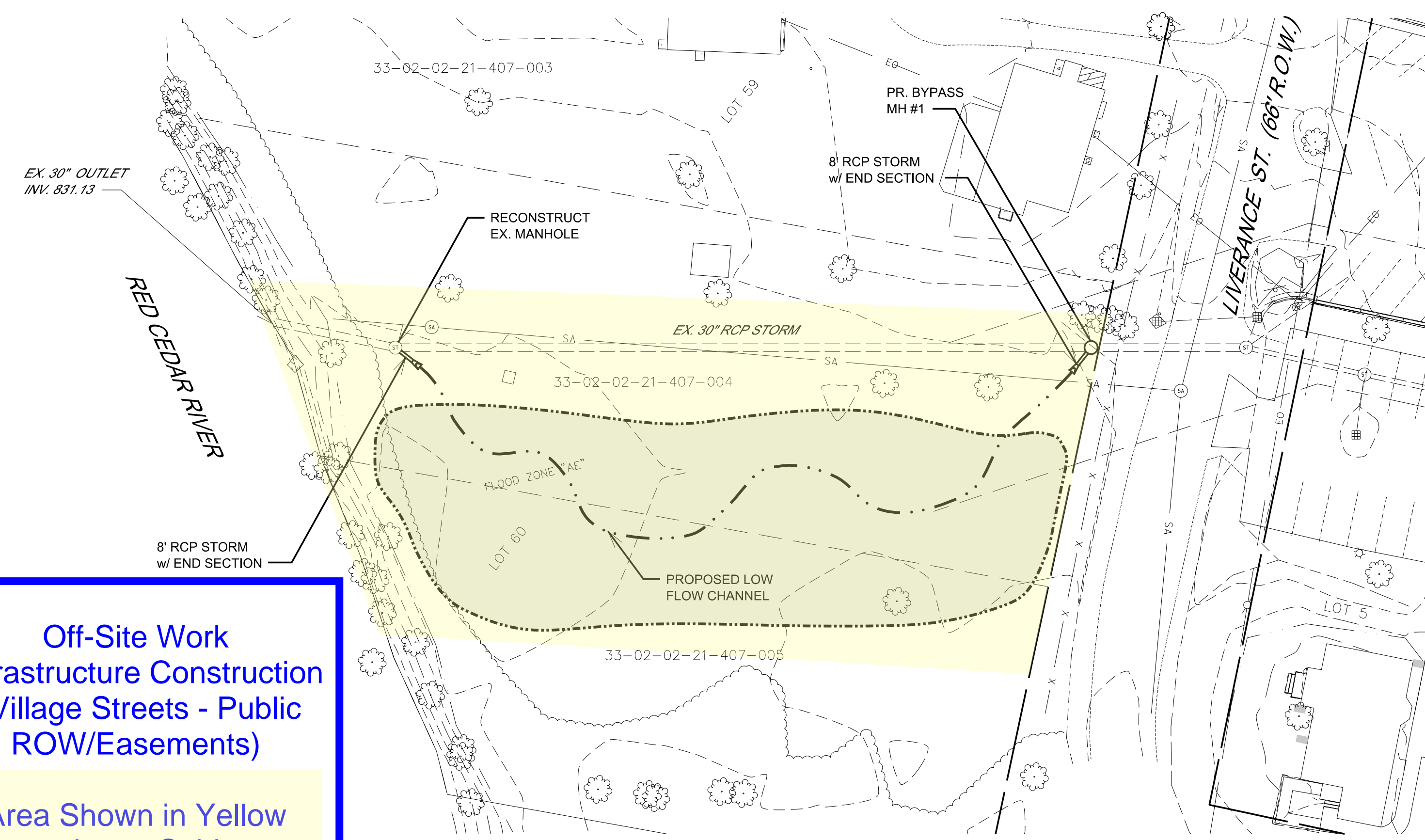
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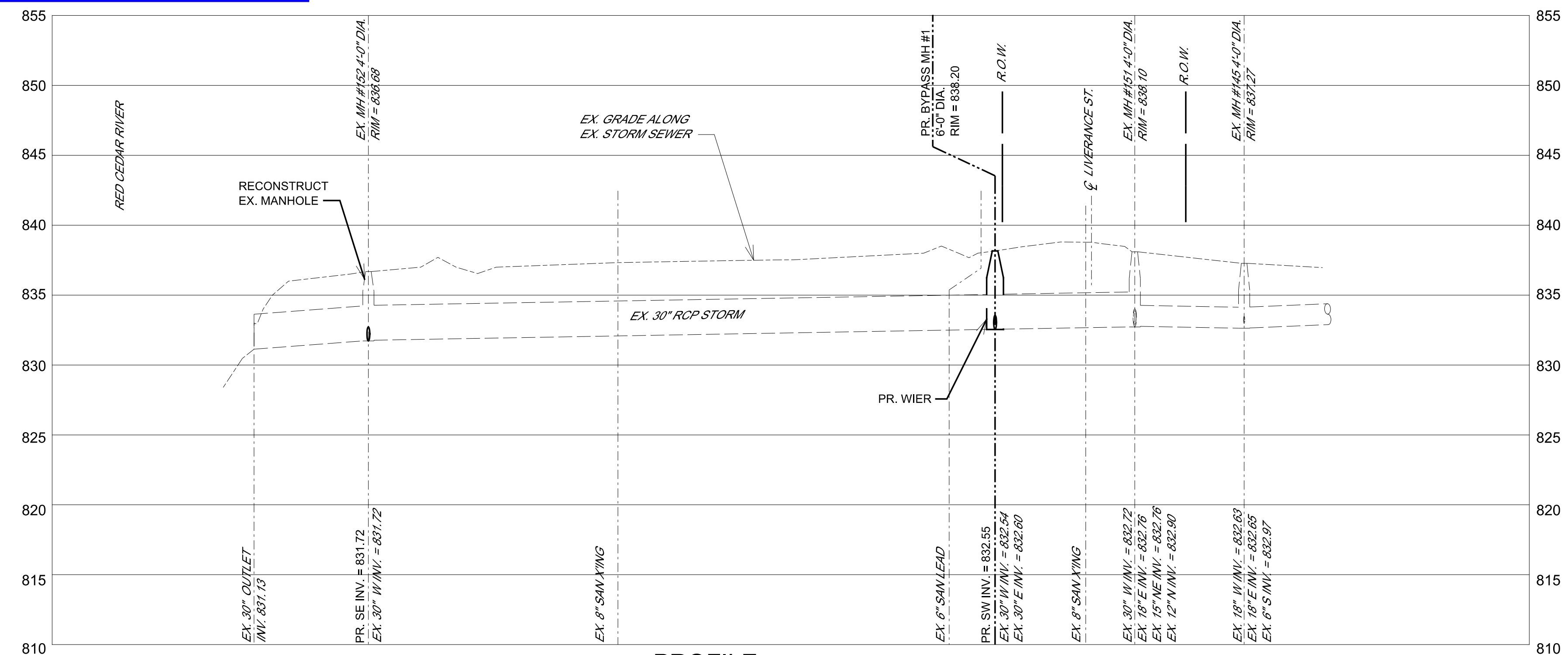
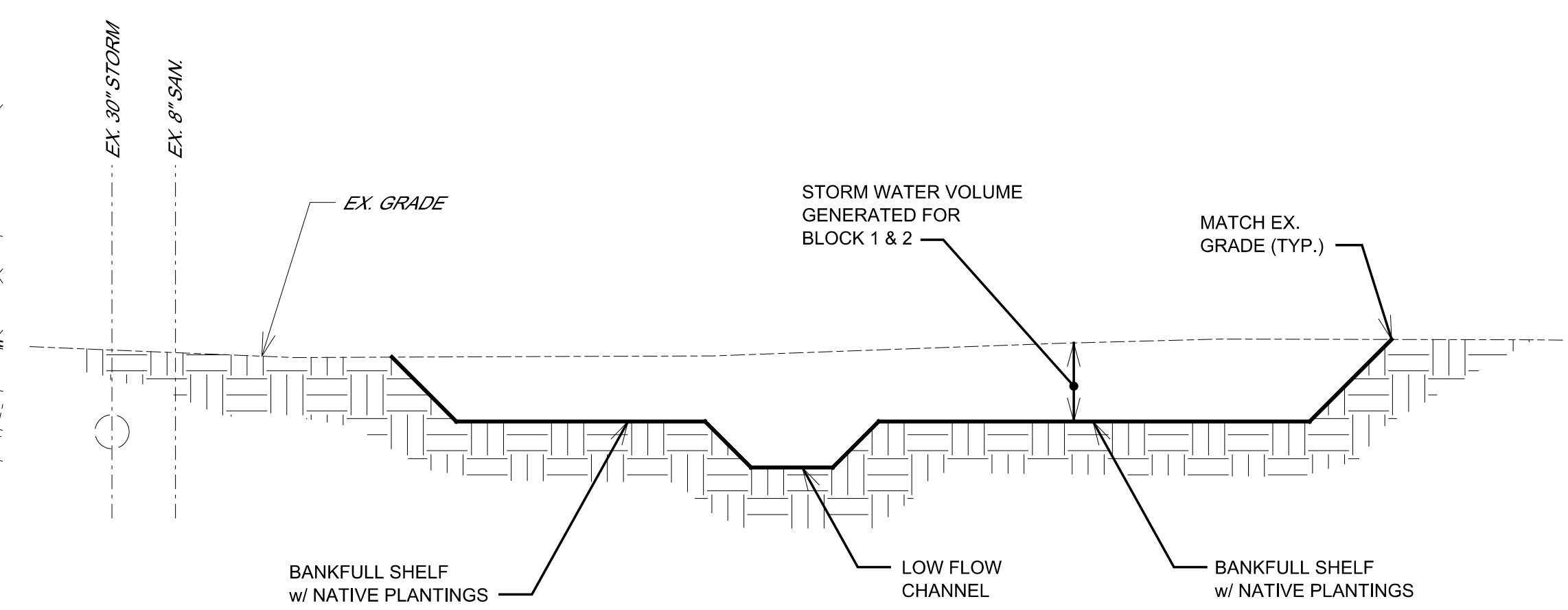
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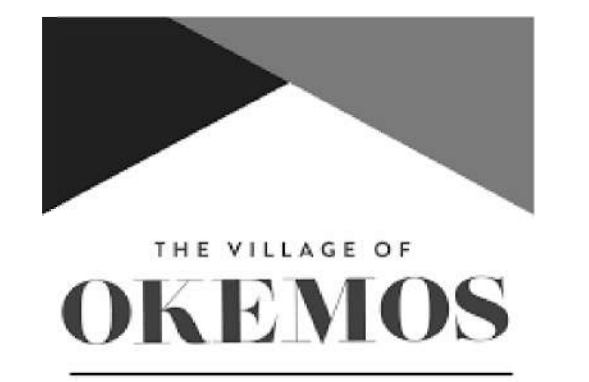


Off-Site Work
(Infrastructure Construction
- Village Streets - Public
ROW/Easements)

Area Shown in Yellow
Approximate Subject to
Agreements and Survey



- NOTES:
1. PROPOSED BYPASS MH #1 WILL INCLUDE A WIER TO DIVERT LOW FLOW TO THE NEW LOW FLOW CHANNEL. HIGH VOLUME RAIN EVENTS WILL OUTLET THROUGH THE EX. 30" STORM SEWER PIPE.
 2. LOW FLOW AREA SHOWN IS CONCEPTUAL. THE LIMITS AND SIZE MAY CHANGE DURING DESIGN.



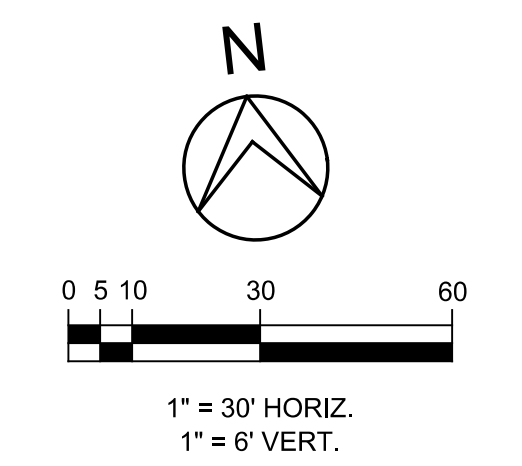
HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

555 HULET DRIVE BLOOMFIELD HILLS, MICH. P.O. BOX 824 48303 - 0824

PHONE: (248) 454-6300
FAX (1st Floor): (248) 454-6312
FAX (2nd Floor): (248) 454-6359

WEB SITE: [http:// www.hrcengr.com](http://www.hrcengr.com)

DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	N.J.K.
DRAWN	J.A.R.
CHECKED	N.J.K.
APPROVED	J.F.B.



VILLAGE OF OKEMOS
MERIDIAN TOWNSHIP

**OKEMOS TILE
DRAIN OUTLET
MITIGATION PLAN**

PART OF THE SE 1/4 OF THE NW 1/4
OF SEC. 21, T4N, R1W
INGHAM COUNTY MICHIGAN

ALL DRAINAGE

HRC JOB NO. 20211064	SCALE 1" = 30' HORIZ. 1" = 6' VERT.
DATE JANUARY 2022	FIGURE A